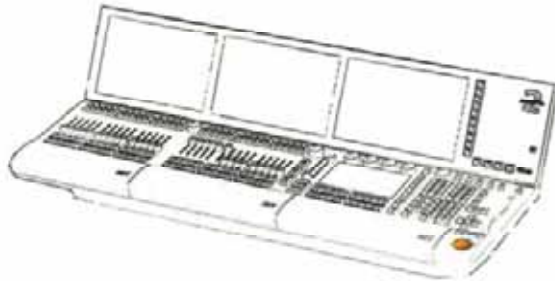


Compiled @ January 01 2014 16:02:09 in 8 seconds



## Topic: Welcome to grandMA2 series control system v2.x..



## Topic: Welcome to the grandMA2 manual.

This guide will help you getting around the grandMA2 manual.

The most important question is: Why are you here? The goal with this guide is to point you in the right direction no matter what your answer to that question is.

This page might guide you a new page asking more question. If you feel the questions about something completely different, it might be that you need to go one page back and use a different answer - it might also be that this guide is guiding you in the slightly wrong direction or you have come up with a whole new question. If you feel something is wrong or you are missing something please let us know. And using this on the console, you might have an old manual, and you might want to update the manual - you can get some help on installing a new manual using [this page](#).

It's also worth noticing the Version number in the upper right corner of each page (okay, some might be missing them - but most pages). This tells you when the page was last edited. So you will find pages edit some version ago, this might mean that there has been no changes - but it might also mean that you have found something that the manual team haven't updated yet. SO if this is the case don't hesitate to tell us. It's a very big manual and something might have slipped away from our attention.

The online manual also have a working [index](#). Here you can browse through an alphabetical list of pages.

To read about the lates changes go to the [ReleaseNotes](#).

The guide pages offer you a lot of reading. You might want to skip some of it (and that's fine), but we promise you, IF you read it all, you'll learn a lot about this manual and the grandMA2!

### Where should you begin.

Okay, one of the first questions you should answer is it following:

#### Are you looking for...

##### ...help with a specific [command or word](#) (like: Cue, Goto or Macro)?

- If you want to find the command or word your self, you can go to the "Reference -> Commandline" section. Here you can find descriptions of all the keywords and commands in the console. If you need further guidance you can go to the [Commandline guide](#).

##### ... help trying to find out, how a specific [key](#) is working?

- If you want to navigate to descriptions of the console keys, you can go to the "Reference -> Key & Buttons" section. If you need further help you can go to the [Keys & Buttons guide](#).

##### ... what a [window or menu](#) does or what a [pop-up](#) means?

- The "Reference -> Windows" section can help you with all the windows, menus and pop-ups on the console. Go to [Windows Guide](#) for further help.

##### ... a step by step [tutorial/guide](#)?

- The "Tutorial" section gives you step by step guides to some of the functions in the grandMA2. Go to [Tutorial Guide](#) for further help.

##### ... an example on how to solve a specific [task](#)?

- The "Task" section gives you task examples on some of the functions in the grandMA2. Go to the [Task Guide](#) for further guidance.

##### ... learning more about the [philosophy](#) behind the grandMA2?

- The "Concept" area can give you an insight on the grandMA2 philosophy. Go to the [Concept Guide](#) for further help.

##### ... something about [networking](#) with the grandMA2?

- There are many different pages about networking. Go to the [Network Guide](#) for further help.

#### ... something about the [grandMA NPU](#)?

- There are different pages and sections about the NPU. Go to the [NPU Manual Guide](#) for further help.

#### ...pages that's updated to the newest version?

- Then you can try to search for **V[main version]x[sub version]** (e.g. **V2x1**).

The hope and goal is that you can answer yes to at least one of the questions above.

If this isn't the case, you could try to browse the manual or formulate your question on [ma-share.net](#) - maybe another user can point you in the right direction.

And if you would like the manual writing team to add some guide info, you can contact us using this [contact form](#). You won't get any responds but serious suggestions will be appreciated :-)



## Topic: Command and keywords guide

This guide will point you in the right direction, when you are trying to get help about commands and keywords.

All right, you need some help about commands or keywords.

This might be the right place for you, but if the following isn't what you where looking for you might want to take a step back and see if there's one of the other sections that might fit you better.

But to return to the commands. The grandMA2 is a command line console - This means that the command line is the fundamental way to communicate with the console. Many of the buttons and function available to you is in fact tools that help you enter the correct commands.

There are many commands and keywords, and in the manual they are divided into "common" and "Special" keywords.

The common keywords are mostly the commands you can access by pressing one of the hardkeys on the console (like "Edit"), but there's also some of the keywords used for other common operations (like "PresetType").

The special keywords are commands that are useful for crating macros (like "SetVar"), commands working in the background (like "Call") or commands used to control the function of the console (like "Reboot").

But there's no real definition about where a keyword is found, so be sure to check both - you might also discover something new :-)

### Just tell me where to go!

Okay, take a look at these next questions:

#### Are you looking for a explanation on a specific command or keyword?

- Then you shoul go to the [Keywords](#) listing in the Syntax section

#### Are you trying to find out what a hardkey is doing?

- Then you should go to the [Key & Buttons](#) guide.

#### Are you creating a macro and need help?

- There are many manual pages about macro creation. Go to this [Macro Guide](#) for further help.

#### Do you need to know more about the grandMA2 syntax?

- The grandMA2 syntax is very comprehensive. There are two good places: The [Commandline Concept](#) pages that contains a more general description and the [Commandline Syntax](#) pages that gives you a detailed explanation.

#### None of the above is what I am looking for...

- Okay, maybe you should try to go back to the [Guide Front Page](#), and see if there's an other answer that fits you better. If there's nothing that helps you, you could send a comment to the manual team using [this form](#), and get us to add the guide info. Please be as specific as possible.



## Topic: Hardkeys and buttons guide

This guide will point you in the right direction when you need help with keys and buttons on the console.

There's only one place to look if you need help about the keys and buttons on the console. It's the [Keys & Buttons](#) reference section.

But if you're looking for something else - the following questions might help you. And again if you didn't find what you where looking for, you can send a comment to the manual team using [this form](#). Please be specific with what you think is missing.

#### Are you looking for a command that can't be accessed with the hardkeys?

- You should try the [Commandline Guide](#) instead of this on.

#### Are you trying to learn more about executors?

- Maybe the [Executor Concept](#) or the [Assign Menu](#) can help you.

#### Is this not what you where looking for?

- Try to go back to the [Manual Guide](#) front page and try a different answer.



## Topic: Windows guide

If you are looking for information about a window, menu or pop-up, this guide will help you.

Many windows allow you to press the [Help](#) key followed by pressing in the window, to open a help pop-up describing that window.

There's an entire section dedicated to describe all the windows, menus and pop-ups. It's the [Windows reference](#) section.

The windows description is divided into different areas. Many of the window descriptions also have links to other relevant pages.

Look through the following question for further direction.

**Are you looking for help on any of the window you can create with the [Create Basic Window](#) pop-up?**

- This is divided into sections for each of the categories: [Sheets](#), [Pools](#), [Presets](#), [Playbacks](#) and [Other](#).

**Have you gotten a [pop-up](#) you don't understand?**

- There's a very big [pop-up section](#) in the windows reference.

**Have you encountered an [error or warning](#) pop-up, and need help?**

- There's a section about [Error pop-ups](#), this might help you.

**Are you looking for help on how to [create views](#)?**

- There's a "task" that might help you. It's called "[Create a View](#)". The pages that follow that one is also related to using views on the grandMA2.

**None of this is what you where looking for?**

- Okay, maybe you should try to go back to the [Guide Front Page](#), and see if there's an other answer that fits you better. If there's nothing that helps you, you could send a comment to the manual team using [this form](#), and get us to add the guide info. Please be specific with what you are missing.



## Topic: Tutorial guide

The step by step tutorials may help you with many question about general use or a more specific use.

As of this writing there's 9 different tutorials. They can be seen in the [tutorial](#) section. The first two are basic tutorial that deals with most of the common actions on the grandMA2. The next tutorials deal with more specific actions on the console.

The tutorials are step by step guides that work best if you follow the descriptions very tight. If you are more into examples of how to use the console, you might also find a lot of useful info in the [Task](#) section.

If this isn't what you are looking for you could try to go back to the [Guide Front Page](#) and see if there's an other answer that might suit you better.

If you feel that there's a tutorial missing, feel free to write a comment to the manual team using the [contact form](#). Please be specific with what you are missing.



## Topic: Task guide

There are many tasks that can help you understand how the grandMA2 works.

The tasks are divided in to two different sections, each with sub sections.

There's the [Hardware section](#). This has most to do with connecting peripheral equipment.

The other section is the [Software section](#). Here you can find all sorts of tasks about Updating, Setup, programming and Software connections.

Read the following questions for the right direction.

**Do you need to know how to [connect something](#) to the console?**

- You should have a look at the [connection tasks](#) in the Hardware section.

**Are you looking for other task regarding the console [hardware](#)?**

- Then you should take a look at the [Miscellaneous hardware section](#).

**Do you need help with [installing or updating](#) the software?**

- You should have a look at the "[Update and Install](#)" tasks in the software section.

**Do you need help with [software or show setup](#) on your console?**

- The [Setup tasks](#) might help you with this.

**Do you need help something about [programming](#) a show?**

- There's almost unlimited tasks connected to programming a show. The [programming section](#) have some tasks, but does not have every possible task example.

#### Are you looking for help with [networking](#)?

- Then you should take a look at the [Network guide](#).

#### Are you trying to create a [macro](#)?

- There's a lot of info when you are looking at macro creation. You should go to the [Macro Guide](#) to get more help.

#### Where you looking for a step by step [tutorial / guide](#)?

- Then you should have a look at the [Tutorial guide](#).

#### None of this is what you where looking for?

- Okay, maybe you should try to go back to the [Guide Front Page](#), and see if there's an other answer that fits you better. If there's nothing that helps you, you could write a comment to the manual team using [this form](#), and get us to add the guide info. Please be specific with what you are missing.



### Topic: Concept guide

The concept section is meant to give you a basic understanding about a subject.

There are some pages about the grandMA2 philosophy and how some parts of the console works.

The concept pages are divided into three sections called [Basic Operation](#), [System Setup](#) & [Extended Operation](#). Basic and extended operation are the most comprehensive sections (as of this writing).

There are many different operations on a grandMA2 and not every operation is described, but the concept section will grow in the future.

The advise to you, is that you browse through the three sections mentioned above to see if what you are looking for is described yet. If you don't find what you where looking for, we suggest that you write a comment to the manual team using [this form](#) and let us know what you are missing. Please be as specific as possible.

If this isn't what you where looking for, I suggest you go back to the Manual Guide [front page](#) and try a different path.



### Topic: Network guide

Networking is an essential part of grandMA2. This guide will help you find what you are looking for.

Networking is a lot of things. The following will point you in the right direction.

There's a page about the concept behind the [grandMA2 networking](#). Find it [here](#). When dealing with networking it's also worth mentioning something about multiuser. This is a link to the [multiuser concept](#).

If you are looking for information about [connecting a network cable](#) - follow this [link](#).

There's a task about [setting the IP address](#) - follow this [link](#).

There's a lot of [commands and keywords relevant](#) for networking. This is some of them: [InviteStation \(IS\)](#), [JoinSession \(JS\)](#), [DisconnectStation \(DS\)](#), [LeaveSession \(LS\)](#), [NetworkInfo \(NI\)](#), [SetIP](#).

There's also a description of the [setup menus network section](#). This might also provide you with a lot of information.

If you need something that you didn't find here, you are welcome to write a comment to the manual team using [this form](#). Please be as specific as possible. If this isn't what you where looking for, you can try to go back to the Manual Guide [front page](#) and try a different path.



### Topic: Macro guide

Macros are a very powerful part of grandMA2. This guide will help you find what you need for creating macros.

Generally it's a good idea to know all the commands needed to create the macro - but then I guess you didn't need the guide :-)

If you are in any doubts about the commands you need, you should look at the [Commandline guide](#).

One of the most important commands when trying to create a macro and not really sure about the correct syntax is [List](#).

For general information about the macro philosophy in grandMA2, you should have a look at the [Macro Concept](#).

If you are new to macros, you might want to have a go at the [Macro Tutorial](#). Here you are presented with the most common steps to create macros. And it's very recommendable to go through this first.

If you are looking at using macros you might want to take a look at the [Macro Tasks](#). Here you'll find some tasks about using macros.

The [Macro Editor](#) window, describes how to use this dialog to create macros. Here you can also see how to create predefined macros.

If you are trying to find info on how to [import or export](#) macros you can find it [here](#).

The last place I'm going to tell you about is the [Macro Keyword](#). This just tells you how to use the keyword.



Looking at the pages linked above will give you answers to many questions about macros. Should you have something you didn't find, please write a comment to the manual team using the [contact form](#), and we will try to add the info here.

If this wasn't what you were looking for you could try to go back to the Manual Guide [front page](#) and try a different path.



## Topic: NPU manual guide

This manual guide help you locate pages in the manual about grandMA NPU's.

This NPU manual guide will hopefully guide you in the right direction when you are looking for help with the grandMA NPU.

If you are not looking for anything about the grandMA NPU you should try to go back to the [Guide Front Page](#), and see if there's something else that fits you better.

If there's nothing below here that helps you, you could send a comment to the manual team using [this form](#), and tell us what you think is missing. Please be as specific as possible.

### Tasks.

There are tasks describing the most common actions regarding the grandMA NPU.

There are some task regarding setting up the [hardware](#).

The software tasks are divided into using the NPU in [Series 1 Mode](#) or [Series 2 Mode](#).

And there's also a separate task about [updating the software](#).

### Windows.

All the windows and screens on the NPU (in Series 2 Mode) are described in the [NPU windows section](#). But you might also want to have a look at the [MA Network Configuration - NPU](#) in the Setup Menu. This is used for setting the DMX ports on the NPU.

### Tutorial.

There's a [NPU Tutorial](#) taking you through the steps needed to set up a NPU in a MA system.

### Commands.

After the initial setup of the NPU it works very much in the background. But there are some commands that can help you adding and dismissing NPU's to the network. [NetworkInfo](#), [InviteStation](#) and [DisconnectStation](#).

### Specifications.

If you need the specifications on the NPU, have a look [here](#).



## Topic: grandMA2 Series.

grandMA2 Series - more than a console

With the grandMA, MA Lighting started a new era of highly developed lighting and visual control console platforms. On the one hand, these consoles can be used for stand-alone lighting control, on the other, they can work via Ethernet (MA-Net) as an integrated MA system network.

With the introduction of the grandMA2, MA Lighting took the next logical step. Offering vastly more powerful software and hardware, this series is again setting standards for the years to come.

The grandMA2 hardware may also be used with full compability and functionality of the series1 software.

For using the grandMA2 in compatibility mode, please refer to the latest grandMA series1 manual.

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## Topic: Copyright & Disclaimer

### Declaration of Conformity according to directives 2004 / 108 / EG

**Manufacturer's name** MA Lighting Technology GmbH

**Manufacturer's address** Dachdeckerstr. 16 D-97297 Waldbuttelbrunn Germany

declares that the product.

**Product category** Control unit

**Name of product** grandMA2 fullsize , grandMA2 light, grandMA2 ultra-light, grandMA2 wing

.

complies with the following product specifications:

**Safety** EN60065, EN60950-1

**EMV (EMC)** EN55103-1:2009 (E1), EN55103-2:2009 (E2)

Additional information: DMX512, Ethernet, USB, MAlink, DVI, LTC, Audio IN, MIDI and analogue inputs must be shielded and the shielding must be connected to the earthing resp. to the housing of the corresponding plug.

Dipl. Ing. Michael Adenau

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## Concept: About the Manual

grandMA2 Help System introduction

The grandMA2 Help system will eventually be available on the console by pressing [Help](#) [Please](#) .

These pages are also available online at [www.grandma2.de/help](http://www.grandma2.de/help)

With each software-release, the latest version of the online pages is included in the console, however as the online version is constantly updated, expanded and refined, based on userfeedback from the grandMA2-forum and experiences from the software-team, the online-version may be slightly different from what you find inside your console.

## Concepts

"What is .... ?". **Concepts** contains background information you should know to successfully work with the grandMA2 series consoles.

This section aims to give you a conceptual understanding of the philosophy behind the console, without digging deep into every little detail. With a conceptual understanding, you will have the knowledge needed to understand the technical information and facts found in the reference section.

## Reference

The **Reference** section contains technical information - facts, descriptions and properties of each elements of the console.

This section is intended for look-up and reference, to expand the basic knowledge gained by the concept section

## Tasks

"How do I .... ?" Although the concept and reference section should provide you with enough information to operate the console, the exact steps of some **Tasks** may not be obvious for all users.

This section contains step-by-step instruction for common tasks and procedures.

## Tutorials

This section provides tutorials intended for training. While Tasks contains step-by-step instruction for single operations, the tutorials will guide you thru different scenarios from A-Z.



## Reference: Basic terminology

Please refer to the Reference section for further descriptions of terms

### Fixtures

Instruments, Luminaires, - devices controlled by the console

### Channels

Fixtures that has been given a Channel-ID - usually a fixture with dimmer only

### Attribute

Controllable functions of a fixture, e.g. pan or gobowheel3

### Parameter

A specific attribute of a specific fixture, e.g tilt of fixture 5

### Selection

A collection of fixtures, selected and ready for manual control

### Activation

A collection of parameters, active and ready for storing

### Programmer

The container for Selection, Activation and temporary parameter-values,

### Parameter-values

Parameter-content in the form of Level/Value, Fade, Delay and/or Effect

|          |                                                                                                                                         |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Cue      | A look on stage, stored within a Sequence                                                                                               |
| Sequence | A series of cues that run in a specific order. <i>Other consoles may call this a Cue-list</i>                                           |
| Executor | A handle used to control and execute stored content, e.g a sequence <i>Other consoles may call this a Playback or Master</i>            |
| Store    | Create data (i.e. a cue) in the showfile. <i>Other consoles may call this function Record</i>                                           |
| Preset   | A stored parameter setting, for easy access and reuse. <i>Other consoles may call this a Palette</i>                                    |
| Effect   | An overlayed table (e.g Sinus) that modulates the value of a parameter. Basic controls would be Table, Size, Speed and relative offset. |



## Concept: System Overview

Members of the grandMA2 family

### grandMA2 full-size



### grandMA2 light



### grandMA2 ultra-light



### grandMA2 onPC command wing



**grandMA2 faderwing**



**grandMA2 replay unit**



**MA NPU**



**grandMA2 onPC**



#### **Related Links**

- [Specification full-size](#)
- [Specification light](#)
- [Specification ultra-light](#)
- [Specification replay unit](#)
- [Specification NPU](#)
- [Specification faderwing](#)
- [Specification onPC](#)



## Reference: Console Geography



1. Screen 1 (Commandscreen)
2. Screen 2
3. Screen 3 (light & full-size)
4. Screen 4 (full-size)
5. Window Encoders
6. Attribute Encoders
7. Level Wheel - Dimmer - (light & full-size)
8. Trackball - Pan/Tilt & Mouse
9. Grand Master
10. Fader Executors
11. Button Executors
12. Multipurpose User-keys ("X-keys")
13. Main Executor
14. Command Area
15. Keyboard (light & fullsize)
16. View/Viewpage Buttons
17. Menu Keys
18. Power Key



## Reference: Backpanels

### Consoles



1. Mains Switch
2. Mains Input, PowerCon NAC3MPA, 120-230V 50/60Hz 350VA
3. DMX Out A-F, 6 x XLR 5pin male
4. DMX In, XLR 5pin female
5. Ethernet 1+2, 2 x EtherCon RJ-45 10/100/1000 Base T-X
6. External Monitor Left+Right, 2 x DVI-I Dual-Link
7. DC Remote Input / pin configuration: DB-25 female, pin 1-16 = input, pin 21 and 22 = +5V, pin 24 and 25 = common ground
8. MA-Link, DA-15 female
9. USB, 2 x TypeA USB 2.0
10. MIDI In+Out, 2 x DIN 5/180 female
11. Audio In, XLR 3pin female, min 20mV
12. LTC/SMPTE In, XLR 3pin female, min 200mV
13. Reset Button
14. Desklamp Outputs, 2 x XLR 4pin female, MA LED desklamp 4pin

### OnPC command wing



1. Mains Switch + Input, IEC C14, 90-240V 50/60Hz 42VA

2. USB, TypeB USB 2.0
3. LTC/SMPTE In, XLR 3pn female, min 200mV
4. DMX In, XLR 5pin female
5. DC Remote Input / pin configuration: DA-15 female . pin 1-6,9-14 = input, pin 7 = +5V, pin 14 = common ground
6. MIDI In+Out, 2 x DIN 5/180 female
7. DMX Out A+B, 2 x XLR 5pin male

#### OnPC fader wing



1. Mains Switch + Input, IEC C14, 90-240V 50/60Hz 42VA
2. USB/PC, TypeB USB 2.0
3. USB/CMD, TypeA USB 2.0
4. USB/PWR, TypeA USB +5V only (Desk lamp)
5. DMX Out A-D, 4 x XLR 5pin male



### Concept: grandMA2 philosophy

Concepts & philosophy of the grandMA2 series consoles

This section provide background information you should know to successfully work with the grandMA2 series consoles.

For step-by-step instructions for common tasks, and reference documentation of each element of the system, please look at the Tasks and Reference sections.



### Concept: Basic Operation

Click on any of the sub topics for more info on the Basic Operation.



### Concept: Attributes

Every fixture/channel has a minimum of one, but possibly multiple parameters to be controlled. These parameters are classified as **Attributes**, and may be adjusted and manipulated via the **Encoder Toolbar**, once the fixtures are selected.

A generic dimmer typically has only one attribute - "Dimmer" while an advanced Moving Light may have 30+ different attributes. To effectively work with a high number of attributes, **Attributes** are grouped in **Features**, which again are grouped in **Preset-types**.

#### Example:

A fixtures's parameter for rotating the gobos on the second gobowheel, would be the Attribute "Gobo2 Rot", of the Feature "Gobo2" of the Preset-type "Gobo"

A fixtures's parameter for adjusting its intensity, would be the Attribute "Dimmer", of the Feature "Dimmer" of the Preset-type "Dimmer"

#### Accessing attributes



The top row of the Encoder Toolbar will display one button for each Preset-type existing in your Showfile. Pressing this button puts the attributes of the first feature, on your encoders. If the Preset-type contains multiple features, or more than 4 attributes per feature, these may be accessed via the leftmost button in the second row.

#### Adjusting attributes

The encoders have three basic functions:

- Encoder Turn
- Value adjustment up/down

- Encoder Push&Turn  
Fast value adjustment up/down
- Encoder Click  
Open dialog for numeric entry, predefined slot-values or attribute options

### Special attributes

Some attributes and features have dedicated controls to enable faster and/or easier access to adjustments

The most obvious is the level wheel next to the numeric keypad, which is always linked to the dimmer attribute, and the Trackball which is linked to Pan&Tilt, unless it is in Mouse-mode.

Additionally some features like Colormix and Shapers have graphical tools on the multitouch commandscreen.



### Concept: Backup

With backup you can save and load your show. You can also change settings for a file server, an automatic saving interval and save the show to external drives.



### Concept: Channels & Fixtures

Devices to control; Channels & Fixtures

The grandMA2 is a versatile control system, there are no predefined limitation of what type of fixtures it does control, e.g. *"this desk controls 200 dimmers and 48 moving lights"*. With grandMA2 all fixtures to be controlled are defined in **Setup → Show**, by the user.

Every fixture needs an identifier (ID). grandMA2 has two different types/ranges of such, Channel ID & Fixture ID.

#### Channel

A fixture with a Channel ID will display its dimmer-attribute in the **Channel Sheet** window. Channel IDs are typically used with devices that only have one controllable parameter - Dimmer.

| Channel | Readout Percentage | Level | Value | Test | File Name | Fixture | Slot |
|---------|--------------------|-------|-------|------|-----------|---------|------|
| 1       | 0 %                |       |       |      |           |         |      |
| 2       | 0 %                |       |       |      |           |         |      |
| 3       | 0 %                |       |       |      |           |         |      |
| 4       | 0 %                |       |       |      |           |         |      |
| 5       | 0 %                |       |       |      |           |         |      |
| 6       | 0 %                |       |       |      |           |         |      |
| 7       | 0 %                |       |       |      |           |         |      |
| 8       | 0 %                |       |       |      |           |         |      |
| 9       | 0 %                |       |       |      |           |         |      |
| 10      | 0 %                |       |       |      |           |         |      |
| 11      | 0 %                |       |       |      |           |         |      |
| 12      | 0 %                |       |       |      |           |         |      |
| 13      | 0 %                |       |       |      |           |         |      |
| 14      | 0 %                |       |       |      |           |         |      |
| 15      | 0 %                |       |       |      |           |         |      |
| 16      | 0 %                |       |       |      |           |         |      |
| 17      | 0 %                |       |       |      |           |         |      |
| 18      | 0 %                |       |       |      |           |         |      |
| 19      | 0 %                |       |       |      |           |         |      |
| 20      | 0 %                |       |       |      |           |         |      |

#### Fixture

A fixture with a Fixture ID will display all its attributes in the **Fixture Sheet** window. Fixture IDs are typically used with fixtures that have multiple controllable parameters - pan/tilt, color, gobo etc.

| ID  | Name       | POSITION  | DIMMER | GOBO | COLORMIX    | Fixture | Slot |
|-----|------------|-----------|--------|------|-------------|---------|------|
| 301 | MovingHead | 50 % 50 % | 0 %    | 0 %  | 0 % 0 % 0 % |         |      |
| 302 | MovingHead | 50 % 50 % | 0 %    | 0 %  | 0 % 0 % 0 % |         |      |
| 303 | MovingHead | 50 % 50 % | 0 %    | 0 %  | 0 % 0 % 0 % |         |      |

#### ID

A fixture must have either a Channel ID or a Fixture ID, - or both. Some operators prefer to give every fixture both the same Channel and Fixture ID, to be able to select number 5, not caring about if it is a Channel or a Fixture, while others prefer to separate and distinguish between the two types of fixtures. e.g Channel 5 (dimmer 5) is another fixture than Fixture 5 (Mac600 #5). A fixture can also have different Channel and Fixture IDs. This may be useful in situations where the designer would like to call fixtures by its location: Channel 35 (5th position on third truss), while the operator prefer to think of the fixture as first mac600, Fixture 601.

#### Subfixtures

In the later years, there has been an increase in products which actually are multiple fixtures in one housing, e.g. LED-battens, where you have multiple cells, and each cell has individual control of RGB. Such fixtures may be patched as one fixture, but nevertheless be accessed individually as Subfixtures. If a Thomas Pixel-line is patched and given the ID Fixture 5, merely selecting fixture 5 would adjust all 18 cells of this fixture. To adjust only cell #13, you select Fixture 5.13

#### Related Links

- [Fixture Schedule](#)
- [Channel Sheet](#)
- [Fixture Sheet](#)



## Concept: Commandline

The command line is the fundamental way of communication between the console and the operator.

By the use of reserved words, keywords, and numerical identifiers, the operator may command the desk to perform any task, e.g **Delete Effect 3** or **Goto Cue 5**. Every commandline has to be completed with the magic word *Please*, so the exact buttons to push for these examples would be Del Effect 3 Please and Goto Cue 5 Please.



**Please** is not a keyword or part of the commandline, it is the button that sends the commandline to the console, so remember to be polite and add Please to any commandline examples you find in these pages.

Most commonly used keywords have a dedicated labeled key, while others may be accessed by a second (or third) press of the key. Some keywords may only be available from onscreen buttons, while all keywords may be typed manually with the keyboard.

You may always see what is currently being typed into the commandline, by looking at the teal-colored Commandline Input field displayed on both the command screen and the right monitor-wing screen:

[Channel]> Delete Group 4

Like in any language, words may be classified into different groups (i.e. verbs and nouns), and there are rules on how words may be combined, to form understandable expressions.

### Object Keywords

Object Keywords are used in the commandline to reference objects in your showfile. Examples of object keywords could be **Channel**, **Fixture**, **Effect**, **Preset**. These keywords represent object-types, and are typically used together with a number/ID or a name/label, to point to specific objects: **Channel 3**, **Fixture 10**, **Effect 4**, **Preset "Red"**.

Object keywords may be compared to *nouns* in human languages.

### Functional Keywords

Functional Keywords are used in the commandline to perform a task or function. Examples of functional keywords could be **Goto**, **Delete**, **LeaveSession**. Functional keywords are often followed by an object, that the function/task should be applied to: **Goto Cue 3**, **Delete Preset "Blue"**. Some functions are global and does not need an object as argument, e.g. **Blackout**.

Functional keywords may be compared to *verbs* in human languages.

### Helping Keywords

Helping Keywords are used in the commandline to give relations to functions and objects. Examples of helping keywords could be **At**, **Thru** : **Copy Cue 3 At Cue 5**, **Delete Effect 4 Thru 6**.

Helping keywords may be compared to *prepositions* and *conjunctions* in human languages

### General Syntax

The general syntax is [Function] [Object], or more specific [Function] [Object-type] [Object-IDs], however to speed up programming, parts of this syntax may be omitted, and will be replaced with default values by the console:

**Store Cue 3** may be typed as Store 3, as Cue is the default object-type for the function Store

**Go+Macro 5** may be typed as Macro 5, as Go+ is the default function for the object-type Macro

### Capitalization & Abbreviations

The console does not distinguish between upper/lower case in keywords, this form is used merely to improve readability. Additionally, when entering commandline with a keyboard, it is inconvenient to have to type the whole keyword, so every keyword may be shortened to it's unique letter-combination

**Store Cue 3** may via the keyboard be typed as st cu 3

**Macro 10** may via the keyboard be typed as ma 10

### Default keyword

To speed up programming even more, the commandline has a default object keyword, which will be inserted if you start your commandline directly with a number. The default keyword is displayed in square brackets the start of the commandline:

[Channel]>

typing just 9 will generate Channel 9, as Channel is currently the default keyword/object of the commandline.

[Channel]> Channel 9

You may change this default keyword at any time, by entering the keyword and then press please.

Fixture Please

[Fixture]>



## Command line overwrite

When you edit the command in a macro or if you are adding or editing a command in a cue you'll get a pop-up that overwrites the command line input. When a pop-up like this overwrites the normal commandline, it gets a red background like this:



You will see that what you type or what hardkeys you press go to the red background colored command line and into the pop-up. When you press Please the pop-up will close and the commandline will empty and go back to the original color.

Pressing an executor buttons will take the action from the button directly into the pop-up and return the commandline to normal mode.

## Related Links

- [Syntax Rules](#)
- [Keywords](#)



## Concept: Cues & Sequences

A look on stage may be stored as a Cue.

Fixture parameters adjusted to different values, together form "looks" on stage, which may be memorized by the console as **Cues**.

**Cues** are organized in **Sequences**, and are played back by **Executors**. - A simple analogy would be that your Cue is a song/track, the Sequence is an Album/CD, and your Executor is your CD/DVD player.

This means that you cannot have a Cue without a Sequence, and you cannot use your Cue/Sequence without assigning it to an Executor. Sounds complicated, but this process is automated. If you press Store then any button of an empty Executor, the console will automatically create a new sequence, assign the sequence to your executor, and add first cue, Cue 1.

In addition to contain values for each included parameter, a Cue also includes properties for when and how to recall the cue, like Trigger source/time, Fade and Delay times etc.

A cue may further be divided into **Parts**, to apply different timing to groups of fixtures or parameters.

| Sequence |         | Readout Percen |          | E: 9999.201<br>5: 5 'Sequ. 5' |      | Link<br>Selected | Auto<br>Scroll |              |
|----------|---------|----------------|----------|-------------------------------|------|------------------|----------------|--------------|
| Number   | Name    | Trig           | TrigTime | Delay                         | Fede | Out Delay        | Out Fede       | Snap Percent |
| 1        | Intro   | Go             | 0.00     | 0.00                          | 3.00 | 1.00             | 2.00           | 0.00 %       |
| 2        | Start   | Follow         | 5.00     | 0.00                          | 3.00 | 0.00             | 1.00           | 0.00 %       |
| 3        | Part 1  |                |          | 2.00                          | 5.00 | 0.00             | 0.00           | 0.00 %       |
| 3        | Verse   | Go             | 0.00     | 0.00                          | 2.00 | 0.00             | 2.50           | 0.00 %       |
| 4        | Chorus  | Go             | 0.00     | 0.00                          | 2.00 | 1.00             | 2.50           | 0.00 %       |
| 5        | Verse 2 | Go             | 0.00     | 0.00                          | 2.00 | 0.00             | Infade         | 0.00 %       |
| 5.1      |         | Go             | 0.00     | 0.00                          | 0.00 | 0.00             | 0.00           | 0.00 %       |



## Concept: Effects

Effects are dynamic values generated by repeatably alternating between two different values according to a given waveform.

The output-value of any attributes may be dynamically generated by applying two values (low and high) and a wave-form/graph, where the bottom of the graph represents the low value, the top of the graph represents the high value, and the transition between these two values is defined by the shape of the graph:



With the means of these three parameters, the output-value will start oscillating at the given rate:

| ID | Name   | Color1<br>C1 | CM1 | ColorMix<br>CM2 | CM3 | CTC<br>CTC |
|----|--------|--------------|-----|-----------------|-----|------------|
| 1  | Mc2000 | 16.41        |     | 0.00            |     | 0.00       |
| 2  | Mc2000 | 16.41        |     | 0.00            |     | 0.00       |
| 3  | Mc2000 | 16.41        |     | 0.00            |     | 0.00       |
| 4  | Mc2000 | 16.41        |     | 0.00            |     | 0.00       |
| 5  | Mc2000 | 16.41        |     | 0.00            |     | 0.00       |

Furthermore by aligning the **phase**, where to start on the curve, you may achieve a continuous flow:

| ID | Name   | Color1<br>C1 | CM1 | ColorMix<br>CM2 CM3 | CTC<br>CTC |
|----|--------|--------------|-----|---------------------|------------|
| 1  | Mc2000 | 15.93        |     | 0.00                | 0.00       |
| 2  | Mc2000 | 19.10        |     | 0.00                | 0.00       |
| 3  | Mc2000 | 22.37        |     | 0.00                | 0.00       |
| 4  | Mc2000 | 21.82        |     | 0.00                | 0.00       |
| 5  | Mc2000 | 18.55        |     | 0.00                | 0.00       |

Effect-values may be stored directly into your cues as discrete effect-values, or to the **Effect-pool** as a Selective Effect for referenced reuse, similar to how static values may be stored and reused via **Presets**.

Effect-values may be manipulated by selecting the corresponding Effect-layer via the Layer select buttons above your encoders:



#### Form

Form is the form/graph defining the transition between the High and the Low value, e.g. Sin or Ramp

#### Rate

Rate is the relative speed/time used to complete one cycle

#### Low

Low is the value used when the form/graph is at the bottom

#### High

High is the value used when the form/graph is at the top

#### Phase

Phase defines where (horisontally) on the form/graph to start, 0=beginning, 360=end

#### Width

Width controls how much the form/graph should occupy of a full cycle. A 'Width' of 100% makes the form take up all the cycle. If the 'Width' is only 50% then the form only occupies the first half of the cycle

#### Fade

Fade is an optional individual fade-time, used when effect is stored into cues

#### Delay

Delay is an optional individual delay-time, used when effect is stored into

#### Attack

Attack is used to soften the transition from low to high of the special Forms PWM, Chase and Random

#### Decay

Decay is used to soften the transition from high to low of the special Forms PWM, Chase and Random

#### ID

ID is a non-editable layer which will display the ID of either the Template or Selective Effect the values originates from (from which button in the effect pool the values are startet).

## Related Links

- [Effects Tutorial](#)



## Concept: Executor

Executors are handles used to control and execute stored content.

The most obvious use for an executor is to assign a sequence of cues for playback, however executors may also be used as handles for other objects, e.g. a physical button of a specific macro or a speedfader for a group of chasers.

Executors are arranged in **Pages**. This enables you to easy get a new set of executors merely by changing page.



Changing page will not load new content into your physical Executors, like on some other consoles. Changing page just instructs the console to *display* another set of Executors on your physical hardware. This enables you to have executors from multiple pages active and running at once.

There are two types of executors, **Fader Executors** and **Button Executors**.



### Fader Executors

Fader Executors have 4 controls: one fader and 3 buttons (2 above fader, one below). Depending on console type and wings attached, you may have direct physical access to up to 90 Fader Executors at once. These Executors are labeled from 1 and up.

### Button Executors

Button Executors have only one control: a button. Depending on console type and wings attached, you may have direct physical access to up to 110 Button Executors at once. These Executors are labeled from 101 and up

### Soft Executors

Even if your hardware-setup do not support 90 + 110 physical Executors, you may still access and use all 200, via onscreen faders and buttons.



### Button and Fader functions

The function of each button and fader of an Executor may be freely assigned, to suit the needs for your style of operating, type of show, and functionality of assigned object.

Typical button functions could be Go, Pause or Flash, while fader function could be Master (intensity), Speed or Crossfade.



## Concept: Groups

Groups are collections of fixtures, used for selection.

Commonly used combinations of fixtures may be stored as Groups.

To create a group, select the desired fixtures, e.g **Channel 1 Thru 5 - 4** then enter **Store Group 3** .

Channel 1, 2 3 and 5, may now be selected by just entering **Group 3** .

Multiple Groups may be combined in one commandline, also with the Channel and Fixture keyword. i.e. **Group 1 Thru 4 - Channel 3 + Fixture 7**

Groups are merely shortcuts for **selecting** fixtures:

**Group 5 At 50** , **Store Cue 3** will set the fixtures in Group 5 to 50%, not Group 5 to 50, so any later changes to Group 5 will not be reflected in Cue 3.

Your groups are displayed in the **Group Pool** Window.



With the **Group Pool** window, you can select groups merely by pressing the tile in the pool, - and create groups, by pressing **Store** in advance.



Groups also remember the *order* of the selection. Fixture 1 + 2 is not exactly the same as Fixture 2 + 1. The order of a selection is important when applying effects and value-ranges, which will be distributed along the selection



## Concept: Labeling

Every object in your showfile may be given descriptive names/labels to eliminate the need to remember numbers. .

### Giving Names

The command for labeling is **Label [Object]** , - the **Label** keyword is access by pressing two times on the **Assign** key, so the exact keystrokes for giving group 3 a name, would be **Assign Assign Group 3 Please** , and then enter the name in the popup dialog.

If you are labeling a pool-object (i.e a group), and the pool and the object has focus (white square around the object), you can enter a new label just by start typing with the keyboard.



This Direct labeling of object with focus, enables you to enter the name directly after selecting or storing via pool-windows.

Direct labeling also work in the Cue-lists when focus is on the cue-name.

### Using Names

In addition to being informative when displaying data in pools and sheets, names may also be used in the commandline to access the objects.

[Channel]> Group Pars At 50

Sets group "pars"to 50%. If the name includes white-space or reserved words (keywords), the name must be enclosed in quotes **Group "All Macs" At 50** .



## Concept: Presets

A preset holds information about attribute-values for a selection of fixtures, and may be referenced and re-used in cues. The value of a preset in the programmer or stored in a cue is labelled with a cyan bar.

The idea of Presets is to store a labeled reference in a cue, rather than the actual value itself.

### Example:

After positioning Fixture 1 thru 3 at the Piano, rather than storing the actual pan&tilt attributevalues into the cue, these values are stored as Preset "Piano" and the Cue only contains that fixture 1 thru 3 should point at "Piano".

The advantage of this concept is that if the piano (or fixtures) is moved, you only have to update the Preset "Piano" even if you have used the fixtures at this position in multiple cues. Another surplus is that in your fixturesheet you may see that pan and tilt is at Piano, and not just a numeric value or deflection in degrees.

| Trackin          |       | Readout    |            | Mask: C E: 1:20   | Special | Link        | Auto        | Feature | Fixture |
|------------------|-------|------------|------------|-------------------|---------|-------------|-------------|---------|---------|
|                  |       | Lay.: Val  |            | File: Non S: 1:5e | Filter  | Selected    | Scroll      | Sort    | Sort    |
| Number           | Name  | 1 Mac500 1 | 2 Mac500 2 | 3 Mac500 3        |         |             |             |         |         |
|                  |       | Pan        | Tilt       | Pan               | Tilt    | Pan         | Tilt        |         |         |
| 1                | Cue 1 | Piano      | Piano      | Piano             | Piano   | Piano       | Piano       |         |         |
| 2                | Cue 2 | 164.80     | -29.20     | 28.80             | 103.80  | 130.80      | 58.80       |         |         |
| 3                | Cue 3 | 164.80     | -29.20     | Guitar            | Guitar  | 130.80      | 58.80       |         |         |
| 4                | Cue 4 | Piano      | Piano      | Piano             | Piano   | Piano       | Piano       |         |         |
| Presets & Values |       | Fade       | Delay      | Modulator Table   | Auto    | Values Only | Sequence ID |         |         |

## Preset types

Presets are divided into different types, each by default collecting related attributes. e.g. Pan, Tilt belong to the Preset-type Position, while ColorWheel and CMY belong to the Preset-type Color etc.



## Related Links

- [Create Highlight Presets Task](#)
- [Create Default Presets Task](#)



## Concept: Programmer

Your current Selection of fixtures, and the values of any manually adjusted attributes resides in the **Programmer**

### Active parameters

Active parameters are displayed in the fixture and channel Sheet with a dark red background. By default when creating/storing Cues and Presets, the console will take the Active parameters.

Parameters gets automatically activated when you adjust them in the programmer. For convenience the console will also activate related parameters, so if you adjust the attribute Pan, then Tilt will also be included.

### Layers

A parameter's data is divided into multiple Layers. These Layers are divided into two main groups, **Value Layers** and **Effect Layers**.



With the Layer select buttons centrally located above your encoders, you may choose which layers you are working on.



The Value layers consist of 3 layers

Values

this is the normal static value of the parameter

Fade

This is an optional fadetime for the value. if no fadetime is given, the parameter will follow cuetiming

Delay

This is an optional delaytime for the value. if no delaytime is given, the parameter will follow cue-timing



The Effect layers consist of 11 layers

These layers define a dynamic value for the parameter. Learn more about what each layer does via the concept and tutorial pages for Effects



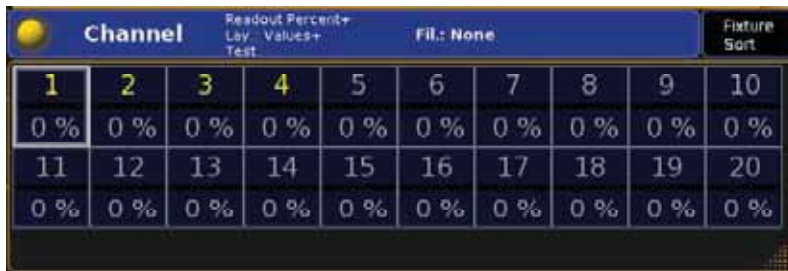
## Concept: Selection

To be able to adjust and manipulate fixtures, they need to be **selected**

### Selecting via commandline

Selecting may be done with the commandline by i.e. pressing **Fixture 5 Please** . Multiple fixtures may be selected in one go by using the helping keywords **+**, **-** and **Thru**, e.g. **Channel 2 Thru 10 - 4**

To see your current selection onscreen, you need a **Channel Sheet** and/or **Fixture Sheet** window. Selected fixtures will have their name and number (ID) displayed with yellow text.



| 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % |
| 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % | 0 % |



If your sheets are not large enough to display all fixtures, enable **Fixture Sort** in the top right corner, to move the selected fixtures to the top of the list

### Selecting via GUI

With a **Channel Sheet** or **Fixture Sheet** window visible, you may select fixtures merely by touching their name or ID-number. Selecting a range is done with a "lasso": press on first fixture, move finger/mouse to last fixture, then release. To deselect via the GUI, press the  (minus) key first, then the name/ID in the sheet.

### Cancel current selection

To de-select all selected fixtures press the  **Clear** key once.



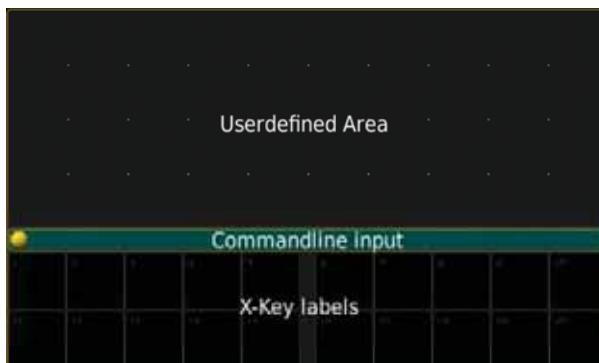
## Concept: Touchscreens / GUI

The 9" and 15.4" touchscreens of grandMA2 forms a powerful userdefined GUI (Graphical User Interface)

The multiple screens on the **grandMA** are used both to display informational data to the user and also via their touch functionally, to produce input to the console.

The grey areas with light grey dots are the areas where user-defined windows may be arranged

### Commandscreen



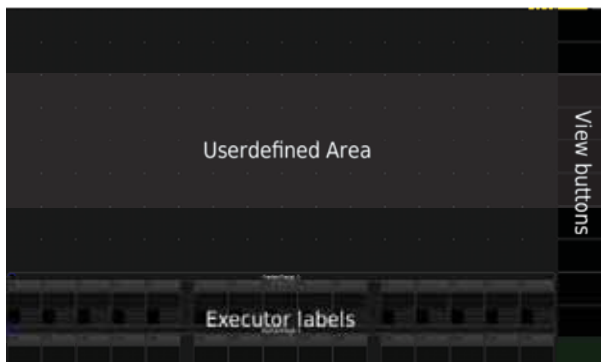
The bottom section of this screen contains label and softbuttons for the **X-keys**. The **X-keys** can control **Button Executors**, **(List)** or **Views/Macros (User1 + 2)**. Additionally these act as hardkeys for options in pop-ups, menus and dialogs.

### Right Screen



The bottom section of this screen contains the Encoder Toolbar which gives access to fixture attributes and object properties. In the bottom left corner is the Executor-label for the currently selected (Main) executor. Along the right hand side is 10 View-buttons for easy recall of different userdefined Window-arrangements

#### Left / Middle Screen (fullsize and light)



The bottom section of this screen contains the labels for the **Fader** and **Button Executors**. Along the right hand side is 10 **View-buttons** for easy recall of different userdefined Window-combinations

#### Related Links

- [Windows](#)



#### Concept: Tracking

**Tracking** is the principle to just memorize the changes from one cue to the next..

Rather than taking a complete snapshot from stage for each cue, a tracking console will put just the values into a cue which differ from the previous look. This follows the way a designer would think about his cues as well as it saves console's processing power and memory.

Quite simply, tracking is the idea that once a parameter is set to a level, it stays there until it is told to go somewhere else.

e.g.

- Cue 1: Blue Backdrop
- Cue 2: Frontlight on guitarplayer

The actual **content** of Cue 2 is just to turn on the frontlight, - Cue 2 does not contain any data for the backdrop. However, when playing back Cue 2, the blue backdrop will stay on, and the result, the **state** of Cue 2, becomes guitarplayer with a blue background. The blue background is **tracking** to the next cue.



#### Concept: Views and Windows

What you see is what you want....

To get started, you may load a Demoshow with a simple set of Views with window arrangements , however to work efficiently with the console you should create your own views, optimized for your type of show, amount of fixtures, and your personal preferences regarding data-presentation

#### Window arrangements

Windows are created by pressing an empty space on your screen, and choosing type of window, from the **Create Window** dialog.

Windows may be moved by dragging the headline, and resized by dragging the lower right corner. After filling your screen with multiple windows, it could look something like this:

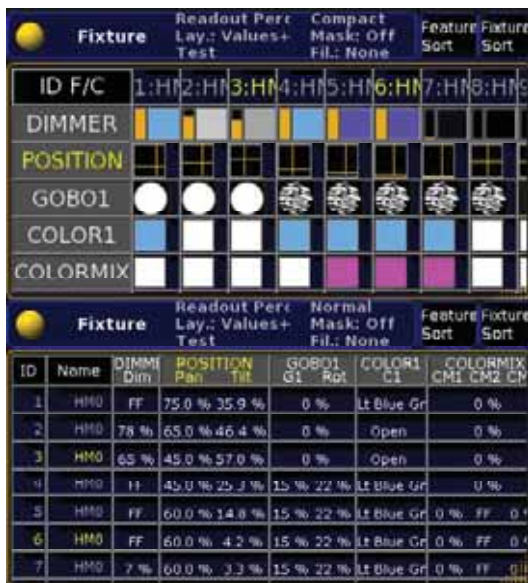




### Window options

Every window has a yellow ball in the upper left corner, which may be used to access the **Window Option** dialog. Within the options dialog, you may select how the data is presented, fontsize, readout, special filters, toolbars etc.

Here is two examples of the same Window, **Fixture Sheet**, but with different options:



### Views

Window arrangements and options, are stored in as **Views**. By pressing **Store**, and an empty Viewbutton on the right part of the screen, the console will create a new **View**, and assign the View to the button, for easy recall of the current arrangement.

### Related Links

- [Create Window Dialog](#)
- [Sheets](#)
- [Pools](#)
- [Presets](#)
- [Other](#)



### Concept: System Setup

Click on the sub topic for more info about the System Setup topics.



### Concept: Fixture Schedule

In Fixture Schedule you define the types and number of fixtures used in your show.

The process of building your fixture schedule consist of importing FixtureTypes from the Library, and adding quantities of these types into your showfile.

The Fixture Schedule may be segmented into multiple Layers, to simplify navigation within setups with large amount of fixtures and or different fixture-types.



## Fixture-types Library

The grandMA2 comes with an extensive library of fixture-types from known (and unknown) manufacturers.

Generic fixture-types like ordinary dimmer channels, simple RGB LEDs, scrollers etc may be found via the manufacturer "Generic"

Altering fixture types must be done in the **Fixture Schedule**, and any changes first takes place when you exit. If in a session, the new schedule will be uploaded to all other stations

## Fixture & Channel ID

To be able to program the fixtures defined in the **Fixture Schedule** they need to given either a Channel ID a Fixture ID - or both. Without any ID's you will not be able to program the fixtures, but as opposed to deleting the fixtures, removing ID's we keep existing data in your showfile.

Altering ID's must be done in the Fixture Schedule, and any changes first takes place when you exit. If in a session, the new schedule will be uploaded to all other stations

## DMX Patch

To be able to control (and visualize) the fixtures they need to be patched to a given DMX address and Universe.

The grandMA2 supports patching to 256 different universes, and address & universe are given in the format universe.start\_address e.g. 1.1 = first address of first universe, 256.512 = last address of last universe

The DMX-patch does not have to be edited within the Fixture Schedule. The patch may be altered at any-time via the **Fixture Sheet** or **Commandline**.

## Fixture Positions

By placing each fixture with XYZ in a three-dimensional environment, the fixtures may be visualized in the **Stage Window** (wire-frame) and via a connected PC running grandMA3D (realistic).

Fixture Positions does not have to be edited within the Fixture Schedule. the positions may be altered at any-time via the Stage Window

## Related Links

- [Channels & Fixtures](#)
- [Patch Conventionals Task](#)
- [Patch Moving Lights Task](#)



## Concept: Extended Operation

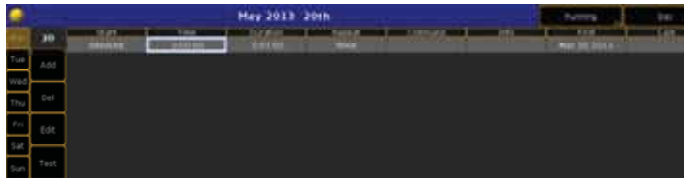
Click on any of the sub topics for more info about the Extended Operations.



## Concept: Agenda

The agenda is a calendar system, that allows you to run a user-defined command at a certain time. This can be a specific time (e.g. at 5 o'clock) or a more variable time (e.g. at sunset).

The Agenda is primary intended for architectual installation, however you can also use it to remind you to take coffee breaks or other reminders.



## Related Links

- [Agenda](#)
- [Global Settings](#)



## Concept: Bitmaps

Bitmaps, or Bitmap effects, are threedimensional pixelmapping used to generate dynamic effects from animating image-files.

Ordinary pixelmapping has been limited to overlay a twodimensional image, with a twodimensional representation of your fixtures, and map corresponding pixels to fixtures. However, in real life your fixtures are not neccessarily located in one flat plane, and your audience does not neccessarily have a direct 90 degrees viewing angle of your "plane" with fixtures.

grandMA series2 has taken pixelmapping to the next level:

Every fixture's position in 3D space may be considered a pixel of a virtual 3-dimensional canvas/screen.

Onto this screen (or a selection of it) you can from any angle/position virtually "project" an image, and animate its position rotation and size.



## Related Links

- [Bitmap Effect Tutorial](#)



## Concept: Chaser

Chaser are used when you need more than an loop with more two step. If you only need two steps then you might want to use an effect.

A Chaser is a sequence that run in a loop. It disregards the timing in the sequence and uses the speed setting to run through all the cues. Cue cues are referred to as steps. Each cue is a step in the chaser.

As mentioned above all timing information in the sequence is ignored and all loop information is also not used. Commands are executed and the Command Delay is the one timing from the sequence that's actually used.

You can set a direction in a chase. There are four different directions. "Forward" and "Backward" is self explanatory. A different option is "Bounce". With this it will run through the steps to the end and then run backwards to the first step then change direction again and run forward to the last step and continue bouncing between the first and last step. The last option is "Random". This will run the steps in a random pattern.

But a chase can also run backwards using the **GoBack** command or **GO-**. So if you have a chaser that uses the direction "Backward" and you start it using GoBack it will actually run forward. You can change this in the **Edit Chase pop-up**.

The speed controls the how fast the chaser loops. There are two other important time settings. The two other are called "Fade" and "MFade".

The Fade is used to set how much the chaser should fade between the steps. This is set as a percentage. If the percent is 0, then the chaser will snap between the steps. If it's all the way up to 100%, then it will use all the time it can (restricted by the speed) to fade between the steps. The MFade is used when you want to fade in the first step and fade out when you stop the chase. This is set as a time value.

On the **Chaser Encoder Toolbar** you have four encoders. The first encoder (from the left) is the "Master" for the intensity. The second encoder is the "Speed". The next encoder is the "Fade". The last encoder is the "Off-Time".

Using the Chaser encoder toolbar is the best way to change these settings unless you have expanded your chaser to several faders and can assign the function to faders. You can also select the chaser executor and use the Special Masters to change the settings.

## Related Links

- [Chaser Encoder Toolbar](#)
- [Edit Chaser Pop-Up](#)
- [Chaser Mini Executor](#)



## Concept: Colordim

The colordim system is for LED fixtures.

The Colordim parameters are used for LED fixtures. This allows you to create and use LED fixtures with many different colored LEDs.

If the fixture also have a dimmer attribute, then the colordim attributes can use and follow MIB.

If you use the Special Color Dialog with the Colordims it will only affect Red (Colordim 1), Green (Colordim 2) and Blue (Colordim 3).

## List of Colordims

This is the list of Colordim colors.

- Colordim 1 = Red
- Colordim 2 = Green
- Colordim 3 = Blue
- Colordim 4 = Amber
- Colordim 5 = White
- Colordim 6 = Warm White
- Colordim 7 = Cool White
- Colordim 8 = Orange

- Colordim 9 = Red Orange
- Colordim 10 = Purple
- Colordim 11 = Indigo
- Colordim 12 = Cyan
- Colordim 13 = Magenta
- Colordim 14 = Yellow
- Colordim 15 = UV
- Colordim 16 = Green Cyan
- Colordim 17 = Medium White



## Concept: Telnet & Commandline browsing

Editing show-data solely via commandline entries

Whatever you do with the command line, you are accessing a database that represents your current show file. The structure of that database is a tree. By default when using the commandline, you are at the root of the tree, and you commands will be directed to the correct branch, by the content of your command. In some situations it may be convenient to direct your commands to a specific part of the tree.

This may be achieved with the command CD (Change Destination).

If your destination is not the root, the Commandline input field will display the destination as a prefix of the commandline. Press the yellow ball to open the **Commandline Response** window

Edit Setup/FixtureTypes>

In the situation above, **Store 1** will create FixtureType 1, rather than the usual Cue 1.

When your commandline is directed to a specific destination, you can still do normal operations, however shorthand entry no longer work, you need to enter the full syntax **Store Cue 1** to create Cue 1

### Keywords

|        |                                                                             |
|--------|-----------------------------------------------------------------------------|
| Store  | Create new data/object at the current destination                           |
| Delete | Destroy/remove data/object at the current destination                       |
| List   | Display data at the current destination                                     |
| CD     | Change Destination                                                          |
| Assign | Set values to object properties and create cross-references between objects |

### Related Links

- [Assign Keyword](#)
- [ChangeDest\(CD\) Keyword](#)
- [Delete Keyword](#)
- [List Keyword](#)
- [Store Keyword](#)



## Concept: DMX channels vs. Parameters

What's the difference between DMX channels and Parameter counting?

### So why is MA talking about parameters and you are still thinking in universes?

Well, I can tell you the difference between the two, but to make MA or you change your ways, is a bit out of the scope of this manual. The physical DMX512 output on all grandMA2 products is a 5 pin XLR connector. A connector like that will output one universe equal to 512 DMX channels. Okay, that's pretty standard knowledge.

### So why are MA talking about parameters?

Well, let's have a look at the DMX history. Some years back the only thing controlled by DMX was dimmers. The standard was designed to make a smooth transition from 0 to 100% Because of the way the protocol works it was decided that 256 steps would do the trick.

A lot of water passed under the bridge and now DMX controls everything (well almost everything). Some things were just not happy with 256 steps (also known as 8-bit). Like Panning from 0 to 460 degrees in 256 steps gives you something close to 1,8 degrees per step. That really wasn't good enough. So someone thought of adding the values of one DMX channel to another. And then we had 16-bit equals 65.536 steps! That's much better for panning. But some products still needed more than that. And we have 24-bit and that's a stacking 16.777.216 steps!

MA is only thinking in parameters. If you think of a fixture with a 16-bit Pan, 16-bit Tilt and an 8-bit Dimmer. This is 5 DMX channels, but MA is only calculating this as three parameters (Pan, Tilt & Dim). The internal calculations of the parameters are higher than 8/16/24-bit (more like 32-bit), and they are then converted down to the amount of DMX channels a parameter uses.

**Now how does this affect you and why should you care?**

Let's imagine that you have bought a grandMA 2Port Node onPC. This acts like a hardware dongle for 512 parameters. This means that you can with an onPC control 512 parameters. Let's imagine that you only control dimmers. But you have 512 of them. When MA is only counting parameters, it doesn't matter if they are 8-bit, 16-bit or 24-bit dimmers.

If MA was counting in DMX channels, you could control 512 8-bit dimmers or 256 16-bit dimmers or 170 24-bit dimmers.

Is that fair? MA doesn't think so. That's why they think in parameters and you should be a happy customer :-)

If you want to know more about parameter count and expansion, follow the link below.

## Related Links

- [More on Parameter count and expansion](#)



## Concept: Hardkey keyword overview

### Hardkey keyword overview text

| Hard Key Combinations         | Command         | Description                                           |
|-------------------------------|-----------------|-------------------------------------------------------|
| <<<                           | <<<             | Go fast Backward and ignore the cue timing            |
| <<< <<<                       | Black           | Blackout an executor without timing                   |
| >>>                           | >>>             | Go fast Forward and ignore the cue timing             |
| >>> >>>                       | Flash           | Flash an executor without timing                      |
| Align                         | Align "<"       | Fan from first selected to...                         |
| Align Align                   | Align ">"       | Fan from last selected to...                          |
| Align Align Align             | Align "><"      | Fan from the center of the selection                  |
| Align Align Align Align       | Align "<>"      | Fan between first and last selected                   |
| Align Align Align Align Align | Align Off       | switch off the Fan function                           |
| Assign                        | Assign          | e.g.: Assign Executor or Assign Flash Executor 1      |
| Assign Assign                 | Label           | Label the object                                      |
| AT                            | AT              | channel 1 at 100 or fixture 1 at fixture 2            |
| AT AT                         | Normal          | set the selection to the AT Normal Value              |
| AT (long press)               | --              | AT Filter temporay View                               |
| Blind                         | Blind           | switch on/off the Live programmer to black            |
| Blind (long press)            | BlindEdit       | switch on/off the second blind programmer             |
| Bt Pg -                       | ButtonPage -    | go to the previous Button Page                        |
| Bt Pg - (long press)          | ButtonPage 1    | go to the first Button Page                           |
| Bt Pg +                       | ButtonPage +    | go to the next Button Page                            |
| Ch Pg -                       | ChannelPage -   | go to the previous Channel Page                       |
| Ch Pg - (long press)          | ChannelPage 1   | go to the first Channel Page                          |
| Ch Pg +                       | ChannelPage +   | go to the next Channel Page                           |
| Channel                       | Channel         | Channel object                                        |
| Channel Channel               | Dmx             | Dmx object                                            |
| Channel Channel Channel       | DmxUniverse     | Dmx Universe object                                   |
| Clear                         | ClearSelection, | deselect all fixtures or channels in the programmer   |
| Clear (long press)            | ClearAll        | release everything and clear the programmer           |
| Clear Clear                   | ClearActive     | deactivate all values in the programmer               |
| Clear Clear Clear             | ClearAll        | release everything and clear the programmer           |
| Copy                          | Copy            | Copy source object at destination object              |
| Copy Copy                     | Clone           | Clone source object at destination object             |
| Cue                           | Cue             | Cue object                                            |
| Cue Cue                       | Part            | Part Cue object                                       |
| Delete                        | Delete          | e.g.: Delete Sequence or Delete Executor              |
| Delete Delete                 | Remove          | load a Remove in the programmer                       |
| Delete Delete Delete          | Release         | load a Release in the programmer                      |
| dot                           | dot             | e.g.: Move Cue 1.1 AT 1.999                           |
| dot dot                       | Zero            | set the selection at dimmer value zero                |
| Down                          | --              | Page down in the window with the last focus           |
| Edit                          | Edit            | load a cue in the programmer, e.g.: Edit Cue x Please |
| Edit + Next/Previous          | --              | load the next/previous cue in the programmer          |

|                        |                           |                                                                             |
|------------------------|---------------------------|-----------------------------------------------------------------------------|
| Effect                 | Effect                    | Effect object                                                               |
| Effect (long press)    | --                        | Running Effects temporary View                                              |
| Effect Effect          | Bitmap                    | Bitmap object                                                               |
| Effect Effect Effect   | Form                      | Form object                                                                 |
| Executor               | Executor                  | Executor object, e.g.: Executor 1 AT 100 Fade 5                             |
| Executor Executor      | SpecialMaster             | Special Master object                                                       |
| Fd Pg -                | FaderPage -               | go to the previous Fader Page                                               |
| Fd Pg - (long press)   | FaderPage 1               | go to the first Fader Page                                                  |
| Fd Pg +                | FaderPage +               | go to the next Fader Page                                                   |
| Fix                    | Fix                       | Fix an executor for all pages                                               |
| Fixture                | Fixture                   | Fixture object                                                              |
| Fixture Fixture        | Selection                 | the actual programmer selection, e.g.: Park Selection Please                |
| Full                   | Full                      | set selection to dimmer value 100%                                          |
| Full Full              | --                        | loads the highlight values in the programmer                                |
| Go -                   | Go -                      | e.g.: Go to the previous cue in the Sequence                                |
| Go +                   | Go +                      | a Go to next cue in the Sequence with cue timing                            |
| Go + Go +              | Unpark                    | e.g.: Unpark Selection Please                                               |
| Go+ Prvw               | PreviewExecutor           | step through a cuelist in preview mode                                      |
| Goto                   | Goto                      | e.g.: Goto Executor Please or Goto Cue x Please                             |
| Goto Goto              | Load                      | e.g.: Load Executor Please or Load Cue x Please                             |
| Group                  | Group                     | Group object                                                                |
| Group (long press)     | --                        | Groupmaster temporary View                                                  |
| Group Group            | World                     | World Object, e.g.: World 1 Please selects the Full World                   |
| Help + Object          | e.g.: Help Fixture Please | opens the temporary Help View for the Fixture Keyword                       |
| Help Please            | Help                      | opens the temporary Help View                                               |
| Help Help              | CmdHelp                   | displays all Shortcuts in the command window                                |
| Highlight              | Highlight                 | set the selection to the highlight values                                   |
| Highlight (long press) | --                        | the highlight values of the selection is flashing                           |
| IF                     | IfOutput                  | select fixtures with dimmer value higher than 0%                            |
| IF IF                  | IfActive                  | select fixtures with active values in the programmer                        |
| IF IF IF               | IfProg                    | select fixtures with active or deactive values in the programmer            |
| IF IF IF IF            | If                        | for example Group x If Group y selects fixtures which exists in both groups |
| Learn                  | Learn                     | a Learn Speed for an Chaser or Effect                                       |
| Learn Learn            | Rate1                     | e.g.: Rate1 Executor 1 set the Rate back to 1:1 of an executor              |
| List                   | --                        | switch the x-keys to button executors                                       |
| MA (long press)        | --                        | a temporary View of View Page 1 thru 10 at the V1 thru V10 hard keys        |
| MA + 1                 | Presettype "Dimmer"       | select Presettype 1 also connect through the Attributes 1.1, 1.2,...        |
| MA + 1 + +/-           | --                        | Intensity Littlights                                                        |
| MA + 2                 | Presettype "Position"     | select Presettype 2 also connect through the Attributes 2.1, 2.2,...        |
| MA + 2 + +/-           | --                        | Intensity 15 inch displays                                                  |
| MA + 3                 | Presettype "Gobo"         | select Presettype 3 also connect through the Attributes 3.1, 3.2,...        |
| MA + 3 + +/-           | --                        | Intensity 9 inch display                                                    |
| MA + 4                 | Presettype "Color"        | select Presettype 4 also connect through the Attributes 4.1, 4.2,...        |
| MA + 4 + +/-           | --                        | Intensity button backlight                                                  |
| MA + 5                 | Presettype "Beam"         | select Presettype 5 also connect through the Attributes 5.1, 5.2,...        |
| MA + 6                 | Presettype "Focus"        | select Presettype 6 also connect through the Attributes 6.1, 6.2,...        |
| MA + 7                 | Presettype "Control"      | select Presettype 7 also connect through the Attributes 7.1, 7.2,...        |
| MA + 8                 | Presettype "Shapers"      | select Presettype 8 also connect through the Attributes 8.1, 8.2,...        |
| MA + 8                 | --                        | displays the battery charge level on the X1 thru X10 key for 10 seconds     |
| MA + 9                 | Presettype "Video"        | select Presettype 9 also connect through the Attributes 9.1, 9.2,...        |
| MA + dot               | Default                   | set the selection to default values of the Fixture                          |
| MA + dot               | Default                   | set the value of any object or the current selection at the default value   |
| MA + Down              | --                        | Monitorwing Steppermotor moves down                                         |
| MA + Effect            | SyncEffects               | sync all effects in the programmer                                          |
| MA + Group             | Layout                    | Layout object                                                               |

|                            |                        |                                                                                |
|----------------------------|------------------------|--------------------------------------------------------------------------------|
| MA + List                  | List                   | list objects in the command line window, e.g.: List Fixture thru               |
| MA + Move                  | Replace (no function)  | .                                                                              |
| MA + Next                  | NextRow                | selects the next row                                                           |
| MA + Please                | --                     | force the focus to the command line                                            |
| MA + Previous              | PreviousRow            | selects the previous row                                                       |
| MA + Previous + Next       | AllRows                | selects all rows                                                               |
| MA + Previous + Set + Next | MAtricksBlocks Off     | Blocks Off                                                                     |
| MA + Set                   | --                     | Unlock Monitorwing Steppermotor                                                |
| MA + Set + Next            | MAtricksBlocks +       | Blocks +1                                                                      |
| MA + Set + Previous        | MAtricksBlocks -       | Blocks -1                                                                      |
| MA + Store                 | Record                 | e.g.: Record Timecode 1 Please                                                 |
| MA + Time Time Time...     | --                     | connect through the Effects Form, Speed,... Layers                             |
| MA + UP                    | --                     | Monitorwing Steppermotor moves up                                              |
| MA + Update                | ListUpdate             | shows you all possible objects for the update in the Command View              |
| MA + View                  | Screen                 | Screen object, e.g.: Delete Screen 2 Please                                    |
| MA + AT                    | Stomp                  | Stomp is a function to stop running effects                                    |
| MA + AT + AT               | Extract                | Extract will break any referenced links and apply the hardvalues instead       |
| Macro                      | Macro                  | Macro object                                                                   |
| Macro Macro                | Timecode               | Timecode object                                                                |
| Macro Macro Macro          | Agenda                 | Agenda object                                                                  |
| minus                      | -                      | Group 5 - fixture 10                                                           |
| minus minus minus ...      | At - 10                | dimmer goes down in steps of 10 percent                                        |
| Move                       | Move                   | Move source object at destination object                                       |
| Move Move                  | Insert (no function)   | .                                                                              |
| Next                       | Next                   | select the next fixture or fixture of a selection                              |
| Off                        | Off                    | Knockout values or release executors                                           |
| Off Off                    | --                     | Off Menu temporary View                                                        |
| On                         | On                     | e.g.: On Selection or On Cue                                                   |
| On On                      | Call                   | e.g.: Call Cue Thru x Please will call the status of the cue in the programmer |
| Oops                       | Oops                   | 100 x Undo                                                                     |
| Oops (long press)          | --                     | Oops History temporary View                                                    |
| Page                       | Page                   | Page object                                                                    |
| Page Page                  | ChannelPage            | Channel Page object                                                            |
| Page Page Page             | FaderPage              | Fader Executor Page object                                                     |
| Page Page Page Page        | ButtonPage             | Button Executor Page object                                                    |
| Pause                      | Pause                  | Pause the actual cue fade                                                      |
| Pause Pause                | Park                   | e.g.: Park Channel x Please                                                    |
| Please                     | Please                 | execute the command                                                            |
| Please Please              | --                     | activate all attributes for the selection                                      |
| plus                       | +                      | fixture 1 + fixture 2                                                          |
| plus plus plus ...         | At + 10                | dimmer goes up in steps of 10 percent                                          |
| Preset                     | Preset                 | Preset object                                                                  |
| Preset Preset              | Attribute              | Attribute object, e.g.: Attribute 2.1.2 AT 50 sets the Tilt At 50              |
| Preset Preset Preset       | Gel (no function)      | .                                                                              |
| Previous                   | Previous               | select the previous fixture or fixture of a selection                          |
| Previous + Next            | All                    | leaves the Next/Previous selection and selects all (old grandMA1 SET hard key) |
| Previous + Set + Next      | MAtricksInterleave Off | Interleave Off                                                                 |
| Prvw                       | Preview                | e.g.: Preview Cue x Please                                                     |
| Prvw Prvw                  | PreviewEdit            | switch the preview mode on/off                                                 |
| Select                     | Select                 | e.g.: Select Executor 1                                                        |
| Select Select              | Selfix                 | e.g.: Selfix Executor 1 will select all used fixtures of this executor         |
| Sequence                   | Sequence               | Sequence object                                                                |
| Set                        | MAtricks Toggle        | toggles between the all and actual selection from Next/Previous                |
| Set + Next                 | MAtricksInterleave +   | Interleave +1                                                                  |
| Set + Previous             | MAtricksInterleave -   | Interleave -1                                                                  |

|                    |            |                                                                    |
|--------------------|------------|--------------------------------------------------------------------|
| Store              | Store      | Store an object                                                    |
| Store (long press) | --         | Store Options temporary View                                       |
| Temp               | Temp       | Flash an executor with timing                                      |
| Temp Temp          | Toggle     | switch an executor on and off                                      |
| Thru               | Thru       | fixture 1 thru 10 please or fixture 1 thru 10 at 0 thru 100        |
| Time               | Value      | switch to Layer Value                                              |
| Time Time          | Fade       | switch to Layer Fade                                               |
| Time Time Time     | Delay      | switch to Layer Delay                                              |
| Top                | Top        | jump to the first cue of a sequence                                |
| Top Top            | Kill       | release all executors on all pages excluding this executor         |
| Up                 | --         | Page up in the window with the last focus                          |
| Update             | Update     | Update temporary View                                              |
| View               | View       | View object                                                        |
| View View          | ViewButton | View Button object, e.g.: ViewButton 11.1 is the User1 first x-key |
| View View View     | ViewPage   | View Pages 1 thru 10                                               |



## Concept: Layouts

Topographical layouts - magic sheet

Layouts are interactive 2 dimensional drawings where you may freely arrange channels fixtures, draw shapes and write text, add macros presets or other objects.



Via the Layout Pool, you may create multiple layouts for each part of your stage. Use the Layout View to edit content of layouts and to display layouts.

## Related Links

- [Layout Pool](#)
- [Layout View](#)



## Concept: Macros

A Macro is a userdefined list of commandline entries, used for automation of complex and/or repetitive tasks.

In addition to the traditional macros of series1, grandMA2 macros may be used as a scripting language, with possibilities to create dialogs for user-input, conditional execution of macrolines, - interacting with the users current commandline, or as parallel execution, not interfering with the commandline.

Macros may be executed directly from the Macro-pool, or be assigned to any Executor, View or X-key User button, for direct hardkey access.







When CLI is disabled for a macro, the actual press of the Macro will no longer interact with your commandline, but directly execute its content. This means that i.e to edit or delete this object you cannot just press the command and then the button, you will need to type the actual keyword and ID. e.g. **Edit Macro 5** to edit macro 5 or **Delete ViewButton 11.5** to remove the macro from the User1 X5-button). By disabling the CommandLineInteraction of the actual buttonpress, you can make the content of the macrolines interact, by the use of the @-sign.

#### Example:

```
SetVar $answer= ("your flash buttons to be 1 -above- or 2 -below- the faders?")
```

```
SetVar $button = [$answer==1] ExecButton2 [answer==2] ExecButton1
```

```
Assign Flash at $button 1 Thru 30
```

#### Related Links

- [Macro Keyword](#)
- [Macro Pool](#)
- [Tutorial Macros](#)



### Concept: MIDI Show Control (MSC)

MIDI Show Control (MSC) are MIDI commands automatically sent from the console when executing cues and moving faders. You can also remote control a console by sending MSC messages to it.

MIDI Show Control (MSC) is used to send and receive show control data.

Show control data is used to control other devices or to be controlled by other devices. This can be used to sync several elements in your show.

MSC is a standard used by many manufacturers. This allows you sync your show across light, sound, stage, etc.

It can also be used to remote control the console from any equipment that can send Midi.

The console will automatically send MSC messages when MSC Out is turned on.

When MSC In is turned on, the console will listen to MSC messages and act accordingly.

The console will ignore the message if it isn't recognized as a valid MSC message.

MIDI is usually transmitted in hex numbers. They are organized in groups of 2 numbers.

You might be using a MSC software that offers you a more comfortable way to work with MSC, but to understand the basic MSC message the following is only concerned with the raw MSC hex data.

This is the format of a MSC message:

```
F0 7F [Device ID] 02 [Command Format] [Command] [Data] F7
```

In the following we'll have a look at the different elements in the square brackets.

#### Device ID:

Let's first have a look at "Device ID". This is used to limit the receivers of the MSC message. There are three categories. "Individual device" number, "group" number and "All" devices.

The device ID is a 2 digit hex number. And the three categories are divided like this:

- 00 - 6F  
112 individual device numbers.
- 70 - 7E  
15 group numbers.
- 7F  
All Call = broadcast to all receivers.

#### Command Format:

Command format is used to indicate the type of equipment that's intended to receive the MSC message.

The list of different equipment is long, but the console only responds to and transmit three different command formats. They are:

- 01  
General Light
- 02  
Moving Light
- 7F  
All

#### Commands:

The console supports five different commands.



There's a small risk of crashing the console if you transmit MSC messages that isn't supported.

The commands are:

#### 01 (GO)

This is a GOTO command. It needs to be followed by a cue number.

#### 02 (STOP)

This is like hitting the Pause key. This can be followed by a cue number.

#### 03 (RESUME)

This is the only way to "un-pause" and continue a paused fade. If you have paused a specific cue, you'll need to un-pause that specific cue.

#### 04 (TIMED\_GO)

This will perform a goto command with a specified fade time. The format is: 04 [time] [cue]. Read more about how to write the time in hex below.

#### 06 (SET)

This is used to move faders. This is followed by four bytes (8 hex numbers). The first two hex numbers are the executor number. The next two are the executor page number. The last two groups of Hex numbers are the fader position. Least significant first, most significant last.

Read more about the different commands below.

### 01 (GO)

This is the same as a GOTO command. After the "01" command you'll need to specify a cue number (the "Data" part of the message). Cue numbers need to be transmitted in ASCII format using hex. This means that if you need to transmit the cue number 4 you'll need to use the hex number "34". All number can be transmitted by placing a "3" in front of it. A dot is "2E" in hex. So to transmit the cue number "309.45" you'll need to transmit "33 30 39 2E 34 35".

You may also specify an executor and executor page number. This is controlled by the MSC options in Setup. You'll need to separate the cue number and the executor by a "00".

An executor and page can be separated by a space (00) or a dot (2E). So if you need to trigger cue 5 on executor 4 on page 3 and the separation is a dot, you'll need to transmit the following data: "35 00 34 2E 33". If the separator between the executor and page is a space then the same command would be "35 00 34 00 33".

The grandMA2 always transmit full cue numbers with three decimals. This means that the cue number 2 is transmitted as "2.000" ("32 2E 30 30 30") and cue number 2.5 is transmitted as "2.500" ("32 2E 35 30 30") but it doesn't need to receive full cue numbers.

The full MSC message for a GOTO cue 4.5 on executor 12 on page 1 (dot separator) to all devices and all types of equipment is: F0 7F 7F 02 7F 01 34 2E 35 00 31 32 2E 31 F7 .

### 02 (STOP)

This is like hitting the pause button. Please read the section above for a better understanding of the hex cue numbering system.

How much you need to transmit is dependent of the MSC options in Setup. If the "MSC In Exec" option is "Default Only" they only the default executor will respond and you don't need to send any "Data" values. So you'll only need to send "F0 7F [Device ID] 02 [Command Format] 02 F7".

The console will transmit "F0 7F [Device ID] 02 [Command Format] 02 30 2E 30 30 30 F7". This is like sending a "pause running cue" command.

If you have specified in the Setup that you need to specify an executor and a page, then you'll also have to specify this for the Stop command. And then you'll have to transmit the "running cue" number. The full MSC message for stopping a running cue on executor 12 on page 1 (dot separator) to all devices and all types of equipment is: F0 7F 7F 02 7F 02 30 00 31 32 2E 31 F7 . This is the shortest possible format for that MSC message. The console would transmit the full message: F0 7F 7F 02 7F 02 30 2E 30 30 30 00 31 32 2E 31 F7 .

### 03 (RESUME)

This is the only way to continue a paused cue. The only difference between the Stop and Resume commands are the "02" and "03". So continuing the cue we just paused in the example above would be: F0 7F 7F 02 7F 03 30 00 31 32 2E 31 F7 .

Again if the MSC options in Setup is set to "Default Only". You can just transmit F0 7F 7F 02 7F 03 F7 to continue the fade.

### 04 (TIMED\_GO)

This is the same as the **01 (Go)** command but with a specified time. So, if you haven't already, please read (and understand) the **01 (Go)** section above. Just to make this a bit simpler we are going to pretend that the "Default Only" option is turned on in the MSC options in Setup.

To transmit a timed GOTO you need to specify the time first and then the cue number. The time is specified by five 2-digit hex numbers. They represent (in order) Hour Minute Second Frame and Fraction.

The hour, minute and second sections are very strait forward. You'll need to transmit the value in hex number but you can transmit a value above the normal limit i.e. you can transmit 64 seconds ("40" in hex). The console will transmit this as 1 minute and 4 seconds.

Right now the console will not accept any time specified in the Frame and Fraction sections. But it transmit values below a second in the Frame section. The console divides the second into 24 frames. So 0.5 seconds is 12 Frames and the received hex number is "0C".

Follow the link below to a table that compares decimal and hex numbers.

### 06 (SET)

The set command is used to move a fader to specific position. The "06" is followed by two 2-digit hex numbers that indicate the fader and then two more 2-digit hex numbers that dictates the position.

The first of the two numbers for the fader is the fader number (on a page). The first fader are hex number "00", the second "01" and so on. Remember that this is a hex number so fader 16 have hex number "0F" and 17 is "10".

The second of the two numbers for the faders are the page number. This is 1 to 1 - although also in hex. But page 1 is "01" in hex and page 2 is "02" etc.

So, how to calculate the position in hex numbers? For this we need to do some math. The faders' position is defined by a coarse and fine value. The scale for both values is 128 steps. The "Fine" value is transmitted first followed by the "Coarse" value. So you need to multiply the desired fader position (in percent) by 1.28. The resulting integer is the "Coarse" value. The rest of the number (everything on the right side of the separator) should be multiplied with 128 to get the "Fine" value. The two decimal numbers should be converted to hex. You can use the link below to a table that allows you to convert up to decimal number 128.

Let's try to do an example. Let's say you want to move a fader to 45%. Multiply 45 with 1.28 ( $45 \times 1.28$ ) this gives you 57.6. So our Coarse value is "57". Now we need to multiply 0.6 with 128 ( $0.6 \times 128$ ). This gives us 76.8. So our Fine value is "76". Decimal "57" is "39" in hex. Decimal "76" is "4C" in hex. Remember that we need to transmit the Fine value first. Our two hex numbers after "06" is "4C 39". If we then need to move fader 3 on page 1, our complete MSC message would be: F0 7F 7F 02 7F 06 02 01 4C 39 (all devices and all command formats).

The console only transmit the position of some faders (executors and all the green colored special masters (for the selected executor)), but it accepts positions for all faders that have something assigned.

### Hope you got a better understanding of MSC

As mentioned before, you might be using some software that makes this more user friendly, but you might need to know what's really happening down in the hex numbers.

The following are some more examples of MSC messages.

#### Example:

Console options: **MSC In Exec:** *Exec.Page* and **MSC In Command:** *All*.

Sending a GOTO cue 15 on executor 5 on page 1:

F0 7F 7F 02 7F 01 31 35 00 35 2E 31 F7

Sending a GOTO cue 425.36 on executor 2 on page 3:

F0 7F 7F 02 7F 01 34 32 35 2E 33 36 00 32 2E 33 F7

Stopping a running cue on executor 1 on page 1:

F0 7F 7F 02 7F 02 30 00 31 2E 31 F7

Continue the cue on executor 1 on page 1:

F0 7F 7F 02 7F 03 30 00 31 2E 31 F7

Sending a GOTO cue 25.5 in 30 seconds on executor 2 on page4:

F0 7F 7F 02 7F 04 00 00 1E 00 00 32 35 2E 35 00 32 2E 34 F7

Sending a GOTO cue 4 in 5 seconds on executor 7 on page 1:

F0 7F 7F 02 7F 04 00 00 04 00 00 34 00 37 2E 31 F7

Moving fader number 4 on page 1 to 75%:

F0 7F 7F 02 7F 06 03 01 00 60 F7

Moving fader number 1 on page 1 to 32%:

F0 7F 7F 02 7F 06 00 01 7A 28 F7

### Related Links

- [Decimal - Hex Table](#)
- [Midi Show Control options](#)



### Topic: Decimal ArtNet Hex ASCII - table

This is a table that compare decimal numbers, ArtNet, Hex and ASCII.

| Decimal | ArtNet | Hex | ASCII | Decimal | ArtNet | Hex | ASCII   | Decimal | ArtNet | Hex | ASCII | Decimal | ArtNet | Hex | ASCII | Decimal | ArtNet | Hex | ASCII |
|---------|--------|-----|-------|---------|--------|-----|---------|---------|--------|-----|-------|---------|--------|-----|-------|---------|--------|-----|-------|
| 0       | 0:0    | 00  | NUL   | 32      | 2:0    | 20  | (space) | 64      | 4:0    | 40  | @     | 96      | 6:0    | 60  | `     | 128     | 8:0    | 80  |       |
| 1       | 0:1    | 01  | SOH   | 33      | 2:1    | 21  | !       | 65      | 4:1    | 41  | A     | 97      | 6:1    | 61  | a     | 129     | 8:1    | 81  |       |
| 2       | 0:2    | 02  | STX   | 34      | 2:2    | 22  | "       | 66      | 4:2    | 42  | B     | 98      | 6:2    | 62  | b     | 130     | 8:2    | 82  |       |
| 3       | 0:3    | 03  | ETX   | 35      | 2:3    | 23  | #       | 67      | 4:3    | 43  | C     | 99      | 6:3    | 63  | c     | 131     | 8:3    | 83  |       |
| 4       | 0:4    | 04  | EOT   | 36      | 2:4    | 24  | \$      | 68      | 4:4    | 44  | D     | 100     | 6:4    | 64  | d     | 132     | 8:4    | 84  |       |
| 5       | 0:5    | 05  | ENQ   | 37      | 2:5    | 25  | %       | 69      | 4:5    | 45  | E     | 101     | 6:5    | 65  | e     | 133     | 8:5    | 85  |       |
| 6       | 0:6    | 06  | ACK   | 38      | 2:6    | 26  | &       | 70      | 4:6    | 46  | F     | 102     | 6:6    | 66  | f     | 134     | 8:6    | 86  |       |
| 7       | 0:7    | 07  | BEL   | 39      | 2:7    | 27  | '       | 71      | 4:7    | 47  | G     | 103     | 6:7    | 67  | g     | 135     | 8:7    | 87  |       |
| 8       | 0:8    | 08  | BS    | 40      | 2:8    | 28  | (       | 72      | 4:8    | 48  | H     | 104     | 6:8    | 68  | h     | 136     | 8:8    | 88  |       |
| 9       | 0:9    | 09  | TAB   | 41      | 2:9    | 29  | )       | 73      | 4:9    | 49  | I     | 105     | 6:9    | 69  | i     | 137     | 8:9    | 89  |       |
| 10      | 0:A    | 0A  | LF    | 42      | 2:A    | 2A  | *       | 74      | 4:A    | 4A  | J     | 106     | 6:A    | 6A  | j     | 138     | 8:A    | 8A  |       |
| 11      | 0:B    | 0B  | VT    | 43      | 2:B    | 2B  | +       | 75      | 4:B    | 4B  | K     | 107     | 6:B    | 6B  | k     | 139     | 8:B    | 8B  |       |
| 12      | 0:C    | 0C  | FF    | 44      | 2:C    | 2C  | ,       | 76      | 4:C    | 4C  | L     | 108     | 6:C    | 6C  | l     | 140     | 8:C    | 8C  |       |
| 13      | 0:D    | 0D  | CR    | 45      | 2:D    | 2D  | -       | 77      | 4:D    | 4D  | M     | 109     | 6:D    | 6D  | m     | 141     | 8:D    | 8D  |       |
| 14      | 0:E    | 0E  | SO    | 46      | 2:E    | 2E  | .       | 78      | 4:E    | 4E  | N     | 110     | 6:E    | 6E  | n     | 142     | 8:E    | 8E  |       |
| 15      | 0:F    | 0F  | SI    | 47      | 2:F    | 2F  | /       | 79      | 4:F    | 4F  | O     | 111     | 6:F    | 6F  | o     | 143     | 8:F    | 8F  |       |
| 16      | 1:0    | 10  | DLE   | 48      | 3:0    | 30  | 0       | 80      | 5:0    | 50  | P     | 112     | 7:0    | 70  | p     | 144     | 9:0    | 90  |       |
| 17      | 1:1    | 11  | DC1   | 49      | 3:1    | 31  | 1       | 81      | 5:1    | 51  | Q     | 113     | 7:1    | 71  | q     | 145     | 9:1    | 91  |       |
| 18      | 1:2    | 12  | DC2   | 50      | 3:2    | 32  | 2       | 82      | 5:2    | 52  | R     | 114     | 7:2    | 72  | r     | 146     | 9:2    | 92  |       |
| 19      | 1:3    | 13  | DC3   | 51      | 3:3    | 33  | 3       | 83      | 5:3    | 53  | S     | 115     | 7:3    | 73  | s     | 147     | 9:3    | 93  |       |
| 20      | 1:4    | 14  | DC4   | 52      | 3:4    | 34  | 4       | 84      | 5:4    | 54  | T     | 116     | 7:4    | 74  | t     | 148     | 9:4    | 94  |       |
| 21      | 1:5    | 15  | NAK   | 53      | 3:5    | 35  | 5       | 85      | 5:5    | 55  | U     | 117     | 7:5    | 75  | u     | 149     | 9:5    | 95  |       |
| 22      | 1:6    | 16  | SYN   | 54      | 3:6    | 36  | 6       | 86      | 5:6    | 56  | V     | 118     | 7:6    | 76  | v     | 150     | 9:6    | 96  |       |
| 23      | 1:7    | 17  | ETB   | 55      | 3:7    | 37  | 7       | 87      | 5:7    | 57  | W     | 119     | 7:7    | 77  | w     | 151     | 9:7    | 97  |       |
| 24      | 1:8    | 18  | CAN   | 56      | 3:8    | 38  | 8       | 88      | 5:8    | 58  | X     | 120     | 7:8    | 78  | x     | 152     | 9:8    | 98  |       |
| 25      | 1:9    | 19  | EM    | 57      | 3:9    | 39  | 9       | 89      | 5:9    | 59  | Y     | 121     | 7:9    | 79  | y     | 153     | 9:9    | 99  |       |
| 26      | 1:A    | 1A  | SUB   | 58      | 3:A    | 3A  | :       | 90      | 5:A    | 5A  | Z     | 122     | 7:A    | 7A  | z     | 154     | 9:A    | 9A  |       |
| 27      | 1:B    | 1B  | ESC   | 59      | 3:B    | 3B  | ;       | 91      | 5:B    | 5B  | [     | 123     | 7:B    | 7B  | {     | 155     | 9:B    | 9B  |       |
| 28      | 1:C    | 1C  | FS    | 60      | 3:C    | 3C  | <       | 92      | 5:C    | 5C  | \     | 124     | 7:C    | 7C  |       | 156     | 9:C    | 9C  |       |
| 29      | 1:D    | 1D  | GS    | 61      | 3:D    | 3D  | =       | 93      | 5:D    | 5D  | ]     | 125     | 7:D    | 7D  | }     | 157     | 9:D    | 9D  |       |
| 30      | 1:E    | 1E  | RS    | 62      | 3:E    | 3E  | >       | 94      | 5:E    | 5E  | ^     | 126     | 7:E    | 7E  | ~     | 158     | 9:E    | 9E  |       |
| 31      | 1:F    | 1F  | US    | 63      | 3:F    | 3F  | ?       | 95      | 5:F    | 5F  | _     | 127     | 7:F    | 7F  | DEL   | 159     | 9:F    | 9F  |       |

## Related Links

- [Artnet setup menu](#)
- [MSC \(Midi Show Control\) setup](#)



## Concept: List of keywords from multiple key presses

This list displays the keyword given when you press some keys multiple times.

The text in square brackets are the text on the actual key. E.g. the **Exec** key gives you the **Executor** keyword first time you press it.

| 1st:            | 2nd:               | 3rd:        | 4th:       |
|-----------------|--------------------|-------------|------------|
| Channel         | DMX                | DMXUniverse |            |
| Fixture         | Selection          |             |            |
| Group           | World              | Filter      |            |
| [Sequ] Sequence |                    |             |            |
| Cue             | Part               |             |            |
| [Exec] Executor | SpecialMaster      |             |            |
| Page            | ChannelPage        | FaderPage   | ButtonPage |
| Macro           | Timecode           | Agenda      |            |
| Preset          | Attribute          | Gel         |            |
| View            | ViewButton         | ViewPage    |            |
| Effect          | Bitmap             |             |            |
| Goto            | Load               |             |            |
| Assign          | Label              |             |            |
| Select          | SelfFix            |             |            |
| Off             | - opens Off Menu - |             |            |
| Temp            | Toggle             |             |            |
| Top             | Kill               |             |            |
| On              | Call               |             |            |
| <<<             | Black              | ToZero      |            |
| Learn           | Rate1              |             |            |
| >>>             | Flash              | ToFull      |            |
| GoBack          |                    |             |            |
| Pause           | Park               |             |            |
| Go              | Unpark             |             |            |
| [Time] Fade     | Delay              |             |            |
| Move            | Insert             |             |            |
| Copy            | Clone              |             |            |
| Delete          | Remove             | Release     |            |
| At              | (Normal)           |             |            |
| .               | (Zero)             |             |            |
| [If] IfOutput   | IfActive           | IfProg      | If         |
| Help            | CmdHelp            |             |            |

If you find something that isn't here please let us know using this [contact form](#) (only online manual).



## Concept: Multi User

Multi users allows you to be several programmers (or users) working together on the same show.

By the use of user-login with userprofile, each operator may tailor the console to his/her needs, with individual Views, default settings and programmer. In a session with multiple stations/consoles, the operator may log into any console and be "home".



### Related Links

- [Login Keyword](#)
- [User+Profiles Setup](#)
- [Setup > User](#)



## Concept: Networking

A network can be a simple thing as a computer with onPC and a 2Port Node, your console and some Artnet devices, or a massive network with several stations, Video servers, dimmers, 3D visualizers and nodes. A session has the following limits: 32 stations class A (consols, NPU, onPC), 64 stations class B (VPU, 3d) 128 stations class C (2-port-Nodes, 4-port-Nodes).

The grandMA2 series is designed for networking. Beeing in a network is the normal situation. Even if the console is all alone on the network, it will run happily with all the network functionality.

Every console has two Ethernet ports at the back:

- Ethernet 1  
Intended for MA-Net and other Multicast DMX protocols - e.g. sACN (this is the network interface card Eth0)
- Ethernet 2  
Intended for Broadcast protocols (currently used for ArtNet only)(this is the network interface card Eth1)

Networking is enabled by Starting (or joining) a **Session** via MA Network Control, under the Setup>Network tab.

A session is a group of stations, communicating and sharing data within a network. There may coexist 32 different Sessions within the same Network.

Additional members/stations in the session may be added and removed via the MA Network Configuration, under the same tab.

DMX Streaming over Ethernet is configured under the DMX-protocols menu

### Related Links

- [MA Network Control](#)
- [MA Network Configuration](#)
- [DMX Protocols](#)



## Concept: grandMA NPU - Network Processing Unit

The grandMA NPU works as a parameter expansion and DMX output unit.

The grandMA NPU can be connected to a series 1 or series 2 network.

The NPU helps the consoles with the output calculations, and it provides 8 DMX ports that can be configured as input or output. The output follows the USITT DMX512-A protocol.

One of the main thoughts behind the NPU, is a central DMX output/input device, that's shared by all the stations in the MA-Net. It supports the system with real time calculations and parameter expansion (4,096 parameters).



It's very important to know that, if a NPU is set to be a member of several sessions in a network, It will connect to the session that reaches the NPU first!! If that session is then closed - Then the NPU will connect to the next session it finds on the network, possibly creating a very different DMX output!

## grandMA2 NPU Hardware

The grandMA2 NPU is a 3 unit 19" rack mount device with an 7" internal touchscreen. It has 8 DMX ports (5-pin female XLR) and 3 USB plugs.

### Series 2 Mode

When you use the grandMA NPU in Series 2 mode, it provides parameters to the network. It can be used with a grandMA2 console or with grandMA2 onPC.

In this mode you can use the touch screen to change some of the setting. DMX port settings needs to be changed from a console or onPC.

### Series 1 Mode

You can also use the grandMA NPU in Series 1 mode. When connected to a console or onPC it also provides parameters.

When in series 1 mode, you can only make change to the NPU using a USB keyboard.

### If you need to read more

There's a manual guide directing you to all the pages in the manual that has anything to do with the grandMA NPU:

[Manual Guide - NPU](#)



## Concept: Parameter expansion

Here we have a look at how you can expand your parameter count.

This page is a closer look at how many parameters you can control and how you can expand that number. At the bottom of this page there's a link to a page that explains the difference between "Parameter" and "DMX universe". If you have any doubt in this area you should take the time to read it.

### Parameter count

There are a fewer parameter numbers to remember in grandMA2.

This section is about the parameter count for single units

If we begin at the top end and work our way down the ranks:

Full-Size:

8192 parameters.

Light:

4096 parameters.

Ultra-Light:

4096 parameters.

Replay-Unit:

4096 parameters.

NPU:

4096 parameters (also with onPC).

onPC Command Wing:

2048 parameters (only when connected with onPC).

onPC Fader Wing:

2048 parameters (only when connected with onPC).

8Port Node onPC:

2048 parameters (only when connected with onPC).

4Port Node onPC:

2048 parameters (only when connected with onPC).

NSP (in grandMA2 4Port Node mode):

2048 parameters (only when connected with onPC).

2Port Node onPC Pro:

1024 parameters (only when connected with onPC).

2Port Node onPC:

512 parameters (only when connected with onPC).

8Port Node (not onPC version):

Doesn't provide parameter expansion.

4Port Node (not onPC version):

Doesn't provide parameter expansion.

2Port Node Flush mount version:

Doesn't provide parameter expansion.

### Parameter expansion

The NPU is the only unit that expands your parameter count when you use a grandMA2 console. **Every NPU you add to your network, also adds 4096 parameters!**

You can add a maximum of 16 NPUs regardless of your console. There's a maximum limit of 65.536 parameters in a grandMA2 session.

The NPUs help with parameter calculations.

### Using an onPC with wings, nodes and NPU

When you use a grandMA2 onPC you need some MA hardware to unlock parameters. **The maximum allowed parameters for a onPC system is 4096 parameters!**

You can combine any number of onPC hardware with your computer. Every piece of hardware will add it's parameters until you reach the limit of 4096 parameters.

This is the only two rules for parameters with grandMA2 onPC.

Remember you can always add more units to get more DMX connectors.

Here are some examples:

onPC + Command Wing = 2048 parameters.

onPC + Command Wing + 2Port Node onPC Pro = 3072 parameters.

onPC + Command Wing + Fader Wing = 4096 parameters.

onPC + 2Port Node onPC + 2Port Node onPC = 1024 parameters.

onPC + Command Wing + Fader Wing + 8Port node onPC = 4096 parameters (you have reached the limit).

onPC + Command Wing + NPU = 4096 (you have reached the limit).

### MA VPU and onPC

If you are using a MA VPU it supplies it's own parameters and doesn't affect the limit. You can control several VPU's using an onPC. If you however are using a mix of VPU and other fixtures you need some MA hardware to give you the parameters for the fixtures.

Even though the VPU doesn't count in your parameter limit, you should patch your VPU on a higher universe than your other fixtures. There's a risk that it will steal the parameters from the other fixtures, if you have it on a lower universe than the fixtures.

### Related Links

- [DMX Channels vs. Parameters](#)



### Concept: grandMA2 replay unit

The grandMA2 replay unit works as a rack mount console.

A grandMA2 replay unit is a basically a grandMA2 light compacted into a rack unit but without the user interface. There's a small 7" internal touch screen that allows you to do everything you can on the small screen.

The screen works as a combination of screen 1 and 2. It's divided into two areas as the multitouch on a console, but the lower part is mostly displaying the encoder toolbars. Se below for example screenshots.

The grandMA2 replay unit can be connected to a series 2 network and can only boot in series 2 mode.

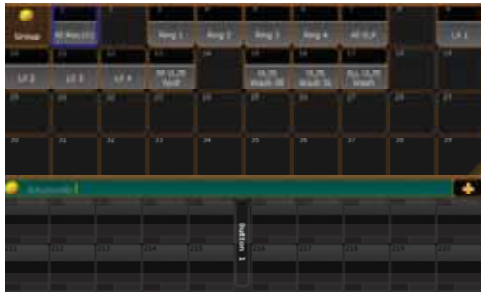
### grandMA2 replay unit Hardware

The grandMA2 replay unit is a 3 unit 19" rack mount device with an 7" internal touchscreen.

- 6 female DMX ports and 1 male DMX port (5-pin XLR).
- 2 Ethercon connectors for Ethernet.
- 2 DVI-I connector for external screens.(also specified touch screens)
- MA-Link.
- Sub-D 25 connector for remote control.
- MIDI in and out.
- Sound and LTC input (3-pin female XLR).
- 3 USB plugs.
- 1 reset button.

### Some example screenshots





## Related Links

- [Specifications replay unit](#)



## Topic: grandMA Show Converter



The grandMA Show Converter converts grandMA1 shows stored with version 6.6 into grandMA2 shows Version 2.5.

The following elements of the grandMA1 show will be converted into a grandMA2 show.

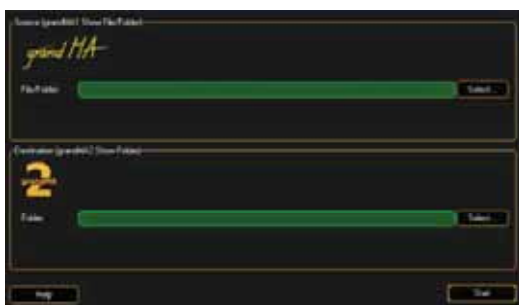
- Fixture Types
- Fixture Schedule including patch, 3D position and color.
- Presets
- Groups
- Worlds
- Sequences
- Executor Pages.
- Macros and Cue command links will be converted as far as possible. Commands not compatible with grandMA2 syntax will not be converted!



Be aware all other elements of the grandMA1 show will not be converted into the grandMA2 show. E.g.

- User profiles
- Effects, bitmap effects, layouts and modulators
- Fixture Schedule function invert per fixture
- MATricks
- Timecode and Agenda

## Main Menu



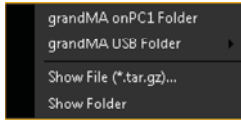
The show source can be specified at the upper part of the screen. **Select** will open the Source popup

The destination of the converted show has to be specified at the lower part of the screen. **Select** will open the Destination popup.

**Start** will start the showfile conversion and open the log view.

**Help** will open this helpfile.

### Source Popup



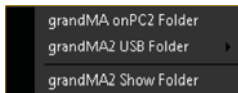
**grandMA onPC1 Folder** : Select this source to convert all shows currently stored at your grandMA1 onPC.

**grandMA USB Folder** : Select this source to convert all shows currently stored at the plugged in USB device.

**Showfile (\*.tar.gz)** : Opens a file browser to select a single show (only \*.tar.gz) currently stored at your grandMA1 onPC or at the GMASHOWS folder of your usb stick.

**Show Folder** : Opens a file browser popup to select any other folder containing grandMA1 shows as source.

### Destination Popup



**grandMA onPC2 Folder** : The converted files will be stored at the current onPC2 shows folder at your computer.

**grandMA USB Folder** : The converted files will be stored at the (USBDRIVE)\gma2\shows folder.

**grandMA2 Show Folder** : Opens a file browser popup to select any other folder as target to store the converted shows to.

### Log View



This view displays all log messages during the show conversion. When the conversion is finished, Done! will be displayed at the upper left corner of this view.

**CopyLog** : will copy the logfile to the clipboard.

**close** : will close the Log View to return to the main screen.

**cancel** will stop the showfile conversion and will return to main screen.

Please also have a look at the [grandMA ShowConverter Tutorial](#).



## Concept: Stage Window and grandMA 3D

inbuilt and external visualizers

By entering 3-dimensional data of your fixtures location, their operation may be visualized internally via the stage-window (wire-frame), and externally via a networked computer running grandMA 3D (realistic)



Learn more about the inbuilt Stage-View by following the related links at the bottom, and check out the manual of grandMA 3D [here](#)

### Related Links

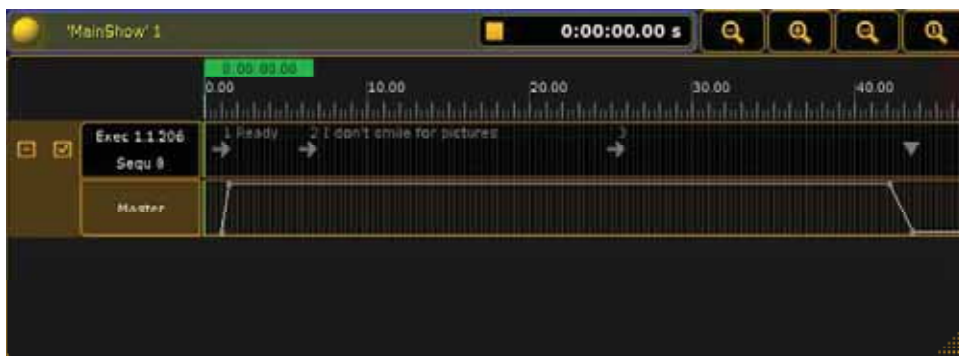
- [Stage Window](#)
- [Setup > Fixture Positions](#)



### Concept: Timecode

synchronisation with external sources

There are different types of timecodes. The grandMA2 accepts LTC (Linear TimeCode) also known as SMPTE and MTC (MIDI TimeCode). The purpose of timecode is to synchronize the light with other type of medias (e.g. sound and/or video).



### Related Links

- [Timecode View](#)
- [Timecode Pool](#)
- [Timecode Keyword](#)



### Concept: What's the difference between Worlds, Filters and Masks.

From version 2.5 there's a new Filter and Mask system. In this text we'll have a look some of the differences and how to use them.

Worlds are used to restrict access to Fixtures, Channels and Attributes. The elements not in the applied World are not displayed in sheets and cannot be accessed by the programmer. Values store in a sequence will still be played back.

Filters are used to limit what to store and playback from an executor. Applying a Filter will not hide elements in sheets, but will only store/copy/retreat(at) attributes in that filter.

Masks can be used to hide Fixture/Channels and Attributes in sheets. There's a lot of criteria that can be used to display only the desired Fixtures/Channels and Attributes.

#### World

Worlds are used to limit what you can access and what is displayed in sheets.

The first world in the pool is locked. It contains everything and is used when you don't want to exclude anything.

You can select a new world by simply pressing the pool element.

Worlds can be used as Input filters. This will limit what can be stored. Worlds can also work as Playback Filters for a sequence. This will limit what is executed by a sequence. Let's say you have a sequence that have Dimmer, Pan/Tilt and Color - If you apply a world that only allows dimmer values and some fixtures, then the sequence will only output dimmer values for those fixtures. If you also uses the "Dimmer only" world as a Input filter, then you can only store dimmer values for those fixtures in the sequence. This is all done in the **Assign Menu**.

Playback filters only works by attributes not by layers (Value, Value Times and Effects). E.g. if you have applied a world that only contains the Effect layers, then everything will still playback - but if you have a world that have only fixture 1, then only fixture 1 will be played back.

#### Filter

In previous versions there where a lot of different filters. They are now all combined and can be stored and recalled from the Filter pool. That means that the Store Filter and the At Filter are now combined into one filter.

The filter contains a selection of Attributes. A filter is always active, but the first filter contains all attributes and therefore doesn't filter anything out. The first filter is also locked and cannot be edited.

A Filter can be applied (called) and/or permanent selected. An applied filter has a green bar in the middle. A selected filter has a green color in the name area. You can select a different filter by pressing **Select** followed by a different filter button. You can call a different filter temporarily by just pressing one of the filters.

A called filter overwrites the selected filter. If you press and hold the **At** key or the **Store** key you'll get the filter pop-up. Here you can create a temporary filter. This can be stored to the first available pool button using the **Store Filter and Select**. Here you'll also find a **Reset Filter on Clear** button. This will keep a temporary (called) filter active until the programmer has been cleared.

Filters can be used as Input filters. This will limit what can be stored. Filters can also work as Playback Filters for a sequence. This will limit what is executed by a sequence. Let's say you have a sequence that has Dimmer, Pan/Tilt and Color - If you apply a filter that only allows dimmer values then the sequence will only output dimmer values. If you also use the "Dimmer only" filter as an Input filter, then you can only store dimmer values in the sequence. This is all done in the **Assign Menu**.

Playback filters only work by attributes not by layers (Value, Value Times and Effects). E.g. if you have applied a filter that only contains the Effect layers, then everything will still playback.

When it's not the first filter that's active, then the At key will flash.

The filter pool is a global pool that's shared by all users.

## Mask

Masks are used for hiding fixtures and attributes in sheets. There can be a set of criteria that define the mask.

Some sheets allow you to have up to 10 mask buttons in the title bar of sheets (except DMX sheet). This allows you to apply a mask to only that sheet.

You can set the sheet to follow the selected mask. This will allow you to use the Mask pool to mask all sheets (following selected) at the same time.

A mask pool button can be selected by simply pressing the pool element.

The first 6 masks are locked. The very first mask doesn't mask anything.

## Related Links

- [World Pool](#)
- [Filter Pool](#)
- [Mask Pool](#)



## Concept: Worlds

Worlds are used to limit the number of parameters you have access to. This is essential in a multi-user session but may also be useful for a single operator. Worlds only have an effect on selection and sheets. They have no effect on playback of stored sequences.

Worlds are created in the programmer, and stored in the World Pool. Worlds may be thought of as matrix with rows (fixtures) and columns (attributes), and you may eliminate rows and/or columns.

The created world will contain the rows of the current selection, and the columns of any active attribute. If no attributes were active, all columns will be included in the created World.



### Example:

Select **Fixture 1 Thru 5**, **Store World 3**, call **World 3**.

You will now only have programming access to fixture 1 thru 5, (which is reflected by the **Fixture Sheet** Window)

If you now with World 3 active, i.e. **Delete Cue 3**, you would only delete fixture 1 thru 5 from Cue 3. - if Cue 3 contains more fixtures than 1-5, the cue will not be deleted as a whole.



World 1 contains all parameters of the show, and cannot be altered or deleted



## Concept: Tutorials

This is the tutorial section.

The tutorials here are designed to help you understand how the console works.

They start with the Basic tutorials and then move into more specific areas (still work in progress).



## Topic: Tutorial Basic 1

A short tutorial about creating a new show, patching dimmers, changing their values, making groups and creating simple cues in a sequence.

### Welcome to this first Tutorial

This will give you a short tour through all the most basic things you need to know for creating a show, turn on channels, make groups, store cues and make your screens display the relevant data.

On a grandMA there are many different ways to get from A to B. But to get the best result with this tutorial, it's important that you follow the steps fairly precise. You can always experiment on your own afterwards.

### Mark-up in the tutorial.

I have chosen to use different markings when I want you to do different things.

If I need you to press a hard key (a key that is physically on the desk) it looks like this: **Setup**. If I'm just referring to the button I will put it in single quotation marks e.g.: 'Setup'.

If you are supposed to press a button on the screen or a area on the screens I will write it like this >>Macro 1<<.

If you are supposed to write text on the keyboard I will write it like this: Moving light. I will often tell you to end a command with 'Please'. This refers to any of the two **Please** keys on the console (only one on the UltraLight).

When referring to a window on a screen you have created, I will mark it like this: **CommandLine Feedback**.

### onPC vs. Console.

If you are doing this on an onPC, you need to imagine all the physical buttons, and use the relevant buttons in the program. I will write this as if you were at a real console (a FullSize).

A real FullSize console can have up to 6 screens (incl. 2 external). I will refer to them as "Screen 1", "Screen 2", etc.

Screen 1 is the 9" Multi Touch Screen. Screen 2 to 4 is the 15.4" touch screens on a FullSize (from right to left). 5 and 6 are the external screens.

If you are at a desk that only got one 15.4" touch screen, just ignore everything with screen 3 and 4. You will learn to store and recall screen views on the one screen you have. The same thing applies for the external screens. If you don't have any, just use the one screen you do have.

### Version

This tutorial is made on version 1.3. So it should be working on every version from and above this.

Happy Programming.



## Topic: Tutorial Basic 1 - Create a New Show

Now we are going to create a new empty show.

The first thing you need to do is to press the **Backup** key. Then make sure the >>Internal<< tab is selected.

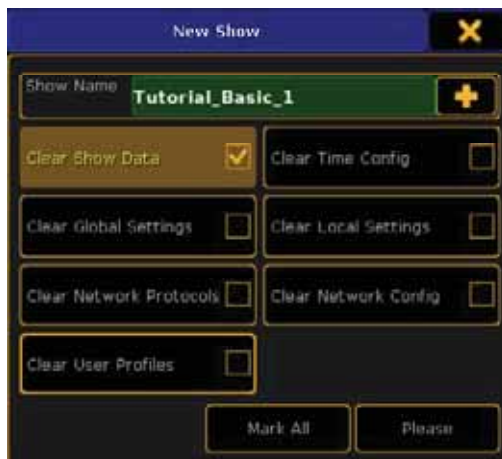
Now press the >>New Show<< button.

This gives you the "New Show" pop-up. Here you can write the name of the show and change some options.

In the name box, write this: Tutorial\_Basic\_1

Make sure you check all the boxes in the pop-up. This ensures that we create a new empty show with all default options.

Your pop-up should look something like this:



Then you can press the >>Please<< button and close the "Backup" menu by pressing the yellow X in the upper right corner (this is how you always closes temporary windows).

You have now created a new empty show.

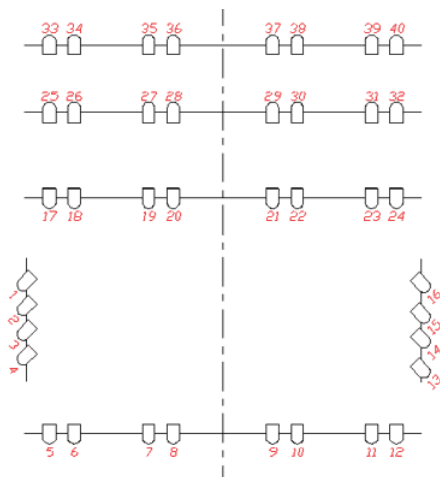
Go to the next page to learn to patch dimmers.



## Topic: Tutorial Basic 1 - Patching Dimmers

Now we are going to add and patch 40 dimmer channels.

Do you want a show without lights? No, not really! I've made a simple design with some general stage wash.



This gives us a total of 40 dimmer channels. Press the **Setup** key and make sure the >>Show<< tab is selected. Then press the >>Patch & Fixture Schedule<< button.

This gives you a pop-up called "Layer Name". Here you write: Dimmers followed by a 'Please'.

Then a part of your screen should look like this:

Now you should press the button called >>Please select fixturetype<<.

Now we are going to import a fixture type from the library on the desk to the show.

Press the >>Add Fixturetypes from Library<<.

This is a list of all the fixture types in the library. We are going to use the manufacture filter to limit the list.

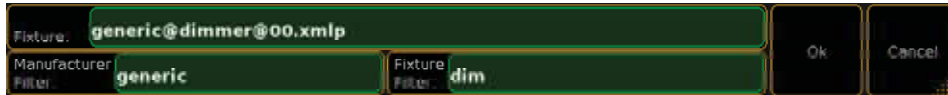
At the bottom of the page you'll find a box named "Manufacturer Filter". Here you write: generic.

Now you can only see the generic fixture types. At the bottom you'll also see a box called "Fixture filter", here you write dim.

The list is now limited to only display generic fixtures that has "dim" in its name.

Select the one called "generic@dimmer@00.xmlp".

The bottom of your screen should now look like this:



Press the >>Ok<< button and then the >> 'Dimmer'1 << button.

Now you'll get a series of pop-ups that help you adding new fixtures.

The first one asks for the quantity of fixtures. Write: 40 followed by a 'Please'.

Now it asks for the **Channel ID**. Write: 1 followed by a 'Please'. This gives the first dimmer an ID number of 1, the second one an ID of 2, etc.

Then you need to give your first dimmer a **Fixture ID**. We don't want a fixture ID so write 0 followed by a 'Please'.

Now we need to give the first dimmer a patch. Write: 1.1 followed by a 'Please'. This places the first fixture in universe 1 and DMX channel 1.

Now you are almost ready to add the fixtures. We just need to edit the name. Just press where it says >>Dimmer<< in the box called "Name".

Then you write: Dim 1 followed by a 'Please'. This names your dimmers "Dim 1", "Dim 2", etc.

Now it should look like this:



Press the >>Apply<< button. You have now added 40 dimmer channels.

Close the two setup screens using the yellow X.

On the next page we are going to look at controlling those channels.



## Topic: Tutorial Basic 1 - Using Windows and Screens

Now we are going to have a look at windows.

### Commandline Feedback Window

Often it can be an advantage to see how the console reacts to your commands. This is done on the **Commandline Feedback** window.

We are going to create this window at the bottom of screen 2 (the 15,4" touchscreen on the right side).

Press anywhere in the upper left corner on the empty screen. This gives you the "Create Basic Window" pop-up. Here you need to press the >>Other<< tab. Here you'll find a >>Command line<< button. Press it.

Now you have created a **Commandline Feedback** window.

It continually gives you a lot of information. Don't be confused about all the information, I'll tell you about it when you need it.

You can resize the window by pressing the area in the lower right side of the window (where there are a lot of yellow dots).



The window can be moved by pressing and holding the headline of the window (where it has a yellow ball and the "Commandline Feedback" text).

Now you should size and move your window so it takes up three whole lines at the bottom of the screen.

### Channel Sheet

To view your 40 channels you need a **Channel Sheet** window.

Press the upper left corner on screen 2. Then select the >>Sheets<< tab in the "Create Basic Window" and then the >>Channel<< button.

You have now created a **Channel Sheet**. Here you can see your channels and the values they have.

Your screen should now look something like this:



### Storing View

You can store your view on any of the view buttons in the side of your screen.

Now we are going to store our view on the top button just right to screen 2.

Press **Store** key followed by the **V1** key.

This gives you a pop-up. It asks which screens you want to store. Without changing anything press the >>Please<< button.

You have now created a view. Let's give it a name.

Press **Assign** key twice followed by the **V1**. This gives you a pop-up. Here you write: Channel followed by a 'Please'.

You can see in your Commandline Feedback window writes this:

```
:Processed:Label ViewButton 1.1
```

This tells you that you have given your view a new label.

On the next page we are going to learn about controlling the values of the channels.



## Topic: Tutorial Basic 1 - Controlling Channels

We are now going to take a look at controlling dimmer channels.

### Turning on the channels.

There are many ways to turn on your channels on a grandMA. Let's begin with one of the simple ones. Press these hardkeys: **1** **At** **1** **0** **0** **Please**. You have now turned on channel 1 at 100%. Let's look at what else happened. The channel ID "1" has changed to a yellow color and the background behind the value has changed to a red color. Also the value (in this case the intensity) is now in a red color. The yellow color means that the channel is selected and you can change the value. Press **At** **5** **0** **Please**. Since the channel is already selected you can just give it a new value and it is now at 50%. Now press **Clear** once. Channel 1 is no longer selected and you can't just change the intensity again. The red background color indicates that the value will be saved if you press 'Store' (don't do it now). Instead press once more on **Clear**. The only thing left is the value in the red color. This means that it's still in the temporary memory (called the programmer), but it will not be saved if you store. Press **Clear** once more. Now channel 1 is turned off and it's not in the programmer anymore. Instead of pressing the 'Clear' button 3 times you can keep it pressed for about 1 second and you have cleared the programmer.

There are other ways to turn a channel at 100%. Here's another example: **1** **At** **At**. This is a shortcut to give the channel a value of 100%. Press **.** twice. This gives channel 1 a value of 0%. You can of course also use "At 0 Please". The value is in the programmer and will be stored (if you save a cue). Press **Clear** until the programmer is cleared. If you have several channels in the programmer and just what to "release" one, you can use the 'Off' button in combination with the 'Channel' button. Turn on channel 1 at 100%. Now press **Off** **Channel** **1** **Please**. The final way (I will introduce to you) is the "Level" wheel. With this you can change the value fast and simple. Turn it away from you and the value of the selected channels goes up. Turn it towards yourself and it goes down.

If you want to turn on several channels at the same time you need the buttons '+' and/or 'Thru'. They are pretty self-explanatory.

Guess what you need to press to turn on channel 1 to 10 plus 20 at 20%. This is the fast way:

. If you want to exclude channels you can use '-' (minus). So if you want to give channel 1 to 10 plus 20 but minus 5 a value of 0%, this is the fastest way:

You can also use '+' and '-' to change the value. . This brings channel five up to 50%. . Brings the channel down to 0%.

Now you know how to assign values to channels. End this section by clearing your programmer.

On the next page we are going to look at Groups.



## Topic: Tutorial Basic 1 - Group

Now it's time to have a look at groups.

### Groups Pool

Since we are going to make some groups it would be practical to be able to see them.

I find it nice to have it at the same screen (since there's room). So I suggest making the **Channel Sheet** one line smaller and then press the empty space on the left side.

Again we are presented with the "Create Basic Window" pop-up. This time you need to access the >>Pools<< tab. Here we find the >>Groups<< button. Now you got some empty group buttons right at your fingertips. You could store this as a new view (or store your existing view again).

### The first group

All the odd numbers in our light plot have a warm color and all the even ones have a cold color. We are going to make some groups with those colors. The first one is all the warm colors from front of house. Press: . Now you have selected channel 5, 7, 9 and 11. Then press followed by the first available group button. Groups cannot contain any value so we don't need to assign any.

Before you do anything else, use your keyboard to write: FOH Warm. Should you have touched anything else (buttons, screens, anything) before typing, you can use a different method to name things (e.g. groups). The function is called "Label" and you access it by pressing the 'Assign' key twice. Do that and then press the first group button again. Now you have the option to change the name, delete it, or type it for the first time. When you are happy press .

Look at your **Channel Sheet**. Here you can see that the numbers 5, 7, 9 and 11 have the yellow color, meaning that they are still selected. We are done with those four channels, so press the 'Clear' key once.

### 11 more groups

All right, now I have told you everything you need to know about making groups. In all we need 12 groups. I have gathered all the information you need for making the groups in a table. You have already made group 1, but the rest is a nice little exercise.

| Group number: | Channels:          | Name:    |
|---------------|--------------------|----------|
| 1             | 5 + 7 + 9 + 11     | FOH Warm |
| 2             | 17 + 19 + 21 + 23  | LX1 Warm |
| 3             | 25 + 27 + 29 + 31  | LX2 Warm |
| 4             | 33 + 35 + 37 + 39  | LX4 Warm |
| 5             | 1 + 3 + 13 + 15    | Box Warm |
| 6             | All uneven numbers | All Warm |
| 7             | 6 + 8 + 10 + 12    | FOH Cold |
| 8             | 18 + 20 + 22 + 24  | LX1 Cold |
| 9             | 26 + 28 + 30 + 32  | LX2 Cold |
| 10            | 34 + 36 + 38 + 40  | LX4 Cold |
| 11            | 2 + 4 + 14 + 16    | Box Cold |
| 12            | All even numbers   | All Cold |

When you are done, your group pool should look something like this:

|       |          |          |          |          |          |          |          |          |          |          |          |          |    |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|
|       | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       | 11       | 12       | 13 |
| Group | FOH Warm | LX1 Warm | LX2 Warm | LX4 Warm | Box Warm | All Warm | FOH Cold | LX1 Cold | LX2 Cold | LX4 Cold | Box Cold | All Cold |    |

On the next page we will make the first cue.



## Topic: Tutorial Basic 1 - Storing the First Cue

It's time to make the first cue.

A light cue is saved in a sequence. The grandMA can handle an almost unlimited number of sequence.

We only need one for this tutorial. All cue numbers are in numeric order i.e. cue number 4 cannot be before cue number 3. But the cue can have any name.

First of all we need a window where we can see our sequence. Click on the top left cell on one of your empty screens. If you only have one screen you need to clear it first (by deleting the windows already there) and then press the cell.

The window we need is called **Sequence Executor**, so in the "Create Basic Window" pop-up, select the >>Sheets<< tab and press the button called >>Sequence Executor<<. You could save this as a (new) view.

The first thing you should do is to select the first executor. Press: **Select** **Exec** **1**. You can always locate your selected fader by its green background color where it says "Seq". And to indicate that there is a sequence assigned to that fader the number underneath the fader is brighter. The green LED is on when the executor is on.

Let's make our first cue. Press: **2** **0** **At** **4** **0** **Please**. Then **Store** **Please**. That was it! You have now saved channel 20 at 40% in cue 1 in sequence 1 at executor fader 1.

If you don't specify anything else the console assumes you are referring to your selected executor and the sequence assigned to that executor. You can always locate your selected excutor by its green background color where it displays the sequence name (now it says "Seq 1").

You also got a line in your **Sequence Executor** window. Most of the columns are self-explanatory - but I will mention some of them. "Number" is of course the cue numbers. "Name" is the name. "Trig" describes what triggers the cue. If we look at our first cue, the trigger is "Go". This means that to execute the cue you need to press a Go key. "Delay", "Fade", "Out Delay" and "Out Fade" shows you the respective times.

Before we make any more cues, let's change the cue name. If you don't specify anything the desk names it "Cue". Press **Assign** **Assign** **Cue** **1** **Please**. Use the keyboard to write Behind Curtain followed by a 'Please'. A different way to change the cue name is to right click on the name with the mouse. No matter what way you choose - your first cue should now have the name "Behind Curtain".

If you can't see the entire name you can expand the column width by placing the mouse cursor on the line that divides "Name" and "Trig". When you are at the right place, your cursor changes so it now also has a little horizontal double ended arrow. Click and hold the left mouse button while you drag the mouse to your right. Then release the mouse button again. Now your **Sequence Executor** window should look something like this:

| Number | Name           | Trig | TrigTime | Assert | M18 | Loop | Lcount | Ltime | Delay | Fade | Out Delay | Out Fade | Snap Percent | Cmd Delay | Cmd |
|--------|----------------|------|----------|--------|-----|------|--------|-------|-------|------|-----------|----------|--------------|-----------|-----|
| 1      | Behind Curtain | Go   |          |        |     |      |        |       |       | 0.00 |           |          | 50.00 %      |           |     |

On the next page we are going to create more cues.



## Topic: Tutorial Basic 1 - Creating More Cues

Now we are gonna make more cues.

### Making more cues.

Let's make some more cues. Press: **2** **0** **+** **2** **8** **At** **8** **0** **Store** **Cue** **2** **Time** **1** **5** **Please**. That created cue 2 with a fade time on 15 seconds. Let's continue with cue 3. Now we're going to use the groups and the command line.

You need to locate the Command Line. It looks like this:

[Channel]>

This is the CommandLine. It can be a fast way to get around the console and the commands. But sometime the keys are fastest. In the CommandLine type this:

[Channel]> g 1 + 2 at 75

followed by **Please**. Then type:

[Channel]> g 3 t 5 at 60

followed by **Please**. Now let's have a look at the commandline feedback and how the console has responded (please don't press any buttons).

What does all this mean? "g" is a short cut to "Group". That means the respond to the first line is:

```
:Processed: Group 1+2 at 75
```

The "t" in the second line as a short for "thru". The console respond to the second line is:

```
:Processed: Group 3 thru 5 at 60
```

We are gonna store the cue using the hardkeys: **Store** **Time** **2** **0** **Time** **2** **5** **Please**. This is the response from the console:

```
:Processed:Store BasicFade 20 BasicOutFade 25
```

Now why is this? We typed "Time 20 Time 25". The desk interprets this as 20 seconds (Basic)Fade and 25 seconds (Basic)OutFade. Pretty clever, huh?

Notice that after the second cue we don't need to specify the cue number. The desk automatically uses the next available number.

In cue 4 we need to take 30% of everything that is on. We do this in a fast and easy way: **If** **Please** **At** **-** **3** **0** **Store** **Time** **1** **0** **Please**

That was fast! By using "If Please" you get the command "IfOutput", this selects everything that has output. Then using "At - 30" you subtract 30% from whatever value the channels had before (of course nothing less than 0%).

Now we're going to make a lot of changes: **Group** **6** **.** **Group** **9** **Thru** **1** **1** **At** **6** **0** **Please** **Group** **7** **+** **8** **At** **7** **5** **Store** **Time** **1** **5** **Time** **Time** **5** **Please**.

What is "Time 15 Time Time 5"? If you have a look at your **Command Line Feedback** it reads: "BasicFade 15 BasicDelay 5". This means that you told the desk to delay the execution of the cue with 5 seconds after you've pressed the "Go" button (and then fade at 15 seconds - but you probably guessed that).

With the "Time" command we can assign many different times. A command like: "Time 20 Time 15 Time 10 Time 5" the desk translates to: "BasicFade 20 BasicDownFade 15 BasicDelay 10 BasicDownDelay 5"!

The last cue we are going to make is a blackout. And we do that with only six button presses: **If** **Please** **.** **Store** **Please**. That was our 6 cues. It was hopefully fast and painless.

The next page we are going to make some changes to the sequence.



## Topic: Tutorial Basic 1 - Editing the Sequence

Now we are going to make some changes to the sequence.

### Making a "Follow"

We would like to change cue 3 to automatically activate when cue 2 is done. You do this by right-clicking with the mouse (or pressing Edit and then) on the screen where it says "Go" in "Trig" column in the **Sequence Executor** sheet in cue 3.

This gives you a drop down box with the following choices: Go, Time, Follow, Sound & BPM. Select >>Follow<< by clicking or pressing it.

Then when cue 2 is done the desk automatically activates the fade to cue 3.

### Changing the cue names.

Let's change the cue names. You know how to do this, so I just made a table:

| Cue Number: | Name:           |
|-------------|-----------------|
| 1           | Behind Curtain  |
| 2           | With Curtain Up |
| 3           | Build           |
| 4           | Darker          |
| 5           | Cold            |
| 6           | B.O.            |

If you need to, then expand the "name" column in your **Sequence Executor**Sheet, so you can see the entire names.

### Updating a cue.

Let's imagine that we've got a lighting designer who has changed his mind. He wants 5% more on the group called "LX 1 Warm" in cue 3. Let's load cue 3: **Goto** **3** **Time** **0** **Please**.

What happened? We loaded a cue and activated the executor. And we now have a yellow frame on cue 3 in the Sequence Executor Sheet. To load cue 3 you only need to write "Goto 3 Please". We added "Time 0". This overwrites the fade times stored in the cue and we didn't have to wait for the cue to fade in.

Let's move on: **Group** **2** **At** **+** **5** **Please**. Now the 'Update' button lights up. This means you can update the activated cue. Press **Update** and without worrying about anything press the U3 key (or where it says: "Tracking Update") so the button changes to "Update Cue Only". Now press the **X6** key (or where it says "Update Cue") to update the cue. To exit the cue and deactivate the sequence you need to press the top button above executor fader 1.

### Editing the times.

Let's change some of the times in the cue list. This is how your times should end up:

| Delay | Fade Out | Delay Out | Fade |
|-------|----------|-----------|------|
| .     | 0        | .         | .    |
| 3     | 15       | .         | .    |
| .     | 20       | .         | 25   |

```

.      10      .
.      15      5      10
.      0      .

```

Look at the **Sequence Executor** Sheet. Right click on the cells and type in the new value either on "the calculator" on the screen, the buttons on your desk or using the keyboard. The final result should look like this:

| Number | Name            | Trg    | TrgTime | Assert | MIB | Loop | Lcount | Ltime | Delay | Fade  | Out Delay | Out Fade | Snap Percent | Cmd Delay | Cmd |  |
|--------|-----------------|--------|---------|--------|-----|------|--------|-------|-------|-------|-----------|----------|--------------|-----------|-----|--|
| 1      | Behind Curtain  | Go     |         |        |     |      |        |       |       | 0.00  |           |          | 50.00 %      |           |     |  |
| 2      | With Curtain Up | Go     |         |        |     |      |        |       | 3.00  | 15.00 |           |          | 50.00 %      |           |     |  |
| 3      | Build           | Follow |         |        |     |      |        |       |       | 20.00 |           | 25.00    | 50.00 %      |           |     |  |
| 4      | Darker          | Go     |         |        |     |      |        |       |       | 10.00 |           |          | 50.00 %      |           |     |  |
| 5      | Cold            | Go     |         |        |     |      |        |       |       | 15.00 | 5.00      | 10.00    | 50.00 %      |           |     |  |
| 6      | B.O.            | Go     |         |        |     |      |        |       |       | 0.00  |           |          | 50.00 %      |           |     |  |

Try pressing the big 'Go+' button to see how your channels react to the different times.

Press: **Backup** **Backup** (as double-clicking a mouse button). This is a fast way to store your show.

That was it! Now you know the most elementary things. You have learned to create a show, make a simple patch, create views, turn on channels, save and use groups and finally creating a sequence with cues with different times.



## Topic: Tutorial Basic 2

This tutorial will introduce you to the skills you need for editing the patch, using fixtures, presets and worlds.

### Welcome to the second basic Tutorial

This will give you a short tour through all the most basic things you need to know for adding fixtures to the patch, controlling fixtures, creating presets, adding a sequence and using worlds.

This tutorial builds on the first tutorial. I strongly recommend making that one first: [Tutorial Basic 1](#).

On a grandMA there are many different ways to get from A to B. But to get the best result with this tutorial, it's important that you follow the steps fairly precise. You can always experiment on your own afterwards.

### Mark-up in the tutorial.

I have chosen to use different markings when I want you to do different things.

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If you are supposed to write text on the keyboard I will write it like this: Moving light. I will often tell you to end a command with 'Please'. This refers to any of the two **Please** keys on the console (only one on the UltraLight).

When referring to a window on a screen you have created, I will mark it like this: **CommandLine Feedback**.

### onPC vs. Console.

If you are doing this on an onPC, you need to imagine all the physical buttons, and use the relevant buttons in the program. I will write this as if you were at a real console (a FullSize).

A real FullSize console can have up to 6 screens (incl. 2 external). I will refer to them as "Screen 1", "Screen 2", etc.

Screen 1 is the 9" Multi Touch Screen. Screen 2 to 4 is the 15.4" touch screens on a FullSize (from right to left). 5 and 6 are the external screens.

If you are at a desk that only got one 15.4" touch screen, just ignore everything with screen 3 and 4. You will learn to store and recall screen views on the one screen you have. The same thing applies for the external screens. If you don't have any, just use the one screen you do have.

### Version

This tutorial is made on version 1.3. So it should be working on every version from and above this.

Happy Programming.



## Topic: Tutorial Basic 2 - Adding Moving Lights

We are gonna store the show with a new name and add some moving lights to the patch.

### Storing the show

Before we are doing anything else, we need to store the show with a new name.

But maybe you need to load the show from "Tutorial Basic 1" first.

Press the **Backup** key and then make sure you have chosen the "Internal" tab. Now press the >>Load Show<< button.

Locate your saved show from tutorial basic 1 in the list of shows. Make sure all the boxes on the right side is checked and then press the >>Ok<< button.

Now we have loaded the show (again).

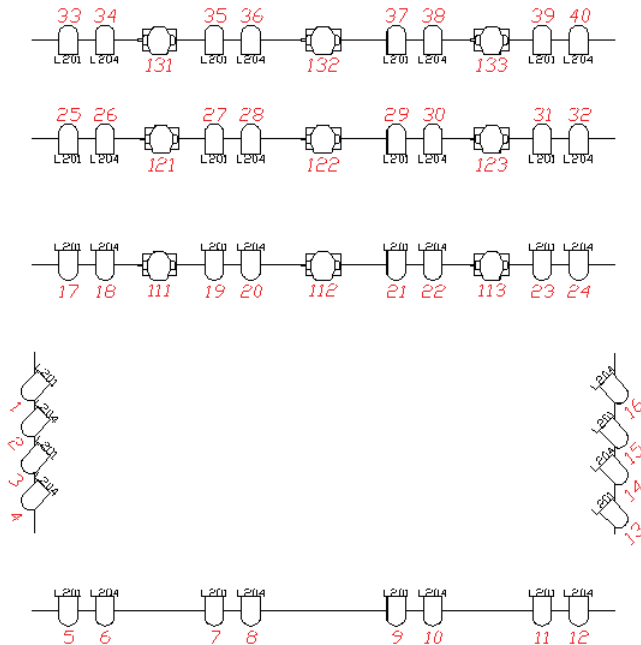
Still in the **Backup Menu**, press the >>Save Show As<< button and in the pop-up write your name followed by this: \_Tutorial\_Basic2.

I use the name "John Doe" so I would write: JohnDoe\_Tutorial\_Basic2.

Now we have saved our show with a new name and we can close the **Backup Menu** using the yellow cross in the upper right corner.

### Add new fixtures

We just got 9 Mac 700 Profiles from Martin Professional. And we want to add them to the patch. This is what the new light plot looks like:



All right, let's go. Press the **Setup** key then the >>Show<< tab and the >>Patch & Fixture Schedule<< button.

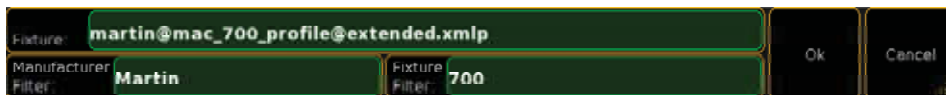
We want to add the fixtures in a new layer. So that's the first thing we are gonna add.

Make sure the "Layer" part (the left half) of the screen is selected (the headline has a bright blue background), and then press the 'Add' key (it's the **x1** key)

In the pop-up write: Mac700.

Now press the 'Add' key again. And the press >>Please select fixturetype<<. Now press >>Add Fixturetypes from Library<< to import a new fixture type into the show.

The manufacturer is "Martin" and we need the "Mac 700 Profile" in extended mode:



When you have selected the correct fixture type press the >>Ok<< button. Back in the **Select Fixture Type** pop-up press the >>'Mac 700 Profile' 2<<.

The quantity is "9".

For the Channel and Fixture ID we need them to start at "111". And the patch to begin at the second universe with DMX channel 1 (that makes the first fixtures patch number "2.1"). Change the name to "Mac700 1". And now press the >>Apply<< button.

But we are not quite done. We need to change some of the Channel and Fixture ID's to match the light plot. When you are done your fixture list should look like this:

Mac700' 2

| FixId | Chnl | Name     | Fixture Type | Patch | Mast | Pan Inver | Tilt Inver | Swap | Color   |
|-------|------|----------|--------------|-------|------|-----------|------------|------|---------|
| 111   | 111  | Mac700 1 | Mac 700      | 2.001 | On   | Off       | Off        | Off  | 255 255 |
| 112   | 112  | Mac700 2 | Mac 700      | 2.032 | On   | Off       | Off        | Off  | 255 255 |
| 113   | 113  | Mac700 3 | Mac 700      | 2.063 | On   | Off       | Off        | Off  | 255 255 |
| 121   | 121  | Mac700 4 | Mac 700      | 2.094 | On   | Off       | Off        | Off  | 255 255 |
| 122   | 122  | Mac700 5 | Mac 700      | 2.125 | On   | Off       | Off        | Off  | 255 255 |
| 123   | 123  | Mac700 6 | Mac 700      | 2.156 | On   | Off       | Off        | Off  | 255 255 |
| 131   | 131  | Mac700 7 | Mac 700      | 2.187 | On   | Off       | Off        | Off  | 255 255 |
| 132   | 132  | Mac700 8 | Mac 700      | 2.218 | On   | Off       | Off        | Off  | 255 255 |
| 133   | 133  | Mac700 9 | Mac 700      | 2.249 | On   | Off       | Off        | Off  | 255 255 |

New

And now we can exit both the **Edit Setup** pop-up and the **Setup** menu. This also saves your new fixtures.

Go to the next page to learn about the **Fixture Sheet**.



## Topic: Tutorial Basic 2 - Fixture Sheet

The Fixture Sheet is used for displaying all the attributes of the fixtures.

Now that we have fixtures it would be nice to see what they are doing. For this we are going to need the **Fixture Sheet** window.

I like the **fixture sheet** on screen 2. That way it's directly above the four encoders. But it's all up to you where you put it on the screens.

When you have room for it, press the empty space where you want your **Fixture Sheet**. In the **Create Basic Windows** pop-up you need to select the "Sheets" tab and then press the >>Fixtures<< button.

Now you have a **Fixture Sheet**. Here your fixtures are (as a default) represented as a list. Your fixture are in rows and the different attributes (like Dimmers, Pan/Tilt, Gobos, etc.) are sorted in columns.

When you press the yellow ball in the upper left corner of the sheet you get the sheet options (it's also here you can delete a window - if you haven't noticed).

You can follow the link below to read details about the Fixture Sheet. This is how my fixture sheet looks:

| Fixture |          |            |                   | Readout Percent<br>Lay: Values+ |          |                         |                             | Normal Mask: Off<br>Fil: None |                      |                           |       | Feature Sort |  |
|---------|----------|------------|-------------------|---------------------------------|----------|-------------------------|-----------------------------|-------------------------------|----------------------|---------------------------|-------|--------------|--|
| ID      | Name     | Dimmer Dim | Position Pan Tilt | Gobo1 G1 Pos                    | Gobo2 G2 | Animation W Animation W | Animation Ind Animation Ind | Color1 C1                     | ColorMix CM1 CM2 CM3 | Colour Wheel Colour Wheel | Q1 Q2 | S1 S2        |  |
| 111     | Mac700 1 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 112     | Mac700 2 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 113     | Mac700 3 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 121     | Mac700 4 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 122     | Mac700 5 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 123     | Mac700 6 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 131     | Mac700 7 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 132     | Mac700 8 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |
| 133     | Mac700 9 | Closed     | 50.0 %            | Open                            | Open     | Open                    | 0 %                         | Open                          | 0.0 %                | QW Shk 0                  |       |              |  |

Presets & Values

Fade

Delay

Modulator Table

Auto

Values Only

Output

Executor ID

This is my sheet options:

Tools:

- Preset Control - Off
- Layer Control - On
- Filter Control - Off
- Multi Control - Off
- ScrollBar Horizontal - Off
- Scrollbar Vertical - Off

Layer Filter:

- Layer - Preset Values
- Filter - None
- Feature Mask - Off

Display:

- Sheet Style - Horizontal
- Font - DejaVu 10
- Readout - Percent



- Symbol Output - On
- Symbol Features - On
- Cue Colors - On
- Channel ID - On
- Columns - 10
- Feature Sort - On
- Fixture Sort - Off

Feature Mask:

- We are not gonna use Feature Mask, so they can just keep there default options.

On the next page we are going to have a look at how to control fixtures.

## Related Links

- [Fixture Sheet](#)



## Topic: Tutorial Basic 2 - Controlling Fixtures

Being able to control your fixtures is one of the most important things using a grandMA.

### The Preset (type) Control Bar.

The key to control fixtures is this bar:



It's the "Preset Control" bar. With this you can control what preset type you have assigned to your encoders.

The bar will only display the preset types you have access to. you might have noticed that before we added the Mac 700's there was only the "Dimmer" button in the bar.

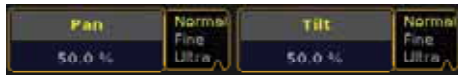
The bar might disappear when you move focus to something else. Like working in the **Sequence Executor Sheet**. But you can always bring it back by pressing somewhere in your **Fixture Sheet** or **Channel Sheet**.

### Playing with the movers.

To control fixtures you need to select them. Let's try with fixture 111. Press:    .

This selects the fixture, and you can assign a dimmer value using the methods you learned in Tutorial basic 1. Or you can select the "Dimmer" preset type using the bar and turn the first encoder to turn up the lights.

Select "Position" by pressing it. Notice how your encoder changes function according to what preset type you have selected. With the "Position" your encoders look like this:



Turning the encoders changes the values. Turning them with the encoder pressed changes the value faster. if you want to make smaller movement with a turn (increasing the resolution) you can press the "Normal / Fine / Ultra" button next to the value.

Notice how some of the buttons in the Preset Control Bar have a red square and some a grey one. The red one indicates that you have changed values in that preset type. This will be saved if you press the 'Store' key (don't do it).

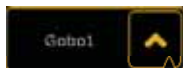
Press the >>Gobo<< button. Now instead of turning the first encoder, just press it shortly. This is where the "calculator" proves its power. The "calculator" is the pop-up that allows you to input values to attributes using a graphic interface. This is what it looks like with "Gobo 1" selected:



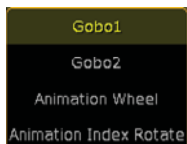


Next to the usual buttons with numbers etc. there is a lot of buttons that changes according to your selections. When gobo is selected you have easy access to all the different gobos. Select the one called "Water" and confirm you choice by pressing 'Please'.

When our fixture has more than one gobo wheel you can choose the others by using the "Feature Select" button:



You can press the text (Gobo1) to scroll thru the possible features or the "up arrow" to se a small list of the possible choices:

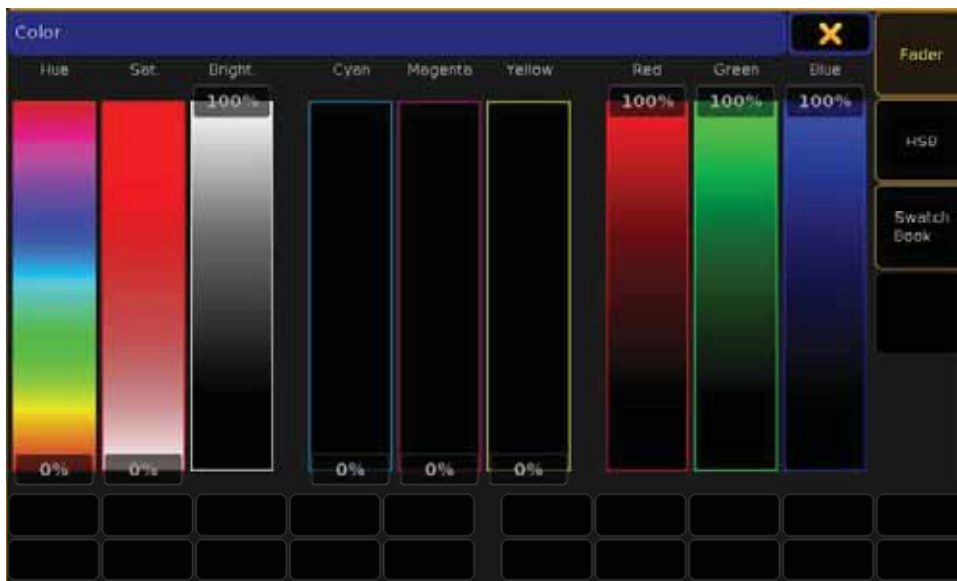


The last thing I will introduce you to is how to control colors.

Press the Preset Type button "Color". The first thing you see is the attribute "Color Wheel 1". This works as all the other attributes.

Now try to select "ColorMix" using the "Feature Select" button. This assigns Cyan, Magenta and Yellow to the first three encoders (in that order). Then you can control these three attributes manually.

What it also does is gives you the possibility to press the "Show Specialized Dialog" button - press it now. It should brig you this window on screen 1 (the 9" multi touch screen):



It's three different ways to assign a color to your fixture. What you are currently looking at is the "Fader" window. Here you can control the gradient color wheels using HSB (Hue, Saturation & Brightness), CMY (Cyan, Magenta & yellow) and/or RGB (Red, Green & Blue). They are all connected, so other faders will move when you are moving one.

Try to press the **U2** key (or where it says "HSB"). This gives you this window:



This is much like the "ColorPicker" from grandMA series 1. You can choose a color by pressing anywhere in the colored area. You can also see how this affects your HSB, CMY and RGB values.

Try to press the **U3** key (Switch Book). The window changes to this:



This can be used to choose a color much like the ones in the books of the leading gel manufacturers.

Notice how your **Fixture Sheet** changes and always shows you what your fixture is outputting.

Take some time experiment with the fixture controls. When you're done clear your programmer and move on to the next page.

### Related Links

- [Specialized Color Dialog](#)
- [Fixture Sheet](#)



### Topic: Tutorial Basic 2 - Preset Pool

A preset is a way to store a set of values. There are 10 different groups of presets. They are named "All", "Dimmer", "Position", "Gobo", "Color", "Beam", "Focus", "Control", "Shapers" & "Video". Basically the preset groups can only store their own kind of info i.e. the "Position" preset group can only store info about Position values.

The exception to this is the "All" presets. They can store info about all the types of values. The Preset Pool windows are a lot like the Group Pool window except if you have nothing selected the first time you press a preset button, the desk selects the fixtures/channels that can use that preset. If you press a second time the desk assigns the values (stored in the preset) to the fixtures/channels.

In this tutorial we are gonna use "All", "Position", "Gobo" and "Color" presets. How you arrange them is all up to you. You know how to create and store views.

But one thing that is good to know is that you can decide what color the frame around the different preset pools should have.

You enter the **Pool Options** by pressing the yellow ball above the pool headline:



Here you'll find a something called "Frame Color". Pressing here followed by a press on any color in the options, changes the color on you pool frames.

When you are done, your view could look something like this:



On the next page we are gonna look at creating presets.

## Related Links

- [Preset Pools](#)



## Topic: Tutorial Basic 2 - Making Presets

Next we are going to make some presets.

### Some preparations

In just a few seconds we are going to store a preset. But to make sure we save them correctly we need to examine the "Store options". Press and hold the **Store** key. After approx. 1 second the **Store Options** pop-up appears. The only thing we are interested in is the "Preset Options" they look like this:



Press the buttons until it looks like the buttons above. When you are happy press >>Save as Default<< next to the yellow X.

Finish by pressing the **Esc** key twice (we are not storing anything right now).

### Creating presets (finally)

All right, try placing all your moving lights in different positions.

When you are happy, make sure you can see the preset group called "Position". Press **Store** and the first (Position) preset button.

Now instead of values our fixture sheet shows "P 2.1". This refers to Preset Pool 2, Pool Button 1. If you have given the preset a name, then this name will appear instead.

Move your lights to different position. Now press **Store** **Preset** **2** **.** **2** **Please**. This creates a second position preset. The "2 ." is a reference to the position presets (you may recall the window you created was called "2:Position").

Move your light and make one more position preset. Clear your programmer.

Select the first Mac 700 (Fixture 111). Change the color to a blue one using the Specialized Color Dialog. Press and hold the **Store** key. In the "Store Options" press the button "Selective" until it is changed to "Global". Now store it to the first color preset.

So what's the difference to the 2 different store options? All the Position presets we made with the "Selective" option. This means that the presets only applies to the fixtures that actually had values when you stored the preset. The "Global" means that this preset applies to all fixtures of the same fixture types even though you have only created it with some of them.

The last option "Universal" may be used to make presets that applies also to other fixturetypes than the one(s) used for creation. this functionality applies only to the generic attributes dimmer, pan, tilt and colormix.

Make 2 more color presets. Make 3 different gobo presets. Clear your programmer.

Press: **1** **1** **1** **Thru** **1** **3** **3** **Please** **Please** **Please** **Store** **Preset** **0** **.** **1** **Please**. Now you have made an "All" preset that contains all the default values of the fixtures (The "Please Please Please" activates all parameters of the fixtures).

 Pressing **Please** multiple times without entering any commands, will activate/deactivate all parameters of the current selection.

You should have presets that look something like this (I have rearranged the view so all the created presets are visible):



This is what we need for making our new second sequence. Go to the next page to do that.



## Topic: Tutorial Basic 2 - A Second Sequence

We are gonna create a second sequence and link the two sequences.

### Making the second sequence.

Clear your programmer. Press the first Position preset twice. Now press **Store** and one of the buttons labelled "3" around executor fader 3.

Now we got our second sequence. Let's build some more into it. Select executor fader 3 by pressing **Select** followed by one of the executor buttons around the executor fader. Press the first Gobo and Color presets followed by **Store** **Please**. Then we got the **Save** pop-up:



Here you choose how you want to store things. Press >>Merge<<.

That was our first cue. Clear the programmer. Press the second Position twice followed by the second Gobo and Color presets and then Store Please. This time choose >>Create second Cue<< in the **Save** pop-up.

Make a third cue with the third Position, Gobo and Color presets.

The last cue I need you to make is a cue containing the "All" preset and all the cue times need to be 0 seconds! Clear your programmer.

### Setting up the sequences (Assign Menu).

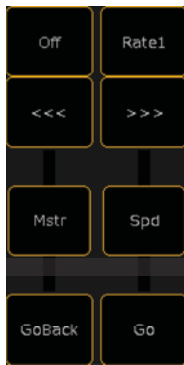
Select your first sequence. Now press the green name field above the executor fader (where it says "Sequ."):



On screen 1 you see some of the options for that executor fader. This window can be a bit confusing the first you see it, but right now we are only interested in is the size of the executor. Change that to 2 by pressing the X2 key (or where it says "Width 2").

Now we need to change the button assignment. The buttons and fader can have a lot of different functions (explaining those goes beyond the scope of this tutorial). Press where it says "XF" and in the small pop-up select >>Speed<<.

Press where it says >>GoBack<< and choose the option called >>Rate 1<<. Change the rest of the buttons so they end up looking like this:



Close the **Assign Menu** by using the yellow X. What is a Speed rate fader? Well, the speed fader is used for changing the overall speed of the fade. You can speed it up or slow it down to a complete stop. The times are not changes in the sequence permanently, just adapted to the faders position.

The button called "Rate1" resets the fader to the mid position, where all the times are back at their saved times.

The '<<<' and '>>>' steps one cue back and forward accordingly without time.

### Linking and editing the 2 sequences.

Have you noticed that we didn't save any dimmer values to the fixtures in the second sequence? We are going to put those in our first sequence. And we are going to do some sequence linking.

In your **Sequence Executor** window make sure you can see the "Cmd" (command) column.

Right-click in the "Cmd" cell for cue 1 and in the pop-up write: Goto cue 1 exec 1.3 followed by a 'Please'. In the "Cmd" cell for cue 3 right-click and write: Goto cue 2 exec 1.3 also followed by a 'Please'. In cue 4 the command is for cue 3 on executor 1.3. And in cue 6 we need a command to cue 4. When you're done it should look like this:

| Cmd | Delay | Cmd                     |
|-----|-------|-------------------------|
|     |       | Goto Cue 1 Executor 1.3 |
|     |       |                         |
|     |       | Goto Cue 2 Executor 1.3 |
|     |       | Goto Cue 3 Executor 1.3 |
|     |       |                         |
|     |       | Goto Cue 4 Executor 1.3 |

Now press the big **Go+** key. Notice that both sequences go to cue number 1. That's the command doing its trick.

Press the **>>>** executor button. Turn on your moving light at full. Press **Update**. Press the **U1** key (or where it says "Original Content Only") followed by the X10 key (or where it says: "Save as Default").

Now there are two possible sequences to update. Make sure you update the one called "1.1 sequ.". You can do this by pressing the correct line.

Go to cue 6. Notice that the moving light gets the dimmer value "p 0.1". This is actually the value 0%. But to make sure that no matter what, they go to 0, let's store this value in the first sequence also. Press: **1 1 1 Thru 1 3 3 . . Update**. Now you can see that you also have the option to update the preset. Don't do that; just update the cue in sequence 1.

Clear your programmer and try moving back and forward in your sequence to see how the link works.

On the next page we are going to have a look at "Worlds".



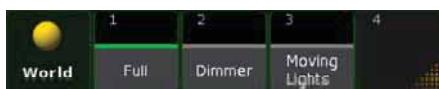
## Topic: Tutorial Basic 2 - Using Worlds

Working With Worlds and last thoughts.

One last little treat for you is the worlds. You can use the worlds to limit your own (and others) access to channels or fixtures. Find a empty space on your screens and create a new window called **Worlds**(it's in the "pools" section).

Press: **1 Thru 4 0 Please Store** followed by the second world button. Name it "Dimmers".

Clear your programmer. Now press: **1 1 1 Thru 1 3 3 Please Store** followed by world button number three. Name this "Moving Lights". When you are done it should look something like this (remember you can change the frame color):



Now you actually got three worlds! The two you created and then there is a default world called "Full". This one can't be changed. It will always give you the full world.

Select >>Dimmers<<. Now try to press: **1 1 1 Please**. It doesn't work and they have disappeared from the fixture sheet.

If you select >>Moving Lights<< you can't control the dimmers.

You can still run sequences and the cues will load all their content (Dimmers and Moving Light) as if you were in the "Full" world. The only effect the worlds have is what you can select, manipulate and store.

### Last Thoughts

You should save your show. you can do this in the command line:

```
[Channel]> saveshow
```

That was it! You have learned to make changes to the patch, controlling fixtures, creating and use presets, linking sequence and creating and use worlds.



## Topic: Macros Introduction

This tutorial intends to give some insight to the possibilities of grandMA2 Macros

Macros are basically lines of text, which are executed as command-line for processing. The power of macros is based on the power of the command-line.

To learn macros, you need to learn the grandMA2's commandline-syntax.

The first step to learn grandMA2 commandline-syntax is to always have a **Commandline Response Window** visible on one of your screens:



Most of your action on the console will result in an entry in this window, and will be listed as **Done**, **Realtime** or **Macro**:

```
:Done: Channel 1 At 50
```

```
:Realtime: Go Executor 1.1.201
```

```
:Macro: Off Executor 1 Thru 10
```

You do not have to worry about these 3 different classifications for now. This indicates the source of the processed command, **Realtime** means that the command originated from your pushing executor buttons and has been processed with a high priority, while **Macro** means that the command is originating from a direct hardkey, macro or cue-link etc and not via the normal user-input commandline, - which is indicated with **Done**.

### Example:

Let's press the onscreen button above the encoders labeled "Position", to change the encoder to Pan/Tilt.

The encoders change to pan & tilt, and we see that the console has processed the following command:

```
:Done: PresetType "Position"
```

So let's create a macro that does exactly this.

- type **Edit Macro 1** followed by **Please** to open the Macro Editor and create a new macro, Macro 1
- press **Add** (X1) to add a new line for our macro
- click on the empty field in the text-column, and with your keyboard type the command we saw the desk had processed:
- **PresetType "Position"** and press **Please**



- Close the Editor with the "X" in the upper right corner
- Open a Macro Pool Window, and you should see our Macro 1 as the first item
- Label the macro by pressing 2 times on the **Assign** key, to get the **Label** keyword, the press on the Macro 1 button in the pool.
- Enter "Position" in the popup, and press **Please**

We now have a Macro called "Position", that will call the Pan&Tilt Encoders, and we may assign it to an Executor, view or User-keys for easy hardkey access:

- Switch to userkeys by pressing **User 1**, then type **Assign Macro 1 X1**

You have now created your first basic macro. The following pages will learn you more about how to create complex macros.



## Topic: Macro CommandLineInteraction

How your macro interact with your command-line

### CommandLine Interaction (CLI)

A macro-button has several ways to interact with your command-line.

Lets say we have a Macro 5, with the command-line text "Highlight". Pressing this Macro, the following are processed by the console:

```
:Done: Macro 5
:Macro: Highlight
```

- the result is that Highlight is enabled/disabled, as expected.

But opposed to the normal Highlight Hardkey, you cannot operate this button without destroying what you currently are entering in the command-line. This is because the press of the Macro-button is interacting with your command-line - the macro is called via your normal command-line-input.

Open the Macro Editor, and disable the CLI option (X6) for Macro 5, close editor. Then try to press the macro-button again:

```
:Macro: Macro 5
:Macro: Highlight
```

The push of your macro-button is now processed directly. You can operate it and turn Highlight on and off at any time, even if you are in the middle of entering some other commands.

So let us try to Edit the macro again by pressing Edit and the macro-button.

It is not possible anymore! Even if we have Edit in the commandline, pressing the macro just turns Highlight On and Off.

When we disabled CLI, we told the console that this macro-button should not interact with our commandline, so it does not react to our Edit Command either.

Don't worry, the disabled CLI only applies to buttons in the pool, and when the Macro is assigned to an Executor or View-button. By using the commandline we can still tell the console that we want to edit this macro, via the Macro keyword, and the ID of the Macro.

Enter **Edit Macro 5** in the command-line, followed by Please, to open the Editor when CLI is disabled.

### Appending text (@-sign)

Lets say we have a Macro 3, with the commandline text "Fixture 15". Pressing this Macro, the following are processed by the console:

```
:Done: Macro 3
:Macro: Fixture 15
```

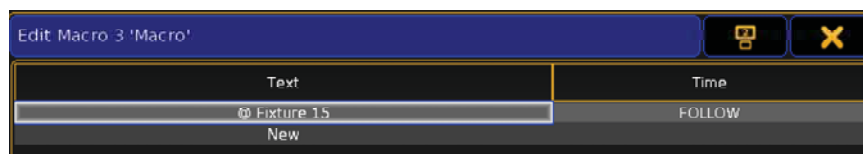
- the result is that Fixture 15 gets selected, as expected.

What if we want to do something else with Fixture 15, than selecting it? can the Macro we made be used for this as well?

e.g. The syntax **Edit Fixture 15** usually gives the dialog for changing patch and default-values for Fixture 15, so as our macro basically does "Fixture 15", how can we use the macro to get the dialog to patch Fixture 15?

Pressing **Edit**, then the Macro button, we are editing Macro 5, not editing Fixture 15.

To be able to interact with the *content* of the macro, we need first to disable the *macro-button's* own CommandLine Interaction (CLI), as in previous example, then we need to make sure that the macro-text "Fixture 15" is appended to whatever is in the Command-line. Appending a macro-line to the users existing commandline is done by starting the macroline with the @-sign:



You may also use the @-sign at the end of the macro-line, to indicates that the macro shall wait for the user to append some more text, before the line is processed.

By adding the @-sign both in the beginning and at the end, a singleline macro is effectively just putting text into the commandline.

### Related Links

- [\[At-sign\]](#)





## Topic: Using Variables

Variables are containers of text that may be reused

Variables may be used to store phrases of text, for later reuse by commandline and macros, similar to what Presets are for Attributes.

Variables are defined via the **SetVar** keyword and the **dollar-sign**:

**SetVar** \$nameofvariable="content of variable"

Whenever the variable is later referenced in the commandline, the variable is replaced by its content.

### Example:

A common way to program lighting for a song, is to create a sequence of cues holding the base-looks and major changes for each verse and chorus, and additionally trigger different chasers on and off via command-links in the main sequence:

- ...
- Cue 5:"Chorus":Cmd:Go Executor 201
- Cue 6:"Verse 2":Cmd: Off Executor 202
- etc.

If only one chaser needs to be triggered, this simple syntax usually does the job.

By using variables, triggering of multiple chaser may be easily managed:

- Cue 1:"Intro":Cmd:SetVar \$chorusChasers="Executor 201 + 204 + 205"
- ...
- Cue 5:"Chorus":Cmd:Go \$chorusChasers
- Cue 6:"Verse2":Cmd:Off \$chorusChasers
- etc

```
[Channel]> SetVar $chorusChasers="Executor 201 + 204 + 205"
```

```
:Done: SetVar $chorusChasers="Executor 201 + 204 + 205"
```

```
[Channel]> Go $chorusChasers
```

```
:Done: Go Executor 201 + 204 + 205
```



Your console will only process valid commands. If none of the Executors exist, the console will not bother to process the command, and you will not see this last line

Similar to the **SetVar** keyword is the **SetUserVar** keyword. The only difference is that a variable defined with the **SetVar** is global for all users, while variables defined with **SetUserVar** applies to the current user only.

With the keyword **ListVar** and **ListUserVar**, the **Commandline Response Window** will list current variables and their content.

```
[Channel]> ListVar
```

```
:Global: $CHORUSCHASERS = Executor 201 + 204 + 205
```

### Related Links

- [\[Dollar-sign\]](#)
- [SetVar Keyword](#)
- [SetUserVar Keyword](#)
- [ListVar Keyword](#)
- [ListUserVar Keyword](#)



## Topic: Creating popup dialogs in macros

How to use dialogs to prompt for user-input to a macro

Sometimes you may want to create a macro that collects data from the user while running.

As we learned in the CLI part of this tutorial, you may use the @-sign to combine macro-lines with user-interaction. The @ approach is convenient when the user knows how the macro works and don't want to be bothered by popups, but if one were to create a more wizard-like macro, using popup-dialogs enables guided interaction.

Popups are created by the use of parentheses - round brackets :

The text inside the parentheses are used as text prompted to the user, while the response entered by the user will replace the parentheses and the prompting text.

### Example:

**SetVar** \$universe=("Which Universe?")

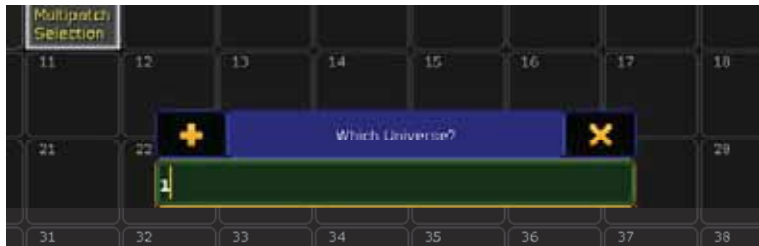
**SetVar** \$address=("Which Address?")

**Assign Dmx** \$universe .\$address **At Selection**



In the third line, please notice the space after \$universe, and no space between dot and \$address

Running this macro the console first prompts for universe:



then for Address:



Processed, our macro looks like this:

```
:Macro: SetVar $universe="1"
:Macro: SetVar $address="401"
:Macro: Assign Dmx 1 .401 At Selection
```

DMX channel 401 of Universe 1 is added to the patch of the currently selected fixture.



When you are using popups to assign text to variables, you should use quotes inside the parantheses: ("What is your name?") but when using popups for commands and numbers, do not use quotes inside the parantheses: Goto Cue (where should i go)

## Related Links

- [\[Parentheses\]](#)
- [\[Quotes\]](#)



## Topic: Conditional Expressions

Conditional execution of macro-lines

In some situation you may want to only process a command, if the user has answered something specific in a popup, or if a variable is set to a specific value.

The grandMA2 supports simple conditional expressions, which must resolve to "True" for the following commandline to be executed.

**SetVar** \$answer=("really delete all groups? yes/no")

**[\$answer=="yes"] Delete Group Thru**

Conditional expressions are recognized by **Square Brackets**, and accept the following logical operators:

- a == b  
a equals b
- a > b  
a greater than b
- a < b  
a less than b
- a <= b  
a less than or equal b

a >= b  
a greater than or equal b

! The two arguments a and b are not compared as numbers, but as text-strings, character by character, e.g. "61" is considered to be greater than "599", as 6 is larger than 5.

## Related Links

- [\[Square Brackets\]](#)



## Topic: Timing of Macros

As you may have noticed within the Macro-editor, in addition to the command-text field, there is also a time-field for each macro line.

By default the macro will proceed immediately and start processing the next line, however this "Follow" may be changed to either a Wait-time in seconds, or a trigger to pause and wait for next Go, before the macro proceeds with next line.

Wrong timing is the major pitfall when creating complex macros. The console is multi-tasking so when a command immediately follows another, the second command will start processing, even if the previous has not yet finished processing.

If a macro-line depends on an earlier line, to be processed correctly, you may need to add a wait-time, to prevent the next command to follow immediately and be processed too early.

### Example:

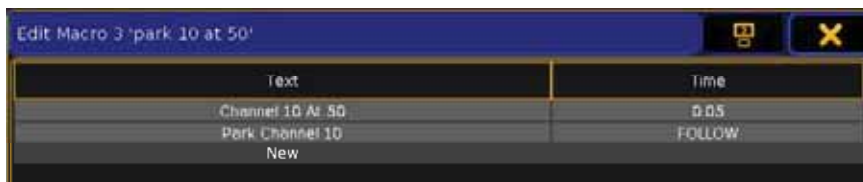
Let's create a Macro that Parks Channel 10 at 50%:

#### Channel 10 At 50

#### Park Channel 10

With the default "Follow" trigger, this macro does not work. Setting channel 10 to 50% takes some time, and our macro Parks the channel before the first line has been fully processed.

Giving the first line 50 millisecond to be processed, before proceeding to the next line, solves the problem in this case:



| Text             | Time   |
|------------------|--------|
| Channel 10 At 50 | 0.05   |
| Park Channel 10  | FOLLOW |
| New              |        |

When creating complex macros it is wise to start with a timing of i.e. 100 milliseconds per line, unless you are sure that the lines that do not rely on previous lines to be fully processed.

! Necessary processing-time is not fixed. You may experience that a timing that worked when in Standalone is not enough in a session with multiple stations and NPU's

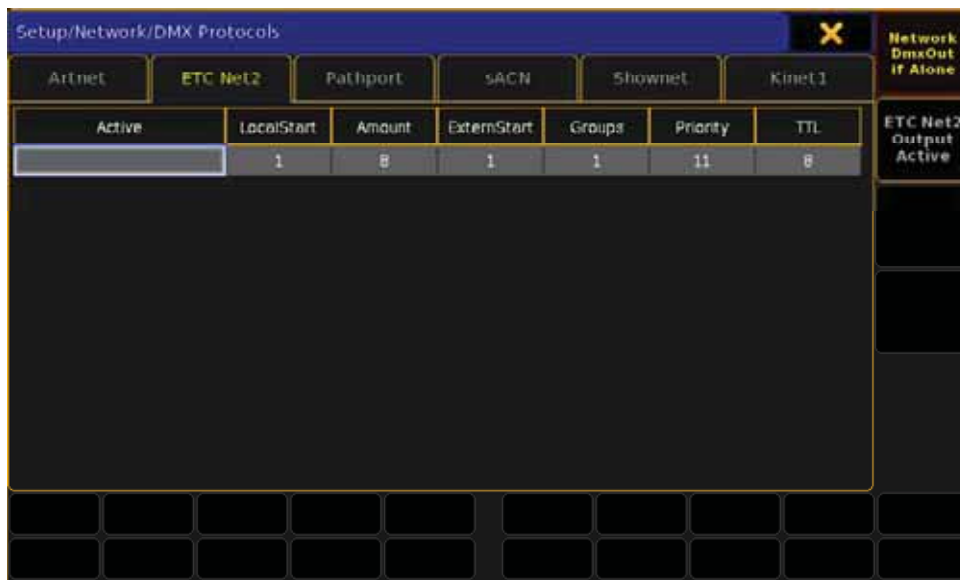


## Topic: Automate Settings

Macros are useful if you easy want to change specific setting of your showfile, without the need to navigate thru multiple windows every time.

Lets try to make a Macro that toggles ETC Net2 on/off.

This setting is usually found under Setup > Network > Dmx Protocols > ETC Net2.



First we need to find this object in the Showfile object tree:

[Channel]> List



Index number 4 "DMX\_Protocols", which have (6) childs/subobjects looks promising, lets examine it by enter this destination with the CD keyword, and do List a second time:

[Channel]> CD 4

DMX\_protocols> List



Index number 2, "ETC Net2" seems to do what we need. It has a green (editable) property "Active" with no value, lets try to change this value to "on" via normal Assign syntax:

```
DMX_protocols> Assign 2 /Active=on
```

and List again to check if it worked:

```
DMX_protocols> List 2
```

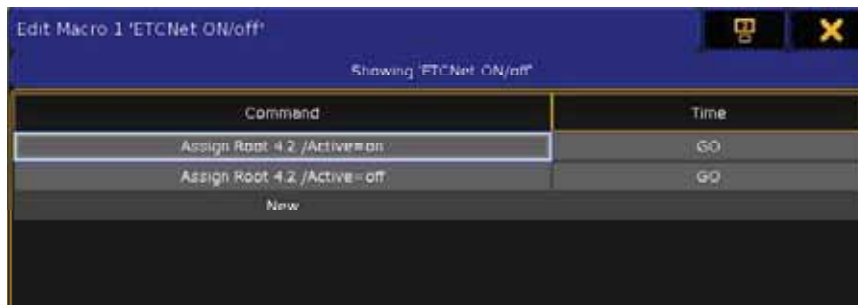


Now that we know where the object is in the showfile, (from Root, then index 4 then index 2), and we know how to change it (/Active=on) we may exit to Root destination, and create our macro

```
DMX_protocols> CD /
```

```
[Channel] Edit Macro 1
```

And enter what we have learned



Notice the Go trigger in the time Column, to have the next line wait for the next macropress, to make this a toggling two state button.

Finally you could add some sugar and change the Macro label to indicate the status of this macro (has it just switch on or off the ETCNet)



## Topic: Macro Import and Export

If you have created a nice macro you would probably want to use it in other showfiles.

The current solution for this is to Export the Macro, then Import the Macro after loading the other showfile.

```
[Channel]> Export Macro 3 "Nice_macro.xml"
```

will create an xml-file labeled "Nice\_macro" containing your macro, in the Macro-directory of your console.

to Import macros you need to change your commandline destination to macros:

```
[Channel]> CD Macro
```

then import the file with the following syntax

```
Macros/Global > Import "Nice_macro"
```

Macro(s) in the file "Nice\_macro" will be imported and added after the last of your existing macros.

To list the files in your Macro-library, the current keyword is **ListMacroLibrary**

```
Macros/Global > ListMacroLibrary
```

```
: nice_macro 1234 Bytes
```

: predefined 5678 Bytes

Export and Import applies to the currently **Selected Drive**. To i.e. Export to USB-stick, enter **SelectDrive** to find the drive-ID of your Stick, then select the drive with the syntax **SelectDrive [ID]**.

 Remember to change destination to root with **CD /** when you are finished

You can also Export multiple macros in one xml-file, by exporting a range of macros to one file.

 Import/Export currently do not support preservation of Macro ID. macros are imported after your last used Macro ID, in other words if you last current macro is Macro 245, the imported macros will become Macro 246 and upwards

## Related Links

- [Import Keyword](#)
- [Export Keyword](#)
- [SelectDrive Keyword](#)



## Topic: Tutorial FixtureTypes

FixtureTypes are definitions used by the console to generate Fixtures in Patch & Fixture Schedule. Even though the grandMA2 comes with an extensive FixtureType Library, you might want to create your own or edit an existing type.

## Related Links

- [FixtureTypes Menu](#)
- [FixtureType Object](#)



## Topic: Create a new FixtureType

In this tutorial we are going to make a FixtureType for the Clay Paky Golden Scan 4.

The first thing to do, is to get hold of the manual with DMX-specifications of this fixture from the manufacturer

[golden\\_scan4\\_manual\\_Rv1.pdf](#)

Then we enter **Setup → Show → Patch & FixtureSchedule**

 If your showfile is empty, you will be prompted with two popups, - cancel these by pressing the "X" in the upper right corner.

Continue by pressing the softkeys **FixtureTypes**, then **Add**, to create a new one.

The next to do is to populate the empty fields, and describe our fixture (longName, ShortName etc)

| No. | LongName    | ShortName | Manufacturer | ShortMenu | Mode  | ModelSc | ModelKey | Used |
|-----|-------------|-----------|--------------|-----------|-------|---------|----------|------|
| 1   | GoldenScan4 | GS4       | Clay Paky    | CP        | 16bit | 1.00    |          | 0    |
| New |             |           |              |           |       |         |          |      |

We leave **ModelScale** at 1, and **ModelKey** empty, and press the softkey **Edit**, to open the **FixtureType Editor**.

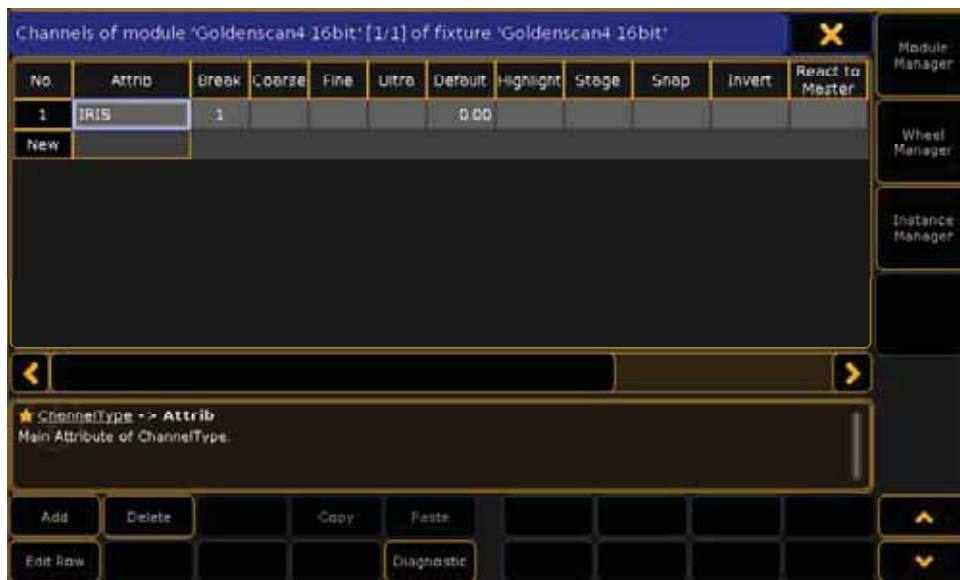
Our next task is to examine the spec of the GoldenScans functions:

| CHANNEL | FUNCTION                       |
|---------|--------------------------------|
| 1       | IRIS                           |
| 2       | COLOUR CHANGE                  |
| 3       | CTC / PRISMI / FROST SELECTION |
| 4       | DIMMER / STOPPER / STROBE      |
| 5       | PAN                            |
| 6       | TILT                           |
| 7       | GOBO CHANGE                    |
| 8       | GOBO ROTATION                  |
| 9       | GOBO FIXED CHANGE              |
| 10      | RESET                          |
| 11      | PAN FINE (with option 16b ON)  |
| 12      | TILT FINE (with option 16b ON) |

Press **Add**, and press **Edit** and then the "none" (or right-click the "none") in the Attrib column. In the popup-dialog select **Beam** → **Beam1** → **Iris**.



Your editor should now look like this:



Repeat Add & edit of Attributecolumn with the following attributes:

- Color→ Color1→ Color1
- Beam→ Beam1→ Prisma1
- Dimmer→ Dimmer→ Dim
- Position→ Position→ Pan
- Position→ Position→ Tilt
- Gobo→ Gobo1→ Gobo1
- Gobo→ Gobo1→ Gobo1\_Pos
- Gobo→ Gobo2→ Gobo2
- Control→ Reset→ Reset

Do not add the two last Functions listed by Clay Paky, Pan Fine and Tilt fine.

Our next task is to Edit the Coarse and Fine column, and enter the DMX-channel for each function according to the first column in the Clay Paky List. When finished, your editor should look like this:



| No. | Attrib    | Break | Coarse | Fine | Ultra | Default | Highlight | Stage | Snap | Invert | React to Master | MIB Fade | Profile | Mode | React to Dim |
|-----|-----------|-------|--------|------|-------|---------|-----------|-------|------|--------|-----------------|----------|---------|------|--------------|
| 1   | IRIS      | 1     | 1      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 2   | COLOR1    | 1     | 2      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 3   | PRISMA1   | 1     | 3      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 4   | DIM       | 1     | 4      |      |       | 0.00    |           |       |      |        | On              | Default  |         |      |              |
| 5   | PAN       | 1     | 5      | 11   |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 6   | TILT      | 1     | 6      | 12   |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 7   | G0B01     | 1     | 7      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 8   | G0B01_POS | 1     | 8      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 9   | G0B02     | 1     | 9      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 10  | RESET     | 1     | 10     |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| New |           |       |        |      |       |         |           |       |      |        |                 |          |         |      |              |

The next step is to add default-values for each function. By default, the range of each function is 0 - 100%, so we enter the defaults as a percentage value.

Examining the manual, I find that I should change the default from zero for the following functions

- Iris - open - 50%
- Pan - center - 50%
- Tilt - center - 50%

At the same go, we also adjust the Highlight-values. Highlight values is personal preferences, basically I want the fixture to be Open White, but don't affect i.e gobo so I choose my Highlight values to be:

- Color1 - open - 0%
- Prisma1 - open - 0%
- Dim - open - 50%

| No. | Attrib    | Break | Coarse | Fine | Ultra | Default | Highlight | Stage | Snap | Invert | React to Master | MIB Fade | Profile | Mode | React to Dim |
|-----|-----------|-------|--------|------|-------|---------|-----------|-------|------|--------|-----------------|----------|---------|------|--------------|
| 1   | IRIS      | 1     | 1      |      |       | 50.00   |           |       |      |        |                 | Default  |         |      |              |
| 2   | COLOR1    | 1     | 2      |      |       | 0.00    | 0.00      |       |      |        |                 | Default  |         |      |              |
| 3   | PRISMA1   | 1     | 3      |      |       | 0.00    | 0.00      |       |      |        |                 | Default  |         |      |              |
| 4   | DIM       | 1     | 4      |      |       | 0.00    | 50.00     |       |      |        | On              | Default  |         |      |              |
| 5   | PAN       | 1     | 5      | 11   |       | 50.00   |           |       |      |        |                 | Default  |         |      |              |
| 6   | TILT      | 1     | 6      | 12   |       | 50.00   |           |       |      |        |                 | Default  |         |      |              |
| 7   | G0B01     | 1     | 7      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 8   | G0B01_POS | 1     | 8      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 9   | G0B02     | 1     | 9      |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| 10  | RESET     | 1     | 10     |      |       | 0.00    |           |       |      |        |                 | Default  |         |      |              |
| New |           |       |        |      |       |         |           |       |      |        |                 |          |         |      |              |

We have now created a very basic GoldenScan4, with the minimum data needed, to control this fixture, so we should now close the editor, connect the fixture to the console, patch and test that the each function work.

If you do not have the fixture available, you may patch and look at the DMX Sheet window to check that your encoders controls the correct DMX-channels.



## Topic: Tutorial Fixtures



## Topic: Fixture Position Calibration Dialogue Tutorial

There are three different modes for this dialogue: Absolute mode, relative mode and free mode. These modes only differ in the way the parameters of your physical points A,B,C and D are entered.

### Calibration Workflow

1. Mark 4 physical points A to D on your stage. The 4 points have to span a rectangle.
2. Enter the physics of point A to D depending on the mode:
  - **Absolute mode:** Select all fixtures and enter the coordinates of point A (X,Y,Z) and the correct distances to the points B and D.
  - **Relative mode:** Select all fixtures and enter the correct distances between Point A and the right and front edge of stage and the correct distances to the points B and D.
  - **Free mode:** Select all fixtures and enter the correct coordinates of point A (X,Y,Z), B (X,Y,Z), C (X,Y,Z)
3. Focus each fixture to position A using pan and tilt attributes.
4. Select all fixtures again and press the **Store** button followed by the soft button **A**. The position of the current selection will be stored for point A.
5. Repeat steps 3 and 4 for points B, C and D.

6. Select all fixtures again and press the soft button **Calibrate**. The physical positions of all selected fixtures are calibrated now.



It is possible that each individual fixture can be calibrated within a separate physical rectangle. An asterisk '\*' means that the parameters of the rectangles are not equal across current selection.



## Topic: Effects Tutorials.

On the following pages we are going to explore some of the ways you can use effects.

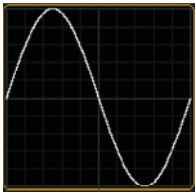
We will go through steps that introduce you to the most common effect functions.

### Effect Theory

But before doing a lot of programming, we need to have a look at the theory behind the effects.

Effects run in an loop between two values. This uses a 'Form' to change between the values over a period of time.

A form could be a sine curve:



In the effect editors we have two options to look at values. One is 'low' / 'high' the other is 'Center' / 'Size'. In the following tutorials we are going to look at both methods.

When using 'Low' / 'High' mode, then bottom part of the form is 'Low' and the top part is 'High'. When using the other method, the 'Center' value will define a value to move over and under. It's the horizontal center line in the picture above. The 'Size' value will make the form bigger or smaller.

In cues and in the programmer, the speed of the effect is often controlled by the 'Speed' value. This can be modified with a 'Rate' or 'Speed' master.

If you need to spread out a group of fixtures to begin different places in the effect loop you need to use 'Phase'. Phase is often described as a number between 0 and 360. Think of the loop as a circle, and the numbers as a number of degrees on that circle.

And this is basically what you need for an effect.

Some forms can also use parameters like 'Width', 'Attack' and 'Decay'.

'Width' controls how much the form should occupy the cycle. A 'Width' of 100% makes the form take up all the time in the cycle. If the 'Width' is only 50% then the form only occupies the first half of the cycle.

'Attack' And 'Decay' is used to 'fade' values in forms that doesn't normally fade (Random, PWM (Pulse Width Modulator) and Chase).

### The effect tutorials.

In the following tutorials we will look at:

- Creating an effect in the programmer.
- Creating a template effect.
- Making effects using presets.
- Using effects in cues.
- Editing effects using the command line.
- Changing an effect with a macro.
- Different ways to run and use effects.

You will get the best result if you follow the steps precisely. You can always save your show, play around, and then return to your saved show.

Go to the next page for setting up a new show with some fixtures.



## Topic: Setting up the show.

We are going to setup a new show with usable fixtures.

For the different effect tutorials we need a new empty show, that doesn't have any leftovers (no default setting and user settings) from previous shows.

### Setting up the show.

I will not go into details of how to do this (it's outside the scope of this tutorial).

Create a completely empty new show.

Name it "Tutorial Effects" followed by your name.

Create 10 "Mac 700 Profile Extended" from Martin Lighting.

Place them in one line, 5 meters above the floor facing down. They need to have approx. 1 meter between them. Ca. in the middle of the room. They need to be hanged so fixture 1 is at the stage right and they all follow in number, ending with fixture 10 at the stage left.

Create views that gives you a fixture sheet (with the Layer Control Bar turned on), color presets and an Effect pool.

And it might be nice with a view with the "Stage" window.

### What's next

That's it. Now you are ready to go to the next tutorial page.



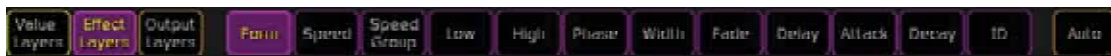
## Topic: Make an effect in the programmer.

In this tutorial we are going to create an effect in the programmer and store it as an Effect Preset in the Effect Pool.

You should have a new show for this tutorial. On the previous page we went through the setup we need for these tutorials.

When working with effects in the programmer there are some elements that are vital for controlling what's going on.

In the fixture sheet you need to turn on the 'Layer Control bar'. In this bar you'll find some buttons. Press the magenta 'Effect Layers' button so the bar looks like this:



These buttons allow you to control what part of the effect you are controlling with your encoders.

We are also going to use the 'Encoder Effect Toolbar'. It's the one above the encoders (bottom of screen two). This is what it looks like when you are in the Effects Layers:



This is used to control what parameters we are working on and assign values to the parameters.

On the Encoder bar you'll see the 'Special Dialog' button. Pressing it opens (and closes) the Effect Editor on screen 1. It could look like this:



Here we can work with effects in a more dynamic way. We are going to use this editor when creating our effect.

### Building the effect

We are going to build an effect that moves the fixtures in a circle. This looks like a figure of 8 when the heads pointing straight down. But when moved off center it becomes a circle.

It's going to be a nice slow movement.

Select all your fixtures by any means you like. I prefer using the keys ( **Fixture** **Thru** **Please** ). It's important for this tutorial that you select them in the correct order, starting with 1 and finishing with 10.

Make sure you select the 'Position' button in the Encoder Toolbar. And open the Special Effect Dialog.

On the right side of the editor you'll see a 'Pan' and a 'Tilt' button. They have an on or off status. When they are on they have yellow text and a dark yellow background color.

We are going to add some value for both Pan and Tilt. So go ahead and select both of them.

Now press right under where it says 'Speed'.



This opens the calculator. Here we can type the desired speed. You also have the possibilities to select some predefined values. We are going to make an effect with a 4 seconds cycle. That means we need to select the '15 BPM' option.

We also need to spread the fixtures across the effect cycle (Phase). This means that the fixtures will do the same movement, but will be spread out over the entire loop cycle.

Press right under where it says 'Phase'. This again opens the calculator. Here you need to select the '0 THRU -360' option. This takes the amount of fixtures and spread them evenly across the cycle. Because of the way the mathematics work. If you want a movement from left to right (looking at the stage) you need to choose the negative (minus) 360 option, not the '0 THRU 360' (positive 360).

At the lower part of the editor you'll see different buttons.

There are two buttons we need to look at.

The one in the lower right corner should say 'Val. Readout Center/Size'. If it doesn't then press it until it does.

The other button is also in the lower row (number four from the right). It can say 'Relative' or 'Absolute'. We need it to say 'Relative'.

'Relative' refers to how the values are applied. This key toggles between 2 modes, 'Absolute' and 'Relative'. When it's 'Absolute', the values we use are absolute values. The effect will use those values only. If you change to 'Relative', it will use those values as a reference according to its current location. E.g. if a 'Dim' attribute has a 'Low' value of '10' and a 'High' of '50' and mode is 'Absolute'. Then the effect will cycle between 10% and 50% no matter what dimmer value the fixtures was assigned. If mode is 'Relative', then the cycle between 10% and 50% will use the actual value in the Value layer as a base, and Low and High will be put on top of it. E.g. setting the value of the dimmer to 25%, the cycle of 10% to 50% will result in an output of 35% to 75%.

Now we need to make some changes to the Pan parameter only. So press the 'Tilt' button, to deselect it. Make sure that you only have selected the Pan parameter.

Now press where it says 'Form'. In the pop-up you need to select the one called 'Circle'. In the next small pop-up, select the second line called '18.2 Circle'.

Then we need to change the size value. Press where it says 'Size'. Change the value to '60'.

Now we need to make some changes to the tilt parameter only. Make sure you have selected the 'Tilt' button only.

Press the 'Form' again. Here you also need to select the 'Circle' form. But in the small select pop-up you need to select the top line ('18.1 Circle').

We need to change the size to '40'.

Now the fixtures are moving. But for us to see that in the Stage window, you need to turn them on. Do this by pressing the **At** key twice. Remember that when the fixtures are pointed strait down, then move in a figure of 8 (it's how the mechanics work).

This dimmer value won't be stored when we store the effect. This is because it isn't an effect value.

Now you can see all the light move.

This is basically all we need for our effect.

Let's store what we got. Write this in the command line:

```
[Channel]>Store Effect 1 "Move Effect"
```

Followed by a **Please**.

Now let's check that it worked.

Clear you programmer. Press the effect pool button twice and the turn the fixture on.

Now everything should be moving as before.

Try to tilt your fixtures forward to something like a tilt value of "25" and you will see that it changes from a figure of 8 to a circle.

The effect we have just created is a "Selected" effect. This means that it will only work on the fixtures we had selected when we created the effect.

### What's next?

On the next page we are going to create a template effect using the Effect Editor pop-up.



## Topic: Make a template effect using the Effect Editor.

This tutorial makes a template effect using the effect editor pop-up.

The effect we are going to make is a dimmer chase that snaps to 100% and then fades back to 0%.

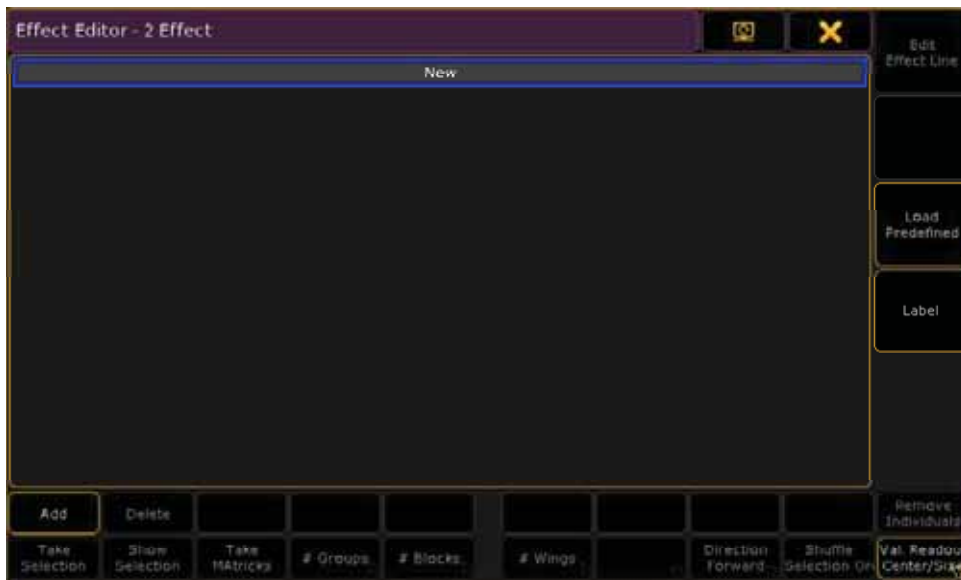
If you haven't done the previous effects tutorial I'll strongly urge you to do so.

### The Effect Editor pop-up.

Make sure your programmer is empty, by pressing the **Clear** button for more than 3 seconds.

Now press the **Edit** key followed by the second effect pool button.

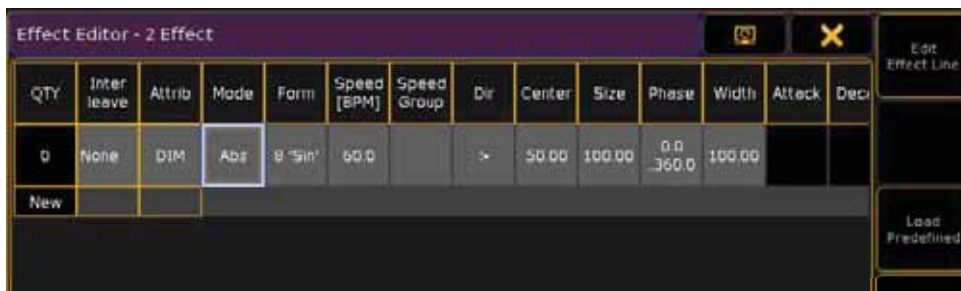
This gives you the Effect Editor pop-up. This is currently empty:



To make an effect you need to add an effect line with the 'Dim' attribute.

Press the 'Add' button and in the 'Select Effect Attribute' you need to select 'Dim' and then 'Confirm'.

This gives us the effect line we need:



We can edit the value here, but the nice way to edit this is by pressing the 'Edit Effect Line'. This is what it looks like:



This looks very much like what we used in the first effects tutorial.

Now we need to make some changes to the effect.

You need to change the form. Press where it says form. In the pop-up we need to select the 'PWM' Form.

The standard default speed is a bit fast. Let's change it to 30 BPM.

Since we want the effect to go from 0% to 100%, that needs to be our two **absolute** values. This is done using the buttons in the lower part of the editor. Here you'll find a button called either 'Line Relative' or 'Line Absolute'. This button need to say 'Line Absolute'. The other button will say 'Val.Readout Center/Size', 'Val.Readout Auto' or 'Val.Readout Low/High'. This need to be 'Val.Readout Low/High'.

Now we can make sure the 'Low' value is '0' and the 'High' value is '100'.

Instead of all the fixtures to do the same, we want to spread the values evenly across the fixtures. To do this we need the 'Phase From' to be '0' and the 'Phase To' to have a value of '360'.

The standard 'Width' is 100% but, we would like it to be more dark than bright. So moving the 'Width' fader down to '15%' gives us the desired look.

Now all we need is to make it fade out. This is done by turning the 'Decay' up to '100'.

That's it! we have now created a template effect using the Effects Editor.

And since we started by editing an (empty) effect all our changes are automatically stored (or actually updated) in the effect. So you can close all the editors (always a good idea when you are done).

But we should label it. Press the  button twice followed by effect pool button number 2. Label it "Dim Effect".

Now we can test it. Select all the fixtures and press the pool button. The effect should now be running.

What we have created is a template effect. Notice on the pictures above that the QTY (quantity) column says "0". This means that there are no fixtures assigned. So all fixtures that have a 'Dim' parameter can use this template effect. When you choose some fixtures and then assign this effect, you copy the information in the effect pool to the selected fixtures. This information is now in your programmer and can be saved. If you store this in a cue and later change the template effect, these changes will not be used in the cue. This is only transferred to the cues (like presets) when the effect is "Selected" and not "Template".

### What's next?

Next we are going to take a look at using presets in effects.



## Topic: Make an effect using presets.

In this tutorial we are going to create a new color effect using color presets.

If you haven't done the previous effects tutorials I'll strongly urge you to do so.

### Setting up for this tutorial.

Before we begin making this tutorial, you need to make two different color presets using the CMY attributes. It's very important that you make **Color** presets or **All** presets that uses only the CMY parameters (you can use other parameters- but that's not the point with this tutorial).

I made an Orange color presets and named it 'Orange', I know - it's the logic choice:-). And a blue preset - guess what I called that one (yes - 'Blue' is the correct answer).

### Making the effect.

We have gone through many of the elements we need for making this effect. The new thing is that instead of using 'Low' / 'High' or 'Center' / 'Size' values, we are going to use references to color presets.

This means that to change colors, you don't need to change the effect - you can simply change the presets. Ergo: business as usual with presets.

Make sure your programmer is empty.

Select all your fixture and then make sure the 'Effect Layer' is selected. Then you need to select the 'Low' layer.

Then you can press the first (Orange) preset.

Now select the 'High' layer and then the other (Blue) preset.

Now all the fixture are at the same place in the effect cycle. We would like the fixture to be distributed out on the cycle.

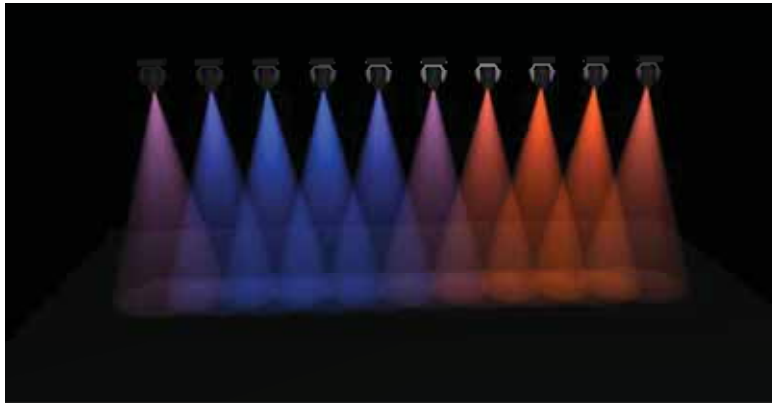
Select the 'Phase' layer and the 'Color' Preset type and the 'ColorMix' feature. Next to this there's a 'Link' button - press this until it says 'Link Feature'.

Now press the first encoder under the 'CM1' attribute. In the calculator pop-up select '0.0 thru -360.0'. With 'Link Feature' this phase should also be applied to 'CM2' and 'CM3'.

Now press  followed by the third effect pool button. And label the new effect 'Color Effect'.

And that's it! Test it by clearing your programmer. Then press the effect twice and turn on the lights:





The image above displays my result. There is a magenta color in the transition between the orange and blue. But that's what happens when you fade between the two colors.

If you now change the color in the presets, the effect will use the new color.

### What's next?

In the next effect tutorial, we are going to have a closer look at running effects in a sequence.



## Topic: Using effects in cues

In this tutorial we are going to have a closer look at how to use effects in cues.

If you haven't done the previous effects tutorials I'll strongly urge you to do so.

In this tutorial we are going to use the color effect we just created in the previous tutorial with the blue and orange colors.

There's not so much to program in this tutorial, but a lot to learn.

### Starting and stopping effects in cues and one of the differences between Relative and Absolute effects

Let's try to make some cues.

Select all your lights and turn them on in a red color (please don't use any of the two color presets we used in effect number 3).

Store this as cue 1 on an executor.

Clear your programmer and run cue 1.

Now we want to use our orange/blue color effect. So press it twice to select the fixtures and apply the effect.

Now two things can happen.

If you actually see the orange/blue colors, then you haven't followed the steps precisely ;-). It's ok, keep reading and we'll go through what happens.

If you followed the steps and are on a 2.6 (or later) version, you are now looking at something that looks like a dimmer sine effect.

With this effect running store a new cue (2) with a fade time of 3 sec. Clear your programmer. You should now be back in cue 1.

The reason that your effect didn't look like the orange/blue effect we originally created is the **Mode**. We made a 'Relative' effect. This puts the effect values on top of the existing values from the previous cue. So adding an orange/blue color on top of a red color will give you a red/black look. We need to change the effect. Press **Edit** followed by the 3rd effect - this opens the **Effect Editor**.

We need to change the mode for each line from 'Relative' (Rel) to 'Absolute' (Abs). Select all lines by pressing the top line holding and dragging down to the bottom line and then release the screen. You can do this in any column. Now you can press where it says 'Line Relative' in the bottom line until it says 'Line Absolute'. Now each line in the 'Mode' column should say "Abs".

Close the **Effect Editor** and press Go. Now you should experience a nice fade from the red color to the color effect fading in the effect in 3 seconds.

That's nice - but let's try to make a cue 3 where we return to same look as cue 1.

To stop an effect in a cue, we need to "stomp" the effect.

Press **MA** and **At** at the same time. This gives you the "Stomp" keyword in the commandline. Next press the **MA** and **4** at the same time. Now your fixtures should be white!

Let's just go through what has happened. **MA** and **At** gives you the "Stomp" keyword, this is used when you want to stop effects.

Then we press **MA** and **4** at the same time. This selects the preset type "Color". So what we have done is taken the effect out of the color preset type.

'Ok, but why are the fixtures white and not red?' - you ask. Well this is because it's an 'Absolute' effect. When you take the stomp value in your programmer from an absolute effect, then it displays the *default* values (white).

Now store cue 3 with a fade time of 3 seconds. Clear your programmer. You should now look at cue 2 with the effect running.

Press Go.



Now you should see a nice fade from the effect back to the tracked red color from cue.

This is an example of how fixtures can get values from different layers (value layers and effect layers). Let's have a look in the tracking sheet:

| Numbe | 1  | Dim  | CM1 | CM2 | CM3 |
|-------|----|------|-----|-----|-----|
| 1     | Cu | open | 0   | 100 |     |
| 2     | Cu | open | 0   | 100 |     |
| 3     | Cu | open | 0   | 100 |     |

| Numbe | 1 | Dim | CM1         | CM2 | CM3 |
|-------|---|-----|-------------|-----|-----|
| 1     |   |     |             |     |     |
| 2     |   |     | A 1 'Sin'   |     |     |
| 3     |   |     | R 1 'Stomp' |     |     |

| Numbe | 1 | Dim | CM1 | CM2            | CM3 |
|-------|---|-----|-----|----------------|-----|
| 1     |   |     |     |                |     |
| 2     |   |     |     | 3 Color Effect |     |
| 3     |   |     |     |                |     |

The picture above display three different layers, but it's the same sequence and it's the values stored for fixture number 1.

The tracking sheet on the left is the 'Values' layer. Here you can see that the fixture gets a dimmer value and a color (red) in cue 1. These values are tracked through cue 2 and 3.

The tracking sheet on the right is the 'EffectID' layer. Here we can see that the fixtures colors are referencing an effect (number 3 called "Color Effect"). The important part here is that we don't get the values from the effect in our cue, but we are calling the effect (preset) called "Color Effect". If you remember, we stored cue number 2 even though it was an relative effect - we then changed the effect to absolute, but didn't change cue number 2 - we didn't need to.

The middle tracking sheet displays the 'Form' layer. You can see that the color attributes uses the 'sin' form in cue 2. There are two things to notice here.

1. The color of the text is darker then the text in cue 3. This is because the values isn't stored like this - it's a value from the "Color Effect". It just show you what the output form is.
2. There's an "A" in front of the form number and name. This tells you that this is an absolute value.

In cue 3 we have stored a relative (there's an "R" in front of the Form number and name) stomp form. This returns the color to the tracked (red) color from the value layer. So we are actually stomping the Form effect layer.

It's also worth noticing how the colored bars in the tracking sheet helps you to see where the colors gets their values.

### A new sequence with a Relative effect

Let's try to make a new sequence where we use the relative position effect we made in the previous tutorial (Move Effect).

We need three position presets for this tutorial. Create one with all the fixtures in their home position; one where they all point on stage left and one where they alle point stage right.

Create a new sequence with cue 1 that turns on all the fixtures and uses the Stage Left position. Clear your programmer and run cue 1.

Now press the "Move Effect" twice (once to select the fixture, and once more to apply the effect). Store this as cue 2 with a fade time of 3 seconds. Clear your programmer and run the cue.

What you should experience is the effect fading in the size of the circle. all circling around the Stage Left position. So this is a movement (Center/Size values) around the positions from the Value layer (Stage Left).

Now press the Stage Right position twice. Store this as cue 3 with a fade time of 3 seconds. Clear your programmer and run the cue.

What should happen is the fixtures continuing the circle effect but moving the fixture so the circle effect is now circling the Stage Right position.

Now press **MA** and **At** followed by the Home preset. Store this as cue 4 with a fade time of 3. Clear your programmer and run the cue.

What hopefully happens is your fixtures fading out the circle effect (because we used stomp) and moving to the Home position (because we stomped in the Home preset).

Let's have a look at the tracking sheets:

| Numbe | 1  | Dim  | Pan            | Tilt |
|-------|----|------|----------------|------|
| 1     | Cu | open | 2 2 StageLeft  |      |
| 2     | Cu | open | 2 2 StageLeft  |      |
| 3     | Cu | open | 2 3 StageRight |      |
| 4     | Cu | open | 2 1 Home       |      |

| Numbe | 1 | Dim | Pan           | Tilt          |
|-------|---|-----|---------------|---------------|
| 1     |   |     |               |               |
| 2     |   |     | R 19 2 Circle | R 19 1 Circle |
| 3     |   |     |               |               |
| 4     |   |     | R 1 'Stomp'   |               |

| Numbe | 1 | Dim | Pan | Tilt          |
|-------|---|-----|-----|---------------|
| 1     |   |     |     |               |
| 2     |   |     |     | 1 Move Effect |
| 3     |   |     |     | 1 Move Effect |
| 4     |   |     |     |               |

The same sheet display the same layers as the previous picture above.

Let's talk about what happens in the cues.

Cue 1: In the Value layer we can see that the fixtures get a position from a preset and they are turned to full (called "open").

Cue 2: The dimmer and position preset are tracked. In the EffectID layer we can see that the positions get the effect called "Move Effect". In the Form layer we can see that its a relative (because of the "R" in front of the number and name).

Cue 3: In this cue we can see that the position in the Value layer is changed to a different preset. The effect is tracked, so the circle movement continues.

Cue 4: In this cue you can see that the fixture gets a new position (Home) in Value layer. In the Effect Form layer we can see that the effect is stopped using the Stomp in the Form layer.

Again I suggest keeping an eye on the colored bars in the tracking sheet. They actually tell the whole story :-)

### A short note on using speed in effects

Controlling the speed can quickly become very complicated. It's important to know that many factors can have an impact on your effects speed.

If you don't have any intention of changing your effect using a speed master or rate master, you should just use the speed column in the Effect Editor to change the speed.

But if you would like to use the effect with a master you need to know a few things.

The default speed for effects is 60 bpm = 1 hz. All new speed masters also use this as a default.

If you need to use a speed master I suggest you change the speed in the effect to 60bpm. That way your effect will run the speed displayed at the master.

The speed master is a multiplier with a base value of 60 bpm. The best way to know what's going on is to do the following.

Make a Speed master 1 on executor 6.

Edit the Move Effect. Change the speed on both Pan and Tilt to 60 bpm and in the Speed Group column select Speed 1.

Now run cue number 2 in the last sequence we made.

Have a look in the Fixture sheet in the Effect Speed layer. The effect should say 60 bpm.

When you move the speed fader up and down the effect speed will follow this speed.

Reset the speed master to 60 bpm by typing the following in the commandline.

```
[Channel]>Fader 6 At 26.65
```

Edit the effect so it says 30 bpm in the speed column.

Notice that the Speed Group Master still says 60 bpm, but in the fixture sheet we can see that the resulting speed output is 30 bpm.

If you now move the Speed Group Master up to 120 bpm (fader 6 at 53.3) the resulting speed is 60 bpm.

If you move the Speed Group Master up and down with the Effect Editor open, you can see that this changes the value in the speed column.

If your effect uses a Speed Group Master then the Executor Speed Master for the sequence don't have any effect on the speed. If you haven't assigned any Speed Group Master then the Executor Speed Master, with the exception that it doesn't change the set speed in the Effect Editor.

Bottom line is this: There's a ton of ways to modify the speed used by effects. They are all tailored to different ways to use the console. There's no right or wrong way. Keep it simple and remember that the Fixture Sheet Effect Speed Layer displays the resulting speed. The Effect Speed Group Layer can help identifying any Speed Group Masters.

### What's next

In the next effect tutorial, we are going to edit an effect using the command line.



## Topic: Edit an effect using the command line.

The effects can be edited using the command line.

Now we are going to change the speed of the color effect using the command line.

If you haven't done the previous effects tutorials, I'll strongly urge you to do so - since we are going to edit one of the effects.

### Setting up for this tutorial.

You need to have a **Command Line** window so you can see what you are going.

The two main keywords for this tutorial is 'List' and 'CD'.

'List' is used to display show data. 'CD' is "Change Directory" - it's used to navigate the layers or folders of the console.

Please follow the links at the bottom for more details about these commands.

Every input line displayed in the following tutorial is followed by a `Please` to execute the command.

### Let's make some changes.

We need to navigate to the effects. We do that using the 'CD' keyword

```
[Channel]>CD Effect
```

This will take us directly to the effect part of the console.

Now we should use the 'List' to see what options we have:

```
Effects/1 'Global' >list
```

Now we get a list of your three effects. The number in the parentheses are the number of lines each effect uses:

```
Effect 1 : 1 Move Effect (2)
```

```
Effect 2 : 2 Dim Effect (1)
```

```
Effect 3 : 3 Color Effect (3)
```

Our goal is to change the speed of the color effect. So we need to go into the third effect:

```
Effects/'Global' 1>cd 3
```

A new 'list' reveals a lot more:

```
Effects/'Global' 1/'Color Effect' 3>list
```

What you now see is all the lines in the effect (in each row) and all the elements in the lines (the columns). Those with a green headline (like 'Speed') can be changed using commands like `assign 1 /dir=`. Those with a yellow color are references to other elements. They can be changed using commands like `assign form "Cos" at 1`. The red color indicates elements that cannot be changed.

Now let's change the 'Speed' in the first line:

```
Effects/'Global' 1/'Color Effect' 3>assign 1 /speed=30
```

You can do another 'list' to check that it changed the rate. Now do the two other lines:

```
Effects/'Global' 1/'Color Effect' 3>assign 2+3 /speed=30
```

That's it. Now all three line have a speed of 30 BPM.

Return to the "root" of the console by typing `"cd /"` in the command line.

### What's next?

In the next tutorial we are going to have a look at using macros to edit our effects.

### Related Links

- [ChangeDest\(CD\) Keyword](#)
- [List Keyword](#)
- [\[Slash\]](#)



### Topic: Change an effect using a Macro.

We are going to make a macro that asks what speed we want, and then applies it to our color effect.

It's important that you have followed all the previous steps in the previous effect tutorials. If you haven't done that, then I strongly urge you to do so.

We are going to use some command elements that's outside the scope of this tutorial. If you want to learn more about making macros, please complete the Macro tutorial.

### Making the Rate macro.

We almost have all the windows we need. The one thing you should add is the **macro pool**.

Press **Edit** and then the first Macro pool button.

Press Add (the **X1** key). We are going to create a variable called "newSpeed". This variable will hold the new speed time. The first thing our macro should do is to ask us what speed we want, and store it in the variable.

In the 'Text' cell of the macro write this:

**SetVar \$newSpeed = (What speed do you want?)**

Add a new line to you macro. We are now going to navigate to the effect. We learnt how to do this in the previous tutorial page. In the macro line type this:

**cd Effect 3**

That takes us directly to the color effect (effect number 3). Now we can use the variable to assign the new speed to the lines.

Add a new line in the macro and write this:

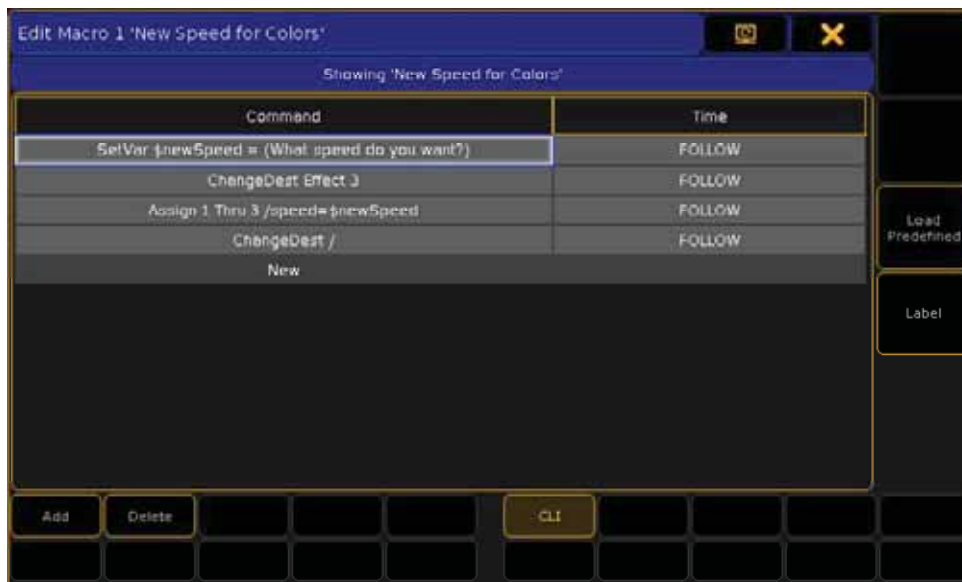
**ass 1 t 3 /speed=\$newSpeed**

Now all we need is to return to the root. Add line to the macro, and type this:

**cd /**

Press the 'Label' button and label it "New Speed for Colors".

The macro is done. It should look like this:



Close the editor - again this is a good idea when you are done editing.

And we are done. Make your color effect run and then test your new macro.

### What's next?

There's only one page left. Here we are going to take a look at different ways the effects can be run and controlled.



## Topic: Different ways to use effects.

Effect can be used and controlled in many ways. This will explore some of the most common.

In this last effect tutorial we will look at some of the ways to use effects. Not really a tutorial, but more a short explanation.

### The Effect Pool

First we need to take a look at how the Effects Pool window work.

The pool have three different modes, that can all be changed using the pool options (press the yellow bale above where it says "Effect"):

Normal Call (color defined by the options):

If your programmer is empty and you press the Pool Button once, you'll select all the fixtures that can use the effect. The second press will run the effect in your programmer.

Fast Call (buttons will have a dark red color):

Again beginning with an empty programmer. One press on a pool button will immediately run the effect for all possible fixtures. Still running in the programmer.

Pool Playback (the buttons will have purple colors) :

Now you can press the pool buttons and the effect will run in the pool as if it was running on an executor. You can't do this with "Template" effects.

Let's have a look at other ways to run effects.

### In the programmer.

You can run effects directly in your programmer. This can be useful in one-offs or any situation where you can improvise and there's room to play.

You can build the effect directly or you can use the effect pool (in 'Normal Call' or 'Fast Call') to take the effects into your programmer.

### Directly build in cue.

When we previously made an effect in the programmer, we stored it in an effect pool button - but we could have stored it directly in a cue (or updated an active cue).

Values will then fade using the fade times in the cue. You can also change any effect values from cue to cue.

### Effect presets in cues.

Selected effects you have stored in the effect pool, work as effect "presets". You can call these effects and store them in cues. If you then change the effect your changes will be used in the cue.

### On executors.

You can assign an effect to an executor. Simply by pressing    and then an executor button.

There are three special options for effects on executors: 'Off On Overwritten', 'Speed (factor)', 'Speed (master)' and (for sequences) 'Link Effect To Rate'.

You may change these options by opening the Assign-menu for the Executor, press , then the Exec-button, and select Options on the right hand side.

'Off On Overwritten' turns the effect off if it's completely overwritten by new values.

'Speed (factor)' is used to multiply or divide the overall speed of the entire effect.

'Speed (master)' is 'individual' as a standard. This means that the speed stored in the effect is the ones used (plus the speed factor). You can use this button to assign the effect executor to a speed group master (there are 15 possible speed group masters). Try pressing here and select 'Speed 1'. Then assign a speed group master to an executor. Then run your effect and turn the speed master up and down.

'Link Effect To Rate' adds another element to your speed. You can add the rate master. This is like an extra speed factor, that you can use to change the speed of the effect. The more of these elements you use the more complicated it gets to set an actual speed - so keep it simple.

### Running effects in the effects pool.

When you press  followed by a pool button, you'll run the effect directly in the pool (only selected effects). You can also achieve this when your pool is in 'Pool Backback' mode. Then you just need to press the pool buttons.

To change the options in the 'Pool Playback'. Press the  followed by the pool button (only when in 'Pool Playback'). This gives you the assign menu and you can change the options described above.

Effects running on executors or in the pool have a higher priority than effects in from the sequences.

### Finishing words

You can view all the running effect by pressing and holding the  key (or create a 'Running Effects' window). This allows you to get an overview of all the running effects. And turn them off.

The effect engine in the grandMA2 has introduced some big changes. The possibility to use presets directly in the effect is a major advantage. Coming from the grandMA series 1, you will notice that the modulators has disappeared. But the new changes to the effect generator allows you to make the same effects in a more streamlined method. But hopefully you'll have some idea of how they work after finishing these tutorials.



## Topic: Tutorial Sequences

In this section you will learn how to work with sequences



## Topic: Working with MIB

how to use MIB to mark/preposition attributes.

### Introduction

MoveInBlack is a function which in a tracking sequence will look ahead and preposition attributes of fixtures that are fading in from zero, to automatically prevent "ugly" transitions where you would normally see the fixture move the attributes into position, while the fixture is fading in.

MIB is enabled on a cue-per-cue basis (actually per cue-part), by giving the MIB-property of the cue-part a value which tells the console when it should do the prepositioning.

- a zero or positive MIB-value indicates an specific cue number from where MIB is allowed
- a negative MIB-value indicates a relative cue number from where MIB is allowed

### Example:

If Cue 91 is given a MIB-value of "80", the console will as *soon as possible* from Cue 80 and forward try to preposition fixtures for Cue 91.

If Cue 91 is given a MIB-value of "-5", the console will as *soon as possible* from Cue 86 and forward try to preposition fixtures for Cue 91. (91 minus 5 equals 86 -> Cue 86)

The actual prepositioning of each attribute will not necessarily take place in the cue indicated by the MIB-value. "as soon as possible" means that for each attribute, the prepositioning will be put "on hold" if any of the scenarios below is present.

- dimmer-output is above zero
- dimmer has a value above zero in any of the cues between the current cue and the cue to prepare for
- the attribute is included in any of the cues between the current cue and the cue to prepare for

### Valid MIB-values

- Early / E  
same as numeric value "0", preposition as early as possible
- [x.xxx]  
preposition from Cue number x.xxx
- [x.xxx]  
preposition x.xxx Cue-numbers before
- Late / L  
same as numeric value "-1", preposition 1.000 Cue-numbers before
- Off / O  
same as no value, do not preposition

### Sequence Executor Sheet

| Sequence |                            | RO: Natural |              |          | E: 1.206<br>S: 8 Sequ |        | Times only |     | Info and Links |       | Set3         |              | Set2           |              | All         |    | Link<br>Selected |  |
|----------|----------------------------|-------------|--------------|----------|-----------------------|--------|------------|-----|----------------|-------|--------------|--------------|----------------|--------------|-------------|----|------------------|--|
| Number   | Name                       | Trig        | Trig<br>Time | Mode     | Loop                  | Lcount | Ltime      | MIB | Delay          | Fade  | Out<br>Delay | Out<br>Early | Snap<br>Amount | Lmd<br>Delay | Cmd         | AE | Path             |  |
| 1        | Ready                      | Go          |              |          |                       |        |            |     |                | 1.00  |              |              |                |              |             |    |                  |  |
| 2        | I don't smile for pictures | Go          |              | Assert   |                       |        |            |     |                | 2.00  |              |              |                |              |             |    |                  |  |
| 3        | Part 1                     |             |              |          |                       |        |            |     |                | 0.30  | 1.00         | 1.30         |                | 2.30         | Go Macro 10 |    |                  |  |
| 2        | Part 2                     |             |              |          |                       |        |            |     | 1.30           | 0.00  | 1.30         | 2.00         |                |              |             |    |                  |  |
| 2.5      | Cue                        | 3.30        |              | X-Assert |                       |        |            | 2   |                | 10.00 |              |              | 100.00 %       |              |             |    |                  |  |
| 3        | Page 50                    | Go          |              | Break    |                       |        |            |     |                | 5.00  |              |              |                |              |             |    |                  |  |
| 3.5      | Cue                        | Go          |              |          |                       |        |            |     |                | 0.00  |              |              | 50.00 %        |              |             |    | 2 'Inverse'      |  |
| 4        | Cue                        | Time        | 4.00         |          |                       |        |            |     |                | 7.00  |              |              |                |              |             |    |                  |  |

In the Sequence Executor Sheet you will find the MIB-column, where you may edit the MIB-value via normal right-click/encoder-click and enter the value.

An asterisk "\*" indicates that a Cue is capable of MIB, but no MIB-value is given, while a MIB-value in red indicates that a MIB-value is given, but the cue is not capable to MIB.

- "MIB-capability" here defined as a cue with one or more fixtures with dimmer-value above zero, and previous state of dimmer-value not above zero (=fixture is fading up) - and one or more other additional attributes (= something to preposition)

### Setting MIB via Commandline

MIB is a property of Cue Parts, and its value may be assigned with standard syntax:

```
[Channel]> Assign Cue / MIB=late
```

Assign MIB-value "Late" to current Cue and all its parts

```
[Channel]> Assign Cue 101 Part 3 / MIB=99
```

Assign Cue 99 as MIB-value for part 3 of Cue 101

```
[Channel]> Assign Cue 1 Thru 10 / MIB=Off
```

Removes MIB from Cue 1 thru 10

A useful MIB-macro could go something like this:

**Assign Cue** /mib=off

**SetVar** \$mibvalue=("Please enter MIB")

**AssignCue** /mib=\$mibvalue

Pressing the Macro and Please, will disable MIB for the current cue, while pressing the Macro, then a number followed by Please, will set the MIB-value for current cue.

### MIB timing

MIB uses two general time settings MIB-Delay and MIB-Fade

MIB Delay is the time to wait from a fixture have faded out until it starts to MIB, while MIB fade is the actual time used to prepositioning.

Increasing MIB Delay may be useful for fixtures with slow dimmer or afterglow. Increasing MIB Fade may be useful for noisy fixtures, or if the movement of the fixturebody is visually disturbing for the audience

In addition to the general MIB-timing found under Setup>Show>Playbacktiming, it is also possible via the fixturetype Editor to set individual MIB delay per Fixturetype, and individual MIB fade per attribute per Fixturetype.

### MIB feedback

When MIB Delay is active, or MIB is "put on hold" the Executor Key backlight will blink fast.

When MIB Fade is active (fixtures are moving to preposition), the Executor key backlighting will blink slowly

Attributes which have MIB'ed will be displayed in the ExecutorID and SequenceID layer of the Fixture Sheet with a slightly paler shade of the usual backgroundcolor (green for selected Executor, yellow for others), to indicate that the source of the value is from a future cue.

## Pitfalls

When using MIB, the desk is not only tracking values from earlier cues, it is also tracking forward and outputting values from future, non-executed cues. This is sort-of "Back to the Future", with dilemmas you find in time-travel-theory.

e.g

- fixture one is on, and red in cue 1
- turns off in cue 2
- and comes on in blue in cue 10

As we don't want to see the scroll to blue in cue 10, we mark this cue as MIB early.

- everything is fine, fixture one preposition after faded out in cue 2

now let's say we're in cue 5 and want to make some changes...

- On with fixture one, - it's blue - looks good
- update cue only

Next time we play back the sequence, cue 5 does not look the same ?

- last time we played back the sequence, fixture one was blue because it had prepositioned to cue 10, however as it is now used in cue 5 it cannot preposition until after cue 6, - and will stay red.

These issues may be minimized by not prepositioning too early, and by activating **MIB Never** in the Executor Assign-menu if you are to make major changes to your cues.



## Topic: Working with tracking sequences and Cue-modes

How to assert values and prevent tracking in tracking sequence

### Introduction

In a tracking sequence, the content of a cue represent the changes happening in that cue. Any unchanged values will track from earlier cues, and the state - the actual look - of the cue is a combination of what has happened earlier and what is happening in the cue. This tracking philosophy works similar to how the staging, set-design and any props may be handled.

Cue 1: Place sofa on stage left.

Cue 2: Actor1 enters from rear.

Cue 3: Actor2 enters from left and gets seated

Cue 4: Actor1 exits stage right

Even though Cue 3 only tells us that Actor2 will be in the sofa, when we are in Cue 3, we also have the sofa and Actor1 on stage. Unless we take out the sofa, it will stay on stage....

In some scenarios, you may want this tracking behaviour to stop. When starting the second act, you don't want any additional props added to first act to stay on the stage, just because you didn't tell the stage-crew to carry these out when you originally created the look of the first cue of second act. - You want this tracking behaviour to **Break**.

The **Break** mode of a cue will make sure that any later addition or changes in earlier cues is reverted back to its original state in the break-cue, similar to how a Cue-Only store would work for the next cue.



A **Break** is indicated in both **Sequence Executor** and **Sequence Tracking** sheet with a white line above the cue

By default when calling a cue with a normal "Go", only the content of the cue is called, not the tracking state. If you are only using one executor/playback this behaviour is irrelevant, however if you have other executors that have overwritten your state, you might in some scenarios want that calling the cue also calls the tracking state. this may be achieved with then cue-mode **Assert**. **Assert** will call the state of your sequence, by using the original timing, and not affect any ongoing fades, (e.g. a 30 minutes sunset still on it's way out).

In other scenarios you might want to re-establish state, and assert the sequence, but terminate any ongoing fades. The cue-mode **X-Assert** will crossfade to the current state - with the timing of the current cue. This may be used i.e. if you want to make sure that your zero second Blackout Cue is cutting to black, even if you have to run the cue earlier than usual and the sunset has not yet finished.

### Possible cue-mode combinations

- Normal
  - normal tracking mode
- Assert
  - State is asserted with original timing
- X-Assert
  - State is asserted with cuetiming of current cue
- Break
  - Prevents tracking and performs an **Assert**
- X-Break
  - Prevents tracking and performs an **X-Assert**

### Commandline



The mode property of a cue may be accessed with normal syntax for changing object-properties:

**Assign** [cue] /mode=[mode]

Example:

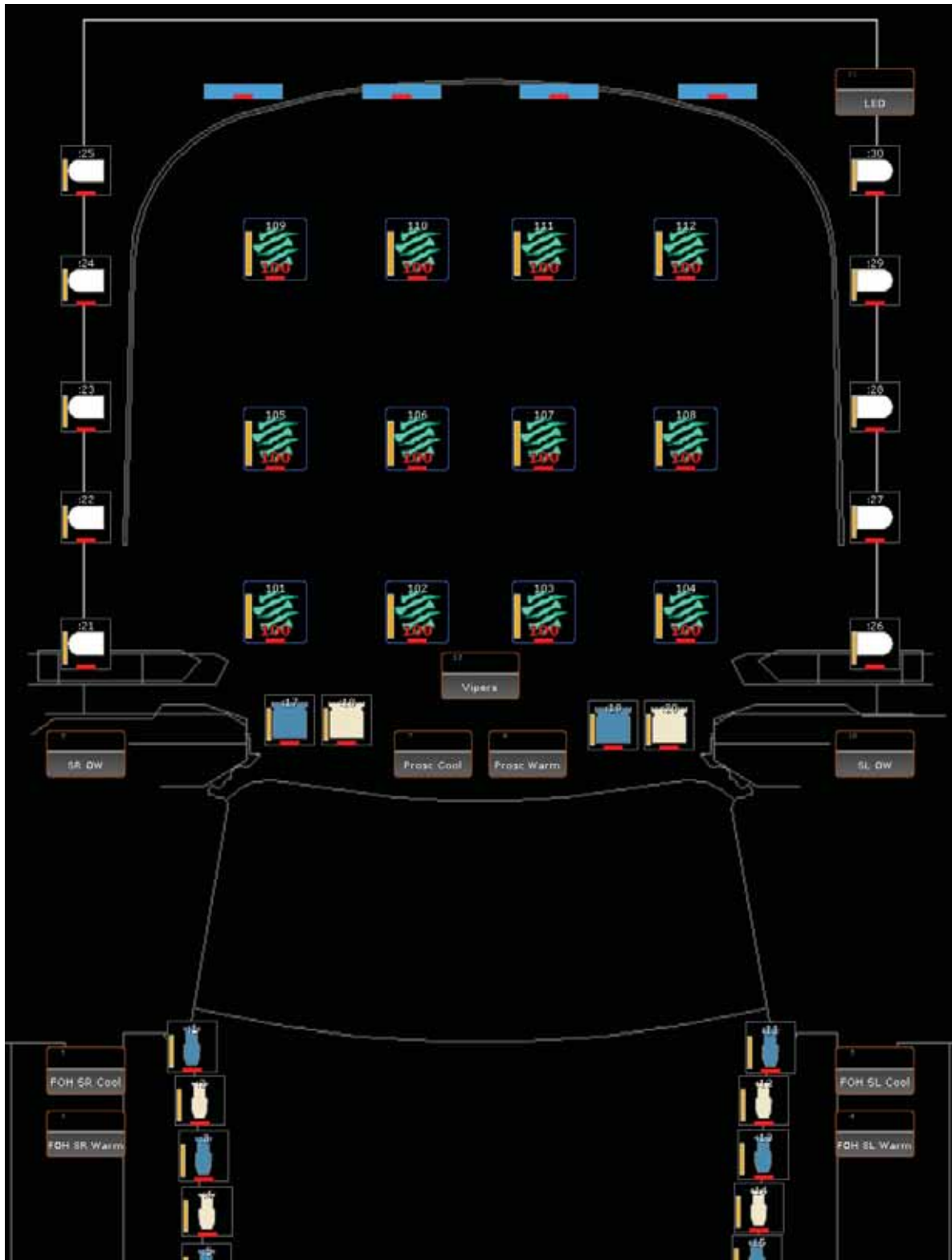
**AssignCue** 3/mode=x-break

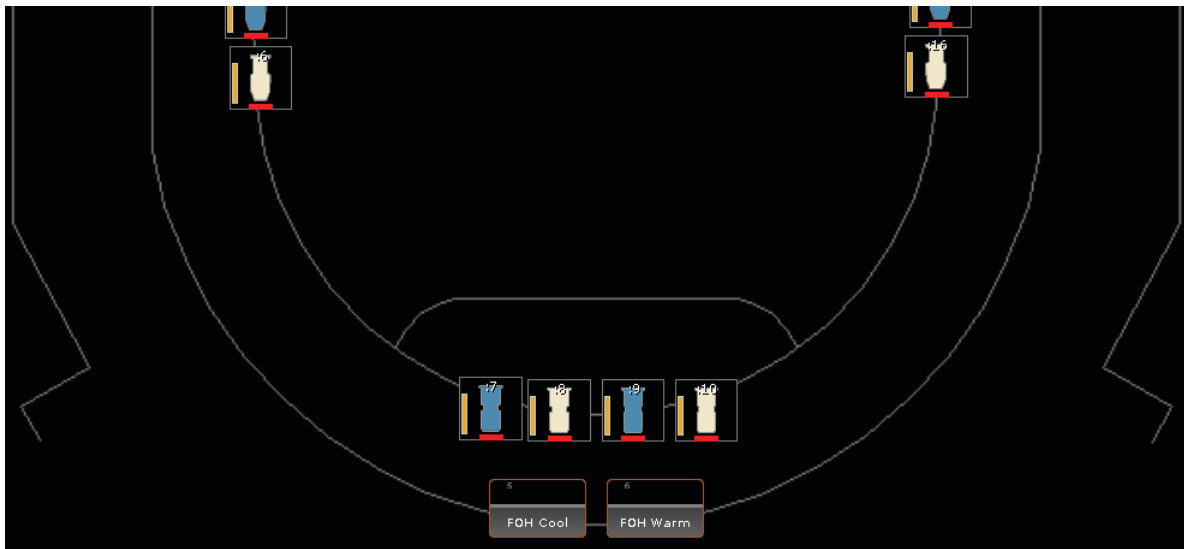


## Topic: Layout Tutorial

Before you do this tutorial, you should have some basic knowledge about the console. If you don't feel you have this; you should do the Basic tutorials first.

In this tutorial, we are going to make a Layout view that uses a background picture of a theater. The goal is to make it look like this:





You will need a picture for the background. Here is a [link](#). Right click on this and open it on a new tab. Right click the image on the page and save it on a USB stick - somewhere you can find it again.

This tutorial are made for version 2.9 and you'll only get the wanted result if you use version 2.9 or newer.



## Topic: The Setup

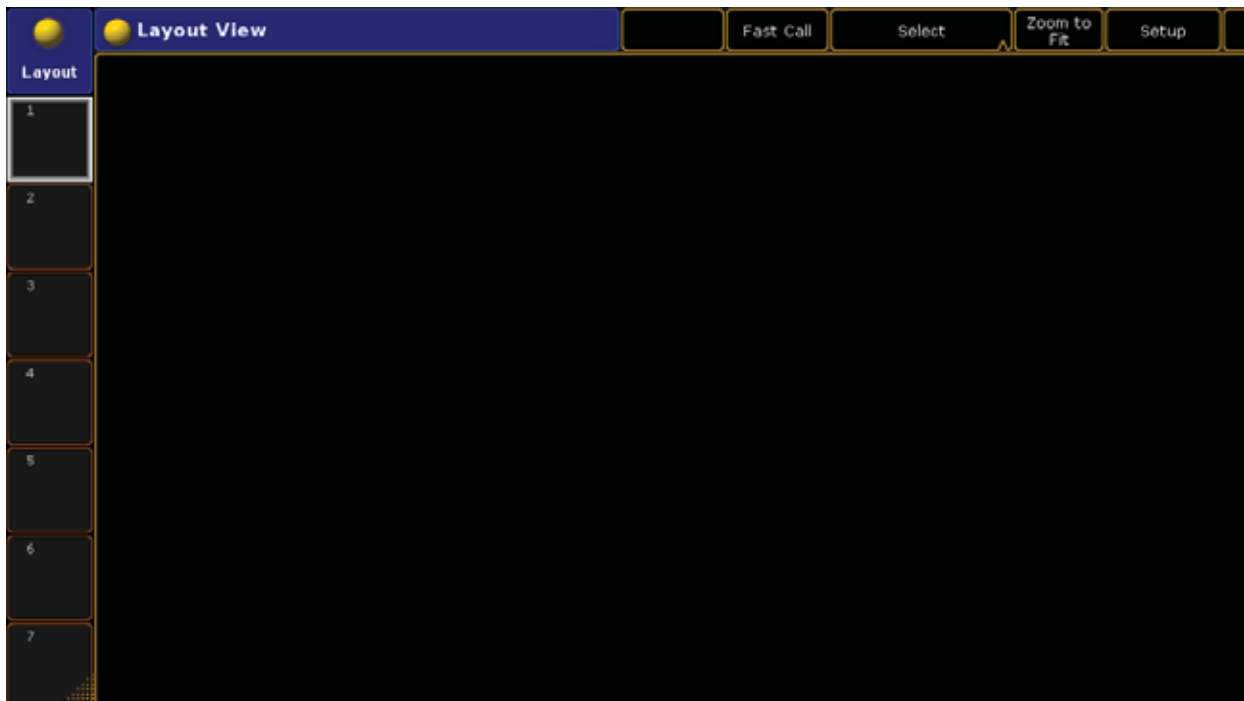
We need a new empty show. I suggest you check all the boxes in the New Show pop-up. In addition, you might call the show something like "Layout Tutorial".

Let's begin by patching 30 x generic dimmers, 4 x pulsar ChromaBattern 200 (3 channel mode) and 12 x Martin Viper Profile.

Now let's make some views. For this tutorial, we need a big Layout View and a small Layout Pool. You can arrange this as you like.

In a different view, we need an Image pool.

This is what my empty layout view looks like:

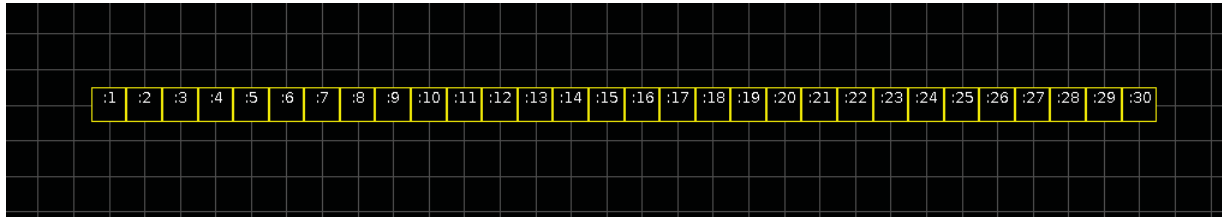


## Topic: Storing the dimmers into a Layout

I suggest we begin with arranging the generic dimmers in your view.

Select the 30 dimmers. Then press [Store](#) followed by the first square in the Layout Pool. Then press the pool square again to select that layout.

This should display the 30 dimmers lined up in the Layout view with a grid underneath. Something like this:



## Topic: Adding a background image

The first step to adding the background picture is to import the one we put on the stick.

Open your view with the Image pool. Press Edit and then (or right click with your mouse) on the first empty Image Pool button.

This should open the **Image Viewer** pop-up. Here you can press the **Load Image** button on the right side (or press the U2 key). This will give you the **Open File** pop-up (I know there's a lot of pop-ups). On the right side of this you can select your USB stick in the "Select Drive" drop-down (yes, there's both pop-ups and drop-downs). Select your USB Stick - find, and select the image you downloaded. When you click it or press **Open** then you are back in the Image Viewer. Here I suggest you press the **Label** button and name the Image "Theater" (if that isn't already the name). Finish by pressing the close button in the upper right corner.

Now we need to assign the new image in our layout.

What we are going to do is to draw a square and assign the Image to this square.

So let's begin by making by pressing the **Setup** button in the title bar of the layout view.

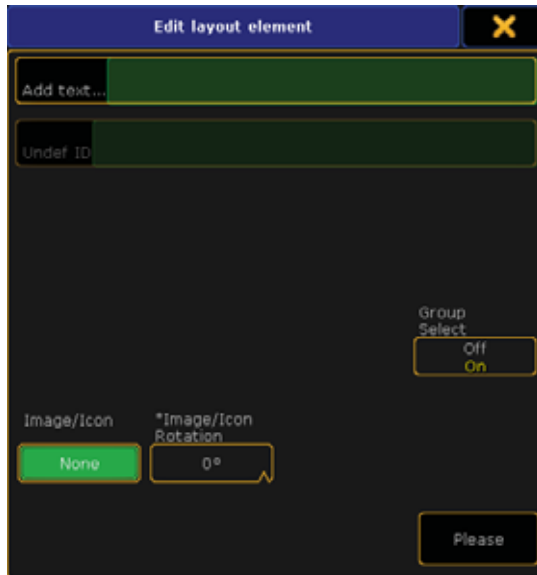
This should change the Encoder Toolbar to something like this:



Press the square in the toolbar and draw a square on the screen. The size isn't important right now.

Make sure you change from the square to "Select" in the toolbar. Now select the new square (the one you just draw) and right click it (or press it to select it and then press the screen encoder).

This opens an Editor like this:



In the lower left corner there's a box called Image/Icon where it says "None". Press this. Now you'll see the **Select an image** pop-up. There's two taps at the top of this pop-up. Select the one called "Image". This is all the Images in the Image pool. Select the one we imported.

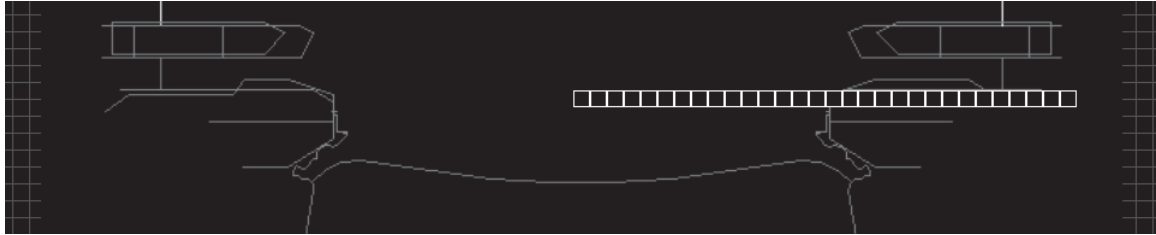
Before we continue you should notice that there's a button called **Load image**. With this button we could have skipped the part about the Image pool (but then you wouldn't know it). When you are done thinking about all the unnecessary steps I'm going to take you through, we can continue by pressing the **Please** button in the "Select an image" pop-up.

Ok, back at the "Edit Layout Element" pop-up. We have now assigned the Image to the square. But we need to rotate it. Set the "Image/Icon Rotation" to 270 degrees. We should also turn off the "Group Select". This will put the image as a background image that doesn't select all the elements inside the square and puts the image top of the elements, making it impossible to select the fixtures. We are done in the editor and can confirm our choices by pressing the **Please** button inside it.

But we are not really done with the new background image. Please make sure it's selected. And use the Encoder Toolbar to change the "Move X" to 0.00, the "Move Y" to 15.00, "Size X" to 64.50, "Size Y" to 137.80 and we should also change the border color to "0 0 0" (black).

This will change the image to a scale and size that makes sense.

Now my layout looks like this:



f



## Topic: Setting up the Fixtures

Now we are going to have a look at one of the fixtures.

Select fixture number 1 and make sure you have activated Setup in the Layout View.

We are going to use the encoder bar again to get all the basics in order. For this example, I'm going to use these settings:

Move X  
-18.25

Move Y  
20.50

Size X  
3.2

Size Y  
3.2

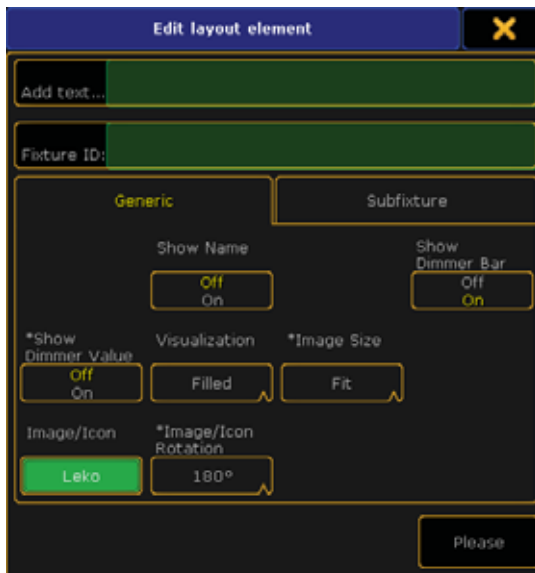
Font Size  
Small

Border Color  
120 120 120

Image/Icon  
Leko (Found in the image pool)

However, there are some things we need to change using the element editor. With the fixture selected press the screen encoder (or right click it with your mouse).

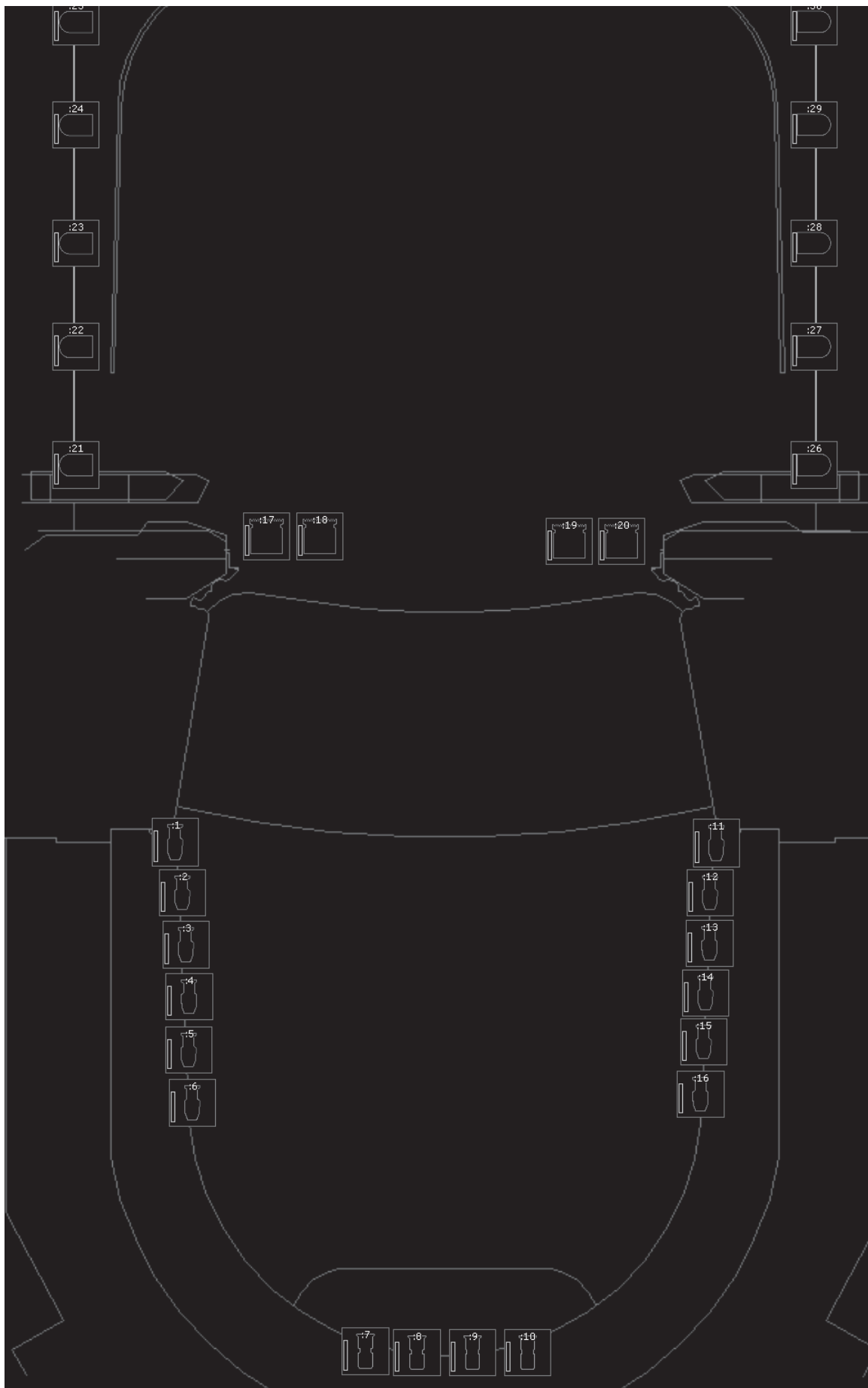
Here we need to change the settings so it looks like this:



This is all the knowledge you need to move your fixtures and make them look the way you like.

Please arrange the rest to something like this:





To make it more useful I'm going to add a gel in the fixtures. The easiest way to do this for many fixtures is in the console Setup. Navigate to the "Patch only (Live)" in the setup.

In the layer where you have the dimmers you'll need to scroll the right until you see the Color column.

I have selected all my odd numbered fixtures from 1 to 19 (using the ctrl + mouse click), then I right clicked and in the Color Editor I selected the "Swatch Book" in the title bar. Then I selected the **Lee** manufacturer and then the color number 161.

Then I selected all the even numbered fixtures and gave them color Lee 162.

You can exit the setup when you have done this.

Now try to turn on your lights. You'll see the intensity and color fill the inside of the images. This is because they are transparent inside the symbol.



## Topic: The LEDs

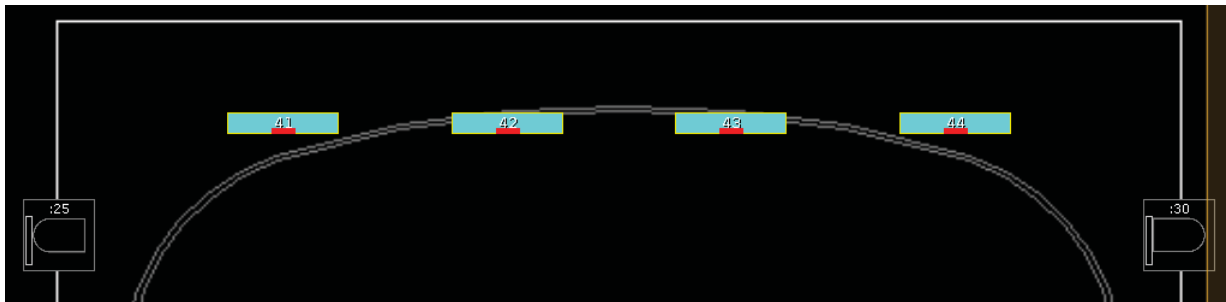
When you need to add fixtures to your layout, then you need to store them into a layout pool button.

Clear your programmer and select the four LED bars.

Now press **Store** and press the existing Layout Pool Button. You'll now be asked if you want to Overwrite, Merge or Remove the new fixtures. You should merge.

I would prefer to keep these fixtures simple, just change the size and move them into position.

This is my result:



## Topic: The Movers

Now we should add the Vipers. You should know how to merge new fixtures to your layout. If not then have a look at how we added the LEDs.

Now, we could use the existing images of moving lights that's in the image pool. However, I prefer to see more information, and use other methods for showing me that they are moving lights.

I make the border of the symbol a different color to indicate the fixture type. When the moving light is a profile I would like to see what gobo is in there and then it's better to have the "Visualization" as a Spot instead of Filled and not to use an image.

This is my setup in the Element Editor:



And this is my result:



### Topic: Adding pool elements

Now we are going to have a look at adding some pool elements to our layout. More specific; we are going to add some groups.

First thing you need to do is to make some groups. Please make some that makes sense to you.

It's an advantage if you can fit the group pool on a different screen than your Layouts, but still have both visible.

When you want to add fixtures, you need to store them into your layout. However, when you want to add a pool element like groups or presets you need to assign them into your layout.

Let's do this. Press the **Assign** key and then press one of the groups in the group pool. Then press in your layout where you want to add the group.

Repeat this for all your groups. You might want to adjust the size of the group elements. As a default the pool elements are added with the same look as when it's in the pool. So we get the same look and feel as when it's in the pool.

This is my result (or just a section of the layout):



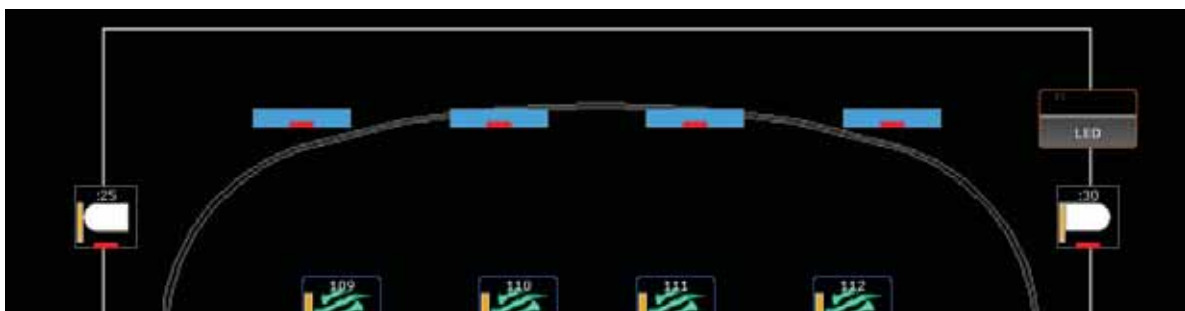
### Topic: Final changes

As a last little thing I want to change is the removal of the visible grid.

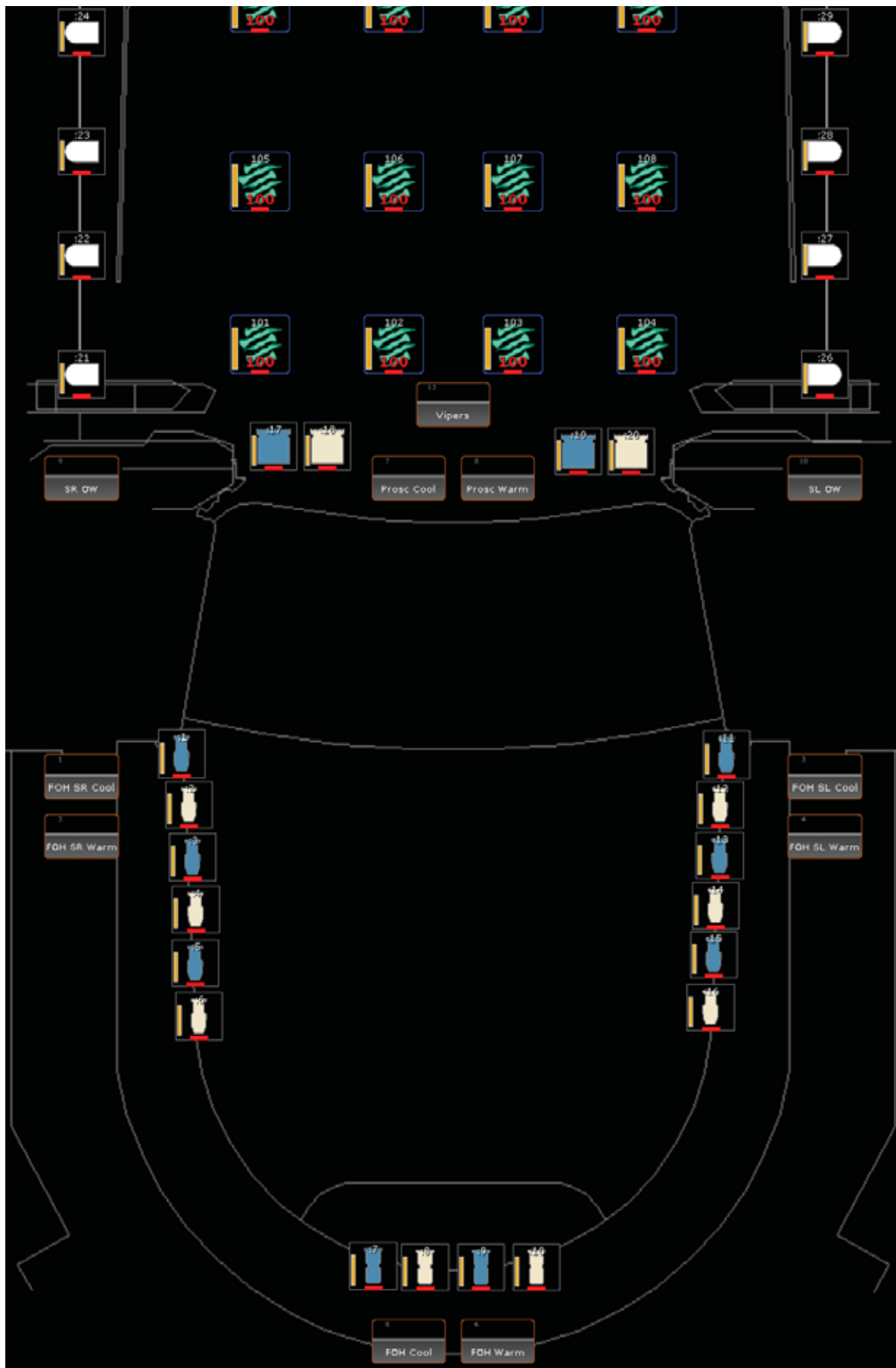
Please press the yellow button in the upper left corner of the Layout view. This gives us the Layout options.

Here you can select the "Layout data" tab and change the "Grid X" to 0. This effectively removes the visible grid, for a nicer look.

This is the result:







### Topic: Bitmap Effect Tutorial

This is a collection of Bitmap Effects tutorials.

The first (Setup Show) is a generic tutorial, setting up the basics show for all the other Bitmap Tutorials.



## Topic: Bitmap Effect Tutorial - Setup Show

In this part we are going to set up the show with a big LED wall.

The first thing you need to do is to create a new show.

I made one called "BitmapEffectTutorial" and made sure all the boxes are checked.

Then you need to go to **Setup → Show → Patch & Fixture Schedule**.

Here you need to patch 300 "generic@led+virtual\_dimmer.xml". Give them channel and fixture ID "1". Patch them where you like.

Create a 'Stage Window'. Select all the LED fixtures and press the "Setup" button in the 'Stage Window'.

We need to rotate the LED's so they face the audience.

Press the 'Location 1 of 2' button until it changes to 'Rotation 2 of 2'. Now we can rotate the LED's.

Set the 'X' value to "-90". That rotates the LED's. Now would be a good time to turn the LED's dimmer value at full. Then there should be a white square facing the camera.

Next we are going to set them up in a matrix.

Begin by moving all the fixtures. Press the 'Rotation 2 of 2' button so it changes to 'Location 1 of 2'.

Then set your 'X' value to "-7", 'Y' value to "3" and the 'Z' value to "4.5".

Press the 'Wizard' button and in the Wizard pop-up select the 'Matrix2D' tab.

Make sure you set the options like this:



Every setting here is important. Make sure you have the exact setting as above.

Then press the 'Apply & Close' button.

This is actually all we need to setup the show.

Your stage view should look like this:



Turn of the 'Setup' button in the stage view, clear your programmer and move on to the next page.



## Topic: Bitmap Effect Tutorial - Create a rainbow scrolling Bitmap Effect

Creating a scrolling bitmap effect.

We are going to create a color bitmap effect. This means that the effect is affecting the color attributes of the fixtures.

This also means that it doesn't affect the dimmer attribute. So we need to make some preparations.

### Creating a sequence with dimmer value.

First we need to turn on the dimmer so we can see the color values change (when the bitmap effect is running).

Select all your LED's and turn them at full. **1** **thru** **At** **At**.

Store this in a new sequence on executor fader 1. **Store** **Exec** **1** **Please**.

Now make sure the fader is at 100 and the sequence is on.

### Creating the Bitmap Effect.

Without clearing the programmer we need to create the basis of the bitmap effect. Press **Store** **Effect** **Effect** **1** **Please**. Pressing the 'Effect' key twice gives you the 'Bitmap' keyword.

When you create(store) a Bitmap Effect it's important to have a selection with the fixtures you want affected by the bitmap effect. This stores the fixtures in the Bitmap Effect.

To run the Bitmap Effect you need to assign it to an Executor: **Assign** **Effect** **Effect** **1** **Exec** **2** **Please**.

This also gives you access to the best Bitmap Effect Editor.

### The Bitmap Effect Editor.

Now we are going to edit the Bitmap Effect so it looks like we want it. But first it might be a good idea to activate the Bitmap Effect so we immediately can see the changes we do. Make sure the fader is at full and press the "Go" executor button.

Nothing happens because the Bitmap Effect is almost empty.

We need the **Bitmap Effect Editor**. Press **Edit** **Exec** **2** **Please**. This gives us the editor on screen 1.

### The Basics options.

The first thing we can edit here is the name of the Bitmap Effect. Press the green area next to 'Name'. Now enter: Rainbow Scroll.

Then we need a picture source. Press the empty green area next to 'File'. This opens the **Browser pop-up**. Press the 'Folder Up' icon



and navigate through **gobos** → **carallon** → **gobos** → **apollo** and select the file called "059900CS-0168".

The 'Mode' should be "Color". 'ScaleMode' doesn't matter in this tutorial since we are going to set the Size to the original picture.

The 'Size X' and 'Size Y' should both be "128". It doesn't matter for this tutorial if the 'Tile' is on or off.

In the small stage window on the right side you should zoom out and move the view so you just can see all the LED's. It should look like this:



### Making it move.

Right now the bitmap effect is boring. It just displays a picture. Our goal here is to make something that works like an animation wheel in an normal fixture. Let's begin by making it rotate.

Press the 'Tools' tab followed by the 'Toggle Function' button and then the 'Rotate Right' button. Now we have a rotating effect. But we would like it to scroll, so we need to tweak the scale and offset the image.

Press the 'Modulator Fader' tab.

Here we can change a lot of values. Let's begin with the 'Scale'. This is the second set of faders in the top row. We want the scale to be smaller on both X and Y. This is easily achieved by pressing the second 'Single' button on the bottom until it says 'Both'. This will make both the X and Y value change together.

Move the 'Scale X' fader until it has a value close to "5". You might need to release the fader and move it again to reach "5".

Now we need to decide what direction we want it to move. It's all done by offsetting the rotating picture.

If you want it to scroll from left to right your need to set the 'Offset Y' to something like "1.75".

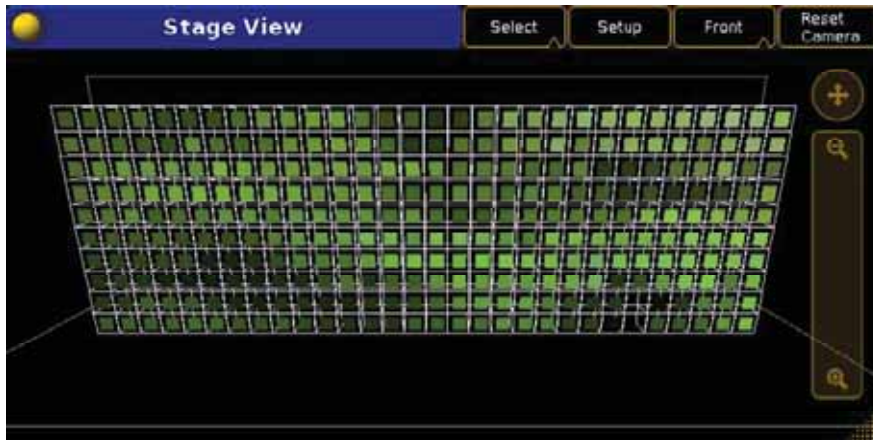
If you want it to scroll from right to left your need to set the 'Offset Y' to something like "-1.75".

If you want it to scroll from top to bottom your need to set the 'Offset X' to something like "-1.4".

If you want it to scroll from bottom to top your need to set the 'Offset X' to something like "1.4".

You can also combine any of the two making it in an angle.

It's all up to you. The result should look something like this:



This was the Rainbow Scroll Bitmap Effect tutorial.



## Topic: Bitmap Effect Tutorial - Create a Rotating Bitmap Effect

Creating a rotating spiral bitmap effect.

We are going to create another color bitmap effect. If you haven't made the Rainbow Scrolling Bitmap Effect, I suggest you go back one page and make it.

### Creating a sequence with dimmer value.

If you have done this already, just skip this step.

If this is the first Bitmap Effect tutorial you make, you need to turn on the dimmer so you can see the color values change (when the Bitmap Effect is running).

Select all your LED's and turn them at full. **1 thru At At**.

Store this in a new sequence on executor fader 1. **Store Exec 1 Please**.

Now make sure the fader is at 100 and the sequence is on.

### Creating the Bitmap Effect.

Make sure you have all the LED's selected. Press **Store Effect Effect 2 Please**. Pressing the 'Effect' key twice gives you the 'Bitmap' keyword.

When you create(store) a Bitmap Effect it's important to have a selection with the fixtures you want affected by the bitmap effect. This stores the fixtures in the Bitmap Effect.

To run the Bitmap Effect you need to assign it to an Executor: **Assign Effect Effect 2 Exec 3 Please**.

This also gives you access to the best Bitmap Effect Editor.

### The Bitmap Effect Editor.

Now we are going to edit the Bitmap Effect so it looks like we want it. But first it might be a good idea to activate the Bitmap Effect so we immediately can see the changes we do. Make sure the fader is at full and press the "Go" executor button.

Nothing happens because the Bitmap Effect is almost empty.

We need the **Bitmap Effect Editor**. Press **Edit** **Exec** **2** **Please**. This gives us the editor on screen 1.

### The Basics options.

The first thing we can edit here is the name of the Bitmap Effect. Press the green area next to 'Name'. Now enter: Rotating Spiral.

Then we need a picture source. Press the empty green area next to 'File'. This opens the **Browser pop-up**. Press the 'Folder Up' icon  and navigate through **gobos** → **carallion** → **gobos** → **apollo** and select the file called "059900CS-0163".

The 'Mode' should be "Color". 'ScaleMode' doesn't matter in this tutorial since we are going to set the Size to the original picture.

The 'Size X' and 'Size Y' should both be "128". It doesn't matter for this tutorial if the 'Tile' is on or off.

In the small stage window on the right side you should zoom out and move the view so you just can see all the LED's. It should look like this:



### Making it move.

Right now the bitmap effect is boring. It just displays a picture. Our goal here is to make a rotating picture that full the entire LED "screen". Let's begin by making it rotate.

Press the 'Tools' tab followed by the 'Toggle Function' button and then the 'Rotate Left' button. Now we have a rotating effect. And all we need is to scale it.

Press the 'Modulator Fader' tab.

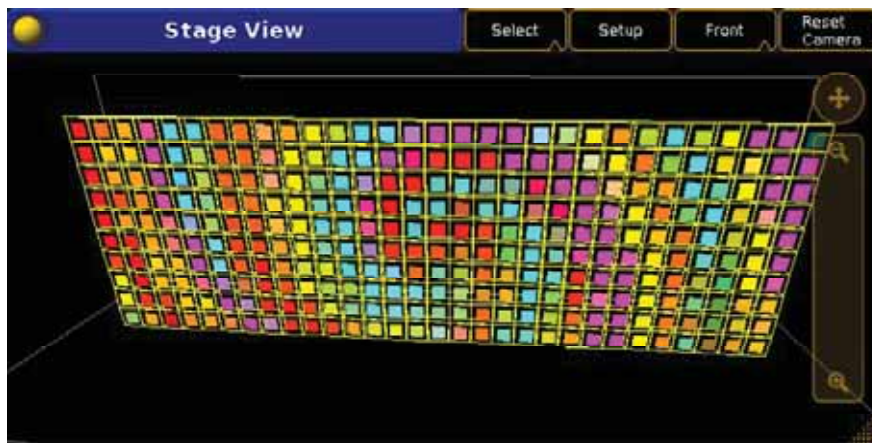
Here we can change a lot of values. We are just going to use the 'Scale'. This is the second set of faders in the top row.

We want the picture to fill all the LED's, so the picture needs to be bigger.

This is easily achieved by pressing the second 'Single' button on the bottom until it says 'Both'. This will make both the X and Y value change together.

Move the 'Scale X' fader until it has a value of "1.5". You might need to release the fader and move it again to reach "1.5".

The result should look something like this:



This was the Rotating Spiral Bitmap Effect tutorial.



## Topic: MAtricks Tutorial - Intro

**MAtricks** is a collection of tools working on your current **Selection**. The most basic tricks are **Next** and **Previous**, which will step through your current selection one by one, in the order they were selected.

Channel 1 Thru 1 2 Please



Highlight



Next



Next



Next



Prev



You may temporary enable/disable the matrick with the **Set** key:

Set



Set



or reselect your original selection with the **All** keyword, accessible via hardkeys by pressing simultaneously **Prev** and **Next**

Prev & Next



Next





## Topic: MAtricks Tutorial - Interleave

With a basic selection, all fixtures are in one row, based on the selection-order



With the function **MatricksInterleave**, the selection is wrapped onto a new row for every n'th fixture, creating a virtual array

[Channel]> MatricksInterleave 4



Next



Next



Prev & Next (reselect All columns)



With the use of the **MA** modifier key you may step through the array row by row rather than column by column

MA & Next



MA & Next



And reselect all rows with:

MA & Prev & Next (reselect All rows)



These tricks may also be combined:

Next Next Next (third column) MA & Next MA & Next (second row)





The Interleave value (array-width) may be modified with the **Set** key in conjunction with **Next** and **Prev** to increase, decrease or reset interleave:

**Set** & **Next** (MatricksInterleave +, increase array-width)



**Set** & **Prev** & **Next** (MatricksInterleave Off)



## Topic: MATricks Tutorial - Blocks

Stepping through a **Selection** with **Next** will normally give you single fixtures ( or columns of fixtures, if interleave is active):

**Next**



With the function **MatricksBlocks**, x adjacent fixtures/columns are treated as one block:

[Channel]> MatricksBlocks 3



**Next**



**Next**



You may adjust the block-size with **MA** & **Set** in conjunction with **Prev** or **Next**

**MA** & **Set** & **Prev** (MatricksBlocks -, decrease block-size)



The block-width may be reset to one/none by pressing both **Prev** & **Next** together with **MA** & **Set**

**MA** & **Set** & **Prev** & **Next** (MatricksBlocks Off, reset block-size)



With an Interleaved array the Block-size may be adjusted both in the x and y axis:



[Channel]> MatricksBlocks 3.2





## Topic: MAtricks Tutorial - Wings

Stepping through a **Selection** with **Next** will normally give you single fixtures:

Next



With the function **MatricksWings**, the selection is splitted in x parts, and each part is mirroring the previous part:

[Channel]> MatricksWings 2



Next



[Channel]> MatricksWings 3



## Topic: MAtricks Tutorial - Groups

With **MatricksGroups** the distribution of aligned values may be limited to x fixtures, for then to be repeated:

[Channel]> At 0 Thru 100



[Channel]> MatricksGroups 4

[Channel]> At 0 Thru 100



If you are aligning without grouping on an array created with **MatricksInterleave**



[Channel]> At 0 Thru 100



the values are distributed from upper-left to bottom right.

With an **interleave** array active, the grouping may be given with dot-separated digits to give different values for the x and y axis

[Channel]> MatricksGroups 4.1

[Channel]> At 0 Thru 100



[Channel]> MatricksGroups 1.3

[Channel]> At 0 Thru 100



### Topic: DMX merge tutorial.

This tutorial shows you how to merge incoming DMX into your show.

#### Topic:

Why is this an interesting tutorial?

Well, there are two scenarios that are relevant for DMX input.

At the moment you can't load a grandMA 1 show (or a show from any other manufacturer) into a grandMA 2 console, but if you have two identical patches you can run cues at the "source" console and record them on your grandMA2. You can transfer several DMX universes at the same time.

The other scenario is when you need an input to merge with an existing signal from your grandMA2. This can for several reasons be a more or less permanent situation.

You should know how to do basic setup and programming. If you don't, you should complete the Basic Tutorials before this one (follow the link below).

To complete this tutorial you need a console or an onPC with some grandMA hardware. You'll also need a DMX source.

This page takes you through the steps for setting up a useful show.

The next pages look at DMX recording and merging DMX into a console and a grandMA 2Port Node.

#### Task: Create a new show.

We need a new empty show with a useful patch.

##### Steps

1. Go to the command line and write:

```
[Channel]> Loadshow dmx_merge_tutorial /full
```



This loads a new completely empty show.

2. Goto the **Setup → Show → Patch & Fixture Schedule** and create 512 single generic dimmer channels patch in the first universe.
3. Create the views you need. I suggest a **Channel Sheet** and a **Command Line Feedback** window.
4. Save your show.

##### Result

This is what we need for the patch.

#### Topic:

Now you can go on to the next pages.

##### Related Links

- [Tutorial Basic 1](#)



### Topic: DMX In Recording on a grandMA2.

This is useful when you need to transfeere a show from a different console to your grandMA2.

Please go through the "DMX Input tutorial" for setting up for this tutorial.

#### Task: Setting up Remote DMX.

We need to set up the Remote DMX. This will take the incoming DMX directly to your programmer, allowing you to store it where you want.

##### Steps

1. Go to the command line and write:

```
[Channel]> cd Remote 3
```



This takes you directly to the DMX remote type.

2. Write:

```
RemoteTypes/DMXRemotes 3> Store 1 t 512
```

⇒ This creates 512 remote input "containers".

3. Write:

```
RemoteTypes/DMXRemotes 3> Ass 1 t 512 /type=Programmer
```

⇒ This changes the remote type to "Programmer" sending all the incoming data directly to your programmer.

4. Write:

```
RemoteTypes/DMXRemotes 3> cd /
```

⇒ This takes you back out of the Remote Input setup.

5. Go to **Setup → Show → Remote Input Setup → DMXRemotes** and select all the rows in the DMX column.

6. Press the **Edit** hardkey and then inside the blue frame (you can also right-click if you have a mouse).

⇒ This opens the calculator pop-up.

7. In the pop-up you write "1.1" and press **Please**.

⇒ This gives you a one-to-one patch of the 512 DMX inputs.

8. Make sure the DMX Remote is enabled. The background and text of the "Enabled" button is yellow.

9. Exit the setup.

### Result

This is what we need to get the incoming DMX universe to the programmer.

### Task: Turn off DMX Merge.

These steps take you through the task of turning off the DMX In Merge.

### Context

When you want to record the incoming DMX to a cue, preset, etc., it might be a good idea to turn off DMX merge as it could interfere with your output.

### Steps

1. Go to **Setup → Show → Patch Only (Live) → DMX List**.

2. Press the **Edit** hardkey followed by the "On" in the 'DMX In Merge' column and the row for the universe you want to turn off.

3. Exit the Setup.

### Result

You have now turned off the DMX In merge.

### Topic:

OK, now it's time to plug in the DMX source, and make sure the grandMA2 is correctly set up for the signal.

### Task: Setting up the DMX In port on a Console.

Now we need to configure the port for the DMX signal.

### Context

If you use a node please skip this task, and go to the next one.

### Steps

1. Go to **Setup → Network → MA Network Configuration → Consoles**.

2. You can set up any of the seven port as an Input. But for this tutorial we are going to use the female DMX In connector. Press **Edit** followed by the cell in the "XLR In" column in the row representing your console.

⇒ This gives you the **Configure DMX Port** pop-up.

3. In the pop-up you select the Port Mode to "In" using the drop down box.

4. Set the universe to "1" using the "-" and "+" buttons, and press the **Please** button.

5. Exit the Setup.

### Result

Now we can move on to the actual business.

### Task: Setting up the DMX In port on a grandMA 2Port Node.

Now we need to configure the grandMA 2Port node for the incoming DMX signal.

### Context

If you use a grandMA2 Console or grandMA2 NPU please look at the previous task, and ignore this one.

### Steps

1. Go to **Setup → Network → MA Network Configuration → 2Port**.

2. You can set up any of the ports as an Input. Press **Edit** followed by one of the XLR cells in the row representing your 2Port Node.

⇒ This gives you the **Configure DMX Port** pop-up.

3. In the pop-up you select the Port Mode to "In" using the drop down box.

4. Set the universe to "1" using the "-" and "+" buttons. You can completely ignore the "Merge Mode", finish by pressing the **Please** button.

5. Exit the Setup.

### Result

Now we can move on to the actual business.

**Topic:**

When you send any DMX values to the console, you can see the values go to your programmer, and you can store as you would normally do.

! Be aware that when a value has been changed by an external DMX source and this source disappears the value in the programmer goes to the default value!

When you have stored what you need you should turn off the remote DMX to avoid any unwanted output or values in your programmer. There are predefined macros that turn "On" or "Off" the remote DMX, or you can go to the Setup and turn it off.

**Topic: DMX Merge**

In this tutorial we are going to take a look at merging incoming DMX with the grandMA2.

**Topic:**

You might have a system where you want to merge an incoming DMX signal into your grandMA. This can be a more permanent or a temporary situation.

Please make the **DMX Input tutorial** to prepare for this one.

**Task: Turning off DMX Remote**

If you have DMX Remote that is set up to go to your programmer you might want to turn that off.

**Steps**

1. Go to **Setup → Show → Remote Input Setup → DMX Remotes**
2. Delete the rows with DMX going to the programmer (this allows you to keep other DMX Remote) or just disable the remote function.
3. Exit the setup.

**Result**

All right you are now ready to move on.

**Task: Turn on merging for universe 1. Context**

As a default Merging is turned on for all universes, but we are going to use the setup menu to make sure it's turned on.

**Steps**

1. Go to **Setup → Show → Patch only (live) → DMX List**
2. There is a column called "DMX In Merge". If there's a "on" in the row for (universe) no. 1, the grandMA2 will merge incoming DMX. If it's empty, you need to press **Edit** followed by the empty cell.

⇒ The incoming DMX will now merge.

3. Exit the Setup.

**Topic:**

OK, now it's time to plug in the DMX source, and make sure the grandMA2 is correctly set up for the signal.

**Task: Setting up the DMX In port on a Console.**

Now we need to configure the port for the DMX signal.

**Context**

If you use a node please skip this task, and go to the next one.

**Steps**

1. Go to **Setup → Network → MA Network Configuration → Consoles**.
2. You can set up any of the seven port as an Input. But for this tutorial we are going to use the female DMX In connector. Press **Edit** followed by the cell in the "XLR In" column in the row representing your console.  
⇒ This gives you the **Configure DMX Port** pop-up.
3. In the pop-up you select the Port Mode to "In" using the drop down box.
4. Set the universe to "1" using the "-" and "+" buttons, and press the **Please** button.
5. Exit the Setup.

**Result**

Now we can move on to the actual business. If you are not using a node please skip the next task.

**Task: Setting up the DMX In port on a grandMA 2Port Node.**

Now we need to configure the grandMA 2Port node for the incoming DMX signal.

**Context**

If you use a grandMA2 Console or grandMA2 NPU please look at the previous task, and ignore this one.

**Steps**

1. Go to **Setup → Network → MA Network Configuration → 2Port**.
2. You can set up any of the ports as an Input. Press **Edit** followed by one of the XLR cells in the row representing your 2Port Node.  
 ⇒ This gives you the **Configure DMX Port** pop-up.
3. In the pop-up you select the Port Mode to "In" using the drop down box.
4. Set the universe to "1" using the "-" and "+" buttons. You can completely ignore the "Merge Mode", finish by pressing the **Please** button.
5. Exit the Setup.

### Result

Now we can move on to the actual merging business.

### Topic:

When you send any DMX values to the console, it will merge with the DMX generated by the console. The merge will always be a HTP merge - there's currently no way to change this.

You can only see the incoming signal in a **DMX Sheet** window.



### Topic: grandMA NPU tutorial

In this tutorial we will have a look at some of the common actions on a grandMA NPU.

In this grandMA NPU tutorial we are going to pretend that we just got a NPU with the delivery, and need to have it connected with a grandMA2 console (or onPC 2) for the first time.

One thing we will skip in this tutorial is how to update the software. But when we reach a point where you might want to update the NPU, I'll give you a link to a task showing you how.

You might need a USB keyboard to complete this tutorial.

The pictures used in this tutorial are pictures used throughout the manual, and they may not look exactly like the ones you see.

All right, let's begin.

#### Getting the hardware ready.

You need to make a cable with a blue female PowerCon connector in the one end and a plug in the other end at is legal and useful in your region. On the back panel of the NPU you can see what power requirements the NPU have.

You also need an Ethernet Cat.5e cable (minimum) to connect the NPU to your switch. It's recommended to always use a (1 Gbps) switch when connecting grandMA hardware.

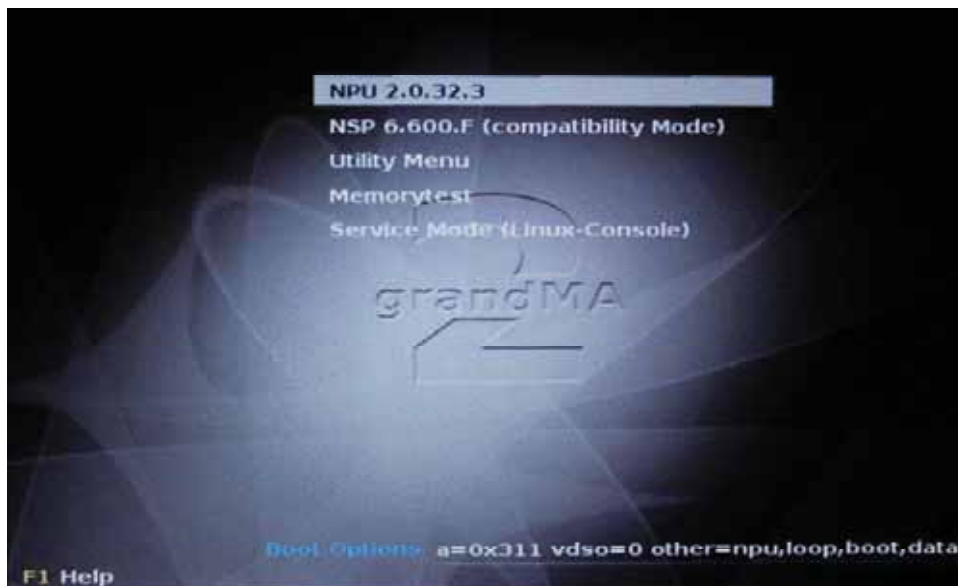
Plug in the Ethernet cable and the PowerCon. If you need the NPU to output DMX, you can also connect those to the DMX ports on the back panel.

Turn on the power switch on the back panel.

If you need to update the NPU software, now could be a good time to do this. Read this task about software updating. When you have finished the update, you can continue with this tutorial.

#### Getting the NPU ready for the MA system.

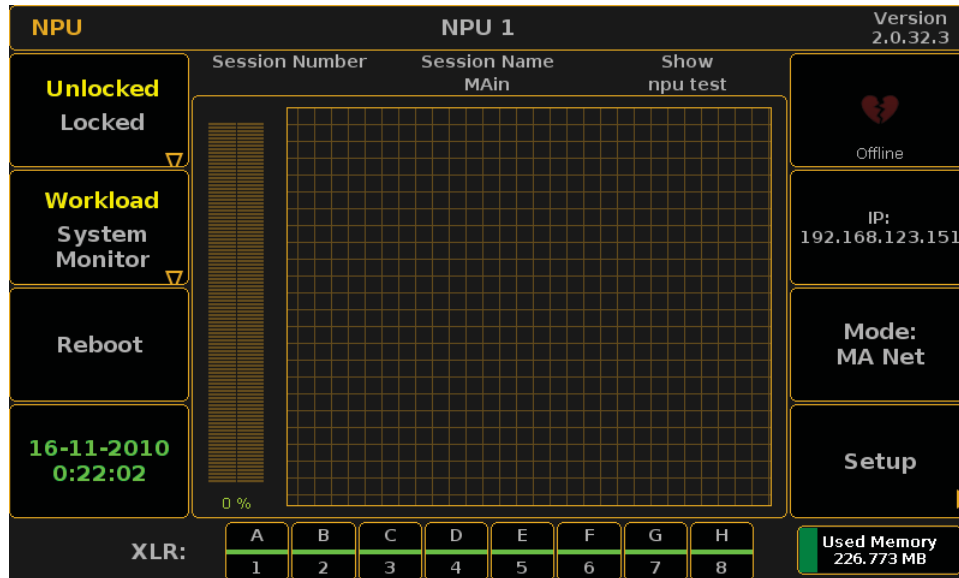
On the front panel you should press the power button to boot the NPU. At some point in the boot process you can see a window displaying what mode the NPU was using last. It could look like this:



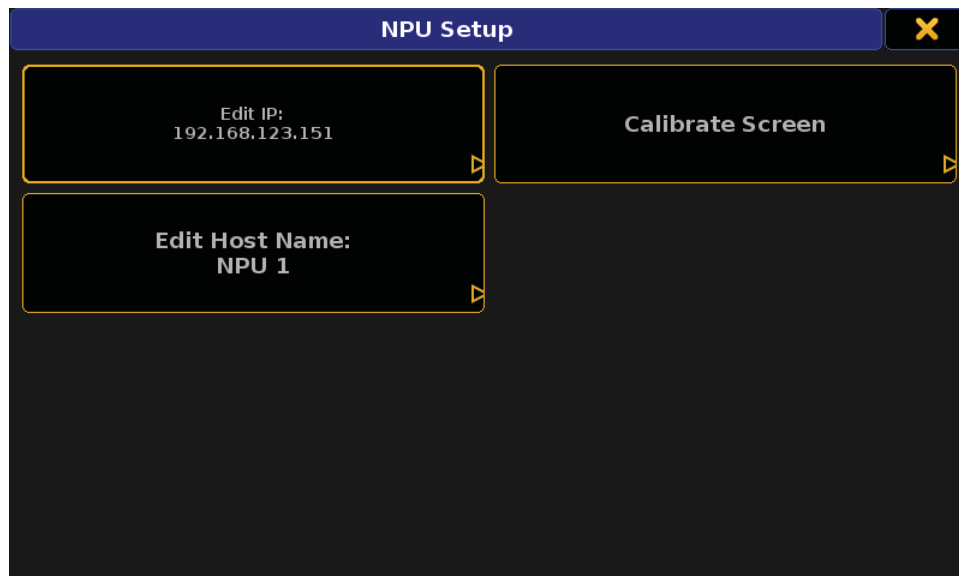
If you need to change the mode, you need to attach a USB keyboard and use the arrow keys to stop the automatic boot, and select the mode you need (series 1 or 2 mode). If you miss the window, you need to reboot the NPU and try again.

We need the NPU in series 2 mode. Make sure it boots in that mode by selecting to top row in the boot window.

When the boot is done, you will see a main screen like this:

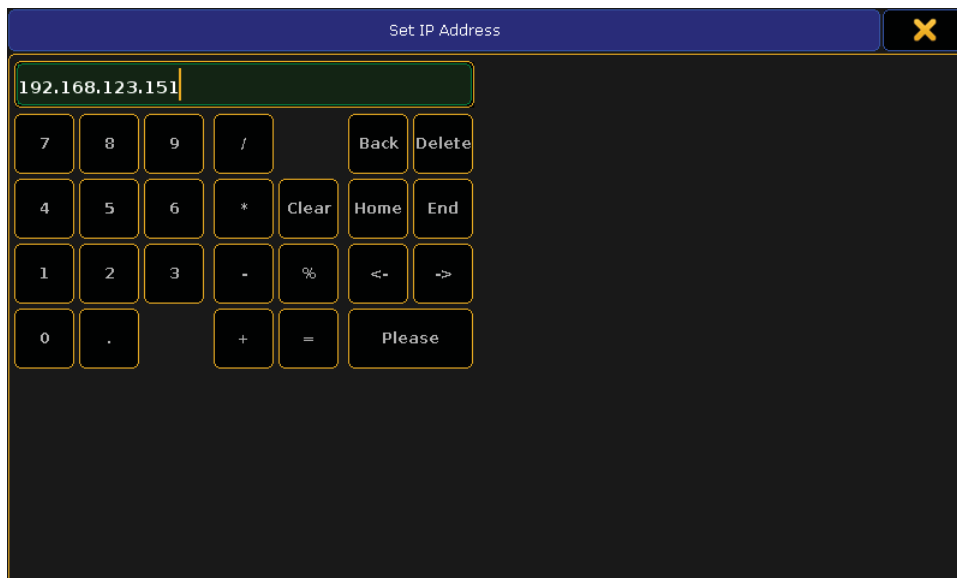


You'll probably need to change the IP address on the NPU. Press on the screen where it says "Setup". This will give you a new window:

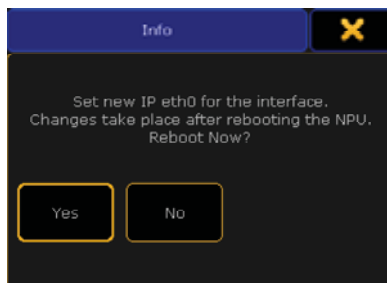


Here you can edit the IP address, the name and calibrate the touch screen. Our current quest is to change the IP address. Press where it says "Edit IP". All right - you are now presented with a new window asking you to input the IP address:



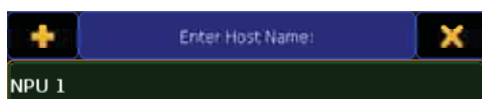


To my switch I got a grandMA2 console with the IP address of 192.168.123.001 - So a good IP for the NPU could be 192.168.123.150 - Type this in the window and confirm it with "Please". Now you get a pop-up asking you if you want to reboot:



We could reboot, but I think we should change the name of the NPU first. Press "No".

We are now back at the NPU Setup window. Press where it says "Edit Host Name". This presents us with a small "enter Name" pop-up.



Now if this isn't the first time some has touched this, you might see the big pop-up already. If you don't, we are going to pretend that we don't have a keyboard attached (this might even be true). To expand the pop-up, you need to press the "+" in the upper left corner (if there's a "-", then it can't get any bigger!). Now the pop-up should look like this:



Type a new name using the onscreen keyboard and confirm it by pressing "Please". And voilà we have a new pop-up! This is also asking if we want to reboot now. Let's do that. Press "Yes".

While it reboot, we can turn on the console (if you haven't already).

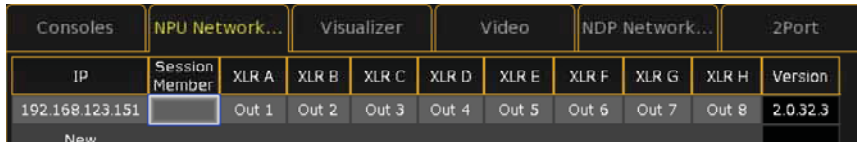
#### Connecting to the console and the session.

When the console is ready, you should load the show you need. Then go into the **Setup**→**Network**→**MA Network Configuration**→**NPU Network Processing Unit** Here we need to add the NPU in your system. Press the X1 key. This will open a pop-up that could look like this:

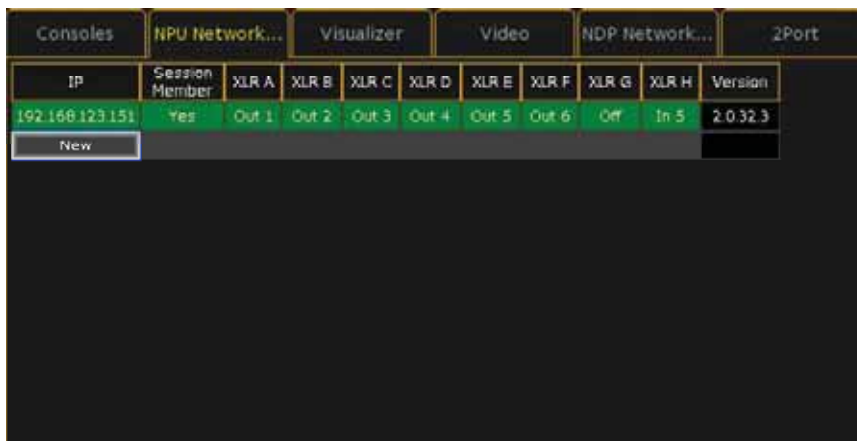


Select the NPU - if you cannot see it, then something is wrong with your network.

Now there should be a line in the NPU list.

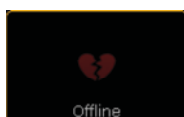


For the NPU to connect to the session, it needs to be added as a "session member". Press the empty cell in the "Session member" column and then press the screen encoder. This should give you a "yes" in the cell.

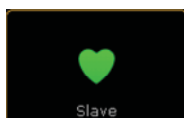


Now we need to start a session. Close the "MA Network Configuration" using the "X" in the upper left corner. Now go to "MA Network Control". Here you should press the X1 key to create a new session.

The show should upload to the NPU and it should now be a part of the session. You'll hopefully see a change on the NPU. The pulsing heart should change from this:



To this:

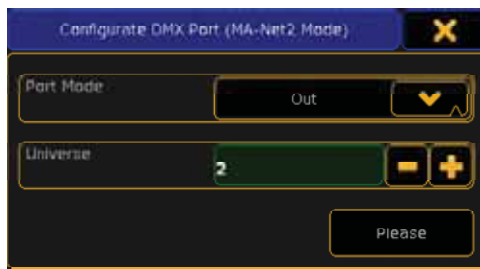


! It's very important to know that, if a NPU is set to be a member of several sessions in a network, It will connect to the session that reaches the NPU first!! If that session is then closed - Then the NPU will connect to the next session it finds on the network, possibly creating a very different DMX output!

### Setting the DMX ports on the NPU.

You might need to change the DMX ports on the NPU. Close the "MA Network Control" using the "X" in the upper right corner. Then go back into "MA Network Configuration" and press the "NPU" tab.

Now let's change the output from the port marked "H" to input DMX to universe 1. In the configuration you should press in the cell below "XLR H" and then press the screen encoder. This opens a pop-up like this:



Here you need to change the mode to "In" and the universe to "2". Confirm your selection by pressing "Please". Now if you haven't changed any of the merge settings in the **Setup>Show→Patch Only (Live)→DMX List**, then the DMX input on port H will merge into the second universe. You can test this by patching some channels on universe 1 and the same on universe 2. Then connect a double male DMX cable between port A and H. On a DMX sheet you can now see that all the values on universe one are mimicked on universe 2.

#### Final words.

There are much more to say about the NPU. And things are different if you use it in Series 1 mode. This tutorial only covered the most common way to use the NPU. If you need to know more you should go to the NPU Manual Guide. This can point you in the right direction for more knowledge.



### Topic: grandMA NDP Tutorial

In this tutorial we will take a look at the functions a NDP does offer when connected to the grandMA2 console and running in grandMA2 mode.

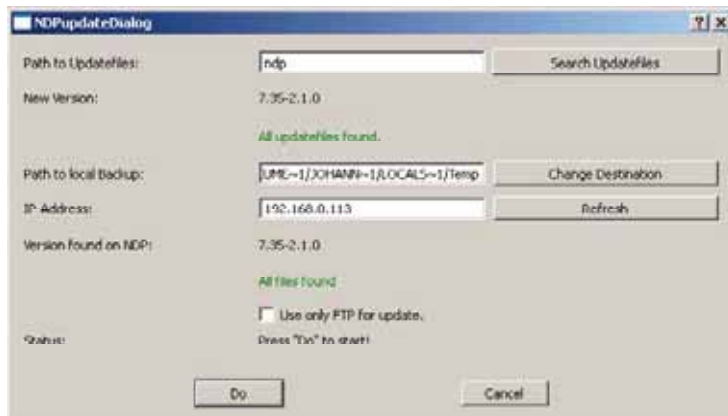


- Addressing the NDP in grandMA2 mode is only possible, if the software 7.23 or onwards is installed on the NDP(s).
- Furthermore the grandMA2 mode is streaming dependent.
- Make sure, that all NDPs do have the same software installed. Mixed systems will cause malfunction

#### Software Update of the NDP

The software update of a NDP can be done with the NDP updater tool. The current version of it is not distributed via the MA Lighting webpage like all the other MA Lighting products. Contact MA Tech Support via Tel +49 5251 688865-30 (normal business hours, GMT+1) or via [tech.support@malighting.com](mailto:tech.support@malighting.com) to get access to it.

Presumption: the NDP updater runs on any Windows XP / Vista / Windows 7 machine. You need to have a valid network connection to the NDPs within the same subnet and the subnet mask has to be set correctly, just as you would have to do e.g. for a grandMA series 1 on PC. There is no version available for Mac OS X or Linux stand December 2010.



What the options do:

##### Path to Updatefiles

if "ndp" is entered here, then the updater will use the files shipped in this particular version. As an additional feature you can also specify another path existing in your computer to use other versions stored in that path. This may be handy if you want to use the updater to upload different / other versions that you have already stored manually.

##### New Version

does show the version that is selected via the Path to Updatefiles option

##### Path to local Backup

this is the folder, where the NDP Updater tool will store the backup data of the yet to update NDP. A click on "Change Destination" will change that folder if needed. This backup can also be loaded onto the NDP again by choosing this path within the "Path to Updatefiles" field.

##### IP-Address

Enter the valid IP Address of the NDP you want to update. Whenever you change the value here, press the "Refresh" button next to the numerical field. When you have refreshed the IP Data field correctly, then the current version installed on the to be updated NDP is displayed here

#### Use only FTP for update

The option "Use only FTP for update" is very important: check this option if you experience problems using the updater in the regular mode. In this case, the backup of the NDP data to your computer will not be done and if the NDP loses power or the network connection is lost between your PC and the NDP during the update process, the flash card in the NDP will be broken. Furthermore the NDP will not restart automatically when the update is finished. You will have to do this manually by pressing the reset button in the frontpanel of the NDP or disconnecting AC powers to the NDP after the upload process is down. Do not interrupt the update process if "Use only FTP for update" is turned on!

#### Do

Press "Do" to start the process

#### Cancel

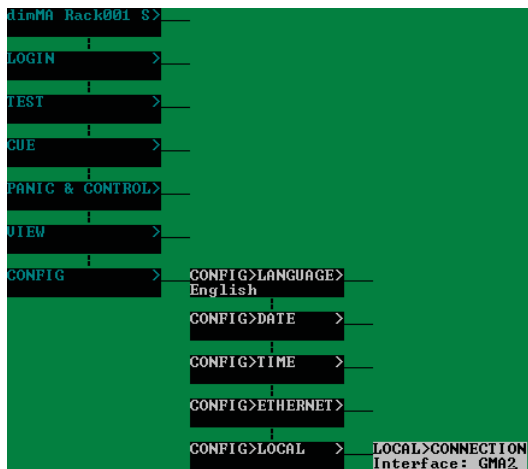
Press "Cancel" to interrupt running processes



- When the "Use only FTP for update" is not checked, the NDP you are updating will do a manual reboot at the end. Afterwards you can select another NDP by entering the IP address and select "refresh".

### Check the mode the NDPs are running in

To be able to connect to the NDPs, you have to change the mode the NDPs are in. To do so, use the frontpanel keys and the encoder of the NDP / keyboard and a monitor or a Telnet connection. Login as administrator in the NDP and in the NDP menu structure goto **Config→Local→Connection Interface**. Change this value to GMA2. The interface can only be adjusted here and not from the console. The NDP will restart the software automatically to allow you control the NDP from a grandMA2 console.



### Backup NDPs

In contrast to NDPs running in grandMA series 1 interface, there are some major differences regarding Backup NDPs. To make sure, that configuration matching and exchange between both units is working correct, both Master- and Backup NDP have to be in the same MA-Net2 session, even when running standalone without a console. The session spreads and checks configuration data of both units. In grandMA series 1 interface this was done via a configuration session ID, that was independent to a running grandMA series 1 session.

### Connecting the NDPs

To be able to control and connect to NDPs you have to have a valid session started in the console and the NDPs have to be part of that session. The following lines will help you to achieve that.

- Goto **Setup →MA Network Control**
- Check the Session ID, Session Name (Session Password) to be on the wanted settings (you cannot change these values, if you are already in a session)
- Click in the field **Unconnected** and press then press **Start/Join Session** to start the session.
- To make the NDPs join your session as well, you have to close the MA-Net control window by click the **X** in the upper right corner.
- Goto **Setup →MA Network Configuration →NDP.**
- Press **Add Present** to add all up and running **NDPs** available in the network. In the column **Session** you can see the session the **NDPs** are running in. Additional you can press **Add** to manually add the ndps you want to control here by each unit.
- Press **EDIT** and click in that field of the ndp you want to invite in the column Session Member to set it to yes.
- Proceed that with all the NDPs you want to take into your session
- Close this window by clicking the **X** in the upper right corner.



- If the NDPs are already listed for a session, you cannot invite them into your session, since they are blocked. You have to get control over that session the NDPstrm are in first and then dismiss the NDPstrm to make them available for a new session.
- Whenever you add single NDPs to your System by using the **Add** button, make sure that in case a Backup NDP exists to a already inserted NDP, that this one is also inserted to make the data exchange possible between both units.
- If you want to make all NDPs to be part of you session or you want to take them out all at once, click on top of the "Session Member" column twice to mark the complete column blue and then press **Edit** and click in one of the Session Member fields on the screen.

## Related Links

- [Reference: Setup / Network / MA Network Control](#)
- [Reference: Setup / Network / MA Network Configuration / NDP Network Dimmer Processor](#)
- [MA Dimmer Network](#)



## Topic: grandMA Show Converter Tutorial



For this guide you will need to have the latest version of gMA 1 onPC v6.616 or above, gMA 2 onPC 2.5.3.4 or above and the conversion tool itself installed.

- Firstly load gMA 1 onPC software. Go to the Back Up tab and load the showfile you wish to convert.
- Once your show has loaded do a normal save in the internal tab, and call it something that will be easier to reference for later on, i.e. showfile-toconvert.
- You can then close gMA 1 onPC.

Please note that for the next section of this guide to work you will need to have "view hidden folders" enabled on Windows. You can gain access to this setting in Folder Options in the Control Panel.

- You can now load the gMA 1 > gMA 2 Show Conversion Tool.
- The program will look like this:



- Please have a look at the top of the program first.



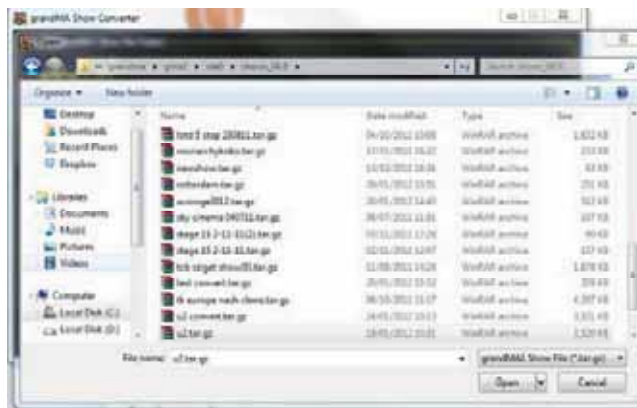
- By clicking on the select button on the right hand side select the option "Show File(\*.tar.gz)". A file browser will then appear.
- You will then need to follow this path to find your Show file.
- Windows 7:

My Computer>Local Disk C:\Program Data\MA Lighting Technologies\grandma\grandma1\ide0\Shows\_06.6

- Windows XP:

My Computer>Local Disk C:\Program Files\MA Lighting Technologies\grandma\ide0\Shows 0.6.6

- This should then show you a folder of your Show files. Please note that without hidden folders enabled you will not be able to see the program data folder. Also this path assumes that you installed onPC 1 to your C: Drive.
- Double click on your selected show file;



- You will now need to deal with the bottom section of the converter program.



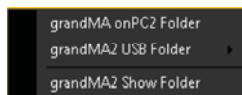
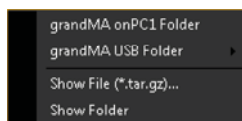
- Here you can select where you want the destination of your showfile to be.
- Press select, and then "grandMA onPC 2 Folder" and then select the software version you want to bring it into.
- When you are happy with both the source and destination press start.



- Once this has completed you can close the conversion program.
- You can then open gMA 2 onPC (the same software version that you specified in the destination).
- Once the software has loaded you can go to the Backup tab > Internal > Load Show.
- You should then be able to see your converted show.
- You can then load your show. Please bear in mind that this will only bring forward show data, and no user data. Effects will also not be converted.



- If you then wish to then transfer this show onto a console, simply save the show to a USB stick as you would do with any other and load it onto the console.



## Concept: Tasks

This section contains step-by-step instruction for common task.

For conceptual understanding of the console and property-description of each element of the console, please read the Concept and Reference sections.



## Task: Hardware

This section contains all the hardware tasks.



## Task: Hardware / Connecting peripherals

This section is about the hardware connections on your console.



## Task: Hardware / Connecting peripherals / Power

Before turning the console on, you need to connect the power cable.

### Context

When you get a new console there's a PowerCon connector supplied with it. You need to have qualified personnel attached this connector to a suitable cable and plug that correspond with the laws in your country.

If you get a rental desk this should be supplied with it.

---

#### Steps

1. Insert the blue PowerCon connector in the PowerCon plug and twist it 90 degrees clockwise to lock.
2. Connect the other end of the cable to a suitable power source.
3. You'll also need to turn on the Power switch on the back panel

---

#### Result

The power is connected.

---

#### Related Links

- [Console Backpanel](#)



### Task: Hardware / Connecting peripherals / External Screens

You can expand the console with two external screens.

---

#### Context

On the back panel of the console you'll find two DVI-I connectors for external screens. If you only have screens with VGA connectors, you'll need a DVI to VGA adapter.

---

#### Steps

1. Make sure the console is turned off.
2. Connect the first screen to the top DVI-I connector marked 'Right'. Place the screen on the right side or above the internal screen 2. This will be screen number 5.
3. Connect the second screen to the bottom DVI-I connector marked 'Left'. Place the screen on the left side of the first external screen. This will be screen number 6.
4. Connect power to the external screens.
5. Turn on the external screens.
6. Turn on the console.

---

#### Result

The external screens are connected.

---

#### Related Links

- [Console Backpanel](#)



### Task: Hardware / Connecting peripherals / Goose-neck Lamps

To get a better view of the console you can connect up to two goose-neck LED lights.

---

#### Context

The goose-neck lights can help illuminate the console in a dark environment.

---

#### Steps

1. Connect the 4 pin XLR connector to the plug on the back panel of the console.
2. Move and twist the lights so they feel comfortable to you and illuminate the areas you want.

---

#### Result

The lights are connected. See the link below for information on how to adjust the light output.

---

#### Related Links

- [Adjusting Desk Lights with Hardkeys](#)
- [Desk Lights Control](#)
- [Console Backpanel](#)



### Task: Hardware / Connecting peripherals / USB Mouse and Keyboard

You might need to connect an external keyboard and mouse.

---

#### Context

It's recommended only to use wired keyboards and mice. The console supports a keyboard with a US key layout.

---

#### Steps

1. Connect the USB connector to any of the USB plugs on the console. There are up to 5 USB plugs on a console.

---

#### Result

The console should recognize the hardware you connected and after a few seconds you can use it.

---

#### Related Links

- [Console Backpanel](#)



### Task: Hardware / Connecting peripherals / Ethernet (MA-Net)

You can connect the console to a network.

---

#### Context



The console has two Ethernet connectors. One of them is used to connect to a MA-Net network. This allows you to add consoles (for backup or extra users), grandMA VPU, grandMA2 NPU, grandMA NDP, grandMA NSP, grandMA 2port Node and grandMA 3D.

#### Steps

1. Connect one end of a Ethernet cable to the connector called 'Ethernet 1'.
2. Connect the other end to a suitable switch.
3. Connect other grandMA equipment to the switch and turn on the power to the switch.

#### Result

The console is now connected to a network. You might need to set a IP address.

#### Related Links

- [Console Backpanel](#)
- [Setting the IP address](#)



### Task: Hardware / Connecting peripherals / ArtNet (Ethernet)

You can connect the console to ArtNet.

#### Context

The console has two Ethernet connectors. One of them is used to connect to a MA-Net network. The other is intended for ArtNet, and is by factory default set to an address in the 2.x.x.x range. You may check or change the IP-address of this second adapter via the **SetIP** keyword.



For ArtNet, the console will look for an Ethernet adapter with 2.x.x.x or 10.x.x.x address. - in other words, if you change the IP of the second Ethernetport to something other than 2.x.x.x / 10.x.x.x you will not be able to transmit or receive ArtNet.

OnPC will look for the same IP-addresses. If not found, OnPC will try to create a 2.x.x.x address on the Network-adaptor chosen for MA-net

#### Steps

1. Connect one end of a Ethernet cable to the connector called 'Ethernet 2'.
2. Connect the other end to a suitable switch.
3. Connect other ArtNet equipment to the switch and turn on the power to the switch.

#### Result

The console is now connected to a network.

#### Related Links

- [Networking Concept](#)
- [Artnet Remote Input](#)
- [Console Backpanel](#)
- [Setting the IP address](#)
- [SetIP keyword](#)



### Task: Hardware / Connecting peripherals / DMX

Connecting DMX to input or output DMX from the console.

#### Context

The console has six DMX Output plugs (marked A to F) and one Input (marked IN). These are used when you want the console to output DMX and you need to use DMX in. All connectors can be configured to meet your needs.

#### Steps

1. Connect one end of a 5 pin XLR DMX cable to one of the XLR connectors.
2. Connect the other end to a suitable DMX device.

#### Result

The console is now connected to a DMX device. Follow the link below to read more about setting up the DMX connectors.

#### Related Links

- [Console Backpanel](#)
- [Consoles Input/Output configuration](#)



### Task: Hardware / Connecting peripherals / MIDI

Connecting MIDI to your console.

#### Context

The console have two MIDI connectors. One in and one out. They are used to send and receive MIDI signals.

#### Steps

1. Connect one end of a MIDI cable to the Input or Output. Depending on you are sending or receiving.
2. Connect the other end to a suitable MIDI device.

#### Result

The console is now connected to a MIDI device.

#### Related Links

- [Console Backpanel](#)

**Task: Hardware / Connecting peripherals / SMPTE (LTC)**

Connecting a SMPTE source to the console.

**Context**

The console have LTC In connector. This allow you to sync the console to a SMPTE timecode source.

**Steps**

1. Connect the SMPTE source to the LTC IN connector in the console using a 3 pin XLR audio cable. The signal strength should be minimum 200 mili Volts. Pin1: ground; Pin2: - (minus); Pin3: + (plus)

**Result**

The console is now connected to a SMPTE source.

**Related Links**

- [Console Backpanel](#)

**Task: Hardware / Connecting peripherals / Sound**

Connecting a sound source to the console. Sound-in function is prepared in several menues, but still without function.

**Context**

The console have Audio In connector. This allow you to use the incoming audio to trigger lights.

**Steps**

1. Connect the audio source to the Audio IN connector in the console using a 3 pin XLR audio cable. The signal strength should be minimum 20 mili Volts. Pin1: ground; Pin2 and 3: balanced input

**Result**

The console is now connected to a audio source.

**Related Links**

- [Console Backpanel](#)
- [Sound Window](#)

**Task: Hardware / Connecting peripherals / grandMA2 faderwing**

Connecting a grandMA2 faderwing to the console.

**Context**

You can expand the number of executor faders and buttons with grandMA2

**Steps**

1. Connect one end of a 15 pin D-Sub cable to the connector marked MA-LINK on the console.
  2. Connect the other end to the grandMA2 faderwing.
  3. Connect power to the grandMA2 faderwing.
-  You can connect up to four grandMA2 faderwings to one console. You can connect one grandMA2 faderwing to another and so forth.

**Result**

You've added 15 motorized faders and 15 executor buttons.

**Related Links**

- [Console Backpanel](#)

**Task: Hardware / Connecting peripherals / Contact Closure Switch (Analog Remote)**

Connecting contact closure switches to the console / command wing.

**Context**

The console / command wing has a D-sub connector. This allow you to connect contact closure switches. You can map these switches to anything in your console.

You need to make a switch that sends between +5 and +15 volts to pin 1 for the console to react to analog input number 1.

The console has a 25 pin D-sub, enabling 16 remote inputs: pin 1-16 = input 1-16, pin 21-22 = +5V, pin 25 = common ground

The Command Wing has a 15 pin D-sub, enabling 12 remote inputs: pin 1-6, 9-14 = input, pin 7 = +5V, pin 8 = common ground

**Steps**

1. Connect a D-sub plug to the DC Remote Control connector.

**Result**

The console now have a analog remote input. Follow the link below to read more about setting up the Remote Input.

**Note:** CAUTION: The DC REMOTE CONTROL connector of MA onPC command wing has different contact assignment.



Pin 1-6: channels 1,3,5,7,9,11

Pin 7: +5V

Pin8: ground

Pin 9-14: channels 2,4,6,8,10,12

Pin 15: not used

Connect channel with +5V (Pin 7) or connect channel with extern current 5 - 10V and ground (Pin8). Note: channels have switch function only!

## Related Links

- [Console Backpanel](#)
- [Remote Inputs Setup](#)



## Task: Hardware / Miscellaneous hardware tasks

This section contains hardware tasks



## Task: Hardware / Misc. / Turn the Console On

You need to turn on the console before doing anything fun with it.

### Context

You'll probably need to turn on the console before using it.

### Steps

1. Make sure the console is connected to a proper power source and the power switch on the back panel is turned on.
2. Press the power key on the front panel. It looks like this:



### Result

The console will boot up.

## Related Links

- [Connect Power](#)
- [Console Backpanel](#)
- [Console Geography](#)



## Task: Hardware / Misc. / Resetting the console using the reset button (hard reset)

ON the back panel of the console you'll find a reset button. This is used when there's no other option.

### Context

Should you ever come in the situation that the console is totally non responsive and there's nothing that reacts. You have the option to reboot the console.



Anything that has changes since the last save will be lost!

### Steps

1. Press the reset button on the back panel.

### Result

This resets the console and it reboots. It will try to load the last saved version of your show.

## Related Links

- [Console Backpanel](#)



## Task: Hardware / Misc. / Turn the Console Off

Sometimes you need to turn off the console.

### Context

At some point you'll probably need to turn off the console.

### Steps

1. Press the power key on the front panel. It looks like this:



⇒ A warning pop-up appears.

2. To turn off the console you need to confirm the pop-up by pressing 'Yes'.

#### Result

The console will save the show and boot down. NOTE: only with the power switch (on the back side) on "0" the console is power-off!

#### Related Links

- [Console Geography](#)
- [Shutdown](#)



### Task: Adjusting the angle of the Display Wing

#### Context

To improve the readability of the screens and the ergonomics of the touch-interface, you should raise the Display Wing to an appropriate angle



When lowering the wing, make sure nothing gets caught between the wing and the console, as this area has a potential risk of hand or finger injury.

#### Steps

1. Press and hold the **MA** key
2. Decide which direction to move:
  - To raise, press and hold the **Up** key
  - To lower, press and hold the **Down** key



The motor slowly changes the angle

3. Release both keys



The motor will stop, and lock the wing in position



Instead of using the motors, you may press and hold **MA** & **Set** to release the torque and then adjust the angle by hand

#### Result



### Task: Adjusting the brightness of the Console

Adjusting brightness of console via hardkeys.

#### Context

LCD screens, Executor LEDs, Key Backlight and Gooseneck worklights all may have their brightness adjusted, to try to compensate for (or to blend into) the surrounding environment.

You will normally do this adjustment via the **Setup → Console → Desk Light** menu, however some of these elements may be adjusted directly via special hardkey combinations, even while the console is Booting:

The following elements has its own shortcut via the numeric keypad:

1. Gooseneck Worklights
2. Wing Screen(s) (screen 2-5)
3. Command Screen (screen 1)
4. Key Backlighting

#### Steps

1. Press and hold **MA** and the key for the desired element
  - press and hold both **MA** & **4** to adjust the key backlighting
2. Decide which direction to move:
  - To increase the brightness, press and hold the **+** key
  - To decrease the brightness, press and hold the **-** key



The brightness of the element is changed.

3. Release all keys



The brightness-level is set, and stored in your UserProfile.

#### Related Links

- [Desk Lights](#)



### Task: Adjusting the volume of the internal speaker

Adjusting **sound out** via commandline.

#### Context

The console may provide aural feedback of your operation of the console, (keypress-clicks, warning sounds etc.) via the internal speaker. You may adjust the level of these sounds, via the Specialmaster "Snd Out"

#### Steps

1. Enter **SpecialMaster** (or merely SM), then "Snd Out", followed by **At**, and the desired level



[Channel]> SpecialMaster "Snd out" At 0



You may also assign the Specialmaster to an executor, or the 100mm faders, for direct adjustment.



The volume of the internal speaker (and thereby any sound-effects) is set to the given level

#### Related Links

- [SpecialMaster Keyword](#)



### Topic: NPU Hardware tasks.

This is a small selection of hardware tasks for the NPU.

There are currently these three NPU hardware tasks.



### Task: Hardware / NPU / Connecting a NPU to a network.

This explains how to connect the NPU hardware to a MA system.

#### Context

It's recommended to use a good 1Gbit network switch for you MA system. And you should minimum use cat. 5e cables.

#### Steps

1. On the back panel for the grandMA NPU you'll find one Ethernet connector. Plug one end of a network cable in this port.
2. Connect the other end to one of the ports in your network switch. Make sure you use a port that gives you full access to the MA-Net.

#### Result

You have connected the grandMA NPU to you MA system. The next task takes you through connecting the power. There's also a task for adding the grandMA NPU to you session.



### Task: Hardware / NPU / Connecting power to a NPU.

This explains how to connect the power to the NPU hardware.

#### Context

It's important that you use an appropriate power source for your NPU. There's no UPS build into the NPU.

#### Steps

1. On the back panel for the grandMA NPU you'll find one PowerCon connector. Plug a female (blue) connector to this plug.
2. Connect the other end of the cable to an appropriate connector.

#### Result

You have connected power to the grandMA NPU.



### Task: Hardware / NPU / Turning on the NPU.

This task will show you the simple task of turning on the NPU.

#### Context

When the power is connected, you can turn the NPU on.

#### Steps

1. On the back panel of the grandMA NPU, you'll find a red power switch. Set this to "on".  
 The light in the switch should turn on. If it doesn't then there's something wrong with the power source.
2. On the front panel there's a small power button. Pressing this shortly will boot the grandMA NPU.

#### Result

The NPU boots up and you are shortly presented with a menu asking you if you'll change the mode. If you don't do anything, then the NPU will boot up in the last used mode.



### Task: Software

This section contains all the software tasks.



### Task: Install and update the software

This section contains all tasks about installing and updating the software.



### Task: Updating console software

New software are released regularly with new features and bug-fixes. Depending on the loaded version two methods are possible. **Modus 1:** Update direct from Linux -formatted USB stick for devices up to software version 2.7. **Modus 2:** Update direct from Windows-formatted USB stick or via network. All devices must have software version 2.8 and higher.

## Pre-Requisite

**Modus 1:** to perform this task you need to have a MAC or Windows PC (XP, Vista or Windows 7) with StickMAker installed, an empty USB-stick larger than 2Gb, and a keyboard connected to your console. **Modus 2:** to perform this task you need a Windows PC (XP, Vista or Windows 7) and an empty USB stick larger than 2Gb (Windows FAT 32 formatted).

[StickMaker & Console image Download Page](#)

**Note:** Follow steps 1 - 13 for update in modus 1.

## Steps

1. Download the most recent software-image (.imgz) from MA Lighting
2. Insert USB stick into your computer
3. Start the application StickMAker and select your USB stick from the pull-down curtain of the topmost green field.
4. Select **Write Image to disk** and browse for the downloaded image by pressing [...]
5. Press **Start** then confirm with **Yes**
  - ⇒ When progress-bar is full, you should get a pop-up with "Copy operation succeeded". StickMAker formatted the stick to Linux, all update files were installed.
6. Press OK, remove stick from computer.
7. Switch on Console and await for the boot menu.
  - ! The Boot Menu is only displayed for a few seconds, - be ready to perform next step within that time.
8. By using the arrow and Enter/Please keys of the keyboard, select **Utility Menu** (item 3)
  - ⇒ Console continues to boot and prepare Utility Menu
9. Insert USB-stick with image into USB-port and await a few second for the USB to initialize
10. When GMA2 UTILITY menu is displayed, select Import new Version by pressing the Enter/Please key
  - ! If you get a message "Nothing to Import", the USB is not yet initialized, try again in 5 seconds
  - ⇒ Console displays "Importing files from USB-Devices, please wait" then returns to Utility menu
11. By using the arrow and Enter/Please keys of the keyboard, select **Choose Version**
  - ⇒ Console list imported versions after a few seconds
12. By using the arrow and Enter/Please keys of the keyboard, select the version you just imported
  - ⇒ Console installs imported version, then returns to Utility menu
13. By using the arrow and Enter/Please keys of the keyboard, select **Quit**
  - ⇒ Console reboots and you may remove the USB-stick

## Steps

1. Follow steps 1-9 for update in modus 2. The device from which the update is started (source device) must always be connected with the USB stick. The target device must be connected with the source device via network.
  - ⇒
2. Download update files (xyz.update) from MA homepage and store in main directory of the stick. Create no folders.
  - ⇒
3. Connect USB stick with device.
  - ⇒
4. Open menu SETUP / CONSOLE / SOFTWARE UPDATE and tab UPDATE.
  - ⇒
5. Select devices to update. Update is only possible with the appropriate device-dependent software.
  - ⇒
6. Press button UPDATE DEVICES. On the target device a Pop-Up opens for 10 Seconds. Within this time transmission of the software can be canceled. Without action transmission starts automatically. Do not switch off devices during transmission.
  - ⇒
7. After transmission a Pop-Up opens on the target device. Within 10 seconds a reboot of this target device can be canceled. Without action the reboot starts
  - ⇒
8. A reboot of the target device is absolutely necessary
  - ⇒
9. Remove USB stick.
  - ⇒

## Result

Your console should now be updated with the latest software-version.

## Related Links

- [Enable console to boot from dedicated USB stick.](#)
- [Boot from unknown USB stick.](#)



## Task: Reinstall console software and OS via USB

How to get a clean install of software and OS

## Pre-Requisite

To perform this task you need to have a Mac or Windows PC (XP, Win 7 or Vista) with StickMAker installed, an empty USB-stick larger than 2Gb, and a keyboard connected to your console.

Additionally you need in advance to backup any data you wish to keep, as this procedure totally overwrites the hard-drive of the console

[StickMaker & Console image Download Page](#)

### Steps

1. Download the most recent software-image (.imgz) from MA Lighting
2. Insert USB stick into your computer
3. Start the application StickMAker and select your USB stick from the pull-down curtain of the topmost green field.
4. Select **Write Image to disk** and browse for the downloaded image by pressing [...]
5. Press **Start** then confirm with **Yes**
  - ⇒ When progress-bar is full, you should get a pop-up with "Copy operation succeeded"
6. Press **OK**, remove stick from computer, and insert stick into console
7. With stick inserted, switch on console.
  - ! If console starts normally you need to first enable USB-boot, see Related Links at bottom of page
  - ⇒ Console boots from the USB and gives you a menu with several choices
8. By using the arrow up/down keys, highlight **MA Installer**
  - ⇒ BootOptions at bottom of screen displays: ....other=install,nox,usbboot,usbdata|
9. Use left arrow key to move cursor between equal-sign and "install", then type "**full**"
  - ⇒ BootOptions at bottom of screen displays: ....other=fullinstall,nox,usbboot,usbdata
10. Press **Enter/Please** to select MA Installer with the fullinstall option
  - ⇒ Console continues to boot and prepare installation
11. When prompted, press **Enter/Please** to confirm formatting of the hard-drive
  - ⇒ Console formats hard-drive and prepare for installation
12. When prompted, press **Enter/Please** to confirm installation of OS and Software
  - ⇒ New OS and software is installing
13. When prompted, remove USB-stick and confirm with Enter/Please-key to reboot
14. Let the console boot in grandMA2 mode.
15. Calibrate touchscreens

### Result

You console should now have a clean install. Please remember that all data has been erased, and the IP-adress of you console is now the default 192.168.0.4

### Related Links

- [Enable console to boot from dedicated USB stick.](#)
- [Boot from unknown USB stick.](#)



## Task: Boot from unknown USB stick

### Pre-Requisite

To perform this task you need an external keyboard (with F11) connected and a bootable USB stick made with the StickMAker.

### Context

If you have not dedicated a specific USB stick to use for software-updates, and enabled this stick in BIOS, you need an external keyboard with F11 for selection of boot-device, to do software-updates.

### Steps

1. Insert bootable USB stick made with Stickmaker, and switch on Console,
2. During startup press **F11** multiple times to get the **Select Boot Device** menu
  - ! If you are not able to trigger this menu with F11, and console boots normally, you need to enter BIOS to enable boot from this USB stick. Please see Related Links at bottom of page.
3. Navigate with arrowkeys to your USB stick, and press **Enter/Please**
  - ⇒ Console boots from USB, and gives you a menu with several choices

### Result

You may now proceed with installation of software via USB

### Related Links

- [Update Software via USB.](#)
- [Enable console to boot from dedicated USB stick.](#)



## Task: Enable console to boot from a dedicated USB stick

### Pre-Requisite

To perform this task you need a keyboard connected and a bootable USB stick made with the StickMAker.

### Context

If you have a dedicated USB-stick to use for software-updates, you may perform this task once, to enable the console to prioritize boot from this specific USB-stick, eliminating the need for an external keyboard with F11 for selection of boot-device, to do software-updates.

### Steps

1. Insert bootable USB-stick made with StickMAker, and switch on Console,
2. On the keyboard press **Del** to enter Bios setup
3. If prompted for password, enter **helpg2** and perform the following steps
  1. Navigate with arrow-keys to **Bios Security Features**
  2. Press **Enter/Please** 3 times to remove password
  3. Press **Esc** to return to main menu
4. Navigate with arrow-keys to **Boot Configuration Features**, and press **Enter/Please**
5. Navigate with arrow-keys to **Hard Disk Drives**, and press **Enter/Please**
6. Press **Enter/Please** to change what is "1st drive", and select your USB-stick with arrow-keys and Enter/Please.
7. Press **Esc** two times to exit to main menu

- Navigate with arrow-keys to **Save changes and Exit**, and press **Enter / Please** two times

### Result

Your console should now boot from USB if it is switched on with this USB-stick inserted.

### Related Links

- [Update Software via USB.](#)



## Task: Restart grandMA2 application after a crash

### Pre-Requirement

To perform this task you need a keyboard connected to your console (only for GMA-Ultralight and GMA-Replay Unit)

### Context

If you experience a software crash, the console will return to the Linux OS command-shell, recognized by a text-mode display on screen 1 with black background and system messages in white and yellow text, - and at the bottom in green "root@gma2 #". To restart the application without rebooting the console follow the steps below.

### Steps

- Press **arrow-up** on your keyboard.  
⇒ Bottom line displays "root@gma2 # Autostart". If "Autostart" is not recorded, it must be typed in via keyboard.
- Press **Enter / Please** to execute the Autostart command  
⇒ The grandMA2 application starts and you should be up and running in seconds.
- If the application immediately crash again, your showfile may be corrupt and you need to proceed with the following
- Press **arrow-up** on your keyboard.  
⇒ Bottom line displays "root@gma2 # Autostart"
- Type **noload** on your keyboard.  
⇒ Bottom line displays "root@gma2 # Autostart noload"
- Press **Enter / Please** to execute the Autostart /noload command  
⇒ The grandMA2 application starts with an empty showfile
- Load a backupcopy of the file or a previous version of your show via the backup-menu



## Task: Software / Setup

This contains all the Software Setup Tasks



## Task: Software / Setup / Create New Show

This task will create a new show.

### Context

This task will create a new show on the internal hard drive of the console.

### Steps

- Press **Backup**.  
⇒ This will give you the **Backup Menu**. It looks something like this:



- Make sure the 'Internal' tap is selected.
- Press **New Show**.  
⇒ This gives you the New Show pop-up. It looks something like this:





4. In the **New Show pop-up**, write a new name for the show.

5. Select the options you want to clear.

- Clear Show Data - This will erase all patch, sequences, presets, groups, macros, etc.
- Clear Time Config - This will set all the fade, delay, OutFade, etc. back to the default timing options.
- Clear Local Settings - This will set all the console options (intensity buttons, intensity screens..) back to the default options.
- Clear Global Settings - This will set all settings (TELNET, Remotes, Login ...) to the default option.
- Clear Network Protocols - This will erase all the settings for DMX out via Ethernet.
- Clear Network Config - This will erase all the informations regarding grandMA2 NPU's, grandMA VPU's, other grandMA2 consoles, grandMA2 3D, etc.
- Clear User Profiles - This will erase the users and the user profiles.

6. Press the **Please** key.



Alternative you can use the command line:

```
[Channel]>Newshow "playground" /full
```

This will create a new, completely empty show with the name "playground".

### Result

You have created a new show.

### Related Links

- [Backup Menu](#)
- [New Show](#)
- [NewShow Keyword](#)



## Task: Software / Setup / Save a Show

This will save the current show with a new name.

### Context

There are three ways to do this. The first is the fastest. The second is the slowest, but with more control. The third uses the command line.

It's almost never a bad idea to save your show. And with grandMA2, it's so fast that you are not spending time waiting for the console to save.

### Steps

1. Press the **Backup** key fast twice.

⇒ You trigger a build in macro that saves your current show.

### Steps

1. Press the Backup key (once).

⇒ This opens the Backup Menu.

2. Select the drive (or tap) where you want the show saved.



This is also the way to store the show on a USB memory stick.

3. Press the **Save Show** button.

⇒ You have saved your current show in the drive you selected.

### Steps

1.

```
[Channel]>Saveshow
```

⇒ You have stored the current show on the current selected drive.

### Result

No matter what way you use, you save your show data.

### Related Links

- [Backup Key](#)
- [Backup Menu](#)
- [SaveShow Keyword](#)
- [SelectDrive Keyword](#)



## Task: Software / Setup / Save a Show with a New Name

This will save the current show with a new name.

### Context

There are two ways to do this. The first uses the GUI. The second uses the command line.

### Steps

1. Press the Backup key (once).  
⇒ This opens the Backup Menu.
2. Select the drive (or tap) where you want the show saved.  
i This is also the way to store the show with a new name on a USB memory stick.
3. Press the **Save Show As** button.  
⇒ A pop-up appears prompting you to write a new name.
4. Write the new name and finish with the **Please** key.  
⇒ Your show is saved with a new name.

### Steps

1.  

[Channel]>Saveshow "playground2"

  
⇒ You have saved the current show with a new name on the current selected drive.

### Result

No matter what way you used, you saved your show data.

### Related Links

- [Backup Key](#)
- [Backup Menu](#)
- [SaveShow Keyword](#)
- [SelectDrive Keyword](#)



## Task: Software / Setup / Auto Save a Show

This will set a time interval at with the desk will store the show automatically.

### Context

The grandMA2 has an Auto save feature. This will automatically store the show after a specified interval.

### Steps

1. Press the Backup key.  
⇒ This opens the Backup Menu.
2. At the bottom of the window there's a the Auto Save options. Press the button under the text 'Auto Save' until you have the desired time interval.

### Result

This will start a count down. When it reaches 0 the desk will store the show and restart the count down.

### Related Links

- [Backup Key](#)
- [Backup Menu](#)



## Task: Software / Setup / Load a Show

This will load a show.

### Context

There are two ways to do this. The first uses the GUI. The second uses the command line.

### Steps

1. Press the Backup key.  
⇒ This opens the Backup Menu.
2. Select the drive (or tap) where the show (you want to load) is saved.  
i This is also the way to load a show from a USB memory stick.
3. Press the **Load Show** button.  
⇒ This opens the **Load Show pop-up**.
4. Select the show you want to load. On the right side of the pop-up you can select, what parts of the show you want to load.
5. When you are happy with your selection you press the **Ok** button.  
⇒ The desk loads the new show.

### Steps

1.  

[Channel]>Loadshow "playground2"

-  If you don't know the name of the show you can see a list of show on the current selected drive using the command **Listshow**.
-  The desk loads the show.

### Result

No matter what way you used, the new show is loaded.

### Related Links

- [Backup Key](#)
- [Backup Menu](#)
- [Load Show pop-up](#)
- [ListShows Keyword](#)
- [LoadShow Keyword](#)
- [SelectDrive Keyword](#)



## Task: Software / Setup / Delete a Show

This will delete a show.

### Context

There are two ways to do this. The first uses the GUI. The second uses the command line.

### Steps

1. Press the Backup key.
  -  This opens the Backup Menu.
2. Select the drive (or tap) where the show you want to delete is saved.
  -  This is also the way to delete a show from a USB memory stick.
3. Press the **Delete Show** button.
  -  This opens the **Delete Show pop-up**.
4. Select the show you want to delete.
5. When you are happy with your selection, you press the **Ok** button.
  -  If you changes your mind you can press the **Cancel** button or close the pop-up. This doesn't delete anything.
  -  The show is deleted.

### Steps

1.
 

[Channel]>Deleteshow "playground2"

  -  If you don't know the name of the show you can see a list of show on the current selected drive using the command **Listshow**.
  -  The desk deletes the show from the drive.

### Result

No matter what way you used, the new show is loaded.

### Related Links

- [Backup Key](#)
- [Backup Menu](#)
- [Delete Show pop-up](#)
- [ListShows Keyword](#)
- [DeleteShow Keyword](#)
- [SelectDrive Keyword](#)



## Task: Software / Setup / Create New User and login

This task will create a new user and login as that user.

### Context

This task will create a new show on the internal hard drive of the console.

### Steps

1. Press **Setup**.
  -  This gives you the 'Console section in the **Setup Menu**.
2. Make sure the 'Console' tap is selected.
3. Press 'User+Profiles Setup'.
  -  This gives you the User and User Profiles section. It looks something like this:



In a new show there are only the grayed out Administrator and Guest users. These are defaults and can't be deleted or altered.

4. Press the headline saying 'Showing Users'.

5. Press the **X1** key to add a new user (you might need to highlight the 'New' word).

⇒ This creates a new user with the user name "user".

6. Edit the name using the encoder to highlight the user name and then press the screen encode. Write your own name.

7. Add a password if you like.

8. If you want the user to have it own views and user setting, you need to create a new user profile:

1. Highlight the 'New' cell in the 'UserProfiles' section.
2. Press the screen encoder

⇒ This creates a new User Profile.

3. Give the User Profile a name that makes sense to you. There are many ways to organize the users and user profiles. So choose one that makes sense to you.

⇒ This creates a new User profile.

9. Select the new User Profile for your User.

10. You can also change the user rights. This option allows you the set different levels of editing rights. Follow the link below to read more about the different rights.

11. This is what you need to create a User and a User Profile. Exit the setup menu.

12. To login as your new user you need to press the **Tools** key

13. Then press the 'Login' button.

⇒ This gives you the Login screen.

14. Type the User name and the password (if any) followed by a **Please**.

i You can also login using the commandline:

```
[Channel]>login username password
```

## Result

You have created a new user and logged in as this user..

## Related Links

- [Multiuser](#)
- [Login Keyword](#)
- [Select Rights](#)
- [Login](#)



## Task: Software / Setup / Patch Conventional

In this task we will patch some generic dimmers.

## Pre-Requisite

Before doing this task you should create a new empty show. If you don't want to do that, you should go to the next task "Patch Moving Lights".

## Context

In this task we will patch some generic dimmers.

## Steps

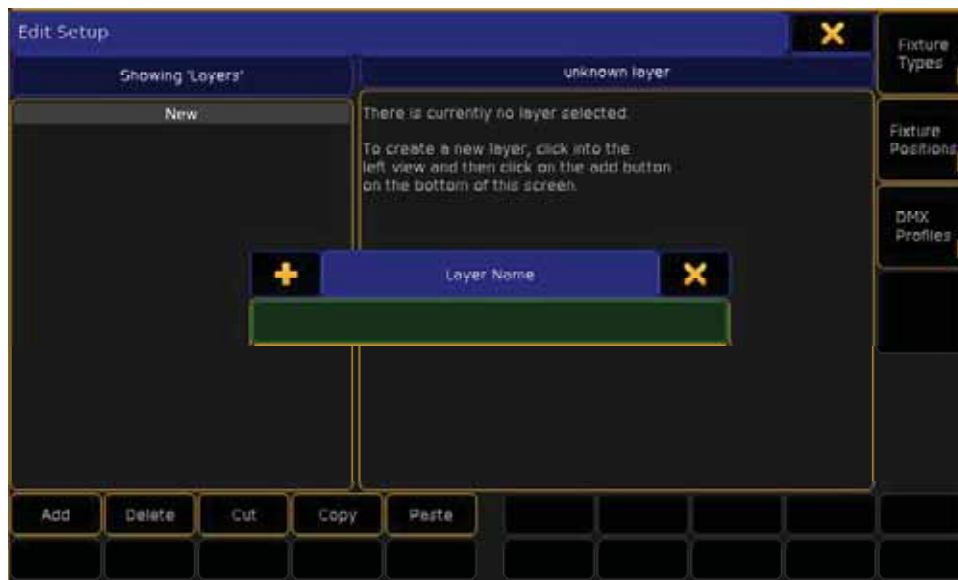
1. Press **Setup**.

⇒ This gives you the **Setup Menu**.

2. Make sure the 'Show' tap is selected.

3. Press 'Patch & Fixture Schedule'.

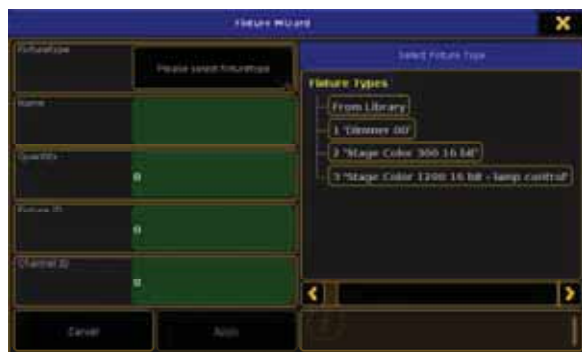
⇒ Since this is the first time you enter the patch, it will guide you through the proper steps. The first step asks for a layer name. It looks something like this:



In a new show there aren't any layers or fixtures and the console guide us through the steps the first time.

4. Type "Dimmers" followed by a .

⇒ This gives you the **Fixture Wizard pop-up**. It looks like this:



5. On the right side of this window there's a list of the imported fixturetypes. Currently there aren't any, so press where it says 'From Library'.

⇒ This gives you the **Select a FixtureType pop-up**.

6. In the 'Manufacturer Filter' type "generic".
7. Select 'generic@dimmer@oo.xmlp' and press the 'Ok' button.
8. In the name area type "Dim 1"

**i** When you add a number behind some text (or another number) with a space between the console will automatically increase the number.

9. The Quantity should be "40".

⇒ This gives us 40 dimmers.

10. Fixture ID should be "0".

⇒ This will make sure the dimmers doesn't have a fixture ID.

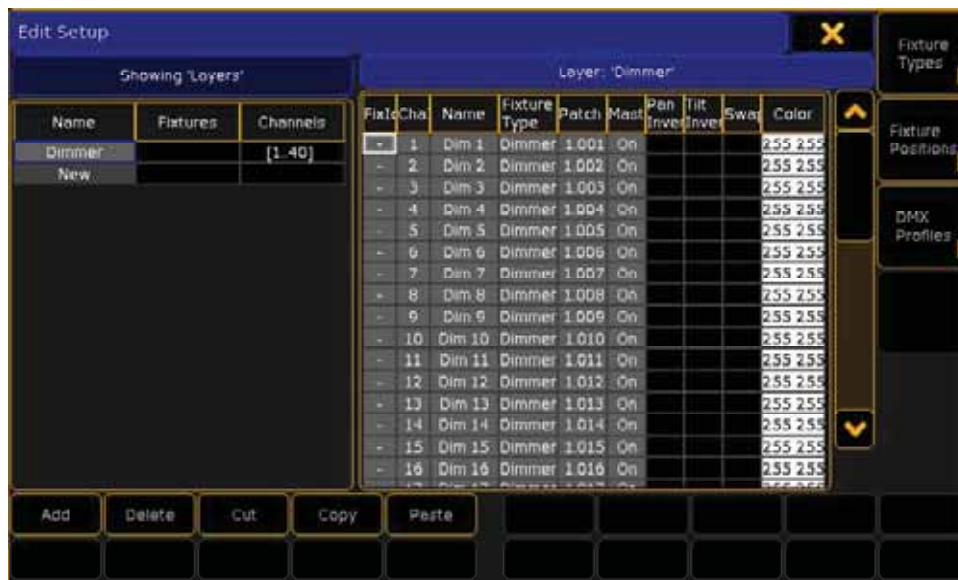
11. Channel ID should be "1".

⇒ This gives the first dimmer a channel ID of "1", the second will have channel ID "2", etc.

12. We are going to patch the 40 dimmers in the first universe beginning at DMX address 1. So in the Patch area type "1.1".

13. Now press the 'Apply' button.

⇒ This finishes the Fixture Wizard and patches the 40 dimmers. It should look something like this:



14. Close the Edit Setup by pressing the yellow 'X' in the upper right corner.

⇒ This gives you a warning pop-up.

15. Confirm that you would like the save by pressing the 'Yes' button.

⇒ You are back in the **Setup Menu** you could close this as well.

### Result

You have patched 40 dimmer channels in your show.

### Related Links

- [Select Fixture Type](#)



## Task: Software / Setup / Patch Moving Lights

In this task we will patch some moving lights.

### Context

In this task we will patch 12 VL500 from Vari Lite.

### Steps

1. Press **Setup**.

⇒ This gives you the **Setup Menu**.

2. Make sure the 'Show' tap is selected.

3. Press 'Patch & Fixture Schedule'.

4. To organize the fixtures, we need a new Layer. Right click the 'New' under "Showing 'Layers'".

i You can also highlight the 'New' and press the screen encoder to create a new layer.

⇒ This gives you a pop-up asking for a name of the new layer.

5. In the pop-up type "VL500" followed by a **Please**.

6. On the right side of the screen you can see the content of the layer. Right now it's empty. Right click the 'New'.

⇒ This opens the **Fixture Wizard pop-up**.

7. On the right side of this window there's a list of the imported fixturetypes. Currently there are only the dimmers, so press where it says 'From Library'.

⇒ This gives you the Select a **FixtureType pop-up**.

8. In the 'Manufacturer Filter' type "vari".

9. Scroll down and select 'varilite@vl500@16-bit.xml' and press the 'Ok' button.

10. In the name area type "VL500 1"

11. The Quantity should be "15".

12. Fixture ID should be "101".

⇒ This will make sure the fixtures are visible (and controllable) in the fixture sheet.

13. Channel ID should be "101".

⇒ This will make sure the fixtures are also visible in a channel sheet.

14. We are going to manually patch the VL 500's. So in the Patch area type "0".

⇒ This will create the fixtures, but will not patch them.

15. Now press the 'Apply' button.

16. Now we are going to patch the VL500's. Click hold and drag with the mouse in the 'Patch' column of all the VL500's. Then right click.

⇒ This opens the **DMX Patch pop-up**.

17. Without doing anything else right click next where it says "VL500 1"

⇒ This opens the calculator where you can enter a new patch number.

18. Type "1.51" followed by **Please**.

- ⇒ This patches the dimmer channel of the VL500's. This fixture type uses an external dimmer for the intensity. And therefore needs two patch numbers for each fixture.
19. Repeat step 16.
- ⇒ This opens the **DMX Patch** again.
20. Now you can see the patch numbers of the fixtures and on the right side you can see the patch in the DMX universe. On the left side below the fixture list you can see two options called "DIM" and "PAN". Press the one called "PAN" or the **X2** key.
- ⇒ This changes the patch focus to the second part of the fixture.
21. Make sure there's a blue frame around the gray cells on the left side, and then right click the top cell.
22. Type "2.1" followed by a **Please**.
- ⇒ This patches the second part of all the VL500's to the first DMX address on the second universe.
23. You have patched all the VL500's and can close the Patch & Fixture Schedule by pressing the yellow "X" in the upper right corner.
- ⇒ This gives you a warning pop-up.
24. Confirm that you would like the save by pressing the 'Yes' button.
- ⇒ You are back in the **Setup Menu** you could close this as well.

### Result

You have patched 15 Vari Lite VL500's in your show.

### Related Links

- [Patch & Fixture Schedule](#)
- [DMX Patch](#)



## Task: Software / Setup / Create a View

Creating a channel windows.

### Context

When you create a new show or a new user, your screens will (almost) be empty. We are going to have a look at creating a view.

### Steps

1. Choose an empty space on your screens, and press it.
 

⇒ This gives you the **Create Basic Window pop-up**.
2. Select the 'Sheets' tap.
 

⇒ This allows you to choose one of the sheet windows.
3. Press where it says 'Channel'.
 

! Some windows have a minimum space requirement. A channel sheet have a minimum of 3 x 2 tiles.

### Result

This creates a channel sheet.

### Related Links

- [Windows Concept](#)
- [Create Basic Window pop-up](#)
- [Window doesn't fit in pop-up](#)
- [Channel Sheet](#)



## Task: Software / Setup / Clear a Screen

Lets' look at clearing a screen

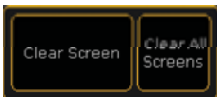
### Context

A clean screen can be a nice beginning for a new view. You can delete one or more of your windows and eventually end up with a clear screen, but there's another option.

### Steps

1. Press and hold the **O** (encoder) key
 

⇒ A small pop-up appears in the lower right corner of each screen. It looks like this:


2. Press 'Clear Screen' to empty the screen you are pressing or press 'Clear All Screens' to clear all the screens.

### Result

You have cleared the screen(s).

### Related Links

- [\[Encoder\] Key](#)



## Task: Software / Setup / Store a View on a ViewButton.

In this task we will store a view on a ViewButton.

### Pre-Requisite

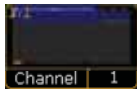
In this task we assume that there aren't any views stored on any ViewButtons.

### Context

There are many ways to store a view, this task will introduce you to storing a view on a ViewButton.

### Steps

1. Create a view to your likings.
2. Press **Store** followed by the **V1** key.
  -  You can also press on the preview area next to the keys.
  -  This gives you a **Store View Options pop-up**.
3. In the pop-up you can give the view a name.
  -  I made a channel window - so I call my view "Channel"
4. Now you select the screens you want included in your view.
  -  I only want to store screen 2, and it's already marked.
  -  If you only store one screen, the view isn't "locked" to that screen. Meaning if you recall that view in a screen of similar or higher resolution, the view will also appear on that screen.
5. Press **Please**.
  -  We stored a view. Notice a small preview of your view appear on the ViewButton next to the **V1** key. It could look like this:



on the onPC it just looks like this:



### Result

The view is stored on ViewButton 1



## Task: Software / Setup / Store a View on a UserButton.

In this task we will store a view on a UserButton.

### Context

There are many ways to store a view, this task will introduce you to storing a view on a UserButton.

### Steps

1. Create a view to your likings.
2. Press the **User 1** key
  -  This changes the buttons at the bottom of screen 1 to user buttons.
3. Press **Store** followed by the **X1** key.
  -  You can also press the area above the keys.
  -  This gives you a **Store View Options pop-up**.
4. In the pop-up you can give the view a name.
  -  I made a Commandline Feedback window - so I call my view "Command Line"
5. Now you select the screens you want included in your view.
  -  I only want to store screen 1, so I select screen 1 in the pop-up.
  -  If you only store one screen, the view isn't "locked" to that screen. Meaning if you recall that view in a screen of similar or higher resolution, the view will also appear on that screen.
6. Press **Please**.
  -  We stored a view. The UserButton now looks like this:



### Result

The view is stored on UserButton 1



## Task: Software / Setup / Recall a View

A look at recalling views.

### Context

There are two basic ways to recall a view.

### Steps

1. Press any of the stored view buttons or user buttons containing a view (or their on screen version).

### Steps



1. Using the hardkeys to recall view.

    - This recalls view number 1.

#### Result

What ever way you choose, you should have recalled your view.



### Task: Software / Setup / Delete a View

A small look at deleting views.

#### Context

To have the complete overview of all your views, you should open a **View Pool**.

#### Steps

1. Pressing delete followed by a ViewButton or a UserButton don't delete the view, it just empties the button. To delete a view you need to delete the view in a view pool or use the hardkeys.

     - deletes view 1.

#### Result

Deleting a view also removes it from any ViewButtons or UserButtons where it was assigned.



### Task: Software / Setup / Calibrate the Touchscreens

This task will take you through the process of calibrating a touchscreen.

#### Context

After a full install or when the touchscreen isn't precise you need to calibrate your screen(s).

#### Steps

1. Press the  key.
2. Select the 'Console' tap.
3. Press the 'Screen Options' Button
4. Press the button corresponding to the screen you want to calibrate.

⇒ This opens a blue calibration screen that looks like this:



5. Follow the instructions on screen (Please Touch the Blinking Symbol until Beep or Stop Blinking)
6. Repeat for all four points in the screen.

⇒ When done you'll return to the 'Screen Options'. If needed you can repeat the process for the other screens.

#### Result

Your touchscreen has been calibrated.



### Task: Software / Setup / Setting the IP address

Setting the IP address on the console can be necessary when connecting the console to other equipment.

#### Context

This task will take you through the steps of setting the IP address using the setup menu.

#### Steps

1. Press the  key.
2. Select the 'Network' tab.
3. Press the 'MA Network Control' button.
4. If there's a session running you need to stop it. Do this by pressing the 'Leave Session' button or the  key. If you are in any doubt, just press it.
5. Press the current IP address (the default address is 192.168.0.4)

 When using the onPC you need to set the IP address in your computer.

⇒ This will give you the calculator pop-up (on the onPC you get a selection of the available IP addresses)

6. Type the new IP address (with the onPC you can select the desired address - make sure it's a wired connection)
7. Reboot the console

### Result

When the console is back from the reboot, you have a new IP address.



## Topic: Import

This section is about importing Effects, Macros, Fixture Profiles, Colors, Gobos and Bitmaps using different methods.

There are currently three different importing methods described here: Command line, GUI and FTP connection.

Read the following pages for each method.



## Topic: Import / Using Command Line

When using the Command line you can import a lot of things.

There are one window that makes sense when importing using the Command line. It's the **Command Line Window**. With this you can see how the console reacts to your input.

Read the following pages for details about each section.

### Related Links

- [Command Line Window](#)



## Task: Import / Using Commandline / Effects from USB

We are going to import some effects using the commandline.

### Pre-Requisite

You need a show and an effect XML file. You can download one by right-clicking (and select "saving as..") the following link: [default effects](#) (it's a link to a XML file with effects - this link doesn't work on the console). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "effects". It would also be a good idea to have a **Commandline Feedback** window, so you can see the respond from the console.

### Context

This will take you through some of the commands used when importing effects.

### Steps

1. First we need to point the console in the right direction (the USB stick!). The command we need is called "SelectDrive" and it can be shortened to "SD". In the command line type:

```
[Channel]> SD
```

⇒ The commandline feedback displays a list of the available drives.

2. We need to select the USB stick (it might be your drive number three). You do this with the "SD" command. For me the USB stick is drive number three. So I type:

```
[Channel]> SD 4
```

⇒ This makes the USB stick the default drive (also for saving shows).

3. We need to tell the console where we want the effect. so we need to change the directory to the effect folder. Type:

```
[Channel]> cd effect
```

⇒ This will change the directory to the effect folder.

4. If you want to check the stick for effect files you can use the command "ListEffectLibrary", it's shortened to "ListEf". In the commandline type:

```
Effects/1 'Global' > ListEf
```

⇒ This will display the effect xml files on the drive.

5. Now you can also see the name of the file we need to import. The file on my drive is called "PredefinedEffects". And the command we need is called "Import". So I type:

```
Effects/1 'Global' > Import PredefinedEffects
```

⇒ This will import all the effects in the xml file, and place them after the last used effects ID. You can see the list of effects by typing "list".

### Result

You have now imported effects from an xml file on a USB stick.

### Post-Requisite

If you need to return to your default destination and drive you need to type:

```
Effects/1 'Global' > cd /
```

and

```
[Channel] > sd 1
```



## Task: Import / Using Commandline / Macros from USB

We are going to import some macros using the commandline.

### Pre-Requisite

You need a show and a macro XML file. You can download one by right-clicking (and select "saving as..") the following link: [predefined macros](#) (it's a link to a XML file with macros - this link doesn't work on the console). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "macros". It would also be a good idea to have a **Commandline Feedback** window, so you can see the respond from the console.

### Context

This will take you through some of the commands used when importing macros.

### Steps

1. First we need to point the console in the right direction (the USB stick!). The command we need is called "SelectDrive" and it can be shortened to "SD". In the command line type:

```
[Channel] > SD
```

⇒ The commandline feedback displays a list of the available drives.

2. We need to select the USB stick (it might be your drive number three). You do this with the "SD" command. For me the USB stick is drive number three. So I type:

```
[Channel] > SD 4
```

⇒ This makes the USB stick the default drive (also for saving shows).

3. We need to tell the console where we want the macros. so we need to change the directory to the macro folder. Type:

```
[Channel] > cd macro
```

⇒ This will change the directory to the macro folder.

4. If you want to check the stick for macro files you can use the command "ListMacroLibrary", it's shortened to "ListM". In the commandline type:

```
Macros/1 'Global' > ListM
```

⇒ This will display the macro xml files on the drive.

5. Now you can also see the name of the file we need to import. The file on my drive is called "predefined". And the command we need is called "Import". So I type:

```
Macros/1 'Global' > Import predefined
```

⇒ This will import all the macros in the xml file, and place them after the last used macro ID. You can see the list of macros by typing "list".

### Result

You have now imported macros from an xml file on an USB stick.

### Post-Requisite

If you need to return to your default destination and drive you need to type:

```
Macros/1 'Global' > cd /
```

and

```
[Channel] > sd 1
```



## Task: Import / Using Commandline / Fixture Type from USB

We are going to import a Fixture Type from a USB stick using the commandline.

### Pre-Requisite

You need a show and a Fixture Type XML or XMLP file. You can download one at the following link: [Fixture Share](#) (it's a link to the Fixture Share in ma-share.net). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "library". It would also be a good idea to have a **Commandline Feedback** window, so you can see the respond from the console.

### Context

This will take you through some of the commands used when importing fixture types.

### Steps

1. First we need to point the console in the right direction (the USB stick!). The command we need is called "SelectDrive" and it can be shortened to "SD". In the command line type:

```
[Channel] > SD
```

⇒ The commandline feedback displays a list of the available drives.

2. We need to select the USB stick (it might be your drive number three). You do this with the "SD" command. For me the USB stick is drive number four. So I type:

```
[Channel] > SD 4
```

⇒ This makes the USB stick the default drive (also for saving shows).

3. We need to tell the console where we want the fixture type. So we need to enter "Edit Setup" mode and change the directory to the FixtureType (FT) folder. Type:

```
[Channel]> cd "Edit Setup"
```

and then

```
Edit Setup > cd FT
```

⇒ This will change the directory to the fixture type folder.

4. If you want to check the stick for fixture type files you can use the command "ListLibrary", it's shortened to "ListL". In the commandline type:

```
Edit Setup/FixtureTypes 3 > ListL
```

⇒ This will display the fixture types xml files on the drive.

5. The fixture type file on my drive is called "martin@mac\_iii\_profile@16\_bit\_extended". The command we need is called "Import". So I type:

```
Edit Setup/FixtureTypes 3 > Import martin*
```

⇒ This will import all the Martin fixture type files from the USB stick and place them in the current show (not the main library in the console). You can see the list of fixture types in the show by typing "list".

### Result

You have now imported a fixture type from an xml file on an USB stick to the current show.

### Post-Requisite

If you need to return to your default destination and drive you need to type:

```
Edit Setup/FixtureTypes 3 > cd /
```

and

```
[Channel]> sd 1
```



## Task: Import / Using Commandline / Colors from USB

We are going to import colors from a USB stick using the commandline.

### Pre-Requisite

You need a show and a color XML file. You can download one at the following link: [exported LEE colors](#) (it's a link to the Color Share in ma-share.net). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "colors". It would also be a good idea to have a **Commandline Feedback** window, so you can see the respond from the console.

### Context

This will take you through some of the commands used when importing colors.

### Steps

1. First we need to point the console in the right direction (the USB stick!). The command we need is called "SelectDrive" and it can be shortened to "SD". In the command line type:

```
[Channel]> SD
```

⇒ The commandline feedback displays a list of the available drives.

2. We need to select the USB stick (it might be your drive number three). You do this with the "SD" command. For me the USB stick is drive number three. So I type:

```
[Channel]> SD 4
```

⇒ This makes the USB stick the default drive (also for saving shows).

3. We need to tell the console where we want the colors. so we need to change the directory to the color folder. Type:

```
[Channel]> cd 11
```

⇒ This will change the directory to the colors folder.

4. You need to know the name of the xml file you want to import. The file on my drive is called "Lee". And the command we need is called "Import". So I type:

```
Colors > Import Lee
```

⇒ This will import the colors in the xml file, and place them in a ColorPool called Lee after the last used ColorPool ID. You can see the list of ColorPools by typing "list".

### Result

You have now imported colors from an xml file on an USB stick.

### Post-Requisite

If you need to return to your default destination and drive you need to type:

```
Colors > cd /
```

and

```
[Channel]> sd 1
```



## Topic: Import / Using Graphic User Interface (menus)

When using the GUI you can import Macros, Effects and Fixture Types.

All imports are done from the Setup menu.

Read the following pages for details about each section.

## Related Links

- [Setup Menu](#)



## Task: Import / Using Graphic User Interface (menus) / Effects from USB

We are going to import some effects using the windows and menus.

### Pre-Requisite

You need a show and an effect XML file. You can download one by right-clicking (and select "saving as..") the following link: [default effects](#) (it's a link to a XML file with effects - this link doesn't work on the console). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "effects".

### Context

This will take you through some of the actions used when importing effects.

### Steps

1. Go to the **Setup ➔ Show ➔ Import/Export ➔ Import ➔ Effects**

➡ This will open a window like this:



2. Select the tab with the name of the USB stick (mine is called "NANO")
3. On the left side you can select the source xml file.
 

➡ This will give you the list of effect in the file on the right side.
4. Here you can (should) select one or several effects using **Shift** and **Ctrl**.
 

➡ The effects you have selected change the background color from gray to blue.
5. Choose where you want the effects to be placed (in the effects pool). You can specify a new position (in the green box) or you can change the "Use Earliest / Latest" setting. And you might consider if you want the "Overwrite" on (brown background) or off (black background)
6. When you are happy with your selection and options you press **Import**.

### Result

You have imported effects into your show.

## Related Links

- [Import Export Window](#)



## Task: Import / Using Graphic User Interface (menus) / Macros from USB

We are going to import some macros using the windows and menus.

### Pre-Requisite

You need a show and a macro XML file. You can download one by right-clicking (and select "saving as..") the following link: [predefined macros](#) (it's a link to a XML file with macros - this link doesn't work on the console). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "macros".

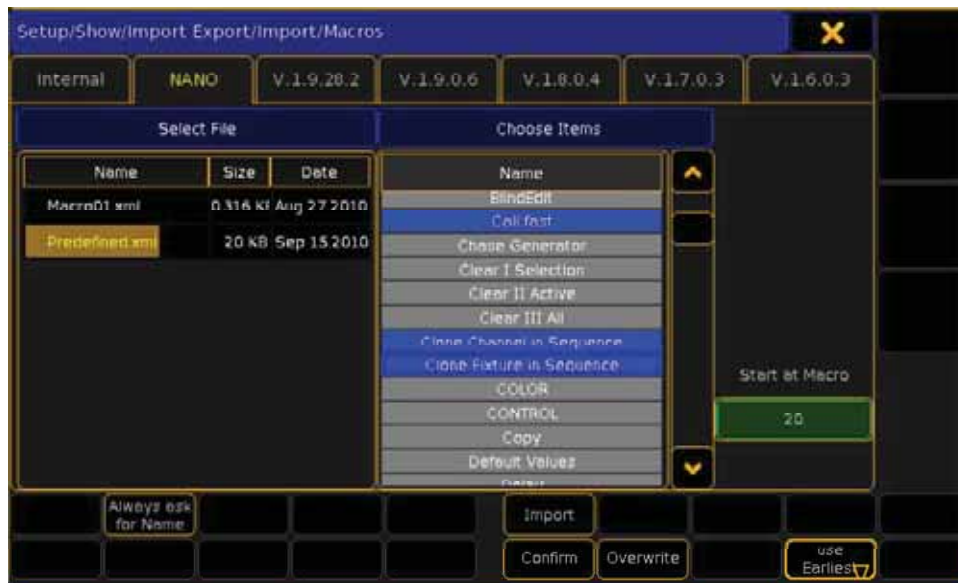
### Context

This will take you through some of the actions used when importing effects.

### Steps

1. Go to the **Setup ➔ Show ➔ Import/Export ➔ Import ➔ Macros**

⇒ This will open a window like this:



2. Select the tab with the name of the USB stick (mine is called "NANO")
3. On the left side you can select the source xml file.

⇒ This will give you the list of macros in the file on the right side.

4. Here you can (should) select one or several macros using **Shift** and **Ctrl**.

⇒ The macros you have selected change the background color from gray to blue.

5. Choose where you want the macros to be placed (in the macro pool). You can specify a new position (in the green box) or you can change the "Use Earliest / Latest" setting. And you might consider if you want the "Overwrite" on (brown background) or off (black background)
6. When you are happy with your selection and options you press **Import**.

### Result

You have imported macros into your show.

### Related Links

- [Import Export Window](#)



## Task: Import / Using Graphic User Interface (menus) / Fixture Types from USB

We are going to import a Fixture Type from a USB stick using the commandline.

### Pre-Requisite

You need a show and a Fixture Type XML or XMLP file. You can download one at the following link: [Fixture Share](#) (it's a link to the Fixture Share in ma-share.net). You need to place this file on a USB stick in the following folder "gma2" and in the subfolder called "library".

### Context

This will take you through some of the actions used when importing fixture types to a show.

### Steps

1. Go to **Setup → Show → Patch & Fixture Schedule**. If you haven't created any layers here, you'll be prompted to create one. You can just cancel this by pressing the yellow X in the upper right corner of the "Layer Name" pop-up. If you are then prompted with the "Fixture Wizard", you should also close this using the yellow X.
  - ⇒ You are now in the "Edit Setup".
2. Press the **U1** key or where it says "Fixture Types".
  - ⇒ This opens the Fixture Types window.
3. Press the X12 key or where it says "Import".
  - ⇒ This will open a new window - the "Select a FixtureType" pop-up.
4. Here you can use the drop down menu to select the USB stick.
  - ⇒ Now you can see the fixture types on the USB stick.
5. Select a fixture type and press **Ok**.

### Result

You have now imported a fixture type into your show. You can patch it or leave the setup as you please.

### Related Links

- [Patch & Fixture Schedule window](#)
- [Fixture Types window](#)



## Topic: Import / Using a FTP connection

It can be useful to connect to a console using a FTP connection.

Read the following pages for each type of import.



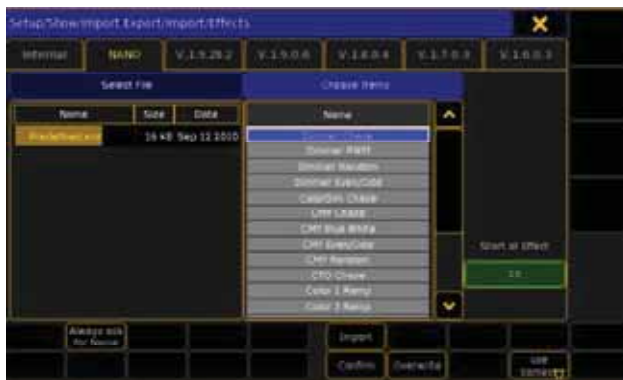
This task takes you through the steps needed to import an Effects packed using FTP and unpack it in the console using GUI.

You need a show and an effect XML file. You can download one by right-clicking (and select "saving as...") the following link: [default effects](#) (it's a link to a XML file with effects - this link doesn't work on the console). Save this file on a known location in your computer. Connect you computer to the console using a FTP program (see the "Using FTP" for details).

In some situations it might be useful to upload an Effects packed to the console using FTP. Then you need to unpack it on the console.

1. Connect to the console and navigate to the "effects" folder.
2. Upload the effect xml file.
3. On the console, go to the **Setup ➔ Show ➔ Import/Export ➔ Import ➔ Effects**

⇒ This will open a window like this:



4. Select the tab called "Internal".
5. On the left side you can select the uploaded xml file.

⇒ This will give you the list of the effects in the file on the right side.

6. Here you can (should) select one or several effects using **Shift** and **Ctrl**.

⇒ The effects you have selected change the background color from gray to blue.

7. Choose where you want the effects to be placed (in the effects pool). You can specify a new position (in the green box) or you can change the "Use Earliest / Latest" setting. And you might consider if you want the "Overwrite" on (brown background) or off (black background)
8. When you are happy with your selection and options you press **Import**.

You have uploaded and imported effects into your show.

- Import Export Window



This task takes you through the steps needed to import a Macro packed using FTP and unpack it in the console using GUI.

You need a show and a macro XML file. You can download one by right-clicking (and select "saving as..") the following link: [predefined macros](#) (it's a link to a XML file with macros - this link doesn't work on the console). Save this file on a known location in your computer. Connect you computer to the console using a FTP program (see the "Using FTP" for details).

In some situations it might be useful to upload a Macro packed to the console using FTP. Then you need to unpack it on the console.

1. Connect to the console and navigate to the "macros" folder.
2. Upload the macro xml file.
3. On the console, go to the **Setup ➔ Show ➔ Import/Export ➔ Import ➔ Macros**

⇒ This will open a window like this:





4. Select the tab named "Internal".
5. On the left side you can select the source xml file.
  - ⇒ This will give you the list of the macros in the file on the right side.
6. Here you can (should) select one or several macros using **Shift** and **Ctrl**.
  - ⇒ The macros you have selected change the background color from gray to blue.
7. Choose where you want the macros to be placed (in the macro pool). You can specify a new position (in the green box) or you can change the "Use Earliest / Latest" setting. And you might consider if you want the "Overwrite" on (brown background) or off (black background)
8. When you are happy with your selection and options you press **Import**.

#### Result

You have uploaded and imported macros into your show.

#### Related Links

- [Import Export Window](#)



### Task: Import / Using a FTP connection / Effects

This task takes you through the steps needed to upload a Fixture Type profile to the library in the console.

#### Pre-Requisite

You need a show and a Fixture Type XML or XMLP file. You can download one at the following link: [Fixture Share](#) (it's a link to the Fixture Share in ma-share.net). Save this file on a known location in your computer. Connect you computer to the console using a FTP program (see the "Using FTP" for details).

#### Context

It might be useful to upload a fixture type profile to a console using a FTP connection.

#### Steps

1. Connect to the console and locate the folder called "library".
2. Upload your fixture type profile.

#### Result

You have now uploaded a Fixture Type Profile to the fixture library. This can then be used as any other fixture type profile in the library.



### Task: Import / Using a FTP connection / Gobos

This task takes you through the steps needed to upload a gobo picture to the console.

#### Pre-Requisite

You need a picture in PNG format and 128x128 resolution of your gobo. Connect you computer to the console using a FTP program (see the "Using FTP" for details).

#### Context

It might be useful to upload a new gobo picture to a console using a FTP connection.

#### Steps

1. Connect to the console.
2. Navigate to the "gobos" folder and into the correct subfolder.
3. Upload your picture.

#### Result

You have now uploaded the gobo picture and can use it like any of the gobo pictures in the console.



### Task: Import / Using a FTP connection / Bitmaps

This task takes you through the steps needed to upload a bitmap picture to the console.

#### Pre-Requisite



You need a picture in PNG or BMP format. Connect you computer to the console using a FTP program (see the "Using FTP" for details).

#### Context

It might be useful to upload a new bitmap picture to a console using a FTP connection. These can be used in bitmap effects.

#### Steps

1. Connect to the console.
2. Navigate to the "bitmaps" folder.
3. Upload your picture.

#### Result

You have now uploaded the bitmap and can use it like any of the bitmap effect pictures in the console.



### Topic: Export

This section is about exporting Effects, Macro, Fixture Profiles, Colors, Gobos and Bitmaps using different methods.

There are currently three different exporting methods described here: Command line, GUI and FTP connection.

Read the following pages for each method.



### Topic: Export / Using Command Line

When using the Command Line you can export a lot of things.

There are one window that makes sense when exporting using the Command line. It's the **Command Line**. With this you can see how the console reacts to your input.

There's a general rule about exporting. When you export several files and give the exported group of files a name, it creates a single file with that filename. If you don't specify a name, the console will export the files separately with the same filename as the name of the object you are exporting.

Read the following pages for details about each section.

#### Related Links

- [Command Line Window](#)



### Task: Export / Using Commandline / Effects

We are going to export some effects using the commandline.

#### Pre-Requisite

For this you need a show with some effects. And if you need to take your effects with you, you might want to attach an USB stick. It's also a good idea to have a visible version of the **Commandline Feedback** window, then you can see the response from the console.

#### Context

If you use the same effects or just want to carry some general effect with you. You can export effects from a show to an USB stick.

#### Steps

1. If you want to export to an USB stick, you need to change the selected drive. The command you use for this is "**SelectDrive**", it can be shortened to "**SD**". With this you can see the possible drives by typing:

```
[Channel]> SD
```

⇒ This gives you a list of the possible drives (incl. USB sticks).

2. I want to export some effects to an USB stick, and in the list I just created, I can see that my USB stick is drive number three, so I type:

```
[Channel]> SD 3
```

⇒ We have selected the USB stick as our default drive. And what we export will be saved on this drive.

3. So far so good. Now we need a new command "**Export**". This is used to define what we are exporting and we can give the file a name when we export. We are going to export all effects, but you can limit the export just like when you make normal selections. Type:

```
[Channel]> Export Effect 1 thru "ExportedEffects"
```

#### Result

That's it. We have exported all the effects and given the packed effect file the name "ExportedEffects".

If you need to change the drive back to the internal drive, you should type:

```
[Channel]> SD 1
```



### Task: Export / Using Commandline / Macro

We are going to export some macros using the commandline.

#### Pre-Requisite

For this you need a show with some macros. And if you need to take your macros with you, you might want to attach an USB stick. It's also a good idea to have a visible version of the **Commandline Feedback** window, then you can see the response from the console.

#### Context

If you use the same macros, have created the ultimate macro (please share) or just want to carry some general macros with you. You can export them from a show to an USB stick.

### Steps

1. If you want to export to an USB stick, you need to change the selected drive. The command you use for this is "**SelectDrive**", it can be shortened to "**SD**". With this you can see the possible drives by typing:

```
[Channel]> SD
```

⇒ This gives you a list of the possible drives (incl. USB sticks).

2. I want to export some macros to an USB stick, and in the list I just created, I can see that my USB stick is drive number three, so I type:

```
[Channel]> SD 3
```

⇒ We have selected the USB stick as our default drive. And what we export will be saved on this drive.

3. So far so good. Now we need a new command "**Export**". This is used to define what we are exporting and we can give the file a name when we export. We are going to export all macros, but you can limit the export just like when you make normal selections. Type:

```
[Channel]> Export Macro 1 thru "ExportedMacros"
```

### Result

That's it. We have exported all the macros and given the packed effect file the name "ExportedMacros".

If you need to change the drive back to the internal drive, you should type:

```
[Channel]> SD 1
```



## Task: Export / Using Commandline / Fixture Type

We are going to export some fixture type using the commandline.

### Pre-Requisite

For this you need a show with some fixture types imported. You can only export fixture types that you have imported from the library into the show. If you need to take your fixture type with you, you might want to attach an USB stick. It's also a good idea to have a visible version of the **Commandline Feedback** window, then you can see the response from the console.

### Context

If you have created or edited a new fixture type profile (please share) or just want to have your favorite profiles with you. You can export them from a show to an USB stick.

### Steps

1. If you want to export to an USB stick, you need to change the selected drive. The command you use for this is "**SelectDrive**", it can be shortened to "**SD**". With this you can see the possible drives by typing:

```
[Channel]> SD
```

⇒ This gives you a list of the possible drives (incl. USB sticks).

2. I want to export some fixture types to an USB stick, and in the list I just created, I can see that my USB stick is drive number three, so I type:

```
[Channel]> SD 3
```

⇒ We have selected the USB stick as our default drive. And what we export will be saved on this drive.

3. So far so good. Now we need the command "**Export**". This is used to define what we are exporting and we can give the file a name when we export. We are going to export all fixture types, but you can limit the export just like when you make normal selections. Type:

```
[Channel]> Export FT 1 thru
```

The "**FT**" is a shortcut for "**FixtureType**".

### Result

That's it. We have exported all the fixture types from the show. They are created as separate files with correct names.

If you need to change the drive back to the internal drive, you should type:

```
[Channel]> SD 1
```



## Task: Export / Using Commandline / Colors

We are going to export the colors (gel types) using the commandline.

### Pre-Requisite

For this you need a show. If you need to take the colors with you, you might want to attach an USB stick. It's also a good idea to have a visible version of the **Commandline Feedback** window, then you can see the response from the console.

### Context

You can export the color gel xml files from a show to an USB stick.

### Steps

1. If you want to export to an USB stick, you need to change the selected drive. The command you use for this is "**SelectDrive**", it can be shortened to "**SD**". With this you can see the possible drives by typing:

```
[Channel]> SD
```

⇒ This gives you a list of the possible drives (incl. USB sticks).

2. I want to export the colors to an USB stick, and in the list I just created, I can see that my USB stick is drive number three, so I type:

```
[Channel]> SD 3
```

⇒ We have selected the USB stick as our default drive. And what we export will be saved on this drive.

3. So far so good. Now we need the command "**Export**". This is used to define what we are exporting. We are going to export all fixture types, but you can limit the export just like when you make normal selections. Type:

```
[Channel]> Export Color 1 thru
```

### Result

That's it. We have exported all the colors from the show. They are created as separate files with correct names.

If you need to change the drive back to the internal drive, you should type:

```
[Channel]> SD 1
```



## Topic: Export / Using Graphic User Interface (menus)

When using the GUI you can export Macros, Effects and Fixture Types.

All exports are done from the Setup menu.

Read the following pages for details about each section.



## Task: Export / Using Graphic User Interface (menus) / Effects to USB

We are going to export some effects using the windows and menus.

### Pre-Requisite

You need a show with some effects. And if you need to take your effects with you, you might want to attach an USB stick.

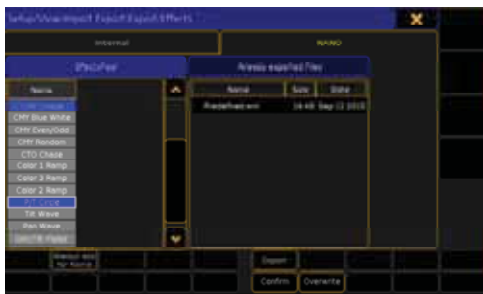
### Context

This will take you through some of the actions used when exporting effects.

### Steps

1. Go to the **Setup → Show → Import/Export → Export → Effects**

⇒ This will open a window like this:



2. Select the tab with the name of the USB stick (mine is called "NANO")
3. On the left side you can select the effects. Here you can (should) select one or several effects using **Shift** and **Ctrl**.
4. When you are happy with your selection and options you press **Export**.
5. A pop-up will appear to ask you for a name. Type one and finish by pressing **Please**.

### Result

You have exported effects.

### Related Links

- [Import Export Window](#)



## Task: Export / Using Graphic User Interface (menus) / Macros to USB

We are going to export some macros using the windows and menus.

### Pre-Requisite

You need a show with some macros. And if you need to take your macros with you, you might want to attach an USB stick.

### Context

If you use the same macros, have created the ultimate macro (please share) or just want to carry some general macros with you. You can export them from a show to an USB stick.

### Steps

1. Go to the **Setup → Show → Import/Export → Export → Macros**

⇒ This will open a window like this:



2. Select the tab with the name of the USB stick (mine is called "NANO")
3. On the left side you can select the macros. Here you can (should) select one or several macros using **Shift** and **Ctrl**.
4. When you are happy with your selection and options you press **Export**.
5. A pop-up will appear to ask you for a name. Type one and finish by pressing **Please**.

#### Result

You have exported macros.

#### Related Links

- [Import Export Window](#)



### Task: Export / Using Graphic User Interface (menus) / Fixture Types to USB

We are going to export a Fixture Type to an USB stick using the commandline.

#### Pre-Requisite

For this you need a show with some fixture types imported. You can only export fixture types that you have imported from the library into the show. If you need to take your fixture type with you, you might want to attach an USB stick.

#### Context

If you have created or edited a new fixture type profile (please share) or just want to have you favorite profiles with you. You can export them from a show to an USB stick.

#### Steps

1. Go to **Setup → Show → Patch & Fixture Schedule**.  
⇒ You are now in the "Edit Setup".
2. Press the **U1** key or where it says "Fixture Types".  
⇒ This opens the Fixture Types window. There should be some fixture here.
3. Highlight the fixture type you want to export.
4. Press the **X13** key or where it says "Export".  
⇒ This will open a new pop-up - the "Choose Destination" pop-up.
5. Here you can (should) select the USB stick.

#### Result

You have now exported a fixture type into your USB stick. You can patch it or leave the setup as you please.

#### Related Links

- [Patch & Fixture Schedule window](#)
- [Fixture Types window](#)



### Topic: Export / Using a FTP connection

It can be usefull to connect to a console using a FTP connection. There are many things you can get from the console.

There are different files that can be exported (downloaded) from the console using a FTP connection.

For this you need a FTP program. There are many good free FTP program available (like Filezilla). Please install such a program on a computer connected to your console.

Log in using the IP adress of the console and the username "data" and the password "data".

Double click the folder called "actual" and then the "gma2" folder.

Browsing the folders in the console, you can see what you can download.

There are several files to get here:

Bitmap pictures:

They can be found in the "bitmaps" folder.

Colors:

You can download the entire swatchbook in the "colors" folder.

Crash logs:

Generated crash logs can be downloaded from the "temp" folder.

CSV reports:

Generated reports can be downloaded from the "reports" folder.

Effects:

You can download locally (the internal drive) exported effects xml file in the "effects" folder.

Fixture Types:

You can download fixture types from the main library from the "library" folder.

Gobos:

Gobo pictures can be downloaded from the "gobo" folder.

Macros:

You can download locally (the internal drive) exported macro xml file from the "macros" folder.

Screenshots:

Generated screen shots (print screen key) can be downloaded from the "temp" folder.

Shows:

Stored shows can be downloaded from the "shows" folder.

As you can see, there are many things to get out of the console.



## Task: Programming

This section contains all the programming tasks.



## Task: Setup

This section contains all the show setup tasks.



## Task: Software / Programming / Controlling Conventionals

Controlling "dimmer only" lights is the basis of all programming.

### Pre-Requisite

For this task you need to have some dimmers patched. It might also be a good idea to have a channel sheet.

### Context

We are going to look at different ways to control the "Dim" attribute. Almost everything that lights come out of have a "Dim" attribute. This is usually for controlling the intensity.

Should you type something wrong you can delete the last pressed key (backspace) with the **Oops** key. Should you have typed something completely wrong, you can press the **Esc** key to clear the command line. One thing that could also help you in doing this task is the **Command Line window**.

Read the step results to get more info and tips on the steps.

### Steps

1. Select a channel by pressing the channel number of one of your fixtures followed by **Please**.



I have a channel with ID 1, so I press **1** **Please**.



The channel number should turn from gray to yellow.

2. Turn the channel up to 100% by pressing the **Full** key.



Below the channel number in the channel sheet might say "Open", "100.00" or something else that indicates that you have turn the channel at full.

The background of the value ("Open") have changed from blue to dark red. The value text have also changed from gray to red. Theres also a little red marker between the ID number and the value. This means that the value is in the programmer.

3. Set the value to 25% by pressing **At** **2** **5** **Please**.



The value changes but the colors stay.

4. Press the **Clear** key once.



This deselects the channel, but keeps the value. The basic philosophy is that to change a value of something, you need to select it. This also includes selecting what attribute you want to change the value of. In this task we are only looking at the dimmer attribute.

5. Press the **Clear** key once more.



The red background disappeared, the little red marker turned white and the value stayed. The red background and the little red marker indicates that the value will be stored should you choose to store. The marker changed to white to indicate that you still have the value in your programmer, but it will not store the value should you try to store. You can also see the value is still there in a red color.

6. Press the **Clear** key again.

⇒ The programmer is empty and we are now back to the beginning.

7. You can use a combination of the number keys and the **[ ]** **[+]** and **[Thru]** keys to create a selection. Make a selection where you use all three keys.

**Ex** I press **[1]** **[Thru]** **[1]** **[0]** **[ ]** **[5]** **[+]** **[1]** **[2]** **[Please]**.

⇒ This creates a new selection. You can also select channels by pressing on them in the channel sheet.

8. Press the **[At]** key twice.

⇒ This executes a command called "Normal" and it turns your channels at full.

9. Press the **[ ]** key twice.

⇒ This executes a command called "Zero" and turns the channels off. Notice that they are still in the programmer and the "closed" value will be store should you choose to do so.

10. Press **[Off]** **[Channel]** followed by the number of one of your active channels and **[Please]**.

**Ex** I got channel 1 active so I press: **[Off]** **[Channel]** **[1]** **[Please]**.

⇒ This removes all the values assigned to the channel from the programmer.

11. Your encoder toolbar displays the Preset Types available to you. When you have dimmers you should (at least) have the "Dimmer" button. Press this to make sure you have the Dimmer attribute assigned to the first Attribute Encoder.

⇒ It could look like this:



12. Turn the encoder to change the value.

⇒ The value should change when the encoder is turned.

13. Press the encoder shortly.

⇒ This opens the "calculator". Here you have the option to type a new value or choose one of the fast options on the right side of the calculator pop-up.

14. Press the fast option called "Off".

⇒ This removes any value from the programmer but keeps the channels selected.

15. You can assign a value range to your selection. Try to select 10 channels that are right next to each other.

**Ex** I got ten channels with ID 1 to 10 so I press: **[1]** **[Thru]** **[1]** **[0]** **[Please]**.

⇒ If you are going to assign a value to a selection right after making the selection, you can skip the "Please" in the last example.

16. Now we can try to assign a range of values type: **[At]** **[1]** **[0]** **[thru]** **[1]** **[0]** **[0]** **[Please]**.

⇒ This distributes the value between 10 and 100 evenly between the 10 channels. The selection order is important when you assign a value range. Had you selected the channels in the reverse order (10 thru 1) you would had reversed the value distribution. And selecting your channels in a random order the values would distribute in that order.

17. Last thing we are going to look at is using the level wheel. If you have a fullsize or a light, you have a level wheel that allows you to adjust the values. Try turning the wheel up and down to see the value change.

## Result

We have looked at the most common ways to control an attribute. This is some of the basic operations on the grandMA. You should try all these combinations. The console do a lot of thinking for you in these operations. There are some fast ways and shortcuts in selecting channels/fixtures and assigning values.

## Related Links

- [Channel Sheet](#)
- [Command Line Window](#)
- [General Encoder Toolbar](#)



## Task: Software / Programming / Controlling Moving Lights

Controlling lights with multi attributes is a basic skill in programming.

## Pre-Requisite

For this task you need to patch some fixtures. I suggest a fixture that have a gobo wheel, color wheel and CMY color mixing and some focus and zoom options. For this task I use the Mac 700 Profile from Martin.

It might also be a good idea to have a visible **Fixture Sheet** and a **Command Line Window**. You should also have a look at the previous page. It gives you a basic understanding of controlling dimmer attributes.

## Context

We are going to look at different ways to control the moving light attributes.

There are several ways to control attributes, we are primarily going to use the encoder toolbar and the encoders.

The task is a look at the most common attributes (Pan/Tilt, Gobo, Color, Focus and Zoom). The next tasks takes a detailed look at some of the more special attributes.

Read the step results to get more info and tips on the steps.

### Steps

1. Select a fixture by pressing the fixture number of one of your fixtures followed by Ⓜ.

**Ex** I have a fixture with ID 1, so I press 1 Ⓜ.

⇒ The fixture number and name should turn from gray to yellow.

2. Let's have a look at Pan and Tilt first. Press where it says "Position" in the Encoder Toolbar.

⇒ The first two encoders should now have control over the Pan and Tilt attributes.

3. Turn the encoder to move the position of the fixture.

4. If you have a console, you can use the yellow trackball to position the moving light. You might need to press the Ⓜ key to assign Pan/Tilt control to the trackball.

5. Let's have a look at gobos. Select the Gobo button on the Encoder toolbar.

**Note:** If you don't have a button called "Gobo" you need to patch a fixture that have gobos.

⇒ This changes the content of the encoder. The First encoder will probably contain the selection of a gobo. If your fixture have gobo indexing or rotation, the second encoder will probably control the gobo rotation.

6. Try to rotate the encoders to see the changes.

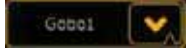
7. To access the function sets stored in the fixture profile you need to press the encoder. Press the first encoder.

⇒ This opens the calculator.

8. Next to the onscreen numeric keyboard there are some buttons that allow you to select defined functions (defined by the fixture profile). There might be more than one version of the same symbol. This indicates different modes for the same gobo. Try to select one of them.

⇒ This assigns one of the gobos to the fixture.

9. Some Fixtures have more than one Gobo wheel. You can change between different Features (as it's called) by using the Feature selector. It's located above the first encoder.



Press the down arrow.

⇒ This present you with a drop down menu with your feature choices.

10. Close the drop down menu, by pressing the down arrow again.

11. Now we are going to have a look at colors. Press the Color button in the encoder toolbar.

⇒ This changes the content of the encoders.

12. We have looked at the most common ways to control attributes. So have a look at what ColorWheel 1 can offer.

13. Using the Feature Selector, select "ColorMix".

**Note:** If you don't have this feature available, you need to patch a fixture that uses CMY color mixing.

⇒ This gives you control of the Cyan, Magenta and Yellow on the first three encoders. And you can use them to select any blend of color.

14. The ColorMix also gives us access to the special dialog for colors. Press the "Special Dialog" button on the encoder toolbar.

⇒ This opens the special color dialog on the command screen.

15. Press the U1 key.

⇒ You have now selected the Fader view in the dialog. Here you can change the color in a more dynamic way. You can use HSB, CMY, RGB or any combination of it..

16. Press the U2 key.

⇒ Now you see as big color picker. Here you can press on any color to assign it to the fixture.

17. Press the U3 key.

⇒ This is a catalog of all the color gels from the mayor manufacturers (if you are missing some you can create them and import it - but that's outside the scope of this task.).

Select a manufacturer and scroll through the colors or use the filter to narrow your selection.

You can always switch between any of the ways to select colors.

18. Close the Special Dialog by pressing the "X" in the upper right corner.

19. The last thing we are going to look at in this task is the Focus and Zoom attributes.

20. In the commandline type this:

[Channel]>att focus

⇒ Followed by a Ⓜ, the attribute is changed to Focus and Zoom. The encoders have also changed to give you control over these two attributes. You can access all of the attributes this way.

21. Now type this:

[Channel]>att focus at 50

⇒ Followed by a Ⓜ, you can see that the value of 50 is now assigned to the Focus attribute.

22. Clear your programmer.

### Result

We have had a look at the basics of controlling moving lights. In the next tasks we have a look at some details of controlling specific attributes.

### Related Links

- [Fixture Sheet](#)
- [Command Line window](#)
- [General Encoder Toolbar](#)
- [Mouse Key](#)
- [Specialized Color Dialog](#)



## Task: Software / Programming / Controlling Shapers

This is a short introduction to controlling shapers using the Special Shaper Dialogs.

### Pre-Requisite

For this task you need to patch some fixtures with shapers. For this task I use the VL3500 Spot from Vari\*Lite.

It might also be a good idea to have a visible **Fixture Sheet** and a **Commandline Feedback Window**. You should also have a look at the previous pages. They give you a basic understanding of controlling general attributes.

For details you should have a look at the window description of the Special Dialog. It gives you a complete description of the dialogs.

### Context

The task is a look at controlling the shapers attributes in fixtures.

The grandMA2 series introduces a new and intuitive way to control shapers.

### Steps

1. Select the Shaper preset type in the Encoder Toolbar.
2. Select the fixture with shapers.
3. Press the "Special Dialog" button in the Encoder Toolbar.
4. This dialog has three different modes. Press the **U1** key to enter the "Corner Mode".
5. Press and drag any of the black circles with a orange outline to change the shape of the shapers.
6. Press and drag the top green circle on the left side of the screen to rotate the entire shaper module.



If you only have one green circle, then your fixture can't rotate the entire shaper module.

7. Press the **U2** key to switch to the "Blade Mode"
  - ⇒ This gives you a more direct control of the blades.
8. Press the **U3** key to switch to the "Fader Mode".
  - ⇒ This allows you to control the individual parameters using faders.
9. Clear your programmer.

### Result

This was a short task introducing you to the Special Shaper Dialog.

### Related Links

- [Specialized Shaper Dialog](#)



## Task: Macro

This section contains all the macro tasks.



## Task: Creating / Editing a macro

Macros is a very useful tool. You can do almost anything with macros.

### Context

We are now going to make a very simple macro. This macro removes all dimmer values from your programmer.

### Steps

1. Create a macro pool.
2. Press **Edit** followed by a empty macro button.
  - ⇒ You should now see the Edit Macro Pop-up (see link below for info about this pop-up)
3. Right click in the gray area under "Name".
  - ⇒ A small pop-up should appear - allowing you to write text.
4. Type: **Remove Dimmer** followed by **Please**.
  - ⇒ You have now created a new name to the macro.
5. Press the **Add** soft-button, to add a command line in the macro.
6. Now right click in the gray area under "Text". And type: **Off att 1** followed by **Please**.
  - ⇒ The test line in the gray are should now say: Off Attribute 1
7. Press the big X in the upper right corner of the pop-up to close it.

### Result

Your macro is done! Before closing the pop-up you have several extra options: You can add a time to your macro line. Or add more lines. Thus making more sophisticated macros serving your every need.

### Related Links

- [Macro Pool](#)



- [Edit Macro](#)



## Task: Using macros

There are many ways to run a macro. This will show you some of them.

### Context

The following is not steps to perform. They are different ways to do the same. All the examples are executing macro number 1. If you need to run a different macro just replace the "1" with the correct number. Please read details about the Keywords, Keys and windows by following the link at the bottom.

### Steps

1. There are several ways to execute macro 1:
  - Press the first macro pool button.
  - Use hard keys: `Macro 1 Please`.
  - In the commandline type: `go ma 1` followed by `Please`.

### Related Links

- [Creating/Editing a macro](#)
- [Macro Pool](#)
- [Macro Key](#)
- [Macro Keyword](#)
- [Macro Concept](#)



## Task: Assigning a macro to an Executor.

This will show you different ways to assign a macro to an excutor.

### Context

There are also many ways to assign a macro to any executor. This will show you some of them.

### Steps

1. In the following we will assign macro 1 to executor 101
  - Use the hard keys: `Assign Macro 1 At Exec 101 Please`.
  - use the command line: `ass m 1 at exec 101 Please`.
  - A compination af screen and keys: Press `Assign` then a pool macro button and finally the Executor hard key.
  - Using the **Assign Menu** (follow the link below for details about the **Assign Menu**).

### Result

Macro 1 is now assigned to executor 101.

### Related Links

- [Assign Menu](#)
- [Macro Pool](#)
- [Macro Key](#)
- [Macro Keyword](#)
- [Macro Concept](#)



## Task: Effects Tasks

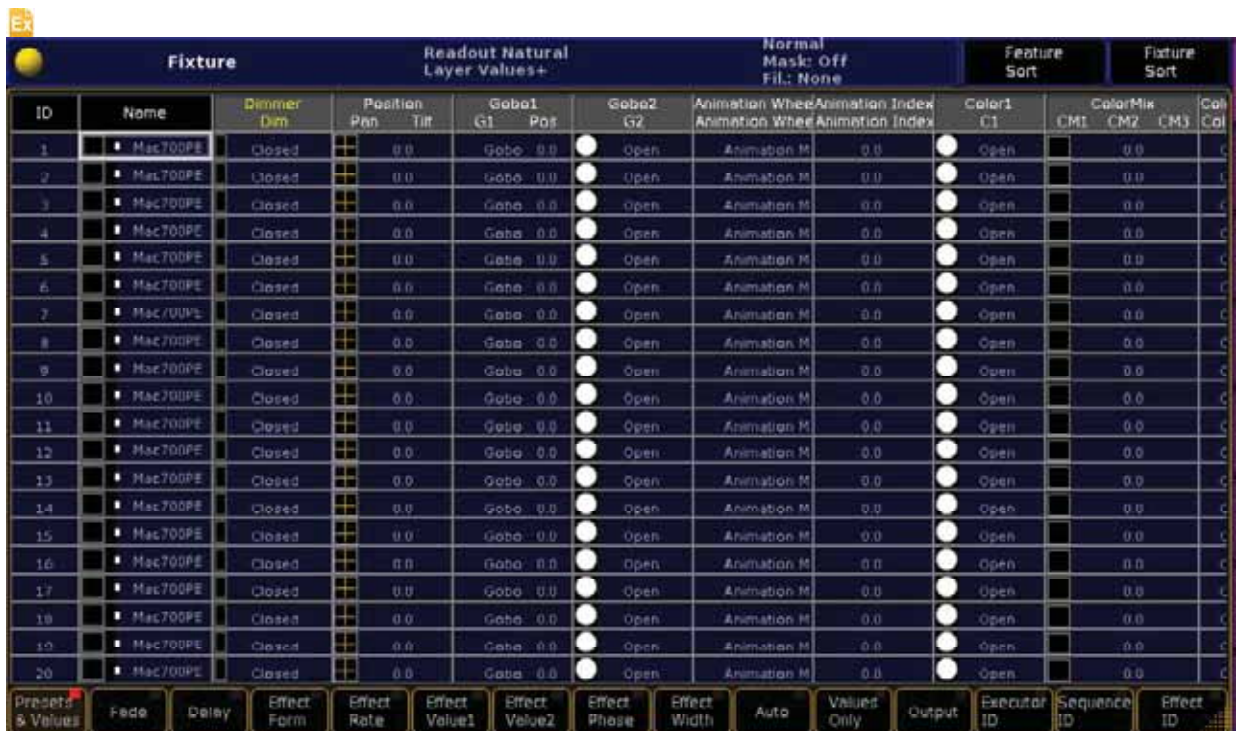
The following pages will take you through some effect tasks. Demonstrating many of the effect features.

### Context

In the following we will make some effects. But to do this we need an appropriate show. If you don't know how to do these steps, please go through the Tutorial Basis 1 and 2.

### Steps

1. Create a new empty show.
  - I made a show called "EffectTasks".
2. Patch 20 moving heads with CMY color mixing.
  - I added 20 "Mac 700 Profile Extended" from "Martin".
3. Place the first 10 of them on a single line 5 meters above the ground facing down. And the last 10 on the ground facing up.
  - Fixture 1 thru 10 are moved to X = -10 thru 10; Y = 5; Z = 5; X(rot) = 180. Fixture 11 thru 20 are moved to X = -10 thru 10; Y = 5.
4. Create a **Fixture Sheet** and a line with the **Effect Pool**. Make sure the "Layer Control" is on and it might be an advantage if you turn on "Symbol Features".



| Fixture |          |               | Readout Natural<br>Layer Values+ |                 | Normal<br>Mask: Off<br>Fil: None |                                    | Feature<br>Sort                    |              | Fixture<br>Sort         |            |
|---------|----------|---------------|----------------------------------|-----------------|----------------------------------|------------------------------------|------------------------------------|--------------|-------------------------|------------|
| ID      | Name     | Dimmer<br>Dim | Position<br>Pan Tilt             | Gobo1<br>G1 Pos | Gobo2<br>G2                      | Animation Wheel<br>Animation Wheel | Animation Index<br>Animation Index | Color1<br>C1 | ColorMix<br>CM1 CM2 CM3 | Col<br>Col |
| 1       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 2       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 3       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 4       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 5       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 6       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 7       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 8       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 9       | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 10      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 11      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 12      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 13      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 14      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 15      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 16      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 17      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 18      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 19      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |
| 20      | Mac700PE | Closed        | 0.0                              | Gobo 0.0        | Open                             | Animation M                        | 0.0                                | Open         | 0.0                     | C          |

Presets & Values   Fade   Delay   Effect Form   Effect Rate   Effect Value1   Effect Value2   Effect Phase   Effect Width   Auto   Values Only   Output   Executor ID   Sequence ID   Effect ID

5. Save your show.

## Result

We are now ready to make the first effect task. Go to the next page to begin making effects.



## Task: Make an Effect using the Programmer.

We will now create an effect using the programmer.

## Pre-Requisite

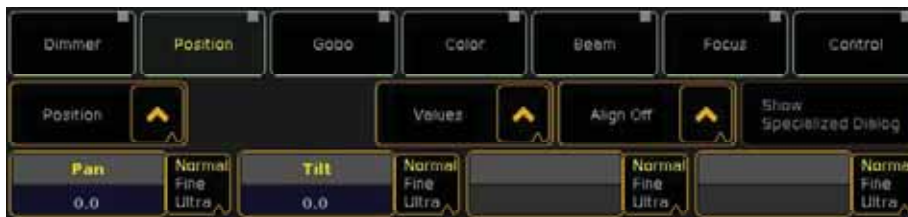
Please make sure you have a appropriate show for this task. You could use the one made on the previous page: [Effect task](#).

## Context

We are going to create an effect using the programmer. For this we are using the "Layer Control Bar" buttons that deals with effects:



and the "Encoder Toolbar":



## Steps

1. Select all your fixtures.
2. Select "Position" preset type in the Encoder Toolbar.
3. Select "Effect Form" in the "Layer Control bar".
4. Press the "Pan" encoder and select the "Cos" in the calculator pop-up.
  - ⇒ You will now see all the Pan attribute move from side to side in your fixture sheet.
5. Press the "Tilt" encoder and select the "Sin" in the calculator.
  - ⇒ Now also the Tilt attribute moves.
6. Select "Effect Rate" in the "Layer Control Bar".
7. Press the "Pan" encoder and adjust the rate to "0.5"
8. Repeat step seven for the "Tilt" attribute.
  - ⇒ It now uses 2 seconds to go through the effect cycle (0.5 hertz).
9. Select the first half of your fixtures.
10. Select "Effect Value 1" in the "Layer Control Bar".
11. Set the "Pan" value to "-30" and the "Tilt" value to "20".
12. Select "Effect Value 2" in the "Layer Control Bar".
13. Set the "Pan" value to "30" and the "Tilt" value to "60".
14. Select "Effect Phase" in the "Layer Control Bar".
15. Set the value to "0 thru 360" for both "Pan" and "Tilt".
16. Select the second half of your fixtures.
17. Select "Effect Value 1" in the "Layer Control Bar".
18. Set the "Pan" value to "-30" and the "Tilt" value to "-80".
19. Select "Effect Value 2" in the "Layer Control Bar".

20. Set the "Pan" value to "30" and the "Tilt" value to "-50".
21. Select "Effect Phase" in the "Layer Control Bar".
22. Set the value to "0 thru 360" for both "Pan" and "Tilt".
23. Press Store and then the first empty effect pool button.

⇒ You have now stored a Pan/Tilt effect with your fixtures.

### Result

To test your effect you can clear your programmer and press the effect pool button twice (once for selecting the fixtures - second for assigning the effect to the fixtures), and turn your fixtures on.

### Post-Requisite

On the next page we are going to create an effect using the **Effect Editor Pop-up**.



## Task: Make an Effect using the GUI.

We are going to make a dimmer effect using the effect edit pop-up.

### Pre-Requisite

You need fixtures that has a "Dim" attribute. But maybe you should make the previous two task first.

### Context

We are going to make a random looking dimmer chase that snaps the value at 100% and then ramps down to 0%.

### Steps

1. Select your fixtures in a random order.
2. Press **Edit** followed by the first empty effect pool button.
 

⇒ This gives you the **Effect Editor** pop-up on screen 1 (or maybe screen 2).
3. Press the **X1** key or where it says "add" to add a line in your effect.
 

⇒ This gives you the **Select Effect Attribute** pop-up.
4. Navigate to the "Dim" attribute and select it.
 

⇒ This brings you back to the **Effect Editor**.
5. Press the **U1** key or where it says "Edit Effect Line".
 

⇒ What you now get is the **Effect Line Editor** pop-up. This is great for editing the individual lines in an effect.
6. Select the PWM table in the first column.
7. Make sure the Rate is "0.8 Hertz".
8. Make sure the Value 1 is "0" and Value 2 is "100".
 

⇒ This makes the effect go from 0% to 100%.
9. Set the Phase From at "0" and Phase To at "360".
 

⇒ This distributes all the fixture evenly trough the effect cycle.
10. Set the Width to "15%". The width controls how many fixtures you have turned on at the same time.
11. Now we want the dimmer attribute to snap up and ramp down. This is controlled by the "attack" and "decay" parameters. Set the Attack to "0%" and the Decay to "100%".

### Result

We are done, and you can close the editor pop-up. All your different settings are automatically store in the effect.

### Post-Requisite

You can test your effect by pressing the pool button twice. You might compine it with the effect we made in the previous page. On the next page we are going to look at an effect that uses presets.



## Task: Make an Effect with Presets.

We are going to make an effect that changes the color between two different color presets.

### Pre-Requisite

For this task you need some fixtures with CMY colors. You need to make two presets with different colors. It might be a good idea to make the previous effect tasks.

### Context

There are many advances by using presets and now they can also be used in effects. You can still update your presets without changing every effect that uses it. The effects will simply use the preset content.

### Steps

1. Select all your lights.
2. Select the "Color Mix" feature in the Encoder Toolbar and select "Effect Value1" in the **Fixture Sheet**.
3. Press the preset pool button for your first color preset.
 

⇒ This assigns the preset to value 1 in your effect.
4. Select "Effect Value2" in the Fixture Sheet.
5. Press the preset pool button for the second color preset.
 

⇒ This assigns the second color preset to the second effect value.
6. Press **Store** followed by the first empty effect pool button.
 

⇒ This stores your two values in an effect.
7. Right click the Effect pool button or press **Edit** followed by the effects pool button.
 

⇒ This opens the **Effect Editor** pop-up on ether screen 1 or 2.
8. In the **Effect Editor** pop-up you'll see the lines for the three different color wheels (CMY). The "Form" is, as a default, "Flat V1". Select all three line in the "Form" column. Right click the selection (or press **Edit** followed by the selection).
 

⇒ This gives you a new pop-up.
9. Select the "Sin" in the **Select Form** pop-up

- ⇒ This closes the pop-up and assigns the "Sin" form to your effect.
- 10. To avoid all the fixtures change together we need to change the "Phase To" value. Select all the lines in the "Phase To" column and edit the value.
- 11. In the **Calculator** pop-up type "360" followed by ⌘ Please .
- ⇒ This spreads out all your fixture evenly in the entire effect cycle.
- 12. Close the Effect Editor pop-up.
- ⇒ We are done.

### Result

The effect is done and you can use it by pressing it twice. You might need to turn your lights on and move them to see the effect running.

### Post-Requisite

You should save your show. On the next page we are going to assign the effect to executors and use them to control the effects.



## Task: Assign and control Effects on Executors.

This is a look at assigning and controlling effects on the executors.

### Pre-Requisite

For this task you need at least one effect in your effect pool. Maybe you could benefit from making the previous effects tasks.

### Context

There are three ways of running effects: In the programmer, on Executors & from a Sequence. We are now going to take a look at running it from the Executors. And using a speed master to control the overall rate.

### Steps

1. The fastest way to assign an effect to an executor is the ⌘ Assign key. We are going to assign effect 1 to executor 1. Press ⌘ Assign ⌘ Effect ⌘ 1 ⌘ At ⌘ Exec ⌘ 1 ⌘ Please .
- ⇒ This assigns the effect to the executor and you can probably run it by pressing the a Go button and turning up the fader.
2. Let's check some of the options for this executor.
  1. Press the ⌘ Assign key and then one of the executor buttons on executor 1.
  2. In the **Assign menu** (on screen 1 or 2) press where it says "Options".
3. We are now going to assign the effect to a Speed master. Press where it says "Speed Individual" and in the small pop-up select "Speed Group 1".
4. Then we need a "Speed Master". This will then control the speed of the effect.
  1. Press the ⌘ Assign Key followed by an empty executor.
  2. In the **Assign Menu** press where it says "Function".
  3. Press the ⌘ X9 key or where it says "Special Master".
  4. Scroll down and select the "Speed 1" option.
  5. Close the **Assign Menu**.
- ⇒ You now have a speed master and an effect that uses it.

### Result

You now know how to assign an effect to an Effect Executor, and control the rate with a speed master.

### Post-Requisite

The next task look at effects in sequences.



## Task: Make an Universal Circle Effect

### Pre-Requisite

To perform this task you need a showfile with some fixtures with pan & tilt attributes

### Context

As the current version does not include any prebuilt effects, and some default-values like rate and size is not optimized, you may want to create some basic universal effect in advance, to use as a starting point for creation of actual effects.

### Steps

1. Edit an empty effect
  - ⌘ Edit Effect 1
  - ⇒ The Effect Editor Window opens
2. Make sure that you have no fixtures selected and press ⌘ Add (X11)
  - ⇒ The Attribute Select popup is displayed
3. Browse to and select Pan from the attribute select popup:
  1. Press the plus-icon next to the label "Position" to expand this PresetType
  2. Press the plus-icon next to the label "Position" to expand this Feature
  3. Press the label "Pan" to select this attribute
  - ⇒ The Attribute Select popup is closed, and an effect-line with pan is created
4. Repeat step 2 & 3, but select "Tilt" as attribute
  - ⇒ The Effect now has two lines, one with Pan and one with Tilt
5. Rightclick in the Tilt Effect-line of the **Form** column, and change the form from **Sin** to **Cos**
6. Select both the Pan and Tilt-line of the **Rate** column, rightclick and change rate to 0.2
7. Select both the Pan and Tilt-line of the **Value1 From** column, rightclick and change value to -25
8. Select both the Pan and Tilt-line of the **Value2 From** column, rightclick and change value to 25
9. Press ⌘ U1 to open Effect-line editor, and enable **Relative** by pressing ⌘ X19
10. Press U2 or U3 to edit the other Effect-line and enable **Relative** for the second line as well
11. Close the editor with the ESC key or the "X" in the upper right corner

12. Label the effect by pressing Assign Assign Effect 1 Please and enter "Circle" in the label popup

### Result

We now have an Universal Circle effect in our Effect-pool, which will be applied relative to the current position. To use it, select some fixtures, press the Circle Effect, adjust vsize rate etc if necessary with the encoders by changing encoders to the respective layers, and either store as a new effect or directly into a cue.



### Task: Using effect in a sequence.

We are going to take a look at effects running native in a cue. And use another cue to change a value.

### Pre-Requisite

You need some fixtures with a Dimmer and Pan & Tilt feature.

### Context

We are going to create an effect in a cue. Then use a second cue to slowly stop the effect.

### Steps

- Put this in your programmer:
  - Select all your fixtures.
  - Select "Position" preset type in the Encoder Toolbar.
  - Select "Effect Form" in the "Layer Control bar".
  - Press the "Pan" encoder and select the "Cos" in the calculator pop-up.
  - Press the "Tilt" encoder and select the "Sin" in the calculator.
  - Select "Effect Rate" in the "Layer Control Bar".
  - Press the "Pan" encoder and adjust the rate to "0.5"
  - Repeat step seven for the "Tilt" attribute.
  - Select the first half of your fixtures.
  - Select "Effect Value 1" in the "Layer Control Bar".
  - Set the "Pan" value to "-30" and the "Tilt" value to "20".
  - Select "Effect Value 2" in the "Layer Control Bar".
  - Set the "Pan" value to "30" and the "Tilt" value to "60".
  - Select "Effect Phase" in the "Layer Control Bar".
  - Set the value to "0 thru 360" for both "Pan" and "Tilt".
  - Select the second half of your fixtures.
  - Select "Effect Value 1" in the "Layer Control Bar".
  - Set the "Pan" value to "-30" and the "Tilt" value to "-80".
  - Select "Effect Value 2" in the "Layer Control Bar".
  - Set the "Pan" value to "30" and the "Tilt" value to "-50".
  - Select "Effect Phase" in the "Layer Control Bar".
  - Set the value to "0 thru 360" for both "Pan" and "Tilt".
- Turn all your fixture on by setting the dimmer value to 100.
- Store this as cue 1 with a fade time of 3 sec. on a empty executor.
- Select the executor.
- In the commandline type this:

```
[Channel]>f 1 t at cue 1
```



This selects all the fixtures and takes the values from cue 1 in your programmer.

- Change the "Effect Rate" to "0".
- This stops the effect.
- Store this as cue 2 with a time of 3 sec.

### Result

Now you have an sequence with two cues. Cue 1 will run the effect. Cue 2 will slowly stop the effect. "GoBack" will slowly start the effect again.



### Task: Creating a post in the Agenda.

This is an example on how to create an post in the Agenda using the screens and windows (not the commandline).

### Context

When you need the desk to execute a command at a specific time you can make an agenda.

### Steps

- In the agenda window, select a date (could be the current date).
 You should now be in the day view.
- Press or click on the "add" button.
 A line like this: should appear.
- Now you need to set the start time. Pressing the gray area under "Start" where it says "Absolute" gives you several options. You can select a specific time (called "Absolute") or you can select a relative time (like "Dawn", "Sunrise", "Sunset" or "Dusk"). If you choose an "Absolute" time you also need to enter a time in the gray area under "Time".
- You can also set a duration for your agenda post. This tells the desk how long the command is valid. If the desk is off at the start time, the duration tells the desk if the command is still active on the time the desk is turned on.
- Repeat is a nice useful feature if you need your command to be repeated. There are all possible repeat possibilities incl. Daily, Every 2nd day, etc.
- Now we come to the command part. Here you type the command the desk needs to execute. This can be anything you can type in the command line. If you need more sophisticated commands, you might want to make a macro and then use the agenda to execute the command. You can write a comment in a command. If you write a # symbol then any text after this is not executed or displayed in the command line feedback view. You might need to put your comment in quotes to avoid the console treating your text as keywords (although they will not execute).
- In the "Info" column you can type any text that might be useful to you or others.
- The gray area under "First" is the beginning date. With this you can see and edit the (first) date the command should execute.
 If you right click the date, you are presented with the "Enter Date Pop-up". Follow link below to read about this pop-up.
- If you made a repeating agenda you can set the "last date" the agenda should execute. If you leave the empty, then it repeats forever.

**Result**

That's it! Now you have made an agenda that executes a command, when you want it. Remember that writing a good info text might help others understand what it does, and why.

**Related Links**

- [Agenda Window](#)
- [Enter Date Pop-up](#)

**Task: Create Highlight Presets**

How to create and use Highlight Presets

**Context**

When Highlight is enabled, a set of predefined values will be forced on output of currently selected fixtures, to enable easy focusing of fixtures. These predefined values are generated by the fixtureType definition. By the use of Highlight Presets, these values may be dynamically changed.

A Normal Preset will apply its values in programmer, while a Highlight Preset will be applied to the Highlight property of your fixture schedule.

**Steps**

1. Create (universal) dimmer Preset 1.1 with your channels at 80 %
2. Create (universal) dimmer Preset 1.2 with your channels at 100%
3. Clear programmer and type in the commandline `Assign Preset 1.1 + 1.2` , press Please and select "Highlight" in the two popups
  - ⇒ Dimmer preset 1 & 2 gets clearly labeled with Highlight
4. Select Channel 1 thru 10 and enable Highlight
  - ⇒ The channels output normal Highlightvalue 100%
5. Press Preset 1.1 (80% Highlight)
  - ⇒ Channels 1 thru 10 outputs 80% as highlight
6. Press Next to subselect channel 1 and press Preset 1.2 (100% Highlight)
  - ⇒ Channel 1 outputs 100% as highlight
7. Press Set to reselect channel 1 thru 10
  - ⇒ Channel 1 outputs 100% as highlight, channel 2 thru 9 outputs 80% as highlight

**Result**

You may now use these presets to change the highlightproperty of your current selection.



The current implementation does not support setting of Highlightvalue "None" via these presets. In other words, if you set a Highlightvalue to i.e. Pan by activating a Highlightpreset containing Pan-values, you will need to manually type Edit Fixture x, and change highlight back to "None" in the popup dialog, for each fixture.



In the predefined Macros you will find macros to change special mode of presets to normal/default/highlight(e.G. "Special Preset Highlight")

**Task: Create Default Presets**

How to create and use Default Presets

**Context**

When a fixture has no value from executors or the programmer, the console will output predefined Defaultvalues. These predefined values are generated by the FixtureType definition. By the use of Default Presets, these values may be dynamically changed.

A Normal Preset will apply its values in programmer, while a Default Preset will be applied to the Default property of your fixture schedule.

**Steps**

1. Create (universal) dimmer Preset 1.1 with your channels at 50 %
2. Create (universal) dimmer Preset 1.2 with your channels at 0%
3. Clear programmer and type in the commandline `Assign Preset 1.1 + 1.2 /special=default`
  - ⇒ Dimmer preset 1 & 2 gets clearly labeled with Default
4. Select Channel 1 thru 10
  - ⇒ The channels outputs normal defaultvalue 0%
5. Press Preset 1.1 (50% Default)
  - ⇒ Channels 1 thru 10 outputs 50% as default
6. Press Next to subselect channel 1 and press Preset 1.2 (0% Default)
  - ⇒ Channel 1 outputs 0% as default
7. Press Set to reselect channel 1 thru 10
  - ⇒ Channel 1 outputs 0% as default, channel 2 thru 9 outputs 50% as default

**Result**

You may now use these presets to change the defaultvalues of your current selection.



In the predefined Macros you will find macros to change special mode of presets to normal/default/highlight

**Task: Software / External Connections**



These tasks are about external connections



## Task: Connecting via Telnet

Telnet access to commandline

### Pre-Requisite

To externally access the commandline of the console you need a computer with a Telnet client, connected to the console, with IP-addresses in the same subnet.

### Context

In some situation you may find it convenient or necessary to access your console from a remote location.

### Steps

1. Start the Telnet-client on your computer
  - Windows XP: press "Start", "Run", type "Telnet" Enter
  - A Telnet window opens on your computer
2. Type "Open [IP-address of console] 30000" and press enter
  - Open 192.168.0.4 30000
  - A welcome screen with MA-"logo" appears and the grandMA2 commandline prompt.
3. When finished with remotely accessing your console, type "exit" Enter
  - The telnet-client gets disconnected from your console and its window may be closed.



## Task: Software / External Connections / Getting a Crash Log from the console

If the console should crash, then it creates a log of events. This file can be very helpful for the MA software team.

### Context

Should you be so unlucky to experience a crash, then the console creates a log of events that led to this. If you send this log to your distributor it will end in the hands of the software team at MA. This will help them making sure the bug is fixed.

### Steps

1. Install a FTP program like Filezilla (<http://filezilla-project.org>) on a computer.
2. Connect the computer to the same network as your console. Make sure your use a valid IP address.
3. Make sure the console is on.
4. Connect to the console using the FTP program by typing the IP address of the console. The user name is: Data and the password is: Data.
5. Navigate to the "temp" folder in the console and open it.
6. The crashlog is a text file in a format like this: V[version number]\_CRASH-[date] [time]. Download the file to your computer on a known location.

### Result

You now got the crashlog. You should e-mail this to your distributor with an explanation of your actions before the crash. You can close the FTP program.



## Topic: NPU Software tasks.

This is a selection of software tasks for the NPU.

This is currently organized in series 1 and 2 mode. There's also one topic about updating the software. It outside the series 1 and 2 modes since it applies to both modes.



## Topic: Software / NPU / Series 1

This section is a collection of software task for the NPU running in series 1 mode.

This section is about using th NPU with a grandMA series 1 system.



## Task: Software / NPU / Starting the NPU in series 1mode.

This task takes you through the steps of starting the grandMA NPU in series 1mode.

### Pre-Requisite



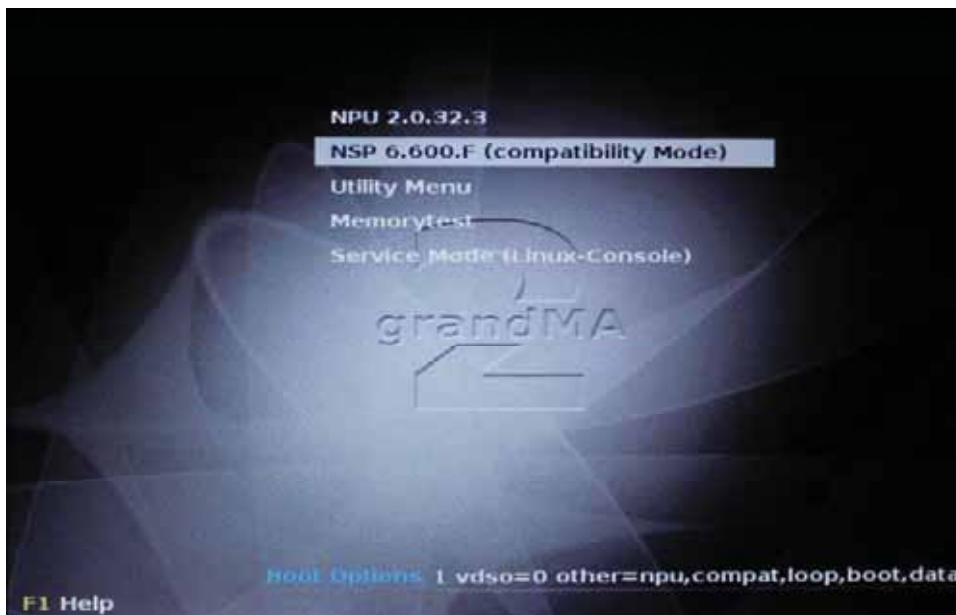
It's important that you have a USB keyboard connected when you are changing the mode!

### Context

You might need to change the mode of the NPU. It can run in series 1 or series 2 mode. We are going to have a look at booting it in series 1 mode.

### Steps

1. Make sure the power is connected.
2. Turn on the NPU
  - The NPU starts to boot up.
3. At some point the screen will display this screen:



- Make sure you interrupt the automatic boot by using the arrow keys on a keyboard to select the second line. It reads: **NPU [Series1 Version] (compatibility Mode)**. Press "Enter" on the keyboard to confirm.

#### Result

The boot process continues. If you don't interrupt the NPU in the boot process, it will start in the mode it was last used.



#### Task: Software / NPU / Setting the IP address in series 1 mode.

This task is about setting the IP address when in series 1 mode in a grandMA NPU.

#### Pre-Requisite

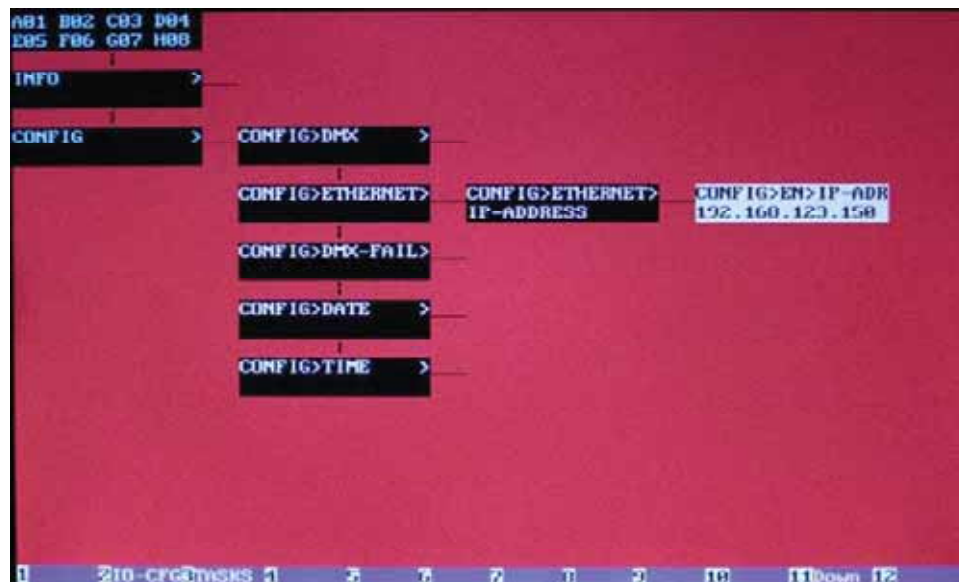
You need a NPU with power on and booted in series 1 mode. And you need to have a USB keyboard connected.

#### Context

When the NPU is booted in series 1 mode it works a bit differently. This task takes you through the steps needed to change the IP address when in series 1 mode.

#### Steps

- Use the arrow keys on the keyboard to navigate to the IP address Config section.



- Press the "tap" key until the small marker is under one of the four numbers you wish to change. Use the "Up" and "Down" keys to change the number.



CONFIG>EN>IP-ADR  
192.168.123.151

- Press "Enter" key to confirm your choice. Press "Esc" key to abort the change.

#### Result

If you have made a change and pressed the "Enter" key, the NPU will reboot and give you a screen like this:





When it's done rebooting, you'll have a new IP address.



### **Task: Software / NPU / Add in series 1 session.**

This task will add a NPU in a series 1 session.

#### **Pre-Requisite**

You need to have a NPU booted in series 1 mode, with the same software version (as the rest of the system) and with a valid IP address connected to your MA system.

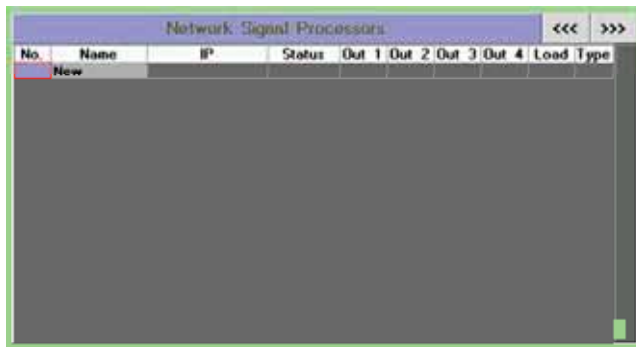
#### **Context**

This is a little of topic (being most on how to operate the grandMA series 1). But it's all about NPU ;-). The grandMA NPU's add 4,096 parameters, DMX output and processing power to a grandMA system.

#### **Steps**

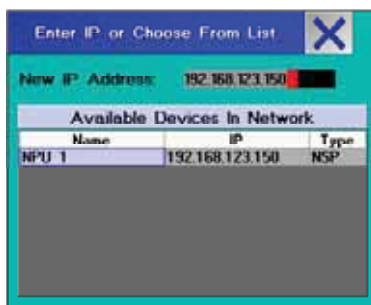
1. On the console, you should go to **Tools → MA Network Configuration → NSP**. In series 1 mode the NPU works as an extended grandMA NSP.

⇒ It could look like this:



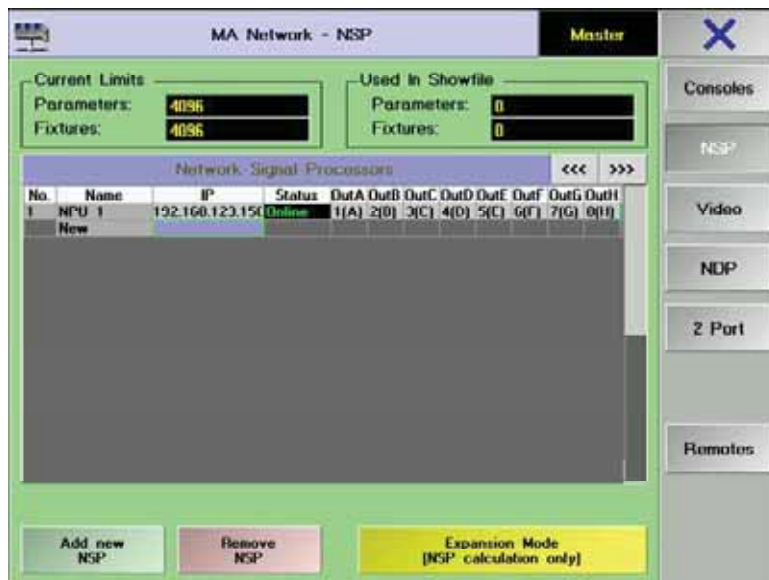
2. Press the "Add new NSP" screen button.

⇒ This opens this pop-up:



3. Select the NPU in the pop-up

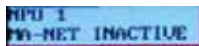
⇒ This should give you a show upload to the NPU. And the screen changes to something like this:



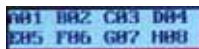
4. Close the menu by pressing the "Tools" hardkey.

### Result

You have added a NPU as a 8 port NSP in your session. You can see that the left top corner of the NPU display have changed from something like this:



To something like this:



## Topic: Software / NPU / Series 2

This section is a collection of software task for the NPU running in series 2 mode.

This section contains the following tasks.



## Task: Software / NPU / Starting the NPU in series 2 mode.

This task takes you through the steps of starting the grandMA NPU in series 2 mode.

### Pre-Requisite



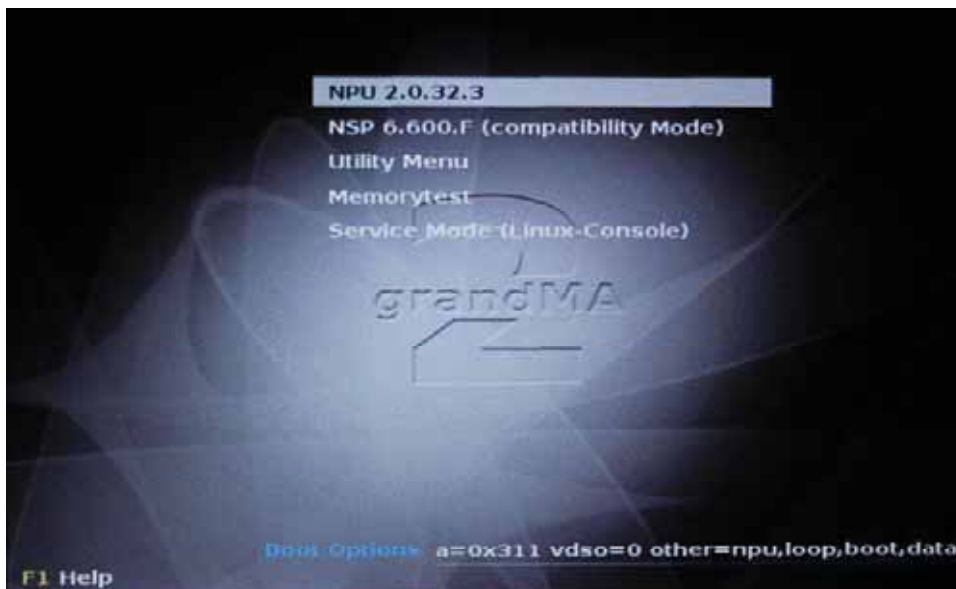
It's important that you have a USB keyboard connected when you are changing the mode!

### Context

You might need to change the mode of the NPU. It can run in series 1 or series 2 mode. We are going to have a look at booting it in series 2 mode.

### Steps

1. Make sure the power is connected.
2. Turn on the NPU
- ⇒ The NPU starts to boot up.
3. At some point the screen will display this screen:



4. Make sure you interrupt the automatic boot by using the arrow keys on a keyboard to select the top line. It reads: **NPU [Series2 Version]**. Press "Enter" on the keyboard to confirm.

#### Result

The boot process continues. If you don't interrupt the NPU in the boot process, it will start in the mode it was last used.



#### Task: Software / NPU / Changing the name in Series 2 mode.

This task focuses on changing the name of a grandMA NPU, when in series 2 mode.

#### Pre-Requisite

You need to have booted the grandMA NPU in Series 2 mode.

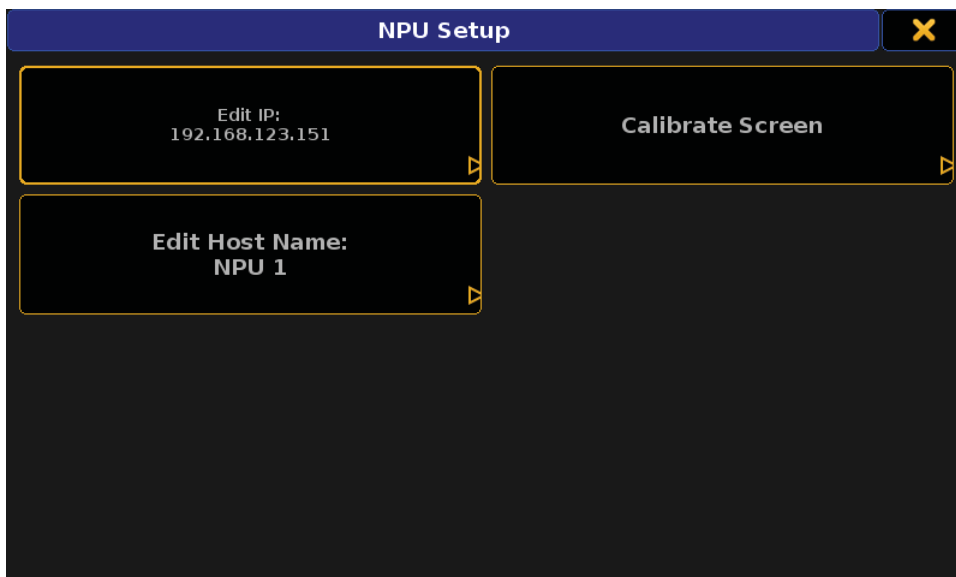
#### Context

For better NPU management, you can change the name of the unit.

#### Steps

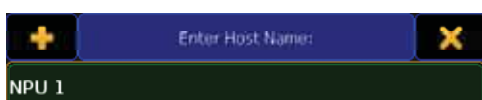
1. Press the "Setup" button in the lower right corner of the touch screen.

⇒ This opens a pop-up called **NPU Setup**. It looks like this:



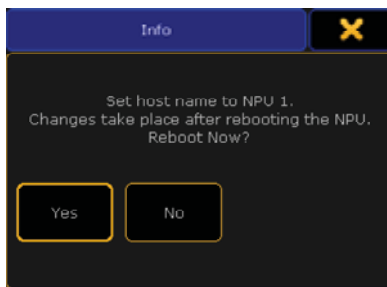
2. Press the "Edit Host Name" screen button.

⇒ This opens a **Enter Host Name** pop-up:



3. Type a new name. You can open an on-screen keyboard by pressing the "+" in the upper left corner of the name pop-up. Confirm with "Please" (on-screen keyboard) / "Enter" (external keyboard).

⇒ This gives you a new pop-up:



4. You need to reboot the NPU before the name change takes affect. Press "Yes" to reboot immediately or press "No" to reboot later.

#### Result

This changes the NPU name, after a reboot.



### Task: Software / NPU / Setting the IP address in Series 2 mode.

This task focuses on setting the IP address when in series 2 mode.

#### Pre-Requisite

You need to have booted the grandMA NPU in Series 2 mode.

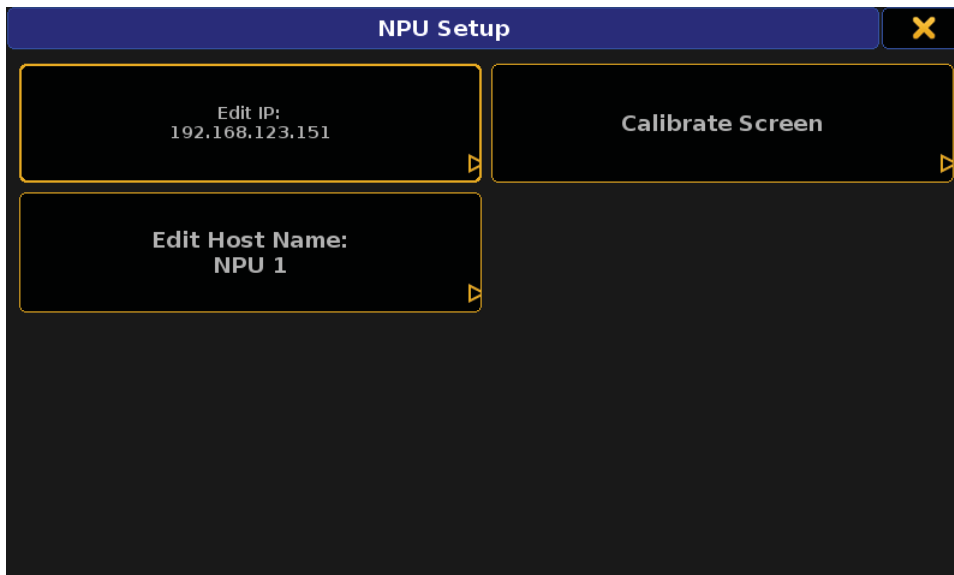
#### Context

To connect the NPU to your series 2 system, you need to set a proper IP address.

#### Steps

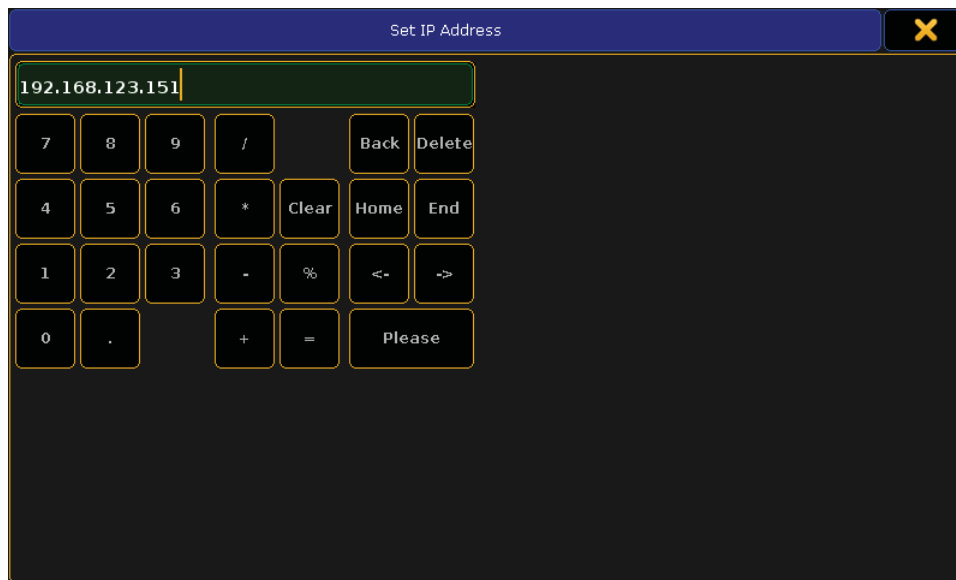
1. Press the "Setup" button in the lower right side of the touch screen.

⇒ This opens a pop-up called **NPU Setup**. It looks like this:



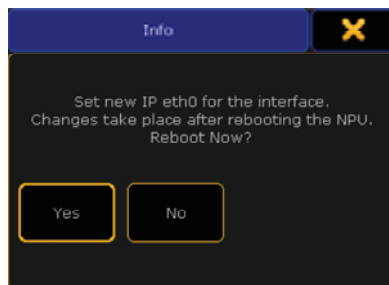
2. Press the "Edit IP" screen button.

⇒ This opens the **Set IP Address** pop-up:



3. Type a new IP address. Confirm with "Please".

⇒ This gives you a pop-up asking you, if you want to reboot:



4. For the new address to take affect, you need to reboot. But you have the option to do it later. Pressing "Yes" reboots the NPU immediately.

### Result

This sets a new IP address, when the NPU have completed a reboot.



### Task: Software / NPU / Add in series 2 session.

This task will add a NPU in a series 2 session.

### Pre-Requisite

! It's very important to know that, if a NPU is set to be a member of several sessions in a network, It will connect to the session that reaches the NPU first!! If that session is then closed - Then the NPU will connect to the next session it finds on the network, possibly creating a very different DMX output!

You need to have a NPU booted in series 2 mode, with the same software version and with a valid IP address connected to your MA system.

### Context

The grandMA NPU's add parameters, DMX output and processing power to a grandMA system.

### Steps

1. On the console, you should go to **Setup ➔ MA Network Configuration ➔ NPU Network Processing Unit**

⇒ It could look like this:



2. Press the "Add" button or the **x1** key or right-click (with the mouse) where it says "New".

⇒ This opens the **Select Station** pop-up:



3. Select the NPU in the pop-up. If it's not there - something is wrong with the connection (it can see NPU's with a wrong IP address).

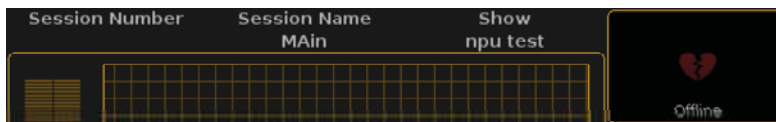
⇒ After this your NPU Configuration should look something like this:

| Consoles        |                | NPU Network... |       | Visualizer |       | Video |       | NDP Network... |       | 2Port    |  |
|-----------------|----------------|----------------|-------|------------|-------|-------|-------|----------------|-------|----------|--|
| IP              | Session Member | XLR A          | XLR B | XLR C      | XLR D | XLR E | XLR F | XLR G          | XLR H | Version  |  |
| 192.168.123.151 |                | Out 1          | Out 2 | Out 3      | Out 4 | Out 5 | Out 6 | Out 7          | Out 8 | 2.0.32.3 |  |
| New             |                |                |       |            |       |       |       |                |       |          |  |

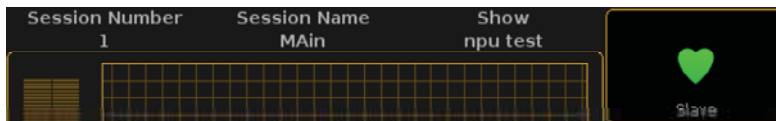
4. Make sure there's a "yes" in the "session member" column. If there isn't you need to add it by pressing the cell followed by pressing the encoder (or right clicking the cell with the mouse).

⇒ This should make a show upload, and the line of the NPU should change to a green color.

You can also see on the NPU that it's now a part of the session. The screen changes from something like this:



to something like this:



## Result

The background color in the NPU line should turn green to indicate that the NPU is active in the session:

| Consoles        |                | NPU Network... |       | Visualizer |       | Video |       | NDP Network... |       | 2Port    |  |
|-----------------|----------------|----------------|-------|------------|-------|-------|-------|----------------|-------|----------|--|
| IP              | Session Member | XLR A          | XLR B | XLR C      | XLR D | XLR E | XLR F | XLR G          | XLR H | Version  |  |
| 192.168.123.151 | Yes            | Out 1          | Out 2 | Out 3      | Out 4 | Out 5 | Out 6 | Off            | In 5  | 2.0.32.3 |  |
| New             |                |                |       |            |       |       |       |                |       |          |  |



It's very important to know that, if a NPU is set to be a member of several sessions in a network, it will connect to the session that reaches the NPU first!! If that session is then closed - Then the NPU will connect to the next session, possibly creating a very different output!



## Task: Software / NPU / Calibrating the touch screen.

In this task we calibrate the touch screen in a grandMA NPU, when in series 2 mode.

### Pre-Requisite

You need to have booted the grandMA NPU in Series 2 mode.

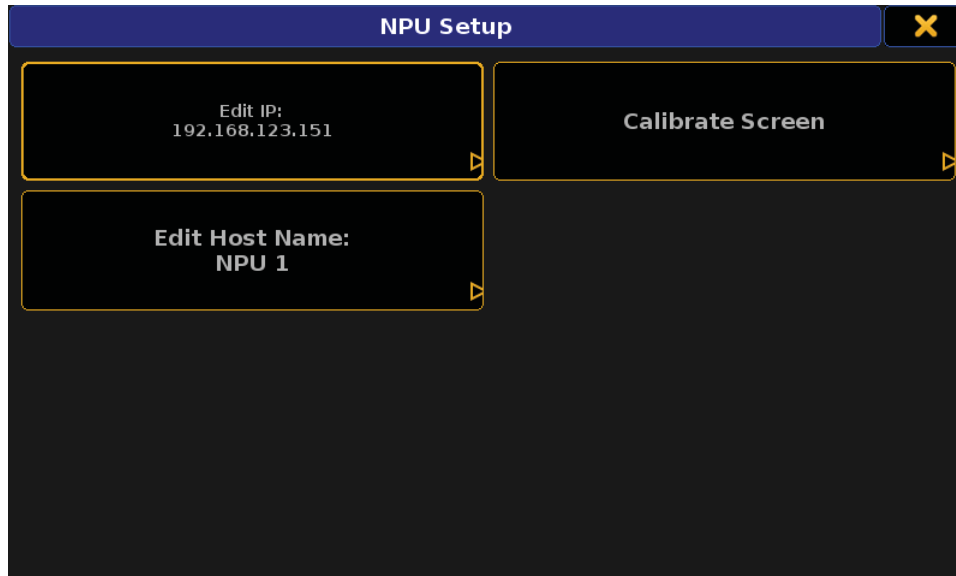
### Context

If the grandMA NPU isn't precise in the touch screen, you can re calibrate the screen.

### Steps

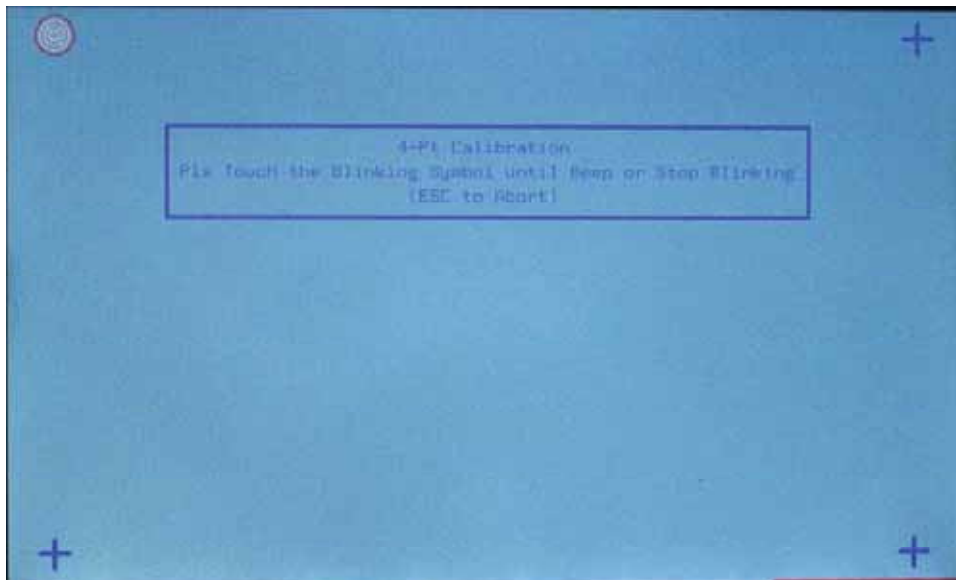
1. Press the "Setup" button in the lower right corner of the touch screen (or use an USB mouse).

⇒ This opens a pop-up called **NPU Setup**. It looks like this:



2. Press the "Calibrate Screen" screen button (or use the mouse again).

⇒ This opens a calibrate screen. It looks like this:



3. Touch each if the blinking corners in turn.

⇒ This recalibrate the touch screen.

4. Close the **NPU Setup** pop-up using the "X" in the upper right corner.

### Result

You have re calibrated the screen.



### Task: Software / NPU / Change port configuration in series 2 mode.

This task will have a look at changing the port configuration of a NPU in series 2 mode.

### Pre-Requisite

You need to have a NPU booted in series 2 mode, with the same software version (as the rest of the system), with a valid IP address connected to your MA system and running in a session.

### Context

The grandMA NPU have 8 DMX ports on the back of the unit. They can be configured as output or input.

### Steps

1. On the console, you should go to **Setup → MA Network Configuration → NPU Network Processing Unit**

⇒ It could look like this:

| Consoles        |                | NPU Network... |       | Visualizer |       | Video |       | NDP Network... |       | 2Port    |  |
|-----------------|----------------|----------------|-------|------------|-------|-------|-------|----------------|-------|----------|--|
| IP              | Session Member | XLR A          | XLR B | XLR C      | XLR D | XLR E | XLR F | XLR G          | XLR H | Version  |  |
| 192.168.123.151 | Yes            | Out 1          | Out 2 | Out 3      | Out 4 | Out 5 | Out 6 | Off            | In 5  | 2.0.32.3 |  |
| New             |                |                |       |            |       |       |       |                |       |          |  |

2. Here you can see the NPU and the port configuration. Edit one of the ports by marking a cell and pressing the encoder or right clicking it with the mouse.

⇒ This opens the **Configure DMX port** pop-up:

Configure DMX Port (MA-Nu2-Master)

Port Mode: Out

Universe: 2

Please

- Set if the port should be an "Output", "Input" or "Off" using the drop down box.
- Set the DMX universe the port should output or input.
- Confirm your settings by pressing "Please".

⇒ This closes the pop-up.

### Result

You have now changed the port setting. If you are happy, you can close the setup menu. On the NPU you can see the configuration of the DMX ports. It could look like this:

| XLR: | A | B | C | D | E | F | G | H |
|------|---|---|---|---|---|---|---|---|
|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 5 |

The letter is the same as the port markings on the back of the NPU. The number is the assigned DMX universe. The line indicates the port status. Green is "Output", Yellow is "Input" and Grey is "Off".



### Task: Software / NPU / Updating the software.

This task takes you through the steps needed to update the NPU software.

### Pre-Requisite

To perform this task you need to have a bootable USB stick with the new software version (installed using StickMaker). It uses the same software as the console. You also need an USB keyboard connected to your NPU.

[StickMaker & Console image Download Page \(MA website\)](#)

### Steps

- Plug the USB stick to any of the USB plug on the NPU.
- Reboot or turn on the NPU.

⇒ At some point in the boot process you get to a screen like this:





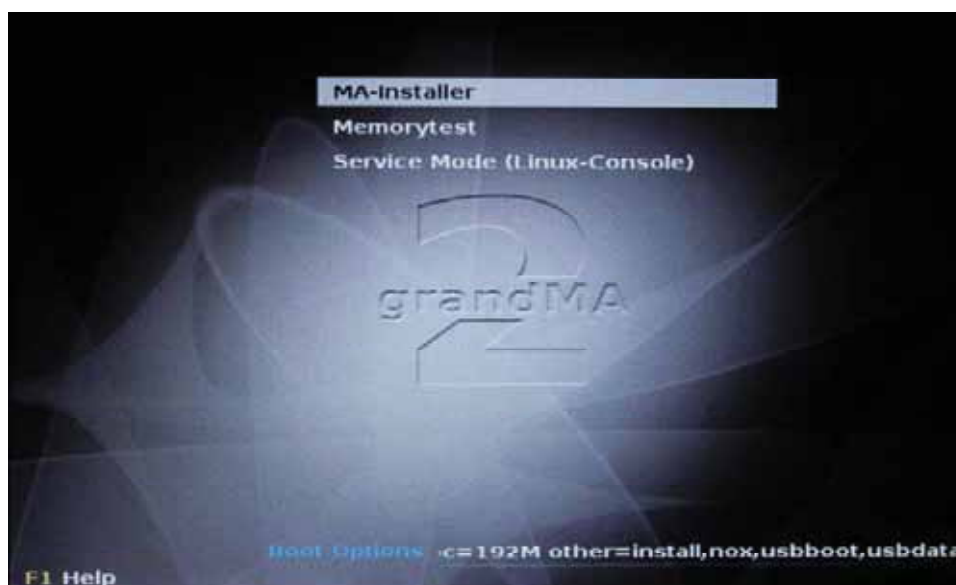
3. When you see a screen like the one above, you need to press the "Esc" key in the keyboard to enter the **Boot Menu**.

⇒ This give you a new screen:



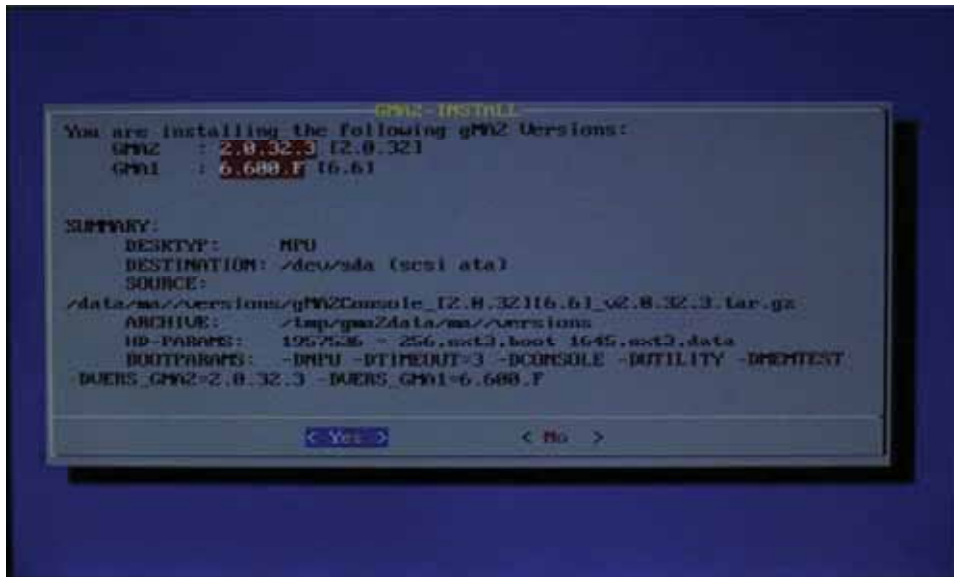
4. In the new screen you can use the up and down arrows on the keyboard to select the USB stick. In the picture above the stick is called "Alcor Flash Disk". Confirm your choice using "Enter".

⇒ After a little more booting, you are presented with a new screen:



5. Select the "MA-Installer".

⇒ After a while you are presented with a new screen:



6. Confirm you want to install the version on the USB stick by pressing "Enter".

⇒ The NPU installs the new software. When it's done you are prompted with a new pop-up:



7. Remove the stick from the NPU, and press the "Enter" key again.

## Result

And you are done. The NPU reboots with the new software.



## Concept: Reference

This section contains property-description of each elements of the console.

For conceptual understanding of the console and step-by-step instructions, please read the Concepts and Tasks sections.



## Concept: Commandline

This section contains syntax-rules and descriptions of all keywords



## Reference: Commandline Syntax

How to combine keywords into valid commandline expressions

### General rules

The general rules for the commandline are:

- Basic syntax: [Function] [Object] .
- All objects have its default function, which is used if no function is given
- Most functions have its default object or object-type, which is used if no object is given
- Objects are arranged in hierarchical tree-structures
- If object does not support the applied function, the function will be passed on to its child or parent object

### Terminology

[Square Brackets]

Description of something to be entered that is not the literal text

**(Parentheses)**

Description of something that is optional

**"Quotes"**

A name (plain text) to be entered, end-quote may be omitted if end of line, both quotes may be omitted if name is not a keyword and does not contain special characters or space

**Capitalization**

The console does not distinguish between upper/lower case in keywords, this form is used merely to improve readability



## Reference: Functions

A function is an action you want the console to perform

### Syntax

[Function]

[Function] [helping keyword]

[Function] [Object]

[Function] [Object-list]

[Function] [Object-type]

[Function] [Object-type] [ID]

[Function] [ID]

Some functions are global and does not take any arguments, however most functions are applied to an object, which proceeds the function in the commandline.

- If no Object-type is given, and destination is root, the default Object-type of the function is used.
- If no Object-type is given, Object-types at current destination us used.
- If no ID is given, any current/active ID of the resolved Object-type is used
- If no current/active ID exists of the resolved Object-type, the next available ID is used

### Example:

[Channel]> Blackout

no object needed for global functions

[Channel]> Delete Group 1 Thru 4 - 3 +6

Deletes the Object-list Group 1,2,4,6

[Channel]> Select Executor 1

Selects the first Executor

Users> Store

Creates a new user



## Reference: Objects

Objects are items in your showfile which functions are applied to

### Syntax

[Object]

[Object-type] [ID]

[Object-type] "name"

[ID]

Some objects are unique, and does not have an ID, (e.g. Default), however most object are of a specific Object-type which contain multiple objects, and the actual object is referred with Object-type ID, (e.g. Fixture 5)

Some object-types are non-exclusive, and may exist in multiple instances, e.g. Cue 1 could refer to Cue 1 of Sequence 1, or Cue 1 of Sequence 2. To refer to Cue 1 of Sequence 2, both **Cue 1 Sequence 2** , and **Sequence 2 Cue 1** is valid

Unless you are creating new Objects (with the Store-function) you may reference objects by using their name, rather than their number, as ID. If the name contains keywords or space, it needs to be enclosed in quotes.

All Objects have a default function which is used if no function is given. This means that even if the general syntax is [Function] [Object], just using [Object] is totally valid.

### Example:

```
[Channel]> Full
```

The Full object is unique and has no ID. Default function for Full is At, so this syntax would set the current selection to 100%

```
[Channel]> Group 3
```

The group object-type has multiple instances, and default function SelfFix (select fixtures in object), so this syntax will select channels and fixtures in group number 3

```
[Fixture]> 31
```

The current default object-type of the commandline is Fixture, so 31 would refer to the object Fixture 31. As the default function for Fixture is SelfFix, this syntax would select fixture 31



## Reference: Object-list syntax

An object-list is a list of objects of same type

### Syntax

```
[Object-type1] [ID1]
```

```
[Object-type1] [ID1] [Object-type1] [ID2]
```

```
[Object-type1] [ID1] + [ID2]
```

```
[Object-type1] [ID1] Thru [ID2] - [ID3]
```

```
[Object-type1] [ID1] Thru
```

```
[Object-type1] Thru [ID1]
```

```
[Object-type1] Thru
```

```
[Object-type1] "Name"
```

```
[Object-type1] "Nam*"
```

- If no object-types is given, the list is built with the items of your current destination.
- If no object-types is given and current destination is root (no destination), the list is built with the default object-type for the applied function.
- If no object-type is given and no function is applied, the list is built with the current default object-type of the commandline.

### Example:

```
[Channel]> Fixture 3 Thru 6
```

Selects Fixture 3 thru 6 (3, 4, 5 & 6)

```
[Channel]> Fixture Thru 3
```

Selects Fixture 1, 2, and 3

```
[Channel]> Delete 3 Thru
```

Deletes cue 3 and above

```
[Channel]> Channel Thru
```

Selects all channels

```
[Channel]> Channel 1 Channel 5
```

Selects channels 1 and 5

```
[Channel]> Fixture mac*
```

Selects all fixtures with name starting with mac



## Reference: Selection-list syntax

A Selection-list is a list of fixtures (Channel and Fixture objects)

### Syntax

```
[Object]
```

```
[Object-type1] [ID1]
```

```
[Object-type1] [ID1] + [Object-type2] [ID2]
```

```
[Object-type1] [ID1] Thru [Object-type2] [ID2]
```

[Object-type1] [ID1] **Thru** [Object-type2] [ID2] - [Object-type3][ID3]

[Object-type1] [ID1] **Thru**

[Object-type1] **Thru** [ID1]

[Object-type1] **Thru**

[Object-type1] "Name"

[Object-type1] "Nam\*"

With a selection-list (as opposed to an object-list) each object-type is resolved into its corresponding fixture-objects, which is then used to build the list.

- If object-type is missing, the last entered object-type is used.
- If no object-type is given at all, the current default object-type of the commandline is used.
- If no ID is given before/after a Thru-statement, the first/last available id is used
- If no ID is given for an Object-type the current/active or next available is used, depending on function applied
- If object-type reference is non-exclusive, necessary parent-objects are resolved by user-defaults and currently selected/active objects.

#### Example:

[Channel]> Fixture 3 + Channel 6

Selects Fixture 3 and Channel 6

[Channel]> Cue Thru 3 - Channel 4

Selects Fixtures in first 3 cues, but not channel 4

[Channel]> Group 3 + Cue 4

Selects fixtures in group 4 and fixtures in cue 3



### Reference: Executor-list syntax

An Executor-list is an object-list of Executors

#### Syntax

**Executor** [list]

**Page** [list]

**FaderPage** [list]

**ButtonPage** [list]

An executor-list has same syntax as object-lists, but are resolved into Executor-objects when building the list

#### Example:

[Channel]> Pause Page 1 Thru 3

Pauses Executors on page 1,2 and 3

[Channel]> Delete Executor 10 Thru 13

Deletes Executors 10 thru 13 of current page



### Reference: Attribute-list syntax

An Attribute-list is an object-list of Attributes

#### Syntax

**Attribute** [list]

**Feature** [list]

**PresetType** [list]

An attribute-list has same syntax as object-lists, but are resolved into Attribute-objects when building the list

#### Example:

[Channel]> On Feature gobo1

Activates attributes in feature gobo1

[Channel]> Off Attribute 8.1.1 Thru 4

Knocks the first 4 Shaperattributes out of programmer



## Reference: Station-list Syntax

### Syntax

[IP-address]

[IP-address] Thru [IP-address]

[Host-ID]

[Host-ID] Thru [Host-ID]

IP-address is a 32-bit number, written in a dot-decimal notation.(four numbers, each ranging from 0 to 255, separated by dots, e.g. 192.168.0.101).

Host-ID is the unique part of the IP-address within a Network, - usually the last decimal (e.g the IP-address 192.168.0.101 has the Host-ID 101 and Network-ID 192.168.0)

If start or end of the Thru command is missing, first/last occurrence will be used.



## Concept: Keywords

Keywords are reserved words used with the commandline

This section is divided into four different sections. There's a page with all function keywords, a page with all Object Keywords and a page with all helping keywords. Then theres the section with all keywords in the grandMA2 section.

Most pages contains description of the keywords with examples of use.

### Related Links

- [Commandline Concept](#)



## Concept: Function Keywords

This is a list of the function keywords.

Functional Keywords are used in the commandline to perform a task or function. Examples of functional keywords could be **Goto**, **Delete**, **LeaveSession**. Functional keywords are often followed by an object, that the function/task should be applied to: **Goto Cue 3**, **Delete Preset "Blue"**. Some functions are global and does not need an object as argument, e.g. **Blackout**.

Functional keywords may be compared to *verbs* in human languages.

### Related Links

- [>>> Keyword](#)
- [<<< Keyword](#)
- [Align Keyword](#)
- [AlignFaderModule Keyword](#)
- [All Keyword](#)
- [AllRows Keyword](#)
- [Assign Keyword](#)
- [At Keyword](#)
- [Backup Keyword](#)
- [Black Keyword](#)
- [Blackout Keyword](#)
- [Blind Keyword](#)
- [BlindEdit Keyword](#)
- [Block Keyword](#)
- [Call Keyword](#)
- [ChangeDest \(CD\) Keyword](#)
- [ChannelLink Keyword](#)
- [Clear Keyword](#)
- [CircularCopy Keyword](#)
- [ClearActive Keyword](#)
- [ClearAll Keyword](#)
- [ClearSelection Keyword](#)
- [Clone Keyword](#)
- [CmdHelp Keyword](#)
- [Copy Keyword](#)
- [Delete Keyword](#)
- [DeleteShow Keyword](#)
- [DisconnectStation \(DS\) Keyword](#)

- [DoubleRate Keyword](#)
- [DoubleSpeed Keyword](#)
- [Edit Keyword](#)
- [Export Keyword](#)
- [Extract Keyword](#)
- [Fix Keyword](#)
- [Flash Keyword](#)
- [Flip Keyword](#)
- [Freeze Keyword](#)
- [Go Keyword](#)
- [GoBack Keyword](#)
- [Goto Keyword](#)
- [HalfRate Keyword](#)
- [HalfSpeed Keyword](#)
- [Help Keyword](#)
- [Highlight Keyword](#)
- [If Keyword](#)
- [IfActive Keyword](#)
- [IfOutput Keyword](#)
- [IfProg Keyword](#)
- [Import Keyword](#)
- [ImportResource Keyword](#)
- [Info Keyword](#)
- [Insert Keyword](#)
- [Invert Keyword](#)
- [InviteStation \(IS\) Keyword](#)
- [JoinSession \(JS\) Keyword](#)
- [Kill Keyword](#)
- [Label Keyword](#)
- [Layer Keyword](#)
- [Learn Keyword](#)
- [LeaveSession \(LS\) Keyword](#)
- [List Keyword](#)
- [ListFaderModules Keyword](#)
- [ListLibrary Keyword](#)
- [ListEffectsLibrary Keyword](#)
- [ListMacroLibrary Keyword](#)
- [ListShows Keyword](#)
- [ListUserVar Keyword](#)
- [ListVar Keyword](#)
- [Load Keyword](#)
- [LoadShow Keyword](#)
- [Lock Keyword](#)
- [Login Keyword](#)
- [Logout Keyword](#)
- [MatricksBlocks Keyword](#)
- [MatricksFilter Keyword](#)
- [MatricksGroups Keyword](#)
- [MatricksInterleave Keyword](#)
- [MatricksReset Keyword](#)
- [MatricksWings Keyword](#)
- [Menu Keyword](#)
- [Merge Keyword](#)
- [MidiControl Keyword](#)
- [MidiNote Keyword](#)
- [MidiProgram Keyword](#)
- [Move Keyword](#)
- [NetworkInfo \(NI\) Keyword](#)
- [NewShow Keyword](#)
- [NextRow Keyword](#)
- [Off Keyword](#)
- [On Keyword](#)
- [Oops Keyword](#)
- [Park Keyword](#)
- [Pause Keyword](#)
- [Preview Keyword](#)
- [PreviewEdit Keyword](#)
- [PrevRow Keyword](#)
- [PSR Keyword](#)
- [PSRList Keyword](#)
- [PSRPrepare Keyword](#)
- [Rate1 Keyword](#)
- [Reboot Keyword](#)
- [Record Keyword](#)
- [SaveShow Keyword](#)
- [Select Keyword](#)
- [SelectDrive Keyword](#)
- [SelFix Keyword](#)
- [SetIP Keyword](#)
- [Setup Keyword](#)
- [SetUserVar Keyword](#)
- [SetVar Keyword](#)
- [ShuffleSelection Keyword](#)
- [ShuffleValues Keyword](#)
- [Shutdown Keyword](#)
- [Solo Keyword](#)
- [Speed Keyword](#)
- [StepFade Keyword](#)
- [Stomp Keyword](#)
- [Store Keyword](#)
- [Swap Keyword](#)
- [Temp Keyword](#)
- [Toggle Keyword](#)

- [Tools Keyword](#)
- [Top Keyword](#)
- [Unblock Keyword](#)
- [Unoops Keyword](#)
- [Unpark Keyword](#)
- [Update Keyword](#)
- [UpdateFirmware Keyword](#)
- [Version Keyword](#)



### Concept: Object Keywords

This is a list of object keywords.

Object Keywords are used in the commandline to reference objects in your showfile. Examples of object keywords could be **Channel**, **Fixture**, **Effect**, **Preset**. These keywords represent object-types, and are typically used together with a number/ID or a name/label, to point to specific objects: **Channel 3**, **Fixture 10**, **Effect 4**, **Preset "Red"**.

Object keywords may be compared to *nouns* in human languages.

#### Related Links

- [Agenda Keyword](#)
- [Attribute Keyword](#)
- [Bitmap Keyword](#)
- [ButtonPage Keyword](#)
- [Channel Keyword](#)
- [ChannelFader Keyword](#)
- [ChannelPage Keyword](#)
- [Cue Keyword](#)
- [Defaults Keyword](#)
- [DMX Keyword](#)
- [Effect Keyword](#)
- [ExecButton1 Keyword](#)
- [ExecButton2 Keyword](#)
- [ExecButton3 Keyword](#)
- [ExecButton4 Keyword](#)
- [Executor Keyword](#)
- [Fader Keyword](#)
- [FaderPage Keyword](#)
- [Feature Keyword](#)
- [Filter Keyword](#)
- [Fixture Keyword](#)
- [FixtureType Keyword](#)
- [Form Keyword](#)
- [Full Keyword](#)
- [Group Keyword](#)
- [Layout Keyword](#)
- [Macro Keyword](#)
- [Mask Keyword](#)
- [Matricks Keyword](#)
- [Normal Keyword](#)
- [Page Keyword](#)
- [Part Keyword](#)
- [Preset Keyword](#)
- [PresetType Keyword](#)
- [PreviewExecutor Keyword](#)
- [Remote Keyword](#)
- [Root Keyword](#)
- [Screen Keyword](#)
- [Selection Keyword](#)
- [Sequence Keyword](#)
- [SpecialMaster Keyword](#)
- [Timecode Keyword](#)
- [User Keyword](#)
- [UserProfile Keyword](#)
- [View Keyword](#)
- [ViewButton Keyword](#)
- [ViewPage Keyword](#)
- [World Keyword](#)
- [Zero Keyword](#)



### Concept: Helping Keywords

This is a list of the helping keywords.

Helping Keywords are used in the commandline to give relations to functions and objects. Examples of helping keywords could be **At**, **Thru** : **Copy Cue 3 At Cue 5**, **Delete Effect 4 Thru 6**.

Helping keywords may be compared to *prepositions* and *conjunctions* in human languages

#### Related Links

- [+ Plus Keyword](#)
- [- Minus Keyword](#)



- [At Keyword](#)
- [CmdDelay Keyword](#)
- [Delay Keyword](#)
- [EndIf Keyword](#)
- [Fade Keyword](#)
- [If Keyword](#)
- [Off Keyword](#)
- [On Keyword](#)
- [OutFade Keyword](#)
- [OutDelay Keyword](#)
- [SnapPercent Keyword](#)
- [Thru Keyword](#)
- [Toggle Keyword](#)



**Concept:** This is a list of all Keywords



**Reference:** \* Asterisk Character

The asterisk character is used to insert a wildcard into a string, when referring to names

**Example:**

[Channel] > Group Mac\*

Selects fixtures in all groups with name starting with "mac"

[Channel] > Fixture backt\*blue

Selects fixtures with name starting with "backt" and ending with "blue"



**Reference:** @ At-sign

The @-sign is used to create a non-executing macro-line. The sign may be inserted in the beginning and/or end of a macro-line

**Example:**

Attribute pan At @

macro-line will wait for user to append data and press please

@ Fade 20

macro-line will append itself to current commandline and then execute

@ Part @

macro-line will append itself to current commandline and then wait for user to append more data and press please



**Reference:** \$ Dollar-sign

Dollarsign is used to identify variables.

\$ is a character used to identify variables. Variables are containers that may hold text or values, When a commandline is executed, these variables will be replaced with its content.



v 1.5 does not support variable content containing spaces to be used as text for labeling etc.

**Example:**

SetVar \$mychasers = "Executor 11 Thru 15"

Sets the variable \$myname

Off \$mychasers

Turns Off Executor 11 Thru 15

#### Related Links

- [ListUserVar Keyword](#)
- [ListVar Keyword](#)
- [SetUserVar Keyword](#)
- [SetVar Keyword](#)
- [\[ \] \[Square Brackets\]](#)



## Reference: ( ) Parentheses

Popup-dialogs in macros

Parentheses, round brackets are used to create a popup dialog in a macro, to collect userinput. The user will be prompted with the text inside the round brackets, and a text-input field. Unless the user cancels the popup, the macro-line will be executed with the user-input replacing the brackets and text inside

### Example:

**Store Cue** ("Please enter Cue-number to store")

A popup asks for cuenumber, then stores the cue

**Interleave 1.**("how many to Interleave? odd/even=2 etc")

A popup asks for how many interleaved parts, then subselects first part



## Reference: [ ] Square Brackets

Conditional expressions

The square brackets are used in macros, to set a conditional expression which must resolve to "True", for the following commands to be executed. The expression takes userdefined variables and logical operators.

a==b  
a equals b

a>b  
a greater than b

a<b  
a less than b

a<=b  
a less than or equal b

a>=b  
a greater than or equal b



The two arguments a and b are not compared as numbers, but as text-strings, character by character, e.g. "61" is considered to be greater than "599", as 6 is larger than 5.

### Example:

**[\$myvar==5]Off Page3**

Page 3 is turned Off, only if \$myvar equals 5

**Goto Cue [\$var<5] 1 [\$var>=5] 35**

Goto Cue 1 if \$var is less than 5, Goto Cue 35 if \$var is larger or equal 5

### Related Links

- [\\$ \[Dollar-sign\]](#)
- [ListUserVar Keyword](#)
- [ListVar Keyword](#)
- [SetUserVar Keyword](#)
- [SetVar Keyword](#)



## Reference: . Dot Character

The dot character is used as a delimiter to enter numbers with decimal fractions and to enter hierarchical object IDs. The dot is also used together with the function **CD** to change destination one level up.

### Example:

[Channel]> Off Attribute 3.2.3

Kicks the attribute Gobo2-Mode out of the programmer, for current selection

[Channel]> Attribute panAt 50.5

Sets pan to 50.5 degrees

```
Edit Setup/Universes> CD ..
```

Exits one level up in the tree-structure:

```
Edit Setup>
```

### Related Links

- [\[Dot\] Key](#)



## Reference: ; Semicolon Character

The Semicolon character is used as a delimiter to enter multiple commands in one line.



There has to be a space between the semicolon and the following command.

### Example:

```
[Channel]> Off Executor 5 ; Delete Group 3
```

Turns off executor 5 and deletes group 3

### Related Links

- [Keyboard](#)



## Reference: / Slash Character

### Syntax

[Functional keyword] /?

**Assign** [object-list] /property=value

[commandline-syntax] /option1 /option2 /option3=value

The Slash character is used as a delimiter to enter object-properties or function options. The slash is also used together with the function **CD** to change destination to root level.

### Example:

```
[Channel]> Copy /?
```

Displays valid options for the function Copy

```
[Channel]> Assign Cue 5 /mib=early /trig=follow
```

Changes properties for Cue 5

```
[Channel]> Store Cue50 /remove /cueonly
```

Over-rides the current storeoptions

```
Edit Setup/Universes> CD /
```

Exits to the rootlevel in the tree-structure:

```
[Channel]>
```

### Related Links

- [Keyboard](#)



## Reference: " " Quotes

Quotes are used to indicate a text-string

### Syntax

"text with spaces"

"ReservedWord"

If you are to enter text-string into the command-line, which is a reserved word, the short-notation of a reserved word, or a text containing spaces, you need to embrace the text in quotes.

#### Example:

```
[Channel] > Label Macro 3 "on"
```

"on" is a reserved word (keyword) so it needs to be embraced in quotes to be used as a label

```
[Channel] > Assign Cue 1 /info="run after music stops"
```

the info-text contains spaces, so it needs to be embraced in quotes



### Reference: + (plus) Keyword

+ is a helping keyword with multiple functions

#### Syntax

+ is used to combine multiple objects into a list, or to indicate a relative value. When used as a relative indicator, with no value given, the value of 1 will be used.

If used as a starting keyword, + will create a Selection-list, which will be added to the current selection.

#### Example:

```
[Channel] > Delete Cue 1 + 2
```

Deletes cue 1 and 2

```
[Channel] > At + 5
```

Adds 5% to the actual dimmervalue

```
[Channel] > + 5 Thru 7
```

Adds channel 5, 6 and 7 to the current selection

```
[Channel] > Page +
```

Same as Page +1, calls next page

#### Related Links

- [+ Key](#)



### Reference: - (minus) Keyword

- is a helping keyword with multiple functions

#### Syntax

- is used to remove objects from a list, or to indicate a relative negative value. When used as a relative indicator, with no value given, the value of 1 will be used.

If used as a starting keyword, - will create a Selection-list, which is removed from the current selection.

#### Example:

```
[Channel] > Group 5 - Channel 2
```

Selects group 5 but not channel 2

```
[Channel] > At - 10
```

Subtracts 10% from the current dimmervalue

```
[Channel] > - 5 Thru 7
```

Removes channel 5, 6 and 7 from the current selection

```
[Channel] > Page -
```

Same as Page -1, calls previous page

#### Related Links

- [- Key](#)



### Reference: >>> (Skip+) Keyword

>>> is a function used to jump fast to the next step (by default without timing)

#### Syntax

>>> [Executor-list]

>>> [Timecode-list]

the time used by this function may be adjusted via the **GoFast** property found under **Setup ➔ Show ➔ Playback + MIB Timing**

#### Example:

```
[Channel]>>>> Executor 5
```

Jumps to next cue on executor 5

#### Related Links

- [>>> Key](#)
- [Wwindow Playback + MIB Timing](#)



### Reference: <<< (Skip-) Keyword

<<< is a function used to jump fast to previous step (default without timing)

#### Syntax

<<< [Executor-list]

<<< [Timecode-list]

the time used by this function may be adjusted via the **GoFast** property found under **Setup ➔ Show ➔ Playback + MIB Timing**

#### Example:

```
[Channel]><<< Executor 3
```

Jumps to previous cue on executor 3

#### Related Links

- [<<< Key](#)
- [Wwindow Playback + MIB Timing](#)



### Reference: Agenda Keyword

**Agenda** is an object-type that holds scheduled tasks to be executed at specific dates and times

#### Syntax

**Agenda** [ID]

#### Example:

#### Related Links

- [Macro Key](#)



### Reference: Align Keyword

**Align** is a function used to change the mode of the attribute-encoders

#### Syntax

**Align** [mode]

**Align Off**

The mode may be called by its name, or index (1-4, 0=Off).

1. "<"
2. ">"
3. "><"
4. "<>"

When activating an Align-mode, the encoders will no longer adjust the whole selection equally, but adjust proportionally according to selection-order, either most at the last, most at the first, most at the last&first(inverted), or most at the center of the selection.

#### Example:

```
[Channel]> Align "<"
```

Sets the encoders to first Align-mode.

```
[Channel]> Align 0
```

Turns off any Align-mode

#### Related Links

- [Align Key](#)



### Reference: AlignFaderModules Keyword

AlignFaderModules is a function used configure connected external wings to fit your consoletype

#### Syntax

##### AlignFaderModules

Which executors the wings controls is not freely adjustable by the user. Wings are *fader-extensions* and are intended to follow after the faders inbuilt in the console.

On the Light and Ultralight which have 15 inbuilt faders, a connected wing will control executor 16-30.

On a fullsize which have inbuilt 30 faders, a connected wing will control executor 31-45.

On a Replay Unit which doesn't have any inbuilt fader, a connected wing will control executor 1-15.

Which executors the wing controls is stored inside the wing. If you take a wing normally used with a fullsize and connect to a Light, or vice versa if you connect a Wing normally used by a Light, to a fullsize, you will experience either an overlap or gap in the executor numbering. To fix this you can run the **AlignFaderModules** command to readdress the wings to fit the current consoletype. When running this command, all connected wings will be readdressed to remove any gaps and/or overlaps.



### Reference: All Keyword

All is a function used to reset the **Matricks** property **Single x**

#### Syntax

##### All

**All** is a function used to set the **Matricks** property **Single x** to *none*, which means to reselect all fixtures, (or reselect all columns of fixtures, if **Interleave** is active)

#### Example:

```
[Channel]> All
```

reselects all fixtures/columns

#### Related Links

- [MAtricks Tutorial](#)



### Reference: AllButtonExecutors Keyword

AllButtonExecutors is an alias for all Button-Executors

#### Syntax

##### [function] AllButtonExecutors

AllButtonExecutors may be used as an alias to address Executor 101 and upwards, on all pages

#### Example:

```
[Channel]> Off AllButtonExecutors
```

turns off all Button-Executors



### Reference: AllChaseExecutors Keyword

**AllChaseExecutors** is an alias for all Executors with chasers assigned

#### Syntax

[function] **AllChaseExecutors**

**AllChaseExecutors** may be used as an alias to address all Executors with chasers assigned

#### Example:

```
[Channel]> Off AllChaseExecutors
```

turns off all Executors with chasers



### Reference: AllFaderExecutors Keyword

**AllFaderExecutors** is an alias for all Fader-Executors

#### Syntax

[function] **AllFaderExecutors**

**AllFaderExecutors** may be used as an alias to address Executors 1 thru 90 on all pages

#### Example:

```
[Channel]> Off AllFaderExecutors
```

turns off all Fader-Executors



### Reference: AllRows Keyword

**AllRows** is a function used to reset the **Matricks** property **Single y**

#### Syntax

**AllRows**

**AllRows** is a function used to set the **Matricks** property **Single y** to *none*, which means to reselect all rows of fixtures in a virtual array created with **MatricksInterleave**

#### Example:

```
[Channel]> AllRows
```

reselects all rows of fixtures in an interleave array

#### Related Links

- [MAtricks Tutorial](#)



### Reference: AllSequExecutors Keyword

**AllSequExecutors** is an alias for all Executors with sequences assigned

#### Syntax

[function] **AllSequExecutors**

**AllSequExecutors** may be used as an alias to address all Executors with sequences assigned

#### Example:

```
[Channel]> Off AllSequExecutors
```

turns off all Executors with sequences



## Reference: Assign Keyword

**Assign** is a function used to define relationships between objects or give values to properties

### Syntax

**Assign** [Object-list 1] (**At**) [Object-list 2]

**Assign** [Function] (**At**) [Object-list]

**Assign** [Helping-keyword] [Value-list] [Object-list]

**Assign** [Object-list] /[property1]=[value] /[property2]=[value]

**Assign** [Object]

If no object-type is given for the object-list, the objects at the current destination is used. If the current destination is root (no destination) the current default object-type of the commandline is used.



Assign is the only function that may be directly proceeded by another function

### Example:

```
[Channel]> Assign Dmx 2.101 At Channel 5
```

Patches DMX address 101 on the second universe to channel 5

```
Sequences/Global> Assign 1 Thru 5 At Executor 6 Thru 10
```

Assigns Sequence 1 thru 5 to Executor 6 thru 10

```
[Channel]> Assign Toggle At Executor 101
```

Assigns a toggle-button to Executor 101

```
[Channel]> Assign Fade 3 Cue 5
```

Assigns a fade-time of 3 seconds to cue 5

```
[Channel]> Assign User JohnDoe /password=qwerty
```

Sets the password for JohnDoe to "qwerty"

```
[Channel]> Assign Executor 1
```

Opens the Assign Menu dialog for executor 1

### Related Links

- [Assign Key](#)



## Reference: At Keyword

**At** may be used as a function to apply values, or as a helping keyword for other functions, to indicate destinations

### Syntax

**At** [Value-list]

**At** [Value-type] [Value-list]

**At** [Object-list]

[Object-list] **At** [Value-list]

[Object-list] **At** [Value-type] [Value-list]

[Object-list] **At** [Object-list]

[Function] [Object-list] **At** [Object-list] (as helping keyword)

**At** is the exception "that proves the rule". **At** is one of the few functional keyword that accepts objects before the function.

As a starting keyword, **At** is a function that applies values in the programmer, to the current selection.

If value-type **Fade** or **Delay** is used, the value-list will be applied as individual fade/delay-times



Following an object-list, **At** is a function that applies values to the object-list. If the object-list does not support the **At** function, the object-list is resolved into a Selection-list which gets selected and **At** applies values in programmer

Following an object-list that follows a function, **At** is a helping keyword for the starting function



When **At** applies a range/list, the values/objects are usually spread across the receiving objects. e.g. Fixture 1 Thru 3 At 0 Thru 100 will set 1 At 0, 2 At 50, and 3 At 100. There is however one exception from this rule: If the applied range is a list of cues from a tracking sequence, all fixtures will be set to all cues. This enables you with the **At** function to apply the tracking status of a cue (**At** Cue Thru x)

#### Example:

```
[Channel]> At 75
```

Sets the dimmer attributes of current selection to 75%

```
[Channel]> At Cue 3
```

Sets the current selection to the values of Cue 3

```
[Channel]> Fixture 2 At Fixture 3
```

Selects Fixture 2 and sets it to the values of Fixture 3

```
[Channel]> Executor 3 At 50
```

Sets the fader of Executor 3 to 50%

```
[Channel]> Attribute "Pan" At 20
```

Sets the pan-attributes of current selection to 20

```
[Channel]> PresetType 2 Thru 9 At Delay 2
```

Sets individual delay-time of 2 seconds to all attributes but dimmer, for the current selection

```
[Channel]> Copy Group 4 At 10
```

Copies Group 4 to Group 10

#### Related Links

- [At Key](#)



### Reference: Attribute Keyword

**Attribute** is an object-type used to reference attributes of a fixture

#### Syntax

**Attribute** [PresetType].[Feature].[Attribute]

**Attribute** "Name"

**Attribute** [Feature].[Attribute]

**Attribute** [Attribute]

The default function for attributes is **Call**. Calling attributes will bring them to the encoder, and select them in the fixturesheet (blue column-header)

An Attribute's numerical ID is a hierarchical triplet (3 numbers separated by a dot). If only two, or one number is supplied, you are calling attributes of current PresetType or of current Feature.

#### Example:

```
[Channel]> Off Attribute 3.2.3
```

Knocks the attribute Gobo2-Mode out of the programmer, for current selection

```
[Channel]> Attribute "pan" At 120
```

Sets attribute "pan" to 120 degrees for the current selection

```
[Channel]> Attribute 3.1
```

Calls the first Attribute of the third Feature of the current PresetType

```
[Channel]> Attribute 3
```

Calls the third Attributes of the current Feature

#### Related Links

- [Preset Key](#)
- [Feature Keyword](#)
- [PresetType Keyword](#)



## Reference: Backup Keyword

**Backup** is a function used to open/close the **Backup Menu** window

### Syntax

**Backup**

### Related Links

- [Backup Key](#)
- [Backup Menu](#)



## Reference: Bitmap Keyword

**Bitmap** is an object-type that generates attribute-values from an animated image

### Syntax

**Bitmap** [ID]

**Bitmap** [Bitmap-pool].[ID]

### Example:

### Related Links

- [Effect Key](#)



## Reference: Black Keyword

**Black** is a function used to temporary over-ride masterlevel to zero on executing objects

### Syntax

**Black** [Executor-list]

**Black On** [Executor-list]

**Black Off** [Executor-list]

When the Black function is used with an Executor button, the Black On command is executed when the button is pressed and the Black Off is executed when the button is released.

### Example:

[Channel]> Black On Executor 1

Over-rides masterlevel of Executor 1 to zero

[Channel]> Black Off Executor 1

Returns masterlevel of Executor 1 to the masterfader

### Related Links

- [<<< Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Blackout Keyword

**Blackout** is a function used to force zero values on output for dimmer parameter of channels and fixtures. Fixtures with "Master OFF" in the fixture edit menu do not react to Blackout.

### Syntax

**Blackout**

**Blackout On**

**Blackout Off**

**Blackout** is a toggle function. This means that entering Blackout without any helping keyword will toggle Blackout-mode on/off.

**Example:**

```
[Channel]> Blackout On
```

Turns on Blackout-mode

**Related Links**

- [B.O. Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Blind Keyword

**Blind** is a function that is suppressing the output of the live -programmer. Programming is possible without a live - output. After switching off the bling mode, live programmer is back including changes made during bling mode.

**Syntax**

**Blind**

**Blind On**

**Blind Off**

**Blind** is a toggle function. This means that entering Blind without any helping keyword will toggle Blind-mode on/off.

**Example:**

```
[Channel]> Blind On
```

Turns on Blind-mode (turns off output of programmer)

**Related Links**

- [Blind Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: BlindEdit Keyword

**BlindEdit** is a function used to switch the console between the Live and the Blind programmer

**Syntax**

**BlindEdit**

**BlindEdit On**

**BlindEdit Off**

**BlindEdit** is a toggle function. This means that entering BlindEdit without any helping keyword will toggle between the Live and the Blind programmer .

**Example:**

```
[Channel]> BlindEdit On
```

Turns BlindEdit On, opens the Blind Programmer

**Related Links**

- [Blind Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Block Keyword

**Block** is a function used to add data to prevent tracking. Tracking values (magenta colored) are converted to stored values (white colored).

**Syntax**

**Block** [Object-list] [Selection-list] [Attribute-list]

If the Object-list does not contain any references to any cues, the Block function is applied to the current Cue of the Selected executor.

If syntax does not contain any Selection-list, all fixtures will be used

If syntax does not contain any Attribute-list, all attributes will be used



Block/unblock of specific attributes is not yet implemented. Please use Worlds to limit you access if you need to apply to only some attributes

#### Example:

```
[Channel]> Block
```

Blocks all parameters in current cue

```
[Channel]> Block Cue 5 Fixture 4 Feature "Colmix"
```

Blocks Colormix of Fixture 4 in Cue5

#### Related Links

- [Unblock Keyword](#)



### Reference: ButtonPage Keyword

**ButtonPage** is an object-type representing the Button-Executor part of a Page

#### Syntax

**ButtonPage** [ID]

**ButtonPage** [Pagepool].[ID]

The default function for this object is **Call**. Calling a ButtonPage will change your physical executors to that page.

If you apply a function not supported by the ButtonPage object, the function will be passed on to the Executor child objects of the ButtonPage.



The **ButtonPage** keyword currently only supports its default-function **Call**

#### Example:

```
[Channel]> ButtonPage 5
```

Changes your physical Button-Executors to Page 5

#### Related Links

- [Page Key](#)
- [Bt Pg+ Key](#)
- [Bt Pg- Key](#)
- [Page Keyword](#)
- [FaderPage Keyword](#)



### Reference: Call Keyword

**Call** is a function used to apply/engage an object or its content (press 2x button "ON").

#### Syntax

**Call** [Object-list]

If the **Call** function is used on objects that contains parameters (fixture values) these values will be loaded (added) into the programmer. If **Call** is used on other object-types, their content will be applied in its context.

#### Example:

```
[Channel]> Call Preset 3.1
```

loads the content of Preset 3.1 into programmer, without selecting the fixtures. At universal presets all fixtures supporting this attributes are affected.

```
[Channel]> Call Sequence 1
```

Status of the last cue of sequence 1 is loaded into the programmer without selecting the fixtures.

**Related Links**

- [On Key](#)

**Reference: Channel Keyword**

**Channel** is an object-type used to access fixtures with a Channel-ID

**Syntax**

**Channel** [ID]

**Channel** [ID].[Sub-ID]

The default function for channel objects is **SelfFix**. This means that entering channels without any function specified will select the channels in programmer.

**Example:**

[Channel]> Channel 34

Selects Channel 34

[Channel]> Channel 11.5

Selects the fifth subfixture of the fixture Channel 11

[Channel]> Channel 11

Selects all subfixtures of the fixture Channel 11

**Related Links**

- [Channel Key](#)
- [SelfFix Keyword](#)

**Reference: ChangeDest(CD) Keyword**

**CD** is a function used to change the destination of your commandline

**Syntax**

**CD** [Element-index]

**CD** "Element name"

**CD** [Object-type] [Object-ID]

**CD** ..

**CD** /

Changing the destination is done by drilling down thru a tree-structured database. To display the elements at a given destination use the function **List**.

**Example:**

[Channel]> CD 3

Enters the 3rd element of the current destination:

Settings>

[Channel]> CD "Edit Setup"

Enters the element of the current destination named "Edit Setup":

Edit Setup>

[Channel]> CD Group

Enters the predefined destination Groups:

Groups/Global>

Edit Setup/Universes> CD ..

Exits one level up in the tree-structure:

Edit Setup>

```
Edit Setup/Universes> CD /
```

Exits all levels up the root (no destination):

```
[Channel]>
```

## Related Links

- [List Keyword](#)



## Reference: ChannelFader Keyword

**ChannelFader** is an object-type representing a fader of the ChannelPages

## Syntax

**ChannelFader** [ID]

**ChannelFader** [Page].[ID]

The default function for ChannelFader is **Call**. Calling a ChannelFader will change the Executor Faders to Channel-mode.

## Example:

```
[Channel]> Assign Fixture 301 At ChannelFader 5
```

Assigns the dimmer of fixture 301 to fader 5 of the current channelpage

```
[Channel]> Assign Channel201 Thru 215 At ChannelFader 2.1
```

Assigns Channel 201 thru 215 to fader 1 thru 15 of channelpage 2

```
[Channel]> Assign Fixture3.2.1 At ChannelFader 2.11
```

Assigns the first attribute of the second subfixture of Fixture 3 to fader 11 of channelpage 2

## Related Links

- [Executor Buttons](#)
- [ChannelPage Keyword](#)



## Reference: ChannelLink Keyword

**ChannelLink** is function used to toggle the Channelfaders to dynamic mode

## Syntax

**ChannelLink**

**ChannelLink On**

**ChannelLink Off**

**ChannelLink** [Attribute-List]

If no attribute-list is given, the ChannelLink mode will be Dimmer (fader controls the dimmer-attributes of the current selection)

## Example:

```
[Channel]> ChannelLink
```

Toggles ChannelLink mode on or off

```
[Channel]> ChannelLink PresetType "Position"
```

Toggles ChannelLink mode on, for pan and tilt

```
[Channel]> ChannelLink Attribute "Iris" + "Focus"
```

Toggles ChannelLink mode on, for iris and focus



## Reference: ChannelPage Keyword

**ChannelPage** is an object-type representing a page of channelfaders

## Syntax

### ChannelPage [ID]

The default function for ChannelPage is **Call**. Calling a ChannelPage will change the Executor Faders to Channel-mode.

## Example:

```
[Channel] > ChannelPage 5
```

Changes your physical Faders to ChannelPage 5

```
[Channel] > ChannelPage +
```

Changes your physical Faders to next ChannelPage

```
[Channel] > Delete ChannelPage 2
```

Deletes ChannelPage 2

## Related Links

- [Page Key](#)
- [Ch Pg+ Key](#)
- [Ch Pg- Key](#)
- [ChannelFader Keyword](#)



## Reference: CircularCopy Keyword

**CircularCopy** is a function used to move attribute-values within your current selection.

## Syntax

### CircularCopy [offset]

**CircularCopy** will move the attributevalues within your currently selected fixtures, according to selection-order

This function obeys the **Attribute / At-filter**

## Example:

```
[Channel] > CircularCopy 1
```

Fixture 1 copies its values to fixture 2, fixture 2 to fixture 3 etc, back to fixture 1

```
[Channel] > CircularCopy -2
```

Fixture 4 copies its values to fixture 2, fixture 3 to fixture 1 etc, back to fixture 4

## Related Links

- [Tools](#)
- [Attribute Filter pop-up](#)



## Reference: Clear Keyword

**Clear** is a function used to clear selection, active or programmer.

## Syntax

### Clear

**Clear** is a function used to clear selection, active, or programmer.

Depending on status of the programmer the function will sequentially:

1. Clear Selection (unselect all fixtures)
2. Clear Active (deactivate all values)
3. Clear All (empty programmer)

## Example:

```
[Channel] > Clear
```

Clears Selection, Active or Programmer depending on the status/content of the programmer

## Related Links

- [Clear Key](#)

- [ClearSelection Keyword](#)
- [ClearAll Keyword](#)



## Reference: ClearActive Keyword

**ClearActive** is a function used to unactivate all values in programmer

### Syntax

**ClearActive**

The **ClearActive** function will unactivate any active values in the programmer.

### Related Links

- [Clear Key](#)
- [Clear Keyword](#)
- [ClearSelection Keyword](#)
- [ClearAll Keyword](#)



## Reference: ClearAll Keyword

**ClearAll** is a function used to empty the programmer completely

### Syntax

**ClearAll**

The **ClearAll** function will clear the selection and discard all values in the programmer.

### Related Links

- [Clear Key](#)
- [Clear Keyword](#)
- [ClearSelection Keyword](#)



## Reference: ClearSelection Keyword

**ClearSelection** is a function used to deselect any selected fixtures

### Syntax

**ClearSelection**

The **ClearSelection** function will clear the selection (deselect all fixtures).

### Related Links

- [Clear Key](#)
- [Clear Keyword](#)
- [ClearAll Keyword](#)



## Reference: Clone Keyword

**Clone** is a function used to batchcopy data between fixtures in the showfile

### Syntax

**Clone** [Source Selection-list] **At** [Destination Selection-list]

**Clone** [Source Selection-list] **At** [Destination Selection-list] **If** [Scope Object-list]

Copies data from source fixtures to destination fixtures throughout the showfile, however by the use of the helping keyword **If**, the scope of the cloning may be limited to only parts of your showfile.

By default the cloning is done with a low priority, which means that wherever the destination fixtures already contains data, this will be preserved, the data from the source fixtures is just added the places where data doesn't exist.

With the option **/merge** (or **/m**), new data from source is merged on top of the original data.

With the option **/overwrite** (or **/o**), original data of the destination is removed and replaced by new data

Clone will obey Worlds, and not change data outside your current World, however you may use fixtures outside your world as clone-source.

Whenever cloning with a limited scope, the console will automatically clone dependencies (e.g. presets and effects referenced by the cloned sequence). These dependencies will be cloned with the default low priority clone-option, to protect existing data.



**Example:**

```
[Channel]> Clone Fixture 1 At Fixture 2 /overwrite
```

Fixture 2 will do exactly the same as Fixture 1 did

```
[Channel]> Clone Fixture 1 At Fixture 2 /merge
```

Fixture 2 will do the same as Fixture 1 did, but possibly also some of what it did earlier

```
[Channel]> Clone Fixture 1 At Fixture 2
```

Fixture 2 will do the same as earlier, but possibly also some of what fixture 1 did

```
[Channel]> Clone Fixture 1 + 2 At Group 10 If Sequence 1 Thru 10
```

Copies data from Fixture 1 and 2 to fixtures in Group 10, within sequence 1 thru 10 only

**Related Links**

- [Copy Key](#)

**Reference: CmdDelay Keyword**

**CmdDelay** is a helping keyword used to indicate delay-times for the Cmd-link

**Syntax**

**CmdDelay** [Value-list]

As a helping keyword to programming functions (e.g. Store), this keyword will set the cmddelaytime of the object in question

**Example:**

```
[Channel]> Store Cue 3 CmdDelay 4
```

Creates cue 3 and sets its cmddelaytime to 4 seconds

**Related Links**

- [Time Key](#)

**Reference: CmdHelp Keyword**

**CmdHelp** is a function used to List all keywords in the **Commandline Response Window**

**Syntax**

**CmdHelp** [filter]

This function will list all keyword, with their shortets notation in green.

**Example:**

```
[Channel]> CmdHelp
```

Lists all keywords

```
[Channel]> CmdHelp f*
```

Lists all keywords starting with f

**Related Links**

- [Help Key](#)

**Reference: Copy Keyword**

**Copy** is a function used to create copies of an object

**Syntax**

**Copy** [Object] **At** [target-ID]

**Copy** [Object-list] **At** [target-start]

**Copy** [Object] **At** [target-list]

**Copy** [Object-list]

If no object-type is given and the commandline-destination is root (no destination) the default object-type for this function, **Cue**, will be used

If no target is given, the objects will be exported to clipboard.xml, for later to be used with the keyword **Paste**

**Example:**

```
[Channel]> Copy Group 1 At 5
```

Copies group 1 to group 5

```
[Channel]> Copy Group 1 Thru 3 At 11
```

Copies group 1 to group 11, group 2 to group 12 and group 3 to group 13

```
[Channel]> Copy Group 2 At 6 Thru 8
```

Copies group 2 to group 6, 7 and 8

```
[Channel]> Copy 2 At 6
```

Copies cue 2 to cue 6

```
Macros/Global > Copy 2 At 6
```

Copies macro 2 to macro 6

```
[Channel]> Copy Cue 5
```

Exports cue 5 to the temporary xml-file clipboard.xml

**Related Links**

- [Copy Key](#)
- [Paste Keyword](#)



**Reference: CrashLogCopy Keyword**

**CrashLogCopy** is a function used to copy crashlog-files from the internal drive to USB

**Syntax**

**CrashLogCopy**

**Example:**

```
[Channel]> CrashLogCopy
```

If there are any crashlogsfiles on the internal drive, these are copied to the first USB-stick



**Reference: CrashLogDelete Keyword**

**CrashLogDelete** is a function used to delete crashlog-files on the internal drive

**Syntax**

**CrashLogDelete**

**Example:**

```
[Channel]> CrashLogDelete
```

If there are any crashlogsfiles on the internal drive, these are deleted



**Reference: CrashLogList Keyword**

**CrashLogList** is a function used to list existing crashlog-files in **Commandline Response** window

**Syntax**

**CrashLogList**

**Example:**

```
[Channel]> CrashLogList
```

If there are any crashlogsfiles, these are listed in the commandline response window

**Reference: Crossfade Keyword**

**Crossfade** is an assignable function for executors

**Syntax**

**Assign Crossfade (At)** [Executor-list]

**Crossfade** is a function that will gradually activate the next step of an executor, according to the position of the fader

**Example:**

```
[Channel]> Assign Crossfade At Executor 1 Thru 5
```

Gives fader 1 thru 5 Crossfade-functionality

**Reference: CrossfadeA Keyword**

**CrossfadeA** is an assignable function for executors

**Syntax**

**Assign CrossfadeA (At)** [Executor-list]

**CrossfadeA** is a function that will gradually fade down dimmer-attributes of the current step of an executor, according to the position of the fader.

Depending on the Executor option AB/Split, this function will (for dimmer-attributes) either act as a crossfader for decreasing values or as a master for current cue.

**Example:**

```
[Channel]> Assign CrossfadeA At Executor 1
```

Gives fader 1 CrossfadeA-functionality

**Related Links**

- [CrossfadeB Keyword](#)

**Reference: CrossfadeB Keyword**

**CrossfadeB** is an assignable function for executors

**Syntax**

**Assign CrossfadeB (At)** [Executor-list]

**CrossfadeB** is a function that will gradually fade in dimmer-attributes of the next step of an executor, according to the position of the fader.

Depending on the Executor option AB/Split, this function will (for dimmer-attributes) either act as a crossfader for increasing values or as a master for next cue.

Nonmatter chosen option, CrossfadeB will for non-dimmer attributes gradually activate the next step of an executor, according to the position of the fader.

**Example:**

```
[Channel]> Assign CrossfadeA At Executor 1
```

Gives fader 1 CrossfadeA-functionality

**Related Links**

- [CrossfadeA Keyword](#)



## Reference: Cue Keyword

**Cue** is an object-type holding a look on stage

### Syntax

**Cue** [ID.ID]



Cue is the only object-type that accepts numerical ID as decimal fractions. The allowed ID range for cues is from 0.001 to 9999.999. In all other objects, a dot indicates the ID of a parent or child object

The default function for Cue objects is **SelFix**. This means that calling cues without any function specified will select the fixtures of the cue.

Cues are arranged in Sequences, and divided in Parts. If only Cue ID is entered, you are applying functions to all Parts of Cues of the Sequence assigned to the selected Executor.

To access cues of unselected Sequences/Executors, add a parent object to the syntax, i.e. **Cue 3.001 Executor 1** or **Sequence 5 Cue 3.999**



The object sets are *Commutative* : **Sequence 1 Cue 2** is the same as **Cue 2 Sequence 1**

### Example:

[Channel] > Cue 3

Selects fixtures in Cue 3 of sequence assigned to Selected Executor

### Related Links

- [Cue Key](#)
- [Part Keyword](#)
- [Sequence Keyword](#)



## Reference: Cut Keyword

**Cut** is a function used to delete and export objects

### Syntax

**Cut** [Object-list]

If no object-type is given and the commandline-destination is root (no destination) the default object-type for this function, **Cue**, will be used

The given objects will be exported to clipboard.xml, then deleted. The content of the clipboard can later be used with the keyword **Paste**



Cut&paste is not suited to move referenced objects (e.g. Presets, Effects) as any references is lost when the deletionpart of the Cut function is performed.

### Example:

[Channel] > Cut Group 5

Exports group 5 to the temporary xml-file clipboard.xml then deletes group 5

### Related Links

- [Move Keyword](#)
- [Paste Keyword](#)



## Reference: Default Keyword

**Default** is a function to set default-values for attributes

### Syntax

**Default**

**Default** [attribute-list]

The **Default** function will set the given attributes for your current selection to default-values. If no attribute-list is given, all attributes of current selection will be set to defaultvalues

**Example:**

```
[Channel]> Default PresetType "Position"
```

Sets pan&tilt of the current selection to default-values

**Related Links**

- [\[Dot\] Key](#)

**Reference: Delay Keyword**

**Delay** is a helping keyword used to indicate delay-times

**Syntax**

**Delay** [Value-list]

As a helping keyword to programming functions (e.g. Store), this keyword will set the time of the object in question

Used as a starting keyword, **Delay** will apply individual timing in the programmer for the current selection and attributes.

**Example:**

```
[Channel]> Store Cue 3 Delay 4
```

Creates cue 3 and sets its delaytime to 4 seconds

```
[Channel]> Delay 4
```

Sets individual delaytime for the current selection/attributes

**Related Links**

- [Time Key](#)

**Reference: Delete Keyword**

**Delete** is a function used to remove data from the showfile

**Syntax**

**Delete** [Object-list]

**Delete** [Object-list] [Selection-list filter]

Delete is a function used to remove data from your showfile. If the object itself cannot be removed, any assignment to the objects will be removed.

If no object-type or destination is given, the default object-type for this function, **Cue**, will be used.

if a Selection-list filter is given, only the specified fixtures will be deleted from the objectlist

**Example:**

```
[Channel]> Delete 7
```

Deletes Cue 7

```
[Channel]> Delete Group 3
```

Deletes Group 3

```
Worlds> Delete 6
```

Deletes World 6

```
[Channel]> Delete Fixture 4
```

Unpatches fixture 4 (removes assigned DMX-objects )

```
[Channel]> Delete Sequence 2 Fixture 4
```

Deletes fixture 4 and all cues containing only fixture4 from Sequence 2

**Related Links**

- [Del Key](#)



## Reference: DeleteShow Keyword

**DeleteShow** is a function used to remove showfiles from harddrives

### Syntax

**DeleteShow** [filename]

**DeleteShow** [filename] /noconfirm

This function will delete showfiles on the currently selected hard-drive. Wildcards (\*) in filename are allowed, to delete multiple files. Unless the /noconfirm option is included, the deletion of each file needs to be confirmed. To avoid this confirmation add "nonconfirm" at the end of the command.

### Example:

### Related Links

- [SelectDrive Keyword](#)
- [ListShows Keyword](#)
- [\\* \[Asterisk\]](#)



## Reference: DisconnectStation Keyword

**DisconnectStation** is a function used to throw stations out of your session

### Syntax

**DisconnectStation** [Station-list]

**DisconnectStation** will disconnect stations from your session.

### Example:

```
[Channel]> DisconnectStation 192.168.0.10
```

Disconnects station with IP-address 192.168.0.10

```
[Channel]> DisconnectStation 10
```

Disconnects station with Host-ID 10 on your Network

```
[Channel]> DisconnectStation Thru
```

Disconnects all stations on your subnet

### Related Links

- [JoinSession Keyword](#)
- [LeaveSession Keyword](#)
- [InviteStation Keyword](#)
- [NetworkInfo Keyword](#)



## Reference: Dmx Keyword

**Dmx** is an object-type representing the DMX outputs of the console

### Syntax

**Dmx** [Address]

**Dmx** [Universe].[Address]

### DMX Tester

Entering a DMX-address will open the DMX Encoderbar, which may be used for testing. You may also set a test-level directly by combining the DMX-address with the At-keyword.

The DMX-tester has priority over the normal output of the console (parked, executors, programmer) and HTP priority with DMX-input.

### Patching

**Assign** [Fixture-list] (**At**) [DMX start]

Assigning fixtures to a DMX-start address will remove all existing patch for the fixtures, and assign the new DMX-addresses

**Assign** [DMX-list] (**At**) [Fixture]

Assigning a list of DMX addresses to a fixture will add to existing patch (multipatch). This doesn't add more fixtures in your grandMA2 3D visualizer.

#### **Delete** [DMX-list]

Deletion of DMX addresses will remove from existing patch (unpatch)

#### **Delete** [Fixture-list]

Deletion of fixture will unpatch all assigned DMX-addresses

### **Patching of fixtures with multiple breaks**

#### **Assign** [DMX address] (At) [Fixture] /break=n

Assigning a DMX address to a specific break

#### **Example:**

```
[Channel]> Dmx 2.101
```

Selects address 101 on second universe in the DMX-tester

```
[Channel]> Assign Dmx 2.101 At Channel 5
```

Patches DMX address 101 on the second universe to channel 5

```
[Channel]> Dmx 513 At 100
```

Sets the first address on the second universe to 100% in the DMX-tester

```
[Channel]> Off Dmx Thru
```

Releases all values in the DMX-tester

```
[Channel]> Assign Dmx 1.101 At Fixture 2 /break=1
```

Patches DMX address 101 to the first break of fixture 2 (i.e the dimmer of a VL5)

#### **Related Links**

- [DMX \(Tester\)](#)
- [Channel Key](#)
- [Park Keyword](#)
- [Unpark Keyword](#)



### **Reference: DmxUniverse Keyword**

**DmxUniverse** is an object-type representing the DMX universes of the console

#### **Syntax**

**DmxUniverse** [Universe]

The **DmxUniverse** keyword may be used to access DMX-universes or all DMX-channels of a universe

#### **Example:**

```
[Channel]> Unpark DmxUniverse 1 Thru 4
```

Unparks all DMX-channels of universe 1 thru 4

```
[Channel]> Delete DmxUniverse 2
```

Unpatches all DMX-channels of universe 2

```
[Channel]> Edit DmxUniverse 3
```

opens Universe editor to change its properties

#### **Related Links**

- [Universe Pool](#)
- [Channel Key](#)
- [Dmx Keyword](#)



### **Reference: DoubleRate Keyword**

**DoubleRate** is a function used to multiply the current rate with 2

**Syntax****DoubleRate** [Object-list]**Example:**

```
[Channel] > DoubleRate Executor5
```

Doubles the rate of Executor 5

**Related Links**

- [HalfRate Keyword](#)

**Reference: DoubleSpeed Keyword**

**DoubleSpeed** is a function used to multiply the current speed with 2

**Syntax****DoubleSpeed** [Object-list]**Example:**

```
[Channel] > DoubleSpeed Executor5
```

Doubles the speed of Executor 5

**Related Links**

- [HalfSpeed Keyword](#)

**Reference: Edit Keyword**

**Edit** is a function used to open an object for editing

**Syntax****Edit** [Object-type] [Object-ID]

If no object-type is given, the default object-type for this function, Cue, will be used

**Example:****Reference: Effect Keyword**

**Effect** is an object-type that generates attribute-values from a modulating wave-form

**Syntax****Effect** [ID]**Effect** [Effect-pool].[ID]**Effect** [Effect-pool].[ID].[Effect-line]**Example:****Related Links**

- [Effect Key](#)

**Reference: EffectAttack Keyword**

**EffectAttack** is a helping keyword used to indicate individual EffectAttack of a PWM-form

**Syntax****EffectAttack****EffectAttack** [Value-list]



**Example:**

```
[Channel] > EffectAttack
```

switches encoders to adjust the EffectAttack layer

```
[Channel] > Off EffectAttack
```

knocks any EffectAttack values out of programmer for current selection/feature

```
[Channel] > EffectAttack 50
```

Sets EffectAttack for current selection/feature to 50% of the PWM-width

```
[Channel] > Attribute "pan" At EffectAttack 50
```

Sets EffectAttack for "pan" for current selection to 50% of the PWM-width

**Related Links**

- [Time Key](#)

**Reference: EffectBPM Keyword**

**EffectBPM** is a helping keyword used to indicate individual Effectspeed using the unit BPM

**Syntax**

**EffectBPM**

**EffectBPM** [Value-list]

**Example:**

```
[Channel] > EffectBPM
```

switches encoders to adjust the EffectSpeed layer

```
[Channel] > Off EffectBPM
```

knocks any EffectSpeed values out of programmer for current selection/feature

```
[Channel] > EffectBPM 120
```

Sets EffectSpeed for current selection/feature to 120 Beats per minute

```
[Channel] > Attribute "pan" At EffectBPM 90
```

Sets EffectSpeed for "pan" for current selection to 90 Beats per minute

**Related Links**

- [Time Key](#)

**Reference: EffectDecay Keyword**

**EffectDecay** is a helping keyword used to indicate individual EffectDecay of a PWM-form

**Syntax**

**EffectDecay**

**EffectDecay** [Value-list]

**Example:**

```
[Channel] > EffectDecay
```

switches encoders to adjust the EffectDecay layer

```
[Channel] > Off EffectDecay
```

knocks any EffectDecay values out of programmer for current selection/feature

```
[Channel] > EffectDecay 50
```

Sets EffectDecay for current selection/feature to 50% of the PWM-width

```
[Channel]> Attribute "pan" At EffectDecay 50
```

Sets EffectDecay for "pan" for current selection to 50% of the PWM-width

#### Related Links

- [Time Key](#)



### Reference: EffectDelay Keyword

**EffectDelay** is a helping keyword used to indicate individual EffectDelay-times

#### Syntax

**EffectDelay**

**EffectDelay** [Value-list]

#### Example:

```
[Channel]> EffectDelay
```

switches encoders to adjust the EffectDelay layer

```
[Channel]> Off EffectDelay
```

knocks any EffectDelay values out of programmer for current selection/feature

```
[Channel]> EffectDelay 4
```

Sets EffectDelay for current selection/feature to 4 seconds

```
[Channel]> Attribute "pan" At EffectDelay 2
```

Sets EffectDelay for "pan" for current selection to 2 seconds

#### Related Links

- [Time Key](#)



### Reference: EffectFade Keyword

**EffectFade** is a helping keyword used to indicate individual effectfade-times

#### Syntax

**EffectFade**

**EffectFade** [Value-list]

#### Example:

```
[Channel]> EffectFade
```

switches encoders to adjust the EffectFade layer

```
[Channel]> Off EffectFade
```

knocks any EffectFade values out of programmer for current selection/feature

```
[Channel]> EffectFade 4
```

Sets EffectFade for current selection/feature to 4 seconds

```
[Channel]> Attribute "pan" At EffectFade 2
```

Sets EffectFade for "pan" for current selection to 2 seconds

#### Related Links

- [Time Key](#)



### Reference: EffectForm Keyword

**EffectForm** is a helping keyword used to indicate individual EffectForm

**Syntax****EffectForm****EffectForm** [Value-list]**Example:**

```
[Channel] > EffectForm
```

switches encoders to adjust the EffectForm layer

```
[Channel] > Off EffectForm
```

knocks any EffectForm values out of programmer for current selection/feature

```
[Channel] > EffectForm 6
```

Sets EffectForm for current selection/feature to the 6th form

```
[Channel] > Attribute "pan" At EffectForm 6
```

Sets EffectForm for "pan" for current selection to the 6th form

**Related Links**

- [Time Key](#)
- [Form Keyword](#)

**Reference: EffectHigh Keyword**

**EffectHigh** is a helping keyword used to indicate individual EffectHigh

**Syntax****EffectHigh****EffectHigh** [Value-list]**Example:**

```
[Channel] > EffectHigh
```

switches encoders to adjust the EffectHigh layer

```
[Channel] > Off EffectHigh
```

knocks any EffectHigh values out of programmer for current selection/feature

```
[Channel] > EffectHigh 80
```

Sets EffectHigh for current selection/feature to 80

```
[Channel] > Attribute "pan" At EffectHigh 20
```

Sets EffectHigh for "pan" for current selection to 20

**Related Links**

- [Time Key](#)

**Reference: EffectHZ Keyword**

**EffectHZ** is a helping keyword used to indicate individual Effectspeed using the unit Hertz

**Syntax****EffectHZ****EffectHZ** [Value-list]**Example:**

```
[Channel] > EffectHZ
```

switches encoders to adjust the EffectSpeed layer

```
[Channel] > Off EffectHZ
```

knocks any EffectSpeed values out of programmer for current selection/feature

```
[Channel]> EffectHZ 4
```

Sets EffectSpeed for current selection/feature to 4 Hertz

```
[Channel]> Attribute "pan" At EffectHZ 2
```

Sets EffectSpeed for "pan" for current selection to 2 Hertz

#### Related Links

- [Time Key](#)



### Reference: EffectID Keyword

**EffectID** is a helping keyword used to indicate the EffectID Layer

#### Syntax

##### EffectID

The EffectID value cannot be adjusted the same way as other effectlayers. This value is given by calling an Effect.

#### Example:

```
[Channel]> EffectID
```

switches encoders to display the EffectID layer

```
[Channel]> Off EffectID
```

knocks any EffectID values (effect reference) out of programmer for current selection/feature

#### Related Links

- [Time Key](#)
- [Effect Keyword](#)



### Reference: EffectLow Keyword

**EffectLow** is a helping keyword used to indicate individual EffectLow

#### Syntax

##### EffectLow

##### EffectLow [Value-list]

#### Example:

```
[Channel]> EffectLow
```

switches encoders to adjust the EffectLow layer

```
[Channel]> Off EffectLow
```

knocks any EffectLow values out of programmer for current selection/feature

```
[Channel]> EffectLow 20
```

Sets EffectLow for current selection/feature to 20

```
[Channel]> Attribute "pan" At EffectLow -20
```

Sets EffectLow for "pan" for current selection to -20

#### Related Links

- [Time Key](#)



### Reference: EffectPhase Keyword

**EffectPhase** is a helping keyword used to indicate individual EffectPhase

#### Syntax

##### EffectPhase

**EffectPhase** [Value-list]**Example:**

```
[Channel] > EffectPhase
```

switches encoders to adjust the EffectPhase layer

```
[Channel] > Off EffectPhase
```

knocks any EffectPhase values out of programmer for current selection/feature

```
[Channel] > EffectPhase 180
```

Sets EffectPhase for current selection/feature to 180 degrees

```
[Channel] > Attribute "pan" At EffectPhase 180
```

Sets EffectPhase for "pan" for current selection to 180 degrees

**Related Links**

- [Time Key](#)

**Reference: EffectSec Keyword**

**EffectSec** is a helping keyword used to indicate individual Effectspeed using the unit seconds.

**Syntax****EffectSec****EffectSec** [Value-list]**Example:**

```
[Channel] > EffectSec
```

switches encoders to adjust the EffectSpeed layer

```
[Channel] > Off EffectSec
```

knocks any EffectSpeed values out of programmer for current selection/feature

```
[Channel] > EffectSec 2
```

Sets EffectSpeed for current selection/feature to 2 seconds per cycle

```
[Channel] > Attribute "pan" At EffectSec 4
```

Sets EffectSpeed for "pan" for current selection to 4 seconds per cycle

**Related Links**

- [Time Key](#)

**Reference: EffectWidth Keyword**

**EffectWidth** is a helping keyword used to indicate individual EffectWidth

**Syntax****EffectWidth****EffectWidth** [Value-list]**Example:**

```
[Channel] > EffectWidth
```

switches encoders to adjust the EffectWidth layer

```
[Channel] > Off EffectWidth
```

knocks any EffectWidth values out of programmer for current selection/feature

```
[Channel] > EffectWidth 50
```

Sets EffectWidth for current selection/feature to 50% of the cycle

```
[Channel]> Attribute "pan" At EffectWidth 50
```

Sets EffectWidth for "pan" for current selection to 50% of the cycle

#### Related Links

- [Time Key](#)



### Reference: EndIf Keyword

**EndIf** is a helping keyword used to indicate the end of an If-statement

#### Syntax

```
[commandline] If [condition/filter] EndIf [commandline continued]
```

The **EndIf** keyword enables If-statements to be entered in the middle of a syntax. Upon processing, the If-statement is moved to the end of the syntax, and will be used as a filter/condition. This enables If-syntax to be used in conjunction with pool-items.

#### Example:

```
[Channel]> Store If Group 5 EndIf Preset 1.1
```

```
:Processed: Store Preset 1.1 If Group 5
```

creates preset 1.1, but only for group 5

#### Related Links

- [If Keyword](#)
- [If Key](#)



### Reference: ExecButton1 Keyword

**ExecButton1** is an object-type representing the first button of an executor

#### Syntax

```
ExecButton1 [Executor]
```

```
ExecButton1 [Page].[Executor]
```

```
ExecButton1 [Pagepool].[Page].[Executor]
```

If you apply a function or reference a property not supported by the ExecButton1 object, the command will be passed on to the parent Executor object.



For Fader Executors, the buttons are numbered from the bottom and upwards; 1 is right below fader, 2 is right above fader, 3 is on the top.

#### Example:

```
[Channel]> Assign Toggle At ExecButton1 5
```

Assigns toggle functionality to the first button of Executor 5

```
[Channel]> Delete ExecButton1 5
```

Deletes Executor 5

#### Related Links

- [Executor Keyword](#)



### Reference: ExecButton2 Keyword

**ExecButton2** is an object-type representing the second button of an executor

#### Syntax

```
ExecButton2 [Executor]
```

```
ExecButton2 [Page].[Executor]
```

```
ExecButton2 [Pagepool].[Page].[Executor]
```

If you apply a function or reference a property not supported by the ExecButton2 object, the command will be passed on to the parent Executor object.

 For Fader Executors, the buttons are numbered from the bottom and upwards; 1 is right below fader, 2 is right above fader, 3 is on the top.

#### Example:

```
[Channel]> Assign Toggle At ExecButton2 5
```

Assigns toggle functionality to the second button of Executor 5

```
[Channel]> Delete ExecButton2 5
```

Deletes Executor 5

#### Related Links

- [Executor Keyword](#)



### Reference: ExecButton3 Keyword

**ExecButton3** is an object-type representing the third button of an executor

#### Syntax

**ExecButton3** [Executor]

**ExecButton3** [Page].[Executor]

**ExecButton3** [Pagepool].[Page].[Executor]

If you apply a function or reference a property not supported by the ExecButton3 object, the command will be passed on to the parent Executor object.

 For Fader Executors, the buttons are numbered from the bottom and upwards; 1 is right below fader, 2 is right above fader, 3 is on the top.

#### Example:

```
[Channel]> Assign Toggle At ExecButton3 5
```

Assigns toggle functionality to the third button of Executor 5

```
[Channel]> Delete ExecButton3 5
```

Deletes Executor 5

#### Related Links

- [Executor Keyword](#)



### Reference: ExecButton4 Keyword

**ExecButton4** is an object-type representing a (not yet implemented) fourth button of an executor

#### Syntax

**ExecButton4** [Executor]

**ExecButton4** [Page].[Executor]

**ExecButton4** [Pagepool].[Page].[Executor]

If you apply a function or reference a property not supported by the ExecButton4 object, the command will be passed on to the parent Executor object.

 Physical hardkey-access or GUI support to a fourth ExecButton is not yet implemented.

#### Example:

```
[Channel]> Delete ExecButton4 5
```

Deletes Executor 5

#### Related Links

- [Executor Keyword](#)



## Reference: Executor Keyword

**Executor** is an object-type acting as a control/handle for other objects

### Syntax

**Executor** [ID]

**Executor** [Page].[ID]

**Executor** [Pagepool].[Page].[ID]

The default function for Executor objects is **SelfFix**. This means that calling executors without any function specified will select the fixtures of the executor in programmer.

If you apply a function or reference a property not supported by the Executor object, the command will be passed on its childs: Buttons/fader, or the object assigned to the executor.

### Example:

```
[Channel]> Delete Executor 5
```

Removes fifth Executor on current Page

```
[Channel]> Executor 5 At 50
```

Sets the Fader of Executor 5 to 50%

```
[Channel]> Delete Cue 3 Executor 5
```

Deletes Cue 3 of the Sequence assigned to Executor 5

```
[Channel]> Select Executor 4.2
```

Selects second Executor on Page 4

```
[Channel]> Select Executor 2.10.1
```

Select first Executor on the tenth Page of Pagepool 2 (not implemented)

### Related Links

- [Exec Key](#)
- [Page Keyword](#)
- [SelfFix Keyword](#)



## Reference: Extract Keyword

**Extract** is a function that applies values, similar to the keyword **At**, but will break any referenced links and apply hardvalues instead.

### Syntax

**Extract** [Object-list]

The **Extract** function is used with the same syntax as the At-function. While the At-function will apply values including referenced links (like presets and effects) the **Extract** function will break any reference and apply all values as hard values. Extract will work recursively and break reference also in subobjects, e.g. a preset in a cue in an extracted sequence.

Extract will obey the At-filter, and the Program-time.

### Example:

```
[Channel]> At Preset "drummer"
```

Sets current selection to preset "drummer". later changes to preset "drummer" will update the values.

```
[Channel]> Extract Preset "drummer"
```

Sets current selection to hardvalues of preset "drummer". later changes to preset "drummer" will not affect the values

```
[Channel]> Extract Selection
```

Breaks references (converts attributes to hardvalues) for current selection

```
[Channel]> Extract Cue 4
```

Sets current selection to the hardvalues of Cue 4



## Related Links

- [At Key](#)
- [At Keyword](#)
- [MA Key](#)



## Reference: Export keyword

**Export** is a function used to transfer data from your showfile to the libraries in the console

### Syntax

**Export** [Object-list]

**Export** [Object-list] "filename"

If no filename is given, one xml-file will be created for each object in object-list, with file-names generated based on object-name/properties.

The **Export** keyword will write to the currently selected hard-drive. For export to a USB stick select it at the Backup Menu, or type "selectdrive 4" in the CommandLine - 4 is for the first USB stick.

The exported files will be organized in folders according to object-type for the following objects **Effect** , **Macro** , **FixtureType** (library) and **Gel** (Colors).

Other objects will be placed in the importexport folder.



Export is implemented for several objects, but not yet for all.

### Example:

```
[Channel]> Export Macro 1 Thru 10 "MyMacros"
```

creates an xml-file labeled mymacros in the macro-directory, with macro 1 thru 10

```
[Channel]> Export Effect 1
```

creates an xml-file with label based on Effectname in the effect-directory, with effect 1

## Related Links

- [Import Keyword](#)
- [SelectDrive Keyword](#)
- [ListMacroLibraryKeyword](#)
- [ListEffectLibrary Keyword](#)
- [ListLibrary Keyword](#)



## Reference: Fade Keyword

**Fade** is a helping keyword used to indicate fade-times

### Syntax

**Fade** [Value-list]

As a helping keyword to playback functions (e.g. Goto), this keyword will set the time used to execute the function.

As a helping keyword to programming functions (e.g. Store), this keyword will set the fadetime of the object in question.

Used as a starting keyword, **Fade** will apply individual timing in the programmer for the current selection and attributes.



As long as the commandline starts with a function, the fade keyword and value may appear anywhere in the commandline.

### Example:

```
[Channel]> Goto Cue 3 Fade 4
```

Crossfades to cue 3 in 4 seconds

```
[Channel]> Store Cue 3 Fade 4
```

Creates cue 3 and sets its fadetime to 4 seconds

```
[Channel]> Assign Fade 3 Cue 2
```

Sets the Fadetime of cue 2 to 3 seconds

```
[Channel]> Fade 2
```

Sets individual Fadetime of 2 seconds to the current selection/attributes

```
[Channel]> At 50Fade 2
```

Sets the current selection to 50% and gives an individual Fadetime of 2 seconds to the selected attributes

#### Related Links

- [Time Key](#)



#### Reference: FadePath Keyword

**FadePath** is an object-type representing the possible transition paths of a Cuepart

#### Syntax

**FadePath** [ID]

#### Example:

```
[Channel]> Assign FadePath 7 At Cue 4 Part0
```

Assigns a High-Low fadepath to the mainpart of cue 4



#### Reference: Fader Keyword

**Fader** is an object-type representing the fader of an executor

#### Syntax

**Fader** [Executor]

**Fader** [Page].[Executor]

**Fader** [Pagepool].[Page].[Executor]

If you apply a function or reference a property not supported by the Fader object, the command will be passed on to the parent Executor object.



Even though Button Executors do not have a physical fader, they still have a virtual fader permanently assigned as a Master

#### Example:

```
[Channel]> Assign Speed At Fader 5
```

Assigns Speed functionality to the fader of Executor 5

```
[Channel]> Fader 5 At 50
```

Sets the level/position of fader of Executor 5 to 50%

```
[Channel]> Delete Fader 5
```

Deletes Executor 5



#### Reference: FaderPage Keyword

**FaderPage** is an object-type representing the Fader Executor part of a Page

#### Syntax

**FaderPage** [ID]

**FaderPage** [Pagepool].[ID]

The default function for this object is **Call**. Calling a FaderPage will change your physical executors to that page.

If you apply a function not supported by the FaderPage object, the function will be passed on to the Executor child objects of the FaderPage.



The **FaderPage** keyword currently only supports its default-function **Call**

#### Example:

```
[Channel] > FaderPage 5
```

Changes your physical Fader Executors to Page 5

```
[Channel] > Delete FaderPage 4.2
```

Deletes Fader Executors of Page 2 of Pagepool 4

```
[Channel] > Pause FaderPage 3
```

Sends a pause command to the Fader Executors of Page 3

### Related Links

- [Page Key](#)
- [Fd Pg+ Key](#)
- [Fd Pg- Key](#)
- [Page Keyword](#)
- [ButtonPage Keyword](#)
- [Call Keyword](#)



### Reference: Feature Keyword

**Feature** is an object-type representing features of a fixture

### Syntax

**Feature** [PresetType].[Feature]

**Feature** "Name"

**Feature** [Feature]

The default function for features is **Call**. Calling features will bring them to the encoders, and select them in the fixturesheet (blue column-header)

A Feature's numerical ID is a hierarchical pair (2 numbers separated by a dot). If only one number is supplied, you are selecting features within the current presetType

### Example:

```
[Channel] > Feature 3.1
```

Calls the feature Gobo1

```
[Channel] > Feature "Colormix"
```

Calls the feature "Colormix"

```
[Channel] > Feature 3
```

Calls the third feature of the current PresetType

### Related Links

- [Preset Key](#)
- [Attribute Keyword](#)
- [PresetType Keyword](#)
- [Call Keyword](#)



### Reference: Filter Keyword

**Filter** is an object-type representing an Attribute and Layer filter

### Syntax

**Filter** [ID]

The default function for this object is **Call**. Calling a filter will engage the filter temporary, and limit the next programmer action.

Selecting a filter, will limit all programmer-actions until Filter 1 is selected.

### Example:

```
[Channel] > Filter 4
```

Calls Filter 4, next programmer action will use this filter

```
[Channel] > Select Filter 5
```

Selects Filter 5, all programmer actions will use this filter

### Related Links

- [World, Filter, Mask Concept](#)
- [Group Key](#)
- [Call Keyword](#)
- [Select Keyword](#)



## Reference: Fix Keyword

**Fix** is a function used to prevent objects from changing page

### Syntax

**Fix** [Executor-list]

**Fix On** [Executor-list]

**Fix Off** [Executor-list]

**Fix** is a toggle function. This means that using **Fix** without any helping keyword will toggle the Fixing of the objects on/off.

### Example:

```
[Channel]> Fix On Executor 1 Thru 5
```

Prevents executor 1 thru 5 from changing page

```
[Channel]> Fix Executor 3
```

Toggles executor 3 from changing page, or not to changing page

### Related Links

- [Fix Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Fixture Keyword

**Fixture** is an object-type used to access fixtures with a Fixture ID

### Syntax

**Fixture** [ID]

**Fixture** [ID].[Sub-ID]

The default function for fixture objects is **SelfFix**. This means that entering fixtures without any function specified will select the fixtures.

### Example:

```
[Channel]> Fixture 34
```

Selects Fixture 34

```
[Channel]> Fixture 11.5
```

Selects the fifth subfixture of the fixture-cluster Fixture 11

```
[Channel]> Fixture 11
```

Selects all subfixtures of the fixture-cluster Fixture 11

### Related Links

- [Fixture Key](#)
- [SelfFix Keyword](#)



## Reference: FixtureType Keyword

**FixtureType** is an object-type holding the fixturetypes used in your showfile

### Syntax

**FixtureType** [ID]

! Mosts edits and commandline actions with the fixturetype object has to be done while in "Edit Setup" mode

**Example:**

```
Edit Setup>Assign FixtureType 2 At Fixture 1 Thru 10
```

**Reference: Flash Keyword**

**Flash** is a function used to temporary over-ride masterlevel to full on executing objects

**Syntax**

**Flash** [Executor-list]

**Flash On** [Executor-list]

**Flash Off** [Executor-list]

When the Flash function is used with an Executor button, the Flash On command is executed when the button is pressed and the Flash Off is executed when the button is released.

If this function is used without the helping keywords On/Off, the function will toggle between on or off.

If the executor is not On when this function is applied, the executor will be temporary activated with zero timing.

**Example:**

```
[Channel]>Flash On Executor 1
```

Over-rides masterlevel of Executor 1 to full and starts first cue

```
[Channel]>Flash Off Executor 1
```

Returns masterlevel of Executor 1 to the masterfader and set executor to OFF, if it was not ON.

**Related Links**

- [>>> Key](#)
- [On Keyword](#)
- [Off Keyword](#)

**Reference: Flip Keyword**

**Flip** is a function used access the different pan/tilt combinations that points a Moving Head in the same direction.

**Syntax**

**Flip** [flipnumber] [selection-list]

**Flip** will pan your fixtures 180 degrees, and invert the tilt-angle, effectivly pointing your fixture in the same direction, but via another pan/tilt combination.

If no selection-list is given, Flip is applied to your current selection

If no flipnumber is given, the function toggles thru the different possible combinations

**Example:**

```
[Channel]> Flip
```

Pan and Tilts your current selection to the next pan/tilt combination that points in the same direction

```
[Channel]> Flip 2 Group 7
```

Pan and Tilts group 7 to the second of the pan/tilt combination that points in the current direction

**Related Links**

- [Tools](#)

**Reference: Form Keyword**

**Form** is an object-type with shapes used for dynamic effects

### Syntax

Form [ID]

Form [ID].[subID]

Forms are used as source for effects to generate dynamic values.



## Reference: Freeze Keyword

**Freeze** is function used to change the priority of the programmer

### Syntax

Freeze

Freeze On

Freeze Off

**Freeze** is a toggle function. This means that entering Freeze without any helping keyword will toggle Freeze-mode on/off.

### Example:

```
[Channel]> Freeze On
```

Turns on freeze-mode (High priority programmer)

### Related Links

- [Freeze Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Full Keyword

**Full** is an object with 100% intensity-values for all fixtures

### Syntax

Full

The default function for this object is **At**. This means that entering Full without any function will set the intensity attributes of the current selection to 100%

### Example:

```
[Channel]> 53 Full
```

Selects channel 53 and sets it to 100%

### Related Links

- [Full Key](#)



## Reference: Go keyword

**Go** is a function used to activate next step of an executing object

### Syntax

Go [Object-list]

If the target object have steps, it will go to the next step, if the object are step-less it will start running forward.

### Example:

```
[Channel]> Go Executor 3
```

Goes to next step of Executor 3

```
[Channel]> Go Macro 2
```

Macro 2 starts running

### Related Links

- [Go+ Key](#)



### Reference: GoBack keyword

**GoBack** is a function used to activate previous step of an executing object

#### Syntax

**GoBack** [Object-list]

If the target object have steps, it will go to the previous step, if the object are step-less it will start running backwards. Set the fade time for GoBack in Setup / Show / Playback + MIB Timing / "goback".

#### Example:

```
[Channel] > GoBack Executor 3
```

Goes to previous step of Executor 3

### Related Links

- [Go- Key](#)



### Reference: Goto Keyword

**Goto** is a function used to jump in a list. The fade time, Goto is using in sequences, set in Setup / Show / Playback + MIB Timing / "goto".

#### Syntax

**Goto** [Cue-object] [Executor-object]

#### Example:

```
[Channel] > Goto Cue 3
```

```
[Channel] > Goto Cue 5 Executor 4
```

```
[Channel] > Goto 7
```

### Related Links

- [Goto Key](#)



### Reference: Group Keyword

**Group** is an object-type representing a collection of fixtures

#### Syntax

**Group** [ID]

**Group** [Group-pool].[ID]

The default function for group objects is **SelfFix**. This means that calling groups without any function specified will select the fixtures of the group.

#### Example:

```
[Channel] > Group 3
```

Selects fixtures of group 3

```
[Channel] > Group 3.5
```

Selects group 5 of group-pool 3 (not implemented)

### Related Links

- [Group Key](#)



## Reference: HalfRate Keyword

**HalfRate** is a function used to divide the current rate by 2

### Syntax

**HalfRate** [Object-list]

### Example:

```
[Channel]> HalfRate Executor 5
```

Halves the rate of Executor 5

### Related Links

- [DoubleRate Keyword](#)



## Reference: HalfSpeed Keyword

**HalfSpeed** is a function used to divide the current speed by 2

### Syntax

**HalfSpeed** [Object-list]

### Example:

```
[Channel]> HalfSpeed Executor 5
```

Halves the speed of Executor 5

### Related Links

- [DoubleSpeed Keyword](#)



## Reference: Help Keyword

**Help** is a function used to display information about how to use the console

### Syntax

**Help**

**Help** [keyword]

**Help** [filter] /cmd

### Example:

```
[Channel]> Help
```

Opens the Help window

```
[Channel]> Help Fixture
```

Opens the Help window, on the Fixture Keyword page

```
[Channel]> Help /cmd
```

Displays all keywords, with their shortest notation in green, in the commandline response window

```
[Channel]> Help s* /cmd
```

Displays keywords starting with "s", with their shortest notation in green, in the commandline response window

### Related Links

- [Help Key](#)
- [Help pop-up](#)



## Reference: Highlight Keyword

**Highlight** is a function used to force highlight values on selected fixtures



**Syntax**HighlightHighlight OnHighlight Off

**Highlight** is a toggle function. This means that entering Highlight without any helping keyword will toggle Highlight-mode on/off. Holding the key "Hightl" pressed, the attribut "Dimmer" toggles between default and highlight value.

**Example:**

```
[Channel] > Highlight On
```

Turns on Highlight-mode

**Related Links**

- [Hightl Key](#)
- [On Keyword](#)
- [Off Keyword](#)

**Reference: If Keyword**

**If** is a keyword with multiple functions

**Syntax**If [Selection-list]Clone [Selection-list] At [Selection-list] If [Object-list][General syntax] If [Object-list]

As a starting keyword (function), **If** will deselect fixtures not in the Selection-list.

As a helping keyword keyword to the Clone function, **If** sets the scope of the cloning

As a helping keyword keyword to other operational functions, **If** sets a filter for the operation

**Example:**

```
[Channel] > If Group 5
```

Deselects fixtures not in group 5

```
[Channel] > Group 3 If Group 5
```

Selects fixtures which are a part of both group 3 and group 5

```
[Channel] > Delete Cue 3 If Channel 4
```

Deletes Channel 4 from Cue 3

```
[Channel] > Delete Cue 3 If Fixture 4 Attribute "pan"
```

Deletes Fixture 4 and deletes "pan", from Cue 3

```
[Channel] > Delete Cue 3 If Fixture 4 If Attribute "pan"
```

Deletes "pan" of Fixture 4, from Cue 3

**Related Links**

- [If Key](#)
- [EndIf Keyword](#)
- [Clone Keyword](#)

**Reference: IfActive Keyword**

**IfActive** is a function used to select fixtures with active values in programmer

**Syntax**IfActiveIfActive [filter]

If no filter is given **IfActive** will select all fixtures with active values in programmer. If a filter is given, **IfActive** will select fixtures which both are in the filter and have active values in programmer

**Example:**

```
[Channel] > IfActive
```

Selects fixtures with active values in programmer

```
[Channel] > IfActive Group 5
```

Selects fixtures of group 5 which have active values in programmer

**Related Links**

- [If Key](#)

**Reference: IfOutput Keyword**

**IfOutput** is a function used to select fixtures based on their current output

**Syntax****IfOutput**

**IfOutput** [Object-list]

**IfOutput At** [Value-list]

**IfOutput At Fade** [Value-list]

**IfOutput At Delay** [Value-list]

**IfOutput** is a function that selects fixtures that have values originating from object-list, or with dimmer-attribute value, fade or delay-times within the range of the value-list.

If no argument is given to the **IfOutput** function, fixtures with dimmer above zero will be selected.

**Example:**

```
[Channel] > IfOutput
```

Selects all fixtures with dimmer above zero

```
[Channel] > IfOutput Preset "Red"
```

Selects all fixtures currently using preset "Red"

```
[Channel] > IfOutput At 50 Thru 75
```

Selects all fixtures with dimmervalue between 50 and 75%

**Related Links**

- [If Key](#)

**Reference: IfProg Keyword**

**IfProg** is a function used to select fixtures with values in programmer

**Syntax****IfProg**

**IfProg** [filter]

If no filter is given **IfProg** will select all fixtures with values in programmer. If a filter is given, **IfProg** will select fixtures which both are in the filter and have values in programmer

**Example:**

```
[Channel] > IfProg
```

Selects fixtures with values in programmer

```
[Channel] > IfProg Group 5
```

Selects fixtures of group 5 which have values in programmer

## Related Links

- [If Key](#)



## Reference: Import Keyword

**Import** is a function used to bring data from external libraries into your showfile

### Syntax

**Import** "filename" [destination-object]

The Import command loads data into the current commandline destination from external .xml and .xmpl files.

The Imported objects will be appended after your existing objects in showfile.

The Import command will look for files on the currently selected hard-drive



Currently supported objects: **Effect**, **Macro**, **FixtureType** and **Color** (Gel



Importing FixtureTypes is only allowed while in Edit Setup

### Example:

```
Edit Setup/FixtureTypes> Import "generic@dimmer@00"
```

Imports a generic dimmer as a new fixturetype in your showfile

```
Macros/Global 1> Import "MyMacros"
```

Imports macros from the file MyMacros.xml after the last used macro ID

```
Macros/Global 1> Import "macr"
```

Imports macros from files with names starting with "macr"

```
[Channel] > Import "MyCoolEffect" Effect 101
```

Imports the effect MyCoolEffect as Effect 101

## Related Links

- [ChangeDest\(CD\) Keyword](#)
- [Export Keyword](#)
- [SelectDrive Keyword](#)
- [ListMacroLibraryKeyword](#)
- [ListEffectLibrary Keyword](#)
- [ListLibrary Keyword](#)



## Reference: ImportResource Keyword

**ImportResource** is a function used to import resource files created by MA

### Syntax

**ImportResource** "filename"

**ImportResource** /list

**ImportResource** "filename" /import

Resource-files are upgrades to your console that do not require an complete software update; at the moment only the "Help" -files.

The **ImportResource** command will look for files in the gma2/importexport/ folder of the currently selected drive.

### Example:

```
[Channel] > ImportResource /list
```

lists all resource-files available on the selected drive

```
[Channel] > ImportResource grandMA2_help_2010-08-24
```

lists meta-info for the file "grandMA2\_help\_2010-08-24.gma2resource"

```
[Channel] > ImportResource grandMA2_help_2010-08-24 /import
```

Imports the file "grandMA2\_help\_2010-08-24.gma2resource" (updated help-files)

## Related Links

- [SelectDrive Keyword](#)



## Reference: Info Keyword

**Info** is a function used add and display userinfo about an object

### Syntax

**Info** [Object-list] "Some info to add"

**Info** [Object-list]

If text is included, this will be set as info for the objects. If no text is included, existing info will be displayed in the **Info** window and the **Commandline Response** window

### Example:

```
[Channel]> Info Group 3 "these fixtures are in the backtruss"
```

adds info to Group 3

```
[Channel]> Info Group 3
```

displays info ("these fixtures are in the backtruss") in the Info and the Commandline Response window



## Reference: Insert Keyword

**Insert** is a function used to move objects to a new ID

### Syntax

**Insert** [Object-list] **At** [Start-ID]

If start-ID is occupied, the occupying object is moved one ID up.

When the Insert keyword is in the commandline, Pool-objects may be inserted via drag&drop. Use the Escape key to cancel drag&drop mode

 The Insert function only applies to pool-objects, not i.e. cues.

### Example:

```
[Channel]> Insert Group 5 At 9
```

What used to be group 5, is now group 9, the old group 9 becomes group 10 etc

press   , then press down on group 5, drag and release on group 9

What used to be group 5, is now group 9, the old group 9 becomes group 10 etc

## Related Links

- [Move Key](#)
- [Move Keyword](#)



## Reference: Interleave Keyword

obsolete

## Related Links

- [MatricksInterleave Keyword](#)



## Reference: Invert Keyword

**Invert** is a function used to invert the selection-status of fixtures

### Syntax

**Invert** [Selection-list]

Invert acts on fixtures represented by the selection-list. If a fixture was selected, it will be deselected, if a fixture was not selected, it will be selected.

If selection-list is omitted, **Invert** will work on all channels and fixtures.

#### Example:

```
[Channel]> Invert Fixture 1 Thru 6
```

Let's say Fixture 1, 3 and 5 was already selected, you will get a selection with Fixture 2, 4 and 6.

```
[Channel]> Invert Cue 3
```

Channels and Fixtures in Cue 3 that are selected will be deselected, while unselected of Cue 3 will be selected.



## Reference: InviteStation Keyword

**InviteStation** is a function used to bring other stations into your session

#### Syntax

**InviteStation** [Station-list]

**InviteStation** will ask stations on the list you join your session. If they accept the invitation, your showfile will be uploaded to them and they will become part of your session.

#### Example:

```
[Channel]> InviteStation 192.168.0.10
```

Invites station with IP-address 192.168.0.10

```
[Channel]> InviteStation 10
```

Invites station with Host-ID 10 on your Network

```
[Channel]> InviteStation Thru
```

Invites all stations on your Network

#### Related Links

- [JoinSession Keyword](#)
- [LeaveSession Keyword](#)
- [DisconnectStation Keyword](#)
- [NetworkInfo Keyword](#)



## Reference: JoinSession Keyword

**JoinSession** is a function used to join or create a session

#### Syntax

**JoinSession** [ID] "Name"

#### Example:

#### Related Links

- [LeaveSession Keyword](#)
- [InviteStation Keyword](#)
- [DisconnectStation Keyword](#)
- [NetworkInfo Keyword](#)



## Reference: Kill Keyword

**Kill** is a Go+ function that additionally will turn off all other executor objects

#### Syntax

**Kill** [Executor-list]

Kill works as an ordinary Go+ function on the executors it is applied, but will additionally send an Off command to all other executors

#### Example:

```
[Channel]> Kill Executor 1
```

Goes to next cue on executor 1 and turn off other executors - if they are not protected by KILL PROTECT - function (see Assign executor menu)

### Related Links

- [Top Key](#)



### Reference: Label Keyword

**Label** is a function used to give names to objects

#### Syntax

**Label** [Object-list] "Name"

The quotes surrounding name is only necessary if the name is a reserved word (keyword) or if the name contains spaces. If multiple objects are labeled, and the name contains a free-standing number, the number will be enumerated for each object. If no name is given, you will be prompted with a dialog to enter the name.

#### Example:

```
[Channel]> Label Group 3 "All Studiocolors"
```

Gives group 4 the name "All Studiocolors"

```
[Channel]> Label Fixture 1 Thru 10 "Mac700 1"
```

Gives Fixture 1 thru 10 the names "Mac700 1", "Mac700 2" etc

```
[Channel]> Label Preset "Red" "Dark Red"
```

Renames the preset "Red" to "Dark Red"

### Related Links

- [Assign Key](#)



### Reference: Layer Keyword

**Layer** is a function used to change the working layer of the attribute-encoders

#### Syntax

**Layer** [layerID]

**Layer** [layername]

The layer may be called by its name, or index (1-9).

1. Value
2. Fade
3. Delay
4. EffectForm
5. EffectRate
6. EffectValue1
7. EffectValue2
8. EffectPhase
9. EffectWidth

#### Example:

```
[Channel]> Layer 3
```

Switches the encoders to adjust delaytime layer.

```
[Channel]> Layer EffectRate
```

Switches the encoders to adjust EffectRate layer



### Reference: Layout Keyword

**Layout** is an object-type representing a layout of fixtures and other objects

#### Syntax

**Layout [ID]**

The default function for Layout objects is **Select**. This means that calling Layouts without any function specified will select the Layout, and any **Layout Views** with "display selected" enabled will show this Layout

**Example:**

```
[Channel]> Layout 3
```

Selects Layout 3 for display in Layout View

```
[Channel]> Store Layout 5
```

Creates Layout 5 and adds your current selection of fixtures to this layout

```
[Channel]> Assign Group 5 Layout 4
```

Adds Group 5 as a button in Layout 4

**Related Links**

- [Group Key](#)

**Reference: Learn Keyword**

**Learn** is a function used to set the speed of objects by tapping

**Syntax**

**Learn** [Object-list]

If an object receives repetitive Learn commands, it will adjust its speed according to the time between each command.

**Example:****Related Links**

- [Learn Key](#)

**Reference: LeaveSession Keyword**

**LeaveSession** is a function used to leave a session

**Syntax**

**LeaveSession**

**Example:**

```
[Channel]> LeaveSession
```

Leaves the current session

**Reference: List Keyword**

**List** is a function used display showdata in the **Commandline Response** window

**Syntax**

**List** [Object-list]

**List** [Object-type]/filename= [filename]

If the list does not specify any Object-type, data from the current destination will be displayed.

If the filename option is specified (/f= or /filename=), the listdatatext will be saved as a csv-file in the reports folder of the selected drive.



The **List** keyword are accessed via **MA** & **List** .

**Example:**

```
[Channel]> List Cue
```

Lists all cues of the selected Executor

```
Groups/Global> List Thru 10
```

Lists first ten groups

```
Presets/Global/Color> List r*
```

Lists all colorpresets with name starting with R

```
[Channel]> List Cue /f=export
```

Creates the file export.csv with a list of all cues of selected executor

### Related Links

- [ChangeDest\(CD\) Keyword](#)
- [List Key](#)



### Reference: ListFaderModules Keyword

**ListFaderModules** is a function used to list available internal and external (wings) Executor modules, in the **Commandline Response** window

### Syntax

**ListFaderModules**

### Example:

### Related Links

- [AlignFaderModules Keyword](#)



### Reference: ListLibrary Keyword

**ListLibrary** is a function used to list items in the **FixtureType** Library of the console, in the **Commandline Response** window

### Syntax

**ListLibrary** [filter]

This keyword will list items in the **FixtureType** library of the currently **Selected Drive**..

### Example:

```
[Channel]> ListLibrary "Martin"
```

All items in the FixtureType Library with name starting with "Martin" is displayed.

### Related Links

- [SelectDrive Keyword](#)
- [Import Keyword](#)
- [Export Keyword](#)



### Reference: ListEffectLibrary Keyword

**ListEffectLibrary** is a function used to list items in the **Effect** Library of the console, in the **Commandline Response** window

### Syntax

**ListEffectLibrary** [filter]

This keyword will list items in the **Effect** library of the currently **Selected Drive**..

### Example:



```
[Channel]> ListEffectLibrary "My"
```

All items in the Effect Library with name starting with "My" is displayed.

#### Related Links

- [SelectDrive Keyword](#)
- [Import Keyword](#)
- [Export Keyword](#)



### Reference: ListMacroLibrary Keyword

**ListMacroLibrary** is a function used to list items in the **Macro** Library of the console, in the **Commandline Response** window

#### Syntax

**ListMacroLibrary** [filter]

This keyword will list items in the **Macro** library of the currently **Selected Drive**..

#### Example:

```
[Channel]> ListMacroLibrary "My"
```

All items in the Macro Library with name starting with "My" is displayed.

#### Related Links

- [SelectDrive Keyword](#)
- [Import Keyword](#)
- [Export Keyword](#)



### Reference: ListShows Keyword

**ListShows** is a function used to display Showfiles on the currently selected drive in the **Commandline Response** window

#### Syntax

**ListShows** [Filter]

#### Example:

```
[Channel]> ListShows
```

All Showfiles are listed in the **Commandline Response** window

```
[Channel]> ListShows f*
```

Showfiles starting with "f" are listed in the **Commandline Response** window

#### Related Links

- [SaveShow Keyword](#)
- [LoadShow Keyword](#)
- [SelectDrive Keyword](#)
- [DeleteShow Keyword](#)



### Reference: ListUserVar Keyword

**ListUserVar** is a function used to display userspecific variables and their value in the **Commandline Response** window

#### Syntax

**ListUserVar** [Filter]

#### Example:

```
[Channel]> ListUserVar
```

Userspecific variables are listed in the **Commandline Response** window

```
[Channel]> ListUserVar f*
```

Variables starting with "f" are listed in the **Commandline Response** window

### Related Links

- [\\$ \[Dollar-sign\]](#)
- [ListVar Keyword](#)
- [SetUserVar Keyword](#)
- [SetVar Keyword](#)
- [\[ \] \[Square Brackets\]](#)



## Reference: ListVar Keyword

**ListVar** is a function used to display variables and their value in the **Commandline Response** window

### Syntax

**ListVar** [Filter]

### Example:

```
[Channel]> ListVar
```

All variables are listed in the **Commandline Response** window

```
[Channel]> ListVar f*
```

Variables starting with "f" are listed in the **Commandline Response** window

### Related Links

- [\\$ \[Dollar-sign\]](#)
- [ListUserVar Keyword](#)
- [SetUserVar Keyword](#)
- [SetVar Keyword](#)
- [\[ \] \[Square Brackets\]](#)



## Reference: Load Keyword

**Load** is a function used to prepare an executor to jump to a step/cue in an assigned sequence

### Syntax

**Load** [Cue-object] [Executor-object]

### Example:

```
[Channel]> Load Cue 3
```

```
[Channel]> Load Cue 5 Executor 4
```

```
[Channel]> Load 7
```

### Related Links

- [Goto Key](#)



## Reference: LoadShow Keyword

**LoadShow** is a function used to load a showfile from hard-drives and USB-sticks

### Syntax

**LoadShow** "Showname"

If the showfile does not exist on the currently selected drive, a new empty showfile will be loaded. If you are in a session, the showfile will be uploaded to all connected stations.

### Example:

```
[Channel]> LoadShow Macbeth
```

Loads the showfile "Macbeth" into the console

### Related Links

- [SaveShow Keyword](#)
- [ListShows Keyword](#)
- [SelectDrive Keyword](#)
- [DeleteShow Keyword](#)



## Reference: Locate Keyword

**Locate** is a function used to find executors where objects are assigned

### Syntax

**Locate** [Object]

**Locate**

**Locate** is a function used to find the executor where an object is assigned. using the Loacte function will change page and display "HERE!" above the executor. to turn off the Locate, repeat the Locate keyword with no argument

### Example:

```
[Channel]> Locate Sequence 3
```

changes to the page where seq 3 is assigned and highlight the exeutor with HERE! on red background



## Reference: Lock Keyword

**Lock** is a function used to protect objects from being changed or deleted.

### Syntax

**Lock** [Object-list]

**Lock Off**[Object-list]

**Lock** is a function used to protect objects from being changed or deleted. To remove the lock, either use Lock Off or the Unlock keyword

### Example:

```
[Channel]> Lock Cue 3
```

Cue 3 can no longer be changed or deleted

### Related Links

- [Unlock Keyword](#)
- [Off Keyword](#)



## Reference: Login Keyword

**Login** is a function used to change the current user of the console

### Syntax

**Login**

**Login** "User-name" "password"



Quotes may be omitted if name and password cannot be interpreted as keywords or their abbreviations

### Example:

```
[Channel]> Login "Jimmy Page" "mac"
```

Changes the user of the console to Jimmy Page (if user exists and password is correct)

```
[Channel]> Login JohnDoe qwerty
```

Changes the user of the console to JohnDoe (if user exists and password is correct)

### Related Links

- [Logout Keyword](#)



## Reference: Logout keyword

**Logout** is a function used to change the current user to "guest"

### Syntax

**Logout**

### Example:

```
[Channel] > Logout
```

Changes current user to "guest"

### Related Links

- [Login Keyword](#)



## Reference: Macro Keyword

**Macro** is an object-type able to record and playback keystrokes and commandline entries

### Syntax

**Macro** [ID]

**Macro** [Macro-pool].[ID]

**Macro** [Macro-pool].[ID].[macro-line]

The default function for macro objects is **Go+**. This means that calling macros without any function specified will start the macro.



with the current version, only one pool is supported, pool 1

### Example:

```
[Channel] > Macro 5
```

Starts Macro 5

```
[Channel] > Assign Macro 1.3.4 /wait=Go
```

Sets the triggertime of line 4 of macro 3 to "Go"

### Related Links

- [Macro Key](#)
- [\[At-sign\]](#)
- [\[Dollar-sign\]](#)
- [\[Parentheses\]](#)
- [\[Square Brackets\]](#)



## Reference: Mask Keyword

**Mask** is an object-type holding condition/rules for masking sheets

### Syntax

**Mask** [ID]

The default function for this object is **Select**.

### Example:

```
[Channel] > Mask 3
```

Selects Mask 3, sheets set to follow selected mask will display "Active Only"

### Related Links

- [World, Filter, Mask Concept](#)
- [Select Keyword](#)



## Reference: Master Keyword

**Master** is an assignable function for executors

### Syntax

**Assign Master (At)** [Object-list]

Master is a function that will scale the output of intensity-values of an executor, according to the position of the fader

### Example:



## Reference: Matricks Keyword

The Matricks keyword acts both as an object-type and as a mode

### Syntax

**Matricks** [ID]

**Matricks On**

**Matricks Off**

**Matricks Toggle**

Used with an ID, Matricks represents Matricks objects stored in the Matricks-pool.

With the helping keywords On, Off and Toggle, Matricks may temporary be enabled/disabled. Calling an Matricks will automatically enable Matricksmode.

### Example:

```
[Channel]> Store Matricks 1
```

Stores the current Matricks-settings as Matricks 1

```
[Channel]> Matricks 3
```

Recalls Matricks-settings stored in Matricks 3

```
[Channel]> Matricks Off
```

Temporary disables Matricks-mode

### Related Links

- [MAtricks Tutorial](#)



## Reference: MatricksBlocks Keyword

MatricksBlocks is a function used to set the Matricks Blocks values

### Syntax

**MatricksBlocks** [block-size]

**MatricksBlocks** [block-size x].[block-size y]

**MatricksBlocks + | -**

**MatricksBlocks Off**

With the function MatricksBlocks, x adjacent fixtures are treated as one block when aligning or sub-selecting

### Example:

```
[Channel]> MatricksBlocks 2
```

Sets the block-size 2 columns wide (and 2 rows high if Interleave is active)

```
[Channel]> MatricksBlocks 2.3
```

Sets the block-size 2 columns wide and 3 rows high ( if Interleave is active)

### Related Links

- [MAtricks Tutorial](#)



## Reference: MatricksFilter Keyword

**MatricksFilter** is a function used to set the Matricks Filter values

### Syntax

**MatricksFilter** [filternumber]

**MatricksFilter** "filtername"

**MatricksFilter** + | -

**MatricksFilter Off**

With the function **MatricksFilter**, fixtures of your current selection that matches the given filter, will be subselected.

### Example:

```
[Channel]> MF 2
```

Selects the second filter (EvenID), only Channels/fixtures with last digit 2/4/6/8/0 will be actively selected

```
[Channel]> MatricksFilter "OddID"
```

Selects the "OddID" filter, only channels/fixtures with last digit 1/3/5/7/9 will be actively selected

### Related Links

- [MAtricks Tutorial](#)



## Reference: MatricksGroups Keyword

**MatricksGroups** is a function used to set the Align Groups

### Syntax

**MatricksGroups** [group-size]

**MatricksGroups** [group-size x].[group-size y]

**MatricksGroups** + | -

**MatricksGroups Off**

With the **MatricksGroups** function the distribution of aligned values may be limited to n fixtures, for then to be repeated

### Example:

```
[Channel]> MatricksGroups 4
```

Aligning will be set for always four fixtures

```
[Channel]> MatricksGroups 6.3
```

Aligning will be repeated for every sixth column an every third row of an Interleave array

### Related Links

- [MAtricks Tutorial](#)



## Reference: MatricksInterleave Keyword

**MatricksInterleave** is a function used to create a virtual array of your selection

### Syntax

**MatricksInterleave** [array-width]

**MatricksInterleave** [column].[array-width]

**MatricksInterleave** + | -

**MatricksInterleave Off**

With the function **MatricksInterleave**, the selection is wrapped onto a new row for every n'th fixture, creating a virtual array

**Example:**

```
[Channel]> MatricksInterleave 1.2
```

Selects the first column of a 2 column wide array = first of every second fixture = "Odd"

```
[Channel]> MatricksInterleave +
```

Increases array-width

**Related Links**

- [MAtricks Tutorial](#)

**Reference: MatricksReset Keyword**

**MatricksReset** is a function used to clear any active Matricks settings. For this function a predefined macro is ready for use.

**Syntax**

**MatricksReset**

**MatricksReset** will clear all active Matricks settings.

**Example:**

```
[Channel]> Next
```

```
[Channel]> MatricksReset
```

The subselection of first fixture is canceled and the original selection is restored

**Related Links**

- [MAtricks Tutorial](#)

**Reference: MatricksWings Keyword**

**MatricksWings** is a function used to set the Matricks Wings value

**Syntax**

**MatricksWings** [parts]

**MatricksWings** + | -

**MatricksWings Off**

With the function , the selection is splitted in x parts, and each part is mirroring the previous part

**Example:**

```
[Channel]> MatricksWings 2
```

The selection is divided into 2 parts and second part will be mirrored when adjusting values

**Related Links**

- [MAtricks Tutorial](#)

**Reference: Menu Keyword**

**Menu** is a function used to open/close menu-windows

**Syntax**

**Menu** "menuname"

**Menu On** "menuname"

**Menu Off** "menuname"

**Menu** /?

The **Menu** function will open (Menu On) or close (Menu Off) a popupwindow with the given Menu. Used without the helping keywords On/Off, **Menu** is a toggle-function

**Example:**

```
[Channel]> Menu "Groupmasters"
```

Opens the Groupmaster-overview window

```
[Channel]> Menu /?
```

Display the list of available menus in the commandline respons window

**Reference: Merge Keyword**

**Merge** is a function used to join multiple objects into one

**Syntax**

**Merge** [Object-list] **At** [destination-ID]



The Merge keyword is not implemented

**Reference: MidiControl Keyword**

**MidiControl** is a function used to transmit MIDI Control-Change messages

**Syntax**

**MidiControl** [controller] [value]

**MidiControl** [midichannel].[controller] [value]

**MidiControl** is a function that transmits MIDI Control-Change messages via the MidiOut-port. If no midichannel is given, the midichannel of the MSC setup is used.

**Example:**

```
[Channel]> MidiControl 1 64
```

Transmits a value of 64 for controller 1 ("Modulation")

**Reference: MidiNote Keyword**

**MidiNote** is a function used to transmit MIDI Note-On and Note-Off messages

**Syntax**

**MidiNote** [note]

**MidiNote** [midichannel].[note]

**MidiNote** [note] [velocity]

**MidiNote** [midichannel].[note] [velocity]

**MidiNote** [note] **Off**

**MidiNote** [midichannel].[note] **Off**

**MidiNote** [note] [velocity] **Off**

**MidiNote** [midichannel].[note] [velocity] **Off**

**MidiNote** is a function that sends MIDI Note messages via the MidiOut-port. If no midichannel is given, the midichannel of the MSC setup is used. If no velocity is given, a zero velocity message is transmitted. If the helping keyword Off is added, a Note-Off is transmitted instead of a Note-On

**Example:**

```
[Channel]> MidiNote 12 127
```

Transmits a Note-On message of note 12 ("C 0") with full velocity

```
[Channel]> MidiNote 14 Off
```

Transmits a Note-Off message of note 14 ("D 0")





## Reference: MidiProgram Keyword

**MidiProgram** is a function used to transmit MIDI Program-Change messages

### Syntax

**MidiProgram** [program]

**MidiProgram** [midichannel].[program]

**MidiProgram** is a function that transmits MIDI Program-Change messages via the MidiOut-port. If no midichannel is given, the midichannel of the MSC setup is used.

### Example:

```
[Channel]> MidiProgram 12
```

Transmits a Program Change of 12 ("Marimba")



## Reference:

### Syntax

-

### Example:



## Reference: Move Keyword

**Move** is a function used to give an object a new ID

### Syntax

**Move** [Object-list] **At** [destination-start-ID]

If destination is not empty, the destination object is moved to the source (objects swap position/ID)

When the Move keyword is in the commandline, Pool-objects may be moved via drag&drop. Use the Escape key to cancel drag&drop mode.

### Example:

```
[Channel]> Move Group 5 At 9
```

What used to be group 5, is now group 9

press **Move** , then press down on group 5, drag and release on group 9

What used to be group 5, is now group 9

### Related Links

- [Move Key](#)
- [Insert Keyword](#)



## Reference: NetworkInfo Keyword

**NetworkInfo** is a function used to display information about the network in the **Commandline Response** window

### Syntax

**NetworkInfo**

### Example:



## Reference: NewShow Keyword

**NewShow** is a function used to create a new empty show.

### Syntax

**NewShow** "Showname"

**NewShow** "Showname" /noconfirm

If a showfile with same name exist on the currently selected drive, you will ave to confirm to overwrite existing file.

### Example:

```
[Channel] > NewShow Macbeth
```

Loads the showfile "Macbeth" into the console

### Related Links

- [LoadShow Keyword](#)
- [SaveShow Keyword](#)
- [ListShows Keyword](#)
- [SelectDrive Keyword](#)
- [DeleteShow Keyword](#)



## Reference: Next Keyword

**Next** is a keyword with multiple functions

### Syntax

**Next**

If there is no selection, and the current default keyword is Fixture or Channel, the corresponding fixture with lowest ID will be selected.

If there is only one fixture in selection, and the current default keyword is Fixture or Channel, the corresponding fixture with next ID will be selected.

If multiple fixtures are selected, **Next** will increase the Matricks property **Single x**, effectively sub-select fixtures of your current selection one by one. If **MatricksInterleave** is active, fixtures will be subselected column by column.

### Example:

```
[Channel] > Group 5
```

```
[Channel] > Next
```

Selects the first fixture of group 5, according to the selection-order

### Related Links

- [Next Key](#)
- [Previous Keyword](#)
- [All Keyword](#)
- [MAtricks Tutorial](#)



## Reference: NextRow Keyword

**NextRow** is a function used to increase the **Matricks** property **Single y**

### Syntax

**NextRow**

With **MatricksInterleave** active, **NextRow** will increase the **Matricks Single y** property, effectively subselecting fixtures row by row.

### Example:

```
[Channel] > MatricksInterleave 4
```

```
[Channel] > NextRow
```

Selects the first row of 4 fixtures

### Related Links

- [Next Key](#)
- [PrevRow Keyword](#)
- [AllRows Keyword](#)
- [MAtricks Tutorial](#)

**Reference: NextInterleave Keyword**

obsolete

**Related Links**

- [NextRow Keyword](#)

**Reference: Normal Keyword****Normal** is an object holding a standard value for At-function**Syntax****Normal**

Normal is the object that holds the values used for the At shortcut

**Example:**

:Processed:At Normal

**Related Links**

- [At Key](#)

**Reference: Off keyword****Off** is a keyword used both as a function and as a helping keyword**Syntax****Off** [Object-list][Function]**Off** [Object-list] (helping keyword)[Function]**Off** (helping keyword)The **Off** keyword is used both as a function and as a helping keyword.As a function (starting keyword) **Off** has four distinct meanings with the following priority :

1. If the target object may execute, it will stop/terminate.
2. If the target object contains parameters/values, these will be knocked out of the programmer.
3. If the target object represents selections, the selection will be knocked out of the programmer.
4. If the target object represents attributes, these will be knocked out of the programmer for current selection.

As a helping keyword to another function, **Off** indicates the end of a temporary function, or the disabled state of a toggling function.**Example:**

[Channel]&gt; Off Executor 3

Turns off Executor 3

[Channel]&gt; Off Cue 4

Knocks parameters of cue 4 out of the programmer

[Channel]&gt; Off Channel 5 + 6

Knocks channel 5 and 6 out of the programmer

[Channel]&gt; Flash Off Executor 1.2.4

Indicates the release of an Executor flash button

[Channel]&gt; Highlight Off

Turns off Highlight-mode

**Related Links**

- [Off Key](#)
- [On Keyword](#)



## Reference: On keyword

**On** is a keyword used both as a function and as a helping keyword

### Syntax

**On** [Object-list]

[Function]**On** [Object-list] (helping keyword)

[Function] **On** (helping keyword)

The **On** keyword is used both as a function and as a helping keyword.

As a function (starting keyword) **On** has four distinct meanings with the following priority:

1. If the target object may execute, it will reassert current step, or start running.
2. If the target object contains parameters these will be activated in the programmer.
3. If the target object represents selections, the selection will be activated in the programmer
4. If the target object represents attributes, these will be activated in the programmer for the current selection

As a helping keyword to another function, **On** indicates the start of a temporary function, or the enabled state of a toggling function.

### Example:

[Channel]> On Executor 3

Reasserts current step of Executor 3

[Channel]> On Cue 4

Activates parameters of cue 4

[Channel]> On Channel 5 + 6

Activates channel 5 and 6

[Channel]> Flash On Executor 1.2.4

Indicates the press of an Executor flash button

[Channel]> Highlight On

Turns on Highlight-mode

### Related Links

- [On Key](#)
- [Off Keyword](#)



## Reference: OnOffTime Keyword

**OnOffTime** is an assignable function for executors

### Syntax

**Assign OnOffTime (At)** [Object-list]

OnOffTime is a function that will adjust the fadetimes used when an executor is turned On or Off, according to the position of the fader



OnOffTime is not yet implemented, please use the MasterFade keyword

### Example:

### Related Links

- [MasterFade Keyword](#)



## Reference: Oops Keyword

**Oops** is a function used to undo last commandline, the last fixture selection or the last action in the programmer. Oops is not possible with playbacks. Oops can undo the last 100 actions.

### Syntax

**Oops**

**Example:**

```
[Channel]>oops /clear
```

This command will clear the entire oops list - this can't be oopsed.

**Related Links**

- [Unoops Keyword](#)
- [Oops Key](#)

**Reference: OutFade Keyword**

**OutFade** is a helping keyword used to indicate outfade-times

**Syntax**

**OutFade** [Value-list]

As a helping keyword to playback functions (e.g. Goto), this keyword will set the outfadetime used when executing the function.

As a helping keyword to programming functions (e.g. Store), this keyword will set the outfadetime of the object in question

**Example:**

```
[Channel]>Goto Cue 3 Fade 2 OutFade 4
```

Fadesout current cue (all dimmer values with descending values) in 4 seconds, and fadesin cue 3 in 2 seconds

```
[Channel]>Store Cue 3 OutFade 4
```

Creates cue 3 and sets its outfadetime to 4 seconds

**Related Links**

- [Time Key](#)

**Reference: OutDelay Keyword**

**OutDelay** is a helping keyword used to indicate outdelay-times

**Syntax**

**OutDelay** [Value-list]

As a helping keyword to playback functions (e.g. Goto), this keyword will set the outdelay used when executing the function.

As a helping keyword to programming functions (e.g. Store), this keyword will set the outdelaytime of the object in question

**Example:**

```
[Channel]>Goto Cue 3 OutDelay 4
```

Fades in cue 3, and fades out old cue (all descending dimmer values) after 4 seconds

```
[Channel]>Store Cue 3 OutDelay 4
```

Creates cue 3 and sets its outdelaytime to 4 seconds

**Related Links**

- [Time Key](#)

**Reference: Page Keyword**

**Page** is an object-type holding sets of Executors

**Syntax**

**Page** [ID]

**Page** [Pagepool].[ID]

The default function for this object is **Call**. Calling a Page will change your physical executors to that page.

If you apply a function not supported by the Page object, the function will be passed on to the Executor child objects of the Page.

**Example:**

```
[Channel]> Page 5
```

Changes your physical Executors to Page 5

```
[Channel]> Delete Page 4.2
```

Deletes Page 2 of Pagepool 4 (function not yet implemented)

```
[Channel]> Pause Page 3
```

Sends a pause command to the Executors of Page 3

**Related Links**

- [Page Key](#)
- [FaderPage Keyword](#)
- [ButtonPage Keyword](#)
- [Call Keyword](#)

**Reference: Park Keyword**

**Park** is a function used to lock the DMX outputvalues of attributes

**Syntax**

**Park** [Selection-list] (**At** [Value] )

**Park** [Attribute-list] (**At** [Value] )

Park may be used to lock the DMX outputvalues of a selection of fixtures, or group of attributes for the current selection.

If no value is given, the attribute is parket at current value.

**Example:**

```
[Channel]> Park Fixture 5
```

Parks the attributes of fixture 5 at the current Value

```
[Channel]> Park Attribute "pan"
```

Parks the pan attributes of current selection at the current Value

```
[Channel]> Park Channel 1 Thru 5 At 100
```

Parks channel 1 thru 5 at 100%

**Related Links**

- [Unpark Keyword](#)
- [Pause Key](#)

**Reference: Part Keyword**

**Part** is an object-type referencing a part of a cue

**Syntax**

**Part** [ID]

With the Part object, a cue may be segmented, to easily assign and edit different timings of groups of fixture-parameters

**Example:**

```
[Channel]> Store Cue 3 Part 2
```

Creates a second part of Cue 3

**Related Links**

- [Cue Key](#)
- [Cue Keyword](#)
- [Sequence Keyword](#)

**Reference: Paste Keyword**

**Paste** is a function used to create objects from the content of clipboard.xml

### Syntax

**Paste** [Object start]

If no object-type is given and the commandline-destination is root (no destination) the default object-type for this function, **Cue**, will be used

### Example:

```
[Channel]> Paste Group 5
```

Creates group 5 (and possibly 6, 7 etc), based on the content of clipboard.xml

### Related Links

- [Cut Keyword](#)
- [Copy Keyword](#)



## Reference: Pause Keyword

**Pause** is a function used to halt/pause running objects

### Syntax

**Pause** [Object-list]

**Pause On**[Object-list]

**Pause Off**[Object-list]

**Pause** is a toggle function. This means that using Pause without any helping keyword will toggle Pause of the objects on/off.

### Example:

```
[Channel]> Pause Executor 3
```

Pauses (or unpauses) Executor 3

### Related Links

- [Pause Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Preset Keyword

**Preset** is an object-type used for referenced attribute-values

### Syntax

**Preset** [ID]

**Preset** [Preset-type].[ID]

**Preset** [Preset-pool].[Preset-type].[ID]

**Preset** "Name"

The default function for Preset-objects depends of the selection-status of your programmer. If no fixtures is selected, the default function is **SelfFix**, if there is a selection in programmer, the default function is **At**.

### Example:

```
[Channel]> Preset 5
```

The fifth preset of the currently selected preset-type

```
[Channel]> Preset 3.2
```

The second preset of preset-type 3 (Gobo)

```
[Channel]> Preset 3.2.1
```

The first preset of the second preset-type (Position) of the third Preset-pool (not yet implemented).

```
[Channel] > Preset "DarkRed"
```

The first preset with the name "DarkRed"

#### Related Links

- [Preset Key](#)



### Reference: PresetType Keyword

**PresetType** is an object-type representing preset-types of a fixture

#### Syntax

**PresetType** [ID]

**PresetType** "Name"

The default function for preset-types is **Call**. Calling preset-types will bring them to the encoders, and select them in the fixturesheet (blue column-header)

#### Example:

```
[Channel] > PresetType 3
```

Calls the preset-type Gobo

```
[Channel] > PresetType "Color"
```

Calls the preset-type "Color"

#### Related Links

- [Preset Key](#)
- [Feature Keyword](#)
- [Attribute Keyword](#)
- [Call Keyword](#)



### Reference: Preview Keyword

**Preview** is a function for preview and blind edit of cues

#### Syntax

**Preview** [cue-object]

**Preview** [part-object]

**Preview Next**

**Preview Previous**

Preview will load given cue or part in Previeweditor and enable this editor. (PreviewEdit On)

If no cue is given, the current cue of the selected executor will be used.

```
/keepselection /ks
    keep selection when entering preview
```

```
/keepprogrammer /kp
    keep programmer when entering Preview
```

```
/autoupdate /au
    every value put into previewprogrammer is immediately autoupdated
```

```
/add
    add as additional previewplayback
```

#### Example:

```
[Channel] > Preview Cue 5
```

Cue 5 of selected executor is loaded into Preview-editor.

```
[Channel] > Preview Cue 5 Part 2
```

Cue 5 Part 2 of selected executor is loaded into Preview-editor.



```
[Channel]> Preview Executor 3
```

Current cue of of Executor 3 is loaded into Preview-editor.



## Reference: PreviewEdit Keyword

**PreviewEdit** is a function used to switch the console between the Live Programmer and the blind PreviewEditor

### Syntax

**PreviewEdit**

**PreviewEdit On**

**PreviewEdit Off**

**PreviewEdit** is a toggle function. This means that entering PreviewEdit without any helping keyword will toggle between the Live and Preview .

### Example:

```
[Channel]> PreviewEdit On
```

Turns PreviewEdit On, opens the Preview editor

### Related Links

- [Preview Key](#)
- [On Keyword](#)
- [Off Keyword](#)
- [Preview Keyword](#)



## Reference: PreviewExecutor Keyword

**PreviewExecutor** is an alias for the sequence/executor in the Preview-editor

### Syntax

**PreviewExecutor**

**PreviewExecutor** may be used as an Alias to reference the sequence/executor currently active in the Preview-editor

### Example:

```
[Channel]> Go PreviewExecutor
```

Runs next cue in PreviewEditor with timing

```
[Channel]> Store Cue 5 PreviewExecutor
```

Stores cue 5 in the sequence that is currently in Preview

### Related Links

- [Prvw Key](#)



## Reference: Previous Keyword

**Previous** is a keyword with multiple functions

### Syntax

**Previous**

If there is no selection, and the current default keyword is Fixture or Channel, the corresponding fixture with highest ID will be selected.

If there is only one fixture in selection, and the current default keyword is Fixture or Channel, the corresponding fixture with previous ID will be selected.

If multiple fixtures are selected, **Previous** will decrease the Matricks property **Single x**, effectively sub-select backwards fixtures of your current selection one by one. If **MatricksInterleave** is active, fixtures will be subselected column by column.

### Example:

```
[Channel]> Group 5
```

```
[Channel]> Previous
```

Selects the last fixture of group 5, according to the selection-order

#### Related Links

- [Prev Key](#)
- [Next Keyword](#)
- [All Keyword](#)
- [MAtricks Tutorial](#)



#### Reference: PrevRow Keyword

**PrevRow** is a function used to decrease the **Matricks** property **Single y**

#### Syntax

##### PrevRow

With **MatricksInterleave** active, **PrevRow** will decrease the **Matricks Single y** property, effectivly subselecting backwards fixtures row by row.

#### Example:

```
[Channel]> MatricksInterleave 4
```

```
[Channel]> PrevRow
```

Selects the last row of fixtures

#### Related Links

- [Prev Key](#)
- [NextRow Keyword](#)
- [AllRows Keyword](#)
- [MAtricks Tutorial](#)



#### Reference: PrevInterleave Keyword

obsolete

#### Related Links

- [PrevRow Keyword](#)



#### Reference: PSRPrepare Keyword

PSRPrepare is a function used to prepare a showfile for PartialShowRead

#### Syntax

-

#### Example:



#### Reference: Rate1 Keyword

**Rate1** is a function used to reset any rate-over-ride back to factor 1

#### Syntax

**Rate1** [Object-list]

#### Example:

```
[Channel]> Rate1 Executor 5
```

Sets the rate of Executor 5 to 1:1

#### Related Links

- [Learn Key](#)



### Reference: Reboot Keyword

**Reboot** is a function used to restart consoles

#### Syntax

##### Reboot

**Reboot** [station-list]

Unless the /noconfirm option is included, the Reboot needs to be confirmed on the local station. The reboot may be canceled within 10 seconds on the remote stations

#### Example:

```
[Channel]> Reboot 192.168.0.10
```

Reboots station with IP-address 192.168.0.10

```
[Channel]> Reboot 10
```

Reboot station with Host-ID 10 on your Network

```
[Channel]> Reboot
```

reboots your current console



### Reference: Record Keyword

**Record** is a function used to record realtime actions.

#### Syntax

**Record** [Object]

Record is a toggle function that will record real-time actions into Timecode or Macro objects.

#### Example:

```
[Channel]> Record Timecode 1
```

Starts (or stops) recording Executor-actions into Timecode 1

```
[Channel]> Record Macro 5
```

Starts (or stops) recording commandline-actions into Macro 5

```
[Channel]> Record Macro
```

Stops recording of any Macro

#### Related Links

- [Store Key](#)



### Reference: Release keyword

**Release** is a keyword used enter release values into programmer

#### Syntax

**Release** [Object-list]

**Release** [Effect-list]

Releasevalues are virtual values which may be merged into tracking sequences, to tell the sequence to release the control of the parameter at a given cue.

The **Release** keyword is used to enter release values into programmer for the parameters represented by the given objectlist, filtered by the current selection.

Unless the object-list contains effect-values, the Release is applied to the valuelayer.

When Release is applied to Effect-objects, the releasevalue is set for parameters *currently using* the effect, rather than the parameters *contained* by the object, as with the other scenarios

#### Example:

```
[Channel] > Release Selection
```

Enters releasevalues in valuelayer for all attributes of current selection

```
[Channel] > Release PresetType "position"
```

Enters releasevalues for pan&tilt in valuelayer for the current selection, or for all fixtures if no selection

```
[Channel] > Release Effect 4
```

Enters Releasevalues in effectlayer for parameters currently running Effect 4 (of current selection, if there is a selection)

#### Related Links

- [Delete Key](#)



#### Reference: Remote Keyword

**Remote** is an object-type representing the inputs for external triggering

#### Syntax

**Remote** [Remote-type].[ID]

There are three remote-types in the grandMA2:

1. DC Control
2. MIDI Notes
3. DMX



#### Reference: Remove keyword

**Remove** is a keyword used enter removevalues into programmer

#### Syntax

**Remove** [Object-list]

**Remove** [Effect-list]

Removevalues are virtual values which may be used to remove the parameters via store-merge

The **Remove** keyword is used to enter remove values into programmer for the parameters represented by the given objectlist, filtered by the current selection.

The remove values are by default applied to all layers

#### Example:

```
[Channel] > Remove Selection
```

Enters removevalues in all layers for all attributes of current selection

```
[Channel] > Remove PresetType "position"
```

Enters removevalues for pan&tilt in all layers for the current selection, or for all fixtures if no selection

#### Related Links

- [Delete Key](#)



#### Reference: ResetDmxSelection Keyword

**ResetDmxSelection** is a function used to clear the selection in the DMX-tester

#### Syntax

**ResetDmxSelection****Example:**

```
[Channel]> ResetDmxSelection
```

Clears the selection in the DMX-tester

**Related Links**

- [DMX \(Tester\)](#)
- [Dmx Keyword](#)

**Reference: Root Keyword**

The **Root** keyword is an alias for any object or object-tree in your showfile

**Syntax**

**Root** [root-index]

**Root** [root-index].[sub-index]

**Root** [root-index].[sub-index].[sub-sub-index] etc

**Example:**

```
[Channel]> CD Root 4.2
```

Changes destination of commandline to 2nd index of rootindex 4 (v2.1: DMX Protocols/ETC Net2)

```
[Channel]> Export Root 6.4.1
```

Exports 1st index of 2nd index of rootindex 6 (v2.1: Live Setup/Layers/layer 1 = first layer of fixtureschedule)

**Related Links**

- [ChangeDest\(CD\) Keyword](#)
- [List Keyword](#)

**Reference: SaveShow Keyword**

**SaveShow** is a function used to backup you showdata to the selected drive

**Syntax**

**SaveShow** "Showname"

**SaveShow** "Showname"/noconfirm

If no showname is given, current showname will be used. If a file exist with the current name, and the given name is different than the current showname, the file overwrite needs to be confirmed.

**Example:**

```
[Channel]> SaveShow Macbeth
```

Saves the current show as "Macbeth" on the selected drive

```
[Channel]> SaveShow
```

Saves the current show on the selected drive

**Related Links**

- [NewShow Keyword](#)
- [LoadShow Keyword](#)
- [ListShows Keyword](#)
- [SelectDrive Keyword](#)
- [DeleteShow Keyword](#)

**Reference: Screen Keyword**

**Screen** is an object-type representing the Screens of your console.

**Syntax****Screen** [screen-number]**Screen** [screen-number].[window-number]**Example:**

```
[Channel]> Delete Screen 1
```

Clears the multi-touch screen

```
[Channel]> Assign Mask 5 Screen 2.3
```

Assigns Mask 5 to the third window of the second screen

**Related Links**

- [View Key](#)

**Reference: Select Keyword**

**Select** is a function used to appoint a specific object as your default of the given object-type

**Syntax****Select** [Executor-object]**Select Layout** [ID]**Select Mask** [ID]**Select Filter** [ID]

The selected **Executor** will be your main target for all executor related commands, i.e. **Store Cue 4**

The selected **Layout** will be displayed in any **Layout View** which have the option "display selected" enabled

The selected **Mask** will be used by any Sheet which have the option "Follow Selected Mask" enabled

The selected **Filter** will be used by any action involving fixture parameters, i.e. storing or deleting a cue

**Example:**

```
[Channel]> Select Executor 5
```

Selects executor 5 as your default target.

```
[Channel]> Select Layout 2
```

Layout 2 will be displayed in the Layout View

**Related Links**

- [Select Key](#)

**Reference: SelectDrive Keyword**

**SelectDrive** is a function used to change the backup-media for fileoperations.

**Syntax****SelectDrive** [ID]

**SelectDrive** will set the media used by functions using the harddrive, like **SaveShow/LoadShow** , **Import/Export** etc. If no ID is given, the available hard-drives, mounted USB-sticks and earlier software-installations will be listed with their respective ID.

If a readonly media (like older installations) is selected, write-functions will change the selected drive to 1 (internal) .

**Example:**

```
[Channel]> SelectDrive 1
```

Sets the internal hard-drive as target for the backup-functions

```
[Channel]> SelectDrive
```

Displays the current available drives, in the **Commandline Response** Window

### Related Links

- [SaveShow Keyword](#)
- [LoadShow Keyword](#)
- [ListShows Keyword](#)
- [DeleteShow Keyword](#)
- [Import Keyword](#)
- [Export Keyword](#)



### Reference: Selection Keyword

**Selection** is an object representing the currently selected fixtures in programmer

#### Syntax

##### Selection

The default function for this object is **SelfFix**. This means that entering **Selection** without any function specified will select the fixtures which are selected. (= practically nothing)

#### Example:

```
[Channel]> Off Selection
```

Kicks the current selection out of programmer

### Related Links

- [Please Key](#)



### Reference: SelfFix Keyword

**SelfFix** is a function used to create fixture-selections in programmer

#### Syntax

##### SelfFix [Object-list]

This function is used to select fixtures represented by the object. If the original selection is untouched, SelfFix will add to the current selection. If the original selection has been touched, SelfFix will replace the current selection



This function is the default function for most objects, so even if selecting fixtures is the most commonly used function, you will seldom need to enter this keyword



If the **SelfFix** functionality is repeated multiple times, with the exact same object-list, the fixtures in the object-list will start to **Toggle**. e.g. if you enter Group 3 three times in a row, you would first select group 3, then activate group 3, then deactivate group 3

#### Example:

```
[Channel]> SelfFix Channel 1
```

does the same as "Channel 1", - selects it.

```
[Channel]> SelfFix Effect 3
```

Select the fixtures used in Effect 3

```
[Channel]> SelfFix DMX 1.40
```

Select the fixture/Channel that have parameters patched at universe 1 DMX channel 40.

### Related Links

- [Select Key](#)
- [Toggle Keyword](#)



### Reference: Sequence Keyword

**Sequence** is an object-type holding a list of Cues

#### Syntax

##### Sequence [ID]

##### Sequence [Sequence-pool].[ID]

The default function for Sequence objects is **SelfFix**. This means that calling sequences without any function specified will select the fixtures of the sequence in programmer.

If you apply a function not supported by the Sequence object, the function will be passed on to the Cue child objects of the Sequence.

#### Example:

```
[Channel] > Sequence 5
```

Select all fixtures in sequence 5

```
[Channel] > Block Sequence 3
```

Blocks all Cues of Sequence 3

#### Related Links

- [Sequ Key](#)
- [Cue Keyword](#)
- [Part Keyword](#)



### Reference: SetIP Keyword

**SetIP** is a function used to change IP-address of ethernet-interfaces of your console/station

#### Syntax

**SetIP** [Interface-name] [IP-address]

This function will change the IP-address of your ethernet-interfaces. If no address is given, the **Commandline Feedback** window will list the available Ethernet interfaces with their IP address.

On a regular console there are two network-interfaces, "eth0" and "eth1", which may be found on the back of the console labeled as "Ethernet 1" and "Ethernet 2"



The IP-address will take change first after the next reboot.

#### Example:

```
[Channel] > SetIP 192.168.0.5
```

Sets the IP-address of the first ethernet-interface

```
[Channel] > SetIP "eth0" 192.168.0.5
```

Sets the IP-address of the first ethernet-interface

```
[Channel] > SetIP "eth1" 2.0.0.10 /mask=255.0.0.0
```

Sets the IP-address and networkmask for the second ethernet-interface

#### Related Links

- [NetworkInfo Keyword](#)



### Reference: Setup Keyword

**Setup** is a function used to open/close the **Setup Menu** window

#### Syntax

**Setup**

#### Related Links

- [Setup Key](#)
- [Setup Menu](#)



### Reference: SetUserVar keyword

**SetUserVar** is a function used to set userspecific variables

#### Syntax

**SetUserVar** \$variablename = numericvalue



**SetUserVar \$variablename = "text"**



to remove a variable, set it to nothing

#### Example:

**SetUserVar \$myfavouritebutton = "Flash"**

Sets the variable \$myfavouritebutton to Flash

**Assign \$myfavouritebutton **Executor** 101 **Thru** 115**

Assigns Flash function to Button Executors

#### Related Links

- [\\$ \[Dollar-sign\]](#)
- [ListUserVar Keyword](#)
- [ListVar Keyword](#)
- [SetVar Keyword](#)
- [\[ \] \[Square Brackets\]](#)



### Reference: SetVar keyword

**SetVar** is a function used to set showglobal variables

#### Syntax

**SetVar \$variablename = numericvalue**

**SetVar \$variablename = "text"**



to remove a variable, set it to nothing

#### Example:

**SetVar \$ourfavouritebutton = "Flash"**

sets the variable \$ourfavouritebutton to Flash

**Assign \$ourfavouritebutton **Executor** 101 **Thru** 115**

Assigns Flash function to Button Executors

#### Related Links

- [\\$ \[Dollar-sign\]](#)
- [ListVar Keyword](#)
- [SetUserVar Keyword](#)
- [\[ \] \[Square Brackets\]](#)



### Reference: ShuffleSelection Keyword

**ShuffleSelection** is a function used to randomize the selection-order of the current selection.

#### Syntax

**ShuffleSelection**

**ShuffleSelection** will randomize the selection-order of the current selection.

#### Example:

[Channel] > ShuffleSelection

The selection-order of the current selection is randomized

#### Related Links

- [Selection Keyword](#)



### Reference: ShuffleValues Keyword

**ShuffleValues** is a function used to randomly move attribute-values within your current selection.

**Syntax****ShuffleValues**

**ShuffleValues** will shuffle the attributevalues of your current selected fixtures

This function obeys the **At-filter**

**Example:**

```
[Channel]> ShuffleValues
```

The values of the current selection is shuffled

**Related Links**

- [Tools](#)
- [Attribute Filter pop-up](#)

**Reference: Shutdown Keyword**

**Shutdown** is a function used to switch off consoles

**Syntax****Shutdown**

**Shutdown** [station-list]

Unless the /noconfirm option is included, the Shutdown needs to be confirmed on the local station. The shutdown may be canceled within 10 seconds on the remote stations

**Example:**

```
[Channel]> Shutdown 192.168.0.10
```

Switches off station with IP-address 192.168.0.10

```
[Channel]> Shutdown 10
```

Switches off station with Host-ID 10 on your Network

```
[Channel]> Shutdown
```

Switches off your current console

**Reference: SnapPercent Keyword**

**SnapPercent** is a helping keyword used to indicate the delay-times for nonfading parameters

**Syntax**

**SnapPercent** [Value-list]

As a helping keyword to programming functions (e.g. Store), this keyword will set the snaptime of the object in question

**Example:**

```
[Channel]> Store Cue 3 SnapPercent 0
```

Creates cue 3 and sets its snap-time to 0% (beginning of crossfade)

**Related Links**

- [Time Key](#)

**Reference: Solo Keyword**

**Solo** is a function used to force zero values on output for intensity attributes of unselected fixtures

**Syntax**

**Solo**

**Solo On**

**Solo Off**

**Solo** is a toggle function. This means that entering Solo without any helping keyword will toggle Solo-mode on/off.

**Example:**

```
[Channel]> Solo On
```

Turns on Solo-mode

**Related Links**

- [Solo Key](#)
- [On Keyword](#)
- [Off Keyword](#)

**Reference: SpecialMaster Keyword**

**SpecialMaster** is an object-type holding predefined objects for global control

**Syntax**

**SpecialMaster** [ID]

**SpecialMaster** "Name"

Specialmaster is an object-type that holds predefined objects for global control.

**Example:**

```
[Channel]> SpecialMaster grand At 50
```

Sets the grandmaster level to 50%

```
[Channel]> Assign SpecialMaster 13 At Executor 15
```

Makes Executor 15 a fader to control the Sound output volume.

**Reference: Speed Keyword**

**Speed** is an assignable function for executors

**Syntax**

**Assign Speed (At)** [Executor-list]

Speed is a function that will adjust the speed or rate of an executor according to the position of the fader

**Example:****Reference: StepFade Keyword**

**StepFade** is an assignable function for executors

**Syntax**

**Assign StepFade (At)** [Executor-object]

StepFade is a function that will scale the fade-times of the Executor's assigned object, according to the position of the fader

**Example:****Reference: Stomp Keyword**

**Stomp** is a function that applies values, similar to the keyword **At**, but additionally also stops Effects from other sources

**Syntax**

**Stomp** [Selection-list]

**Stomp** [Attribute-list]**Stomp** [Value-list]**Stomp** [Object-list]

Stomp is a function to stop running effects by setting the EffectForm-Layer to 'Stomp' in the programmer.

Stomping Channel/Fixture/Groups will Stomp all attributes of the given selection-list.

Stomping Attribute/Feature/Presettypes will stomp the given attributes for the current selection.

Stomping a value or an object that contains values will apply the value/object as if the keyword At was used, but additionally add Stomp to the affected parameters..

**Example:**

```
[Channel]> Stomp 75
```

Sets the dimmer attributes of current selection to 75% and stops any effects running on the dimmer

```
[Channel]> At Preset "drummer"
```

moves current selection to "drummer". if a relative circle effect is running, the fixtures would circle around the drummer

```
[Channel]> Stomp Preset "drummer"
```

moves current selection to "drummer". even if a relative circle effect was running, the fixtures stops moving and will be static at "drummer"

```
[Channel]> Fixture 2 Stomp 0
```

Selects Fixture 2, sets its dimmer to zero and stops any already running dimmer-effects

**Related Links**

- [At Key](#)
- [At Keyword](#)

**Reference: Store Keyword**

**Store** is a function used to create data in your showfile

**Syntax****Store** [Object-list] "Name"**Store** [Object-list] "Name" [/options]

Store is a function used to create data in your showfile. If no object-type or destination is given, the default object-type for this function, Cue, will be used.

**Example:**

```
[Channel]> Store 7
```

Creates Cue 7

```
[Channel]> Store Group 3 "All Macs"
```

Creates Group 3 and gives it the name "All Macs"

```
Worlds > Store 6
```

Creates World 6

**Options**

The default storemodes may be overridden by the use of /options, which may be set to True or False.

Here is a list of the most common store-options ( If no value is given, the parameter is set to True).

/merge or /m

/remove or /r

/release

/append or /a

Creates second cue

/cueonly or /co

/keepactive or /ka

/embedded or /e

/selective or /s

/universal or /u  
/presetfilter or /pf



To display all available options, use /?

#### Example:

```
[Channel]> Store 7 /merge
```

Merges program values into Cue 7

```
[Channel]> Store Preset 1.3 /presetfilter=false /ka
```

Creates Preset 1.3 without filtering attributes, and keeping the activation

```
[Channel]> Store /?
```

Displays all available options in the commandline response window

#### Related Links

- [Store Key](#)



### Reference: Surface Keyword

**Surface** is an object-type holding configurations of the console hardware

#### Syntax

**Surface** [ID]

The default function for this object is **Call**. Calling a Surface will activate the settings of the given surface

Surface 1 is non-editable and configures all fadermodules and screens 1:1

#### Example:

```
[Channel]> Surface 2
```

configures faders and screens according to surface 2



### Reference: Swap Keyword

**Swap** is a function used to temporary over-ride masterlevel to full and additionally over-ride masterlevel of other objects to zero

#### Syntax

**Swap** [Executor-list]

**Swap On** [Executor-list]

**Swap Off** [Executor-list]

When the Swap function is used with an Executor button, the Swap On command is executed when the button pressed and the Swap Off is executed when the button is released. Protect this executor with option "Swap protect" in the Assign Menu.

If this function is used without the helping keywords On/Off, the function will toggle between on or off.

If the executor is not On, it will be temporary activated with zero timing.



Some other consoles calls this function Solo-Flash

#### Example:

```
[Channel]> Swap Executor 1
```

Over-rides masterlevel of Executor 1 to full, and masterlevel of other executors to zero

```
[Channel]> Swap Off Executor 1
```

Returns masterlevels to the masterfaders

#### Related Links

- [Off Keyword](#)



## Reference: Temp Keyword

**Temp** is a function used to temporary turn On executing objects

### Syntax

**Temp** [Object-list]

**Temp On** [Object-list]

**Temp Off** [Object-list]

When the Temp function is used with an Executor button, the Temp On command is executed when the button pressed and the Temp Off is executed when the button is released.

If this function is used without the helping keywords On/Off, the function will toggle between on or off.

### Example:

```
[Channel]> Temp On Executor 1
```

Turns on Executor 1

```
[Channel]> Temp Off Executor 1
```

Turns off Executor 1

### Related Links

- [Temp Key](#)
- [On Keyword](#)
- [Off Keyword](#)



## Reference: Thru Keyword

**Thru** is a helping keyword used to reference a range of objects or values

### Syntax

[Start of range] **Thru** [End of range]

If start or end is omitted, the first/last available occurrence will be used

### Example:

```
[Channel]> Fixture 3 Thru 6
```

Selects Fixture 3 thru 6 (3, 4, 5 & 6)

```
[Channel]> Fixture Thru 3
```

Selects Fixture 1, 2, and 3

```
[Channel]> Delete 3 Thru
```

Deletes cue 3 and above

```
[Channel]> Channel Thru
```

Selects all channels

### Related Links

- [Thru Key](#)



## Reference: Timecode Keyword

**Timecode** is an object-type capable of recording and playback of executor-actions

### Syntax

**Timecode** [ID]

### Example:

[Channel]> Store Timecode 1

Create new timecode show 1

[Channel]> Record Timecode 1

Starts recording executor actions to timecode show 1

[Channel]> Go Timecode 1

Playbacks timecode show 1

[Channel]> <<< Timecode 1

Rewinds timecode show 1

### Related Links

- [Macro Key](#)
- [Go Keyword](#)
- [Off Keyword](#)
- [Pause Keyword](#)
- [>>> Keyword](#)
- [<<< Keyword](#)
- [Record Keyword](#)



### Reference: ToFull Keyword

**ToFull** is a function used to set masterlevels of objects to full

### Syntax

**ToFull** [Executor-list]

**ToFull SpecialMaster** [ID]



The **ToFull** function is not the same as "... At 100". While "Executor 1 thru 10 At 100" will set all 10 faders to full, "ToFull Executor 1 Thru 10" will only adjust the faders that controls masterlevels (i.e. not speedmasters or crossfaders)

### Example:

[Channel]> ToFull Executor 1

Sets masterlevel of Executor 1 to 100%

[Channel]> ToFull SpecialMaster "Grand"

Sets grandmaster to 100%

### Related Links

- [ToZero Keyword](#)



### Reference: Toggle Keyword

**Toggle** is a keyword used both as a function and as a helping keyword

### Syntax

**Toggle** [Object-list]

[Function/Mode]**Toggle**

The Toggle keyword acts as an On or Off keyword depending of the on/off-status of the object or function/mode it is applied to. If object or function/mode is On, it will turn Off, if object or function/Mode is Off, it will turn On.

### Example:

[Channel]> Toggle Executor 101

Turns Executor 101 off, if it is on, - and vice versa

[Channel]> Blind Toggle

Turns Blind-mode off, if it is on, - and vice versa

**Related Links**

- [On Keyword](#)
- [Off Keyword](#)
- [Temp Key](#)

**Reference: Tools Keyword**

**Tools** is a function used to open/close the **Tools Menu** window

**Syntax**

**Tools**

**Related Links**

- [Tools Key](#)
- [Tools Menu](#)

**Reference: Top Keyword**

**Top** is a function used to jump to the beginning of a list

**Syntax**

**Top** [Executor-list]

**Top** [Timecode-list]

The **Top** function is basically a Goto [first cue/step]

**Example:**

```
[Channel]> Top Executor 5
```

Goes to first cue on Executor 5

```
[Channel]> Top Executor 5 Fade 3
```

Crossfades to first cue on Executor 5 in 3 seconds

**Related Links**

- [Top Key](#)

**Reference: ToZero Keyword**

**ToZero** is a function used to set masterlevels of objects to zero

**Syntax**

**ToZero** [Executor-list]

**ToZero SpecialMaster** [ID]



The **ToZero** function is not the same as "... At 0". While "Executor 1 thru 10 At 0" will set all 10 faders to zero, "ToZero Executor 1 Thru 10" will only adjust the faders that controls masterlevels (i.e. not speedmasters or crossfaders)

**Example:**

```
[Channel]> ToZero Executor 1
```

Sets masterlevel of Executor 1 to 0%

```
[Channel]> ToZero SpecialMaster "Grand"
```

Sets grandmaster to 0%

**Related Links**

- [ToFull Keyword](#)





## Reference: Unblock Keyword

**Unblock** is a function used to remove data that prevents tracking

### Syntax

**Unblock** [Object-list] [Selection-list filter] [Attribute-list filter]

If the Object-list does not contain any references to any cues, the Unblock function is applied to the current Cue of the Selected executor.

If syntax does not contain any selection-list, all fixtures will be used

If syntax does not contain any attribute-list, all attributes will be used



Block/unblock of specific attributes is not implemented. Please use Worlds to limit you access if you need to apply to only some attributes

### Example:

```
[Channel]> Unblock
```

Unblocks all parameters in current cue

```
[Channel]> Unblock Cue 5 Fixture 4 Feature "Colmix"
```

Unblocks Colormix of Fixture 4 in Cue 5

### Related Links

- [Block Keyword](#)



## Reference: Unlock Keyword

**Unlock** is a function used to remove lock on protected objects.

### Syntax

**Unlock** [Object-list]

**Unlock** is a function used remove locks from objects that has been protected with the **Lock** keyword. **Unlock** is equivalent to **Lock Off**

### Example:

```
[Channel]> Unlock Cue 3
```

Cue 3 is no longer protected

### Related Links

- [Lock Keyword](#)



## Reference: UnOops Keyword

**UnOops** is a function used to redo last commandline that has been undone with Oops. Not yet implemented.

### Syntax

**UnOops**

### Related Links

- [Oops Keyword](#)
- [Oops Key](#)



## Reference: Unpark Keyword

**Unpark** is a function used to unlock the DMX outputvalues of attributes

### Syntax

**Unpark** [Selection-list]

**Unpark** [Attributes-list]**Example:****Related Links**

- [Park Keyword](#)
- [Go+ Key](#)

**Reference: Update Keyword**

**Update** is a function used to update programmerdata into its originating objects

**Syntax****Update** [Object-list]

This function will update the given objects according to the default update-options, unless the options are forced via the syntax

/cueonly or /co  
 /tracking or /t  
 /addnewcontent or /an  
 /originalcontent or /or

**Example:**

```
[Channel]> Update
```

Updates current cue of selected executor, according to the default Update options

```
[Channel]> Update Cue 4 /originalcontent /cueonly
```

Updates Cue 4 with values that originates from cue 4, as cue only

**Related Links**

- [Update Key](#)

**Reference: UpdateFirmware Keyword**

**UpdateFirmware** is a function used to install new firmware for the console hardware

**Syntax****UpdateFirmware**

⚠ Updating firmware may take 30-60 seconds. During updating there will be no progress report in the Commandline Respons window, however with the command **Version**, you may check if the update is still running

**Reference: User Keyword**

**User** is an object-type holding information about persons using the console

**Syntax****User** [ID]

The default function for this object is **List**.

**Example:**

```
[Channel]> User 1
```

| Name                                   | Password | Profile |
|----------------------------------------|----------|---------|
| :User 1: Administrator Admin 1:Default |          |         |

**Related Links**

- [UserProfile Keyword](#)

- [Login Keyword](#)



### Reference: UserProfile Keyword

**UserProfile** is an object-type that holds individual data for an user

#### Syntax

**UserProfile** [ID]

The default function for this object is **List**.

#### Example:

```
[Channel]> UserProfile 1
```

```
:UserProfile 1: Default (12)
```

#### Related Links

- [User Keyword](#)



### Reference: Version Keyword

**Version** is a function used to display information about the softwareversion in the **Commandline Response** window

#### Syntax

**Version**

#### Example:

```
[Channel]> Version
```

```
: CONSOLE FULLSIZE 1.002
```

```
: Build date is Oct 16 2008
```



### Reference: View Keyword

**View** is an object-type holding the layout of windows on the screens

#### Syntax

**View** [ID]

The default function for this object is **Call**. Calling a View bring its content to the screen(s).

With the option /screen you may via commandline select which screen(s) to store or where to recall.

#### Example:

```
[Channel]> Store View 5 /screen=234
```

Stores the content of screen 2,3 and 4 to view 5

```
[Channel]> View 3 /screen=5
```

Calls view 3 on screen 5

#### Related Links

- [ViewButton Keyword](#)
- [ViewPage Keyword](#)
- [View Key](#)
- [Store View Popup](#)



### Reference: ViewButton Keyword

**ViewButton** is an object-type representig the soft-buttons found on the right side of every screen but the Commandscreen

### Syntax

**ViewButton** [ID]

**ViewButton** [ViewPage].[ID]

The default function for this Object is **Call**. Calling a ViewButton activate the assigned Object with its default function. If you apply a function or reference a property not supported by the ViewButton object, the command will be passed on to the object assigned to ViewButton.

The ViewButton object also represents the User1/2 X1-X20 keys, which resides on ViewPage 11.

User1 X1 : ViewButton 11.1

User2 X20 : ViewButton 11.40

### Example:

[Channel]> Delete ViewButton 4

Removes the assigned View or Macro from ViewButton 4 of the current ViewPage

[Channel]> Label ViewButton 2.4 "mybutton"

Changes name of the View or Macro assigned to ViewButton 4 on ViewPage 2, to "mybutton"

### Related Links

- [View Key](#)
- [V1 - V10 Key](#)
- [ViewPage Keyword](#)
- [View Keyword](#)
- [Macro Keyword](#)



### Reference: ViewPage Keyword

**ViewPage** is an object-type holding sets of ViewButtons

### Syntax

**ViewPage** [ID]

The default function for this object is **Call**. Calling a ViewPage, will display the page's ViewButtons onscreen

### Example:

[Channel]> ViewPage 3

Changes the ViewButtons to display page 3

### Related Links

- [V1 - V10 Key](#)
- [ViewButton Keyword](#)



### Reference: World Keyword

**World** is an object-type representing a parameter filter

### Syntax

**World** [ID]

The default function for this object is **Call**. Calling a world will engage its filter, and limit the access to only the parameters within the world. World 1 is unchangable and includes all parameters (all fixtures and attributes) in show

### Example:

[Channel]> World 4

Calls World 4, and activates it filter

[Channel]> Label World 1 "All Fixtures"

### Related Links

- [World Concept](#)

- [Group Key](#)
- [Call Keyword](#)



## Reference: Zero Keyword

**Zero** is helping function to set 0% intensity-values

### Syntax

#### Zero

The default function for this object is **At**. Press 2x the button "." (Dot on the numeric block) and all selected fixtures gets dimmer value "0".

### Example:

```
[Channel]> Channel 1 + 2 Zero
```

Sets intensity-attributes of Channel 1 & 2 to 0%

```
[Channel]> Zero
```

sets the intensity attributes of current selection to 0%

### Related Links

- [\[Dot\] Key](#)



## Concept: Keys & Buttons

This section contains a list of all keys and their functions.

[This is a link to a list of often used keywords accessible by pressing some keys multiple times.](#)

[This is a link to an overview of all possible hard key combinations.](#)



## Reference: Encoder Hardkey

This key is located between the attribute encoders and the rightmost window-encoder



The  key will toggle the window-encoder between the commandscreen and the display-wing screen. This key does not interact with the commandline.

If the  key is held down, a temporary popup will appear in the bottom right of each screen, with options to Clear each or every screens. While pressed down, you will additionally get a dialog above the encoders, with options to change resolution and mode for encoders, Level Wheel and Trackball. Follow the link below for more info about the **Encoder Settings** pop-up.

### Related Links

- [Encoder Settings pop-up](#)



## Reference: [Numeric] Hardkeys

These keys are located in the command-area



The numeric keys gives access to the numbers 0 thru 9. These are used to together with the dot key to enter values and object IDs.

Used together with the **MA** modifier key, the numeric keys acts as shortcut to presettype 1-9, and successively their features

Used together with the **MA** modifier key and **+** or **-**, some of the numeric keys may be used to adjust Desk Lights

#### Example:

**MA** & **2**

:Processed: PresetType "POSITION"

**MA** & **3** & **3** & **3**

:Processed: PresetType "GOBO"

:Processed: Attribute "GOBO1"

:Processed: Attribute "GOBO2"

#### Related Links

- [Adjusting Desk Lights with Hardkeys](#)
- [MA Key](#)



#### Reference: [Dot] Hardkey

This key is located in the command-area



A single press of the **[Dot]** key gives access to the delimiter character **dot** (period). This delimiter is used to enter numbers with decimal fractions and to enter hierarchical object IDs.

A second press on the **[Dot]** key will execute the command **Zero**. This will set the intensity attributes of current selection, to 0%

Used together with the **MA** key the **[Dot]** key gives access to the **Default**

#### Example:

**[Dot]**

[Channel]> .

**[Dot]**

:Processed: Zero

**MA** & **[Dot]**

[Channel]> Default

### Related Links

- [Zero Keyword](#)
- [At Keyword](#)
- [Default Keyword](#)
- [MA Key](#)



### Reference: + (Plus) Hardkey

This key is located in the command-area



A single press of the  key gives access to the keyword +. (plus)

Multiple presses on the  key will execute [Commandline]At + [Step-value]. This will increment the values of any object, or the current selection, with a predefined value.

#### Example:



[Channel] > +

:Processed:At + 10



### Related Links

- [+ Keyword](#)
- [At Keyword](#)



### Reference: - (Minus) Hardkey

This key is located in the command-area



A single press of the  key gives access to the keyword -. (minus)

Twice presses on the  key will execute [Commandline] At - 10. This will decrement the dimmer values of any objects, or the current selection, with a 10%.

#### Example:



[Channel] > -



:Processed: **At** -10

Exec 3 

:Processed: **Fader** 3 **At** -10

:Processed: **Fader** 3 **At** -10

### Related Links

- [- Keyword](#)
- [At Keyword](#)



### Reference: >>> (Skip+) Hardkey

This hardkey is located in the command-area



The  key gives access to two keywords, >>> (Skip+), and **Flash**

### Example:



[Channel]> >>>





[Channel]> Flash

### Related Links

- [>>> Keyword](#)
- [Flash Keyword](#)



### Reference: <<< (Skip-) Hardkey

This hardkey is located in the command-area



The  key gives access to two keywords, <<< (Skip-), and **Black**

### Example:



[Channel]> <<<





[Channel] > Black

#### Related Links

- [<<< Keyword](#)
- [Black Keyword](#)



#### Reference: Align Hardkey

This hardkey is located in the command-area



The **Align** key is used to activate the 4 different align-modes for the encoders. Pressing this key does not interact with the commandline, but will sequentially execute the functions

1. **Align** "<"
2. **Align** ">"
3. **Align** "><"
4. **Align** "<>"
5. **AlignOff**

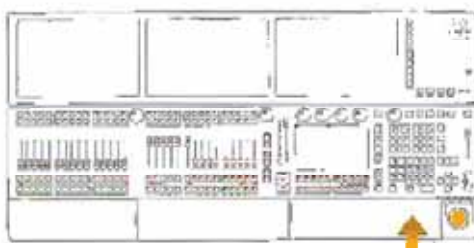
#### Related Links

- [Align Keyword](#)



#### Reference: Assign Hardkey

This hardkey is located in the command-area



The **Assign** key gives access to two keywords, **Assign** and **Label**

#### Example:

**Assign**

[Channel] > Assign

**Assign** **Assign**

[Channel] > Label

#### Related Links

- [Assign Keyword](#)
- [Label Keyword](#)



## Reference: At Hardkey

This hardkey is located in the command-area



A single press of the **At** key gives access to the keyword **At**

A second press on the **At** key will execute the commandline **Normal** . This will set the values of the current selection to the predefined value Normal

A long press on the **At** key will open the **At-filter** menu. A flashing **At** key indicates an active attribute filter.

Used together with the **MA** modifier key the **At** key will give access to the keywords **Stomp** and **Extract**.

### Example:

**At**

[Channel] > At

**At At**

:Processed: Normal

**MA & At**

[Channel] > Stomp

**MA & At At**

[Channel] > Extract

### Related Links

- [At Keyword](#)
- [Normal Keyword](#)
- [Stomp Keyword](#)
- [Extract Keyword](#)
- [MA Key](#)



## Reference: Backg (Background) Hardkey

This key is located to the right of the command screen



The **Backg** key is used to temporary hide pop-ups and dialog windows. This key does not interact with the commandline.



this function is not yet implemented.



### Reference: Backup Hardkey

This hardkey is located to the right on the monitor wing



A single press on the **Backup** key will execute the commandline **Backup** which will open/close the **Backup Menu** on the command-screen.

A double press on the **Backup** key will execute the commandline **SaveShow** which will save your showdata to the currently selected drive

#### Related Links

- [Backup Menu](#)
- [Backup Keyword](#)
- [SaveShow Keyword](#)
- [SelectDrive Keyword](#)



### Reference: Blind Hardkey

This hardkey is located in the command-area



**Blind** is an immediate hardkey with two functions.

When pressed a short time it will execute the commandline **Blind**. This command will turn on/off output of the Live programmer.

When pressed a long time it will execute the commandline **BlindEdit**. This command will switch between the Live programmer and the Blind editor.

#### Example:

**Blind**

:Processed: **Blind**

**Blind**

(held for one second)

:Processed: **BlindEdit**

#### Related Links

- [Blind Keyword](#)
- [BlindEdit Keyword](#)



### Reference: Bt Pg+ (ButtonPage+) Hardkey

This key is located to the right of the Executor faders



**Bt Pg+** is an immediate hardkey. When pressed it will execute the commandline **ButtonPage +**

This command will change to next page for the **Button Executors** (Executor 101 up to 190 and executor 201 up to 220)

#### Example:

**Bt Pg+**

:Processed: **ButtonPage +**

#### Related Links

- [ButtonPage Keyword](#)
- [+ Keyword](#)



#### Reference: Bt Pg- (ButtonPage-) Hardkey

This key is located to the right of the Executor faders



**Bt Pg-** is an immediate hardkey. When pressed it will execute the commandline **ButtonPage -**

This command will change to previous page for the **Button Executors** (Executor 101 and upwards)

A long press of this key will execute **ButtonPage 1** and jump to first page

#### Example:

**Bt Pg-**

:Processed: **ButtonPage -**

#### Related Links

- [ButtonPage Keyword](#)
- [- Keyword](#)



#### Reference: B.O. Hardkey

This hardkey is located in the command-area



**B.O.** is an immediate hardkey. The functionality of this key is defined in **Setup → User**

In Toggle-mode this key will execute the commandline **Blackout**

In Push-mode this key will execute the commandline **Blackout On** when pressed and **Blackout Off** when released

#### Example:

**B.O.**

```
:Processed: Blackout
```

#### Related Links

- [Blackout Keyword](#)



#### Reference: Channel Hardkey

This hardkey is located in the command-area



The **Channel** key gives access to three keywords, **Channel** , **Dmx** and **Dmx Universe**

#### Example:

**Channel**

```
[Channel]> Channel
```

**Channel**

**Channel**

```
[Channel]> Dmx
```

**Channel**

**Channel**

**Channel**

```
[Channel]> DmxUniverse
```

#### Related Links

- [Channel Keyword](#)
- [Dmx Keyword](#)
- [DmxUniverse Keyword](#)



#### Reference: Ch Pg+ (ChannelPage+) Hardkey

This key is located to the right of the Executor faders



**Ch Pg+** is an immediate hardkey. When pressed it will execute the commandline **ChannelPage +**

If the faders already are in Channel Mode, this command will change to next page for the **Channel Faders**

If the faders are in Executor Mode, this command will change the faders to Channel Mode.

#### Example:

**Ch Pg+**

:Processed: ChannelPage +

#### Related Links

- [ChannelPage Keyword](#)
- [+ Keyword](#)



#### Reference: Ch Pg- (ChannelPage-) Hardkey

This key is located to the right of the Executor faders



**Ch Pg-** is an immediate hardkey. When pressed it will execute the commandline **ChannelPage -**

If the faders already are in Channel Mode, this command will change to previous page for the **Channel Faders**

If the faders are in Executor Mode, this command will change the faders to Channel Mode.

A long press of this key will execute **ChannelPage 1** and jump to first page

#### Example:

**Ch Pg-**

:Processed: ChannelPage -

#### Related Links

- [ChannelPage Keyword](#)
- [- Keyword](#)



#### Reference: Clear Hardkey

This key is located in the command-area



**Clear** is an immediate hardkey. When pressed it will execute the commandline **Clear**

Depending on status of the programmer this function will sequentially:

1. Clear Selection (unselect all fixtures)
2. Clear Active (deactivate all values)
3. Clear All (empty programmer)

If the Clear key is pressed for a long time, it will execute a **ClearAll**

#### Example:

**Clear**

```
:Processed: Clear
```

**Clear** (long press)

```
:Processed: ClearAll
```

#### Related Links

- [Clear Keyword](#)
- [ClearSelection Keyword](#)
- [ClearAll Keyword](#)



#### Reference: Copy Hardkey

This hardkey is located in the command-area



The **Copy** key gives access to two keywords, **Copy** and **Clone**

#### Example:

**Copy**

```
[Channel]> Copy
```

**Copy** **Copy**

```
[Channel]> Clone
```

#### Related Links

- [Copy Keyword](#)
- [Clone Keyword](#)



#### Reference: Cue Hardkey

This hardkey is located in the command-area



The **Cue** key gives access to two keywords, **Cue** and **Part**

#### Example:

**Cue**

[Channel] > Cue

**Cue** **Cue**

[Channel] > Part

#### Related Links

- [Cue Keyword](#)
- [Part Keyword](#)



#### Reference: Down Hardkey

This hardkey is located in the command-area



The **Down** key is used to navigate the focus/cursor in pop-up dialogs. If there is no popup, this key will scroll in the Commandline History, to enable repetition of earlier used commands

Used together with the **MA** modifier key this key will lower the monitor-wing

#### Related Links

- [Up Key](#)
- [Set Key](#)
- [MA Key](#)



#### Reference: Delete Hardkey

This hardkey is located in the command-area





The **Del** key gives access to the keywords **Delete** , **Remove** and **Release**

**Example:**

**Del**

[Channel] > Delete

**Del Del**

[Channel] > Remove

**Del Del Del**

[Channel] > Release

**Related Links**

- [Delete Keyword](#)
- [Remove Keyword](#)
- [Release Keyword](#)



**Reference: Edit Hardkey**

This hardkey is located in the command-area



The **Edit** key gives access to the keyword **Edit**

**Example:**

**Edit**

[Channel] > Edit

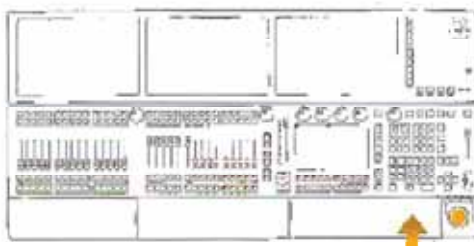
**Related Links**

- [Edit Keyword](#)



**Reference: Effect Hardkey**

This hardkey is located in the command-area

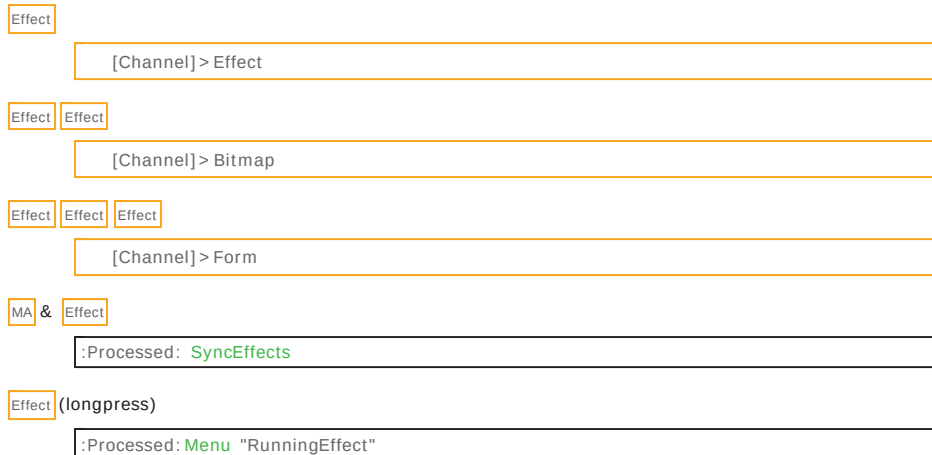


The **Effect** key gives access to three keywords, **Effect** , **Bitmap** and **Form**

When pressed together with the **MA** modifier-key, it will execute the commandline **SyncEffects** which will synchronize effects in the programmer

If the **Effect** key is being kept pressed down, a temporary **RunningEffects View** will be displayed

#### Example:



#### Related Links

- [Effect Keyword](#)
- [Bitmap Keyword](#)
- [Form Keyword](#)
- [SyncEffects Keyword](#)
- [MA Key](#)
- [RnningEffects View](#)



#### Reference: Esc (Escape) Hardkey

This key is located in the command-area



The **Esc** key is used to cancel unexecuted commandline-entries and to close pop-ups and dialog windows.



#### Reference: Exec Hardkey

This hardkey is located in the command-area



The **Exec** key gives access to the keyword **Executor**.

Press the **Exec** key 2 x brings the keyword "SpecialMaster" to the CommandLine.

**Example:**

Exec

[Channel] &gt; Executor

**Related Links**

- [Executor Keyword](#)

**Reference: Executor Buttons**

These hard-buttons are located on the left side of the console, above and below the faders



These Buttons are usually immediate. On an Executorpage, when pressed they will execute the commandline [Function] **Executor** [ID] , where [Function] is the function assigned to the button, and [ID] is identity of the related executor.

On a ChannelPage, when pressed they will execute the commandline [Function] **ChannelFader** [ID] , where [Function] is the function of the button, and [ID] is identity of the related fader.

If Executors has **CLI** enabled (CommandLine Interact), any Function in the commandline will be used instead of the assigned function. If the Function is missing a needed helping keyword **At**, the commandline will not yet execute. When an At-requireing Function is in used, pressing an empty Executorbutton will add **At** along with its Executor ID, and then execute the commandline.

**Example:**

Select

115

:Processed: Select ExecButton1 1.1.115

**Related Links**

- [Executor Keyword](#)
- [Executor Labels](#)

**Reference: Executor Labels**

The on-screen labels above the executors also acts as buttons



Each label works as a twin button. When commandline is empty, pressing the upper part will execute the commandline **Assign Executor** [ID] , and pressing the lower part will execute the commandline **Edit Executor** [ID]

If commandline is not empty, any function in the commandline will be used instead of Assign/Edit. If the Function is missing a needed helping keyword **At**, the commandline will not yet execute. When an At-requireing Function is in used, pressing an empty Executorlabel will add **At** along with its Executor ID, and then execute the commandline.

**Example:**

102 23  
Sequ.

:Processed: Assign Executor 1.1.102

1 Cue  
Go+

:Processed: Edit Executor 1.1.102

102 23  
Sequ.  
Off

:Realtime: Off Executor 1.1.102

## Related Links

- [Executor Keyword](#)



## Reference: Fd Pg+ (FaderPage+) Hardkey

This key is located to the right of the Executor faders



**Fd Pg+** is an immediate hardkey. When pressed it will execute the commandline **FaderPage +**

If the faders already are in Executor Mode, this command will change to next page for the **Fader Executors** (Executor 1 and upwards)

If the faders are in Channel Mode, this command will change the faders to Executor Mode.

### Example:

**Fd Pg+**

:Processed: FaderPage +

## Related Links

- [FaderPage Keyword](#)
- [+ Keyword](#)



## Reference: Fd Pg- (FaderPage-) Hardkey

This key is located to the right of the Executor faders



**Fd Pg-** is an immediate hardkey. When pressed it will execute the commandline **FaderPage -**

If the faders already are in Executor Mode, this command will change to previous page for the **Fader Executors** (Executor 1 and upwards)

If the faders are in Channel Mode, this command will change the faders to Executor Mode.

A long press of this key will execute **FaderPage 1** and jump to first page

**Example:**

Fd Pg-

:Processed: FaderPage -

**Related Links**

- [FaderPage Keyword](#)
- [- Key](#)



**Reference: Fix Hardkey**

This hardkey is located in the command-area



The **Fix** key gives access to the keyword **Fix**

**Example:**

Fix

[Channel] > Fix

**Related Links**

- [Fix Keyword](#)



**Reference: Fixture Hardkey**

This hardkey is located in the command-area



The **Fixture** key gives access to the keywords **Fixture** and **Fixture**

**Example:**

Fixture

[Channel] > Fixture

Fixture Fixture

[Channel] > Selection

### Related Links

- [Fixture Keyword](#)
- [Selection Keyword](#)



### Reference: Freeze Hardkey

This hardkey is located in the command-area



**Freeze** is an immediate hardkey. When pressed it will execute the commandline **Freeze**

This command will turn on/off Freeze-mode. (High Priority Programmer).

#### Example:

**Freeze**

:Processed: **Freeze**

### Related Links

- [Freeze Keyword](#)



### Reference: Full Hardkey

This hardkey is located in the command-area



**Full** is an immediate hardkey. When pressed once it will execute the commandline **At Full**, which will for the current selection set the intensity-attributes to 100%.

If pressed a second time this key will execute the commandline **At Highlight**, which will for the current selection extract highlitevalues into programmer.

Finally pressed a third time this key will execute the commandline **At Open**, which will for the current selection set intensity attributes to 100% and all other attributes to default.

#### Example:

**Full**

:Processed: **At Full**

**Full Full**

:Processed: **At Highlight**

**Full Full Full**

:Processed: **At Open**

### Related Links

- [Full Keyword](#)
- [Highlight Keyword](#)
- [Open Keyword](#)



### Reference: Go+ Hardkey

This hardkey is located in the command-area



! Do not mistake this hardkey with the larger default Go+ key located between the Executor Faders and the Multitouch Command-screen.

The **Go+** key gives access to two keywords, **Go** and **Unpark**

### Example:

**Go+**

[Channel] > Go

**Go+** **Go+**

[Channel] > Unpark

### Related Links

- [Go Keyword](#)
- [Unpark Keyword](#)



### Reference: Go+ (large) Hardkey

This hardkey is located between the multitouch and the faders



! Do not mistake this hardkey with the smaller Go+ key located in the command-area to the right of the multitouch.

**Go+** is an immediate hardkey. When pressed it will execute the commandline **Go**

This command will perform a Go on the selected Executor(s).

### Example:

**Go+**

:Processed: Go

### Related Links

- [Go Keyword](#)



### Reference: Go- Hardkey

This hardkey is located in the command-area



! Do not mistake this hardkey with the larger default Go- key located between the Executor Faders and the Multitouch Command-screen.

The **Go-** key gives access to the keyword **GoBack**

### Example:

**Go-**

[Channel] > GoBack

### Related Links

- [GoBack Keyword](#)



### Reference: Go- (large) Hardkey

This hardkey is located between the multitouch and the faders



! Do not mistake this hardkey with the smaller Go- key located in the command-area to the right of the multitouch.

**Go-** is an immediate hardkey. When pressed it will execute the commandline **GoBack**

This command will perform a GoBack on the selected Executor(s).

### Example:

**Go-**

:Processed: Go-

### Related Links

- [GoBack Keyword](#)



### Reference: Goto Hardkey

This hardkey is located in the command-area





The Goto key gives access to two keywords, **Goto** and **Load**

#### Example:

Goto

[Channel] > Goto

Goto Goto

[Channel] > Load

#### Related Links

- [Goto Keyword](#)
- [Load Keyword](#)



#### Reference: Group Hardkey

This hardkey is located in the command-area



The **Group** key gives via single presses access to three keywords, **Group**, **World** and **Filter**, and together with the **MA** key, the keyword **Layout**

If the **Group** key is being kept pressed down, a temporary **Groupmaster View** will be displayed

#### Example:

Group

[Channel] > Group

Group Group

[Channel] > World

Group Group Group

[Channel] > Filter

MA & Group

[Channel] > Layout

Group (longpress)

:Processed: Menu "Groupmasters"

### Related Links

- [Group Keyword](#)
- [World Keyword](#)
- [Filter Keyword](#)
- [Layout Keyword](#)
- [MA Key](#)
- [Groupmaster View](#)



### Reference: Help Hardkey

This hardkey is located to the right on the display wing



The **Help** keyword gives access to two keywords, **Help** and **CmdHelp**

**Help**

[Channel] > Help

**Help** **Help**

[Channel] > CmdHelp

### Related Links

- [Help viewer](#)
- [Help pop-up](#)
- [Help Keyword](#)
- [CmdHelp Keyword](#)



### Reference: Highlight Hardkey

This hardkey is located in the command-area



**Highlt** is an immediate hardkey. When pressed it will execute the commandline **Highlight**

This command will turn on/off Highlight-mode. Hold the key pressed additionally the attribut "Dimmer" toggels between Default value and Highlight value.

### Example:

**Highlt**

:Processed: **Highlight**

### Related Links

- [Highlight Keyword](#)



## Reference: If Hardkey

This hardkey is located in the command-area



The **If** key gives access to the keywords, **IfOutput** , **IfActive** , **IfProg** , **If** and **EndIf**.

When commandline is empty, the key will toggle thru the first four keywords.

When commandline is not empty, the key will give access to the keywords **If** and **EndIf**, either via multiple presses, or via If-key-press - press something else - then If-key-release.

### Example:

**If**

[Channel]> IfOutput

**If If**

[Channel]> IfActive

**If If If**

[Channel]> IfProg

**If If If If**

[Channel]> If

**Store If Group 5 If**

[Channel]> Store If Group 5 EndIf

**Store If** -press **[Dimmer][Position]** **If** -release

[Channel]> Store If PresetType "Dimmer" + "Position" EndIf

### Related Links

- [IfOutput Keyword](#)
- [IfActive Keyword](#)
- [IfProg Keyword](#)
- [If Keyword](#)
- [EndIf Keyword](#)



## Reference: Learn Hardkey

This hardkey is located in the command-area



The **Learn** key gives access to two keywords, **Learn** , and **Rate1**

**Example:**

Learn

[Channel] &gt; Learn

Learn

Learn

[Channel] &gt; Rate1

**Related Links**

- [Learn Keyword](#)
- [Rate1 Keyword](#)

**Reference: List Hardkey**

This key is located to the right of the multitouch screen



The **List** key will change the function of the X-keys to Button Executors.

Used as a shift-key together with pool-object keys, a temporary poolwindow is opened.

Used together with the **MA** modifier key, **List** gives access to the keyword **List**. The **List** key together with key **Effect** opens a temporary Effect Pool. Temporary Pools are available with **Effect**, **View**, **Page**, **Macro**, **Sequence** and **Group**.

**Example:**

MA &amp; List

[Channel] &gt; List

List &amp; Macro

:Processed: Menu Macro

**Related Links**

- [X1 - X20 Key](#)
- [List Keyword](#)
- [MA Key](#)

**Reference: MA Hardkey**

This key is located in the command-area



The **MA** key is a modifier-key used to give alternate functions to other keys. Follow the related links below to learn what it does with different combinations.

This is a list of the different modifier functions for the **MA** key:

| MA          | 1st:                               | 2nd:                     |
|-------------|------------------------------------|--------------------------|
| 1           | PresetType "Dimmer"                | Toggle trough Attributes |
| 2           | PresetType "Position"              | Toggle trough Attributes |
| 3           | PresetType "Gobo"                  | Toggle trough Attributes |
| 4           | PresetType "Color"                 | Toggle trough Attributes |
| 5           | PresetType "Beam"                  | Toggle trough Attributes |
| 6           | PresetType "Focus"                 | Toggle trough Attributes |
| 7           | PresetType "Control"               | Toggle trough Attributes |
| 8           | PresetType "Shapers"               | Toggle trough Attributes |
| 9           | PresetType "Video"                 | Toggle trough Attributes |
| .           | (Default)                          |                          |
| At          | Stomp                              | Extract                  |
| Group       | Layout                             | Mask                     |
| Preset      | PresetType                         |                          |
| Effect      | (SyncEffects)                      |                          |
| View        | Screen                             |                          |
| Learn       | Record                             |                          |
| List        | List                               |                          |
| Move        | Replace                            |                          |
| Next        | NextRow                            |                          |
| Prev        | PrevRow                            |                          |
| Up          | - Raise monitor wing -             |                          |
| Down        | - Lower monitor wing -             |                          |
| Set         | - Release the monitor wing brake - |                          |
| V1 thru V10 | - Selects different ViewPages -    |                          |

#### Example:

**Next**

:Processed: **Next**

**MA** & **Next**

:Processed: **NextRow**

**MA** & **At**

:Processed: **Stomp**

#### Related Links

- [Effect Key](#)
- [List Key](#)
- [Up Key](#)
- [Down Key](#)
- [Next Key](#)
- [Prev Key](#)
- [Set Key](#)
- [V1 - V10 Key](#)
- [\[Dot\] Key](#)
- [\[Numeric\] Keys](#)
- [Group Key](#)
- [At Key](#)
- [Time Key](#)
- [Preset Key](#)
- [Store Key](#)



#### Reference: Macro Hardkey

This hardkey is located in the command-area



Press the button "List" together with "Macro", the Macro Pool opens temporary. The **Macro** key gives access to three keywords, **Macro** , **Timecode** and **Agenda**

#### Example:

Macro

[Channel] > Macro

Macro

Macro

[Channel] > Timecode

Macro

Macro

Macro

[Channel] > Agenda

#### Related Links

- [Macro Keyword](#)
- [Timecode Keyword](#)
- [Agenda Keyword](#)



#### Reference: Mouse Hardkey

This key is located above the trackball



The **Mouse** key is used to toggle between different modes for the trackball. This key does not interact with the commandline. Set the function of this button at "Setup / User / Settings / Trackball Sequence".

- Off - Trackball off / Dimmerwheel on ultra-light)
- Blinking - Pan/Tilt mode
- On - Mouse mode



#### Reference: Move Hardkey

This hardkey is located in the command-area



The **Move** key gives access to two keywords, **Move** and **Insert**

#### Example:

**Move**

[Channel] > Move

**Move** **Move**

[Channel] > Insert

#### Related Links

- [Move Keyword](#)
- [Insert Keyword](#)



#### Reference: Next Hardkey

This hardkey is located in the command-area



The **Next** key has multiple functions.

If there is a pop-up dialog on screen, the **Next** key is used to navigate the focus/cursor within the pop-up.

If there is no popup, **Next** is an immediate hardkey. When pressed it will execute the commandline **Next**

Used together with the keys **Prev**, **Set** and/or **MA**, several different other commands relating to MATricks will be executed, follow the link below to the MATricks Tutorial for description.

#### Example:

**Next**

:Processed: Next

**Prev** & **Next**

:Processed: All

#### Related Links

- [Next Keyword](#)
- [MATricks Tutorial](#)
- [MA Key](#)



#### Reference: Off Hardkey

This hardkey is located in the command-area



The **Off** key gives access to the keyword **Off** . A double-press of the **Off** key will open the **Off-menu**

#### Example:

**Off**

[Channel] > Off

**Off Off**

The **Off-menu** is displayed on screen 1

#### Related Links

- [Off Keyword](#)
- [Off Menu](#)



#### Reference: On Hardkey

This hardkey is located in the command-area



The **On** key gives access to the keywords **On** and **Call**

#### Example:

**On**

[Channel] > On

**On On**

[Channel] > Call

#### Related Links

- [On Keyword](#)
- [Call Keyword](#)



#### Reference: Oops Hardkey

This key is located in the command-area





The **Oops** key is a multifunctional key. If commandline is not empty, it will perform a Backspace and remove the latest typed keyword, if commandline is empty it will execute the commandline **Oops** ("Undo") . Used together with the **MA** modifier-key it will execute the commandline **Unoops** ("Redo") - not yet implemented. A long press on the Oops button (> 1 sec.) opens the Multi Oops menu; here you can undo multiple actions at once.

#### Example:

Oops

:Processed: Oops

#### Related Links

- [Oops Keyword](#)
- [Unoops Keyword](#)
- [MA Key](#)



#### Reference: Page Hardkey

This hardkey is located in the command-area



The **Page** key gives access to four keywords, **Page** , **ChannelPage** , **FaderPage** and **ButtonPage**

#### Example:

Page

[Channel] > Page

Page Page

[Channel] > ChannelPage

Page Page Page

[Channel] > FaderPage

Page Page Page Page

[Channel] > ButtonPage

#### Related Links

- [Page Keyword](#)
- [ChannelPage Keyword](#)
- [FaderPage Keyword](#)
- [ButtonPage Keyword](#)



## Reference: Pause Hardkey

This hardkey is located in the command-area



The **Pause** key gives access to two keywords, **Pause** and **Park**



Do not mistake this hardkey with the larger Pause key located between the Executor Faders and the Multitouch Command-screen.

### Example:

**Pause**

[Channel] > Pause

**Pause**

**Pause**

[Channel] > Park

### Related Links

- [Pause Keyword](#)
- [Park Keyword](#)



## Reference: Pause (large) Hardkey

This hardkey is located between the multitouch and the faders



Do not mistake this hardkey with the smaller Pause key located in the command-area to the right of the multitouch.

**\_ Pause \_**

is an immediate hardkey. When pressed it will execute the commandline **Pause**

This command will Pause or Unpause the selected Executor(s).

### Example:

**\_ Pause \_**

:Processed: **Pause**

### Related Links

- [Pause Keyword](#)



### Reference: Please Hardkey

This key is located in the command-area



The **Please** key is used to send and execute the typed commandline to the console, like an Enter key.

Multiple presses on the **Please** key will activate/deactivate all attributes of the current selection.

Used together with the **MA** key, **Please** will move the keyboard focus/cursor to the commandline inputfield

#### Related Links

- [MA Key](#)



### Reference: Preset Hardkey

This hardkey is located in the command-area



The **Preset** key gives access to the keywords, **Preset**, **Attribute**, **Gel** and **PresetType**

#### Example:

**Preset**

[Channel] > Preset

**Preset Preset**

[Channel] > Attribute

**Preset Preset Preset**

[Channel] > Gel

**MA & Preset**

[Channel] > PresetType

#### Related Links

- [Preset Keyword](#)
- [Attribute Keyword](#)
- [Gel Keyword](#)
- [PresetType Keyword](#)



### Reference: Prev Hardkey

This hardkey is located in the command-area



The **Prev** key has multiple functions.

If there is a pop-up dialog on screen, the **Prev** key is used to navigate the focus/cursor within the pop-up.

If there is no popup, **Prev** is an immediate hardkey. When pressed it will execute the commandline **Previous**

Used together with the keys **Next**, **Set** and/or **MA**, several different other commands relating to MATricks will be executed, follow the link below to the MATricks Tutorial for description.

#### Example:

**Prev**

:Processed: **Previous**

**Prev** & **Next**

:Processed: **All**

#### Related Links

- [Previous Keyword](#)
- [MATricks Tutorial](#)
- [MA Key](#)



#### Reference: Prvw Hardkey

This hardkey is located in the command-area



The **Prvw** key gives access to the keywords **Preview**, **PreviewEdit** and **PreviewExecutor**

With an empty commandline, a single press will put **Preview** into commandline and open the preview-toolbar, while a second press will execute the command **PreviewEdit**

With already a function in the commandline, a press of the **Prvw** key will add **PreviewExecutor** to commandline, and execute the commandline

While the key is held down, the **Preview** keyword will persist in commandline, and Preview-syntaxes will be executed with the option /add

#### Example:

**Prvw**

[Channel]> **Preview**

|      |         |                                |       |      |           |                                            |
|------|---------|--------------------------------|-------|------|-----------|--------------------------------------------|
| Prvw | Prvw    | :Processed: PreviewEdit        |       |      |           |                                            |
| Go+  | Prvw    | :Processed: Go PreviewExecutor |       |      |           |                                            |
| Prvw | (press) | Exec1                          | Exec2 | Prvw | (release) | :Processed: Preview ExecButton1 1.1.1 /add |
|      |         |                                |       |      |           | :Processed: Preview ExecButton1 1.1.2 /add |

### Related Links

- [Preview Keyword](#)
- [PreviewEdit Keyword](#)
- [PreviewExecutor Keyword](#)



### Reference: Select Hardkey

This hardkey is located in the command-area



The **Select** key gives access to two keywords **Select** and **SelfFix**

#### Example:

|        |                    |                     |
|--------|--------------------|---------------------|
| Select | [Channel] > Select |                     |
| Select | Select             | [Channel] > SelfFix |

### Related Links

- [Select Keyword](#)
- [SelfFix Keyword](#)



### Reference: Sequ Hardkey

This hardkey is located in the command-area



The **Sequ** key gives access the keyword **Sequence**

**Example:**

Sequ

[Channel] &gt; Sequence

**Related Links**

- [Sequence Keyword](#)

**Reference: Set Hardkey**

This hardkey is located in the command-area



The **Set** key has two functions. If there is a popup dialog on screen, this key will set/select/enable the item that has focus.

If there is no popup dialog, this key is an immediate hardkey, and will execute the commandline **Matricks Toggle**. This function will temporarily enable/disable any MATricks-settings.

Being pressed together with the **MA** modifier key, the **Set** key will release the torque of the monitor-wing motor, to enable manual adjustment of monitor-wing angle.

Used together with the keys **Prev**, **Next** and/or **MA**, several different commands relating to MATricks will be executed, follow the link below to the MATricks Tutorial for description.

**Example:**

Set

:Processed: Matricks Toggle

**Related Links**

- [Matricks Keyword](#)
- [Toggle Keyword](#)
- [MATricks Tutorial](#)

**Reference: Setup Hardkey**

This hardkey is located to the right on the monitor wing



The **Setup** key execute the commandline **Setup** which will open/close the **Setup Menu** on the command-screen.

**Related Links**

- [Setup Menu](#)

- [Setup Keyword](#)



### Reference: Solo Hardkey

This hardkey is located in the command-area



**Solo** is an immediate hardkey. When pressed it will execute the commandline **Solo**

This command will turn on/off Solo-mode.

#### Example:

**Solo**

:Processed: Solo

#### Related Links

- [Solo Keyword](#)



### Reference: Store Hardkey

This hardkey is located in the command-area



The **Store** key gives access to the keyword **Store**

Additionally, when pressed down, this key will open the Store-option dialog on the command-screen

Together with the MA-key, it gives access to the keyword **Record**

#### Example:

**Store**

[Channel] > Store

**MA** & **Store**

[Channel] > Record

#### Related Links

- [Store Keyword](#)
- [Record Keyword](#)
- [MA Key](#)



### Reference: Temp Hardkey

This hardkey is located in the command-area



The **Temp** key gives access to two keywords, **Temp** and **Toggle**

#### Example:

**Temp**

[Channel] > Temp

**Temp** **Temp**

[Channel] > Toggle

#### Related Links

- [Temp Keyword](#)
- [Toggle Keyword](#)



#### Reference: Thru Hardkey

This hardkey is located in the command-area



The **Thru** key gives access to the keyword **Thru**.

#### Example:

**Thru**

[Channel] > Thru

#### Related Links

- [Thru Keyword](#)



#### Reference: Time Hardkey

This key is located in the command-area





**Time** is a context sensitive multifunctional hardkey. Usually this key will perform sequentially a dual action:

For each press, this key will toggle your attribute-encoders to display and edit either individual fadetimes, delaytimes or back to the normal attributes values

Additionally this three-step cycle will put the keywords **Fade** and **Delay** temporary into the commandline, to accept numerical inputs for the values of these keywords

If on the other hand, the **Time** key is pressed while there is a Cue related starting Function in the commandline (e.g. Store or Assign) this key then gives sequentially access to the 6 helping keywords for cue-timing:

1. **Fade**
2. **OutFade**
3. **Delay**
4. **OutDelay**
5. **SnapPercent**
6. **CmdDelay**

Used together with the **MA**-key, the **Time**-key will toggle thru the effectlayers.

A longpress will switch to normal valuelayer.

#### Example:

**Time**

[Channel] > Fade

**Time** **Time** **3**

[Channel] > Delay 3

**Time** **3** **Time** **4**

[Channel] > Fade 3 Delay 4

**Store** **1** **Time** **6** **Time** **4** **Time** **Time** **2**

[Channel] > Store 1 Fade 6 OutFade 4 OutDelay 2

**At** **7** **5** **Time** **3** **Time** **2**

[Channel] > At 75 Fade 3 Delay 2

**MA** & **Time**

:Processed: Layer EffectForm

**MA** & **Time** & **Time**

:Processed: Layer EffectRate

#### Related Links

- [Fade Keyword](#)
- [Delay Keyword](#)
- [OutFade Keyword](#)
- [OutDelay Keyword](#)
- [SnapPercent Keyword](#)
- [CmdDelay Keyword](#)
- [MA Key](#)



#### Reference: Top Hardkey

This hardkey is located in the command-area



The **Top** key gives access to two keywords, **Top** and **Kill**

#### Example:

**Top**

[Channel] > Top

**Top** **Top**

[Channel] > Kill

#### Related Links

- [Top Keyword](#)
- [Kill Keyword](#)



#### Reference: Tools Hardkey

This hardkey is located to the right on the display wing



The **Tools** key will execute the commandline **Tools** which will open the **Tools Menu** window on the command-screen.

#### Related Links

- [Tools Menu](#)
- [Tools Keyword](#)



#### Reference: Up Hardkey

This hardkey is located in the command-area



The **Up** key is used to navigate the focus/cursor in pop-up dialogs. If there is no popup, this key will scroll in the Commandline History, to enable repetition of earlier used commands

Used together with the **MA** modifier key this key will raise the monitor-wing

#### Related Links

- [Down Key](#)
- [Set Key](#)
- [MA Key](#)



#### Reference: Update Hardkey

This hardkey is located in the command-area



The **Update** key gives access to the keyword **Update**, and will also open or close the Update-menu dialog on the command-screen. At least one sequence must run and programmer must have active values.

#### Example:

**Update**

[Channel]> Update

#### Related Links

- [Update Keyword](#)
- [Update pop-up](#)



#### Reference: User1 Hardkey

This key is located to the right of the multitouch screen



The **User1** key will change the function of the X-keys to user-definable, first page. (ViewButton 11.1 -11.20) This key does not interact with the commandline.

#### Related Links

- [X1 - X20 Key](#)



#### Reference: User2 Hardkey

This key is located to the right of the multitouch screen



The **User2** key will change the function of the X-keys to user-definable, second page. (ViewButton 11.21 - 11.40). This key does not interact with the commandline.

#### Related Links

- [X1 - X20 Key](#)



#### Reference: View Hardkey

This hardkey is located in the command-area



The **View** key gives access to the keywords, **View** , **ViewButton** , **ViewPage** and **Screen**

#### Example:

**View**

[Channel] > View

**View View**

[Channel] > ViewButton

**View View View**

[Channel] > ViewPage

**MA & View**

[Channel] > Screen

#### Related Links

- [View Keyword](#)
- [ViewButton Keyword](#)
- [ViewPage Keyword](#)
- [Screen Keyword](#)
- [MA Key](#)



#### Reference: View Buttons

These Soft-buttons are located on the right part of each of the large screens



These Buttons are usually immediate. When pressed with an empty commandline, they will execute the commandline **ViewButton** [View-page].[ID] , where [View-page] is the current ViewPage, and [ID] is identity of the actual button.

If there is a function in the commandline, this function will be used instead of the default function for View-buttons. If the Function is missing a needed helping keyword **At**, the commandline will not yet execute. When an At-requireing Function is in use, pressing an empty Viewbutton will add **At** along with its Button ID, and then execute the commandline.

#### Example:



```
:Processed: ViewButton 1.3
```



```
[Channel]> Move ViewButton 1.3
```



```
:Processed: Move ViewButton 1.1 At ExecViewButton 1.5
```

#### Related Links

- [ViewButton Keyword](#)
- [ViewPage Keyword](#)



#### Reference: U1 - U4 Hardkeys

These hardkeys are located to the right of the multitouchscreen



**U1** thru **U4** are context sensitive multipurpose keys. When functional, they will have descriptive labels displayed on the screen next to them.



#### Reference: V1 - V10 Hardkeys

These hardkeys are located to the right on the display wing



**V1** thru **V10** are immediate hardkeys with alternate function via the **MA** modifier key. When pressed they will execute either the commandline (e.g. for V1): **ViewButton [page].1** . When pressed together with the **MA** modifier key they will (e.g. for V1) execute **ViewPage 1**

#### Example:

**V1** (current Viewpage is 3)

```
:Processed: ViewButton 3.1
```

**MA** & **V5**

```
:Processed: ViewPage 5
```

#### Related Links

- [ViewButton Keyword](#)
- [ViewPage Keyword](#)
- [MA Key](#)



#### Reference: X1 - X20 Hardkeys

These keys are located below the multitouch screen

 X11 - X20 does not exist on the Ultralight



**X1** thru **X20** are multifunctional keys with labels on the screen above. Their function depends on the status of the keys **User1** , **User2** , **List** . or any active popup dialog or menu

|        |                          |
|--------|--------------------------|
| User 1 | ViewButton 11.1 - 11.20  |
| User 2 | ViewButton 11.21 - 11.40 |
| List   | ExecButton1 201 -220     |

#### Related Links

- [User1 Key](#)
- [User2 Key](#)
- [List Key](#)
- [ExecButton1 Keyword](#)
- [ViewButton Keyword](#)
- [Limitations](#)



#### Reference: Keyboard Keys

Some keys of the keyboard has special functions

|                                    |                                                                                                                     |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ScrLck                             | When enabled, keyboard does not follow focus, but are allways directed to the commandline.                          |
| Pause                              | Toggles simple <b>Desk Lock</b> on and off                                                                          |
| Ctrl-C                             | Copy selected text in textfield to Clipboard                                                                        |
| Ctrl-V                             | Paste content of Clipboard to textfield                                                                             |
| Shift-Leftarrow / Shift-Rightarrow | Select text in textfield                                                                                            |
| Ctrl-LeftMouseButton               | Select multiple cells/fields in Grid/Sheet                                                                          |
| Shift-LeftMouseButton              | Select range of cells/fields in Grid/Sheet                                                                          |
| Arrow-up or Arrow -down            | Scrolls in commandline histore when focus is in one of the commandfields. useful to repeat a recent entered syntax. |



## Concept: Windows

This section contains description of all windows and menus.



## Reference: Sheets

Sheets are windows displaying data in rows and columns. There are six different sheets in the grandMA2.

### Creating sheets.

You create sheets using the **Create Basic Window** (to read details about Create Basic Window - follow the link below).

The different sheets are:

- **Channel**
- **DMX**
- **Fixture**
- **Sequence Content**
- **Sequence Executor**
- **Sequence Tracking**

### Moving and re-sizing the sheet.

You can move the sheet to an empty location by pressing (or left click with your mouse) and drag the top bar of the sheet. Then release it at its new location.

You can re-size the sheet by moving your cursor to the lower right corner of the last button (to the area with the small orange dots) and dragging the sheets to its new size.

### Deleting a sheet.

A sheet can be deleted using the Sheet Options pop-up. But you can also press the Del hardkey followed by pressing the title bar.

### The anatomy of sheets.

Most sheets consists of three parts. A Title Bar, a Main Part and different control bars at the bottom. You will find specific descriptions about the Title Bar and Main Part in the details about each sheet on the following pages

### Related Links

- [Create Basic Window](#)



## Reference: Channel Sheet

In the Channel Sheet you can see the fixtures that have a Channel ID. And you can see their different values and/or presets.

This is an example of the sheet:

| 11       | 12       | 13       | 14       | 15       | 16       | 17       | 18       | 19       | 110      |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Dim 1    | Dim 2    | Dim 3    | Dim 4    | Dim 5    | Dim 6    | Dim 7    | Dim 8    | Dim 9    | Dim 10   |
| 100.0    | 40.0     | 60.0     | 70.0     | 100.0    | 0.0      | 0.0      | 90.0     | 40.0     | 90.0     |
| 21       | 22       | 23       | 24       | 25       | 26       | 27       | 28       | 29       | 30       |
| VL3500S  | VL3500S  | VL3500S  | VL3500S  | VL3500S  | VL3500S  | VL3500S  | VL3500S  | VL3500S  | VL3500S  |
| 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      |
| 31       | 32       | 33       | 34       | 35       | 36       | 37       | 38       | 39       | 40       |
| VividR11 | VividR11 | VividR11 | VividR11 | VividR11 | VividR11 | VividR11 | VividR11 | VividR11 | VividR11 |
| 90.1     | 12.9     | 98.0     | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    | 100.0    |

#### Title bar

In the Title Bar you see that it's a Channel sheet. It also displays if you are in a world (world name and yellow earth symbol) and if you have applied a mask (it says "Mask" and displays a small ghost). You can change what buttons are displayed - See the Sheet Options - Title Buttons for the different options.

#### Main part

Here's where your channels and their values are displayed.

How exactly it looks is very much up to your sheet settings, but the minimum is the channel ID and dimmer value.

There's a lot of different colors and small color markers in the sheet. Read more about them by following the link below.

The sheet have many options. Follow the link to the Sheet Options to read more.

#### Related Links

- [Colors in the sheets](#)
- [Sheet Options](#)



#### Reference: DMX Sheet

In the DMX sheet you can see the actual DMX output, patch channels and test DMX channels.

This is an example of the DMX sheet:

| Addr   | 1            | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10     |
|--------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1: 1   | Dim 1        | Dim 2 | Dim 3 | Dim 4 | Dim 5 | Dim 6 | Dim 7 | Dim 8 | Dim 9 | Dim 10 |
| 1: 11  | 21:VL3500S 1 | 50    |       | 50    |       | 50    | 50    |       |       |        |
| 1: 21  |              |       |       |       |       |       |       |       |       |        |
| 1: 31  |              |       |       |       |       | 50    | 100   | 100   | 100   | 100    |
| 1: 41  | 22:VL3500S 2 | 50    |       | 50    |       | 50    | 50    |       |       |        |
| 1: 51  |              |       |       |       |       |       |       |       |       |        |
| 1: 61  |              |       |       |       |       | 50    | 100   | 100   | 100   |        |
| 1: 71  | 23:VL3500S 3 | 100   |       | 100   | 50    |       | 50    | 50    |       |        |
| 1: 81  |              |       |       |       |       |       |       |       |       |        |
| 1: 91  |              |       |       |       |       |       |       | 50    | 100   | 100    |
| 1: 101 | 24:VL3500S 4 | 100   | 100   |       | 30    | 50    |       | 50    | 50    | 50     |
| 1: 111 |              |       |       |       |       |       |       |       |       |        |
| 1: 121 |              |       |       |       |       |       |       |       | 50    | 100    |
| 1: 131 | 25:VL3500S 5 | 100   | 100   | 100   |       |       | 50    | 100   | 50    | 50     |

Some sheets might show you what output a fixture is supposed to have, but this sheet shows you what it really is. A channel or fixture might be parked or limited by masters. This sheet always displays the current DMX output.

You can use the DMX sheet to test DMX channels. When you have "Link Encoders" active and you press somewhere in the sheet, you also open the **DMX Test Encoder Toolbar**. This can be used to test the DMX channels.

#### Title Bar.

You can select what buttons you want in the title bar. Go to the sheet options and the Title Buttons tab. There are five options here:

Release All:

This will release all DMX values you have active in the DMX tester.



**Link Encoders:**

This will open the **DMX Test Encoder Toolbar**, when you press the DMX Sheet.

**Only Selected:**

This will only display the universes of the selected fixtures/channels.

**Show Additional:**

This can be used to display an extra line of information above the DMX values. The options are: "Show Only Values" (shows only the line of DMX values), "Show IDs" (displays the fixture/channel IDs above the value), "Show Attributes" (displays the attribute of the DMX channel above the value) and "Show Address" (this displays the individual DMX addresses above the value).

**Programmer Color:**

This will display the DMX values using the color scheme from the selected executor.

**Main Part.**

Here every DMX channel is represented by its own cell. The channels value is displayed in this cell. The bigger the value is, the greener the background color (unless you have "Programmer Colors" activated). If a channel or fixture gets parked, then a small blue square will appear in the corner for the cell.

If there's a white square, it means that the value is coming from the DMX Tester. A yellow square is the current selected address in the DMX Tester.

The first column with the light grey background shows you the DMX address of the first cell in that row. This is an example: "1: 481". The first number is the DMX universe, the second number is the DMX address.

At the bottom of the main part there is a small line of text when you move the cursor over any cell. This line of text tells you what DMX address you are hovering at. And it tells you the Fixture and Channel ID and name, the type and attribute.

You can access the **DMX Test Encoder Toolbar** by pressing on a DMX address in the sheet and have the "Link Encoders" active or you double click the [Channel](#) hardkey.

You can park and unpark DMX channels using the DMX sheet. You can also use "Off" and "Assign Channel" to patch fixture directly in the sheet. Follow the link below to read more about the DMX Test Encoder Toolbar.

Pressing the [Select](#) key twice (to get the 'SelfFix' command) and pressing any of the cells will select the fixture/channel that have parameters patched at that DMX address.

**Related Links**

- [Sheet Options](#)
- [DMX Test Encoder Toolbar](#)

**Reference: Fixture Sheet**

The fixture sheet is used for viewing fixtures, attributes and their values.

This is an example of the fixture sheet:

| ID F/C | Name     | Dimmer | Position | Gobo1 | Gobo2 | MaxColor |
|--------|----------|--------|----------|-------|-------|----------|
| 1      | Dim 1    | 10.0   |          |       |       |          |
| 2      | Dim 2    | 40.0   |          |       |       |          |
| 3      | Dim 3    | 60.0   |          |       |       |          |
| 4      | Dim 4    | 11.7   |          |       |       |          |
| 5      | Dim 5    | open   |          |       |       |          |
| 6      | Dim 6    | close  |          |       |       |          |
| 7      | Dim 7    | close  |          |       |       |          |
| 8      | Dim 8    | 99.0   |          |       |       |          |
| 9      | Dim 9    | 99.0   |          |       |       |          |
| 10     | Dim 10   | 99.0   |          |       |       |          |
| 21     | VL350    | close  | center   | open  | open  | max      |
| 22     | VL350    | close  | center   | open  | open  | max      |
| 23     | VL350    | close  | center   | open  | open  | max      |
| 24     | VL350    | close  | center   | open  | open  | max      |
| 25     | VL350    | close  | center   | open  | open  | max      |
| 26     | VL350    | close  | center   | open  | open  | max      |
| 27     | VL350    | close  | center   | open  | open  | max      |
| 28     | VL350    | close  | center   | open  | open  | max      |
| 29     | VL350    | close  | center   | open  | open  | max      |
| 30     | VL350    | close  | center   | open  | open  | max      |
| 31     | VividR11 | 6.6    |          |       |       | max      |
| 32     | VividR11 | 93.8   |          |       |       | max      |

In this sheet you can choose one or more fixtures and see what value are assigned to the fixtures attributes.

In the "ID" column you might see two number separated by a ":" The first of those numbers are the "Fixture ID" and the second one is the "Channel ID".

### Title Bar

In the Title Bar you see that it's a Fixture sheet. If you are in a world then this is displayed by the world name and number - there's also a little earth symbol. If there's an active mask then this is displayed by "Mask" and a small ghost symbol.

There can be a lot of buttons in the title bar. They can be turned on or off in the Title Button section in the Sheet Options. Follow the link below to read more about the sheet options.

### Main part

Here's where your fixtures, attributes and their values are displayed.

How exactly it looks is very much up to your sheet options, but there's always the fixture name and the assigned value - depending on the masks.

There's a lot of different colors and small color bars in the sheet. Read more about them by following the link about colors below.

One of the small bars is specific to the fixture sheet. There might be a small white square next to the fixture name (on the left side). This has three different positions (top, middle and bottom) depending on the position of the moving head. Depending on model and position, a moving head fixture can hit the same position in up to three different ways. The position of this white square indicates how you are currently hitting the position.

The sheet have many options. To learn more about them by following the link below.

### Related Links

- [Colors in the sheets](#)
- [Sheet Options](#)



### Reference: Sequence Content Sheet

In the Sequence Content Sheet you can see the values actually stored (and tracked) in a cue.

This is an example of the Sequence Content Sheet:

| ID F/C | Name    | Dimmer Dim | Gobo1 G1 | MaxColor R G B |
|--------|---------|------------|----------|----------------|
| 1      | Dim 1   | 10.0       |          |                |
| 2      | Dim 2   | 40.0       |          |                |
| 3      | Dim 3   | 60.0       |          |                |
| 4      | Dim 4   | 70%        |          |                |
| 5      | Dim 5   | open       |          |                |
| 25     | VL3500S | P0.4       | P0.4     | P0.4           |

This sheet is highly customizable. You can change many things about the appearance of this sheet. But one of the main things about this sheet is that you can see the content of a cues without loading them (on stage or in a programmer).

### Title bar

In the Title Bar you see that it's a Content Sheet, what world you are in (if it's different than the "Full" world), what Executor the sheet is referring to (It says something like "E: 1.2" - the first "1" is the page number, the "2" is the executor number) and the sequence (S) name and number.

On the left side you find the yellow button. This gives you access to the sheet options. Read more about Sheet Options by following the link below.

On the right side of the bar you'll see some buttons. They could look like this: Edit CueOnly, Current Cue, Tracking, Feature Sort and Fixture Sort. Read more about the different buttons in the Sheet Options.

### Main part

Here's where your attributes and their values are displayed.

How exactly it looks is very much up to your sheet options.

In the top of the main part there's a small line of text. In the example above it says: "Showing: 2 '2 'I Don't Smile For Pictures' ' ". This shows you the cue number and name of the cue you are currently looking at.

There's a lot of different colors and small color markers in the sheet. Read more about them by following the link below.

### Related Links

- [Colors in the sheets](#)
- [Sheet Options](#)
- [Executor Toolbar](#)



### Reference: Sequence Executor Sheet

The Sequence Executor Sheet is used to display what cue is currently active. It also displays the information attached to the cues in a sequence. Information like fade times, trigger, cue name, cue information etc.

The Sequence Executor Sheet is very customizable sheet. You can decide what to see and what not to. This is an example of the sheet:

| Number | Name                       | Trig   | Trig Time | Fade | Out Fade | Delay | Out Delay | Snap Percent | MIB | Mod |
|--------|----------------------------|--------|-----------|------|----------|-------|-----------|--------------|-----|-----|
| 1      | Cue 1                      | Go     |           | 1    |          |       |           |              |     |     |
| 2      | 1 don't smile for pictures | Go     |           | 1    | 1        |       |           |              | *   |     |
| 2 P 1  | Part 1                     |        |           | 2    | 2        |       |           |              |     |     |
| 2 P 2  | Part 2                     |        |           | 3    | 3        |       |           |              |     |     |
| 2.5    | Cue 2.5                    | 9      | 10        | 5    |          |       |           |              |     |     |
| 3      | Cue 3                      | Follow |           | 6    | 3        | 2     |           |              |     |     |

### Title Bar

In the Title Bar you see what world is used (if any other than the Full world), what Executor the sheet is referring to (It says something like "E: 1.2" - the first "1" is the page number, the "2" is the executor number) and the sequence (S) name and number.

On the left side you find the yellow button. This gives you access to the sheet options. Read more about sheet options by following the links below.

On the right side of the bar there can be a lot of buttons. You can change what buttons you want in the title bar using the Sheet Options. Follow the link below to read more about the different title buttons in the Sheet Options.

### The 'Sets' buttons

In the Top Bar there can be up to 5 'set' buttons. These buttons can hold different sets of columns. When you right click (or press the **Edit** key followed by) one of the 'Set' buttons you get this small pop-up:

| Name         | Included | Excluded |
|--------------|----------|----------|
| Trig         | Yes      |          |
| Trig Time    | Yes      |          |
| Fade         | Yes      |          |
| Out Fade     | Yes      |          |
| Delay        | Yes      |          |
| Out Delay    | Yes      |          |
| I.Delay      | Yes      |          |
| I.Fade       | Yes      |          |
| MIB          | Yes      |          |
| Mode         | Yes      |          |
| Cmd          | Yes      |          |
| Cmd Delay    | Yes      |          |
| Info         | Yes      |          |
| Snap Percent | Yes      |          |
| AE           | Yes      |          |
| Path         | Yes      |          |

Here you can move the columns from the "Include" to the "Exclude" by clicking (or pressing) the empty cell. You can also name the set.

When you are done you can close this pop-up by pressing the big X in the upper right corner.

You can recall the sets by clicking on the set button. This also stores the width and order of your columns.

### Main part

Here's where your cues and their information is displayed.

You can change the width of the columns clicking and dragging the border of the column headlines. You can also change the order of the columns simply by click-and-hold the headline and then drag it to its new location (you cannot move the position of the Number and Name columns).

Read the next section to get an explanation of the different columns in the sheet.

### The different columns in the Sequence Executor Sheet

There are several columns in the sheet. This is an explanation of them:

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number:           | This is the cue number.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Name:             | This is the cue name. All cues and cue parts can have names.                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Trig:             | This is the cue trigger. There are several options: GO, Time, Follow, Sound, BMP (sound and BMP isn't implemented yet), SMPTE and MTC. Right clicking here will give you the <b>Select Trig pop-up</b> . Follow the link below to read more about the pop-up.                                                                                                                                                                                                                              |
| TrigTime:         | If you have selected the trigger "Time", you can specify the trigger time here.                                                                                                                                                                                                                                                                                                                                                                                                            |
| Fade:             | This is the ( ) fade time of the cue. If this have a dark green background color (when the cue isn't running) it indicates that there are some fixtures with individual fade times.                                                                                                                                                                                                                                                                                                        |
| Out Fade:         | This is the fade time for values going down in value in this cue.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Delay:            | This is used to define a delay time between the Go and the execution of the fade. When this have a dark orange background color (when the cue isn't running) it indicates that some fixtures have individual delay times.                                                                                                                                                                                                                                                                  |
| Out Delay:        | This is a delay time (the time to wait before executing the out fade) for the values going down in value.                                                                                                                                                                                                                                                                                                                                                                                  |
| I.Delay:          | This displays any individual delay time in the cue. This is also indicated in the 'Delay' column with a dark orange color. Editing the number here will change the individual delay value of all the fixtures to the new entered value. Holding the middle mouse button and moving the trackball/mouse will change the values up or down accordingly.                                                                                                                                      |
| I.Fade:           | This displays any individual fade times in the cue. This is also indicated by a dark green color in the 'Fade' column. Editing the number here will change the individual fade value of all the fixtures to the new entered value. Holding the middle mouse button and moving the trackball/mouse will change the values up or down accordingly.                                                                                                                                           |
| MIB:              | Here you can enable automatic prepositioning of attributes in the cue. Right clicking here gives you the <b>Select MIB pop-up</b> . Follow the link below to read more about the pop-up.                                                                                                                                                                                                                                                                                                   |
| Mode:             | This is cue mode. There are several options: 'Normal', 'Assert', 'X-Assert', 'Break & X-Break'. When 'Normal' is selected the cell is empty. Right clicking here will give you the <b>Select Mode (Cue) pop-up</b> . Follow the link below to read more about the pop-up.                                                                                                                                                                                                                  |
| Cmd:              | Here you can write commands that you want the desk to perform when reaching this cue. You can add a comment in a commands line. You can add text after a # symbol. This will not be executed or displayed in the command line feedback. You might need to put your comment in quotes to avoid that the command line will interpret a word like 'it' as a short hand for 'item3D'. If you use the # symbol inside quotes it will not be handled as the comment symbol but as a text string. |
| Cmd Delay:        | Here you can specify a delay before the command (written in the "Cmd" column) is executed.                                                                                                                                                                                                                                                                                                                                                                                                 |
| Info:             | Here you can write information about the cue. Editing this cell will open the "Edit Info" pop-up. Here you can write multiline info text. Follow the link below to read more about the Edit Info pop-up.                                                                                                                                                                                                                                                                                   |
| Snap Percent:     | Some fixtures have features that are set to snap (disregard the fade time - and move instantly). With this percent value, you can control when this snap occurs. If it's set to 0% the snap executes right in the beginning of the fade. If it's set to 100%, then the snap executes at the end of the fade. But you can choose anywhere in between. The default is 0% and this isn't displayed in the column.                                                                             |
| AE:               | This is Assert Effect. If there's a "Y" in the cell, executing the cue will assert any effects.                                                                                                                                                                                                                                                                                                                                                                                            |
| Path:             | Here you can set a path for cue transition. The path affects all attributes in a cue/part-cue. You can create path in <b>Setup ➔ DMX Profiles</b> . Right clicking the cell gives you the <b>Select Path pop-up</b> . Follow the link below to read more about this pop-up and DMX Profiles.                                                                                                                                                                                               |
| Loop:             | If you need a loop in the sequence, you can specify what cue to jump to when reaching this cue.                                                                                                                                                                                                                                                                                                                                                                                            |
| Lcount:           | If you have a looping sequence you can use this column to specify how many times the loop should loop.                                                                                                                                                                                                                                                                                                                                                                                     |
| Ltime:            | With this column you can specify the time a loop should be active.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Forced Pos. mode: | Here you can set a forced position mode for your moving fixtures. It opens the "Forced Pos. mode" small select pop-up. Follow the link below to read more about this. A position mode forced in a cue will overwrite any executor wide forced position mode.                                                                                                                                                                                                                               |

### CommandLine Interaction

This sheet interacts with the commandline when the commandline contains a function relevant to cues. E.g. press Delete, Call etc, then a cueline in the sheet to perform this function on the cue.

### Related Links

- [Sheet Options](#)
- [Select Trig](#)

- [Select Mode \(Cue\)](#)
- [Select MIB](#)
- [Edit Info pop-up](#)
- [Select Path](#)
- [DMX Profiles](#)
- [Forced Pos. Mode pop-up](#)



## Reference: Sequence Tracking Sheet

The tracking sheet is used to display the values and their progress throughout the sequence. You can also edit values directly in the sheet.

The sheet displays the cues in rows, and the fixture/channel attributes in columns. You can then see how the values changes throughout the sequence. This is an example of the sheet:

### Title bar

In the Title Bar you see that it's a Tracking sheet, the current world (if different than the default), what the readout (RO) is, what Layer (La) is currently displayed, if Mask is active, what Executor the sheet is referring to ( the first "1" is the page number, the second number is the executor number) and the sequence (S) number and name.

On the left side you find the yellow button. This gives you access to the sheet options. Read more about Sheet Options by following the link below.

On the right side of the bar there are some buttons: 'Link Encoders', 'Selection Only', 'Link Selected', 'Auto Scroll', 'Feature Sort' and 'Fixture Sort'. When button "Link Encoder" is active, a click in the sheet opens the Sequence Encoderbar. When the button is off, encoder bar opens only with a click at the headline.

When 'Link Encoders' is On you'll see the 'Executor Encoder Toolbar' when the sheet is active.

When 'Selection Only' is On (the text turns yellow), the sheet only shows the selected fixture(s) and the cues where they have stored values (in series 1 it's called "Show Sel").

The 'Link' button has three different settings: 'Link Selected', 'Not Linked' and 'Link Last Go'. This is used to select what sequence you want the Tracking Sheet to display.

When 'Auto Scroll' is On (the text turns yellow), the active cue is always visible in the sheet.

When 'Feature Sort' is On (the text turns Yellow), it automatically moves the attribute/feature that's currently selected to the first column after "Name".

If 'Fixture Sort' is On (the text turns yellow), the sheet automatically moves the selected fixtures/channels in front of the rest of them.

### Main part

Here's where your values are displayed. Generally the top row (except the two first cells) is a cell with the "Fixture ID", the "Channel ID", the "Name" and the attribute type.

The first column is the cue number and the second column is the cue name.

The rest is programmed values. You can edit these values by right clicking on them or pressing the screen encoder.

There's a lot of different colors and small color bars in the sheet. Read more about them by following the link below.

 You can choose several values (also horizontally) in the sheet by pressing and holding the "Ctrl" key on the build in keyboard. When just selecting several values vertically you can drag a "box" with the mouse (or your finger) in the sheet.

Right clicking in a tracking sheet gives you the **Tracking Options pop-up**. With this you can edit all the values in the tracking sheet (you might need to block them first).

### This sheets options.

The options for this sheet include:

Tools:

- Preset Control.
- Layer Control.
- ScrollBar Horizontal.
- ScrollBar Vertical.

- Link Encoders.

Layer Filter:

- Layer.
- Link Mode.
- Selection Only.
- Feature Mask.

Display:

- Font.
- Readout.
- Symbol Features.
- Cue Colors.
- Namefield.
- Channel ID.
- Fixture ID.
- Autoscroll.
- Feature sort.
- Fixture sort.
- Enable Marker.
- Preset Readout.

Assign Executor (used to select a fixed executor if "not linked" is selected)

Feature Mask (used to set what features should be affected by the 'mask' function)

Read descriptions about the different options by following the link below.

### Related Links

- [Colors in the sheets](#)
- [Sheet Options](#)
- [Tracking Options pop-up](#)



### Reference: Colors in the sheets

There can appear many different colors in the sheets. This explains what they are and the differences.

#### ID numbers and names:

##### The Channel and Fixture ID and name can have two different colors:

Grey:

This is the default color, when a Channel or Fixture isn't selected.

Yellow:

This indicates that you have selected the Channel or Fixture.

##### The ID and name can also have different background colors:

Dark Blue:

This is the normal / default background color.

Dark Purple:

The channel or fixture is limited by a master.

Blue:

This indicates that the channel or fixture isn't affected by masters (incl. the Grand Master and Solo function).

#### The values:

##### The value *text* can have several colors:

Grey:

This is the default color for values. Also for values from an effect - except executor effects.

Red:

The value comes from the programmer (active programmer value).

Pink:

The value comes from an effect, which is assigned to an executor.

Magenta:

The value comes from the selected executor(s) and it's a tracked value.

Cyan:

The value comes from the selected executor(s) and was altered in the current cue. Dimmer attribute is displayed in cyan only when value increased.

Green:

The value (only for dimmer attribute) comes from the selected executor(s) and it has a lower value than in the previous cue.

White:

The value comes from the selected executor(s) and it's stored again at the same value than in the previous cue (blocked).

Yellow:

The value comes from an executor that isn't selected.

##### The value can also have different background colors:

**Dark Blue:**

This is the normal / default background color.

**Red:**

The value is currently in the programmer and will be stored (should you choose to do this).

**Magenta:**

You are currently displaying the Executor ID layer in your sheet and the value comes from the selected executor(s). And it's a tracked value.

**Cyan:**

You are currently displaying the Executor ID layer in your sheet and the value comes from the selected executor(s). And the value have gone up from the previous cue.

**Green:**

In the displays "Value Exec ID" and "Value Cue ID" values has green background, if dimmer value is lower than was in the previous cue of the selected executor.

**White:**

You are currently displaying the Executor ID layer in your sheet and the value comes from the selected executor(s). And the value have been reprogrammed at the same value as the previous cue.

**Pink:**

You are displaying the Effect Exec ID layer in your sheet. The values are from an effect executor.

**Yellow:**

You are displaying the Executor ID or Sequence ID layer in your sheet. The value is a value from a sequence that isn't the selected one. The numbers tell what executor, sequence and cue the value comes from.

**Dark yellow:**

You are displaying the Executor ID or Sequence ID layer in your sheet. The value is a tracked value from a sequence that isn't the selected one. The numbers tell what executor, sequence and cue the value comes from.

**Bars:**

**In the sheets there can be different colored bars. If the bar only have half height, it indicates that the value is tracked.**

They can get so small that they just look like a small square. They can also appear different places, but they always has the same meaning.

**Red:**

The values is active in the programmer and will be stored (should you choose to do this). A pink bar beside the red bar means, this effect value is active in the programmer.

**Cyan:**

The value comes from a preset.

**Blue:**

The value is parked.

**Pink:**

The value comes from an Effect.

**Purple:**

The value is affected by a Bitmap Effect.

**White:**

The value is inactive in the programmer, but will not be stored.

**Green:**

There's an individual Fade Time active in the programmer. A pink bar beside the green bar means, this effect fade time is active in the programmer.

**Orange:**

There's an individual Delay time active in the programmer. A pink bar beside the orange bar means, this effect delay time is active in the programmer.

**Yellow:**

This tells you that the value comes from a sequence.

**Grey:**

The fixture uses a DMX Profile on one or more attributes.

**Background colors in Sequence sheets:**

**In the sequence (and name and number columns in tracking) sheets cells in cue lines might have a different background color.**

Some of this is colored (blue, green and orange) bars that move from the left side of the cell to the right side using the time defined in the cell.

**Light gray:**

This is the background color of a cell with a value you can edit.

**Dark gray:**

This is a value you can't edit.

**Black:**

This is the background color in the 'I.Delay' and 'I.Fade' columns.

**Green:**

This is an out (down) going fade or delay time.

**Dark green:**

This indicates an individual fade time.

- Blue:  
This is an in (up) going fade or delay time.
- Orange:  
This indicates a trigger or command delay time.
- Dark Orange:  
This indicates an individual delay value.

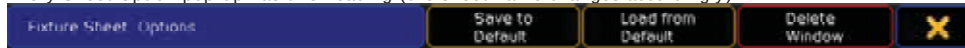


## Reference: Introduction to Sheet Options

There are many different possible options in the sheets. The following is a description of them.

All the different sheets on the grandMA2 has different options. The following is a description of all the different options you can encounter. Some of them may not be available to you.

Every Sheet Option pop-up has this heading (the sheet name changes accordingly):



There are different important buttons.

The **Save to Default** is used to save your current options as a default in your user profile. Load to Default will load your defaults from the user profile. Your default options will be used in any new sheets of this type.

**Delete Window** is used to delete the entire window (sheet).

The big cross on the right corner is used to close the options pop-up.

You can read about the rest of the options on the following pages. There are 6 different pages with options.



## Reference: Tools Options

This is the Tools Options of sheets.

It could look like this:



Depending on what sheet you are using, you might not see all the options displayed here.

These are the different options in this pop-up:

### Preset Control:

When this is ON, the Preset Control bar is displayed at the bottom of the sheet. Look in the Sub-Topics for more information about this control bar.

### Layer Control:

When this is ON, the Layer Control bar is displayed at the bottom of the sheet. Look in the Sub-Topics for more information about this control bar.

### Mask Control:

When this is ON, the Mask Control bar is displayed at the bottom of the sheet. Look in the Sub-Topics for more information about this control bar.

### Multi Control:



When this is ON, the Multi Control bar is displayed at the bottom of the sheet. Look in the Sub-Topics for more information about this control bar.

#### ScrollBar Horizontal:

When this is ON, there is a horizontal scrollbar displayed.

#### ScrollBar Vertical:

When this is ON, there is a vertical scrollbar displayed.

#### Link Encoders:

When this is ON, the encoder toolbar will change accordingly, when sheets have focus.

#### Edit CueOnly:

When this is ON, any editing of values in a tracking or content sheet will be cue only.

#### DMX Readout Absolute:

When this is ON, you'll see the DMX address in an absolute value instead of divided into universes.

You can read more about the different control bars on the next pages.

### Related Links

- [Channel Sheet](#)
- [DMX Sheet](#)
- [Fixture Sheet](#)
- [Sequence Content Sheet](#)
- [Sequence Executor Sheet](#)
- [Sequence Tracking Sheet](#)

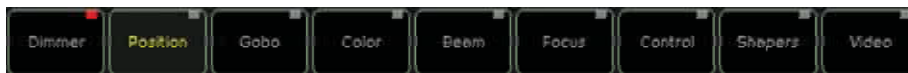


### Reference: Preset Control Bar

The Preset Control Bar is used to change the focus from one preset type to another.

You can choose to display the Preset Control Bar by changing the Preset Control options in Tools tap in the **Sheet Options**.

This is an example of what it looks like:



The bar only shows you the Preset Types that is available to you in the show i.e. if you don't have anything in your patch that uses shapers, then the shaper button won't appear on the bar.

The bar shows a brighter frame around the Preset Types that are available for the selected fixtures.

The different buttons may also appear or disappear following your worlds.

When you change the active feature (the one with the yellow text) your sheets might change their focus as well.

The little gray square on each button turns red when you have values (that will be stored, should you chose to do this) of that preset type in your programmer.

The Preset Control Bar is available on the **Channel Sheet**, **Fixture Sheet**, **Content Sheet**, **Tracking Sheet** and always at the encoder toolbar at the bottom of screen 2. Follow the link below to read more about Encoder Toolbar.

### Related Links

- [World Concept](#)
- [Encoder Toolbars](#)



### Reference: Layer Control Bar

The Layer Control bar is a fast and easy way to change between the different layers in sheets. Read more about how to display the bar in the Tools tab in Sheet Options.

The Layer Control bar can be at the bottom of Channel Sheets, Fixture Sheets, Sequence Content Sheets and Sequence Tracking Sheets.

The bar have three sections. 'Value', 'Effect' and 'Output'. This is what the Value section could look like:



This is what the Effect section could look like:



And this is what the Output section could look like:



The three buttons on the left side changes between the three sections. The 'Auto' button on the right side is always visible. They allow the sheet to change layers even when you change the layer somewhere else.

There are a colored bar at the top of the button of the layers that have values. The section button have a bar if one of the layers in the section have a value. The colors from the sheets apply.

You can also see the actual layer in the top bar of the sheet.

#### What are the layers.

This is a short description of the different layers:

##### Values (Value Section):

If an attribute gets its value from a preset, the sheet shows the number and name of the preset (depending on your options). If there's not a preset, the sheet just displays the value.

##### Fade (Value Section):

This displays the fade time for each attribute.

##### Delay (Value Section):

With this option you can see the delay time for each attribute.

##### Values only (Value Section):

With this option you are always shown the values i.e.: if a attribute gets a value from a preset. The colored bar is still showing, but instead of the number and name of the preset you can see what value it's assigned.

##### Effect Form (Effect Section):

This displays (if any) what effect form the attribute has assigned e.g.: sin, cos, etc.

##### Effect Speed (Effect Section):

This displays (if any) what effect speed the attribute have assigned.

##### Effect Speed Group (Effect Section):

This displays (if any) what effect speed group the attribute have assigned.

##### Effect Low (Effect Section):

This displays (if any) what effect value 1 the attribute have assigned.

##### Effect High (Effect Section):

This displays (if any) what effect value 2 the attribute have assigned.

##### Effect Phase (Effect Section):

This displays (if any) what effect phase the attribute have assigned.

##### Effect Width (Effect Section):

This displays (if any) what effect width the attribute have assigned.

##### Effect Fade (Effect Section):

This displays (if any) what effect fade time the attribute have assigned.

##### Effect Delay (Effect Section):

This displays (if any) what effect delay time the attribute have assigned.

##### Effect Attack (Effect Section):

This displays (if any) what effect attack value the attribute have assigned.

##### Effect Decay (Effect Section):

This displays (if any) what effect decay value the attribute have assigned.

##### Effect ID (Effect Section):

This displays (if any) what effect ID number the attribute have assigned.

##### Output (Output Section):

This layer makes the sheet display the current output.

##### Value Exec ID (Output Section):

This displays the executor and cue from where the attribute gets its value. E.g. 1:206 The first number is the executor fader page number and the second is the executor number.

##### Effect Exec ID (Output Section):

This displays the executor and cue from where the attribute gets its effect value. E.g. 1:206 The first number is the executor fader page number and the second is the executor number.

##### Value Cue ID (Output Section):

This option shows you from which sequence an attribute gets its value. E.g.: 1:3 The first number is the sequence and the second number is the cue number.

##### Effect Cue ID (Output Section):

This option shows you from which effect an attribute gets its value if it comes from a cue.

##### DMX (Output Section):

This option shows you the DMX values in the readout you have selected in your options.



## Reference: Mask Control Bar

The Mask Control bar is a fast and easy way to change between the different standard masks in Channel and Fixture sheets. Read more about how to display the bar in the Tools tab in Sheet Options.

The Mask Control bar can be at the bottom of Channel and Fixture sheets. This is what it looks like:



You can also see the actual filter (if it's not "None") in the top bar of the sheet.

#### What are the filters.

This is a short description of the different default filters:

None:

There is no filter applied.

Programmer (Prog) Only:

The sheet only shows you the attributes and values in your programmer.

Active Only:

The sheet only displays the channels and values that will be stored (should you choose to do so).

Parked:

The sheet only displays parked attributes and values.

Selected Sequence (Seq+):

The sheet only displays the attributes and values that are used in the selected executor.

Selected Sequence No Default Values (Seq-):

The sheet only displays the attributes and values that are used in the selected executor. And not attributes that only have their default value.



### Reference: Multi Control Bar

The Multi Control Bar is a combinations of the Preset, Layer and Mask Control Bars.

When this Bar is 'On' it automatically removes other bars at the bottom of the sheet. It's a combination of the other three control bars. This is what it could look like:



Each "up arrow" gives you the different options in each control bar area.

This bar is available in the Channel, Fixture and Content Sheets.

For details about the different options, see the previous three pages.



### Reference: Layer Mask Options

This is the Layer Mask Options of sheets.

It could look like this:



Depending on what sheet you are using, you might not see all the options displayed here.

There are up to eight different options in this pop-up:

#### Select Layer:

Preset & Values:

If an attribute gets its value from a preset, the sheet shows the number and name of the preset. If there's not a preset, the sheet just displays the value.

- Fade:**  
This displays the fade time for each attribute.
- Delay:**  
With this option you can see the delay time for each attribute.
- Effect Form:**  
This displays (if any) what effect form the attribute has assigned e.g.: sin, cos, etc.
- Effect Speed:**  
This displays (if any) what effect speed the attribute have assigned.
- Effect Speedgroup:**  
This displays (if any) what effect speed group the attribute have assigned.
- Effect Low:**  
This displays (if any) what the low effect value the attribute have assigned.
- Effect High:**  
This displays (if any) what the high effect value the attribute have assigned.
- Effect Phase:**  
This displays (if any) what effect phase the attribute have assigned.
- Effect Width:**  
This displays (if any) what effect width the attribute have assigned.
- Effect Fade:**  
This displays (if any) what effect fade time the attribute have assigned.
- Effect Delay:**  
This displays (if any) what effect delay time the attribute have assigned.
- Effect Attack:**  
This displays (if any) what effect attack value the attribute have assigned.
- Effect Decay:**  
This displays (if any) what effect decay value the attribute have assigned.
- Effect ID:**  
This displays (if any) what effect ID number the attribute have assigned.
- Auto:**  
The auto option changes between the first three options (Presets & Values, Fade and Delay), when you press the  key.
- Values only:**  
With this option you are always shown the values i.e.: if a attribute gets a value from a preset. The colored bar is still showing, but instead of the number and name of the preset you can see what value it's assigned.
- Output:**  
This layer makes the sheet display the current output.
- Value Exec ID:**  
This displays the executor and cue from where the attribute gets its value. E.g. 1:206 The first number is the executor fader page number and the second is the executor number.
- Effect Exec ID:**  
This displays the executor and cue from where the attribute gets its effect value. E.g. 1:206 The first number is the executor fader page number and the second is the executor number.
- Value Cue ID:**  
This option shows you from which sequence an attribute gets its value. E.g.: 1:3 The first number is the sequence and the second number is the cue number.
- Effect Cue ID:**  
This option shows you from which effect an attribute gets its value if it comes from a cue.
- Select Mask:**
- None:**  
There is no filter applied.
- Prog Only:**  
The sheet only shows you the attributes and values in your programmer.
- Active Only:**  
The sheet only displays the channels and values that will be stored (should you choose to do so).
- Parked:**  
The sheet only displays parked attributes and values.
- Seq+:**  
The sheet only displays the attributes and values that are used in the selected executor.
- Seq-:**  
The sheet only displays the attributes and values that are used in the selected executor. And not attributes that only have their default value.
- Link Mode:**
- Link Selected**  
The sheet will always display the values in the selected executor.
- Not Linked**  
The sheet isn't automatically linked to executors. You have to manually decide what executor the sheets displays. To do this you use the Assign Executor tap.
- Link Last Go**  
The sheet will display values for the last executor where you pressed a button.
- Selection Only:**

**Selection Only**

When this is ON, the sheet only displays the channels/fixtures you have selected in your programmer.

**Show Tracked:****Show Tracked**

When this is ON, tracked values are displayed. Otherwise they are removed.

**Enable Mask:****Enable Mask**

When this is ON, the Mask (set up in the Mask(Local) tap) is applied if no other Mask is selected.

**Follow Selected Mask:****Follow Selected Mask**

This will make the sheet follow the selected mask in the Mask Pool.

**Save Mask Always:****Save Mask Always**

This will always store changes to the loaded mask.

You can read more about different relevant areas by following the links below.

**Related Links**

- [Channel Sheet](#)
- [DMX Sheet](#)
- [Fixture Sheet](#)
- [Sequence Content Sheet](#)
- [Sequence Executor Sheet](#)
- [Sequence Tracking Sheet](#)
- [Time Key](#)
- [Assign Executor](#)
- [Mask\(Local\)](#)

**Reference: Display Options**

This is the Display Options of sheets.

It could look like this:

| Fixture Sheet Options    |                    | Save to Default   | Load from Default | Delete Window         | X            |
|--------------------------|--------------------|-------------------|-------------------|-----------------------|--------------|
| Tools                    | LayerMask          | Display           |                   | Title Buttons         | Mask (Local) |
| Sheet Style              | Font               | Readout           |                   |                       |              |
| Horizontal<br>Vertical   | Dejavu 12          | Natural           |                   |                       |              |
| Sort by                  | Symbol Output      | Symbol Features   | Cue Colors        | Namefield             |              |
| Fixture ID<br>Channel ID | None               | Off<br>On         | On                | Off<br>On             |              |
| Channel Id               | Fixture Id         | Columns           | Autoscroll        | Feature Sort          |              |
| Off<br>On                | Off<br>On          | 20                | Off<br>On         | Off<br>On             |              |
| Fixture Sort             | Enable Marker      | Preset Readout    | Hide Empty Cells  | Hide Timing Countdown |              |
| Off<br>On                | Off<br>On          | Numbers & Names   | Off<br>On         | Off<br>On             |              |
| Show Additional          | Show Only Selected | Programmer Colors | Merge same values | MixColor Readout      |              |
| Show only Value          | Off<br>On          | Off<br>On         | Off<br>On         | Default               |              |

Depending on what sheet you are using, you might not see all the options displayed here:

**Sheet Style:**

With this you can decide if you want your sheet to be sorted horizontally or vertically.

**Font:**

This gives you the **Select Font pop-up**. Follow the link below to read more. There are six different font sizes to choose between. It ranges from 10 to 22.

**Readout:**

This gives you the **Select Readout pop-up**. Follow the link below to read more.

**Natural**

Displays the value with one extra decimal. Because the total range of one DMX channel is 256 steps and the percentage only displays 100 steps; the extra decimal shows you more precisely where in the 256 steps the value are. Values could also be displayed in other ranges than 0-100. A pan/tilt is as a default at "0", and then you can have e.g. a pan value of "-20". The displayed range is defined by the fixturetype-definition.

**Percent**

Displays the value in percentage.

**Decimal**

Shows you the actual step in the DMX range (256 steps or 65536 steps at 16 bit attributes).

**Hex**

The readout is in Hexadecimal values.

**Physical**

Displays the real world physical value of a parameter (defined in the fixture profile).

**Sort by:**

With this you can decide if you want your sheet to be sorted by the Fixture ID or the Channel ID.

**Symbol Output:**

This gives you the **Select Symbol Output pop-up**. Follow the link below to read more.

**None:**

When this is selected there will not be a Output symbol next to the name.

**Auto:**

This will display a small symbol displayed next to the name. It displays color and intensity. It will follow the Layer Control of the sheet.

**Value Layer:**

This will display a small symbol displayed next to the name. It displays color and intensity. This will always display the resulting output from the value layer.

**Output Layer:**

This will display a small symbol displayed next to the name. It displays color and intensity. This will always display the result from the Output layers.

**DMX Layer:**

This will display a small symbol displayed next to the name. It displays color and intensity. This will always display the result from the DMX layers.

**Symbol Feature:**

When this is 'On', there are small symbols displayed next to each feature. It could be a color, gobo, pan/tilt, etc.

**Cue Colors:****Off:**

All cue values will be displayed in a yellow color.

**On:**

The selected sequence values are displayed in Cue colours.

**My Exec:**

Displays cue colors from the selected executor. Other executors run by you (or the same user) display values in yellow. Values from executors run by other users are displayed in gray.

**Namefield:**

When this is 'On', the name field is displayed below the ID number.

**Channel ID:**

When this is 'On' and different than the Fixture ID. It will display both in the Fixture Sheet.

**Fixture ID:**

When this is 'On' and different than the Channel ID. It will display both in the Channel Sheet.

**Columns:**

Here you can specify the number of columns in the sheet.

**Autoscroll:**

When this is 'On', the sheet will always display the active values. Used in Sequence sheet and Tracking sheet.

**Feature Sort:**

When this is ON, the sheet will display the active feature next to the name field.

**Fixture Sort:**

When this is ON, the sheet will display the selected fixture in the beginning of the sheet.

**Enable Marker:**

When this is ON, the sheet will display the different color markers.

**Preset Readout:**

This gives you the **Select Preset Readout pop-up**. Follow the link below to read more.

**Names:**

This will only display the preset names.

**Number:**

This will only display the preset number.

**Numbers & Names:**

This option displays both the number and name of the preset.

**Hide Empty Cells:**

When this is on, then the sheet will hide empty cells in the sheet.

**Hide Timing Countdown:**

This will hide the time countdown in running cues and always display the assigned timing values. The colored bars are still moving.

**Show Additional:**

This is used in DMX sheet to display extra information above the DMX values. The options are:

**Show Only Values:**

This will only display the DMX values.

**Show IDs:**

This will display the fixture/channel ID above the DMX value.

**Show Attributes:**

This will display the attribute of the DMX channel above the DMX value.

**Show Address:**

This will display the DMX address above each DMX value.

**Show Only Selected:**

This will display only the DMX universe of the selected fixtures/channels in the DMX sheet.

**Programmer Colors:**

This will display the DMX values using the color scheme from a tracking sheet in the DMX sheet.

You can read more about different relevant areas by following the links below.

**Related Links**

- [Channel Sheet](#)
- [DMX Sheet](#)
- [Fixture Sheet](#)
- [Sequence Content Sheet](#)
- [Sequence Executor Sheet](#)
- [Sequence Tracking Sheet](#)
- [Select Font Pop-up](#)
- [Select Readout Pop-up](#)
- [Select Symbol Output Pop-up](#)
- [Select Cue Colors Pop-up](#)
- [Select Preset Readout Pop-up](#)

**Reference: Title Buttons Options**

This is the Title Buttons options of sheets.

It could look like this:



Depending on what sheet you are using, you'll not see all the options displayed here.

With this you can choose what buttons you like to see in the title bar in the sheet.

There are many different options in this pop-up. They are all on/off options allowing the button to be visible or not.

The Mask (set) buttons are editable in the top bar (not in the settings). Right click a mask button in the headline or press  followed by the mask button this will open the **Edit Mask** pop-up. When a mask is applied there'll be a small orange ghost in the headline. You can mask a sheet using almost anything. Press Assign followed by Groups, Worlds, Filters, Masks, Presets etc. and then the sheet you want to mask. This will be symbolized by a red ghost and is called interactive sheet masking.

There can only be one mask applied at a time.

The following is a description of the different standard buttons:

**Fixture Sort:**

The sheet will automatically move the selected fixture(s) to the beginning of the sheet. This is in the Fixture, Executor Content and Executor Tracking Sheet.

**Channel Sort:**

This will sort the sheet automatically and move the selected channels in front of the rest of them (to the top left side). This is in the Channel sheet.

**Feature Sort:**

This will automatically move the attribute/feature that's currently selected to the first column after "Name". This is in the Fixture, Executor Content and Executor Tracking sheet.

**Auto Scroll:**

This will allow the active cue to always be visible in the sheet. This is in the Executor Sequence and Executor Tracking Sheet.

**Link Mode:**

The 'Link Mode' button has three different settings: 'Link Selected', 'Not Linked' and 'Link Last Go'. This is used to select what sequence you want the Content Sheet to display. 'Not Linked' allows you to select an executor in the sheet options. This is in the Executor Content, Executor Sequence and Executor Tracking Sheet.

**Tracking:**

This will filter out (when Off) the cues that only have tracked values in a Content sheet or allow the tracked values to be displayed (when On). This is in the Executor Content Sheet.

**Selection Only:**

This will make the sheet display only the selected fixture(s) and the cues where they have stored values. This is in the Executor Tracking Sheet.

**Cue Mode:**

The 'Cue Mode' button has four different settings: 'Current Cue', 'Previous Cue', 'Next Cue' and 'Manual'. With this you select what cue you want to see. 'Current Cue' displays the cue currently active (if any). 'Previous Cue' and 'Next Cue' displays just that. When 'Manual' is selected you can use the appearing ScrollBar to scroll thru the cue regardless of the current cue. This is in the Executor Content Sheet.

**Link Faders:**

This will turn the faders into 'dynamic channel faders' with the attributes of the channels or fixtures you have selected. This is in Channel and Fixture Sheets.

**Release All:**

This will release all DMX values you have active in the DMX Tester. This is in the DMX Sheet.

**Link Encoders:**

This will open the **DMX Test Encoder Toolbar** in the DMX sheet. It will open the **Executor Encoder Toolbar** in the Executor Content and Sequence Sheet. This is in the DMX, Executor Content, Executor Sequence and Executor Tracking Sheet.

**Enable Mask:**

The mask function can be activated with this button. You can define what to mask in the 'Feature Mask' tap in the options. This is in the Fixture and Executor Content Sheet.

**Follow Mask:**

This allows the sheet to follow the mask selected in the **Mask Pool**.

**Set 1 to 10:**

In most sheets you'll find 10 "Set" buttons. These are buttons that can have different rules of masking (hiding) information in the sheets. You can edit the masks using the **Edit Mask pop-up**. Follow link below. Many sheets have already loaded the first 6 buttons with standard masks (None, Prog Only, Active Only, Parked, Seq+ and Seq-). Follow the link below to the **Mask Pool** to read more about the standard masks. The Sequence Executor Sheet is different. Here you can use the set buttons to hide columns in the sheet. You can edit the set buttons in the options by right clicking the button.

**Readout:**

The 'Readout' button has several different settings: 'Natural', 'Percent', 'Decimal', 'Decimal16', 'Hex', 'Hex16' and 'Physical'. With this you select how the values should be presented. This is the same options as in the Display Tab of the sheet options. You can read about the different options in the **Small Select Readout Pop-up**, following the link below.

**Edit CueOnly:**

This will give you a button to turn on/off cue only editing in tracking sheet.

**Only Selected:**

This will give you a button that allows you to activate "Only Selected". When this is active, the DMX sheet will only display the universes for the currently selected channels/fixtures.

**Show Additional:**

This will allow you to change what additional information you want in a DMX sheet.

**Programmer Colors:**

This would allow you to display the DMX values in the DMX sheet using the color scheme from the tracking sheet.

**MixColor Readout:**

This gives you access to change the color readout in the sheet. The options are: 'Default' (displays the colors selected in the Setup), 'RGB' (displays the color readout in RGB colors) and 'CMY' (displays the color readout in CMY colors).

You can read more about the different sheets by following the links below.

## Related Links

- [Channel Sheet](#)



- [DMX Sheet](#)
- [Fixture Sheet](#)
- [Sequence Content Sheet](#)
- [Sequence Executor Sheet](#)
- [Sequence Tracking Sheet](#)
- [Edit Mask Pop-up](#)
- [Mask Pool](#)
- [DMX \(Tester\) Encoder Toolbar](#)
- [Executor Encoder Toolbar](#)
- [Small Select Readout Pop-up](#)



### Reference: Assign Executor Options

This is the Assign Executor Options of sheets.

It could look like this:

| Sequence Sheet Options |                 |               |                 | Save to Default                               | Load from Default | Delete Window | X |                 |
|------------------------|-----------------|---------------|-----------------|-----------------------------------------------|-------------------|---------------|---|-----------------|
| Tools                  |                 | LayerMask     |                 | Display                                       |                   | Title Buttons |   | Assign Executor |
| Executor Type          | Executor Number | Executor Page | Sequence Number | Sequence Name                                 |                   |               |   |                 |
| Fader                  | 1               | 1             | 1               | 'The Restaurant at the end of the Universe' 1 |                   |               |   |                 |
| Fader                  | 3               | 1             | 2               | 'Zaphods chaser' 2                            |                   |               |   |                 |
| Fader                  | 4               | 1             | 4               | 'Flamarion Bridge Club' 4                     |                   |               |   |                 |
| Fader                  | 6               | 1             | 3               | 'Main' 3                                      |                   |               |   |                 |
| Button                 | 101             | 1             | 5               | Sequ 5                                        |                   |               |   |                 |
| X-Button               | 201             | 1             | 6               | 'Worklight' 6                                 |                   |               |   |                 |

Depending on what sheet you are using, you might not see this tap at all.

This is used to select which executor you always (no matter is you change the selected one) want your sheet to display.

All you do is selecting the executor of your choice.

The table displays the **Executor Type**, **Executor Number**, **Executor Page**, **Sequence Number** and **Sequence Name**.



### Reference: Mask (Local) Options

This is the local masking options of the sheet.

It could look like this:



This is a local temporary masking option for the sheet. Here you can create a mask and save it to a Mask Pool button. Then you can use this mask in the other sheets.

If you create a mask here and don't save it, then it will be overwritten the next time you select a different mask for the sheet.

This will display the options for the last called mask.

This works just like the **Edit Mask pop-up**. So please follow the link below to read more about the details of how this works.

## Related Links

- [Edit Mask Pop-up](#)



## Reference: Pool windows

Pools are windows used to display objects in your showfile as buttons in a grid.

Every pool button with content has a brighter frame than an empty pool button.

The first button (with the pool name) is the title of the pool. Pressing here gives you access to the options for the pool. Follow the link below to read more about the pool options.

Some pools need to have content stored into them, and when they have content you can't do much but change the name or adjust the content (Groups, Sequence, View and World pools). Other pools have more than content to them. You can edit this content by right clicking on the pool button or press **Edit** followed by the button (Effect, Bitmap Effects & Macros).

For memory saving purposes, a Pool Window will not display thousands of empty tiles, but merely display the used, plus 100 additional empty tiles. To allocate more tiles, scroll to the bottom of the Pool, and store & delete an item, or use the commandline, e.g. **Store Group 1000** , **Delete Group 1000** . This will expand the pool.

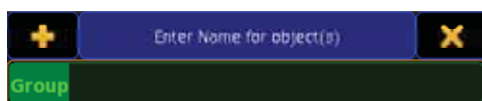
### Changing the name of an pool button.

You can change the name of a pool button using the command line. You need to use the keyword **Label**.

It has this syntax: **Label** [object-list] "New name"

Read more about the Label keyword, following the link below.

You can also press the **Assign** hard key twice followed by the pool button. This brings up the "Enter Name for object(s)" pop-up:



And you can now use the keyboard to enter a new name.

To read more about the **Enter Name for object(s) pop-up** follow the link at the bottom.

### Moving and re-sizing the pool.

You can move the pool to an empty location by pressing (or left click with your mouse) and drag the title of the pool. Then release it at its new location.

You can re-size the pool by moving your cursor to the lower right corner of the last visible button (to the area with the small orange dots) and dragging the pool to its new size.

### Pool elements

You can see if a pool element is used in the show, when the button number is cyan instead of gray.

You can move pool elements using the **Move** key. If you use "drag and drop", the move function stays active.

Pool elements can also be inserted between other elements. Press the **Move** key twice and you get the insert keyword. Again you can use drag and drop to insert and keep the "insert" function active.

You can **lock/unlock** many elements. An element with a red lock symbol is permanently locked by the software. An orange lock symbol is an element that's locked by a user.

Generally a pool element that has a green background color in the name area is the selected element.

Read the following pages for more about the different pools.

## Related Links

- [Pool Options](#)
- [Enter Name of Object pop-up](#)
- [Assign Key](#)
- [Edit Key](#)
- [Label Keyword](#)
- [Edit Keyword](#)



## Reference: Camera Pool

In the Camera Pool you have a soft button for every camera in the show. Cameras are used in the MA 3D visualizer and in the Stage window.

This is an example of the camera pool:



Some cameras exist as a default. They are not locked and can be deleted, moved or edited.

Cameras are used in **Stage** window and in the grandMA 3D visualizer.

You can select a camera. The selected camera gets a green color in the name area of the pool button.

You can edit the camera by pressing **Edit** followed by the pool button you want to change. This opens the **Edit Camera** pop-up.

Follow the link below to read more about the editor.

## Related Links

- [Pool Options.](#)
- [Camera Keyword.](#)
- [Stage.](#)
- [Edit Camera pop-up.](#)



## Reference: Effect Pool

In the Effect Pool you have a soft button for every effect in the show. You can access the effect by pressing one of the buttons or you can use the command line.

To learn more about how effects work, follow the links below to the different sections about effect.

This is an example of the effect pool:



The pool button will have a red "S" or a grey "T". The "S" is for "Selective". This means that it only works for the selected fixtures. "T" is for "Template" and this indicates that there are no fixtures stored in the effect. It is therefore a template that can be assigned to different fixtures.

The pool button also has a grey "A" or green "R" on it. "A" means "Absolute" and "R" means "Relative". This has to do with how the effect interacts with other values. Absolute forces the values stored in the effect. Relative uses the values stored in the effect relative to the values currently assigned to the fixtures.

The cyan number in the effect pool button tells you how many fixtures currently uses the effect.

At the bottom of the pool button you can see the "Preset Type Bar Indicators". This shows you what preset types there are stored in the effect.

An Effect pool can also be in the "Fast Call" mode (the bottom half gets a red background). This is changed in the pool options. The fast call mode will run the effect immediately when you press it for all the relevant fixtures.

An Effect pool can also be in a "Pool Playback" mode (the bottom half gets a magenta background). In this mode the effects can be run directly from the pool, without assigning them to a executor. This mode is for selective effects only (Template effects have a darker background). The pool buttons are "Go" as default.

You can access the effect by pressing one of the pool buttons or you can use the command line. Effects can be assigned to Executors. They can also run in the programmer and/or be stored in cues. Much like a preset.

There's a cyan pool number on the button if the effect is used. It also count as used if the effect is running in the pool.

You can edit the effect by right clicking on it with your mouse or by pressing Edit followed by the pool button.

Effect values and timing info are separated from normal values in cues and programmers.

### Related Links

- [Pool Options](#)
- [Effect Key](#)
- [Effect Keyword](#)
- [Effect Concept](#)
- [Effect tasks](#)
- [Effect tutorials](#)



### Reference: Bitmap Effect Pool

In the Bitmap Effect Pool you have a soft button for every bitmap effect in the show.

This is an example of the bitmap effect pool:



The Bitmap Effects pool are all the Bitmap Effects in the show. You can access the bitmap effects by pressing the pool buttons or using the commandline. When the pool is in "Normal" mode, then you can start a bitmap effect by pressing the Go key and then a bitmap effect. And you can stop it by pressing the Off key followed by the same pool button.

A Bitmap Effect pool can also be in the "Fast Call" mode (the bottom half gets a red background). This is changed in the pool options. The fast call mode doesn't do anything different then the "Normal" mode in version 2.3. Bitmap Effects can't run in the programmer.

A Bitmap Effect pool can also be in a "Pool Playback" mode (the bottom half gets purple). In this mode the effects can be run directly from the pool by pressing them.



Currently you can only run Bitmap Effects on executors and in the Bitmap Effect pool. You can't run Bitmap Effects in the programmer, and they can't be stored in cues.

You can edit the bitmap effect by right clicking on it with your mouse or by pressing Edit key followed by the pool button.

Bitmap Effects that are used somewhere in the show is marked by a cyan pool button number.

### Related Links

- [Pool Options](#)
- [Effect Key](#)
- [Bitmap Keyword](#)



### Reference: Filter Pool

The Filters are used to limit what can be stored, played back or retrieved using the "At" key.

The filter pool holds all the stored filters. Filters store attributes and layer data (Value, Value Times and Effects).

This is what it could look like:



The filters can be used to limit what attributes are played back from executors. Playback Filter doesn't filter layers only Attributes.

Filters can also limit what you can store. This also applies to layers.

A filter can be selected using the Select key followed by the pool element. This is marked by the green background color in the name field.

Filters can also be called temporarily by pressing the pool element. This is marked by the green bar in the middle of the pool element. If you hold the **Store** or **At** key you get a filter pop-up. Here you can select the **Reset Filter on Clear** button. This will hold the temporarily filter until the programmer have been completely cleared.

Filters are used when you store values, make a circular copy, retrieve data using the **At** key or can be used as Playback filter in sequences.

A pool element with a red lock (the first one) is locked by the system. A orange lock is an element locked by a user - this can be unlocked. Locked element cannot be edited.

A pool element with a cyan instead of a gray number are used somewhere in the show.

The filter pool is shared by all users.

## Related Links

- [The Concept of Worlds, Filters and Masking](#)



## Reference: Form Pool

In the Form Pool you have a soft button for every form in the show.

This is an example of the form pool:



Some forms are predefined and can't be edited. They are marked by a red lock symbol in the pool button. Form with a orange lock is locked by the users and can be unlocked. But they can both be copied and you can edit the copy.

If you delete a form that's used in effect, the effect will not function anymore. It's missing the form. There's no warning when deleting a form.

You can assign a form to the selected attribute, by pressing the pool button.

You can edit the form by pressing **Edit** followed by the form you want to change. This opens the **Graph Editor** pop-up. Follow the link below to read more about the editor.

## Related Links

- [Pool Options.](#)
- [Effect Key.](#)
- [Form Keyword.](#)
- [Graph Editor pop-up.](#)



## Reference: Group Pool

In the Group Pool you have a soft button for every group in the show.

This is an example of the group pool:



You can select the group by pressing one of the buttons or you can use the command line to select the group.

Each button has horizontal line in the middle of the button. This line can have different colors, depending on your selection of fixtures (in this example we use the default colors - they can be changed in the pool options):

Light Blue (this color can't be changed)

This is a group with only one Channel/Fixture that is currently not selected.

Dark Blue (this color can't be changed)

This is a group with only one Channel/Fixture that is currently selected. There's also a yellow number telling you the selection order for the Channel/Fixture.

Grey (this color can't be changed)

None of your selected fixtures are in this group.

Yellow (this is the default color)

All the fixture in this group are in your current selection - but they are not in the same order as stored in the group.

Green (this is the default color)

All of your selected fixtures are in this group and in corret order.

Red (this color can't be changed)

The group is limited by worlds.

## Related Links

- [Pool Options](#)
- [Group Key](#)
- [Group Keyword](#)
- [Group Concept](#)



## Reference: Images Pool

In the Image Pool you have a pool button for the images in the show.

This is an example of the image pool:



Some images are predefined and can't be edited. They are marked by a red lock symbol in the pool button. Images with a orange lock is locked by the users and can be unlocked. But they can both be copied and you can edit the copy.

Images can be used in the Layouts. It can be assigned to objects in the layout.

There are some limitations with regards of the size. Each image can maximum be 2MB and the total size of the image pool can be 10MB. Resolutions higher than 1920x1080 is scaled down automatically.

There are some guidelines for symbols:

- Use the PNG format
- Canvas size max 240x240
- Image size max 180x180
- Symbol outline should be 5 pixels in 50% grey
- Symbols should use an Alpha fill (transparent)
- Area around symbol should be black.

If you edit a pool button you get the **Image Viewer** pop-up. Follow the link below to read more about this pop-up.

You can view details about the image by pressing [Edit](#) followed by the image pool button. This opens the **Image Viewer** pop-up.

Follow the link below to read more about the viewer.

## Related Links

- [Pool Options](#)
- [Image Keyword](#)
- [Image Viewer pop-up](#)



## Reference: Layout View Pool

In the Layout Pool you have a soft button for every layout in the show.

This is an example of the Layout View pool:



The layouts can be viewed and edited in the **Layout View** (follow the link below to read more about this view).

You can select a layout by pressing the button. This will give it a green background and **Layout View** that are set to "Link Selected" will change to this Layout.

### Related Links

- [Pool Options](#)
- [Layout View](#)



### Reference: Macro Pool

In the Macro Pool you have a soft button for every macro in the show. You can access the macro by pressing one of the buttons or you can use the command line to call it.

This is an example of the macro pool:



You can run the macro by pressing one of the buttons or you can use the command line to call it.

Macros can be assigned to Executors and ViewButtons/User-buttons

You can edit the macro by right clicking on it with your mouse or by pressing the **Edit** key followed by the pool button, unless the Macro has **CLI** disabled. If so, you need to use the Macro keyword and type the number, to Edit or Delete it. '

Editing a macro opens the **Macro Editor** pop-up. Follow the link below to read more about the editor.

### Related Links

- [Pool Options](#)
- [Macro Key](#)
- [Macro Keyword](#)
- [Macro Editor pop-up](#)
- [Macro tasks](#)
- [Macro tutorials](#)
- [Macro Concept](#)



### Reference: Mask Pool

In the Mask Pool you have a soft button for all the masks you have stored in the show.

Masks are used to hide Fixtures/Channels and Attributes in sheets. Sheet masks can be stored to the pool and be used in all sheets.

This is an example of the Mask pool:



The first six pool buttons are locked by default and cannot be edited. This can be seen by a red lock symbol. You can also lock a mask and protect it from editing - this can be seen as a yellow lock.

Sheets can be in "Follow Selected Mask" mode. Then the sheet will use the mask that have the green background in the name section. You can change this by pressing a pool button.

You can also assign a mask to a specific sheet by pressing **Assign** followed by a pool button and then the sheet.

Sheets can have up to 10 mask (set) buttons in their headline. They need to be tied to a pool button. This will provide fast access to local masking in that sheet. Follow the link below for more about the sheet options.

To edit a (unlocked) mask you can press **Edit** and then a pool button or right-click with the mouse. This will open the **Edit Mask** pop-up. Follow the link below to read more about the pop-up.

### Related Links

- [Edit Mask](#)
- [Title Buttons in sheets](#)



### Reference: MATricks Pool

In the MATricks Pool you have a soft button where you can store the different MATricks in the show.

This is an example of the MATricks pool:



The stored MATricks can be accessed by pressing the pool buttons. They can also be assigned to User Buttons.

This pool is useful for a fast overview and access to the different stored MATricks in a show.

The first pool button is always a "Reset" button.

If you edit a pool button you get an **Edit MATricks pop-up**. This allows you to load predefined MATricks. Read more about the pop-up by following the link below.

The pool is user individual.

### Related Links

- [Pool Options](#)
- [Edit MATricks pop-up](#)
- [MATricks Encoder Toolbar](#)



### Reference: Channel Page Pool

In the Channel Page Pool you have a soft button for fast access to channel pages on the desk.



You can access the channels pages by pressing one of the pool buttons or you can use the command line or the dedicated hardkeys to change the channel page.

The "C" indicates the current Channel Page. A green C indicates that this is the currently visible page. A gray C is the last used channel page.

### Related Links

- [Pool Options](#)
- [Ch Pg+ Key](#)
- [Ch Pg- Key](#)
- [ChannelPage Keyword](#)



### Reference: Executor Page Pool

In the Executor Page Pool you have a soft button for pages of fader and button executors in the show.

This is an example of the executor page pool:



You can access the executor page by pressing one of the pool buttons or you can use the command line or the dedicated hardkeys to change the executor pages.

The "F" indicates what page the Executor Faders are displaying. The "B" indicates the page for the executor buttons. If the F is gray then the channel pages are currently active.

### Related Links

- [Pool Options](#)
- [Page Key](#)
- [Fd Pg+ Key](#)
- [Fd Pg- Key](#)
- [FaderPage Keyword](#)
- [Executor Concept](#)



### Reference: Sequence Pool

In the Sequence Pool you have a soft button for every sequence in the show.

This is an example of the Sequence pool:





Sequences can be run in the pool or they can be assigned to an executor.

The cyan colored number on the pool button is the amount of executors the sequence is assigned to. If the pool number is colored cyan then the sequence is used somewhere.

A "L" in the sequence pool object indicates that the sequence is using LTP. Other options are "H" for HTP, a triangle pointing up means High priority LTP, triangle pointing down is Low priority LTP and "S" is Swop priority.

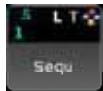
There might be a 'T' in the pool button. This is when the sequence is in tracking mode.

You can access the sequence by pressing one of the pool buttons or you can use the command line and/or the hard buttons to access the sequences.

An Sequence pool can also be in the "Fast Call" mode (the bottom half gets a red background). This is changed in the pool options. The fast call mode will load the state of the last cue in the sequence into your programmer.

The Sequence pool can also be in a "Pool Playback" mode. Then you perform a go (as default) when you press the pool button the first time. Second press will open the **Edit Sequence** pop-up (pressing the lower part) or the **Assign Menu** (pressing the top part).

A Sequence can have a filter applied. This is indicated by a small colored symbol in the upper right corner. It looks like this:



Right clicking a sequence pool button opens the **Edit Sequence** pop-up. Follow link below to read more about this pop-up.

## Related Links

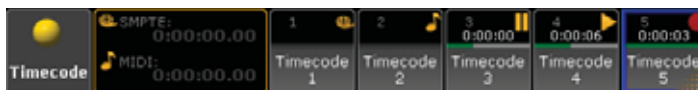
- [Pool Options](#)
- [Sequ Key](#)
- [Sequence Keyword](#)
- [Cues & Sequences Concept](#)
- [Edit Sequence Pop-up](#)
- [Assign Menu](#)



## Reference: Timecode Pool

In the World Pool you have a soft button for all the worlds in the show.

This is an example of the Timecode pool:



This is a more complicated pool. Next to the heading you'll see counters for incoming timecode signal. There's a small film roll as a symbol of the SMPTE timecode and a musical note to symbolize the MIDI timecode.

The pool buttons contain a lot of information. The lower half of the button is the Name of the timecode show. This can be green to indicate the selected timecode show. In the middle is a progress bar. It has a light grey background color and a green color bar moving from the left to the right displaying the progress through the show. On top of this is the current time. It's only visible when the timecode show is active. There's a "+" in front of the time if the timecode show has an offset. In the top of the button is the timecode show number. Next to this is a symbol of the timecode signal the timecode show is listening to (if there's no symbol, it's using the internal time). And in the top right corner you'll find a symbol for the playback status of the show (e.g. Play, Pause, Record, etc.), if it have a status other than "Stop". Selecting a softbutton, the lower part of the poolbutton gets green. This indicates that the timecode show is selected. The selected timecode show is displayed in the timecode view.

In the pool options you can activate the "Link Encoder" function. This will display the Timecode Encoder Toolbar as soon as the Timecode pool is touched.

You can access the timecode shows by pressing one of the pool buttons or you can use the command line and/or the **Macro** hardkey (press it twice gives you "Timecode").

## Related Links

- [Pool Options](#)
- [Timecode concept](#)
- [Timecode Keyword](#)
- [Timecode Encoder Toolbar](#)
- [Macro Key](#)



## Reference: View Pool

In the View Pool you have a soft button for every view in the show.

This is an example of the View pool:



If you have turned on "Symbols" in the View Options, you will see a small preview of the view if it only contains one screen. If the view is stored for screen 1 (the multi-touch), the preview have a red color - unless store on a grandMA onPC. If the view contains more than one screen (or your options is "No Symbols") you will see the representation of the screens. The ones with a yellow number and gray background are stored in the view.

You can access the view by pressing one of the pool buttons or you can use the command line or the dedicated hardkeys to change the view.

Views can be assigned to executors, user and view buttons.

### Related Links

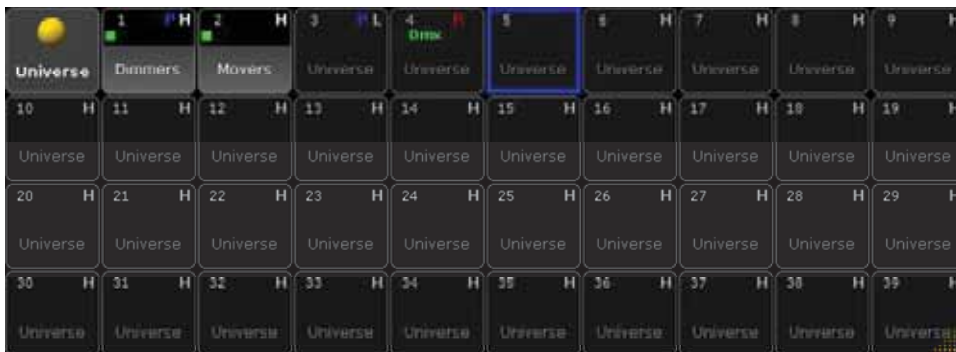
- [Pool Options](#)
- [View Key](#)
- [View Buttons](#)
- [V1 - V10 Key](#)
- [View Keyword](#)
- [ViewButton Keyword](#)
- [ViewPage Keyword](#)
- [GUI Concept](#)
- [Windows Concept](#)



## Reference: Universe Pool

In the Universe Pool you have a soft button for every universe in the show.

This is an example of the Universe pool:



There is a lot of information to see in the universe pool. If there's any fixtures patched to a universe, then the lower part of the button turns gray and the text white.

The top line on the button gives you different information. Starting from the left side there's a number this is the universe number.

The following is a list of the different letters and there meaning:

- A Red "G"  
This tells you that the universe is requested, but not granted.
- A Red "R"  
This tells you that the universe isn't requested.
- A Blue "P"  
There's at least one parameter in this universe that's parked.
- A white "H"  
A merging incoming universe is merged using HTP.
- A White "L"  
A merging incoming universe is merged using "LoTP"

The second line in the button have a green square. This turns light green when there's parameter activity in the universe or the console is updating the content.

Next to this there can be information about a incoming signal source. This can be "DMX", "ART" (for ArtNet) and "sACN" (for Streaming ACN).

You can name any universe using the "Label" keyword.

You can press the **Edit** key and then one of the universe buttons to edit the parameters (name, merge method, request status, etc). Follow the link below to read more about the **Edit Universe Pop-Up**.

### Related Links

- [Pool Options](#)
- [Edit Universe pop-up](#)



### Reference: World Pool

In the World Pool you have a pool button for all the worlds in the show.

This is an example of the World pool:



There is a default group called "Full". This world always contains every fixture and parameter in your show.

At the bottom of the pool button you can see the "Preset Type Bar Indicators". This shows you what preset types there are stored in the world.

You can access the worlds by pressing one of the pool buttons or you can use the command line and/or the **Group** hardkey (pressing it twice gives you "world") to change the active world.

### Related Links

- [Pool Options](#)
- [World Keyword](#)
- [Group Key](#)
- [Worlds Concept](#)



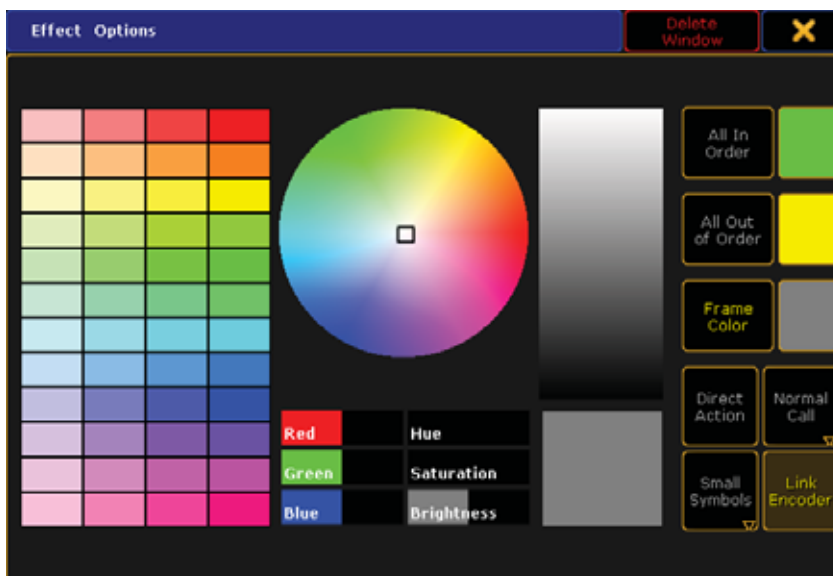
### Reference: Pool Options

This is where you change the options for the pool.

You can access the pool options by pressing the first button on the pool (the one with the heading).

Each pool type has its own options. Every version of the same pool share the same options (If you set the frame color to green in the View pool - the frame is green in all view pools). Each user has their own options.

This is what it could look like:



In the top bar you have the option to delete the pool window (Delete Window button) or to close the options pop-up (the orange X).

Most of this pop-up is a color picking area. There are several ways to select the color. You can select one of the 48 pre-made colors in the left part of the pop-up. In the top middle part of the pop-up you can use the color circle to select the desired color and use the vertical bar to make the color darker. In the lower middle part of the pop-up you can use Red, Green, Blue or Hue, Saturation, Brightness controllers to make the color of your choice. And there is also a big square that displays the current color.

There can be several different buttons inside this pop-up. The first three of them relate to the colors of the pool window:

**All In Order:**

This is the color of the line in the preset button if all the selected fixtures can use this preset.

**All Out of order:**

All the fixture in this group are in your current selection - but they are not in the same order as stored in the group.

**Frame Color:**

This is the color of the line around each pool button.

Besides the three color buttons there can also be a button with three different options:

**No Symbol:**

With this setting there will be no symbols displayed on the button. It could look like this:

**Small Symbols:**

When this is selected you can see a symbols and the name of the pool. It could look like this:

**Big Symbols:**

The symbol now takes up most of the button and the name disappears. It could look like this:

There can also be a button that toggles the pool mode between "Normal Call", "Fast Call" and "Pool Playback". Read the description in the "Effect", "Bitmap Effect" and "Sequence" pools for details about the different ways the calls work.

They might also be a "Direct Action" button. This works with "Pool Playbacks". This performs a "Go+" when you press the pool button.

The last button is a "Link Encoder" button. This is only in the "Effect" pool. When this is active you get the Effect encoder toolbar, when you press the effect pool button.



## Reference: Preset windows

Presets are pools used to give you soft buttons, that you can use to save values (incl. fade times and delay). You can then recall the values by pressing the button.

The first button (with the preset name) is the title of the preset. Pressing here gives you access to the preset options.

For memory saving purposes, a Preset Window will not display thousands of empty tiles, but merely display the used, plus 100 additional empty tiles. To allocate more tiles, scroll to the bottom of the Pool, and store and delete an item, or use the commandline, e.g. [Store Preset 1.1000](#) , [Delete Preset 1.1000](#)

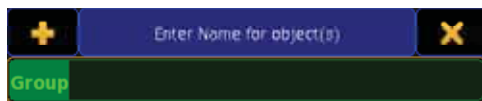
### Changing the name of a preset button.

You can change the name of a preset button using the command line. You need to use the keyword **Label**.

It has this syntax: **Label** [object-list] "New name"

Read more about the Label keyword, following the link below.

You can also press the [Assign](#) hard button twice followed by the preset soft button. This brings up the **Enter Name for object(s) pop-up**:



And you can now use the keyboard to enter a new name.

To read more about the **Enter Name for object(s) pop-up** follow the link at the bottom.

### Changing the mode of a preset.

The different modes of a preset can be used to change default and highlight values in the setup using the values stored in a preset.

Press the [Assign](#) key followed by the preset. This gives you the **Assign Preset** pop-up. Here you can select the mode you want.

There are also predefined macro that can help you.

### The anatomy of a Preset button.

A preset button can contain a lot of information. The following is a description of the different information:

Each pool and preset button have a top and bottom half.

Between the two theres a colored line. This can have four colors.

**Gray:**

You haven't selected any fixtures that can use this preset.

Some active (user definable color):

This color can be defined in the options. This indicates that you have selected some of the fixtures that can use this preset.

All Active (user definable color):

This color can be defined in the options. This indicates that you have selected all the fixtures that can use this preset.

Black:

The preset is empty.

The bottom half can give you five different informations:

Name:

This is the name of the preset. If this text is red then, you are in a world that prevents you from using the preset.



Preset types:

If the preset contains more than one preset type (or if it's a different type than the one it's stored in) there's a small bar at the bottom, where you can see what preset types is used. White colors indicates used preset types. Red boxes indicate that

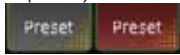
you are in a world that don't give you access to this attribute. Each little box is one of the 9 preset types.



Fast Call / Normal Call:

The normal background color is grey. This indicates the the presets uses "Normal Call" (first press selects fixtures, second press calls the preset). If the background is red, then the presets uses "Fast Call" (first press selects the fixtures AND calls

the preset).



Time information:

This colored bar shows you if the presets has time information stored in it. A green color tells you there are "Fade" information. An orange color tell you there are "Delay" information. A red color tells you there are normal values in a preset.



The Top half have a lot of information:

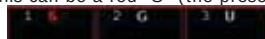
Preset number:

In the upper left corner there's a number. This is the preset number.



Selective / Global / Universal:

In the top middle there's a letter. This can be a red "S" (the preset is "selective"), a gray "G" (the preset is "Global") or a gray "U" (the preset is "Universal").



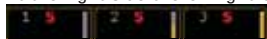
Color / Gobo symbol:

On the right side there can be a symbol for the color or gobo stored in the preset. There might be a small symbol next to the bigger one. This is shown if other attributes in the same preset type is "open".



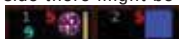
Intensity bar:

At the right side there might be an intensity bar. This displays how much intensity there are stored in the preset.



Number of active fixtures:

On the left side there might be a cyan colored number below the preset number. This indicates the amount of fixtures using the preset.



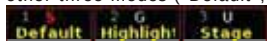
Embedded:

There might be a white "E". This tells you that there are other presets embedded in this one.



**Preset Mode:**

A preset can have four different modes. When it's in the "Normal" mode there's no text written, but when in any of the other three modes ("Default", "Highlight" or "Stage") the mode is written in yellow across the top is the pool button.



## Related Links

- [Preset Options](#)
- [Copy Key](#)
- [Move Key](#)
- [Assign Key](#)
- [Label Keyword](#)
- [Enter Name of Object pop-up](#)
- [Assign Preset pop-up](#)



## Reference: The Preset Pools

This is the preset pools. These are "values" stored on buttons. Ready to be used live or referenced in cues.

There are 10 default Preset Pools. The last 9 are usually limited to each Preset Type. The first preset pool is an "All Preset Pool". This preset pool can contain all the different preset types. Every pool button contains the preset values. You can call the content by pressing the button or use the Command Line and/or the hard keys.

This is small examples of the preset pools:



The first button (with the preset name) is the title of the pool. Pressing here gives you access to the options for the preset pool. Read the next page to learn more about the preset pool options.

If you create new Preset Types, there will be a pool for this type.

### Related Links

- [Preset Key](#)
- [Preset Keyword](#)
- [PresetType Keyword](#)
- [Preset Concept](#)

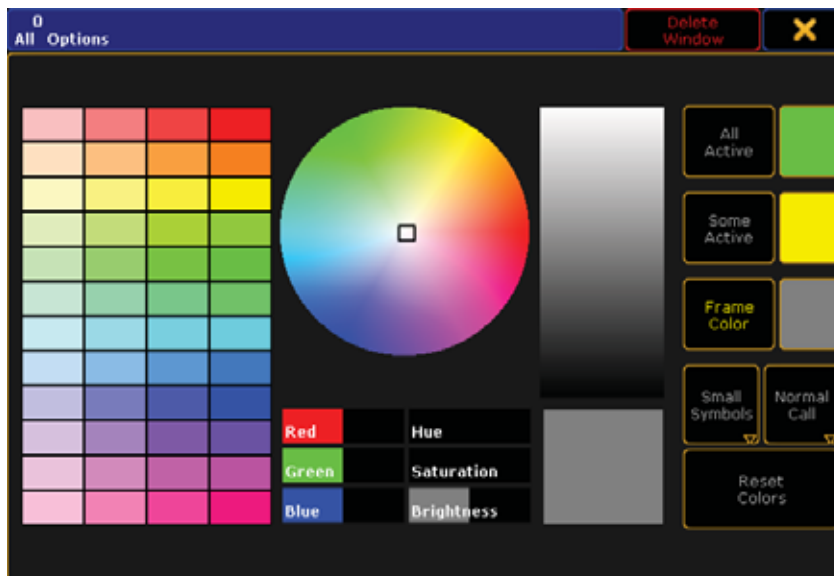


### Reference: Preset Options

With the preset options you can change the color settings of that preset group and you can delete the window.

When pressing the yellow ball on the presets heading, you access the options.

They could look like this:



In the top bar of these option pop-ups, you have the option to delete the preset window (Delete Window button) or to close the options pop-up (the orange X).

Most of this pop-up is a color picking area. There are several ways to select the color. You can select one of the 48 pre-made colors in the left part of the pop-up. In the top middle part of the pop-up you can use the color circle to select the desired color and use the vertical bar to make the color darker. In the lower middle part of the pop-up you can use Red, Green, Blue or Hue, Saturation, Brightness controllers to make the color of your choice. And there are also a big square that displays the current color.

There are several buttons inside this pop-up. Three of them relate to the colors of the preset window:

All Active:

This is the color of the line in the preset button if all the selected fixtures can use this preset.

Some Active:

The line in the preset button gets this color if only some of the selected fixtures can use this preset.

Frame Color:

This is the color of the line around each preset button.

Besides the three color buttons there's also a button with three different settings:

No Symbol:

With this setting there will be no symbols displayed on the button. It could look like this:



Small Symbols:

When this is selected you can see symbols and the name of the preset. It could look like this:



Big Symbols:

The symbol now takes up most of the button and the name disappears. It could look like this:



There's also a button that changes the preset pool between "Normal Call" or "Fast Call".

The last button is a "Reset Colors" button. This resets the three colors to the default colors.



## Reference: Playbacks

The Playbacks windows display information about the Executor Faders and Buttons.

There are currently five different windows.



## Reference: Action Buttons

The Action Button window gives you executor buttons on your screen. This can give you instant access to button that you otherwise couldn't reach.

This is an example of the window:



You can expand it cover a maximum of 90 executor buttons. They basically do the same as the real buttons.

### Title Bar

In the title bar there's the normal yellow ball giving you access to the options. Read below for a description of them.

There's also a button. This is an 'Off' / 'On' button. It's called "Direct Action". When this is 'On', the entire button symbol acts like the real button. This also means that you need to turn it off to enter the Assign Menu or the Edit function.

### Options

If you press the yellow ball on the left side of the title bar, you enter the Action Button window options. They can look like this:



Here you can select which buttons to display.

You can also choose to lock the executor buttons to a specific page (Then there's a small **Select Page pop-up**) or have them change page with your physical executors (Button Page Floating).

In the options title bar you have two buttons on the right side. The first one is the "Delete Window" button. This deletes the Action Button window. The yellow "X" button, closes the options pop-up.

### Related Links

- [Select Page pop-up](#)
- [Page Keyword](#)
- [Bt Pg+ Key](#)
- [Bt Pg- Key](#)

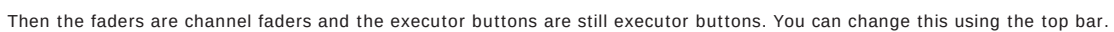
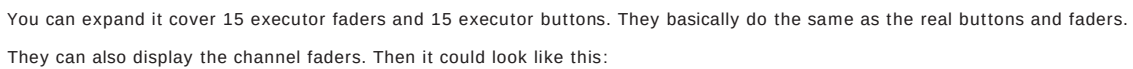


### Reference: Playback Big Window

The playback window gives you executor faders and buttons on your screen. This can give you access to faders and button that you otherwise couldn't reach.

This is an example of the window:





In the title bar there's the normal yellow ball giving you access to the options. Read below for a description of them.

There's also a button. This have three different modes: 'Channels Auto', 'Channels Forced' and 'Channel Never'. If you have selected 'Channels Auto' the window follows your selections on the real faders. If 'Channels Forced' is on then it will always display the channel faders. With 'Channels Never' it always displays the executor faders.

If you press the yellow ball on the left side of the title bar, you enter the Playback window options. They can look like this:



This is the options if you have 10 faders.

Here you can select which faders and button to display.

You can also choose to lock the executors to a specific page (Then there's a small **Select Page pop-up**) or have them change page with your physical executors.

There's also a version of the "Channel mode" button from the top bar.

In the options title bar you have two buttons on the right side. The first one is the "Delete Window" button. This deletes the playback window. The yellow "X" button, closes the options pop-up.

## Related Links

- [Executor Concept](#)
- [Select Page pop-up](#)
- [ChannelPage Keyword](#)
- [FaderPage Keyword](#)
- [Page Keyword](#)
- [Bt Pg+ Key](#)
- [Bt Pg- Key](#)
- [Ch Pg+ Key](#)
- [Ch Pg- Key](#)
- [Fd Pg+ Key](#)
- [Fd Pg- Key](#)



## Reference: Playback Small

The small playback window is very useful on a grandMA2 Ultra Light or when using wings.

The labels do exactly the same as the executor labels at the bottom of screen 3 and 4 on your desk. It is a very useful window when you have external fader wings attached to your desk or don't have a screen above your faders.

The window could look like this.



It can also display channel pages. They could look like this:



Then the faders are channel faders and the executor buttons are still executor buttons. You can change this using the top bar.

### Title Bar

The Title Bar tells you what set of executor you have selected and the executor numbers there.

There's also a button. This have three different modes: 'Channels Auto', 'Channels Forced' and 'Channel Never'. If you have selected 'Channels Auto' the window follows your selections on the real faders. If 'Channels Forced' is on then it will always display the channel faders. With 'Channels Never' it always displays the executor faders.

### Options

When you press the yellow ball in the upper left corner you enter the options. They could look like this:



With this you can delete the wing window or close the options pop-up.

You can also select what set of executor you want the window to display.

You can choose to lock the executors to a specific page (Then there's a **small page selection pop-up**) or have them change page with your physical executors.

There's also a version of the "Channel mode" button from the title bar.

### Related Links

- [Executor Concept](#)
- [Select Page pop-up](#)
- [ChannelPage Keyword](#)
- [FaderPage Keyword](#)
- [Page Keyword](#)
- [Bt Pg+ Key](#)
- [Bt Pg- Key](#)
- [Ch Pg+ Key](#)
- [Ch Pg- Key](#)
- [Fd Pg+ Key](#)
- [Fd Pg- Key](#)



### Reference: Running Effects

This view displays all the running effects.

This window will show you the running effects. It could look like this:



Here you have the option to display the four different sections where you can have running effects. Each section displays the effects that are running in that section.

The sections are:

#### Sequence

Here you can see the different sequences that currently have an effect running.

#### Programmer

Here you can see all the effect running in the programmer. The effect have to be stored on the Effects Pool and then running in the programmer. Effects build in the programmer only, isn't displayed in this view.

#### Pool

This is the effects running directly in the Effects Pool.

#### Executor

This displays the effects running on executors.

Below each section you will find an All Off, All Stomp and All Release buttons. Pressing the Off button will off all the effects in this section. Pressing the Stomp button will take the stomp values for all the effects in that section into your programmer. Pressing the Release button will take the release value in your programmer.

You can interact with the displayed effects like you can interact with the real symbols. I.g. if you press the **Del** hardkey and then one of the symbols - you'll delete the effect or executor. This will also allow you to Stomp (**MA** + **Alt**) or Off specific elements.

In the top bar there are four buttons. Three of them puts the window into a Release, Stomp or Off Mode. When this is active, you will apply the function to the effects you press. When you have selected a mode, you can also activate the "Follow Selection" button. This will respect the current selection, and only apply the function to the currently selected fixture/channels.

If you press the yellow ball in the upper left corner you'll get an options pop-up like this on:



Here you can select if there's any if the different section you do or don't want to see. You can also delete the window or close the options pop-up.

The Running Effects window also exist as a pop-up. Follow the link below to read more about the pop-up.

## Related Links

- [Running Effects pop-up.](#)



## Reference: Running Playbacks

The view shows you all the running playbacks.

It could look like:

| Running Playbacks                                                                                                                                      |                          |          |    |            |          |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------|----|------------|----------|-------------|
| <div> <div>Only My Playbacks</div> <div>Only Preview Playbacks</div> <div>Link Encoders</div> <div>Off Mode</div> </div>                               |                          |          |    |            |          |             |
| <div> <div>All (3)</div> <div>Sequence (2)</div> <div>Chaser</div> <div>Effect (1)</div> <div>Bitmap</div> <div>Macro</div> <div>Timecode</div> </div> |                          |          |    |            |          |             |
| Exec                                                                                                                                                   | Name                     | Type     | No | Cue Number | Cue Name | Profile     |
| 1.1.1                                                                                                                                                  | 'Main' 3                 | Sequence | 3  | 3          | 3 Cue    | 'Default' 1 |
| 0.1.1                                                                                                                                                  | 'Flamaron Bridge Club' 4 | Sequence | 4  | 1          | 1 Cue    | 'Default' 1 |
| 1.1.8                                                                                                                                                  | 'P/T Circle' 3           | Effect   | 3  |            |          | 'Default' 1 |

In the title bar you might find up to five buttons. You can choose the buttons in the options. Read more below about the different options.

The different tabs represent different types of executors including macros and timecode shows. There's also a tab for "All" types.

There can be different columns in the tabs:

Exec:

This is the executor number - [Pool].[Page].[Number]

Name:

This is the name of the sequence, Effect, Macro or Timecode Show.

Type:

This is only in the "All" tab. It tells you what type the running playback is. The color of the row will match the color of the different type tabs.

No:

This is the number of the sequence, Effect, Macro or Timecode Show.

Cue Number:

This is the current cue number.

Cue Name:

This is the current cue name.

Profile:

This is the name of the profile who last triggered the playback. Playback not triggered by you will have a black background in the row.

Info:

This will display the info attached to the Sequence (not the cues), Effect, Macro or Timecode Show.

You can turn off active playbacks by pressing on them with "Off Mode" active.

This window have a very similar temporary pop-up called **Off Menu**. Read more about it by following the link below.

### Running Playbacks Options

When you press the yellow MA button in the upper left corner you get the options for this window. It could look like this:



There's several options in this tab:

**Off Mode:**

When this is active then the playbacks will turn off when you press them.

**Only My Playbacks:**

With this active the list will only be populated with the playbacks last activated by your user profile.

**Only Preview Playbacks:**

With this active the list will only be populated by the playbacks running in preview.

**Link Encoders:**

This will link the encoder bar to the executor you press - be aware of using this together with "Off Mode". Follow the links below to read more about some of the encoder toolbars.

**Show Info:**

This will display or hide the info column.

**Font:**

This can be used to change the font size in the window.

There's two tabs in the options. In the second tab can look like this:



This is used to display or hide the buttons in the title bar.

All the options are described above.

### Related Links

- [Off Menu](#)
- [Encoderbar - Executor](#)
- [Encoderbar - Chaser](#)
- [Encoderbar - Bitmap Effect](#)
- [Encoderbar - Timecode](#)



### Reference: Other Windows



This section contains description of windows found in the Other-tab of the **Create Basic Window pop-up**. These are windows that are not classified as Sheets, Pools, Presets or Playbacks.

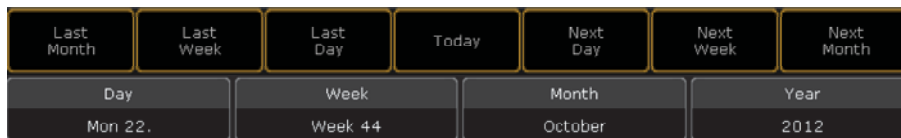


## Reference: Agenda Window

The Agenda part of the desk is used as an calendar where you can arrange different actions at different times.

The Agenda has four different main views: Day, Week, Month and Year.

When you have the Agenda window active, your encoder toolbar change to this:



This makes it easier to navigate the calendar system. If you press one of the encoder you will get the **Enter Date pop-up**. This makes it easier to create new entries in the agenda. Follow the link below to read more about the pop-up.

### The anatomy of an entry

An entry or "appointment" in the agenda consists of several elements.

It could look like this:

| Start    | Time    | Duration | Repeat | Command                   | Info                 | First       | Last        |
|----------|---------|----------|--------|---------------------------|----------------------|-------------|-------------|
| Absolute | 1:00:00 | 0:01:00  | Daily  | Go Macro 10 # "turns Off" | Turns off the lights | Oct 20 2012 | Oct 31 2012 |

The main thing in this entry is the "Command". This will be executed at the set time, and it will be repeated should you choose to do so.

This is a short description of the different columns:

**Start:**

Pressing this gives you an small select pop-up that allows you to decide when the entry should run. The default value is "Absolute". This means that the command will run at a specific time. The other options include: "Dawn", "Sunrise", "Sunset" and "dusk". These are calculated values based on the set location of your console. Follow the links below to read more about the Small select pop-up and how to set your location.

**Time:**

If you have set the Start to "Absolute", then you need to enter a specific time of the day. If you have chosen one of the other options in the Start column, you can use this to displace the execution.

**Duration:**

This is the duration the command is active. This is not relevant for most commands. It has to be at least 1 second.

**Repeat:**

Here you can choose if the command should be repeated. Pressing here opens the **Small select Repeat pop-up**. Here you can choose if the entry should be repeated at an interval. The options are: "None", "Daily", "Weekly", "Monthly", "Yearly", "Daily each month", "Weekly each month", "Daily each year", "Weekly each year", "Monthly each year", "Every 2nd day", "Every 3rd day", "Every 4th day", "Every 5th day" and "Every 6th day". Follow the link below to read more about this small select pop-up.

**Command:**

This is the command that will be executed. You can add a comment in a command line. If you add a # symbol and write text after this, it will not be executed or displayed in the command line feedback. To avoid a word like 'it' to become the keyword '**Items3D**', you should put your comments in quotes.

**Info:**

This is a free text input, where you can enter any text that you want. This is just a help for you to remember why or what the entry does.

**First:**

This is the first date the command is executed.

**Last:**

If you have selected to repeat the command, then you can set a last date it should be repeated.

### Title bar

The text in the title bar tells you what you are looking at in the main area. This could be a day, week, month or year.

There are two soft keys that allow you to activate the commands in the entries. This soft key displays "Running" or "Stopped". If it is "Running" then the commands in the agenda is executed.

The other soft key changes between the Day, Week, Month or Year view.

On the left side of the title bar you'll find the yellow ball that gives you access to the Agenda options pop-up. This is an example of it:

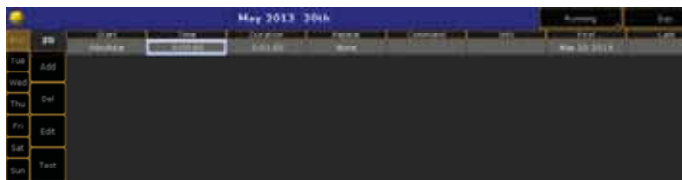


There aren't any options - but you see a complete list of active entries (repeated entries are only displayed once). Follow the link below to read about how to create an entry in the agenda.

In this pop-up you have the option to change the view, delete the Agenda Window, close the pop-up or select an entry in the agenda.

### Day view

This is an example of the Day view:



On the left side you have a column with the weekdays. The next column is the date and four soft keys: Add, Delete, Edit and Test.

The "Test" soft key can be used to test the command in an entry. Pressing the soft key will execute the command.

Next to this is the area where you can see the entry or "appointment" (if any) of the day. Follow the link below to read about how to create entries in the agenda.

The Title Bar displays the Month, Year and Date.

### Week view

When you enter the week view. Your window doesn't change that much. The bar on the left side changes to display the week days and date. The different entries are displayed next to the first day of the entry.



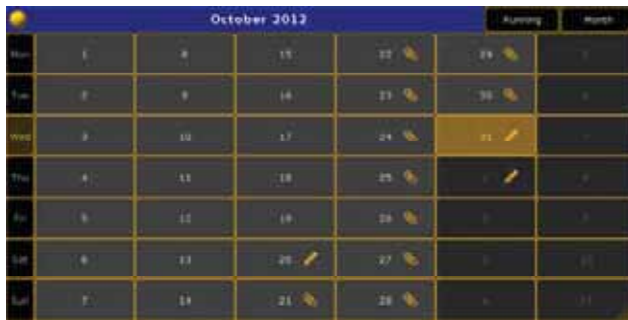
If you press/click on a date you change the view from Week to Day. You can edit the entries in the week view by right clicking or press Edit followed by what you want to edit.

The Title Bar displays the Month, Year and Week number.

### Month view

This is an example of the month view:





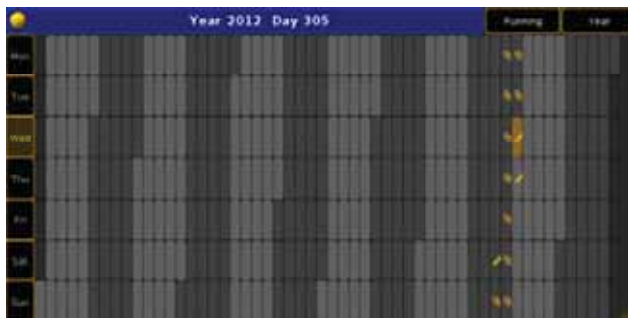
This view displays the entire month. A "paper clip" indicates that there is an repeated entry on that day. A pencil symbol indicates that an entry have this day as the 'First' day.

If you press/click on any of the days, you change the view from Month to Week.

The Title Bar displays the Month and year.

### Year view

This is an example of the Year view:



This shows you an entire year. A day that have this day as the 'First' day will have a pencil symbol on it. Any date that has an repeated entry have a small "paper clip" on it.

If you press/click on any of the days, you change the view to a Month view.

The Title Bar displays the Year and the number of the highlighted day.

### Related Links

- [Small select Start pop-up](#)
- [Set location of the console \(Date & Time in setup\)](#)
- [Small select Repeat pop-up](#)
- [Enter Date pop-up](#)
- [Make an entry in the Agenda](#)
- [Agenda Concept](#)



### Reference: Clock

The clock tells you the time!

The clock window allows you to see the time. This can be the time of day (in an analogue or digital clock) or it can be the incoming timecode. You can change what you are looking at using the drop down menu in the upper right corner.

The drop down looks like this:



In this drop down you can select one of the different clocks.

### The Analog time

This is the analog clock:



### The Digital time

This is the digital clock:



### The SMPTE time display

This displays the incoming SMPTE time. When the console receive a SMPTE signal the time will turn green and the numbers will be running. When there's no signal the numbers turn gray and stops (see the MIDI picture below).



### The MIDI Time Code display

This displays the incoming MTC time. When the console receive a MTC signal the time will turn green and the numbers will be running (see the SMPTE picture above). When there's no signal the numbers turn gray and stops.



### Deleting the clock window

On the left side of the top bar you'll find the yellow ball. This gives you access to the clock options. Here you can delete the clock window or delete the options pop-up.



### Reference: Command Filter

This view will display the current filter and allow you to change and create filter.

This window will display the active filter. It could look like this:



This pop-up allows you to select and filter attributes. The attributes that have a yellow text are the ones that are selected.

The filter can be stored in the filter pool using the **Store Filter and Select** button in the view.

The filters can be used to get selected information from other fixtures using the **At** key. It can also be used in store operations, where you only store the selected attributes and layers.

On the right side you have three buttons to filter Value, Value times and/or Effect data.

There is also a button called **Reset Filter on Clear**. When this is On then the filters will reset when you press the **Clear** key three times.

Your **At** button will flash, when you have a filter applied

### Top bar

In the left corner of the top bar, you'll find the yellow ball button. Pressing this will open the Command Filter Options. The only thing in the options are the possibilities to delete the Command Window or close the options pop-up.

The next two are for zooming in the window. This will decrease or increase the size of the buttons.

There are also two buttons that allow you to select none or all of the attributes and layers.

### Related Links

- [Filter Pool](#)
- [At Key](#)
- [Store Options](#)



### Reference: Commandline Section

This is a copy of the lower left and right corners of screen 2.

This is what it could look like:



In the top bar you find the yellow MA ball. Pressing here displays the options, read below for more about this options pop-up.

The left side is the Master Section and the right side is the Time Controls. Read below for a short description of the two sections.

#### Master Section.

This always display the selected executor.

The top of this displays the number of the selected executor, the name of the sequence, the priority, the tracking state, Input & Playback filters and the sequence number.

The middle part displays the previous cue, the current cue and the next cue (should you choose to press 'Go').

The lower part displays the status and content of the two faders below this section. You can change the type of executors by pressing where it displays the current type.

If you have turned on the "Special Fader Buttons" in the **Setup → User → Settings**, you'll see the three buttons and there assignments from the first executor fader.

### Time Controls.

This represent 'Program Time' and 'Exec Time' faders. You can set the fader at a time value and you can turn on or off the 'Manual XFade' and 'Set Time'.



"Exec Time" applies to Button Executors only (not Fader executors).

### Options.

The Command Section options look like this:



The top bar of the options gives you a button to delete the Command Section window, and a button that closes the options pop-up.

The options in the pop-up allows you to turn On/Off the "Master Section" and the "Time Controls".

### Related Links

- [Encoder Toolbar](#)
- [Setup - User - Settings](#)



### Reference: Encoder Bar

This is a copy the center part of screen 2. It have the Encoder Toolbar and the Preset Type bar.

This is what it could look like:



In the title bar you find the yellow MA ball. Pressing here displays the options. These options only allows you to delete the Encoder Bar window or close the options pop-up.

The top part of the encoder bar is always the Preset Type Bar.

The lower part of the Encoder Bar changes according to what section have focus.

Follow the link below for detailed descriptions of the different Encoder Toolbars.

## Related Links

- [Encoder Toolbar](#)



## Reference: Info

This is the info viewer.

This is used to view and edit information text added to an element. You need to select an element before it displays anything.

This is what it could look like:



If you press the Info button in the top bar and then press anything else, you can add or edit information for this element.

The main part of this info viewer shows you the text info. This can be multi line text.

When an element have information attached, there will be a small "i" in the element. Like in the Executor Page pool button in the picture below:



### Top Bar.

On the left side of the top bar, you'll find the yellow MA ball. This gives you access to the window options. Here you can select the text size, delete the window or close the options pop-up.

The 'Link' button has three different options: 'Not Linked', 'Link Selected' and 'Link Last Go'. This is used to select what sequence you want to see the Info from. When you select something else than a sequence, then it will turn to 'Not Linked'.

The 'Info' button is used for selecting something. Press this first and then the element.



## Reference: Layout View.

In the Layout View you can arrange objects in a 2D layout.

In the Layout View you can add the fixtures, groups, macros, effects and / or presets you want and arrange them just the way you like.

This is a very versatile and powerful view.

It could look like this:



This is another example:



This window can be used to arrange and view some or all of your fixtures, groups, presets, macros and / or effects. You can select fixtures by pressing on them.

You can choose different symbols for the objects. Some symbols allows you to see the color, intensity and possibly gobo in the fixture.

You can also add text and boxes. If you make a box around some fixtures, you can select all the fixtures by pressing inside the box (not on a fixture).

When you are in the setup mode you can right click on an object to add text above that object.

The Layout View doesn't need fixtures. It could just be an arrangement of macros, groups, effect and / or presets.

### Top Bar

In the top bar you'll find several soft keys. Some of them change how the window looks and behave. The following is a short description of them.

In the left corner you'll find the yellow ball. Pressing this opens the Layout View Options. Read below for a description of the options.

Next to this you can see that it's a Layout View and you can see the number and title of the view you are currently looking at.



Next you'll find a soft key that opens a drop down with the following options: 'DMX', 'Output' and 'Values'. This is the allows you to change what layer the layout view are displaying.

The next soft key toggles the "Fast Call" mode. When the frame is red the mode is On.

The next soft key is a "lasso" key. When this is active you can "lasso" a group of fixtures and thus selecting them.

Next soft key is a move key. When this is active you can move the view around inside the frame.

The next three soft keys are "zoom" keys. The first will zoom out, the next will zoom in, the last one will center your fixtures and make all visible.

The next soft key toggles the view in and out of setup mode. When in setup mode you can arrange the fixtures using the **Layout View Encoder Toolbar**. Follow the link below to read more about this toolbar.

The last soft key is used to select a Layout View from the Layout View Pool. There's also the option to select "Link Selected". This will change the view according to the selected layout view pool soft key (the one with a green background).

There must be a stored Layout View Pool before you can choose it for this view.

💡 When "lasso" is active, you may still move, by using double-click-drag, - and vice versa, when "Move" is active you may still lasso-select, by using double-click-drag. This can be disabled in the options - Read below.

### Window options.

Pressing the yellow ball in the left corner gives you the options pop-up. It has two tabs. This is the one called 'Layout Data':



This is the 'Layout View' tab:



In the top of the options pop-up you can delete the Layout View Window or close the options pop-up.

You can also save the current options to the default options or load the default options from your user profile.

The two tabs gives you the following options:

**Grid X:** This will give you a grid with the specified size on the X axis. If this or the "Grid Y" is 0, the view will have no grid.

**Grid Y:** This will give you a grid with the specified size on the Y axis. If this or the "Grid X" is 0, the view will have no grid.

**Snap Grid X:** This will specify the size of the grid on the X axis, that objects snaps to (if this is on).

**Snap Grid Y:** This will specify the size of the grid on the Y axis, that objects snaps to (if this is on).

**Snap Always:**

This will turn on or off the snapping function for objects.

**Background:**

Pressing here opens the **Edit Background Color** pop-up. Here you can select a background color for the view.

**IDs:**

This will toggle if ID's are visible or not.

**Fixture Names:**

This will make fixture names visible or not.

**Dimmer Bar:**

This will toggle if there's a intensity bar in each fixture symbol.

**Dimmer Value:**

This toggle if there's a numeric value for the intensity in each fixture symbol (in percent).

**Marker:**

When this is on you will see the colored markers (programmer, Effects, Preset, etc.) in the view.

**Fast Call:**

This turns on or off fast call for presets in the layout view. This can also be changed in the top bar.

**Pool Playback:**

This turns on Pool Playback for Effects, Bitmap Effects and Sequences.

**Default Gauge:**

This will open the **Default Gauge select pop-up**. With this you can select the default gauge for fixtures/channels.

**Double-tab mode:**

If you have this turned on, then you can double tab the layoutview to temporarily switch between the move and select mode.

**Related Links**

- [Layout Pool](#)
- [Layout View Encoder Toolbar](#)
- [Edit Background Color pop-up](#)
- [Select Default Gauge](#)
- [Layout Defaults in User Profile](#)

**Reference: Masters**

This window displays all the Masters in your show.

This view have four different tabs. Each represent a different set of masters.

This window can also be accessed with a long press on the **Group** key.

**Group Master**

This what the first tap could look like:



This is the Groups masters in your show.

The different representations of the group masters, have different areas that you can use.

The top part displays the executor number the group master is assigned to. It also displays the mode of the master: "A" (Additive), "P" (Positive) or "N" (Negative), the Group number (on the right side) and the group name.

If you press the top part, it will change to the relevant page and the group master says "HERE" as long as you press the top part:





You can use the "fader" to move the real faders of your group masters. And the "Full" and "Zero" will snap the fader to max. and min. values.

At the bottom you can see some buttons. "All Positive Full" will move all masters in the "positive" mode to full. "All Positive Zero" will move all masters in the "positive" mode to zero. The Two "Negative" buttons will move the "Negative" masters to full and zero. It's the same with the "Additive" buttons for the "additive" masters.

### Speed Master

This is what the next tap looks like:



This displays the 16 possible Speed Masters in your show.

Pressing at the top where it says "Speed" will activate the "Here" function and show you where the master is.

There's a fader for each of them and they each have a "60 BPM" (If you have selected BPM in **Setup → User → Settings**) that resets the fader to 60 BPM. There's also a "Learn" button for each fader.

At the bottom there's a global "All 60 BPM" button. This resets all the faders to 60 BPM. There's also a global "All Learn" button that will use the Learn function for all the speed masters.

### Rate Master

This is what the next tap looks like:



This displays the 16 possible Rate Masters in your show.

Pressing at the top where it says "Rate" will activate the "Here" function and show you where the master is.

There's a fader for each of them and they each have a "Rate1" that resets the fader to rate 1:1.

At the bottom there's a global "All Rate 1" button. This resets all the faders to rate 1:1.

### Playback Master

This is what the next tap looks like:



This displays the 50 possible Playback Masters in your show.

Pressing at the top where it says "Playback" will activate the "Here" function and show you where the master is.

There's a fader for each of them and they each have a "Full" button that moves the fader to full. There's also a "Zero" button for each fader that moves the fader to zero.

At the bottom there's a global "All Full" button. This moves all the faders to full. There's also a global "All Zero" button that will move all the faders to zero.

### Related Links

- [Group Key](#)
- [Master View pop-up](#)



### Reference: Sequence Info

This is the info viewer for information in sequences.

This is what it could look like:



This displays the info text in a sequence.

The main part of this info text viewer, displays a list of the cues in the selected sequence. If there's a info text in a cue it will be displayed in a white text color. Remember that local letters are legal in the info text. You'll need to enter the local letters using the onPC.

### Title Bar.

The title bar have some buttons.

On the left side you'll find the yellow options ball. This gives you access to the window options. Here you can select the text size, delete the window or close the options pop-up.

The 'Link' button has two different options: 'Link Selected' and 'Link Last Go'. This is used to select what sequence you want to see the Info from.

When 'Auto Scroll' is On (the text turns yellow), the active cue is always visible in the sheet. The active cue is the one with a yellow text.

When 'Show Empty' is On (the text turns yellow), the info viewer will display the numbers and names of the cues that doesn't have any info text.

The Edit button will enter the edit mode. Here you can press twice on the info text (if there isn't any, then there is a ".") and then enter or edit the info text.



### Reference: Smart

The smart screen gives you access to all the fixed values of the parameters of the fixture. You will find them in the function sets of the attributes for the fixture types.

With the preset control bar in the encoder toolbar (or any preset control bar), you can choose what preset types the smart window is displaying.

It could look like this:



The bottom part of the screen displays two rows of buttons. Above these rows you have the button area where all the fixed values are represented with a button each. This is all defined in the fixture profile.

The buttons have a horizontal line through them. This line indicates if all fixtures in your selection can use this value (green), if only some of your selected fixtures can use the value (yellow) or if none of them can use it (grey).

The first of the two rows at the bottom of the screen are the features you have access to. Underneath that you find the available attributes.

This window only have content when you have selected something. And the content changes depending on your selection.

Create new function sets: set a new value in the active programmer and store it (with "Store") to the last (empty) button.



When you press the yellow ball in the upper left corner you gain access to the smart windows options. There aren't any but you can delete the smart window or close the options pop-up.

## Related Links

- [Attribute Concept](#)

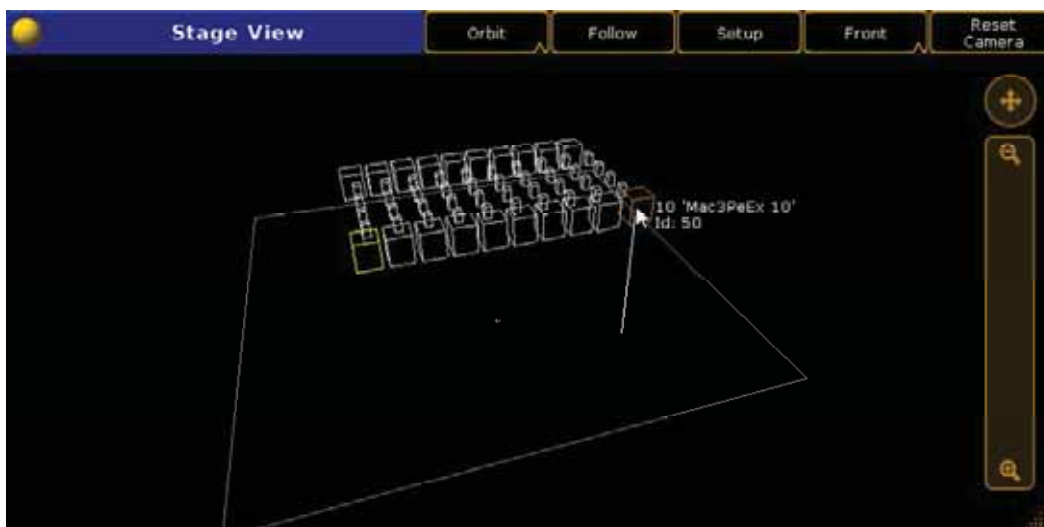


## Reference: Stage View.

In the stage view you can see a simple layout of your fixtures.

In the stage view every fixture and dimmer in your patch is represented by a white box. 3D elements added in a MA 3D visualizer with "Follow Target" turned on will be displayed in the Stage View as gray squares and boxes. When you create a new show or loading a show from a previous version, there's a default stage plane of 10 by 10 meters (32.8 x 32.8 feet) with "Follow Target" turned on.

It could look like this:



In the top bar there are several buttons that affect how this window behaves.

In the picture above there's one called 'Orbit'. This button has different modes. It all has to do with how the window reacts when you press the screen and move your finger around. When it is in \*Select' mode you can use the window to select fixtures on the screen. You can press individual fixtures or you can drag "boxes" around groups of fixtures. The 'Orbit', 'Move', 'Panning' and 'Zoom' modes moves the selected camera. The cameras are the same as in your connected MA 3D (if you have any).

The 'Front' button is a camera selector. This is the title of the camera. There are 9 different "3D" cameras and 3 different "2D" versions. The cameras have different name like 'Front', 'Top' and so on. The 'Reset Camera' button will reset the position of a camera to the default position.

The 'Follow' button disable the other stage view modes (Select, Orbit, Panning, Move and Zoom). Any selected fixtures with XYZ activated will move the beams to the position you press on the stage view. It gives you ZYX values in your programmer.

'Setup' is used to manually change the position and rotation of your fixtures. Read more below.

When a fixture is selected it turns yellow. This also applies when you select fixtures using other methods.

When your cursor is hovering over a fixture it turns orange and a text appears. This displays the fixture name and ID number.

On the right side of the view there are controls for moving the and zooming in and out.

### Setup of fixtures.

You can move your fixtures on the stage by switching to the setup mode. You do this pressing the "Setup" button (in the top bar) so it's active (it gets a yellow text).

Then the encoder toolbar changes to the **Stage Setup Encoder Toolbar**. With this you can move and rotate your fixtures and channels.

Follow the link below to read more about the Encoder toolbar.

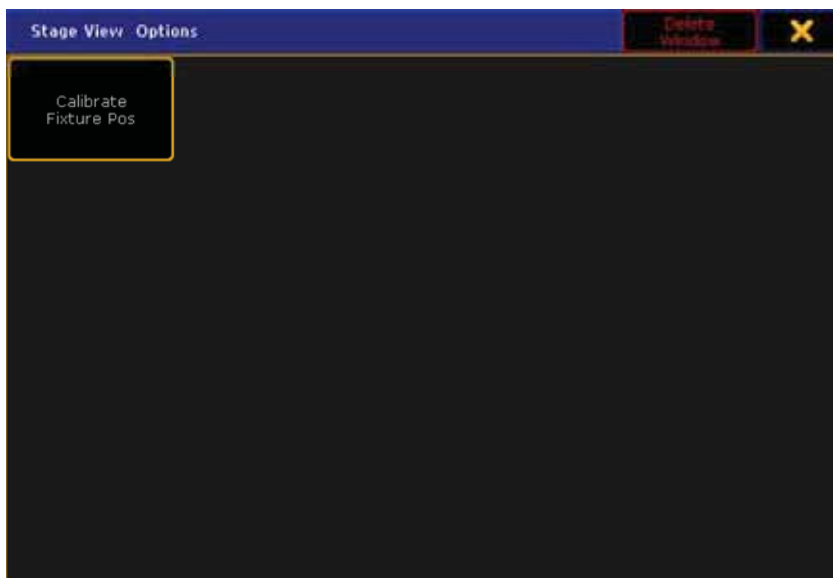
### Window options.

Pressing the yellow ball in the left side of the top bar gives you the options pop-up.

Here you'll find a **Calibrate Fixture Pos** button. This will open the **Calibrate Pop-Up**. This can be used to automatically calculate the position of your moving fixtures using pan/tilt.

You'll also have the option to close the Stage View (Delete Window) or close the options pop-up (the "X").

It looks like this:



Follow the link below to read more about the calibration pop-up.

### Related Links

- [Stage Concept](#)
- [Stage Setup Encoder Toolbar](#)
- [Stage Wizard](#)
- [Calibrate Pop-Up](#)



### Reference: Timecode

The timecode view displays the content of a timecode show. This have the same function as the timecode editor, but without the editing options.

This is what it could look like:



This is just a Timecode viewer. Follow the link below to the **Timecode Editor** to read the details about this view.

### Top Bar.

On the left side of the top bar there's the yellow MA ball. Pressing here gives you access to the options. See below for more information.

Moving to the right, you can see the number and name of the timecode show.

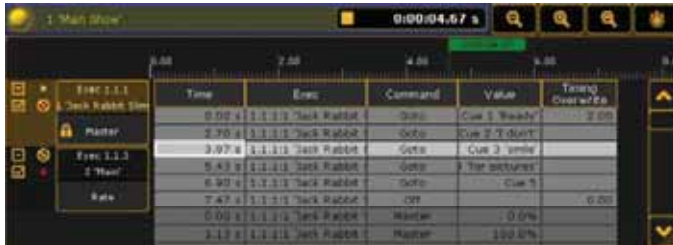
Next is an area that displays the current playback mode (Stop, Play or Pause) and the current position (time). A "+" means, time has an offset.

Then there are four buttons. Three of them are used to zoom in the timecode track. The first two are normal zoom-in and zoom-out. The one with the small arrow displays the entire timecode show. The last one with a stopwatch symbol is the "Follow Time" toggle button. When this is activated then the time marker (the green line and green time flag at the timeline) will move from the left side to the center and then stay at the center of the top of the main part.

### Main area

This view can have two different modes. A "Graphic" mode and a "Text" mode. Above is an example of the Graphic mode. It displays the timeline at the top and then the different tracks with the events.

The "Text" mode could look like this:



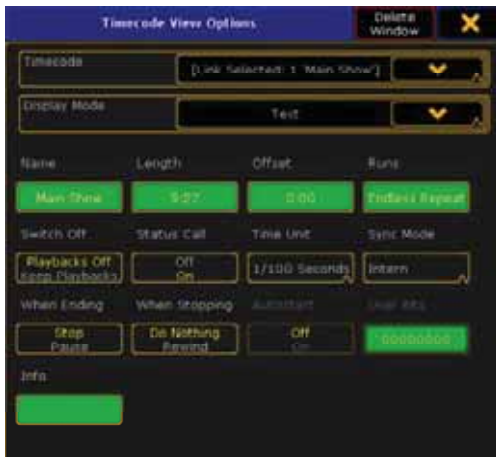
This displays the different actions in a list form.

The last executed event have a brighter color than the other events.

This is not an editor but a display of the timecode show. Follow the link below to read more about the details of this display.

### Options

This is what the options could look like:



There are many settings here. For details about the options follow the link below to the **Timecode Editor**.

For the timecode display there are two important options.

There's a drop down box called 'Timecode'. Here you can select what timecode show it displays. "Link selected" will always display the selected Timecode Show.

Another drop down box is called 'Display Mode'. Here you can change between the 'Graphic' and the 'Text' mode.

### Related Links

- [Timecode Editor](#)

- [Timecode Concept](#)
- [Timecode Keyword](#)
- [Macro Key](#)



## Reference: Commandline Feedback

This is one of the most important windows. It shows you how the desk responds to your input. It's also here error messages are displayed.

This is what it could look like:



In the title bar you find the yellow MA ball. Pressing here displays the options, read below for more about this options pop-up.

On the right side of the window there might be a vertical scroll bar. With this you can scroll up to see previous commands and/or feedback. There might also be a horizontal scroll bar that allows you to display the entire command.

When you are not at the bottom of the list the background of the main part of the window turns red.

Most lines in the main part of the window begins with a time indicator.

### Colors on the screen.

The default text color is white.

A keyword is always displayed with a green color.

Errors are displayed in yellow colors.

When you are displaying the "cmdHelp" list the green color will represent the short version of the command.

### Expressions in the commandline Feedback.

#### Processed

This is a feedback that tells you how the desk has responded to your input.

#### Error

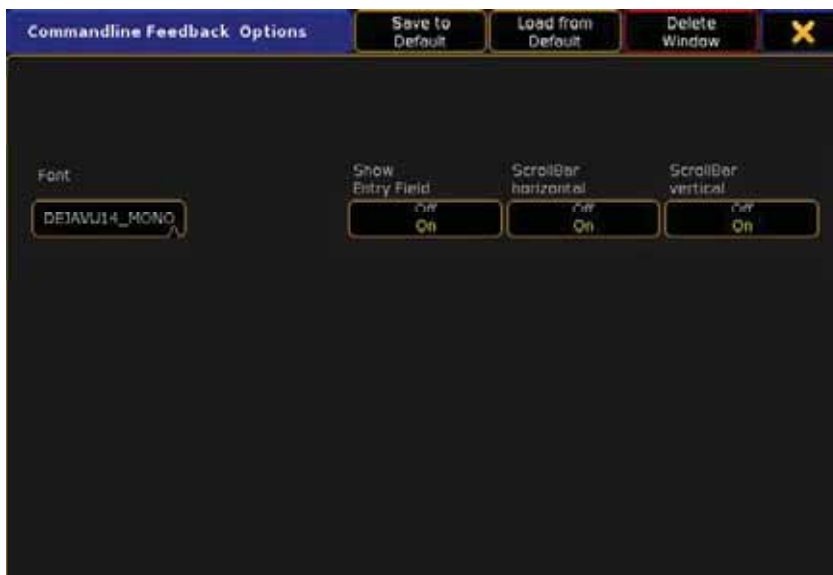
This is displayed when an error has occurred.

#### Macro

The command comes from a macro (or executing a macro).

### Options.

The Command Line options look like this:



The title bar of the options pop-up allow you to save the current options as a default for your user profile. You can also load the options from the default. There's a button to delete the Command Line window, and a button that closes the options pop-up.

The options in the pop-up allows us to change the font. You can also turn On/Off the "Show Entry Field" (the green entry line for command inputs), the horizontal and vertical scroll bars.

### Tips & Tricks.

When you have the focus in the entry line you can use the up arrow to scroll through the last used entries.

There are many helpfull commands. This is some of the important ones when using the command line:

[CD](#) - Change your destination in the showfiles object-tree.

[List](#) - Displays the content of your current location in the object-tree of your showfile.

[Slash character](#) - This can be used to set different options.

[CmdHelp](#) - This will display the help file for any object.

### Related Links

- [Error Messages](#)



### Reference: Desk Status

The desk status screen displays different facts about the desk.

This is an example of the window:



There are 8 different sub categories to the window:

#### Version

The version section tells you what type of console you are working on. Also the software version you are running and its build date.

#### Memory

This displays facts about the desks memory (RAM).

#### Disk

This shows you the available disk size, how much you are currently using and what percentage that is.

#### Executor

Here you can see how many playbacks you are occupying and how many are currently running.

#### Sequence

This tells you the total amount of cues you have recorded. Incl. any part cues.

#### Parameter

The parameter count displays how many parameters you are using in the actual show. And your total capacity (unlocked) parameters.



## Work Load

The work load displays a graph and a percentage of how busy your desk is.

## Network

This section will display what you have connected in your network. The number in the parentheses is the amount of devices you have in the **Setup → Network → MA Network Configuration**. The number outside is the current devices in your network. If the numbers are the same, then the number will be green. The number is red if the outside number is lower than the inside number e.g. you don't have connection to all the devices in your MA Network Configuration list.

## Desk Status Options:

When you press the yellow ball in the upper left corner, you enter the options.

Here you can delete the Desk Status Window or the options pop-up.

There are only one option for the Desk Status window:

Font Size:

With this you can change the size of the font used in the window.



## Reference: Help Viewer

This is the onDesk help viewer.

This is what it looks like:



This displays the help text to the keyword in the main part of the window. The left side of the window is the help menu tree.

You can use the menu to navigate the help text. The right part displays the help text and pictures.

## Title Bar.

The title bar has some buttons.

On the left side you'll find the yellow ball. This gives you access to the window options. Here you can delete the window or close the options pop-up.

The button with the magnifying glass opens a pop-up that allows you to search the help files.

The one looking like a small earth allows you to change the language in the help files (you can choose English or German).

The next two buttons give you the previous and next page in the help menu tree.

The next two buttons allow you to go back and forward in your help history.

Many windows allow you to press the Help key followed by window. This opens the Help pop-up about this window.

## Related Links

- [Help Key](#)
- [Help Keyword](#)
- [Help pop-up](#)





## Reference: MA Dimmer Network

In the **MA Network Dimmer View** you can configure and monitor a **dimMA** system

You can add / remove and change **dimMA** modules within different **dimMA** racks, view status information and log files, change the patch for each **input slot**, adjust dimmer profiles for each **dimMA** channel and change the mask for error reporting. You can also store and save the settings for each rack in the console.



- The NDPs that control the dimMA system are streaming dependent. Make sure that they are matching the streaming version of the console / onPC and that the NDPs are running in grandMA2 mode. To get the latest software updates for your dimMA system, please contact MA Tech Support via Tel +49 5251 688865-30 (normal business hours, GMT+1) or via [tech.support@malighting.com](mailto:tech.support@malighting.com)
- All settings that you do here are not linked to the setup data of the grandMA2 console. It is just the configuration Data of the **NDP** themselves.
- For more information please consult the NDP / dimMA manual on the MA Lighting website at [www.malighting.com](http://www.malighting.com)

A **MA Dimmer Network Window** could look like this:



### TheTop Bar

In the top bar there are several buttons that affect what is displayed in which part of the window and you can confirm error messages. These buttons do also change their name regarding to the function they have been set to

- The first button in the top bar of the MA Network Dimmer view, in the picture labelled **Log View**, has major influence on what is displayed in the bottom of the window.

You can change here to show a logfile or to edit one or more **dimMA** channels at a time.

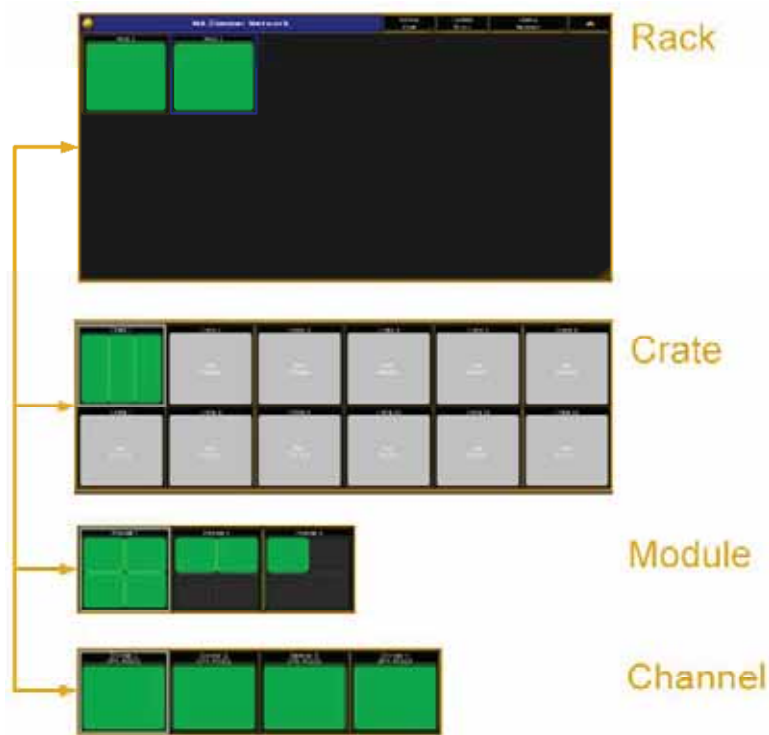
- The second button **Confirm Errors** is used to mark elements as working temporarily, if they are reporting an error. This can be used as a toggle function
- The third button, in this picture called **Status Readout**, selects what information is displayed in the middle of the window. Several options allow you to give you detailed information about the status and conditions the dimMA system is in.
- The fourth button , an arrow pointing upwards, is used to go up in the **dimMA** system hierarchy.

### the dimMA hierarchy

To navigate to the several levels of hierarchy within the dimMA system, you can use the following map. When first selecting an item, it just marks it. The second press lets you go down one level in the hierarchy. In the Top bar is a small arrow pointing up. Use that one to go up in the hierarchy again. The different levels of hierarchy do also reflect and filter the options that are displayed in the Dimmer- and Log View.

The dimMA system is split up into Racks, Crates, Modules and Channels.

- A **Rack** everything that one NDP can control, in theory max. 144 **dimMA Channels**
- A **Crate** does hold 3 **Modules**
- Depending on the type, a **Module** can hold between 1 or up to 4 **Channels**
- A **Channel** is the actual dimmer and all the corresponding configuration data for that particular piece



### The Main Part of the Window

The main part of the window is displayed in the following chapters, since its function is heavily related to the buttons in the Top Bar

### Related Links

- [grandMA NDP Tutorial](#)
- [Reference: Setup / Network / MA Network Control](#)
- [Reference: Setup / Network / MA Network Configuration / NDP Network Dimmer Processor](#)



### Reference: The Middle of the MA Dimmer Network Window

In the middle of the **MA Dimmer Network Window** you can view the status of the several dimmer system components and confirm error messages regarding to the level of hierarchy you are viewing.

The buttons **Status Readout** and **Confirm Errors** in the the top bar do change the behavior of all elements displayed in the middle of the **MA Dimmer Network Window**.



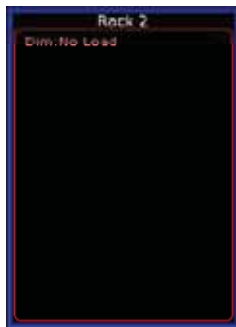
### Status Readout

When **Status Readout** is selected, you see the status of all NDP racks, that you control. They are drawn as full coloured rectangles:

- they are green if no errors are currently in your system
- they are red if you have an error

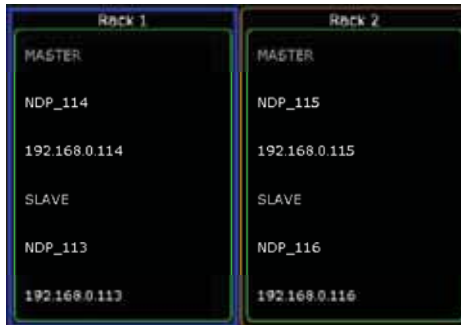
### Error Readout

To trace down the error, you can switch to **Error Readout**. In this case the rack is displayed red and within the borders of the rack you can see the actual error message. In the picture you can see "No Load" for example as an error message.



### Property Readout

In the Property Readout you can see which NDP is controlling the corresponding Rack. If a backup scenario is installed, you can also see the additional **NDP** that is in sync with the master **NDP**.



### Consumption Readout

In the Consumption Readout you can see the voltage, current and power used for each supplying phase, the sum of all currents, powers and the overall temperature. If you go down in the hierarchy, you will see this information for the selected **Rack**, **Crate**, **Module** or **Channel** only.

| Rack 1     |      |       | Rack 2     |      |       |
|------------|------|-------|------------|------|-------|
| L U(V)     | I(A) | P(kW) | L U(V)     | I(A) | P(kW) |
| 1 229      | 0.0  | 0.00  | 1 241      | 0.4  | 0.10  |
| 2 232      | 0.0  | 0.00  | 2 238      | 0.0  | 0.00  |
| 3 234      | 0.0  | 0.00  | 3 240      | 0.0  | 0.00  |
| Sum Ieff:  | 0.0  |       | Sum Ieff:  | 0.4  |       |
| Sum Power: | 0.00 |       | Sum Power: | 0.10 |       |
| Temp(°C):  | 22   |       | Temp(°C):  | 20   |       |

### Confirm Errors

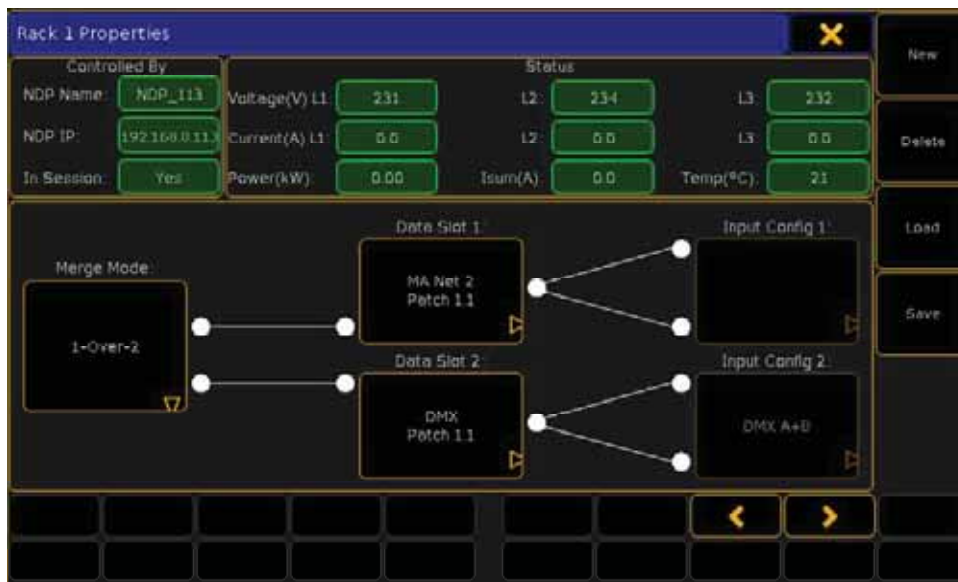
Whenever an error occurs, you can mark this error as "accepted" by choosing the corresponding element in the hierarchy (e.g. a Channel or a Crate) and then pressing the [Confirm Errors](#) button.

As a result, the color of the element will turn yellow as long as any error is on that particular element or as long the error is not toggled again by using the [Confirm Errors](#) button again.

! Whenever you change the functionality of the [Status Readout](#) button (e.g. to Property Readout), the labeling of that button does change as well. In our example the button will then be labeled [Property Readout](#) instead.

### Rack Properties

In you see (several) racks of the **dimMA** system, by pressing [Edit](#) and then click on one of the racks, this will open the **Rack Properties Window**.



In the upper left, you can see the properties of the **NDP** controlling this **Rack** with Name, IP and if it is in the grandMA2 session. Further more you can see Voltages, Currents, Consuming Powers and the overall temperature of the **Rack**. On the right side of the window are options for offline editing (NEW / DELETE) as well as backup functions (LOAD / SAVE). By pressing **EDIT** and doing a click on the grey area of the window, a **No Rack Window** will popup.

By clicking on the **NEW** button, you can create a new rack. A small window will show a list of the available rack numbers. Select one by clicking on it. This creates a normal **Rack Properties Window**. From now on the normal adjustments can be done, just like being connected online to a real dimMA system. After finishing all configuration steps, you can store all settings as a rack file in the grandMA2 console. All settings can be saved and recalled by using the **LOAD** / **SAVE** buttons. The configuration files do end with \*.rack and are saved on the desk when you execute the SAVE command or in the corresponding folder for grandMA2 onPC on a laptop / desktop PC hard disk. They are not stored in the showfile. In the bottom of the window the 2 input Data Slots can be configured.

You can only delete racks that are not in use (used by a **NDP**) or that just have been created "offline" without a **NDP** that is controlling that **Rack**. Select the corresponding Rack by opening the corresponding **Rack Properties Window** or use the arrows pointing left and right **<** / **>** to select the next or previous rack to configure.

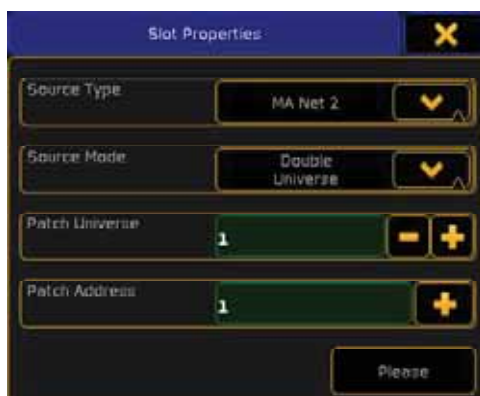
The way the two **Data Slots** are handled in the system can be set via the **MergeMode** button. The data protocol can be defined separately for each slot.

The following modes are accessible by clicking on the **Merge Mode** button:

- 1-ONLY  
only Slot 1 is used
- ONLY-2  
only Slot 2 is used
- LTP  
both Slots are used, but if both are active, the one with the latest changes takes precedence
- HTP  
both Slots are connected, but if both are active, the one with the higher values per channel takes precedence
- 1-OVER-2  
both Slots are connected, but Slot 1 has the higher priority. That means in case there is a valid signal on slot 1 (no matter which type) the NDP ignores the signal on Slot 2. In case the NDP detects a faulty signal on the first slot (or there simply is no signal, e.g. because the console is switched off), the NDP automatically switches over to Slot 2

To configure a single slot, activate its state by choosing the correct **Merge Mode** and click on one of the **Data Slot** buttons.

A Slot Properties popup comes up:



**Source Type**

Choose the corresponding protocol. Off is used to disable any incoming control data on that slot.

**Double Universe**

In case the option Double Universe is chosen, several considerations have to be taken: when using DMX, then DMX In 1 and 2 of the NDP are both used for one slot to have 1024 channels available for the configuration patch. When using Art-Net, you have to specify the two universes individually. It is possible to use the two **Data Slots** with four different Art-Net Universes in total. The configuration can be done in the Art-Net Properties Window by clicking on the Input Configuration button explained below. When using MA-Net2, the second universe is automatically the next one when using the Double Universe option.

**Patch Universe**

The universe field is only relevant in case of using MA-Net2. It does not affect DMX or Art-Net. You can specify with MA-Net2 universe is used for that slot.

**Patch Address**

Here you can enter the start address as a block. In case a number is entered here, it selects the starting block address for one rack, all configured channels follow on from this starting point.

The  in the top right corner closes this window.

In case you have selected Art-Net as a source, you have to define which Art-Net Universe is used. In this case you can click on the Input Config button in the Rack Properties Window.



The screenshot shows the 'Art-Net Input Properties' window. It has a title bar with the text 'Art-Net Input Properties' and a close button (X) in the top right corner. The window is divided into two sections: 'Line 1' and 'Line 2'. Each section contains two input fields: 'Subnet' and 'ID'. Both fields have a value of '0' and are accompanied by minus and plus buttons for adjustment. At the bottom right of the window, there is a button labeled 'Please'.

**Subnet**

The Subnet value defines the upper 4bits of the Art-Net Address. When entering 0 here, this defines 1, entering 1 here defines 2 and so on.

**ID**

The ID value defines the lower 4bits of the Art-Net Address. When entering 0 here, this defines 1, entering 1 here defines 2 and so on.

E.G. To define Art-Net Universe 25, the Subnet has to be 1, the ID has to be 8. Line 1 is active, if the option Single Universe was chosen in the slot properties window. Line 1 and 2 are active if the option Double Universe was chosen.

The  in the top right corner closes this window.

**Edit Module Window**

When you are down in the **dimMA** system hierarchy to the **Module** level, press  and click on one of the Modules (even if they are empty) to get to the **Edit Module Window**.

This will allow you to choose / change the module type assigned for this **Module**. If no module has been assigned yet, the list is empty. In the bottom right you can find the  button. Click on it to get a list of all assignable module types and choose one.



This will automatically update the configuration list in the upper part of the window. You furthermore can see the module type number, the power class and the assigned signal rise time in the bottom right of the window.



Select the corresponding **Module** by opening the corresponding **Module Properties Window** or use the arrows pointing left and right to select the next or previous **Module** to configure.

## Related Links

- [grandMA NDP Tutorial](#)



## Reference: The Bottom of the MA Network Dimmer Window

In the bottom of the MA Network Dimmer Window you can either display a logfile or change and display the configuration of dimMA channels.

The first button in the top bar of the MA Network Dimmer view has major influence on what is displayed in the bottom of the window.



### Normal View

When using **Normal View**, only the hierarchical elements are displayed.

### Dimmer View

When using **Dimmer View**, you get an additional list of the dimmer channels in the lower part of the window. This list is related to the selected rack and the position in the hierarchy that you choose. The further you do down in the hierarchy, the less channels are shown here. If you select another rack, you will be able to configure these channels instead.

| No.     | Name      | Auto Name | Patch1 | Patch2 | Profile | Preheat | U min | U max | Panic | Control | Type | Mode | Preheat Low | Fade | Quanta | Access | Response |
|---------|-----------|-----------|--------|--------|---------|---------|-------|-------|-------|---------|------|------|-------------|------|--------|--------|----------|
| 1.1.1.1 | DMX #3001 | On        | 1      | 1      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.1.2 | DMX #3002 | On        | 2      | 2      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.1.3 | DMX #3003 | On        | 3      | 3      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.1.4 | DMX #3004 | On        | 4      | 4      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.2.1 | DMX #3001 | On        | 5      | 5      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.2.2 | DMX #3002 | On        | 6      | 6      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.2.3 | DMX #3003 | On        | 7      | 7      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.2.4 | DMX #3004 | On        | 8      | 8      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |
| 1.1.3.1 | DMX #3001 | On        | 9      | 9      |         | 0       | 0     | 250   | 0%    | 0%      | Flat | Dim  | 0           | On   | On     | On     | Dim      |

All settings that you do here are not linked to the setup data of the grandMA2 console. It is just the configuration Data of the **NDPs** themselves.

#### No

In the first column you see the identifier number, consisting of **Rack**, **Crate**, **Module** and **Channel**- number (e.g. 1:1:3:1 is rack 1, crate 1, module 3, channel 3)

#### Name

Name is the name identifier of the channel within the log files and in the configuration.

#### Auto Name

If you change the Name, in the Auto Name column the option On is turned off. If you want to reassign the original name of the dimmer channel, toggle the field **Auto Name** to On.

#### Patch1

Patch 1 and Patch 2 reflect the patching of the 2 **Input Slots** of a **NDP** system. You can directly patch higher quantities of channels at the same time by selecting them (multi-selection) and changing the address. This will automatically change all items at once including the necessary increment per item.

#### Patch2

Patch 1 and Patch 2 reflect the patching of the 2 **Input Slots** of a **NDP** system. You can directly patch higher quantities of channels at the same time by selecting them (multi-selection) and changing the address. This will automatically change all items at once including the necessary increment per item.

#### Profile

In the Profile column, you can manage / create and edit **Profiles** assigned to each channel. You can also assign the same profile to several channels at once. This window is very similar to the Graph Editor for regular DMX profiles within the setup of the console. The profiles edited here are stored separately in the **NDP** compared to the DMX profiles in the grandMA2 console.

#### Preheat

With a Preheat setting of more than 0%, the **Channel** will permanently run on a freely adjustable value.

#### U min

With UMin and UMax you can limit the controlled channel range. These values do only apply if you work in the Mode Dim.

#### U max

With UMin and UMax you can limit the controlled channel range. These values do only apply if you work in the Mode Dim.

#### Panic

Panic and Control values are only displayed in this window and cannot be changed here. Both are stored values in the NDP and displayed in percent.

#### Control

Panic and Control values are only displayed in this window and cannot be changed here. Both are stored values in the NDP and displayed in percent.

#### Type

In the Type column you can change the addressing of the dimmer channels. You have to make sure, that the patching here is consistent with the patching in the setup of the console. Make sure both settings are correct.

#### 8 bit

The channel will be controlled in 8 bit mode, i.e. the brightness range is divided into 256 increments.

#### 8 bit/S

The channel will be controlled in 8 bit mode and has an additional channel that will trigger changed values with a set fade time. A Fade from 0 to 100% on the control channel with the additional channel set to 100% will take 5 minutes, a lower value on the additional channel will scale that time down linear.

#### 16 bit

The channel will be controlled in 16 bit mode, i.e. the brightness range is divided into 65536 increments.

**16 bit/S**

The channel will be controlled in 16 bit mode and has an additional channel that will trigger changed values with a set fade time. A Fade from 0 to 100% on the control channel with the additional channel set to 100% will take 5 minutes, a lower value on the additional channel will scale that time down linear.

**Mode**

In the Mode column, you can change the way the channel shall react. Off: disables any reactions to incoming control data. Off: disables any reactions to incoming control data. Dim: is the normal Dimmer mode. Switch: the dimmer acts like a switch, the firing angle is 90° phase of the sinus voltage of the first sine cycle. NonDim: the dimmer acts like a switch, the firing angle is 0° phase of the sine cycle.

**Threshold**

In the Threshold column, you can define at which value of the input control data the turning point shall be. This does only influence the behaviour if the channel is configured in Non-Dim or Switch mode.

**No Load**

No Load is used to mask error messages, if the minimum base load to a Dimmer is not connected (or the bulb is blown) to the dimmer channel and the control of that channel (incl. preheat) is over 0%.

**Fuse**

Fuse is used to mask error messages if the fuse (MCB) of the channel has been tripped.

**Overload**

Overload is used to mask error messages if an overload occurs on the selected channel.

**Excess DC**

Excess DC is used to mask error messages, if the output is too biased to one polarity (e.g. one of the thyristors does have an error and does not work correct).

**Response**

Smooths all changes in the control signal, which is especially useful when driving fluorescent tubes. The disadvantage is, that all lamps connected to this dimmer channel do respond slower. Entries between 0 and 5 are interpolated to 0 in this case.



All four error reporting mask settings (No Load, Fuse, Overload and Excess DC) will affect both the log files and the Status Reporting readout.

**Log View**

When choosing this option, the log file of the selected rack is displayed in the lower part of the window. To mask the error messages, simply click on the corresponding object, e.g. to mask all error messages for module 3, crate 1 of rack 11 go down in the hierarchy till you see the wanted module in detail and the error messages are automatically masked in the log file onto the selected module at the same time. Remember, that the error mask defined for each channel is relevant for all items listed in the Message Log as well. The highest level to select here is one **Rack**, so you can see only the log file of one **Rack** at a time.

| Time                     | Message                                                          |
|--------------------------|------------------------------------------------------------------|
| Tue Dec 14 11:09:46 2010 | Dimmer 001.01.3.4 (DMX #0012) -Load again connected or lamp o.k. |
| Tue Dec 14 11:09:46 2010 | Dimmer 001.01.3.3 (DMX #0011) -Load again connected or lamp o.k. |
| Tue Dec 14 11:09:46 2010 | Dimmer 001.01.3.2 (DMX #0010) -Load again connected or lamp o.k. |



Whenever you change the functionality of the **Normal View** button (e.g. to Dimmer View), the labeling of that button does change as well. In our example the button will then be labeled **Dimmer View** instead.

**Syntax**

**Note:**

**Related Links**

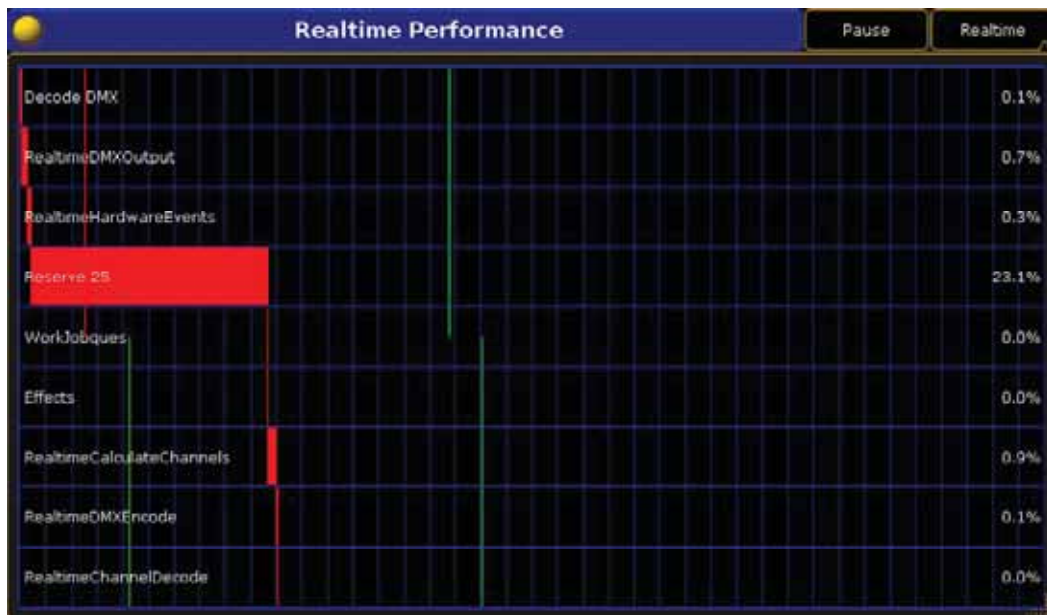
- [Graph Editor](#)
- [grandMA NDP Tutorial](#)

**Reference: Performance**

This Performance window is a monitor of internal workloads - This is a debug tool.

This is for debugging. And might not make much sense for the common user. It has two different modes - Realtime and Draw. This is what the realtime could look like:





Here you can see the worklode of desk. There's a "Pause" button in the Top Bar. This allows you freeze the display. This is what the "Draw" mode could look like:



There you can see the resources allocated to drawing the screens. Each display you have will have it's own row.

In the left corner of the Top Bar you can access the options.

Here you can delete the window or close the options pop-up.

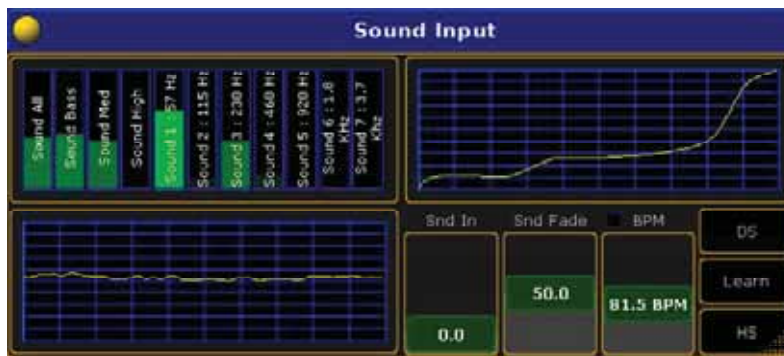


### Reference: Sound

You can use the sound input to trigger Cues or as BPM triggers.

This window shows you the sound input.

It could look like this:



The top left part of the window displays the sound input level divided into the different wavelength, High, Middle, Low and All sound.

The bottom left part displays sound wave received.

The top right part displays the BPM counter. Here you can see how the incoming sound is interpreted in BPM.

The bottom right part displays the special faders and functions associated with the Sound In feature. All these faders can also be assigned to executor faders.

Sound In can be used to trigger cues. BPM can be used to run chaser and you can assign the different sound channels as 'Forms' in effects.

#### View options

If you press the yellow ball in the upper left corner you get the Options pop-up.

With this you have the option to delete the Sound window or close the options pop-up.



#### Reference: System Monitor

This is a debug screen - It displays the inner workings of the desk.

This is what it could look like:



There isn't much to see for the common user in this window. But if the desk doesn't behave right, this might provide some hint to trouble shooting.



#### Reference: Dialogs & Pop-ups.

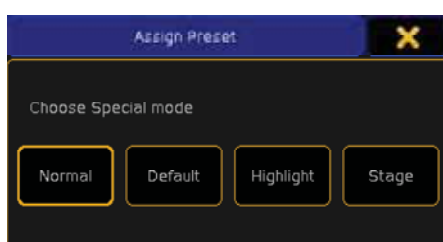
This section is about all the different pop-up's you can encounter in the grandMA2.



#### Reference: Assign Preset Pop-up

This pop-up is used to change mode of a preset.

You can change the mode of a preset by pressing the **Assign** key followed by the preset. When you do this you'll get a pop-up like this:



Now you can choose a new mode or close the pop-up (using the yellow X in the upper right corner).

There are four different modes. The following is a short description of them :

Normal:

This is the normal operating mode for the preset.

Default:

This can be used to change the "Default" values directly in the setup.

Highlight:

This can be used to change the "Highlight" values directly in the setup.

Stage:

This mode isn't implemented yet.

## Related Links

- [Presets](#)



## Reference: Attribute Filter Pop-up

There are many ways you get access to the Filter pop-up. It allows you to filter some attributes and/or layers.

One way to access it is to press and hold the **At** key. It could look like this:



This pop-up allows you to select and filter attributes. The attributes that have a yellow text are the ones that are selected.

The selection can then be used to get info from other fixtures and assign it to your current selection.

On the right side you have three buttons to filter Value, Value times and/or Effect data.

You can also choose to "Reset Filter on Clear" . When this is active, your current filter will resets to the selected filter in the filter pool, when you clear your programmer.

The last button on the right side, allows you to store your current filter to the filter pool. It will be stored to the next available pool button and force you to give it a name.

### Title bar

In the title bar there are several buttons. The first two are for zooming in the window. This will decrease or increase the size of the buttons.

There are also two buttons that allow you to select none or all of the attributes.

The last button closes the pop-up

## Related Links

- [At Key](#)
- [Store Options](#)
- [Filter Pool](#)

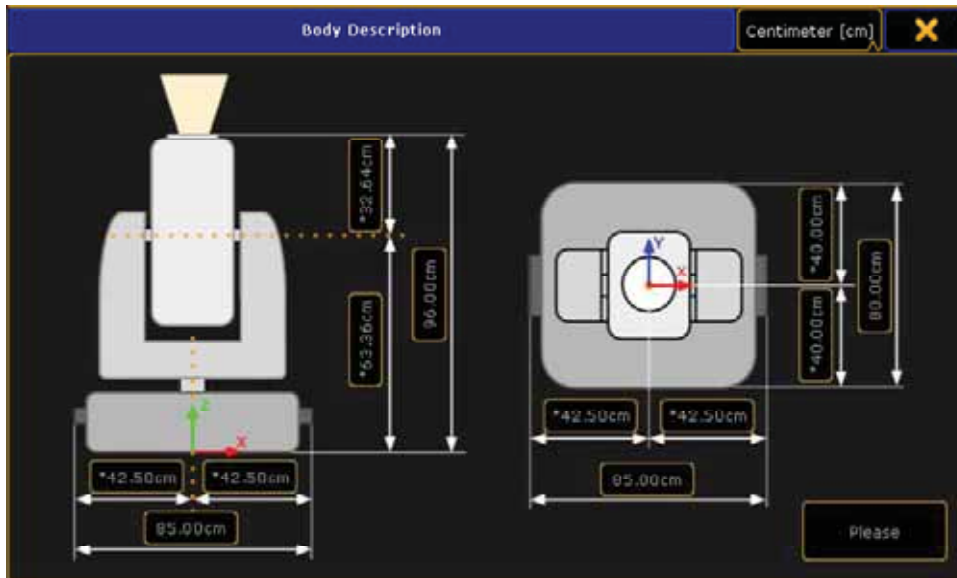


## Reference: Body Description

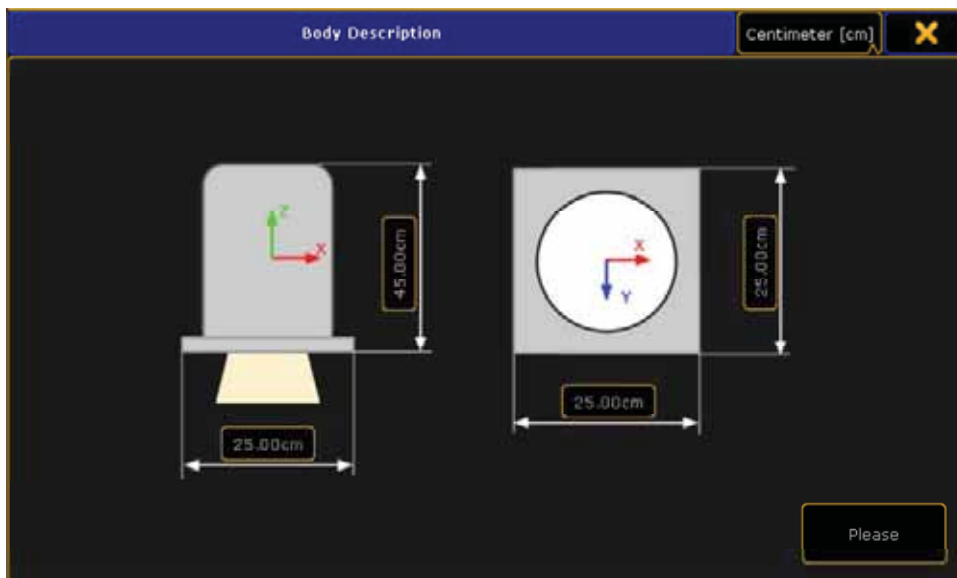
The 3D fixture body are dynamically generated for MA 3D. This can be used to define how big the fixture body is.

You can access this in the Module Manager in the Edit fixture menus.

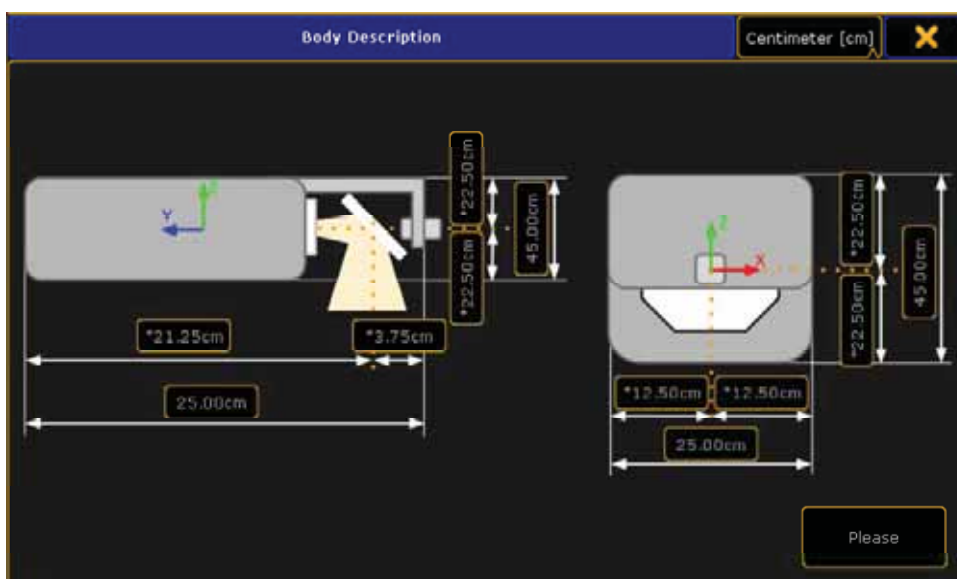
This is what it looks like for the moving head class:



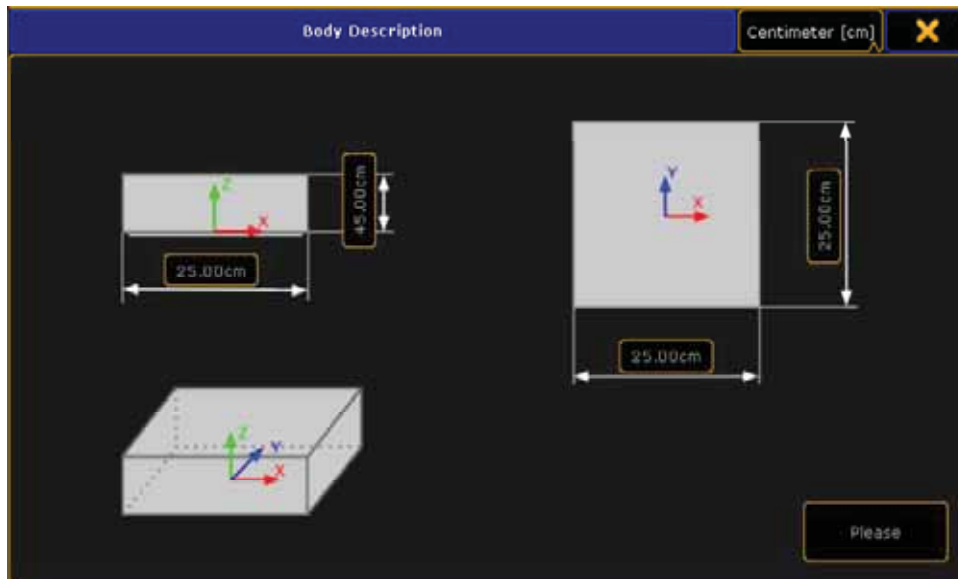
This is what it looks like for conventinals:



This is a moving mirror class:



This is a LED class:



The different overall size and "sub sizes" are recalculated when you edit one or the other.

You can change the units by pressing the current unit in the upper right corner. This will give you a drop down that allows you to select one of the following: Meter, Centimeter, Millimeter, Inch or Foot.

The yellow dotted lines indicate the rotational axis of moving heads and moving mirrors.

When you are happy with your fixture then you can confirm your settings by pressing the **Please** button.

## Related Links

- [Module Manager](#)



## Reference: Browser pop-up.

The browser allows you to find the files you need.

This is what it could look like:



In the top bar there's the option to close the pop-up.

Just below the top bar is a row of buttons and boxes. The first one displays the current folder you are in. The down arrow gives you a drop down box with that shows you where you are in the folders in the console. The next button takes you to the folder one level above the current folder. The last button gives you three different ways to display the folder content: 'Symbols', 'List' or 'Details'.

Below this there's the main part of the browser. Here's the list of content that you can select. There are typical three columns here: 'Name', 'Size' and 'Date'.

The lower part is a box with the current selected file. The "+" button opening the on-screen keyboard. Any filter settings. And finally an 'Ok' button to confirm you choice and a 'Cancel' button that closes the browser without make any selection.

On the right side there might be a preview of the file.

There's also a "Select Drive" drop down box. Here you have the option to select what drive to browse for the files. This is also where you select a USB drive.

## Related Links

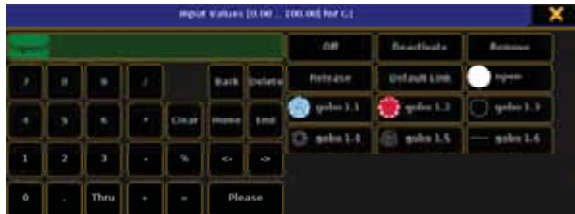
- [Enter Name of Object](#)



## Reference: Calculator

This is one of the most important pop-ups in the grandMA. It's used to enter values on the screen.

This pop-up is one of the most important pop-ups. This is what it could look like:



At the top bar you can see the allowed value range and for what attribute you are entering value.

On the left side of the pop-up you have an input area at the top. Here you can see the value you are entering.

Below this you have a screen version of the numeric keys and the keys normally used for entering ranges and values.

It's possible to enter ranges and open ranges e.g. "1 Thru".

On the right side of the calculator you'll have shortcut to function sets for the attribute you are accessing. This changes dynamically with the active attribute.

E.g. if you are changing values on a gobo it might look like the example above. But if you are changing values on a color wheel, you'll see a list of colors.

If the list is longer than the pop-up, you'll have a scrollbar in the right side.

The list on the right side have some default buttons:

Off:

This will clear a value from the programmer.

Remove:

This puts the "Remove" value in your programmer. This can be used to remove earlier stored values. This is also used in the Fade and Delay calculator. Here you can use it to set the times to the same as the general cue timing.

Release:

This puts the "Release" value in the programmer. This can be used to release earlier values in a cue

Default Value:

This will give the attribute the default value.

You can confirm your new (or current) value with the "Please" button and you can close the pop-up without making any changes by pressing the "X" in the upper right corner.

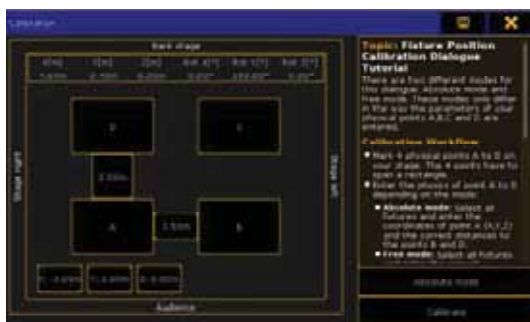


## Reference: Calibrate Pop-Up

This windows is used to calibrate your Pan/Tilt fixtures. This is accessed from the Stage View Options.

The following is a description of the **calibration pop-up**

This view have two different modes. This is the Absolute mode:



And this is the Free mode:





You can change between the two modes on the soft key that says **Absolute Mode** or **Free Mode**. Below this is the **Calibrate** soft key. This is the one you press when you are ready for the automatic calibration.

Above this you'll find a description of the workflow in this view. You'll find the description on this page below.

The left side of the view is your stage. At the top you'll see the current position and rotation of the last fixture you selected.

For the calibration you'll need to mark the corners of a rectangle on your real stage - point A, B, C and D. And you need to tell the software where your rectangle is. If your rectangle is at a level plane plane of your stage, you can use the Absolute mode. If the rectangle needs to be on a sloping part of your stage then you need to use the Free mode. Each fixture can have it's own rectangle but they can also share the same rectangle. If there's an \* symbol next to the A, B, C or D then your fixtures don't share the same rectangle.

In absolute mode you define the X, Y and Z position of corner A and then you specify the distance from corner A to corner B and corner D. This will give you a rectangle.

In free mode you define the X,Y and Z position of three corners (A, B and C). This allows you to create a rectangle on a sloped plane.

When you have selected a fixture and created a rectangle you'll see it in the Stage view.

### Calibrating fixtures for the first time

These are the steps needed to calibrate fixtures for the first time (sharing the same rectangle):

1. Patch the fixture and don't switch on the XYZ support.
2. Setup the approximate XYZ positions in the Stage View for your fixtures.
3. Invert the Pan/Tilt channels to have the right movement in your stage view and the real world.
4. Store 4 Pan/Tilt position presets for the 4 corners A, B, C and D for your real rectangle. (Here you can use the Stage View with Follow to get the positions a bit quicker than only with the Pan/Tilt encoders).
5. Open this calibration pop-up in the stage view options.
6. Put in the dimensions for the rectangle.
7. Call the Pan/Tilt preset A in your programmer, with all fixtures selected and now press **Store** key and the **A** soft key on the calibration pop-up.
8. Repeat the procedure for corner B, C and D.
9. Now select all fixtures and push the **Calibration** soft key in the menu.
10. Go to the fixture type in the patch and switch on the XYZ support.

Now you can use the Follow and the xyz encoders to store positions in your cues.

### Re-calibrating fixtures after the initial setup

These are the steps needed to re-calibrate fixtures if they have moved position:

1. Open the calibration pop-up in the stage view.
2. Select the fixtures and bring up the dimmer channels or use Highlight.
3. Push the **A** soft key in the calibration pop-up.
4. The position mode will switch to Pan/Tilt and you can correct the positions for the fixtures (In this case don't use the "Follow" in the stage view because it automatically switch the position mode to XYZ. You can't store XYZ values on the A, B, C and D corners!).
5. Select the fixtures. Press the **Store** key and overwrite the corner A with the new Pan/Tilt values.
6. Repeat the procedure for corner B, C and D.
7. Now select all fixtures and push the **Calibration** soft key in the menu.

All XYZ values in your show are now updated.

### Some rules and limitations

There are some rules and limitations using XYZ:

- XYZ, Mode, Flip, Mark and Distance are 7 parameters more you need per fixture.
- Mark and Distance are parameters for future use. Don't delete them please!
- You can't Park the new virtual XYZ, Mode, Flip, Mark and Distance parameters.
- After the calibration and programming don't invert the DMX Pan or Tilt attributes.
- After the calibration and programming don't move the fixture position and rotation in the Stage View.
- After the calibration the fixture positions in the Stage View are moved to their calculated position.
- If your fixture positions are accurate made in the Stage View and you don't want to lose them, then you can use the Follow to use the XYZ parameters.
- To fade fixture positions on the stage in a straight line between point A and B you need the XYZ parameters.
- Don't unblock sequences containing a mixture of XYZ and Pan/Tilt position data and don't "store /remove" or remove values to remove single attributes of the position preset type of cues when using XYZ. This could result in unexpected loss of position data inside your sequence.

### Related Links

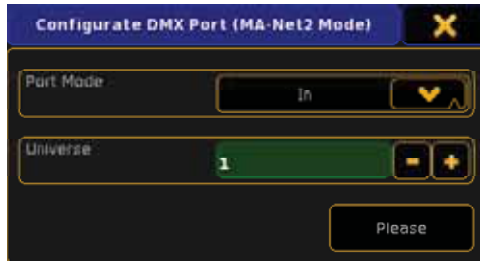
- [Stage View](#)



### Reference: Configure DMX Port

Here you can change the settings for a DMX port (XLR connector).

This is what the pop-up could look like:



The DMX ports on any MA equipment is a hardware link between the MA network and a physical DMX connection. Any XLR plug can be an output or an input. It doesn't matter if the plug is a male or female - that's just the physical connector. E.g. the rear of a grandMA2 fullsize have 6 female and 1 male 5-pin XLR connectors. But you can change them all to be outputs, giving you the possibility to output 7 lines of DMX.

Here you can select the port mode. It can be "In", "Out" or "Off".

You can also choose what universe it should use.

If you need to setup a DMX merge you need to go to **Setup → Show → Patch Only (Live) → DMX List** to turn on or off DMX merge.

### Related Links

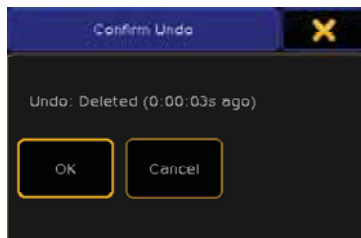
- [MA Network Configuration](#)
- [DMX List](#)



### Reference: Confirm Undo

Pressing the "Oops" key asks for confirmation.

When you press the Oops key you'll get this pop-up:



The text inside the pop-up tells you what you are about to "oops".

Pressing the 'OK' button confirms your "oops" action. Pressing 'Cancel' aborts the "oops" action.

### Related Links

- [Oops Keyword](#)
- [Unoops Keyword](#)



### Reference: Create Basic Window

This pop-up appears when you press an empty space on any of your screens. It's used to create Sheets, pools, presets, playbackes and other windows that you can use to program and run your show.

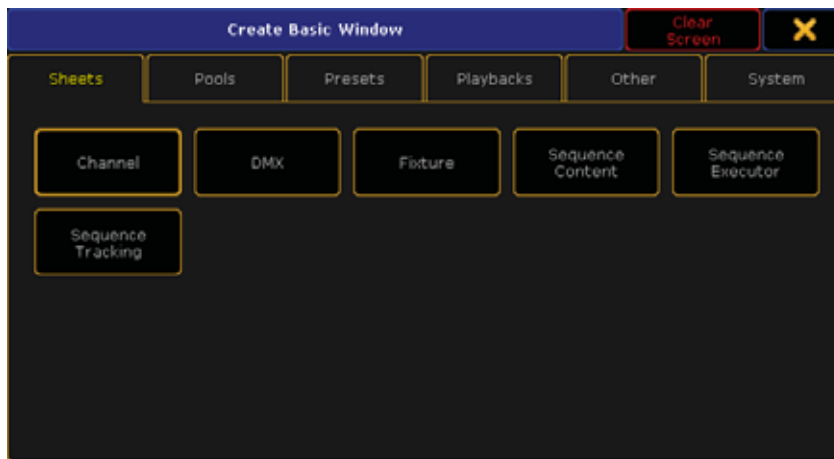
In the title bar of this pop-up you'll find two buttons. One is the 'Clear Screen' button. With this you can clear the screen (delete all the windows) that you pressed to get this pop-up.

The other one is the usual orange x. With this you can close this pop-up without any changes.

#### Sheets

There are several sheets that you can create. When you press the Sheets tab in the dialog you see this window:

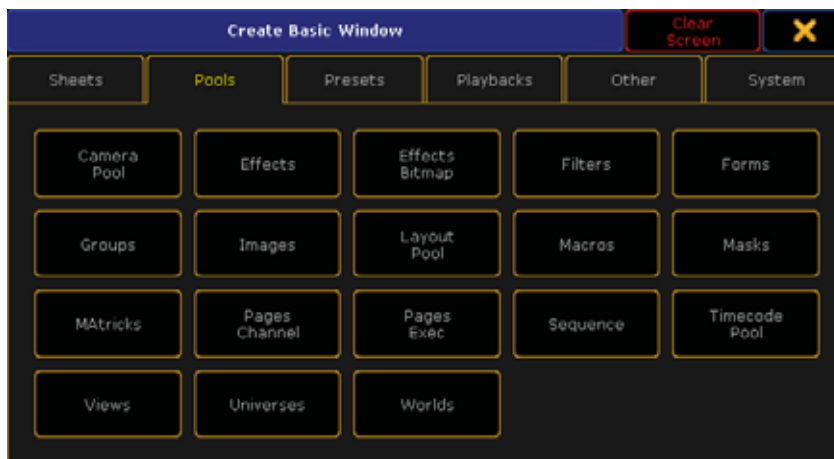




Follow the links below to read more about sheets.

### Pools

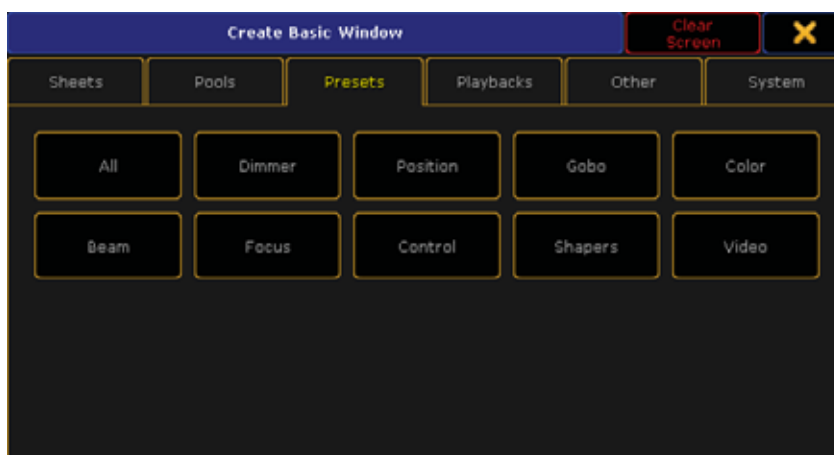
Pools are screen buttons that contains objects like macros, effects and views. Everything in the console is organised into pools. This gives you fast access to most of them. When you press the Pools tab you see this pop-up:



Follow the links below to read more about pools.

### Presets

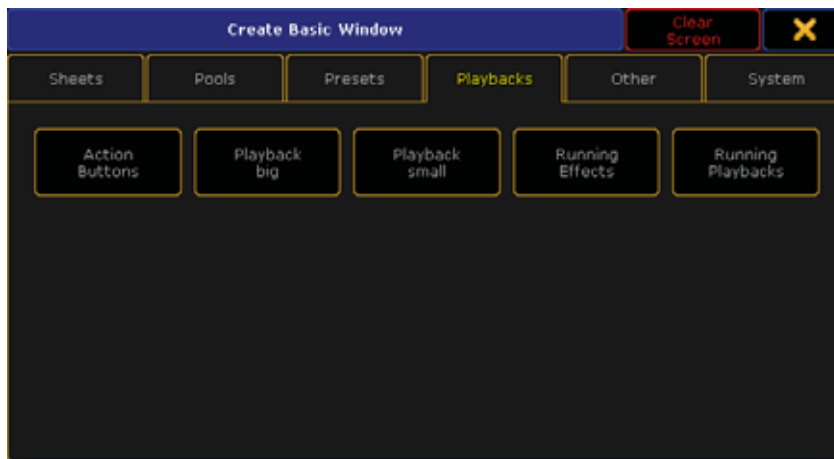
Presets are screen buttons that contains information about device selection and attribute values. They are used to store and recall focus positions, colors, gobos and so on. When you press the Presets tab you see some content like this:



Follow the links below to read more about presets.

### Playbacks

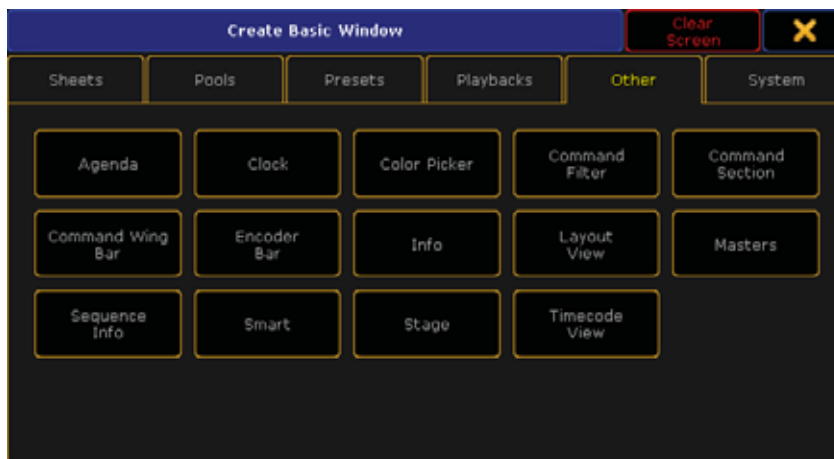
Playbacks are screen versions of executor buttons and faders - it also offers views with running effects and running playbacks. When you press the Playbacks tab you see this pop-up:



Follow the links below to read more about presets.

### Other

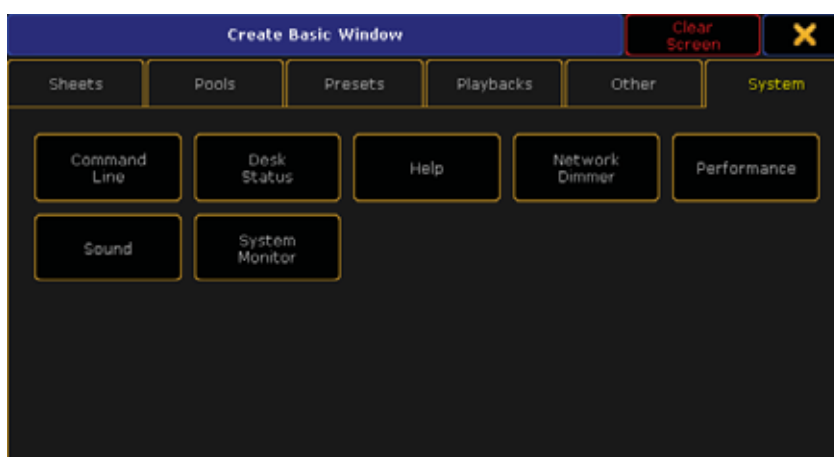
The Other category are windows that is not sheets, pools, presets or playbacks. They are a collection of very useful tools that can provide information and help you with quick access to different elements. When you press the Other tab you see this pop-up:



Follow the links below to read more about the other windows.

### System

The system category are windows that has to do with your console and the MA system. They are a collection of very useful windows. The main focus for these windows is to provide you with information. When you press the System tab you see this pop-up:



Follow the links below to read more about the other windows.

### Related Links

- [Sheets](#)
- [Pools](#)
- [Presets](#)
- [Playbacks](#)
- [Other](#)

- [System](#)



### Reference: Create Multiple Events

You can use this pop-up to create multiple goto events in a timecode track.

This is what the pop-up could look like:

You can change how many events you want to add by using the numeric keypad or the plus and minus buttons.

The next two input fields are connected to each other and to the first input field. If you have 10 events and you set an interval of 1 seconds, then you get an overall timespan of 10 seconds. If you set the interval of 2 seconds, then the overall timespan becomes 20 seconds. You can also define the timespan, then the interval will be recalculated.

The last input field is used to define the first cue. All the other events will be the following cues. If there's not enough cues, then it will start from the top of the sequence.

### Related Links

- [Timecode Editor](#)



### Reference: Create Selection Pop-up

This pop-up is used to create a selection in the timecode editor.

This is what it looks like:

This will select multiple existing events.

The left button is a drop-down box that gives you the following options:

On Current Subtrack

This will only select events on the current sub track.

On Selected Tracks:

This will select events on all the tracks (and subtracks) that have a check mark in the small box on the left side next to the track number and name.

On All Tracks

This will select events on all the tracks in the timecode show.

The next three buttons allow you to select all events before (and including) the time marker, select all events or all events after (and including) the time marker.

### Related Links

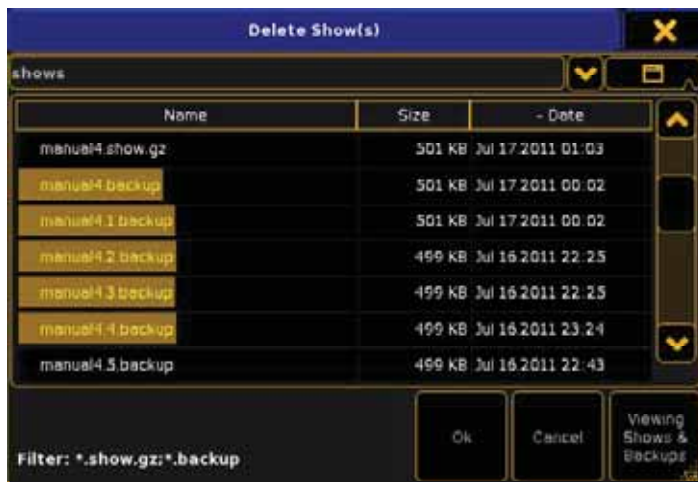
- [Timecode Editor](#)



### Reference: Delete Show Pop-up

You can delete showfiles using the menus and pop-ups

When in the backup menu you can press the 'Delete Show' button and get this pop-up:



This is used to delete one or multiple shows.

Here you can see the name of existing shows, their size, and the last time they were stored. In the lower right corner, there's a button that allows you to see the Backup & Show files, just the Backups or just the Show files.

You can then select one or several of them. The selected files will have a yellow text and background. When you press the 'Ok' button, you'll delete the files. If you don't want to delete anything you can press the 'Cancel' or 'X' button.



### Reference: Diagnostic pop-up.

The Diagnostic pop-up allows you to see all the warnings and errors in your patch and setup.

This is what it could look like:



There are many different places where you can run the diagnostic. The result always refers to the window where you run the diagnostic report.

In the title bar there's the option to move the pop-up between screen 1 and 2 and the X that closes the pop-up.

Just below the title bar is the diagnostic report.

There are two different types in the diagnostic window. There are Errors and Warnings. Errors are more severe than warnings, but none of them prevents you from leaving the setup.

The warnings and error explain the problems.

There's only one button for this pop-up. The "Update" button runs the diagnostics report again.



### Reference: DMX Patch pop-up

This pop-up is used to patch one or more fixtures.

You can access this by right clicking (or pressing the Edit key followed by) a patch number. This is what it could look like:



The left half of this displays the fixture(s) you have selected and their different fixture breaks (multiple DMX addresses for the same fixture).

The right half displays the patch in a more graphic way. It displays how many channels the fixture uses and how they take up the space in the universe.

At the title bar you can use the yellow x to close the pop-up.

In the right hand section there are three buttons. They are used to navigate the universes.

Pressing the green cell (with a number in it) opens a calculator where you can enter a new universe number.

The two buttons "Previous Universe" and "Next Universe" changes back and forth between the universes. You can also use the second encoder to scroll through the universes.

There are several buttons at the bottom of this window. They are organised in categories. The following is a short description of them:

#### Multipatch:

##### Add Multipatch:

This allows you to create a number of multipatch fixtures to the selected fixture - maximum of 1024. Multipatch doesn't add fixtures in your grandMA2 3D visualizer.

##### Delete Multipatch:

This deletes the selected multipatches.

##### List:

##### List Unpatched:

This will pull all the unpatched fixtures into the list on the left side.

##### Diagnostic:

This opens the Diagnostics pop-up. Here you can see all the warnings and errors in your patch.

##### DMX Address:

##### Set Focus To...:

This will allow you to input a universe and address that the courser should move to.

##### Encoder:

##### Skip Patched:

This will only scroll through the available DMX addresses and skip past already patched addresses.

##### Patch:

##### Patch To Address:

This will patch the selected fixture (breaks) to the selected DMX address.

##### Offset:

This is the minimum offset between multiple fixtures. E.g. You have three fixtures that each uses 5 DMX channels. Setting the Offset to 10 and selecting all of the fixtures, and patching them to address number 1. The result would be: Fixture 1, address 1; Fixture 2, address 11; Fixture 3, address 21.

##### Patch Selected To...:

This allows you to directly enter a universe and address for the selected fixture (breaks).

##### Unpatch Selected:

This will unpatch the selected fixture (breaks).

## Related Links

- [Diagnostics pop-up](#)
- [Edit Channel pop-up](#)
- [Edit Fixture pop-up](#)

- [Patch & Fixture Schedule](#)



### Reference: Edit Channel pop-up

Right clicking a channel in the **Channel Sheet** or **Fixture Sheet** gives you a pop-up that allows you to change different options on the channel.

If you right click any channel in a channel sheet, you get a pop-up like this:

| Field | Chid | Name   | Fixture Type | Patch | Master | Pan Invert | Tit Invert | Swap | Color       |
|-------|------|--------|--------------|-------|--------|------------|------------|------|-------------|
|       | 309  | Dim 1' | Dimmer       | 7.101 | On     |            |            |      | 255 255 255 |

| Attribute | Default | Highlight | Stage | Snap | Invert | Master | Profile |
|-----------|---------|-----------|-------|------|--------|--------|---------|
| DIM       | 0.00    | 100.00    | None  |      |        | On     |         |

You can change all the options with a grey background. This is a short description of them:

Name:

This is the name of the channel.

Patch:

This gives you the **DMX Patch pop-up** (follow the link below to read more about this pop-up). If the channel isn't patched it displays this: (-)

Master:

If this is On then the channel responds to the status of the Grand Master and the "Solo" function.

Color:

This gives you the **Edit Color pop-up** (follow the link below to read more about this pop-up). Here you can assign a color to the channel. Also you can assign a color filter for 3D and visualizing.

Default:

Generic value when nothing is On or in programmer and no value from a sequence.

Highlight:

Generic value when highlight is On.

Stage:

Generic value when Stage initialization is enabled (not implemented).

Snap:

Sets the attribute to snap, rather than cross-fade from cue to cue.

Invert:

Invert DMX-output.

Profile:

Pressing here opens the **Select DMX Profile pop-up**. This allows you to select a different DMX profile for the attribute. The default is a linear going from 0 to 255 in 256 steps.

Every change here is an individual change that doesn't affect the other fixtures.

### Related Links

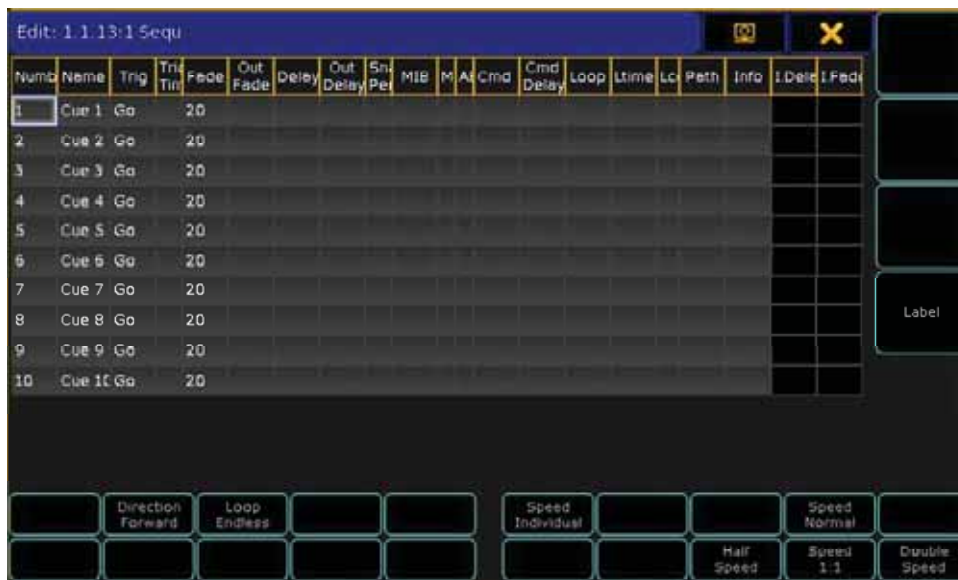
- [Channel Sheet](#)
- [Fixture Sheet](#)
- [DMX Patch pop-up](#)
- [Edit Color pop-up](#)
- [Select DMX Profile](#)
- [Graph Editor](#)



### Reference: Edit Chaser

This pop-up is used to edit the cues and some settings in a chaser.

If you press the middle part of a mini executor that have a chaser assigned, you get the Edit Chaser pop-up and the Chaser Encoder Toolbar. It could look like this:



Here you can change all the options with a gray background and white text. That's most of the settings in a sequence.

To read about the different options in the sequence, follow the link below to the **Sequence Executor Sheet** window.

In the top right corner of the pop-up, you can close the pop-up or move it to one of the other screens.

On the right side there's a button that allows you to label or relabel the sequence.

In the bottom part you can change the direction. Pressing here opens the Small **Select Chaser Run Mode**. There are four options (assuming you activated the chase using "GO"):

Forward:

This will run the sequence from the lowest number to the highest.

Backward:

This will run the sequence from the highest number to the lowest. Remember that this is only if you have activated the chaser using "Go". If you have used "GoBack" it will actually run forward (from lowest number to highest).

Bounce:

This will run the sequence to the last step, then run backwards to the first step, change direction again and run to the last step. It will continue like this until you stop it.

Random:

This will run the steps in a random pattern.

You can also change if the chaser should loop. Pressing here opens the Small **Select Chaser Loop Mode**. There are three options:

Endless:

This will loop the sequence until you stop it.

Shoot-Off:

This will run through the sequence once and then Off the chaser (using the MFade time).

Shoot-On:

This will run through the sequence once and pause at the last step.

There's a lot different options for controlling speed.

You can assign the chaser to a Speed Group by pressing the **X6** key or where it says Speed Individual in the example above - This opens the Small **Select Speed Group pop-up**. Speed groups are used to change the speed of several executors at the same time and to sync them to the same beat.

You change the Speed Factor of the chaser by pressing the **X9** key or where it says Speed Normal in the example above - This opens the Small **Select Speed Factor pop-up**. Speed factors are used to multiply or divide the speed. This allows you to slow down or speed up this chaser but keep it in sync with other effects and chases.

The last three buttons are used to half or double the speed. Pressing the "Speed 1:1" or X19 key sets the speed to 60 BPM (or 1.00 Hz or 1.00 Sec.).

## Related Links

- [Chaser Concept](#)
- [Chaser Encoder Toolbar](#)
- [Chaser Mini Executor](#)
- [Sequence Executor Sheet](#)
- [Small Select Chaser Run Mode](#)
- [Small Select Chaser Loop Mode](#)
- [Small Select Speed Group](#)



## Reference: Edit Color Pop-up

When editing fixtures and channels, you can assign a permanent color to their output. This color can be used together with e.g. RGB or CMY Fixtures. This can be used to correct color differences in the visualizer.

This pop-up appears when you assign a color to a fixture or channel using the **Edit Fixture** pop-up or **Edit Channel** pop-up.

This pop-up has the same functions as the Specialized Color Dialog. This is what it could look like:



You can change between 'Swatch Book', 'HSB' and 'Fader' mode in the top bar.

When you have selected a color, you confirm it by pressing the 'Please' button. If you don't want to choose a color anyway, you can abort by pressing the 'X' in the upper right corner.

Follow the 'Specialized Color Dialog' link below to read more details about how this works.

### Related Links

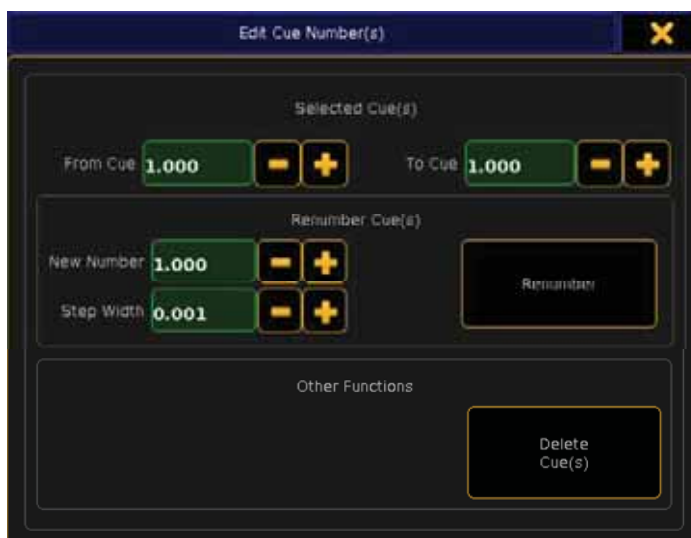
- [Specialized Color Dialog](#)
- [Edit Fixture](#)
- [Edit Channel](#)



### Reference: Edit Cue Number

Right clicking a cue number in the **Sequence Executor Sheet** gives you a pop-up that allows you to change the cue numbers and delete cue(s).

If you right click any cue number in a Sequence Executor Sheet, you get a pop-up like this:



You can change all the options with a green background.

The two top options allows you to set a range of cues. If it's the same number in both of them, you only affect that cue.

Below this there are two areas.

The first of the two, is where you can renumber cue(s). The first option here is the new starting number of your selected range. The second option is the step width. This is used to set the number interval between your cue range. If you only have selected one cue, this option is ignored. When you are happy with your options you can execute it by pressing the 'Renumber' button.

The lower part gives you the option to delete the selected cue(s).



In the top right corner of the pop-up, you can close the pop-up and cancel any actions.

## Related Links

- [Sequence Executor Sheet](#)



## Reference: Edit Fixture pop-up

Right clicking a fixture in the **Fixture Sheet** or **Channel Sheet** gives you a pop-up that allows you to change different options on the fixture.

If you right click any fixture in a fixture sheet, you get a pop-up like this:

| Field | Chid | Name   | Fixture Type | Patch | Master | Pan Invert | Tilt Invert | Swap | Color       |
|-------|------|--------|--------------|-------|--------|------------|-------------|------|-------------|
| 17    | 37   | Rig3 7 | Mac 200 Prof | 3.125 | On     |            |             |      | 255 255 255 |

| Attribute        | Default | Highlight | Stage | Snap | Invert | Master | Profile |
|------------------|---------|-----------|-------|------|--------|--------|---------|
| SHUTTER          | 11.75   | 11.77     | None  |      |        |        |         |
| DIM              | 0.00    | 100.00    | None  |      |        | On     |         |
| COLORMIX1        | 0.00    | 0.00      | None  |      |        |        |         |
| COLORMIX2        | 0.00    | 0.00      | None  |      |        |        |         |
| COLORMIX3        | 0.00    | 0.00      | None  |      |        |        |         |
| COLOR1           | 0.00    | 0.00      | None  |      |        |        |         |
| GOBO1            | 0.00    | 0.00      | None  |      |        |        |         |
| GOBO1_POS        | 0.00    | None      | None  |      |        |        |         |
| GOBO2            | 0.00    | 0.00      | None  |      |        |        |         |
| Colour Wheel Sca | 0.00    | None      | None  |      |        |        |         |
| Animation Wheel  | 0.00    | None      | None  |      |        |        |         |
| Animation Index  | 0.00    | None      | None  |      |        |        |         |
| PRISMA1          | 0.00    | None      | None  |      |        |        |         |

You can change all the options with a grey background. This is a short description of them:

### Name:

This is the name of the fixture.

### Patch:

This gives you the **DMX Patch pop-up** (follow the link below to read more about this pop-up). If the fixture isn't patched it displays this: (-)

### Master:

If this is On then the fixture responds to the status of the Grand Master and to "Solo" function.

### Pan Invert:

When this is On then the console inverts the Pan parameter (both Stage and DMX )

### Tilt Invert:

When this is On then the console inverts the Tilt parameter (both Stage and DMX)

### Swap:

If this is On then the console swaps the Pan and Tilt parameters.

### Color:

This gives you the **Edit Color pop-up** (follow the link below to read more about this pop-up). Here you can assign a permanent color to the fixture.

### Default:

Generic value when nothing is On or in programmer.

### Highlight:

Overwrites value from programmer when highlight is On.

### Stage:

Generic value when Stage initialization is enabled (not implemented).

### Snap:

Sets the attribute to snap, rather than cross-fade from cue to cue.

### Invert:

Invert DMX-output.

### Profile:

Pressing here opens the **Select DMX Profile** pop-up. This allows you to select a different DMX profile. The default is a linear going from 0 to 255 in 256 steps.

Every change here is an individual change, that doesn't affect the other fixtures.

## Related Links

- [Fixture Sheet](#)
- [Channel Sheet](#)
- [DMX Patch pop-up](#)
- [Edit Color pop-up](#)
- [Select DMX Profile](#)
- [Graph Editor](#)



## Reference: Edit Mask

This editor is used to edit (incl. Store and Load) a Mask.

Masks are used to hide Fixtures/Channels and Attributes in sheets. They can be stored in the Mask Pool or can be stored in a view.

This is what the Edit Mask could look like:



This editor is divided into section. The top part have the mask settings and the bottom part have buttons that allows you to work faster and to save and load your mask.

### The Mask section

The mask section are divided in a left and right side.

The left side masks the Fixtures/Channels. The right side masks the Attributes.

Each side have four rows and up to four columns. Each row is a mask criterion. So a mask can have up to four criteria.



The first column is used to decide if the row shows or hides the Fixtures/Channels or Attribute (depend on the rule(3. column)).

The next column is used to invert the rule (3. column).

The third column is the rule column. This gives you a small select pop-up that allows you to choose the mask condition. The different options are almost the same for the Fixture/Channel side and the Attribute side:

(none) - both:

The row doesn't contain any mask criterion.

Active - both:

This will display Fixtures/Channels and Attributes that will be stored.

In Programmer - both:

This will display Fixtures/Channels and Attributes that are in the programmer.

Parked - both:

Displays the parked Fixtures/Channels and Attributes.

Used in Selected Sequence - both:

Displays the Fixtures/Channels and Attributes that are stored in the selected sequence.

Used in Show - Both:

Displays all Fixture/Channel or Attributes stored in cues, selective Effects, selective Presets or additive Group Masters.

- Selected - both:**  
Displays all (attributes of) selected Fixtures/Channels.
- DMX-tested - both:**  
This will display all Fixtures/Channels with attributes that currently have values in the DMX tester. And on the attribute mask it displays all the attributes that have values in the DMX tester.
- Fade/Delay - both:**  
This will display all the Fixtures/Channels and Attributes with individual fade or delay timing in currently active cues or is active in the programmer.
- Effect - both:**  
Displays all Fixtures/Channels and Attributes currently using effect parameters at the output.
- In Object... - both:**  
This will give you the fourth column. Here you'll get a button that opens the **Select Object pop-up**. Here you can select a specific Group, Effect, Preset, Sequence or World as your object. This will then display all Fixtures/Channels or Attributes currently using the defined object.
- Live - Fixture/Channel:**  
Displays the Fixtures/Channels with a dimmer value above 0% or with a stored 0% value in the current cue. This is only for the Fixture/Channel side.
- In Saved Selection - Fixture/Channel:**  
This will give you a new button in the fourth column called "Take Selection". Pressing this will store the current selection of Fixtures/Channels. If none is selected, then the sheets will be empty. This is only for the Fixture/Channel side.
- Moved - Fixture/Channel:**  
This will display all the fixtures that have stored changing (blocked) non dimmer values active at the output. This is only for the Fixture/Channel side.
- Full Patched - Fixture/Channel:**  
Displays fixtures/channels that are fully patched.
- At NonDefault - Attribute:**  
Displays all attributes that currently have other than default values. This is only for the Attribute side.
- Of Current PresetType - Attribute:**  
Displays the currently selected PresetType - e.g. Color. This is only for the Attribute side.
- Of Current FeatureType - Attribute:**  
Displays the currently selected Feature - e.g. ColorMix. This is only for the Attribute side.
- In Saved Attributes - Attribute:**  
This will give you a new button in the fourth column called "Define Mask". This will open a pop-up where you can select one or more of the attributes in the show. This is only for the Attribute side.

### The bottom part

This section can have up to eight buttons.



The top row deals with the criteria settings above. This is what the following buttons do:

- Clear Fixture Mask:**  
This will clear all criteria on the left (fixture/channel) side.
- Copy >>>:**  
This will copy the allowed (shared) settings on the left side to the right.
- Copy <<<:**  
This will copy the allowed (shared) settings from the right side to the left.
- Clear Attribute Mask:**  
This will clear all criteria on the right (attribute) side.

The next row of buttons allows you to store and load the mask.

- Save Always:**  
This will automatically store any changes to the loaded mask.
- Save:**  
This can be used to save your criteria (when "Save Always" isn't on).
- Save to:**  
This will open the **Small Select Mask** pop-up. Here you can select a unlocked pool position to store the current criteria.
- Load from:**  
This will open the **Small Select Mask** pop-up. Here you can select mask settings stored in the pool.

When you want to save your mask criteria, you first need to use the "Save to" button to select a location in the mask pool. If the location is new, then you are prompted for a name. Then you can choose to automatically save any changes you make using the "Save Always" button. But you can also choose to save the changes manually using the "Save" button.

When you have selected a location, you'll see the pool location and name next to the "Load from" button.

### Related Links

- [Mask Pool](#)
- [Select Object](#)

- [Select Mask](#)
- [Attribute Filter pop-up](#)



### Reference: Edit MATricks Pop-up

This pop-up is used when loading predefined MATricks.

This is an example of the pop-up:



In the top bar you will find a button (besides the usual X for closing the pop-up). This button allows you to move the editor between the different screens.

On the right side there's a button called "Load Predefined". Pressing this gives you the **Select Predefined MATricks** pop-up. This allows you to select one of the predefined MATricks. It's basically a list that you can scroll through and select the MATrick you need. It will also name your pool button.

### Related Links

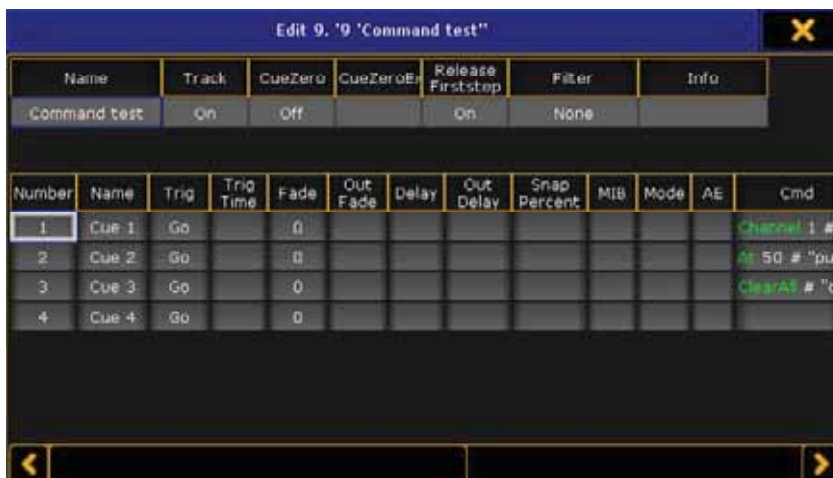
- [MATricks Pool](#)
- [Select Predefined MATricks](#)



### Reference: Edit Sequence

Right clicking a sequence pool button gives you a pop-up that allows you to change almost everything in a sequence.

If you right click any sequence pool button you'll get a pop-up like this:



But if you press one of the executor screen buttons, it'll look like this (on screen 1):



Here you can change all the options with a gray background and white text. That's most of the settings in a sequence.

In the editor you'll find two soft keys:

Label:

Pressing this soft key will open a text entry pop-up that allows you to give the sequence a name.

Test Cmd:

This soft key is used to test any commands in the cmd column. Pressing it will execute the command.

To read about the different options here, follow the link below to the **Sequence Executor Sheet** window.

In the top right corner of the pop-up, you can close the pop-up.

## Related Links

- [Sequence Executor Sheet](#)



## Reference: Edit Universe pop-up

Right clicking a Universe in the **Universe Pool** gives you a pop-up that allows you to change different options on the universe.

If you right click any universe in a universe pool, you get a pop-up like this:



You can change all the options with a grey background. This is a short description of them:

Name:

This is the name of the universe.

DMX In Merge:

This gives you the **Select DMX In Merge small select pop-up** (follow the link below to read more about this pop-up). This will allow you to change the way DMX is merged into the universe.

Requested:

If this is On then the system will try to allow the values from the universe to be outputted. The "Granted" column will tell you if the system allows the output. This can be limited by your parameter limit (add NPU's for a higher parameter limit).

**DMX Profile:**

Here you can select one of the DMX profile for any parameter in the universe. Pressing here gives you the **DMX Profile Small Select pop-up**. Follow the link below to read more about it.

You can close the pop-up by pressing the "X" in the upper right corner.

**Related Links**

- [Universe Pool](#)
- [Select DMX In Merge pop-up](#)
- [Parameter expansion Concept](#)
- [Select DMX Profile pop-up](#)

**Reference: Editors**

Editors are a group of pop-ups that are used for editing different parts of your show.

There are many different types of editors. Follow the links below to read more about them.

**Reference: Bitmap Effect Editor**

These editors are used to edit and create bitmap effects.

**Simple editor.**

Right clicking a bitmap effect pool button gives you a pop-up like this:

| Name | File             | Mode  | ScaleMode | Size X | Size Y | Tile |
|------|------------------|-------|-----------|--------|--------|------|
| LED  | 038901R86605.png | Color | 1:1       | 30     | 30     | Yes  |

| Name      | Form      | Base   | Size   | From  | To     | Phase | Rate |
|-----------|-----------|--------|--------|-------|--------|-------|------|
| Offset X  | Ramp_plus | 0.00   | 0.00   | 0.00  | 0.00   | 0.00  | 1.00 |
| Offset Y  | Ramp_plus | 0.00   | 0.00   | 0.00  | 0.00   | 0.00  | 1.00 |
| Scale X   | Ramp_plus | 0.31   | 0.00   | 0.31  | 0.31   | 0.00  | 1.00 |
| Scale Y   | Ramp_plus | 0.31   | 0.00   | 0.31  | 0.31   | 0.00  | 1.00 |
| ROffset X | Ramp_plus | -0.50  | 0.00   | -0.50 | -0.50  | 0.00  | 1.00 |
| ROffset Y | Ramp_plus | -0.50  | 0.00   | -0.50 | -0.50  | 0.00  | 1.00 |
| Rotation  | Ramp_plus | 100.00 | 100.00 | 0.00  | 360.00 | 0.00  | 3.00 |

Here you can edit a lot of the options in a Bitmap Effect.

The top section has the basics options:

**Name:**

This is the name of the bitmap effect.

**File:**

This is the source file for the bitmap effect. Right clicking here give you the **Browser pop-up**.

**Mode:**

There are three different modes: 'Gray', 'Trigger' and 'Color'. 'Gray' has effect on dimmer values only. 'Trigger' allows you to use two presets as values for your effect. 'Color' takes the colors from the source file and uses them in the effect. The "trigger" mode isn't working in the current version.

**Scale Mode:**

This is different way to make your source file fit your selection of uses fixtures. There are four different modes: '1:1', 'Fit', 'Width' and 'Height'. With '1:1' you scale the source so each fixture is a pixel. 'Fit' adapts the source to number of fixtures you have in height and width. 'Width' changes the source to match the number of fixtures you have in the width. 'Height' does the same as width, but only with the height.

**Size X & Size Y:**

These two options allows you to zoom in the source picture.

**Tile:**

This is an 'Yes' or 'No' option. If this is 'Yes' they the source picture will be tiled. Zooming out will then display several version of the picture next to each other.

The lower part is the Modulator Sheet. This area allows you to add effects on top of some of the options. The different options that can have an additional effect is:

**Offset X & Offset Y:**

This is the position of the fixtures in the source picture.

**Scale X & Scale Y:**

This is the scaling between the source picture and the number of fixtures.

**ROffset X & ROffset Y (rotation offset):**

This is the position of the rotation centre.

**Rotation:**

This is the rotation of picture.

The different options you have for each row is:

**Name:**

This is the type of option. This can't be changed.

**Form:**

This is the transition type between the 'From' and 'To' value.

**Base:**

This is the initial value.

**Size:**

This is the size of the 'Form'.

**From:**

This is the beginning value.

**To:**

This is the final value.

**Phase:**

This is the spreading of the fixtures.

**Rate:**

This is the speed in Hertz.

Follow the link below to read more about effects.

**Extended editor.**

If you edit a Bitmap effect assigned to an executor, you'll get the extended editor. It could look like this:

**Top Bar.**

The top bar displays the bitmap effect number, the size, name, the number of fixtures used and the source picture.

There are also five different buttons. The first three are camera control buttons (more on these later), the fourth is a button that moves the editor between screen 1 and 2. The last button closes the editor.

**Main Right Part.**

In the top part of this section you can move a camera. Think of this small screen as the output of a projector. It projects the bitmap effect onto the fixtures visible in the small screen. The possible fixtures visible here are the ones you had selected when creating the Bitmap Effect. You can use the three buttons in the top bar to choose how the mouse should manipulate the camera, what camera to use. And a button to reset the camera. You can also use the camera controls in the small screen to change the camera position.

This is one of the major changes in the bitmap effect from grandMA series 1 and the grandMA series 2. You place your fixtures in the 3D environment and the position of the virtual projector decides what fixtures are affected by the bitmap effect. The position also has an effect on the part of the effect the fixtures display, and possibly the angle.

The cameras used here are not affecting the cameras in the stage window / 3D visualizer.

Follow the link to the stage window below to read more about the camera controls.

The bottom part of this section is a representation of the source picture. There might be a rectangle visible here. This represents the 'projector' image.



### Main Left Part.

This is where you can change everything else about the bitmap effect. There are four different taps: 'Basics', 'Modulator Sheets', 'Modulator Fader' and 'Tools'.

#### Basics:

These are the same basics options as described in the section about the small editor above.

#### Modulator Sheets:

These are the same modulator options as described in the section about the small editor above.

#### Modulator Fader:

This is what the modulator faders look like:



These are faders to edit the Base and Size values of Offset X & Y, Scale X & Y, ROffset X & Y and Rotation.

There are buttons to assign default values to all values.

All X & Y fader can be linked together using the three lower buttons. If you toggle them to 'Both' (instead of 'Single') the two faders will follow each other.

#### Tools:

This is the Tools options:



There are several buttons here. The top two sets the scale to '1:1' or 'Fit'.

The second row of buttons are different sets of options that produces different effects:

Rotate Left:

This rotates the picture counter clockwise.

Rotate Right:

This rotates the picture clockwise.

Scroll Left:

This scrolls the picture from right to left.

Scroll Right:

This scrolls the picture from left to right.

Scroll Down:

This scrolls the picture from the top to the bottom.

Scroll Up:

This scrolls the picture from the bottom to the top.



**Zoom In:**

This zooms into the picture.

**Zoom Out:**

This zooms out of the picture.

**Toggle Function:**

When this is on (the text turns yellow) you can toggle the other buttons on and off.

The first button in the bottom row are a mode selector. Pressing here gives you the **Select Mode (Bitmap Effect)** pop-up. Here you can change between three different modes.

The following buttons change according to the selected mode.

If you are in 'Gray' mode there are three buttons. They are Red, Green & Blue gray corrections.

If you are in 'Trigger' mode there are two buttons. They display the two selected presets (this isn't implemented yet).

If you are in 'Color' mode you have three buttons: Red, Green & Blue color corrections.

The last two button in this row are a source file selection button and a 'Tile' toggle button. They are both described above.

**Related Links**

- [Select Mode \(Bitmap Effect\) pop-up](#)
- [Bitmap Concept](#)
- [Bitmap Keyword](#)
- [Effect Key](#)
- [Effect Concept](#)
- [Effect Keyword](#)
- [Effect Editor](#)
- [Stage Window](#)
- [Browser pop-up](#)

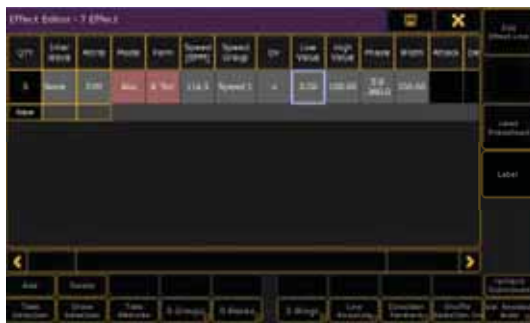
**Reference: Effects Editor Pop-up**

This is a short description of the Effects Editor pop-up. For more info on creating effects go to the Task or Tutorial section (links below).



You should really go through the Effect Tutorial if you are new to the Effects Engine in grandMA2 - even if you know grandMA1 (link at the end of this page).

Editing an effect gives you the Effects Editor pop-up. This is what it could look like:



The main part of this window is the area with rows and columns. Each row is an attribute that is affected by the effect. Each column is something you can manipulate. This is a short description of the different columns:

**QTY (Quantity):**

This is a number that displays how many fixture are selected for this effect line. At the bottom of the window you have two buttons called "Take Selection" and "Show Selection". With these buttons you can change the fixtures assigned to this effect line.

**Interleave:**

This allows you to create gaps. Pressing here open the small **Select Interleave** pop-up. Follow the link below to read more about the pop-up.

**Attrib (Attribute):**

This is the attribute from the selected fixtures that this line affects. Pressing here gives you the **Select Attribute** pop-up. Here you can use the tree structure to select the attribute you want. If you need more, then you need to make more lines.

**Mode:**

Right clicking here toggles between "Absolute (Abs)" and "Relative (Rel)". If this is Absolute, then the effect uses the values specified. If this is Relative then the values specified will be added to the values that the attribute already have. You can also use the button on the bottom to change the mode. The button is called "Line Relative" or "Live Absolute".

**Form:**

This is the form the line uses to transform between two values. Pressing here gives you the **Select Form** pop-up. This is used to select the form. Read below for a short description about the different predefined forms.

**Speed:**

This is the rows speed in what ever scale you have chosen. The factory default is 60 bpm. In the **Setup → User → Settings** you can set what value the speed should be displayed in. There are three options "Hertz", "BPM" or "Sec.".

**Speed Group:**

Pressing here opens a **Select Speed/Rate Master** pop-up. With this you can assign the effect line to a Speed or Rate master. Follow the link below to read more about the Select Speed/Rate master pop-up.

**Dir:**

This is direction of the effect line. You can right click to toggle between the options or you can use the button in the bottom of the editor to change the value. The button is called "Direction".

**Center and Size or Low Value and High Value:**

Value can be displayed in two different modes. "Center" and "Size" or "Low Value" and "High Value". You can change the mode using the "Value Readout" button at the bottom of the editor. If you use Low/High then you are specifying the lowest and highest values. If you are using Center/Size, then you are specifying the center and the size value. This is very useful for relative effects. If you are building an Absolute effect you can assign presets to your values. The Value Readout button also have an "Auto" option. When this is selected, then the Readout will change according to the Absolute or Relative selection.

**Phase:**

Phase is a way to spread the effect and the values. E.g. if you set the "phase to a single value, all your fixtures are doing the same. If you make the phase a value something like "0 to 360" then you'll get several instances of the effect running at the same time. Think of the effect as running in a running cycle. If all the fixtures are at the same place in the cycle they all do the same. If they are spread out over the cycle, then they are doing the same, but with different positions in the cycle.

**Width:**

With this you control the width of the form. A width of 100% makes the form fill the entire cycle. You can also fan (value A thru value B) the width for a lot of interesting results.

**Attack:**

On some forms you can change the angle of attack. This means you can make the fade from one value to another. Or you can make it snap. The attack value is a percent number. If you set it to 0% you will snap the value. If you set it to 100% it will fade as much as possible.

**Decay:**

Much like "Attack" handles how to change from a value to another, Decay handles the transaction back from the last value to the first.

**Groups:**

With this you can divide your selected fixtures in to groups that run in the same direction. Unlike "Wings" it divides the fixtures differently. E.g. if you creates 2 groups, the first fixture will go in the first group, The second fixture in the second group, the third fixture goes in the first group, the fourth in the second, etc. Remember that the selection order is important for how your groups are created. You can also use the buttons at the bottom of the editor to change group number.

**Blocks:**

This is used to gather fixtures into small groups that work as one. E.g. if you have a simple dimmer chase with 10 fixtures and you set the Block value at "2". You will see that fixture one and two are running together. The same with 3 and 4, etc. This means that you in basically only have 5 fixtures. You can also use the button at the bottom of the editor to change the block value.

**Wings:**

Wings are used to divide the selected fixtures in to smaller groups. But they are mirrored. E.g. if you have a simple dimmer chase effect running from left to right and you make a wing of "2", you will see that the first half of the fixtures still run from left to right but the second half run from right to left. And they should run in sync. Remember that the selection order is important for how your wings are created. You can also use the button at the bottom of the editor to change the wing number.

As mentioned there are several "Forms". You can create your own using the Form pool and the Graph editor. This is a short description of the predefined forms:

**Stomp:**

This is a special stomp value. This is used to suppress effect values.

**Release:**

This will release any effects.

**Random:**

This is a sort of random chase effect.

**PWM (Pulse Width Modulation):**

Uses the Width value to determine how long the effect stays in high value.

**Chase:**

This is a simple chase function.

**Flat Low:**

This keeps the value on the low value.

**Flat High:**

This keeps the value on the high value.

**Sin:**

This is a classic sine wave form.

**Cos:**

This is a cosine wave form.

**Ramp plus:**

This form fades from low to high and then snaps to low.

**Ramp minus:**

This snaps from low to high and then fades back to low.

**Ramp:**

This form fades back and forth between low and high. With no pause or nice acceleration up or down.

**Phase 1, Phase 2 & Phase 3:**

This is usually for rainbow effects on ColorMix features. You need to create three effect lines with each of the three CM attributes having there own Phase.

- Bump:  
This is much like Ramp, but it accelerates coming to and from high.
- Swing:  
This is like Bump but with a width of 50%.
- Ramp50:  
This is much like Phase 1.
- Circle:  
This is a standard Pan/Tilt circle form.

You can use the "Add" and "Delete" buttons at the bottom of the editor to add or remove effect lines. Creating a new line might automatically give you the **Select Effects Attribute** pop-up.

There's buttons that allows you to use the current selection of fixtures in the active line (the 'Take Selection' button) and a button that allows you to select the fixtures that are in the active line ('Show Selection'). You can also use the current MATricks settings (Take MATricks) and apply it to your selection. You can also use the "Shuffle Selection" button to shuffle your selection order.

There are three buttons that allows you to change the number of Groups, Blocks and Wings.

The button 'Remove Individuals' removes any individual values in the effect (cells with a read background).

The buttons on the right have different options. The top one changes your editor to the Line Editor (read more below). The next one is called "Load Predefined". This opens the **Select Predefined Effect pop-up**. Here you can select one of the factory made standard effects. Follow link below to read more about the pop-up. The last buttons opens a pop-up that allows you to label your effect.

In the top bar there's the buttons for moving the pop-up between the screens. And the "X" that closes the pop-up.

### Effect Line Editor

Pressing the **U1** or where it says "Edit Effect Line" gives you a pop-up like this:

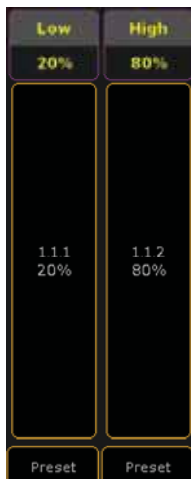


This allows you to manipulate some of the options in a different layout.

The values can be changed using the area that simulates a wheel (like the level wheel on the FullSize and the Light).

Under the 'Center' and 'Size' or 'Low' and 'High' and under the 'Width' there's a button that allows you to expand the single values into two values. This allows you to make more exciting effects. You can spread a single value between two values. The first two values (Low/High or Center/Size) can also go into the Preset mode. Here you can assign a preset (line need to be in Absolute mode).

It could look like this:



First line is the preset number - second line is the preset name.

There is an extra button in this editor called Speed. Here you can see if there is a Speed Master assigned to the attribute. Pressing it opens the Select Speed/Rate Master pop-up. Here you can select "No Speed Master" or one of the 16 Speed masters or 16 Rate Masters.

On the right side of the window you might have several buttons. The first row is the lines (and Attributes) in your effect. It has the names of the attributes in the line. With this you can select one or several attributes to edit.

The buttons on the far right also allows you to select effect lines. The top one takes you back to the Effects Editor.

## Related Links

- [Select Interleave pop-up](#)
- [Select Effect Attribute pop-up](#)
- [Select Form pop-up](#)
- [Select Speed/Rate Master pop-up](#)
- [Remove Individuals Warning](#)
- [Select Predefined Effect pop-up](#)
- [Effects Concept](#)
- [Effect Keyword](#)
- [Effect Key](#)
- [Effect Tasks](#)
- [Effect Tutorial](#)



## Reference: Graph Editor.

The Graph Editor is used to create and edit Forms and DMX Profiles used in the setup of the console and in the **NDP**.

There's actually two different graph editors. First image shows the editor to create and edit effect forms. Second image shows editor to create and edit of attribute (DMX) profiles. Both have two different displays, graphic mode and table mode.

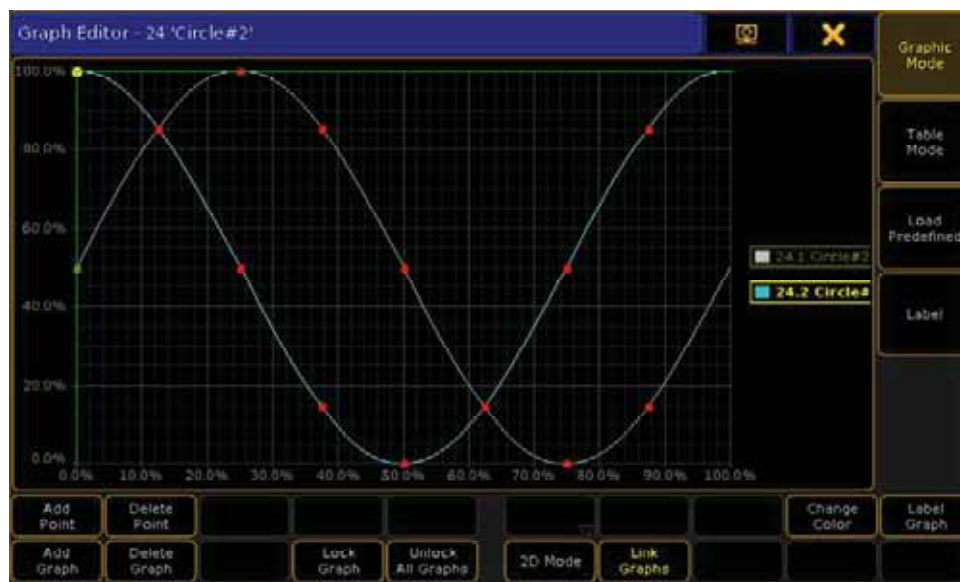
The version for effect forms is the biggest. It allows you to create several graphs in one form. The Attribute (DMX) profile version is smaller. It only allows one graph.

You can change between the Graphic and Table modes with the buttons on the right side.

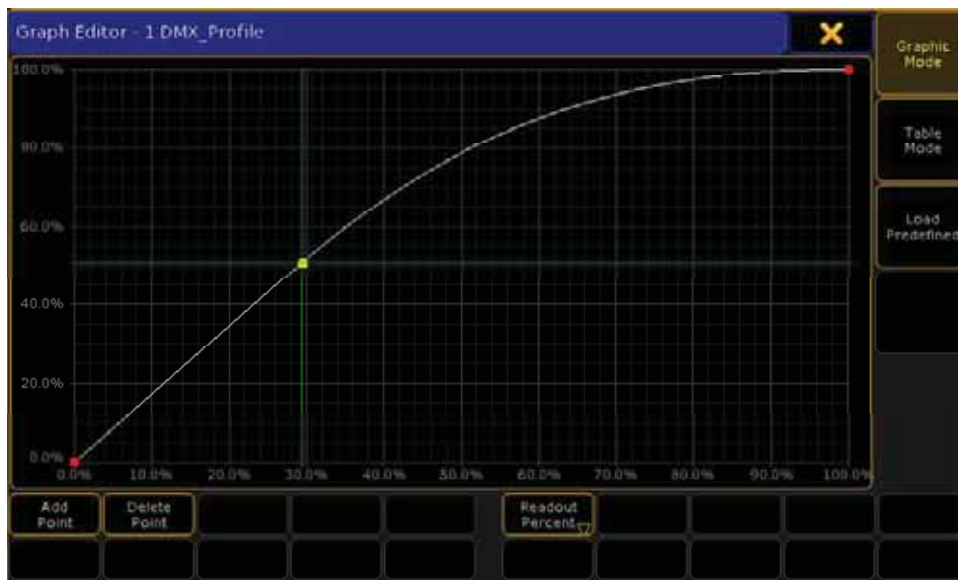
One of the main tools for editing the graph(s) is the **Graph Editor Encoder Toolbar**. Read more about this by following the link below.

### Graphic Mode:

This is what the Form version could look like:



This is an example of the Attribute Profile version:



This displays the value transition as a line (or lines). Along the line there might be some dots. They are called points. At least there's one at the beginning and the end of the line.

The points help you create the line(s) you want. Each point can have different "Line Modes". Follow the link below to read more about the **Select Line Mode** pop-up.

There are several buttons at the bottom part of the editor.

The two 'Add Point' and 'Delete Point' do just that. 'Add Point' is added where the two green lines intersect. 'Delete Point' delete all the green points (they are selected).

The Attribute version have a Readout button that toggles the readout between "Percent" and "Decimal".

The next buttons are only in the Form version.

'Add Graph' and 'Delete Graph' will add or delete extra sub-graphs in the Form Graph Editor.

'Lock Graph' allows you to lock one of the graphs. 'Unlock All Graphs' Will unlock all the locked graphs.

'2D Mode' will combine (and change) two sub-graphs. "Link Graphs" is used when you have several graphs. When you move a point horizontally, the points will be moved on all the graphs.

'Change Color' opens the **Edit Color** pop-up (follow the link below to read more about this pop-up), this allows you to select a new color for the individual sub-graph. 'Label Graph' allows you to label the individual sub-graphs.

On the right side of both versions of the graph editor there's a button called "Load Predefined". This allows you to load one of the predefined graphs. Pressing it opens the **Load Predefined Graph** pop-up. Follow the link below to read more about the pop-up.

In the Top Bar you can see that you are in the Graph Editor and the name and number of the form or DMX profile. Both have a button that closes the editor. The Form version also have the button that moves the pop-up between screen 1 and 2.

#### Table mode:

This is what it could look like:

| No  | + X   | Y      | Mode   |
|-----|-------|--------|--------|
| 1   | 0.00  | 100.00 | Spline |
| 2   | 12.50 | 85.36  | Spline |
| 3   | 25.00 | 50.00  | Spline |
| 4   | 37.50 | 14.64  | Spline |
| 5   | 50.00 | 0.00   | Spline |
| 6   | 62.50 | 14.64  | Spline |
| 7   | 75.00 | 50.00  | Spline |
| 8   | 87.50 | 85.36  | Spline |
| New |       |        |        |

If you are in the Form version, then you'll see a tab for each of the sub-graphs.

In the main part you'll see a list of the points defining the line. There's a 'X' and a 'Y' that defines the position of the point and a point mode.

There are six different point modes: 'Linear', 'Spline', 'Spline (Break at Start)', 'Spline (Break an End)', 'Step (Start)' and 'Step (End)'. Follow the link below to read more about the **Select Mode (Line)** pop-up.

You can right click the 'New' area (at the bottom) to add points.

### Related Links

- [Graph Editor Encoder Toolbar](#)
- [Select Mode \(Line\)](#)
- [Load Predefined Graph](#)
- [Edit Color](#)
- [DMX Profiles](#)
- [Select DMX Profile pop-up](#)
- [Select Path pop-up](#)



### Reference: Edit Macro Pop-up

This pop-up is used when creating or editing macros.

You get an editor like this when you edit an macro. This is an example of the pop-up:



In the title bar you will find a button (besides the usual X for closing the pop-up). This button allows you to move the editor between the screens.

At the bottom of this editor are some soft keys. There are keys for Adding, and deleting lines in the macro.

There's also a **CLI** (Command Line Interaction) key. CLI is activated when the text is yellow. This allows you to interact with the pool macro key or not. Follow the link below to read more about CLI.

There's a key to activate or deactivate any timing in the macro.

The two last keys in the bottom section is the test keys. One (**Test Macro**) will test the entire macro, the other one (**Test Line**) will test the line that have focus.

In the main part you'll find the 'Command', 'Wait', 'Info' and 'Disabled' columns. This is where you add the macro lines, when you press the "add" button. This will give you an **Edit Command pop-up**. You can use the hardkeys to enter commands as long as the Edit Command pop-up is open - The normal command line input will change to a red background color as long as the hardkey inputs are going to the pop-up.

**Command** is the commands the macro executes.

! There is an automatic "please" at the end of each line.  
Unless you finish the line with a @

**Wait** gives you the possibility to add a delay after the command in the line is executed. You can also add a "Go" here. This will allow you to stop and reactivate the macro with the Go command.

! "Follow" means that the macro proceeds to the next line immediately. If you syntax works when typed manually, but not from a macro, you need to add some delay (time) to give time for the current line to be carried out.

**Info** allows you to add some info to each line. This is just information to you self or anyone editing the macro.

Disabled allows you to disable the line. A disabled line will not be executed by the macro.

### Predefined Macros

On the right side there's a button called "Load Predefined". Pressing this gives you the **Select Predefined Macro** pop-up. This allows you to select one of the predefined macros. It's basically a list that you can scroll through and select the macro you need. It will also label your macro and turn off CLI. Here you find also the newest functions of a software update as predefined macro.

Also on the right side you'll find a button called "Label". Pressing this will give you Name pop-up, where you can label this macro.

### Live recording of macros

You can make alive recording of a macro. But you need to manually store an empty macro first.

[Channel]>Store Macro 1

followed by

[Channel]>Record Macro 1

will start a live recording of your entries to macro number 1. The **Learn** and **Macro** keys will flash as long as the recording is running.

[Channel]>Record Macro

followed by **Please** will stop the recording. Any recorded macro will use macro timing.

You can't use keys on the playback views when you record a macro on the onPC. You need to use the hardkeys.

## Related Links

- [Macro guide](#)
- [Macro Key](#)
- [Macro Keyword](#)
- [Macro Concept](#)
- [CommandLine Interaction](#)
- [Select Predefined Macro](#)



## Reference: Timecode Editor

This editor allows you to create and edit timecode shows.

You access this editor when you edit a timecode show. It has two different modes 'Graphic' and 'Text'. All buttons are the same, it's just the main part that displays the information differently.

This is what the Graphic editor could look like:



This is how the Text editor would differ:





## Right side buttons

In the right side of the editor you'll find four buttons. The top two changes between the Graphic and Text mode. The next one gives you the timecode show options. Read below for more info about the options. The last one open a pop-up that allows you to label the timecode show.

## Bottom buttons

At the bottom there's a lot of buttons that allows you to edit the timecode show. They are divided into three sections:

### Direct Tools:

These are buttons that allows you to add, copy/paste, select and delete events.

#### Add Here:

Adds an event at the current frame. If there's already an event at this frame, it will add the event at the next frame. It will not create an event, if there's also something at the next frame. It will automatically add a goto next cue or insert a marker on the current fader position.

#### Add Multiple:

This opens the **Create Multiple Events** pop-up. Here you can add more than one event at the same time. Follow the link below to read more about the pop-up.

#### Delete Selection:

Deletes all selected events.

#### Manual Record:

This function is currently not implemented.

#### Clear Selection:

Pressing this will deselect all selected events.

#### Create Selection:

This will open the **Create Selection** pop-up. Here you can select multiple events. Follow the link below to read more about the pop-up.

#### Copy Events:

You can use this button to copy the currently selected events. It will copy all events in the selected track if you haven't selected any specific events. You can select events from several tracks.

#### Paste Events:

This button inserts the specific events you have copied at the current time marker. If you have copied entire tracks then it will offset the events and paste them with the 0 frame at the current time marker position. If you have copied from several tracks it will paste into the respective new tracks.

### Track Tools:

These are buttons that control how your tracks played back and displayed.

#### Activate All Tracks:

This will display all tracks in the text editor/viewer.

#### Sort Tracks:

This will allow you to sort tracks in numerical order. Non-active tracks will be moved to the bottom of the list.

#### Deactivate All Tracks:

This will hide all active tracks in the text editor/viewer (recorded events will be executed).

#### Track Functions:

Gives you the Track Functions pop-up. This allows you do a lot with the tracks (Expand/Collapse, Change the track, Lock/unlock tracks, add new tracks and delete tracks). Follow the link below to read more about the pop-up.

### Playback Controls:

These control buttons allows you to playback and record your timecode show.

#### Rewind (to the beginning):

Takes you back to the beginning of the show.

#### Stop:

Stop the running or recording show.

#### Record:

Records the show from the current time. If you rewind and record again you can record more actions into your show. It will not delete what previously recorded.

#### Pause:

Temporary stops the running time or recording at the current time.

#### Forward (to the end):

Takes you to the end of the show.

#### Play:

Plays the timecode show.

Any selection of events follows the user in a networked session.

## Main part.

The main part has a time line at the top. With a green marker displaying the current position. This marker can't have a minus value - since timecode can't be a negative value.

On the left side there's a small area with the different tracks. There are at least one track that have all the button presses and releases. The main track is represented by an area with a dark background. There's the executor number on the top line and the sequence number and name on the next line. Below this you might find subtracks. Subtracks record fader movement. If you press Edit and then press one of them (or right-click them with the mouse) you can change the executor or the fader type. There might be



a yellow padlock symbol on the tracks. This means that the track is locked. You can lock tracks using the [Track Functions](#) button and the pop-up that appears. Follow the link below to read more.

On the far left side next to each main track you'll find four different symbols. One of them is a small square with a plus or minus. This will expand or collapse the subtracks. There's also a small square with either a small check mark or is empty. This will display or hide the track in the Text mode (read more below). Then there's the small "play" symbol. If this have a stop symbol across it then this track and subtracks will not be executed. The last symbol is a "record" symbol. If this have an stop symbol across it then you can't record any changes to this track and subtracks. You can change these symbols by pressing them.

The rest of the main part is different depending on what mode you are running.

In the Graphic mode you'll find a track expanding from the areas with the executor numbers and (if expanded) the faders. Here you'll see the events displayed with different symbols. Here's an example:



Here you can see the expanded activated track. The top row displays some of the different events. The subtrack row displays the fader movement. Generally for all kind of events you can edit them by right clicking them. The green line is the current time. There's one time marker for each timecode show in a network session. If you have activated "Follow Time" (in the top bar) then you automatically select the last played action in the main track during playback. If your timecode source is the internal clock, then your time will be paused if you turn the 4th encoder and thus move the position of the last event.

If you select an event you'll get a small time bubble that displays the time for the event. If you press this and move the cursor, you'll also move the event. If you select more than one event, then the bubble will be at the last event, but you'll move all selected events.

The symbols in the top row differs with the function. The number next to the symbols is the cue number. There might also be a text, this is the cue name.

Right clicking one of the events opens the **Select Event Command** pop-up. Here you can change the command.

The text mode changes the main part to something like this:

| Time   | Event                       | Command         | Value       | Timing |
|--------|-----------------------------|-----------------|-------------|--------|
| 0.00 s | 1.1.1.1 'Track Rabbit Show' | GoTo            | Cue 1.1.1.1 | 0.0%   |
| 0.00 s | 1.1.1.1 'Track Rabbit Show' | Master          |             | 0.0%   |
| 0.75 s | 1.1.1.1 'Flash'             | Flash           |             |        |
| 0.87 s | 1.1.1.2 'Main'              | Flash (up/down) | Master      | 100.0% |
| 1.00 s | 1.1.1.2 'Main'              | Master          |             | 80.8%  |
| 1.07 s | 1.1.1.3 'Main'              | Flash           | Cue 1       |        |
| 1.12 s | 1.1.1.3 'Track Rabbit Show' | Flash           | Master      | 100.0% |
| 1.25 s | 1.1.1.3 'Main'              | Flash (up/down) |             |        |
| 1.27 s | 1.1.1.2 'Main'              | Master          |             | 58.4%  |
| 1.30 s | 1.1.1.3.6 'Flash'           | Master          |             | 100.0% |
| 1.33 s | 1.1.1.2 'Main'              | Master          |             | 48.6%  |
| 1.43 s | 1.1.1.2 'Main'              | Master          |             | 45.1%  |

This is the events represented in a spreadsheet. There are 5 columns. The first displays the time of the event. Next is the Executor number and name. Next is the Command executed in the event. Next column is the value (if any). Last column is the Timing Overwrite - If there is no entry in this field, all commands in the "Command" column e.g. "goto" will be executed with cuetiming, as edited in Setup/Show/Playback + MIB Timing of the Default User Profiles. If you edit an empty cell, then all fade times of all cues and part cues will be overwritten and the delay time of all cues and part cues are set to 0.

Each row is an event in the timecode show. The rows with the light grey background is the events in the selected track. The row with the green background is the selected event. The last executed event is automatically selected when the show is running. If the time source is the internal clock and you turn the 4th encoder during playback then the time will automatically pause.

You can edit the time, the command and some of the values (if any). Pressing each of these will give you a pop-up that allows you to select between the relevant options.

You can sort the columns by pressing the column title and swiping up or down. This will sort the column ascending or descending and is also symbolized with a small arrow pointing up or down.

### Options.

Pressing the 'Options' button on the right side of the editor gives you this options pop-up:

| Name                             | Length               | Offset        | Runs           |
|----------------------------------|----------------------|---------------|----------------|
| Timecode                         | 22.00                | 8.00          | Endless Repeat |
| Switch Off                       | Status Call          | Time Unit     | Sync Mode      |
| Playback's Off<br>Keep Playbacks | Off<br>On            | 1/100 Seconds | Intern         |
| When Ending                      | When Stopping        | Auto Start    | User ID        |
| Stop<br>Pause                    | Do Nothing<br>Rewind | Off<br>On     | 00000000       |
| Info                             |                      |               |                |

Here's a short description of the different options:

- Name:**  
This is the name of the timecode show.
- Length:**  
The total length of the show.
- Offset:**  
Allows you to move the entire timecode show forward.
- Runs:**  
This allows you to set the show to run the show repeatedly or only once, when they are running in Sync mode "Intern".
- Switch Off:**  
This has two options: 'Playback Off' or 'Keep Playbacks'. This defines what happens with playbacks (started by the timecode show) when the timecode show is turned off.
- Status Call:**  
When Status Call is turned on, your timecode show will sync with the timecode signal instantly. When it's off it will execute the signal when they are reached. I.e. you turn on the timecode show when the time is between a "goto cue" and a "goto cue 2". With Status call 'on' then the console will execute a goto cue 1 immediately, and then continue. When it's 'off', it will wait till it reaches the "goto cue 2" and then continue.
- Time unit:**  
Pressing here opens the **Select Time Unit** pop-up. Here you can select the displayed time unit. The options are: '1/100 Seconds', '30 FPS', '25 FPS' or '24 FPS'. This is not depended on the incoming signal. This is only for the graphic display mode. (FPS = frames per second)
- Sync Mode:**  
Pressing here opens the **Select Sync Mode** pop-up. This selects what timecode source the show uses. There are three option: 'Intern', 'SMPTE' or 'MIDI'. The first option uses an internal clock. The two others are external timecode sources.
- When ending:**  
This has two different options: 'Stop' or 'Pause'. This decides what should happen when the timecode show runs out of recorded time. This option is not available when using an external timecode source!
- When Stopping:**  
This has two different options: 'Do Nothing' or 'Rewind'. This decides what should happen when the timecode show is stopped.
- Autostart:**  
This has an 'On' or 'Off' option. Should the timecode show begin automatically when the timecode source is running. This option is currently not available when using an internal timecode source.
- User Bits:**  
Beside the 32 Bit for 8 digit Timecode time, timecode executes 32 User bits (8 digit) per frame. User Bits can transmit several kinds of information, e.g. a second Timecode Stream. So several incoming Timecode Streams can be discerned. This is not available when using an internal timecode source.

You can close the options pop-up by pressing the yellow "X" in the upper right corner.

## Related Links

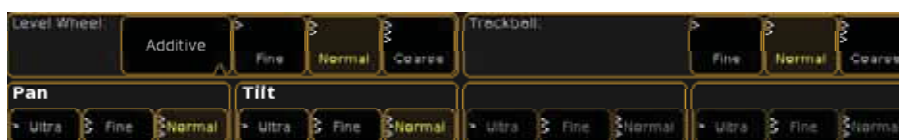
- [Create Multiple Events pop-up](#)
- [Create Selection pop-up](#)
- [Track Functions pop-up](#)
- [Select Executor for Track](#)
- [Select New Sub Track](#)
- [Select Event Command](#)
- [Select Time Units](#)
- [Select Sync Mode](#)
- [Timecode](#)
- [Timecode Keyword](#)



## Reference: Encoder Settings Pop-up

This temporary pop-up is used to alter the settings for the Encoders, Level Wheel and Trackball. It also offers the option to clear screens.

When you press and hold the Encoder key you get following pop-up on screen 2:



On all screens this pop-up appears in the lower right corner:



### The Big pop-up.

This pop-up appears at the bottom of screen 2. It is divided into three sections.

The top left part has to do with the Level Wheel. Here you can set the mode for the wheel (follow the link below for details about the Wheel Mode) and select one of the three resolutions (Fine, Normal & Coarse).

The top right part allows you to set the resolution of the Trackball (Fine, Normal & Coarse).

The Bottom part allow you to choose the resolution for each of the four Encoders.

### The Small pop-up.

This pop-up appears on all screens, when you hold the **Encoder** key.

There are four buttons on this.

The left one disables the multi touch screen (only on consoles), the next one moves all the different dialogs/pop-ups back to their original screen. The big one clears the screen (where you press it). The right button clears all screens.

### Related Links

- [\[Encoder\] Key](#)
- [Select Wheel Mode pop-up](#)



### Reference: Enter date pop-up

This pop-up is used to input a date into the system.

This is what it looks like:

Here you can change the date by entering the date manually (format is DD.MM.YYYY) or by using the different controls to change the month and year. There is also a button to select the current day.

When you are happy, confirm the selection with the "Please" button.

### Related Links

- [Make an entry in the Agenda](#)
- [Agenda Window](#)



### Reference: Enter name of object Pop-up

This pop-up is used to change objects names.

You access this pop-up by pressing the **Assign** key twice followed by the object you what to change the name of.

The pop-up exist in two different sizes. This is the small (and most basic) one:

With this you can type a new name on your keyboard (followed by **Please**).

If you don't have a keyboard you can use the big version which has an on-screen keyboard. It looks like this:



You can change between the two types by pressing or clicking on the plus (+) or minus (-) in the upper left corner.

If you change your mind, you can close this pop-up by pressing or clicking the "X" in the upper right corner. This cancels the name change.



Be aware that at the moment you can not use any characters that isn't a part of the English alphabet! That means that even though you have the option of typing local characters, they are not accepted.



## Reference: Groupmaster View

This window displays all the Group Masters in your show.

This is what it could look like:

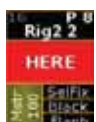


Here you can see all the different group masters in your show.

The different representations of the group masters, have different areas that you can use.

The top part displays the executor number, the group master is assigned to. It also displays the mode of the master: "A" (Additive), "P" (Positive) or "N" (Negative), the Group number (on the right side) and the group name.

If you press the top part, it will change to the relevant page and the group master says "HERE" as long as you press the top part:



You can use the "fader" to move the real faders of your group masters. And the "Full" and "Zero" will snap the fader to max. and min. values.

There are six buttons in the bottom of the pop-up. These allow you to set all masters of each type to Full or Zero.

This window can also be created as a permanent view - called **Group Master** - you'll find it in the 'Other' category in the 'Create Basic Window' pop-up.

## Related Links

- [Group Key](#)
- [Group Master window](#)



## Reference: Help pop-up

This is the help pop-up displaying the help text.

When pressing the help key followed by any other key, keyword or window gives you a help pop-up like this:



This displays the help text to the keyword or window in the main part of the window. The left side of the window is the help menu tree.

You can use the menu tree to browse the help text.

## Top Bar.

The top bar has some buttons.

The one looking like a magnifying glass allows you to search the page titles in the help files. It doesn't search the text content. This can be searched in the online version.

The one looking like a small earth allows you to change the help language.

The next two buttons give you the previous and next page in the help menu tree.

The next two buttons allows you to go back and forward in your help history.

The next button allows you to move the help pop-up between screen 1 and 2.

The last button closes the pop-up.

## Related Links

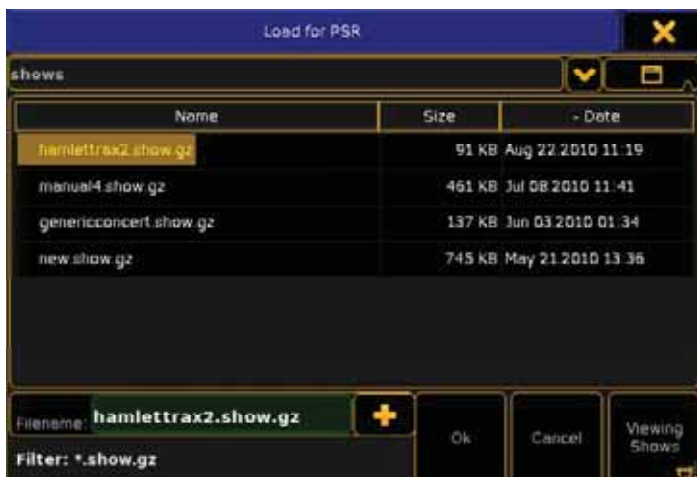
- [Help Key](#)
- [Help Keyword](#)



## Reference: Load for PSR

This pop-up is used to select a show as a Partial Show Read source.

This works like the browser. It looks like this:



You can only PSR shows that are saved with the latest software version. So if you need an old show you should load it first and store it in the latest version. If you try to PSR an old file you get a pop-up like this:



You can only close this, and then select a different source file.

When you have selected a file, then the console will check the two patches and give you a new pop-up. It's called **Partial Show Read Prepare**. Follow the link below to read more about this pop-up.

## Related Links

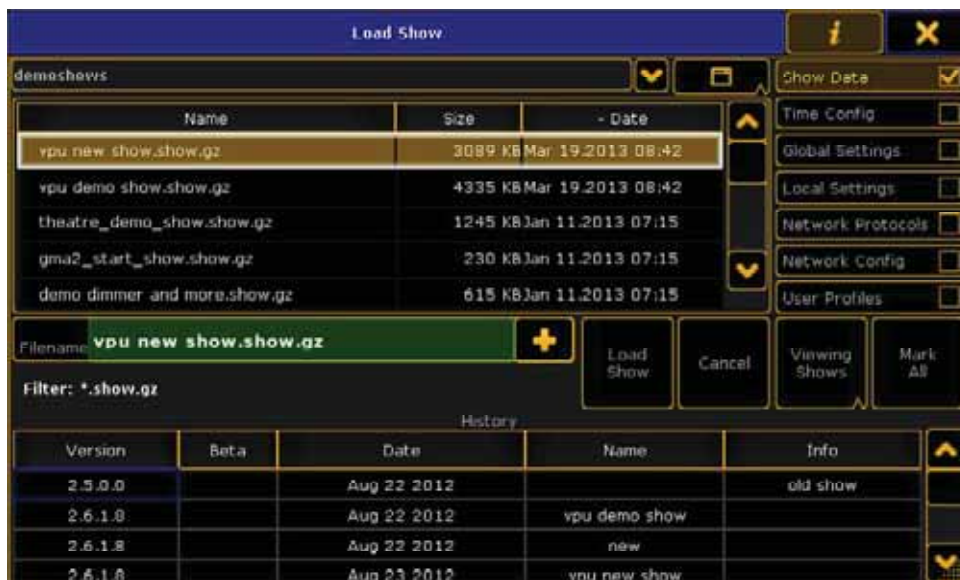
- [Partial Show Read Prepare pop-up](#)



## Reference: Load Show Pop-up

This pop-up is used when you want to load a show using the menus.

When you enter the Backup Menu, you have the option to load an existing show pressing the 'Load Show' button. Then you get this pop-up:



In the top bar you'll find a 'info' button. The symbol is a big italic 'i'. This will turn on or off the info fields below the main part of the pop-up. The show info will display the versions this show has gone through, if it was created on a beta software, the dates it was stored, the different names it has had and finally any info text added in the Backup Menu - follow link below.

One of the important buttons in this pop-up is the one in the picture above called 'Viewing Shows'. This button has three different states: 'Viewing Shows', 'Viewing Shows & Backups' or 'Viewing Backups only'. This toggles between what type of shows are listed. Backup shows are created every time you double press the [Backup](#) key or the 'Save Show' button in the backup menu.

The pop-up shows you a list of existing shows in your console or USB drive. On the right side of the pop-up there's a list of different data that you can choose to load.

This is what you can select:

Show Data:

This is data like Patch, Sequences, Groups, Presets, Executor Assignment, etc.

Time Config:

This includes the default options for Fade Times, Delay Times and other default options regarding time.

Global Settings:

This is all the options regarding the global settings.

Local Settings:

This is all the options in the local settings.

Network Protocols:

This is your options for DMX output via Ethernet.

Network Config:

This is options for MA NPU, 2/4 Nodes, VPU, MA Network Dimmers (NDP), Visualizers and other consoles.

User Profiles:

This is the Users and User Profiles in the show.

Below this there's a button (next to 'Viewing shows') called 'Mark All'. This will mark off each of these sections.

When you have selected a show and what data you want to load you can press the 'Ok' button.

Should you choose not to load a show you can press the 'Cancel' or 'X' buttons.

### Related Links

- [Backup Menu](#)



### Reference: Multi Oops pop-up.

The pop-up allows you to view the latest actions, and oops one or more of them.

This is what it could look like:

| Ago      | Description        | Follow |
|----------|--------------------|--------|
| 0:40:47s | Changed Programmer |        |
| 0:40:45s | Selection Cleared  |        |
| 0:40:45s | Active Cleared     |        |
| 0:40:45s | Values Cleared     |        |
| 0:40:38s | Labeled            |        |
| 0:40:19s | Created by Edit    |        |
| 0:40:16s | Labeled            |        |
| 0:40:12s | Selection Cleared  |        |
| 0:40:12s | Active Cleared     |        |
| 0:40:11s | Values Cleared     |        |
| 0:39:27s | Selection Changed  |        |
| 0:39:27s | Changed Programmer |        |
| 0:38:50s | View Deleted       |        |
| 0:38:46s | View Changed       |        |
| 0:38:44s | View Changed       |        |
| 0:38:40s | Basic Window Added |        |

Undo 3 Actions

In the top bar there's the option to move the pop-up between screen 1 and 2. You also have the option to close the pop-up.

There are three columns in the main part of the window:

Ago:

Time since you did the action.

Description:

This is a description of the action.

Follow:

If the previous action triggered a action you can see it here.

You can scroll up through the latest actions. All the actions with a green background will be oopsed when you press the x1 key or where it says "Undo [number] Actions".

### Related Links

- [Oops Key](#)

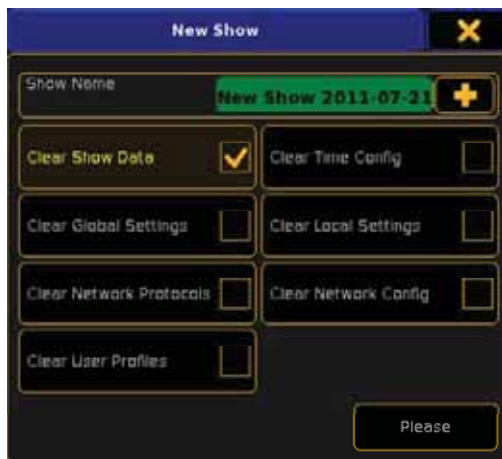


### Reference: New Show Pop-Up

This pop-up is for creating a new show.

When you enter the Backup Menu, you have the option to make a new show pressing the 'New Show' button. Then you get this pop-up:





A new show will always import the generic fixture type "Dimmer".

Here you can enter a show name and you can choose what information you want to clear from the current show.

This is what you can clear:

Show Data:

This is data like Fixture Schedule, Patch, Sequences, Groups, Presets, Executor Assignment, etc.

Time Config:

This includes the console location settings "Setup / Console / Date + Time / Location.

Global Settings:

This is all the options regarding the global settings.

Local Settings:

This is all the options regarding the local settings.

Network Protocols:

This is your options for DMX output via Ethernet.

Network Config:

This is options for MA NPU, 2/4Port Nodes, VPU, MA Network Dimmers (NDP), Visualizers and other consoles.

User Profiles:

This is the Users and User Profiles in the show.

When you are happy with your options you can press the 'Please' button to create a new show or the yellow 'X' in the upper right corner.

## Related Links

- [Backup Menu](#)



## Reference: Partial Show Read Pop-up

When you have prepared a Partial Show Read you can use this pop-up to select what to show read.

There are some important things to know about partial show read.

The PSR follows the current world!

When you import a sequence that has references to other elements like Effects, Presets etc. it will import those as well.

At the moment you cannot use PSR for userprofiles. You can get those by just loading the user element from a show in the normal "Load Show".

The Partial Show Read pop-up could look like this:

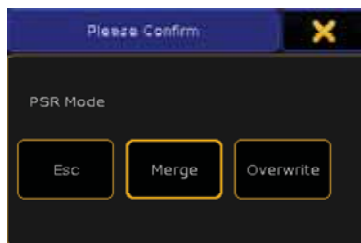




In the title bar of this pop-up you'll find two buttons. One will move the pop-up between screen 1 and 2. The other (the "X") will close the pop-up.

The main part of this pop-up is the **PSR tree**. This is all the elements in the source show you can import to the destination show.

You can select something and then press the "PSR Selected" button or the **X1** key. This will give you a pop-up like this:



This asks you how to load the data into the show.

"Esc" (and the "X" in the upper right corner) will abort the PSR.

"Merge" will merge the data into the current show.

"Overwrite" will overwrite the data in the current show.

When you have imported data into you show you can press the "Clean Up" (or the **U1** key) to remove the already imported data from the PSR tree.



## Reference: Partial Show Read Prepare

This pop-up is used to compare and select the patch to use in the Partial Show Read.

The pop-up could look like this:



The top bar of this pop-up has two buttons. One moves the pop-up between screen 1 and 2. The other closes the pop-up.

The main part has a left and right side. The left side is your current patch. The right side is the patch in the source file. The green background color indicates the patch that will be used after the prepare. You can change the patch by right-clicking the gray fixture to change the new patch to this fixture.

At the bottom you'll find three buttons. One is called "Use Mine" and will change the selected line to use the current's show patch. The next is called "Use Other". This will change the selected line to use the source's show patch. The last button is called "Prepare". Pressing this will prepare the patch and close the pop-up.

On the right side you'll find two buttons. The first is called "Filter". This is used to limit the fixtures displayed in the main part. The second is called "Wizard". With this you can choose what patch to use. They both open a small select pop-up. Follow the link below for an explanation of the two select pop-ups.

## Related Links

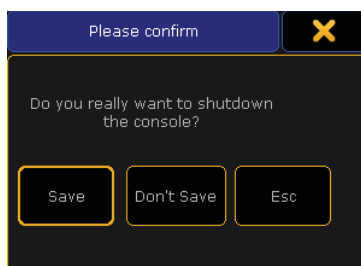
- [Select Display Filter](#)
- [Select Wizard \(PSR\)](#)



## Reference: Please Confirm (Shutdown)

This pop-up appears when you shutdown the console.

When you press the power button on the console you get a pop-up. This is what it looks like:



There are three options here.

"Save" will save your show and shutdown the console. There might be a '(not necessary)' here. This just shows you that you haven't changed anything since you last saved.

"Don't Save" will shutdown the console without saving the show.

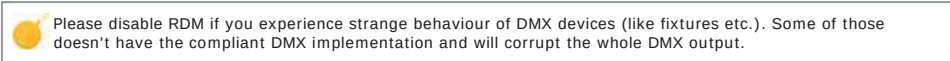
"Esc" (and the "X" in the upper right corner) will abort the shutdown and will not save your show.



## Reference: RDM Status pop-up

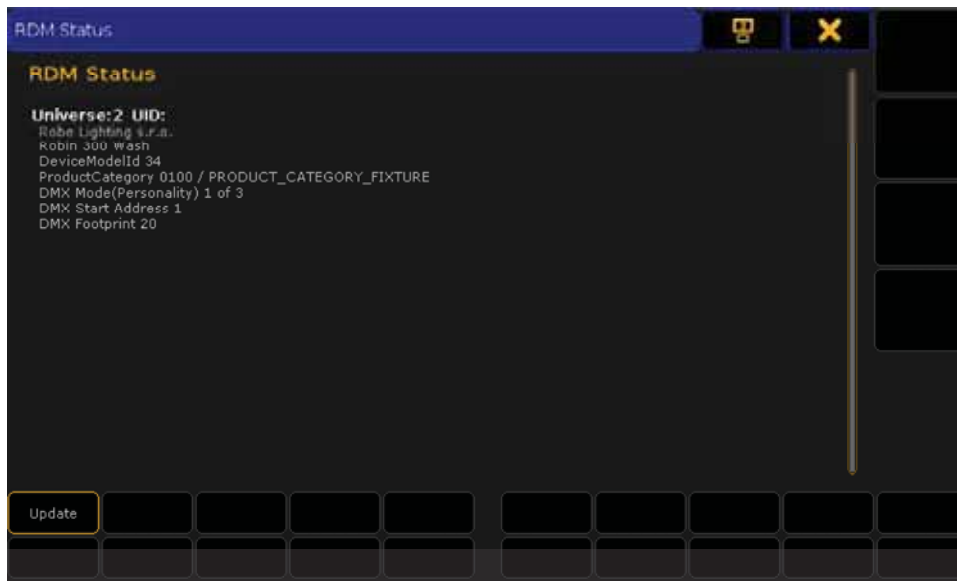
This is the RDM pop-up. It displays messages from the RDM fixtures.

 This is just the first rough implementation of the RDM system. It will be better with future software releases.



You can enable and disable RDM in **Setup → Console → Global Settings**.

This is what it could look like:



This displays the RDM status messages from the network.

Pressing the "Update" button will update the info.

#### Title Bar.

The title bar has some buttons.

The first button allows you to move the RDM Status pop-up between screen 1 and 2.

The last button closes the pop-up.

#### Related Links

- [Patch & Fixture Schedule](#)
- [Global Settings](#)



#### Reference: Running Effects pop-up

This pop-up displays all the running effects.

This window will show you the running effects. It could look like this:



This displays the four different sections where you can have running effects. Each section displays the effects that are running in that section.

The sections are:

##### Sequence

Here you can see the different sequences that currently have an effect running.

##### Programmer

Here you can see all the effect running in the programmer. The effect have to be stored on the Effects Pool and then running in the programmer. Effects build in the programmer only, isn't displayed in this view.

##### Pool

This is the effects running directly in the Effects Pool.

#### Executor

This displays the effects running directly on executors.

Below each section you will find an All Off, All Stomp and All Release buttons. Pressing the Off button will off all the effects in this section. Pressing the Stomp button will take the stomp values for all the effects in that section into your programmer. Pressing the Release button will take the release value in your programmer.

You can interact with the displayed effects like you can interact with the real symbols. I.g. if you press the **Del** hardkey and then one of the symbols - you'll delete the effect or executor. This will also allow you to Stomp (**MA** + **At**) or Off specific elements.

In the side bar there are four buttons. Three of them puts the window into a Release, Stomp or Off Mode. When this is active, you will apply the function to the effects you press. When you have selected a mode, you can also activate the "Follow Selection" button. This will respect the current selection, and only apply the function to the currently selected fixture/channels.

The Running Effects pop-up also exist as a window. Follow the link below to read more about the Running Effect Window.

#### Related Links

- [Running Effects window](#)



#### Reference: Small Select Pop-ups

This is a group of small selection pop-ups.

These are hardly windows, but they appear, and someone might want to know what they do.

All small select pop-ups have the yellow 'X' in the upper right corner. This will always close the pop-up and cancel any selection.

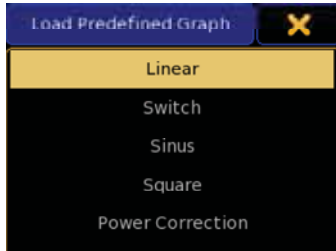


#### Reference: Small Select pop-up / Load Predefined Graph

This is used to load one of the predefined graphs in the **Graph Editor**.

The Graph Editor have two different versions. One for the Forms and one for the DMX Profiles. Therefore you'll also find two different "Load Predefined Graphs".

This is the DMX Profile version:



This is the Form version:



Here you can select one of the predefined graphs.

### Related Links

- [Graph Editor](#)



### Reference: Small Select pop-up / Add shortcut

This is used to select the hard key on the console that will be used in a keyboard shortcut.

This is what it could look like:



You can select the desired hard key in this list.

A console hard key can have several keyboard shortcuts but a keyboard shortcut can only be bound to one hard key.

### Related Links

- [Edit Keyboard Shortcuts in Setup](#)
- [Select Virtual KeyCode pop-up](#)



### Reference: Small Select pop-up / Select Attribute

This is used to select an Attribute to add/change to a fixture profile in the **Edit Fixture Type** window.

This is what it looks like:



Although this is not really small, it's still in the category of the small select pop-ups. Here you navigate through preset types, features and attribute to select the desired attribute.

### Related Links

- [Edit Fixture Types](#)



### Reference: Small Select pop-up / Select Button

This is used to select the affected executor button or fader in **Remote Input setup**.

This is what it looks like:



Here you have the following options:

Fader:

This is the executor fader.

Button 1:

This is the executor button below the fader.

Button 2:

This is the middle executor button (just above the fader).

Button 3:

This is the top executor button.

### Related Links

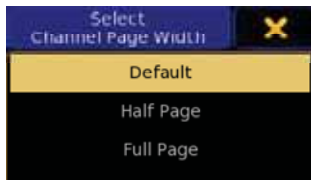
- [Remote Inputs Setup](#)



### Reference: Small Select pop-up / Select Channel Page Width

This is used to select the number of faders in the channel page.

This is what it looks like:



Here you have the following options:

Default:

This will use the number of faders on your console.

Half Page:

This gives you 15 faders per page.

Full Page:

This gives you a maximum of 30 faders per page.

### Related Links

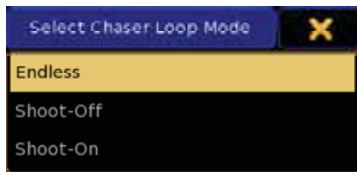
- [User Settings \(Setup\)](#)



### Reference: Small Select pop-up / Select Chaser Loop Mode

This is used to select a loop mode for a chaser.

This is what it looks like:



There are three options:

Endless:

This will loop the sequence until you stop it.

Shoot-Off:

This will run through the sequence once and then Off the chaser (using the MFade time).

Shoot-On:

This will run through the sequence once and pause at the last step.

The default option is "Endless".

#### Related Links

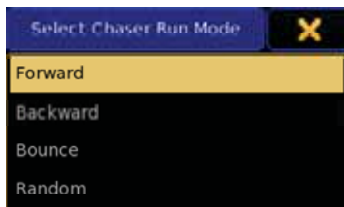
- [Edit Chaser](#)



#### Reference: Small Select pop-up / Select Chaser Run Mode

This is used to select a run mode for a chaser.

This is what it looks like:



There are four options (assuming you activated the chase using "Go"):

Forward:

This will run the sequence from the lowest number to the highest.

Backward:

This will run the sequence from the highest number to the lowest. Remember that this is only if you have activated the chaser using "Go". If you have used "GoBack" it will actually run forward (from lowest number to highest).

Bounce:

This will run the sequence to the last step, then run backwards to the first step, change direction again and run to the last step. It will continue like this until you stop it.

Random:

This will run the steps in a random pattern.

The default option is "Forward".

#### Related Links

- [Edit Chaser](#)



#### Reference: Small Select pop-up / Select Content

This is used to select if a VPU should receive or distribute media content.

This is what it could look like:



Here you can choose one of the three option:

(Nothing):

The VPU won't have anything to do with distributed content.

**Receive:**

The VPU will receive media content from the distributing VPU's.

**Distribute:**

The VPU will distribute media content to the receiving VPU's.

Please press the Content Distribution button to actually transfer the content. Follow the link below to read more about it.

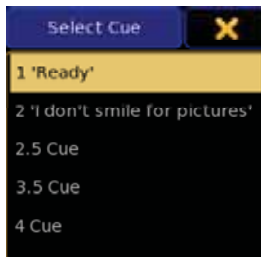
**Related Links**

- [MA Network Configuration - Video](#)
- [Content Distribution](#)

**Reference: Small Select pop-up / Select Cue**

This is used to select a cue to an event in the **Timecode Editor**.

This is what it could look like:



Here you have the options to select one of the cues in the used sequence.

**Related Links**

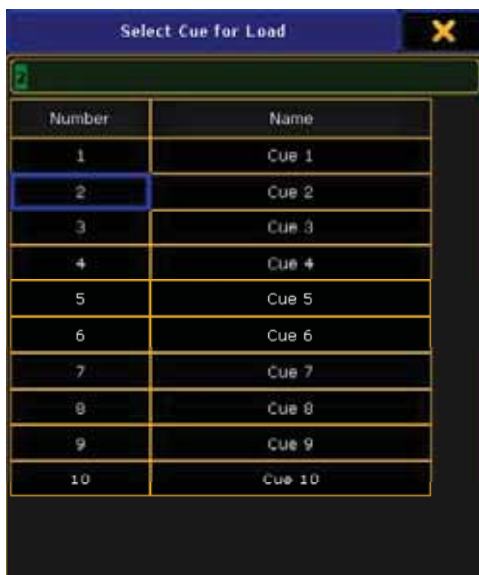
- [Timecode Editor](#)

**Reference: Small Select pop-up / Select Cue for Load**

This is used to select the cue you want to load.

You get this small select pop-up when you press **Goto** twice or write "Load" on the command line followed by **Please**.

This is what it could look like:



Here you have a list of all the cues in the sequence. You can select one of the cues by pressing them or typing the cue number followed by **Please**.

**Related Links**

- [Load Keyword](#)
- [Goto Key](#)





### Reference: Small Select pop-up / Select Cue Colors

This is used to select how cue colors are to be displayed in a sheet.

This is what it looks like:



Here you have three options:

- Off:  
The sheet will not display any cue colors. All values will be in a yellow color.
- On:  
This will display cue colors from the selected executor.
- My Exec:  
Displays cue colors from the selected executor. Other executors run by you (or the same user) display values in yellow. Values from executors run by other users are displayed in gray.

This is on an option in Fixture and Channel Sheets.

#### Related Links

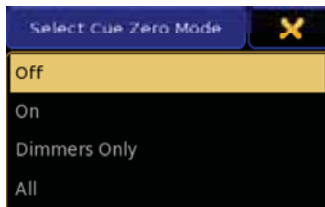
- [Sheet Display options](#)
- [Fixture Sheet](#)
- [Channel Sheet](#)



### Reference: Small Select Pop-up / Cue Zero Mode

This small select pop-up is used to select the way Cue Zero works. This is used in the Assign Menu.

It looks like this:



There are four different options here:

- Off:  
There will not be a cue zero and it will delete any existing Cue zero (cue only).
- On:  
This will create a cue zero for attributes stored in the sequence.
- Dimmers Only:  
This will create a cue zero for dimmer attributes only.
- All:  
This will create a cue zero for all attributes of any fixture that have at least one attribute stored in the sequence.

#### Related Links

- [Assign Menu](#)



### Reference: Small Select Pop-up / Default Gauge (Layout Options)

This small select pop-up is used to select how a fixture should be visualized in the **Layout View**.

This is what it looks like this:



There are five different options here. The pictures below display the same fixture (at 100%, blue color with a gobo):

None:



Filled & Symbol:



Symbol:



Filled:



Spot:



### Related Links

- [Layout View](#)
- [Layout View Defaults](#)



### Reference: Small Select Pop-up / Display Filter (Partial Show Read)

This small select pop-up is used to limit the displayed fixtures in the partial show read prepare pop-up.

This is used in the **Partial Show Read Prepare** pop-up. It looks like this:



There are five different options here:

All:

This displays all the fixture in the two shows.

Matched:

This will only display the fixtures that are matched in the two shows.

Unmatched:

This will only display the fixtures that are only in one of the shows.

New:

This will only display new fixtures (from the source show).

Ignored:

This will only display the ignored fixture.

#### Related Links

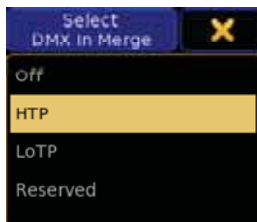
- [Partial Show Read Prepare pop-up](#)



#### Reference: Small Select pop-up / Select DMX In Merge

This is used to select how the incoming DMX should merge into a universe.

This is what it could look like:



Here you can choose one of the four ways to merge incoming DMX:

Off:

The incoming DMX isn't merged.

HTP:

The incoming DMX is merged using the Highest Takes Precedence (HTP) rules.

LoTP:

The incoming DMX is merged using the Lowest Takes Precedence (LoTP) rules.

Reserved:

This option isn't implemented yet. Selecting it is the same as "Off".

#### Related Links

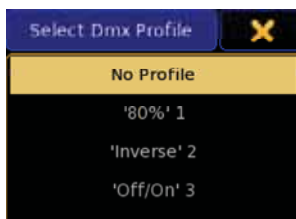
- [DMX List Menu](#)
- [Edit Universe Pop-Up](#)



#### Reference: Small Select pop-up / Select DMX Profile

This is used to select what DMX profile to use.

This is what it could look like:



Here you can choose one of the created DMX profiles.

#### Related Links

- [Creating DMX Profiles](#)
- [Edit Universe Pop-Up](#)
- [DMX List Menu](#)
- [Edit Channel](#)
- [Edit Fixture](#)
- [Edit Fixture Types](#)



#### Reference: Small Select pop-up / Select Effect Attribute

This is used to select the attributes used in an effect line.

This is what it looks like:



Although this is quite large, it's still one of the small select pop-ups.

Here you can select one or several of the available attributes to use in your effect line. When you are happy with your selection, you can confirm it using the "Confirm" button.

In the top bar you can zoom in or out of the list. You can also press "None" and deselect all attributes. If you confirm without a selection your action will be ignored.

The X closes the pop-up.

#### Related Links

- [Effect Editor](#)



#### Reference: Small Select pop-up / Select Event Command

This is used to select a command to an event in the **Timecode Editor**.

This is what it looks like:



Here you have the options to select the desired command. Follow the link below for a short description of the commands.

#### Related Links

- [Assign Menu \(short description of commands\)](#)
- [Timecode Editor](#)



#### Reference: Small Select pop-up / Select Executor for Existing track and Select Executor for New track

This is used to select an executor for a new or existing track in the **Timecode Editor**.

This is what it could look like:



Here you have the options to select one of the executors to be used in the existing or new track.

### Related Links

- [Timecode Editor](#)
- [Track Functions Pop-up](#)



### Reference: Small Select pop-up / Select Fader Assignment

This is used to select the function of the 100mm Master faders.

This is what it looks like:



You can select the desired function for your two 100mm faders in this pop-up.

The faders can have the following functions:

Master:

This is the intensity fader for the selected executor.

XFade:

This is a single fader manual crossfade between two cues in the selected executor.

XFade A:

This is the first of a two fader manual crossfade between two cues in the selected executor. This works with "Xfade B".

XFade B:

This is the second of a two fader manual crossfade between two cues in the selected executor. This works with "Xfade A".

Rate:

This is the rate fader. With this you can adjust the fade and delay times in a sequence. But only the Effect speed is you have turned on 'Effect Speed' in the executor options.

Fade:

This is the fade time between steps in a chaser. It's also described as the "softness" of a chaser.

MFade:

This is the On and Off fade time of chasers when you are activating and deactivating the chaser.

- Temp:**  
This is a fader that will crossfade the cue On when pulled up, and crossfade the cue Off when pulled down. It also activates the selected executor.
- Speed:**  
This is a Speed fader. It relates only to effect speed in the cues. If the sequence is a chaser, then this also changes the chase speed.
- Grand:**  
This is a mirror of the grand master.
- Program Time:**  
This is the Preset Time fader. With this you can set a overwrite fade time for presets. Follow the link to the Encoder Toolbar below for more information.
- Exec Time:**  
This is the Executor Time fader. With this you can set a overwrite fade time for Button Executors. Follow the link to the Encoder Toolbar below for more information.
- Snd Out:**  
This is a volume control for the build in speaker.
- Snd In:**  
This is the gain control for the sound input.
- Sound BPM:**  
This allows you to change the BPM (Beats Per Minute) for the sound trigger - This isn't implemented yet.
- Speed 1 to 16:**  
This allows the fader to act as one of the 16 speed faders.
- Rate 1 to 16:**  
This allows the fader to act as one of the 16 rate masters.
- Playback 1 to 50:**  
This allows you to set the fader as one of the 50 playback masters.
- Empty:**  
This will remove any function for the fader.

### Related Links

- [Assign Menu](#)
- [Encoder Toolbars](#)



### Reference: Small Select pop-up / Select Filter

This is used to select the filter in a **Channel Sheet** and **Fixture Sheet**.

This is found in the sheet options, "layer Filter" tab.

This is what it looks like:



Here you have the following options:

- None:**  
There is no filter applied.
- Programmer:**  
The sheet only shows you the attributes and values in your programmer.
- Active:**  
The sheet only displays the channels and values that will be stored (should you choose to do so).
- Parked:**  
The sheet only displays parked attributes and values.
- Sequ:**  
The sheet only displays the attributes and values that are used in the selected executor.
- Sequ -:**  
The sheet only displays the attributes and values that are used in the selected executor. And not attributes that only have their default value.

### Related Links

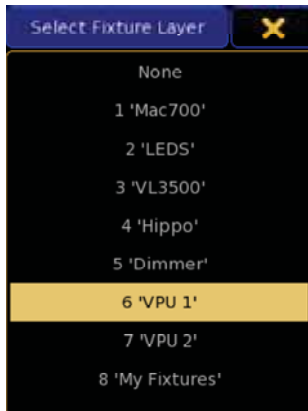
- [Sheet Options](#)



## Reference: Small Select pop-up / Select Fixture Layer

This is used to select the fixture layer for grandMA VPU's in the **Setup → Network → Network Configuration → Video**.

This is what it could look like:



This is a list of all the layer in your setup. Here you can select the layer a grandMA VPU should respond to.

### Related Links

- [Video \(Network Configuration\)](#)
- [Patch & Fixture Schedule](#)



## Reference: Small Select pop-up / Select Function (Button)

This is used to select the function of the executor button in the **Assign Menu**.

This is what it looks like:



You can select the desired function for your executor button in this pop-up.

The executor buttons can have the following functions:

#### Empty:

The button has no function.

#### <<<:

This jumps one cue back without fade and delay times.

#### >>>:

This jumps to the next cue without fade and delay times. It doesn't executes follows.

#### Black:

This turns off the intensity of the executor as long as you have the button pressed.

#### DoubleSpeed:

This will double the speed.

#### DoubleRate:

This will double the rate.

#### Fix:

This fixes or unfixes the executor.

|              |                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash:       | This turns the executor on as long as you have the button pressed.                                                                                                  |
| Go:          | This executes a "Go". It uses the fade and delay times.                                                                                                             |
| GoBack:      | This fades backwards.                                                                                                                                               |
| Goto:        | This gives you the <b>Select Cue</b> pop-up that allows yo to select a cue to goto.                                                                                 |
| HalfSpeed:   | This will half the speed.                                                                                                                                           |
| HalfRate:    | This will half the rate.                                                                                                                                            |
| Kill:        | This is the same as a "Go" but it also turns of all other executors (except those that has "Kill protect" turned on - see below).                                   |
| Learn:       | This sets the speed. By pressing it at least two times it automatically adjusts the speed.                                                                          |
| Load:        | This gives you the <b>Select Cue</b> pop-up that allows you to select a cue to load.                                                                                |
| Off:         | This turns the executor off.                                                                                                                                        |
| On:          | This turns the executor on.                                                                                                                                         |
| Park:        | This parks the fixtures in the sequence, group or (bitmap)effect.                                                                                                   |
| Pause:       | This stops a active fade and/or delay. This also pauses a timecode show.                                                                                            |
| Rate1:       | This resets a speed fader. See "Speed" below.                                                                                                                       |
| Select:      | This selects the executor.                                                                                                                                          |
| Selfix:      | This selects the fixtures in the sequence, group or (bitmap)effect.                                                                                                 |
| Swop:        | When this button is pressed all other fixtures are faded out (except those that has "Swop protect" turned on - see below). They return when you release the button. |
| Temp:        | This turns the executor on as long as you have the button pressed.                                                                                                  |
| Toggle:      | This turns an active sequence Off and vice versa.                                                                                                                   |
| Top:         | This fades to the first cue in the sequence.                                                                                                                        |
| UnPark:      | This unparks the parked fixtures.                                                                                                                                   |
| MasterXFade: | This toggles Manual XFade On / Off on a "Preset Time" or "Executor Time" Special Masters.                                                                           |

### Related Links

- [Assign Menu](#)

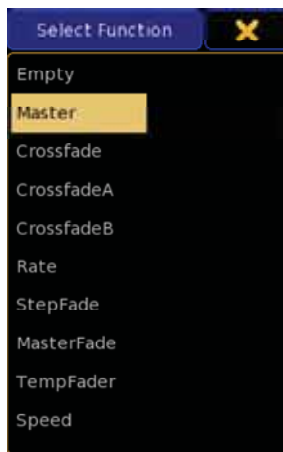


### Reference: Small Select pop-up / Select Function (Fader)

This is used to select the function of the executor fader in the **Assign Menu**.

This is what it looks like:





You can select the desired function for your executor fader in this pop-up.

The executor faders can have the following functions:

- Empty:  
The executor fader has no function.
- Master:  
This is an intensity fader.
- Crossfade:  
This is a single fader manual crossfade between two cues.
- CrossfadeA:  
This is the first of a two fader manual crossfade between two cues. This works with "CrossfadeB".
- CrossfadeB:  
This is the second of a two fader manual crossfade between two cues. This works with "CrossfadeA".
- Rate:  
This is the rate fader. With this you can adjust the fade and delay times in a sequence.
- StepFade:  
This is the fade time between steps in a chaser. It's also described as the "softness" of a chaser.
- MasterFade:  
This is the On and Off fade time of chasers when you are activating and deactivating the chaser.
- TempFader:  
This is a fader that will crossfade the cue On when pulled up, and crossfade the cue Off when pulled down.
- Speed:  
This is the speed fader. With this you can adjust the fade and delay times in Effects in a cue and Chase Speed in chasers.

### Related Links

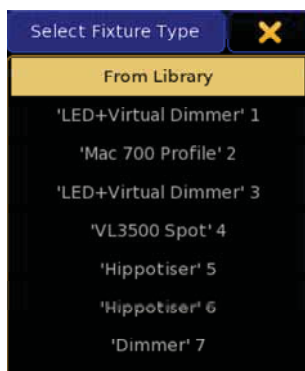
- [Assign Menu](#)



### Reference: Small Select pop-up / Select Fixture Type

This is used to select a fixture type.

This is what it could look like:



This is a list of the imported fixture types.

### Related Links

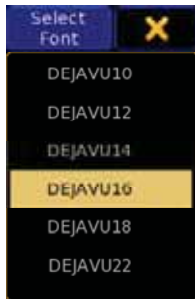
- [Patch & Fixture Schedule](#)



### Reference: Small Select pop-up / Select Font

This is used to select the font size in a sheet.

This is what it looks like:



Here you can choose one of the different font sizes.

#### Related Links

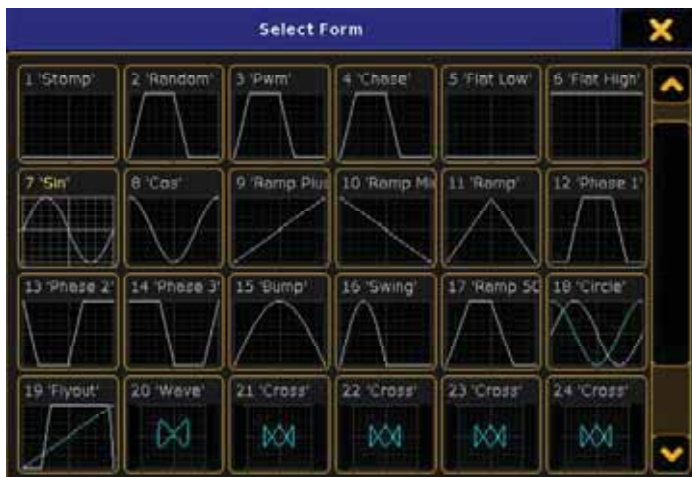
- [Display options in sheets](#)



### Reference: Small Select pop-up / Select Form

This is used to select the form used in an effect line.

This is what it looks like:



Here you can select one of the available forms to use in your effect line.

#### Related Links

- [Effect Editor](#)



### Reference: Small Select pop-up / Select Groupmaster Mode

This is used to select the mode of a group master in the **Assign Menu**.

This is what it looks like:



You can access this option in the 'Options' part of the Assign Menu when an executor is an Group Master.

There are three different modes for a Groupmaster:

**Mode Positive:**

When this group master is turn up it allows the group to have output. If you have overlapping channels/fixtures only one group master need to be up to allow the channels/fixtures to have output. It works by the HTP principle.

**Mode Negative:**

This type of group master overwrites other group masters. If you have overlapping channels/fixtures only one group master need to be down to limit the channels/fixtures. It works by the LoTP principle.

**Mode Additive:**

When turning this group master up, it adds value (output) to the group.

**Related Links**

- [Assign Menu](#)

**Reference: Small Select pop-up / Select Icon/Gauge**

This is used to select an icon or a gauge for an object in the **Layout View**.

This is what it could look like:



Here you can select one of the Icons or a Gauge for your object in a **Layout View**.

The difference between an Icon and a Gauge is that the icon is a static symbol and the gauge will reflect the output of the fixture.

**Related Links**

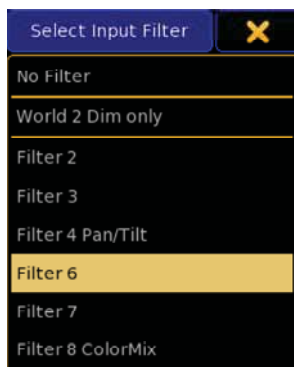
- [Layout View](#)
- [Layout View Encoder Toolbar](#)

**Reference: Small Select Pop-up / Select Input Filter**

This small select pop-up is used to select the Input Filter on an executor. This is used in the Assign Menu.

An Input Filter is used to limit what can be stored in a sequence. Input filters are applied to sequences. So if you have the same sequence assigned to several executors and you apply the Input filter to one of them, they will all use it.

It could look like this:



Executors can "No Filter", a world or a Filter as Input Filter. They are separated by an orange line.

Worlds can limit a selection of fixtures/channels and attributes. Filters can limit attributes but also layers like Value, Value times and Effect layers. E.g. If you have a filter that only allow you to use Effect values, then you can't store regular (static) values but only effect information. And if you use a filter that doesn't allow Effect Values then you can't store any effects in the sequence.

When an Input filter is applied then the sequence number on the mini executor view is marked with an orange background color, and a green background color for the selected executor.



You can use the Assign key to apply an Input Filter. Say you want to assign World 2 to sequence 3. Use the following command.

[Channel]> Assign World 2 Sequence 3

You can also just press the **Assign** key followed by a World or Filter pool element and then the desired sequence in a Sequence pool (not an executor button!).

### Related Links

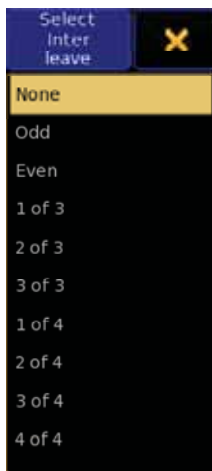
- [Assign Menu](#)



### Reference: Small Select pop-up / Select Interleave

This is used to select a interleave in an effect line in the Effect Editor.

This is what it looks like:



You can select an interleave for an effect line. You have several options:

None:

This doesn't use an Interleave.

Odd:

This is all the odd numbered fixtures in your selection. E.g. the first, third, fifth, seventh and ninth fixture you selected.

Even:

This is all the even numbered fixtures in your selection. E.g. the second, fourth, sixth, eighth, tenth fixture you selected.

1 of 3, 2 of 3 & 3 of 3:

This will divide your selection into 3 groups. You can then select the first, second or third part of this group.

1 of 4, 2 of 4, 3 of 4 & 4 of 4:

This will divide your selection into 4 groups. You can then select the first, second, third or forth part of this group.

This is based on the selection order of the fixtures. E.g. even isn't necessarily the fixtures with an even fixture number.

### Related Links

- [Effect Editor](#)



### Reference: Small Select pop-up / Select Keycode

This is used to select the affected hard key in **Remote Input setup**.

This is what it looks like:



Here you can choose what hard key the remote input should active.

Follow the link below to read more about the hard keys.

#### Related Links

- [Remote Inputs Setup](#)
- [Keys & Buttons](#)



#### Reference: Small Select pop-up / Select Light Mode

This is used to select the light mode of the 2 port node.

This is what it looks like:



You can access this option in the 2Port node configuration in the **Setup → Network → MA Network Configuration**.

There are four different light modes:

Dark:

This turns off the data LEDs and the backlit of the display.

LEDs:

This turns on the data LEDs. They can not be dimmed using the "Light Intensity" in the 2Port configuration.

Display:

This turns on the backlit in the display. The light intensity can be controlled with the "Light Intensity" in the 2Port configuration.

LED + Display:

This turns on the LEDs and the backlit display.

#### Related Links

- [2Port Configuration](#)



#### Reference: Small Select pop-up / Select Link Mode

This is used to select the link mode of a Sequence Sheets.

This is what it looks like:



Here you have the following options:

Link Selected:

This links the sheet to the selected executor.

Not linked:

This links the sheet to the executor selected in the "Assign Executor" tab.

Link Last Go:

This links the sheet to the executor that last performed a "GO".

#### Related Links

- [Layer Mask in Sheet Options](#)

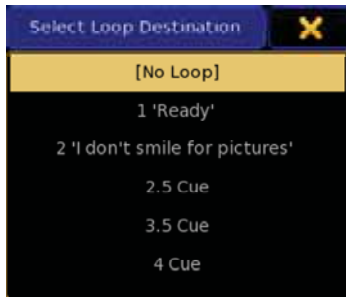


#### Reference: Small Select pop-up / Select Loop Destination

This is used to select what cue a loop should return to.

This is used in the **Sequence Executor Sheet** in the "Loop" column.

This is what it could look like:



Here you can choose one of the previous cues (not incl. part cues).

### Related Links

- [Sequence Executor Sheet](#)

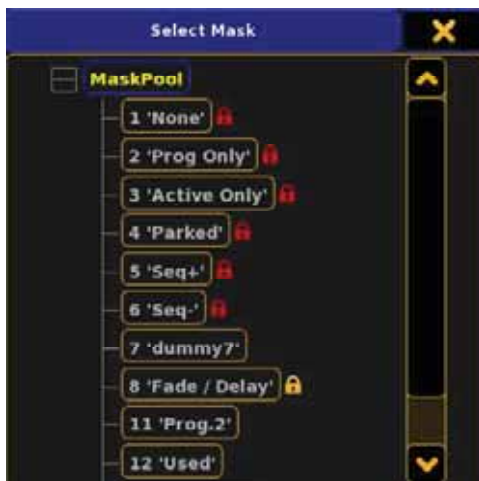


### Reference: Small Select pop-up / Select Mask

This is used to select a mask to load or save to.

This select pop-up is used to select a mask to load from the mask pool into the **Edit Mask** pop-up. The Select Mask pop-up to save the current criteria to a pool element is almost similar. The only difference is that in the save pop-up, you cannot see the locked pool elements.

This is what it could look like:



Here you can choose one of the mask pool elements.

### Related Links

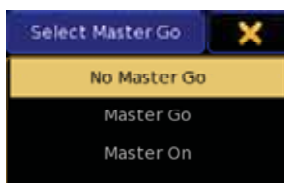
- [Edit Mask](#)



### Reference: Small Select pop-up / Select Master GO

This is used to select the Master Go mode in the **Assign Menu**.

This is what it looks like:



You can access this option in the 'Options' part of the Assign Menu.

There are three different modes for a Groupmaster. They work when you have disabled "auto stop":

No Master Go:

When you take down the Master fader and then brings it back up, the cue is still running.

Master Go:

When you take down the Master fader and then brings it back up, it executes a "go".

Master On:

When you take down the Master fader and then brings it back up, the cue is reloaded (fading in again).

### Related Links

- [Assign Menu](#)



### Reference: Small Select pop-up / Select MIB

This is used to select when fixture should Move In Black.

You can access this pop-up in a **Sequence Executor Sheet**, where you have the option to MIB.

This is what it could look like:



Please follow the link to "Working with MIB" for a tutorial on how MIB works.

In the top bar there's the option to close the pop-up (using the yellow X).

You can select one of the three top options:

None:

This removes MIB information.

Late:

This will MIB as late as possible.

Early:

This will MIB as early as possible.

Below the three options, there's a list of all the previous cues (part cues not incl.). Here you can select what cue it should MIB from.

### Related Links

- [Sequence Executor Sheet](#)
- [Working with MIB](#)



### Reference: Small Select pop-up / Select Mode (Bitmap Effect)

This is used to select the mode of a bitmap effect.

This is what it looks like:



There are three different modes for Bitmap Effects:

- Gray:  
This makes the bitmap effect influence on dimmer attribute.
- Trigger:  
This will use two presets, and use the contrast in the bitmap to determine what preset to use when.
- Color:  
This makes the bitmap effect influence color attributes. This is the only one currently working.

### Related Links

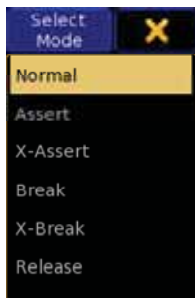
- [Bitmap Effect Editor](#)



### Reference: Small Select pop-up / Select Mode (Cue)

This is used to select the cue mode in a Sequence Executor Sheets.

This is what it looks like:



Here you have the following options:

- Normal:  
Normal tracking mode.
- Assert:  
State is asserted with original timing.
- X-Assert:  
State is asserted with cue timing of current cue.
- Break:  
Prevents tracking and performs an Assert.
- X-Break:  
Prevents tracking and performs an X-Assert.
- Release:  
Release will turn off the executor when the fade is completed.

If you want to learn more about the different mode, you should follow the link to the "Working with Cue-modes" tutorial.

### Related Links

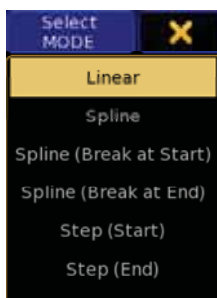
- [Sequence Executor Sheet](#)
- [Working with Cue-modes \(Tutorial\)](#)



### Reference: Small Select pop-up / Select Mode (Line)

This is used to select what kind of line should be used in the **Graph Editor**.

This is what it could look like:



Here you can choose one of the following line modes:



- Linear:  
This creates a strait line between two points.
- Spline:  
This creates a smooth line trough the points.
- Spline (Break at Start):  
This will make a sharp corner towards the previous point and a soft path to the next point.
- Spline (Break at End):  
This will make a sharp corner towards the next point and a soft path to the previous point.
- Step (Start):  
This will immediately snap to the new value and keep it until it reaches the next point.
- Step (End):  
This will keep the value until it reaches the next point and then snap to the new value.

Using these different line modes will create very different lines.

### Related Links

- [Graph Editor](#)



### Reference: Small Select pop-up / Select Mode (Node)

This is used to select the mode of the 2 port node.

This is what it looks like:



You can access this option in the 2Port node configuration in the **Setup ➔Network ➔MA Network Configuration**.

There are three different modes for your node:

- MA-Net1:  
This allows you to use your node with grandMA series 1.
- MA-Net2:  
This allows you to use your node with grandMA series 2.
- Art-Net:  
This turns the node into an Art-Net node. This allows you to use it with any equipment that understands Art-Net.

### Related Links

- [2Port Configuration](#)



### Reference: Small Select pop-up / Select Mode (Preset)

This is used to select the default preset mode in the **Setup ➔User ➔Defaults ➔Preset Deafults**.

This is what it looks like:



Here you have the following options:

- Selective:  
This creates presets only for the selected fixtures.
- Global:  
This creates presets for all fixtures of the same fixture type as the selected fixtures.
- Universal:  
This creates presets for all fixtures regardless of type or selection.

### Related Links

- [Presets Concept](#)
- [Presets Pools](#)



### Reference: Small Select pop-up / Select MSC In Command

This is used to select what command format the incoming message should be received as.

This is what it looks like:



Here you have the following options:

Moving Light:

This interprets the incoming command as the **Moving Light** format (Hex = 02).

General Light:

This interprets the incoming command as the **General Light** format (Hex = 01).

All:

This interprets the incoming command as the **All** format (Hex = 7F).

#### Related Links

- [Midi Show Control Options](#)



### Reference: Small Select pop-up / Select MSC In Exec

This is used to select what executor the incoming command should refer to.

This is what it looks like:



Here you have the following options:

Default Only:

This sends the incoming Midi Show Control command to the selected executor(s).

Exec.Page:

This sends the command to a specified executor on a specified page - separated by a dot (Hex = 2E).

Exec Page:

This sends the command to a specified executor on a specified page - separated by a space (Hex = 20).

#### Related Links

- [Midi Show Control Options](#)



### Reference: Small Select pop-up / Select MSC In Mode

This is used to select how the console should receive Midi Show Control messages.

This is what it looks like:



Here you have the following options:

**Disabled:**

This disables any incoming Midi Show Control messages.

**Ethernet:**

This listens to incoming MSC messages on the Ethernet port set in the MSC option.

**Midi:**

This listens to incoming MSC messages from the Midi In connector on the backpanel.

### Related Links

- [Midi Show Control Options](#)



### Reference: Small Select pop-up / Select MSC Out Command

This is used to select what command format the outgoing message should be transmitted as.

This is what it looks like:



Here you have the following options:

**Moving Light:**

This transmits the outgoing message as the **Moving Light** format (Hex = 02).

**General Light:**

This transmits the outgoing message as the **General Light** format (Hex = 01).

**All:**

This transmits the outgoing message as the **All** format (Hex = 7F).

### Related Links

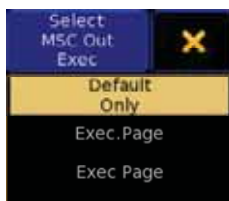
- [Midi Show Control Options](#)



### Reference: Small Select pop-up / Select MSC Out Exec

This is used to select what executor the outgoing command should refer to.

This is what it looks like:



Here you have the following options:

**Default Only:**

This transmit the Midi Show Control command to the default receiver.

**Exec. Page:**

This transmit the command to a specified executor on a specified page - separated by a dot (Hex = 2E).

**Exec Page:**

This transmit the command to a specified executor on a specified page - separated by a space (Hex = 20).

### Related Links

- [Midi Show Control Options](#)



### Reference: Small Select pop-up / Select MSC Out Mode

This is used to select how the console should transmit Midi Show Control.

This is what it looks like:



Here you have the following options:

**Disabled:**

This disables any outgoing Midi Show Control messages.

**Ethernet:**

This transmit MSC messages on the Ethernet port set in the MSC options.

**Midi:**

This Ittransmit MSC messages from the Midi Out connector on the backpanel.

## Related Links

- [Midi Show Control Options](#)



## Reference: Small Select pop-up / Select New Sub Track

This is used to select a new sub track in the **Timecode Editor**.

This is what it could look like:



Here you can select one of the following sub tracks (the current sub tracks will not be visible):

**Master:**

This is the intensity or size master.

**Crossfade (XFade):**

This is a single fader manual crossfade between two cues.

**CrossfadeA (XFade A):**

This is the first of a two fader manual crossfade between two cues. This works with "CrossfadeB".

**CrossfadeB (XFade B):**

This is the second of a two fader manual crossfade between two cues. This works with "CrossfadeA".

**Rate:**

This is the rate fader. With this you can adjust the fade and delay times in a sequence. If you have turned 'Effect Speed' on in the executor options, then you also control the speed of the effects.

**StepFade (Fade):**

This is the fade time between steps in a chaser. It's also described as the "softness" of a chaser.

**MasterFade (MFade):**

This is the On and Off fade time of chasers when you are activating and deactivating the chaser.

**TempFader (Temp):**

This is a fader that will crossfade the cue On when pulled up, and crossfade the cue Off when pulled down.

**Speed:**

This is the speed fader. With this you can adjust the fade and delay times of Effects in a cue and the chase speed of a Chaser.

## Related Links

- [Timecode Editor](#)



## Reference: Small Select pop-up / Select Object

This is used to select an object for a mask.

This is what it could look like:



When you select the "in object" criterion in a mask you need to select an object. This will allow you to do so.

There are 5 tabs in this pop-up: Group, Effect, Preset, Sequence and World.

Each lists all the objects in their section.

#### Related Links

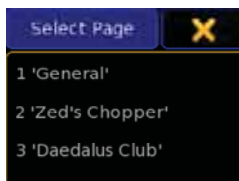
- [Edit Mask](#)



#### Reference: Small Select pop-up / Select Page

This small pop-up is used to select the current channel or executor page.

When you have the option to select a page. You will be presented with a pop-up like this:



If the page has a name it will display the page number and then the name. If it doesn't have a name it will just the number and then "Page".

There's also a button that closes the pop-up.

#### Related Links

- [Playback Big window](#)
- [Playback Small window](#)
- [Action Buttons window](#)



#### Reference: Small Select Pop-up / Select Playback Filter

This small select pop-up is used to select the Playback Filter on an executor. This is used in the Assign Menu.

A Playback Filter is used to limit what can be played by an executor. Playback filters are applied to executors. So if you have the same sequence assigned to several executors and you apply the playback filter to one of them only this one will use the filter. E.g. If you have allied a filter that only contains dimmer attribute, then the executor will only output the dimmer values from that sequence - values from pan/Tilt etc. will not be outputted.

It could look like this:



Executors can "No Filter", a world or a Filter as Playback Filter. They are separated by an orange line.

Worlds can limit a selection of fixtures/channels and attributes. Filters can only limit attributes.

When a Playback filter is applied then the executor number on the mini executor view is marked with an orange background color, and a green background color for the selected executor.



You can use the Assign key to apply a Playback Filter. Say you want to assign World 2 to executor 3. Use the following command.

```
[Channel]> Assign World 2 Executor 3
```

You can also just press the **Assign** key followed by a World or Filter pool element and then the desired executor.

## Related Links

- [Assign Menu](#)



## Reference: Small Select pop-up / Select Playback Master

This small select pop-up is used in the Assign menu. You can use it to assign an executor to a playback master.

This is what it could look like:



This is a list of all the possible Playback masters.

In the current version you can have 50 different Playback Masters.

If you have assigned a Playback Master to your executor, then your Mini Executor window will have an extra fader bar. The right (the one saying "Rate1" or "1:1") one is the Playback master.



There's currently no way to see what playback master an executor is assigned to, unless you go to the Assign menu.

You can close the pop-up without changing anything by pressing the "X" in the upper right corner.

## Related Links

- [Assign Menu](#)



### Reference: Small Select pop-up / Select Path

This is used to select what DMX profile to use as a path in a cue.

This is what it could look like:



Here you can choose one of the created DMX profiles.

#### Related Links

- [Graph Editor](#)
- [Sequence Executor Sheet](#)



### Reference: Small Select pop-up / Select Predefined Effect

This small pop-up is used to select one of the pre made effects.

When you press the 'Predefined' button in the Macro Editor you get a pop-up like this:



This is a long list of all the predefined effects in the desk. Selecting one of them will create that effect.

If you create an effect that used attributes that are not in your show, they will appear as NONE.

There's also a button that closes the pop-up.

#### Related Links

- [Effect Editor pop-up](#)



### Reference: Small Select pop-up / Select Predefined Macro

This small pop-up is used to select one of the pre made macros.

When you press the 'Predefined' button in the Macro Editor you get a pop-up like this:



This is a long list of all the predefined macro in the desk. Selecting one of them will create that macro.

There's also a button that closes the pop-up.

#### Related Links

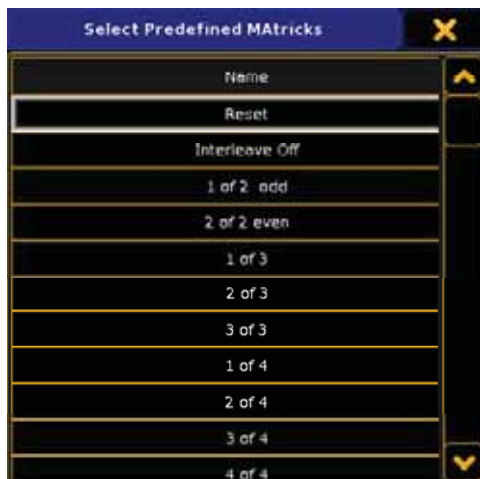
- [Macro Editor](#)



#### Reference: Small Select pop-up / Select Predefined MATricks

This small pop-up is used to select one of the pre made MATricks.

When you press the 'Load Predefined' button in the Edit MATricks pop-up you will get a pop-up like this:



This is a long list of all the predefined MATricks. Selecting one of them will create that MATricks pool button.

This list all the MATricks in the "predefined.xml" file in the "matricks" folder in the console.

There's also a button that closes the pop-up.

#### Related Links

- [Edit MATricks pop-up](#)



#### Reference: Small Select pop-up / Select Preset Readout

This is used to select the preset readout in Sheets.

This is what it looks like:





Here you have the following options:

Names:

This will only display the preset names.

Number:

This will only display the preset number.

Numbers & Names:

This option displays both the number and name of the preset.

### Related Links

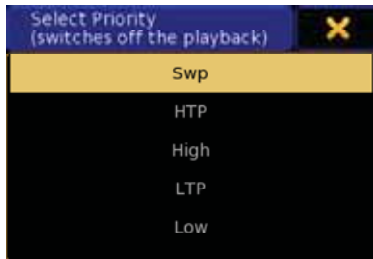
- [Display options in sheets](#)



### Reference: Small Select pop-up / Select Priority

This is used to select the priority of an executor in the **Assign Menu**.

This is what it looks like:



You can access this priority option in the 'Options' part of the Assign Menu.

There are five different options:

Swp (Swap):

Master controls intensity attributes as Swap (LTP with higher priority than HTP).

HTP (Highest Takes Precedence):

Master controls intensity attributes as Highest Takes Precedence (above LTP).

High:

Master controls intensity attributes as Latest Takes Precedence, high LTP priority.

LTP (Latest Takes Precedence):

Master controls intensity attributes as Latest Takes Precedence, normal LTP priority.

Low:

Master controls intensity attributes as Latest Takes Precedence, low LTP priority.



Changing the priority of a running executor will turn it off.

### Related Links

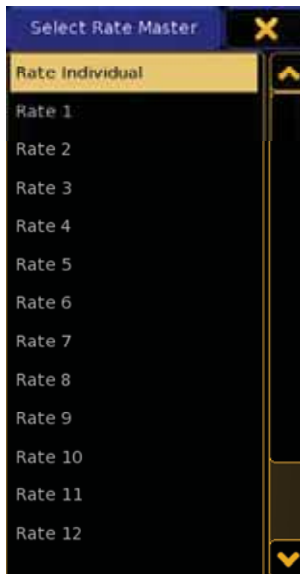
- [Assign Menu](#)



### Reference: Small Select pop-up / Select Rate Master

This is used to select a rate master.

This is what it looks like:



You have access to 15 rate masters. Each master can be assigned as a special speed master fader.

The default option is "Rate Individual", this is used when an executor isn't associated with any of the 15 rate masters.

#### Related Links

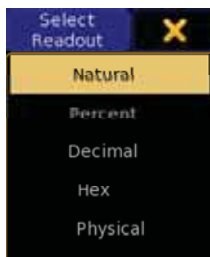
- [Assign Menu](#)



#### Reference: Small Select pop-up / Select Readout

This is used to select the readout in Sheets.

This is what it looks like:



Here you have the following options:

##### Natural

Displays the percentages with one extra decimal. Because the total range of one DMX channel is 256 steps and the percentage only displays 100 steps; the extra decimal shows you more precisely where in the 256 steps the value are. Some values may also be relative values. A pan/tilt is as a default at "0", and then you can have e.g. a pan value of "-20".

##### Percent

Displays the value in percentage (100 steps).

##### Decimal

Shows you the actual step in the DMX range (256 steps).

##### Hex

The readout is in Hexadecimal values.

##### Physical

Displays the real world physical value of a parameter.

#### Related Links

- [Display options in sheets](#)



#### Reference: Small Select pop-up / React to Dim

This is used to select if and how a parameter should react to the dimmer.

This is what it looks like:



Here you have the following options:

No Function:

The parameter will not react to the dimmer value.

Linear:

The parameter will be linked to the dimmer value. It will follow the value of the dimmer. E.g. if the dimmer is 20% then this parameter is 20%. If the dimmer value is 50%, then this parameter will be at 50%.

Inverse:

The parameter will be linked to the dimmer value. It will mirror the value of the dimmer around the middle value. E.g. if the dimmer is 20% then this parameter will be 80%. If the dimmer is 50% then this parameter will be 50%.

### Related Links

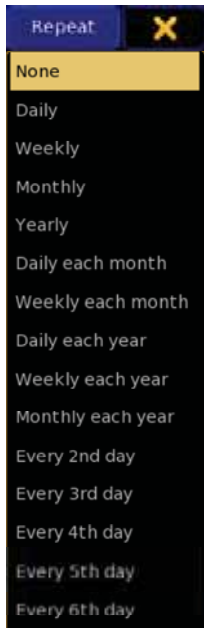
- [Edit Fixture Types](#)



### Reference: Small Select pop-up / Select Repeat

This is used to select how often an entry in the agenda should repeat itself.

This is what it looks like:



Here you can select one of the available repeat times for your entry.

### Related Links

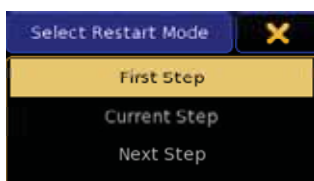
- [Agenda Window](#)



### Reference: Small Select pop-up / Select Restart Mode

This is used to select the restart mode of an executor in the **Assign Menu**.

This is what it looks like:



You can access this option in the 'Options' part of the Assign Menu. It decides what should happen when an executor has been 'Off' and is turned 'On' again.

There are three different restart modes:

First Step:

This always restarts the sequence with the first step.

Current Step:

This restarts the sequence with the cue/step you were in when the sequence was turned off.

Next Step:

This restarts the sequence with the next cue/step from where you were when the executor was turned off.

### Related Links

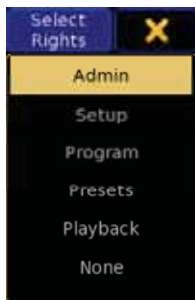
- [Assign Menu](#)



### Reference: Small Select pop-up / Select Rights

This is used to select the user rights in the **User + Profiles Setup**.

This is what it looks like:



Here you have the following options:

Admin:

This gives the user full rights to do everything.

Setup:

This allows the user to do everything below including changes in the setup.

Program:

This allows the user to do everything below including program everything.

Presets:

This allows the user to do everything below including updating presets. This isn't implemented yet.

Playback:

This allows the user to run executors and have values in the programmer.

None:

This gives view only options. This isn't implemented yet.

### Related Links

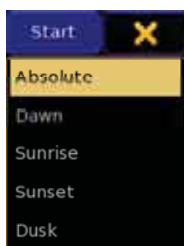
- [User+Profiles Setup](#)



### Reference: Small Select pop-up / Select Start

This is used to select when an entry in the agenda should start.

This is what it looks like:



Here you have the options to select five different options:

Absolute:

This option will allow you to set a specific time of the day.

- Dawn:  
This option will execute the command at dawn.
- Sunrise:  
This option will execute the command at sunrise.
- Sunset:  
This option will execute the command at sunset.
- Dusk:  
This option will execute the command at dusk.

The last four options are based on the location of the console. It is calculated based on the input in the **Setup → Console → Date & Time**.

#### Related Links

- [Agenda view](#)
- [Date & Time](#)



#### Reference: Small Select pop-up / Select Scale Mode

This is used to select the scale mode in a Bitmap Effect.

This is what it looks like:



You can access this option in the 'Options' part of the Assign Menu when an executor is an Group Master.

There are three different modes for the scaling of the image:

- 1:1:  
With this you scale the source so each fixture is a pixel.
- Fit:  
This adapts the source to number of fixtures you have in height and width.
- Width:  
This changes the source to match the number of fixtures you have in the width.
- Height:  
This does the same as width, but only with the height.

#### Related Links

- [Bitmap Effect Editor](#)



#### Reference: Small Select pop-up / Select Send To

This is used to select who the console should transmit Midi Show Control messages to.

This is what it looks like:



Here you have the following options:

- Send To Group:  
This transmit the Midi Show Control messages to the MSC Out Group number specified.
- Send To Device:  
This transmit the Midi Show Control messages to the MSC Out Device number specified.
- Send To All:  
This transmit the Midi Show Control messages to All groups and devices.

### Related Links

- [Midi Show Control Options](#)



### Reference: Small Select pop-up / Select Speed Group

This is used to select a speed group.

This is what it looks like:



You have access to 16 speed group masters. Each master can be assigned as a special speed group master fader.

The default option is "Speed Individual", this is used when an executor isn't associated with any of the 16 speed groups.

### Related Links

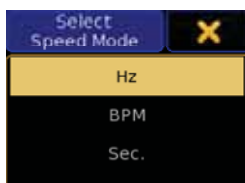
- [Assign Menu](#)
- [Edit Chaser](#)



### Reference: Small Select pop-up / Select Speed Mode

This is used to select the speed mode in Effects, Bitmap Effects and Speed Groups.

This is what it looks like:



Here you have the following options:

Hz (hertz):  
This displays the time in hertz. 1 hertz is one cycle per minute.

BMP (Beats Per Minute):  
This displays the time as beats per minutes.

Sec. (seconds):  
This displays the time in seconds.

### Related Links

- [User Settings](#)



### Reference: Small Select pop-up / Select Speed Factor

This is used to select a speed factor.

This is what it looks like:



With this you can multiply or divide the speed by (up to) a factor of 32.

This can be used when using speed groups to make a specific executor faster or slower.

The default option is "Normal".

#### Related Links

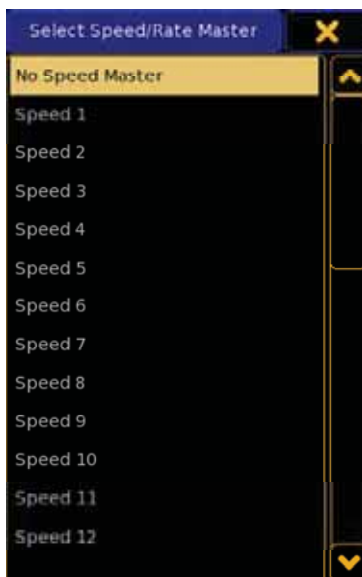
- [Assign Menu](#)



#### Reference: Small Select pop-up / Select Speed /Rate Master

This is used to select a speed or rate master.

This is what it looks like:



You have access to 16 speed masters and 16 rate masters. Each master can be assigned to an effect line.

The default option is "No Speed Master", this is used when you do not want to assign any Speed or Rate master.

#### Related Links

- [Effect Editor pop-up](#)



#### Reference: Small Select pop-up / Select Station

This is used to add a station in the **MA Network Configuration**.

This is what it looks like:



This gives you a list of not yet added stations in your network. Selecting one of them will add it.

There are three different columns. They tell you the MAC address, the IP address (and type) and the name of the station.

#### Related Links

- [MA Network Configuration](#)



#### Reference: Small Select pop-up / Select Subattribute

This is used to select a Subattribute to an Attribute in the **Edit Fixture Type** window.

This is what it looks like:



Although this is not really small, it's still in the category of the small select pop-ups.

Here you navigate through preset types, features and attribute to select the desired subattribute.

#### Related Links

- [Edit Fixture Types](#)

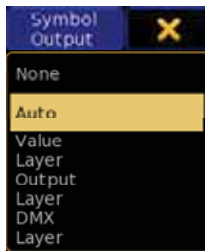


#### Reference: Small Select pop-up / Select Symbol Output

This is used to select the symbol output in Sheets.

This is what it looks like:





Here you have the following options:

None:

When this is selected there will not be a Output symbol next to the name.

Auto:

This will display a small symbol displayed next to the name. It displays color and intensity. It will follow the Layer Control of the sheet.

Value Layer:

This will display a small symbol displayed next to the name. It displays color and intensity. This will always display the resulting output from the value layer.

Output Layer:

This will display a small symbol displayed next to the name. It displays color and intensity. This will always display the result from the Output layers.

DMX Layer:

This will display a small symbol displayed next to the name. It displays color and intensity. This will always display the result from the DMX layers.

### Related Links

- [Display options in sheets](#)



### Reference: Small Select pop-up / Select Sync Mode

This is used to select what time source should be used in a timecode show.

This is what it looks like:



Here you have the following options:

Intern:

This is the internal time. You can have multiple timecode shows running on different times.

SMPTE:

This selects the external sound signal input on the 3-pin XLR connector on the back of your desk. There are only one SMPTE signal. All running timecode show that uses SMPTE will sync to the same time.

MIDI:

This selects the external MIDI time code (MTC). There are only one MTC signal. All running timecode show that uses MTC will sync to the same time.

### Related Links

- [Timecode Editor](#)



### Reference: Small Select pop-up / Select Time Units

This is used to select the time units displayed in a timecode show.

This is what it looks like:



Here you have the following options:

1/100 Seconds:

This displays the second divided in hundreds.

30 FPS:

This displays the second divided in 30 frames per second.

25 FPS:

This displays the second divided in 25 frames per second.

24 FPS:

This displays the second divided in 24 frames per second.

No matter what time unit you have selected, the editor will always give you 30 steps between seconds. This has only effect on the displayed time.

#### Related Links

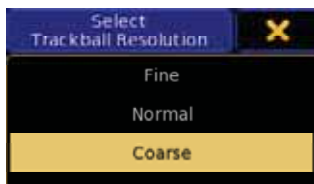
- [Timecode Editor](#)



#### Reference: Small Select pop-up / Select Trackball Resolution

This is used to select the default resolution of the trackball. That can be change on the fly by pressing the Encoder key (and holding it) and selecting one of the resolutions in the pop-up.

This is what it looks like:



The resolution is a percentage of the entire range of an attribute.

Here you have the following options:

Fine:

This is 0.1% of the range.

Normal:

This is 1% of the range.

Coarse:

This is 5% of the range.

#### Related Links

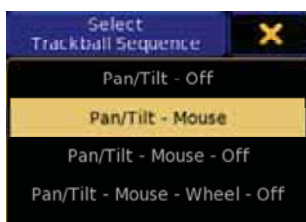
- [User Settings](#)



#### Reference: Small Select Pop-up / Select Trackball Sequence

This small select pop-up is used to select the mode sequence for your trackball when you press the mouse hardkey.

This is what it could look like:



Here you can select mode sequence for the trackball.

There are four different modes:

Off:

The trackball is turned off.

Pan/Tilt:

The trackball changes the pan & tilt values of the selected fixtures.

Mouse:

The trackball works as a mouse for the console.

Wheel:

The trackball emulates the level wheel.

When you press the Mouse key the trackball mode will cycle through the sequence you select.

If you press the yellow X in the upper right corner, you cancel any changes.

### Related Links

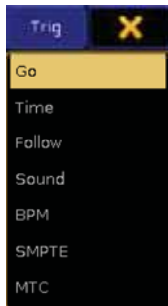
- [User Settings \(Setup\)](#)
- [Mouse Key](#)



### Reference: Small Select pop-up / Select Trig

This is used to select the trigger in a cue.

This is what it looks like:



There are five different trigger modes:

Go:

This will make the cue trigger by a 'go'.

Time:

This will make the cue trigger a certain time after the last cue was triggered. You need to enter a 'TrigTime'.

Follow:

When this is selected the cue will trigger when all the times associated with the previous cue is gone.

Sound:

This isn't implemented yet. This will make the cue trigger using a sound peak as a trigger.

BPM:

This isn't implemented yet. This will make the cue trigger using the beats in the sound input.

SMPTE:

This can be used to trigger a single cue using a SMPTE time source. The trigger time should be entered in the time column. This cue will then trigger when the SMPTE reaches the set time and only if the previous cue is active.

MTC:

This can be used to trigger a single cue using a MIDI Time Code time source. The trigger time should be entered in the time column. This cue will then trigger when the MTC reaches the set time and only if the previous cue is active.

### Related Links

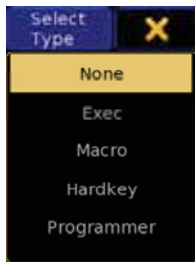
- [Sequence Executor Sheet](#)



### Reference: Small Select pop-up / Select Type

This is used to select the type of action a remote input should have.

This is what it looks like:



Here you have the following options:

None:

The remote input doesn't have any action.

Exec:

When this is selected the input will activate an executor button or fader.

Macro:

When this is selected the input will execute the command written in the 'Macro' column.

Hardkey:

When this is selected the input will activate an hard key.

Programmer:

This will put all input directly into your programmer - only in remote DMX input.

### Related Links

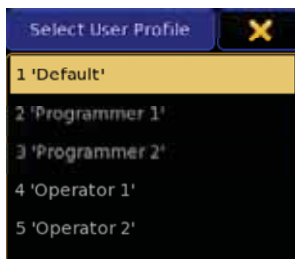
- [Remote Inputs Setup](#)



### Reference: Small Select pop-up / Select User Profile

This is used to select the user profile in the **User + Profiles Setup**.

This is what it could look like:



Here you can select one of the created user profiles. This assigns it to a user.

The list displays the name and number of the user profile.

### Related Links

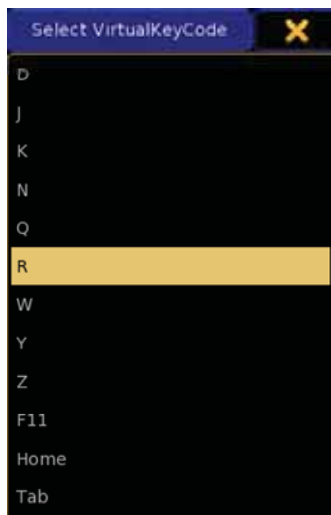
- [User+Profiles Setup](#)



### Reference: Small Select pop-up / Select VirtualKeyCode

This is used to select the keyboard key on the computer that will be bound to a console hard key.

This is what it could look like:



This list only the keys that haven't been used yet. You can select the desired hard key in this list.

A console hard key can have several keyboard shortcuts but a keyboard shortcut can only be bound to one hard key.

If you need to use a key that isn't in the list you'll have to delete the current function for that key for it to appear in this list.

#### Related Links

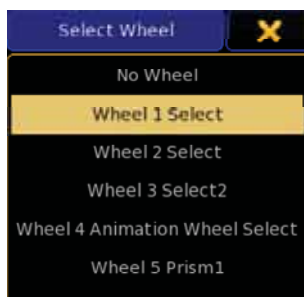
- [Edit Keyboard Shortcuts in Setup](#)
- [Add Shortcut pop-up](#)



#### Reference: Small Select pop-up / Select Wheel

This is used to select the wheel an attribute should refer to.

This is what it could look like:



Here you can select one of the defined wheels.

Cancel your selection by using the yellow X in the upper right corner.

#### Related Links

- [Edit Fixture Types](#)
- [Wheel Manager](#)



#### Reference: Small Select pop-up / Select Wheel Mode

This is used to select the wheel mode of the level wheel.

This is what it looks like:



You can access this option in the **Setup ➔ User ➔ Settings**.

This changes the way the level wheel behaves.

Here you have the following options:

**Additive:**

This will allow you to use the level wheel to set the value of dimmers. It will keep the individual levels until you reach 0% or 100%. Then it will level them out. E.g. channel 1 has a value of 50 and channel 2 is at 60. When you use the level wheel to take them both up to 100, and then back down, they both go down from 100 at the same time and at the same level.

**Incremental:**

This will basically do the same as 'Additive', but it remembers the individual values going beyond 0% and 100%. E.g. channel 1 has a value of 50 and channel 2 is at 60. When you use the level wheel to take them both up to 100, and then back down, channel 1 will start coming down first and then channel 2 will follow when channel 1 is at 90.

**Prop. + (proportional positive):**

When using the level wheel to turn up the value the individual difference in value will increase. Turning down the values will make all channels reach 0% at the same time.

**Prop. - (proportional negative):**

When using the level wheel to turn the values up the individual difference in value will decrease. Turning up to 100% will make all channels reach 100% at the same time.

## Related Links

- [Encoder Toolbars](#)



### Reference: Small Select pop-up / Select Wheel Resolution

This is used to select the default resolution of the Level Wheel. That can be change on the fly by pressing the Encoder key (and holding it) and selecting one of the resolutions in the pop-up.

This is what it looks like:



The resolution is a percentage of the entire range of an attribute.

Here you have the following options:

**Fine:**

This is 0.1% of the range.

**Normal:**

This is 1% of the range..

**Coarse:**

This is 5% of the range.

## Related Links

- [User Settings](#)



### Reference: Small Select Pop-up / Wizard (Partial Show Read)

This small select pop-up is used to select witch fixtures to use in the partial show read.

This is used in the **Partial Show Read Prepare** pop-up. It looks like this:



There are three different options here:

**Use Mine:**

This will use the fixtures in the current show.

**Merge Other:**

This will merge the fixtures from the source show into the current show.

**Use Other:**

This will use the fixtures from the source show..

## Related Links

- [Partial Show Read Prepare pop-up](#)



### Reference: The Specialized Dialogs

These pop-ups are made for the multi touch screen. They allow you to manipulate attributes in a fast and easy way.

There are currently two different preset types that have specialized dialogs. Color Mix and Shapers.



### Reference: Specialized Color Dialog

The specialized color dialog is used to control the CMY attributes of fixtures.

The specialized color dialog can be accessed when you have selected the color preset type and the ColorMix feature. When there's a specialized dialog available to you, then the "Specialized Dialog" button in the encoder control area will get a yellow frame.

There are currently three different specialized color dialogs.



### Reference: Specialized Dialog - Color - Fader

This pop-up allows you to control the CMY/RGB attributes.

This is what it looks like:



Usually we have three different colors attributes. They can be CMY or RGB (there are also other color systems that use more attributes). You can with the color fader choose any method you like to get the desired color.

You can use HSB, CMY or RGB to manipulate the attributes at the same time - they are all connected.

You can use the **U1** to **U3** keys to change between the Fader, HSB or Swatch screen.

If you want to close this pop-up you press the yellow X in the upper right side.

## Related Links

- [U1 - U4 Key](#)



### Reference: Specialized Dialog - Color - HSB

This pop-up allows you to control the color attributes.

This is what it looks like:



Usually we have three different colors attributes. They can be CMY or RGB (there are also other color systems that uses more than three attributes). You can with the color selector choose the desired color.

This is an enlarged version of the "Color Picker" from grandMA series 1.

You can use the **U1** to **U3** keys to change between the Fader, HSB or Swatch Book screen.

If you want to close this pop-up you press the yellow X in the upper right side.

## Related Links

- [U1 - U4 Key](#)



## Reference: Specialized Dialog - Color - Swatch Book

This pop-up allows you to control the color attributes using the color swatch book.

This is what it looks like:



Usually we have three different colors attributes. They can be CMY or RGB (there are also other color systems that uses more than three attributes). You can with the this color selector choose the desired color based on different gel manufacturers swatch books.

This is a catalogue of colors from some of the biggest gel manufacturers. With this you can choose a manufacturer and then search the gels and then select your desired color.

In the main part of this window you can see the list of manufacturers. On the right side of this list you can see their colors.

Above the list of colors you can choose the way this list is sorted (number, name, etc.) and If you just want to see a small square with the color, the name of the color or details. You can also apply a filter to the list of colors. You can filter by number or name.

If you activate the 'Live Preview' button, by pressing it (or the **X10** key) your selected fixture(s) will display the color you have selected.



If you want to clear the filter you can press the **X11** key or the 'Clear Filter' button.



The selected color is a close match, but it cannot be completely the same as using the real filter in front of a fixture with the same light source. Different manufacturers use different ways to blend their colors. Lamps may also change their color depending on the lamp life. Therefore you can't trust this to be completely precise.

You can use the **U1** to **U3** keys to change between the Fader, HSB or Swatch Book screen.

If you want to close this pop-up you can press the yellow X in the upper right side.

### Related Links

- [U1 - U4 Key](#)
- [X1 - X20 Key](#)



### Reference: Specialized Shaper Dialog

The specialized shaper dialog is used to control the shaper attributes of fixtures.

The specialized shaper dialog can be accessed when you have selected the Shaper preset type. When there's a specialized dialog available to you, then the "Specialized Dialog" button in the encoder control area will get a brighter yellow frame.

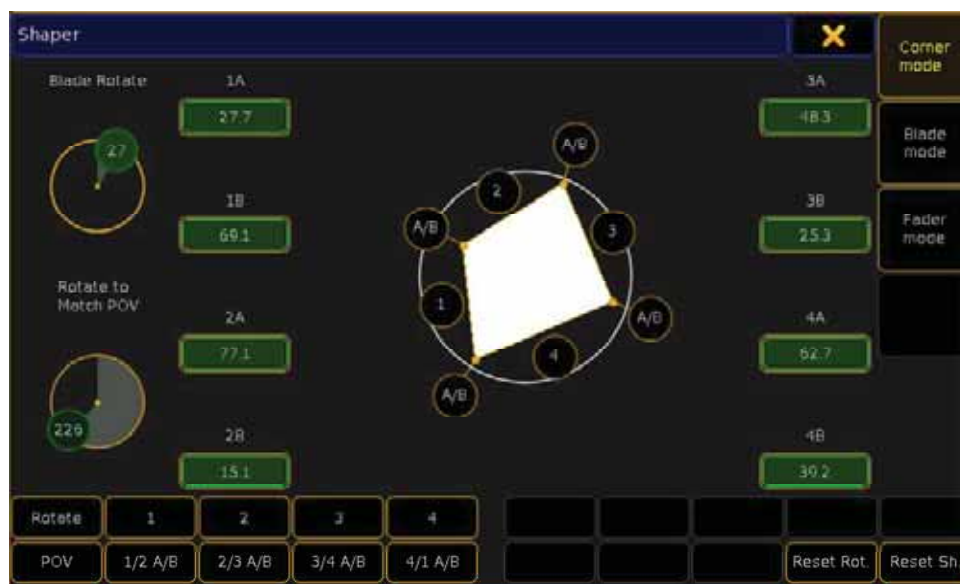
There are currently three different specialized shaper dialogs.



### Reference: Specialized Dialog - Shaper - Corner Mode

This pop-up allows you to control the shaper blades.

This is what it looks like:



With this pop-up you can control the shaper feature in an easy and fast way.

In the centre part of the screen you'll see a white ring. This represents the normal round output from your fixture.

In the Corner Mode you can move each of the corners (marked with circles with letters in them) of the shaper blades and you can move the blade in and out (using the numbered circles).

On the left side you'll find two circles with a small circle on the perimeter. The top one rotates the shaper module (in the fixture). The bottom one is to rotate it so it matches your point of view (it doesn't change any values in the fixture).

The green boxes with numbers in them represent each blade parameter.

The buttons at the bottom left side are easy ways to select different parameters. Then you can use the screen encoder to change the value of the selected parameter.

The two resets buttons do exactly what they say: Reset Rotation and Reset Shutters.

You can use the **U1** to **U3** keys to change between the Blade, Corner and Fader mode.

If you want to close this pop-up you can press the yellow X in the upper right side.

### Related Links

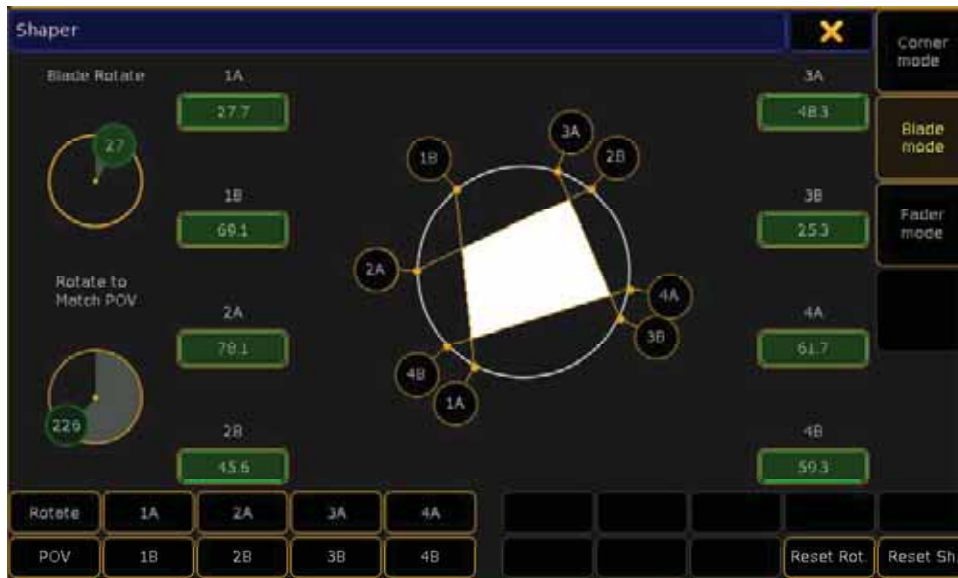
- [U1 - U4 Key](#)



### Reference: Specialized Dialog - Shaper - Blade Mode

This pop-up allows you to control the shaper blades.

This is what it looks like:



With this pop-up can you control the shaper feature in an easy and fast way.

In the centre part of the screen you'll see a white ring. This represents the normal round output from your fixture.

In the Blade Mode you can use two points (marked like a circle with a number in it) to manipulate each of the blades in the shaper.

On the left side you'll find two circles with a small circle on the perimeter. The top one rotates the shaper module (in the fixture). The bottom one is to rotate it so it matches your point of view (it doesn't change any values in the fixture).

The green boxes with numbers in them represent each blade parameter.

The buttons at the bottom left side are easy ways to select different parameters. Then you can use the screen encoder to change the value of the selected parameter.

The two resets buttons do exactly what they say: Reset Rotation and Reset Shutters.

You can use the U1 to U3 keys to change between the Blade, Corner and Fader mode.

If you want to close this pop-up you can press the yellow X in the upper right side.

### Related Links

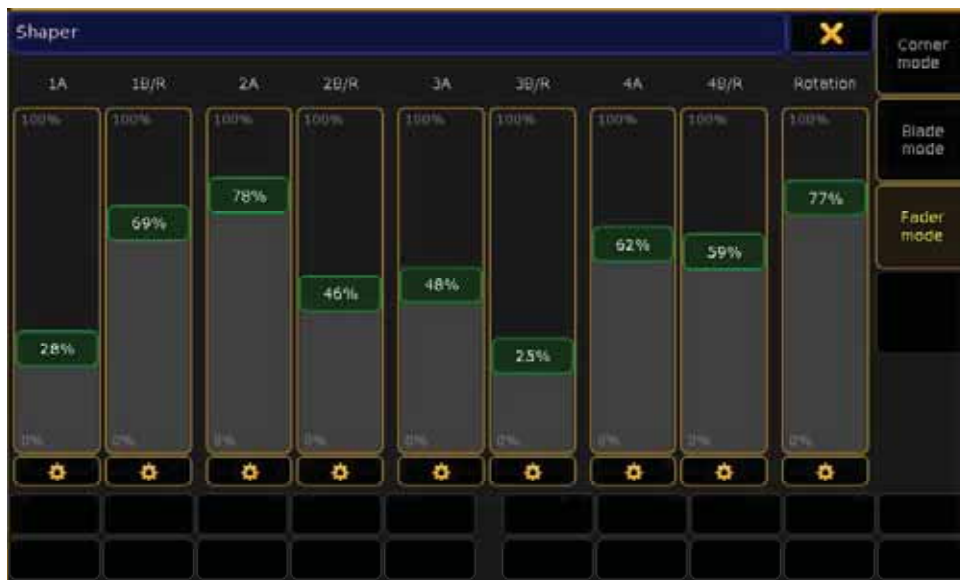
- [U1 - U4 Key](#)



### Reference: Specialized Dialog - Shaper - Fader Mode

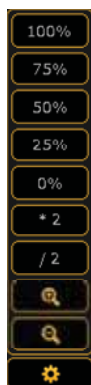
This pop-up allows you to control the shaper blades.

This is what it looks like:



With this pop-up can you control the shaper feature in an easy and fast way.

In this mode you have a fader for each shaper parameter. Below each fader there is a small "gear" like symbol. Pressing this gives you these buttons instead of the fader:



They give you fast access to some general values. There are also two button for doubling the value or taking it down to half the size. You can also zoom in and out the fader scale.

You can use the **U1** to **U3** keys to change between the Blade, Corner and Fader mode.

If you want to close this pop-up you can press the yellow X in the upper right side.

## Related Links

- [U1 - U4 Key](#)



## Reference: Stage Wizard pop-up

The stage wizard is used to easily arrange multiple fixtures.

The Stage wizard has three different tabs: Move, Circle and Matrix.

### Move

This is the move section of the Stage Wizard:



This gives you the possibility to move a selection of fixtures.

There are four settings:

Value:

This is the value that tells you how far you want to move the fixtures. A positive number usually moves things to the right or up (depending on your view position). And a negative number moves the selection in the opposite direction.

Align Mode:

This is the usual align options. This give you a greater choice of options when arranging your fixtures.

Axis:

This is the plane in which the fixtures will move.

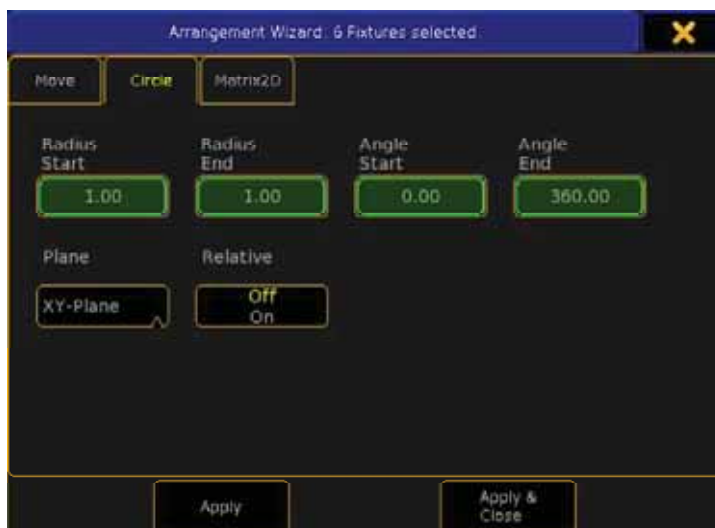
Relative:

With this you can move the fixture to its relative position.

When you are happy with your settings you can press the "Apply" once or several times to keep moving the fixtures. If you only want to move it once more and then close the pop-up you can use the "Apply & Close" button. If you are done moving or just what to close the pop-up without applying any new values you can use the big X in the upper right corner.

## Circle

This is the circle view of the Stage Wizard:



There are six settings here:

Radius Start:

This specifies the radius at the beginning of the circle. If this is different than the **End** radius the result will be a spiral.

Radius End:

This specifies the radius at the end of the circle. If this is different than the **Start** radius the result will be a spiral.

Angle Start:

Used to specify the beginning angle of the circle.

Angle End:

Used to specify the end angle of the circle.

Plane:

With this you can choose in what plane your circle will be made.

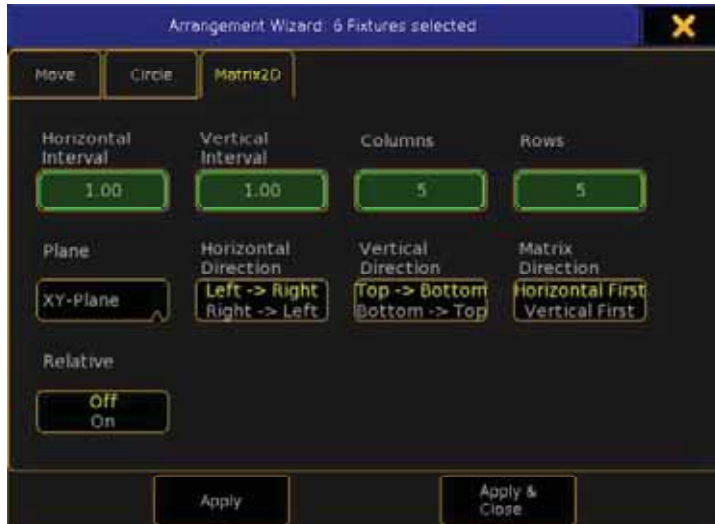
Relative:

With this you expand your circle every time you press the "Apply" button.

When you are happy with your settings you can press the "Apply" once or several times (and make the circle bigger with "Relative" on). If you only want to make one circle and then close the pop-up you can use the "Apply & Close" button. If you are done making circles or just what to close the pop-up without applying any new values you can use the big X in the upper right corner.

## Matrix

This is the Matrix view of the Stage Wizard:



With this you can arrange your selected fixtures in columns and rows.

There are nine settings here:

Horizontal Interval:

This specifies the horizontal width between the fixtures (depending on your point of view).

Vertical Interval:

This specifies the vertical width between the fixtures (depending on your view).

Columns:

Here you set the number of columns you want.

Rows:

Here you set the number of rows you want.

Plane:

With this you can choose the plane in which your matrix will be created.

Horizontal Direction:

With this you can change the direction your fixtures should be placed in.

Vertical Direction:

With this you can change the direction your fixtures should be placed in.

Matrix Direction:

Here you can chose if it should place fixture horizontal or vertical first.

Relative:

With this you can expand your matrix every time you press the "Apply" button.

When you are happy with your settings you can press the "Apply" once or several times (and make the matrix bigger with "Relative" on). If you only want to make one matrix and then close the pop-up you can use the "Apply & Close" button. If you are done making matrix' or just what to close the pop-up without applying any new values you can use the big X in the upper right corner.

## Related Links

- [Stage Window](#)



## Reference: Store Method popup

This pop-up is presented to you when you try store something, and you have several options.

If the object you are trying to Store/Create already exist, you may be prompted with a dialog to choose a Store Method. Depending on object-type, you will have several options to choose from:



There are several buttons in this pop-up. What buttons there are changes in different situations. But the following is a short description of the different buttons.

#### Generic

##### Overwrite:

Original content of object is removed and is replaced with new content

##### Merge:

New content is merged with original content. New content takes precedence if overlapping with original content

##### Remove:

New content is removed from original content

#### Sequences / Cues

##### Status Merge:

Merges Programmer content and the tracking status of current cue of selected executor, into destination cue

##### Release:

Merges Programmer-content as Release-tags into destination Cue. A parameter with release-tag will relinquish control to other executors/default value, and is displayed in Tracking Sheet and Cue Editor with the value (R) and tracking is completed in this cue.

##### Create Second Cue:

Creates a second Cue....

##### Cue Only:

When enabled, changes to destination cue will not track forward, next cue will automatically be given the necessary values to keep its original state.

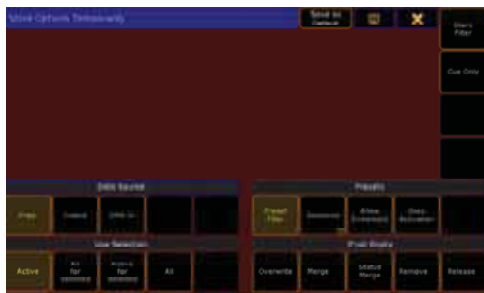


### Reference: Store Options

Here you can see and change your temporarily store options.

You can enter this window by pressing and holding the **Store** key. You can close this window by pressing the big yellow "X" in the upper right corner.

This is what the window could look like:



In the title bar there is a button (it looks like a small monitor with an circle on it) that allows you to move this pop-up to any of the screens.

All options here will temporarily overwrite your default options. You can also choose to store the current options here as your new default by pressing the 'Save as Default' button in the title bar.

All the buttons with yellow text are activated options.

Follow the link below to read more about the different store options.

#### Related Links

- [Store Options](#)



### Reference: Store View Options Pop-up

This pop-up is presented when you store a view.

When you have pressed the **Store** key followed by a view button or user button you are presented with this pop-up:



Here you can select what screens you want to store. You can select individual screens by pressing the numbers or press the **All** button to select all screens.

You can also give the view a name, by typing a name in the green box.

When you are happy, you can press the **Please** button to confirm your choice.



### Reference: Trackball Rotation Pop-up

This pop-up is used to rotate the orientation of your trackball.

This is what it could look like:



Here you can press the small green circle and rotate the orientation of the trackball. When you are happy, you can press the "Please" button to confirm your choice.

There are four quick options that allow you to select one of four quarters on the circle.

If you press the yellow X in the upper right corner, you cancel any changes.

### Related Links

- [User Settings \(Setup\)](#)



### Reference: Tracking options

Right clicking in the **Sequence Tracking Sheet** gives you this pop-up.

If you right click any value in a Sequence Executor Sheet, you get a pop-up like this:



This pop-up allows you to edit the values in a tracking sheet.

There are three parts of this pop-up.

The first is the "Destination". This box has three options:

Attribute:

This will apply the changes to the attributes only (e.g. only tilt).

Encoder Grouping:

This will apply the changes to every attribute with the same encoder grouping (e.g. both pan and tilt).

Feature:

This will apply the changes to the entire feature (e.g. the entire shaper module).

The next part is the "Action" part. There are several buttons here:

Remove individual Fade:

This will delete the individual fade times and set it back to the overall cue timing.

Remove individual Delay:

This will delete the individual delay times and assign the overall cue delay time.

Remove individual Effect values:

This will delete any individual effect values and assign the values from the effect.

Remove Effect:

This will remove any effects.

Extract Preset:

This will remove the reference to a preset, but keep the values.

Block:

This will block the source with regards to the "Destination". Tracked values (magenta) are converted into stored values (white).

Unblock:

This will unblock the source with regards to the "Destination". Blocked values (white) are converted into tracked values (magenta).

Delete:

This will delete the source with regards to tracking and the "Destination".

Delete Cue Only:

This will delete the value using cue only (and keep the original values in the following cue).

The last part is the "Source". Here's also several buttons:

Selection:

This will make the change in the selected cells (with regards to the "Destination").

Selected Cue(s):

This will make the change in the entire cue(s) - horizontal in the sheet.

Complete:

This will make the change in the entire sequence.

Selected Channels for All Cues:

This will make the change for the selected channels (with regards to the "Destination") - vertical in the sheet.

Beside the three parts there's also a button called "Edit". This opens the calculator, that allows you to change the selected value(s) or assign any relevant presets (with respect to the Destination setting). Valid presets are shown in the calculator pop-up.

With a combination of the different parts you can make almost any desired changes in the tracking sheet.

In the top right corner of the pop-up, you can close the pop-up and cancel any actions.

## Related Links

- [Sequence Tracking Sheet](#)



## Reference: Track Functions

You can use this pop-up to edit the tracks in a timecode show.



This is what the pop-up could look like:



There are eight different buttons here:

**Expand All Tracks:**

This will expand all the sub tracks in your timecode show.

**Collapse All Tracks:**

This will collapse (hide) all the sub tracks in your timecode show.

**Change Executor/Fader:**

Pressing this will open a **Select Executor for Track** pop-up. Here you can change the executor for the current selected track.

**Lock/Unlock Track:**

Pressing this will lock or unlock the main AND sub tracks.

**Lock/Unlock Sub Track:**

Pressing this will lock or unlock only the selected track or sub track.

**Add New Track:**

Pressing this will open a **Select Executor for Track** pop-up. Here you can add a new track with the selected executor.

**Add New Sub Track:**

Pressing this will open a **Select New Sub Track** pop-up. Here you can select one of the possible sub tracks.

**Delete Current (Sub) Track:**

Pressing this will delete the track. If the current track is the main track then you'll also delete the sub tracks.

## Related Links

- [Timecode Editor](#)
- [Select Executor for Track](#)
- [Select New Sub Track](#)



## Reference: Update pop-up

When you have content in your programmer and are running cues or effects, you can press the 'Update' key.

This is what the pop-up could look like:



The pop-up is divided into different areas. The main window has three areas.

Each area (Preset, Effect & Cue) displays all the possible things you can update. Below each area is a button that updates the selected Preset, Effect or Cue.

On the right side you'll find four buttons with different options.

The first one toggles between "Original Contents Only" and "Add New Contents". "Original Contents Only" only allows you to update the original content of the Preset, Effect or Cue. I.e. if a preset only contains color information for fixture 1, you can't update it with color information for fixture 2 or dimmer information for fixture 1.

The second button toggles between "All Possible Executors", "Selected Executor Only", "Executors Called By Me" & "Last Called Executor Only". This allows you to limit how many executors you can see (and update).

The next button toggles between "Tracking Update" & "Update Cue Only". This allows you to track the updated values or to only update them at the select cue.

The last button toggles "Preset Filter" On or Off.

Below those four buttons are another button that allows you to save the settings as a default (in the current user profile).

You can close the "Update pop-up" by pressing the 'X' in the upper right corner. This also cancels the update.

Next to the "X" is a button that allows you to move the update pop-up between screen 1 and 2.



### Reference: Warning Pop-ups

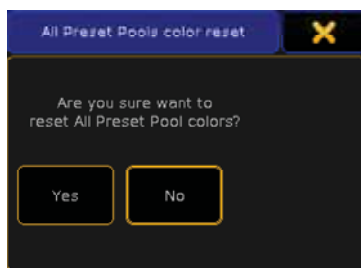
This is the warnings you might experience in the software.



### Reference: Warning / All Preset Pools Color Reset

A small pop-up warning you that you are about to reset the colors of your Preset Pools.

This is what the pop-up looks like:



Pressing 'Ok' will reset the colors. 'Cancel' will abort the reset and keep the current colors.

### Related Links

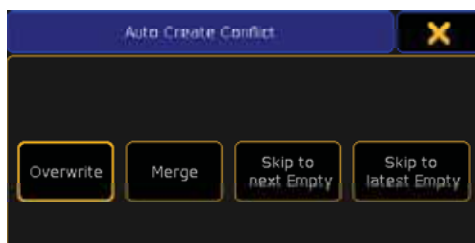
- [Presets options in Setup.](#)



### Reference: Warning / Auto Create Conflict

This pop-up warns you that there are an Auto Create Conflict.

This is what the pop-up looks like:



Here you have four different options:

Overwrite:

This will overwrite the existing Group, World, Preset or Channel Page.

Merge:

This will merge the new content with the existing Group, World, Preset or Channel Page.

Skip to next empty:

This will create the new content at the first available pool button.

Skip to latest empty:

This will create the new content after the last one used pool button.

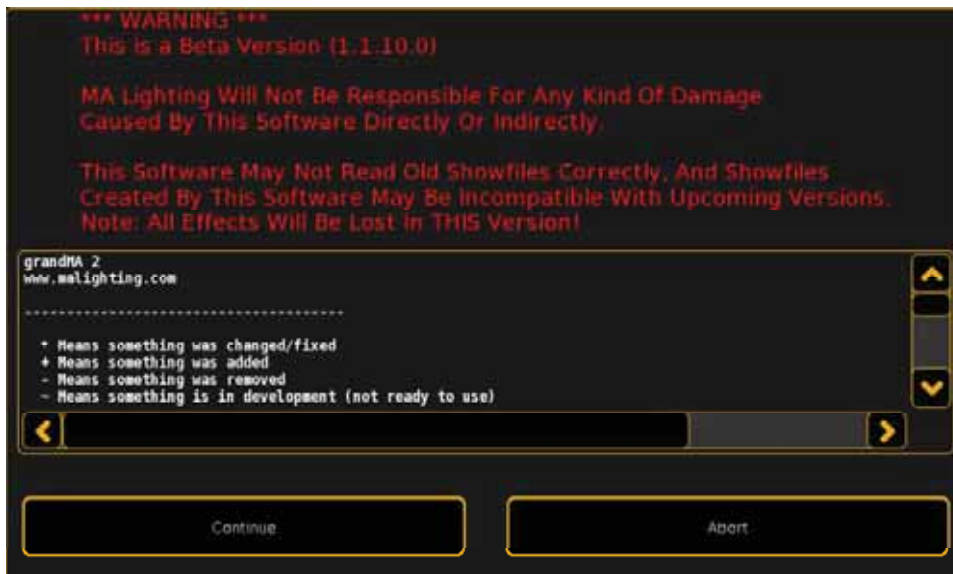
You can cancel the auto creation by pressing the yellow X in the upper right corner.



### Reference: Warnings / Beta version

A boot-up warning you about beta software.

You might stumble upon a console with Beta Software. If you do so there's a warning when booting the console. It could look like this:



As you can see it's not recommended to use this software in any live shows.

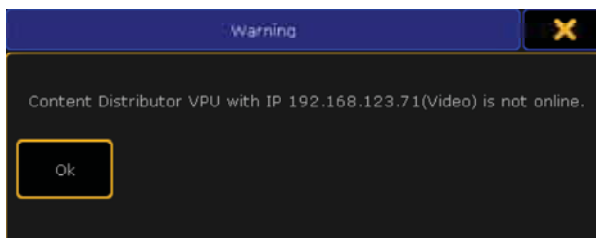
Pressing the 'Continue' button allows you to use the software. The 'About' button closes the desk.



### Reference: Warning / Content Distributor not Online

This is the warning pop-up that appears when the VPU content distributor isn't online and you pressed the Content Distributor button.

This is what the pop-up looks like:



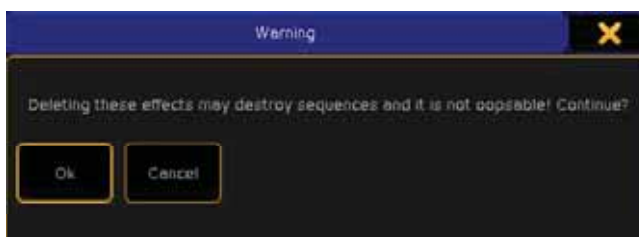
You need to press the 'Ok' button and then try again when the VPU is back online.



### Reference: Warning / Delete Something In Use

A small pop-up warning you that you are about to delete something that are still in use.

This is what the pop-up looks like (if you try to delete an Effect):



Pressing 'Ok' will delete the object(s) and transfer the hard values from the preset to the location where they are used. 'Cancel' will abort the deletion.

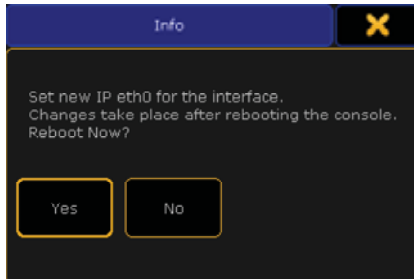
If you actually 'Oops' this, you will recreate the object you deleted, but all the references to it are gone. I.e. a preset was used in cue 1, you then delete the preset. The values from the preset are stored in the cue. If you then 'oops' the deletion, then the preset is back, but the cue will still use the hard values and not call the preset.



### Reference: Warning / IP Change Needs Reboot

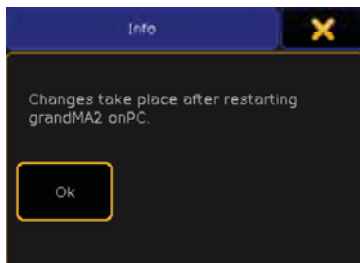
This pop-up warns you that the console needs to reboot before the change in IP address is active.

When you change the console's IP address it needs to reboot. It gives you this pop-up to tell you that:



You have the option to press the 'Yes' button and the console will reboot immediately or you can press the 'No' button to reboot later (and first then implement the new IP address).

When using onPC the warning looks like this:



Pressing the 'Ok' button closes the pop-up, but doesn't automatically restart the program.

### Related Links

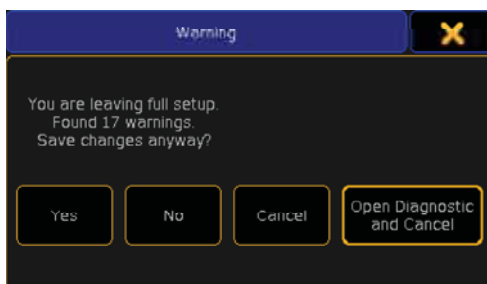
- [MA Network Control window](#)
- [SetIP Keyword](#)



### Reference: Warning / Leave Full Setup

When you exit the Patch & Fixture Schedule you get a warning.

When you exit the Patch & Fixture Schedule (Full Setup) you get a warning like this:



Here you have Four options:

- Yes: This will save the changes and exits.
- No: This disregard the changes and exits.
- Cancel: This will allow you to stay in the Patch & Fixture Schedule.
- Open Diagnostic and Cancel: This opens the **Diagnostics** pop-up and cancels the exit.

### Related Links

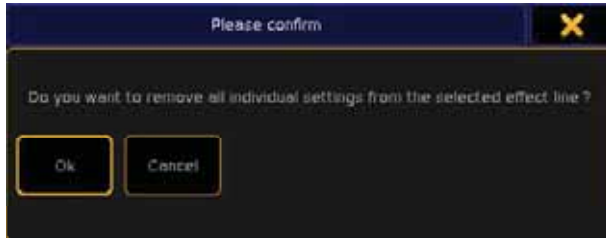
- [Diagnostics pop-up](#)
- [Patch & Fixture Schedule](#)



### Reference: Warning / Remove Individuals

This pop-up warn you that you are about to remove individual values.

This is what it looks like:



When pressing the 'Kill Individuals' button in the **Effect Editor** you get this warning.

Confirming it will remove the values. Pressing 'Cancel' will abort the action.

### Related Links

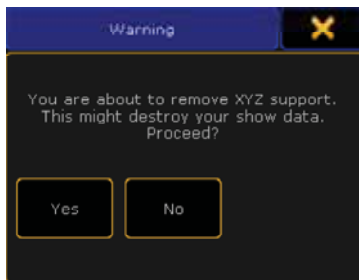
- [Effect Editor](#)



### Reference: Warning / Remove XYZ

This is a warning pop-up telling you that you are removing XYZ parameters.

This is what the pop-up looks like:



You are about to remove the XYZ parameters. This will delete all the store XYZ values.

Press 'Yes' to confirm the removal or 'No' or the "X" to abort the removal.

### Related Links

- [Setup - Show - Fixture Types](#)
- [Setup - Show - Edit Fixture Types](#)



### Reference: Session Collision

A pop-up warning telling you there's a session collision.

You might experience a session collision. If you do so there's a warning on screen 1. It could look like this:



It displays the session ID, Name and the Master in the session.

Below this there are three buttons:

Join Other Session:

This will make you disregard your current session and join the other session.

Take Over Session:

This will make you take over the other session (and upload your show).

Change My Session:

This will allow you to change your session number.

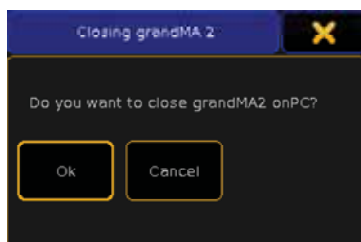
If you close this warning pop-up using the Esc key, the console will leave the session.



### Reference: Warning / onPC Shutdown

When you try to turn off the grandMA you get a warning

Turning off the onPC, you'll get a pop-up that looks like this:



'Ok' closes the program. 'Cancel' closes the pop-up and keeps the program running.

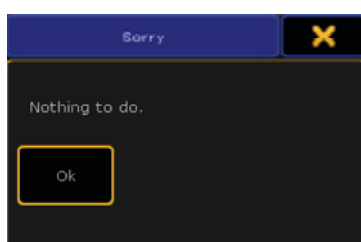
### Related Links

- [Shutdown Keyword](#)



### Reference: Error / Sorry

We are sorry.



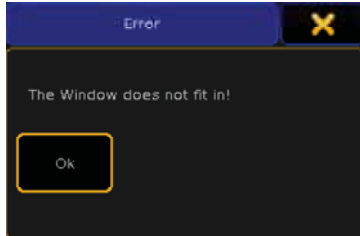
Sorry, please go get a cup of coffee and come back again later - maybe there'll be something to do then.



### Reference: Error / Window Needs a Bigger Space

This is the error pop-up that appears when the window needs more room.

This is what the pop-up looks like:



You need to press the 'Ok' button and then try to create your window where there's more available space.



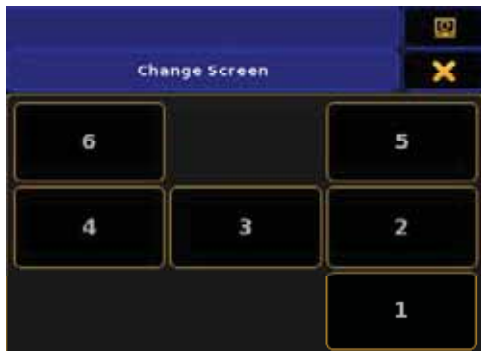
### Reference: Menus

This section contains descriptions of all the menus.

The top bar is shared by the different menus. You'll often find two buttons.

The one on the right side (the big X) closes the menu.

The one on the left side of this one allows you to move this window between the screens. Pressing this will give you a drop down menu. Here you can select the screen where you want to move this window:



Remember that even thou you might not have all the screens displayed in this pop-up the software still allows you to move a menu to all screens.

If you need to reset what screens the menus appear on, you can press and hold the **Encoder** key. In the pop-ups from this, you'll find a button called "Switch Dialogs to Default Screen".

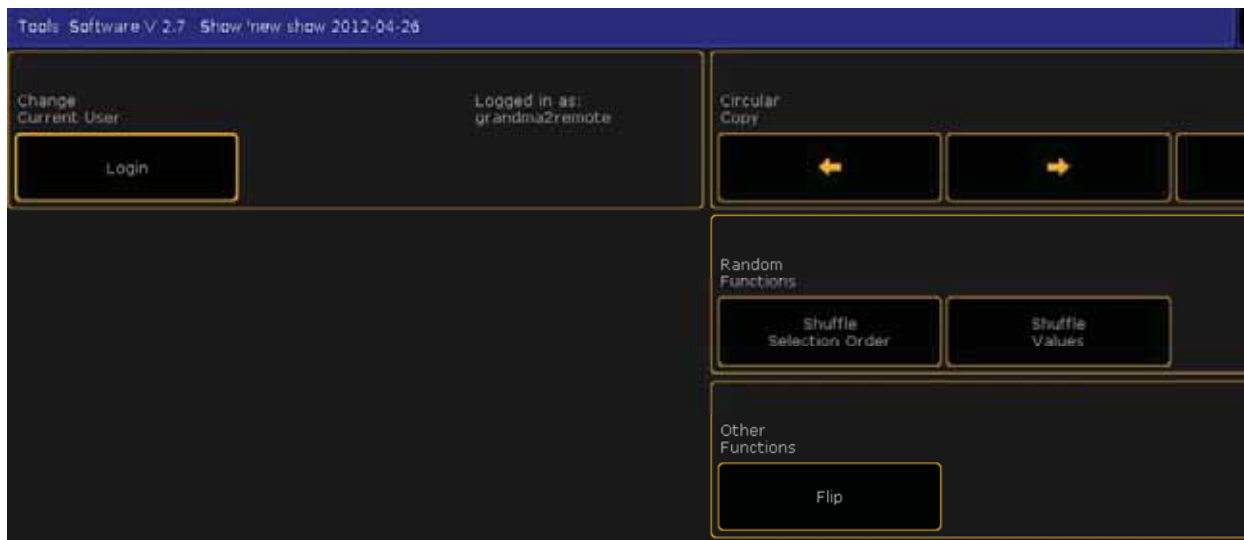
Read more about the different menus on the following pages.



### Reference: Tools Menu.

The Tools Menu is used to access the Login and functions like Circular copy, shuffles and Flip.

You can access it by pressing the Tools key. It looks like this:



You can see the version number and current show in the title of the Top Bar.

The menu contains four different sections.

#### Change Current User.

In this section there is one button called "Login". Pressing this open the login screen. This is used to login different user. NOTE: use this button only when you know a username and password. Follow the link below to read more about the **Login Screen**. You can also see what user you are currently logged in as.

#### Circular Copy.

Circular copy is used to move values between a selection of fixtures.

In this section you'll find three buttons. Two of them are used to move the values backwards (<), the other forward (>). The third button allows you to set a filter on what values to move. Pressing this opens the **Attribute Filter** pop-up. Follow the link below to read more about the filter pop-up.

#### Random Functions.

There are two shuffle buttons in this section.

"Shuffle Selection Order" will change the order of the selected fixtures.

"Shuffle Values" will shuffle the already assigned values between the selected fixtures. Use button "Filter" to shuffle defined attributes.

#### Other Functions

This section contains the "Flip" button.

Often a moving head fixture can hit the same location with two or three different sets of values - depending on the fixture and the location. Pressing the "Flip" button will change the values to one of the other sets.

#### Related Links

- [Login Screen](#)
- [Attribute Filter pop-up](#)
- [Tools Key](#)
- [Tools Keyword](#)
- [Multiuser Concept](#)
- [ShuffleSelection Keyword](#)
- [ShuffleValues Keyword](#)

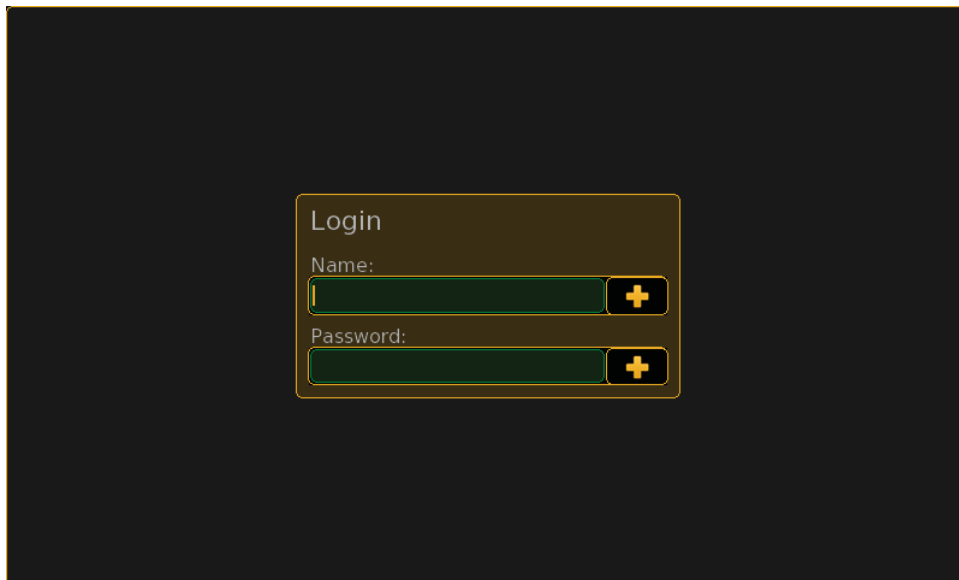


#### Reference: Tools / Login

This section allows you to logout and let someone else login.

This is what the window looks like:





This is displayed on all the screens.

Here you type the user name and password (if any). Note: password is case-sensitive. You can press the button with the "+" this gives you an on screen keyboard.

### Related Links

- [Enter Name of Object](#)



### Reference: Setup

The setup system can be reached using the Setup key.

This is what the "Home" page looks like for the setup:



Here you have fast access to all the sections in the setup.

### Title bar

The setup menu has a title bar and tabs. It could look like this:



The title tells you that you are in the setup. The taps tell you the show name, software version, current user and network status and session number.

In the top of the title bar you can use the symbol with the monitor with a circle arrow to move your setup to a different screen. If you choose any of the tabs and want to return to the "Home" page, you can press the "Home" button and it will take you there.

The yellow "X" closes the setup menu.

### Side and bottom bars

In some of the setup menus there might be buttons on the bottom and right side of the screen. They are mapped to the U1 to U4 and X1 to X20 keys. You can also use them by pressing the screen.

They could look like this:



If you are using the menu on different screens then screen 1, you can just press the buttons on the screen.

Read the following pages for details about the different tabs and the options.

### Related Links

- [Setup Key](#)
- [Setup Keyword](#)
- [Fixture Schedule Concept](#)



### Reference: Setup / Show

In this part you can change settings that are stored in the show file and follows the show.

You can access this menu by pressing the **Setup** key.

This is a picture of the screen:



There are several sub categories. Read the next pages for more information about each section.

## Related Links

- [Setup Key](#)
- [Setup Keyword](#)
- [Fixture Schedule Concept](#)



## Reference: Setup / Show / Patch & Fixture Schedule

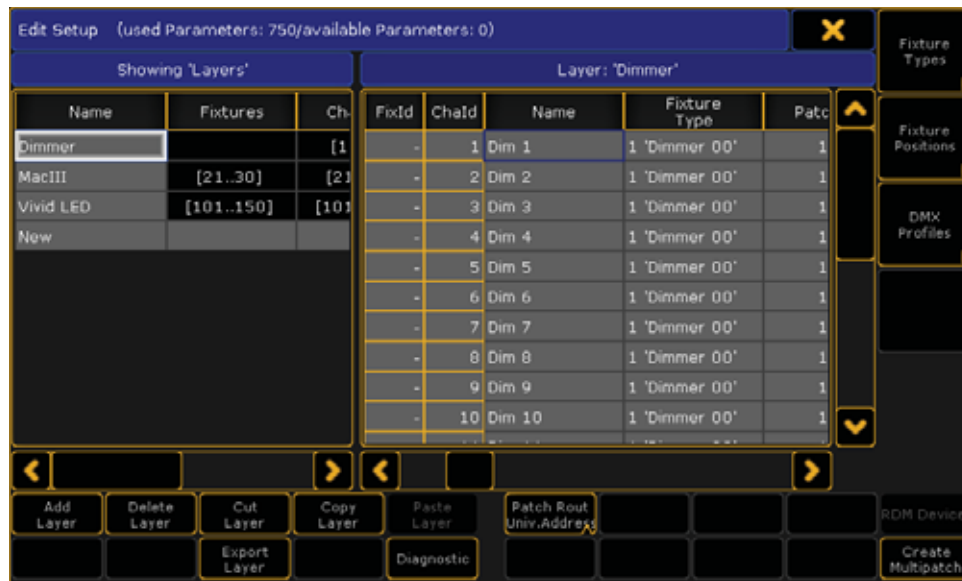
Here you can add or remove fixtures from your show. For details about patching follow the links below.

You can enter this window by pressing the [Setup](#) key, the "Show" tab followed by the "Patch & Fixture Schedule" button.

First time you enter this window you are guided through some steps forcing you to create a Layer.

A new show will always have the generic "Dimmer" fixture profile imported.

This is an example of the patch window:



The window has two main sections. The left section is the "Layer" section. The right one is the content of the layers.

Fixtures needs to be organised in layers. You choose how to organise it. You can put all fixtures in one layer or you can sort your fixtures in layers based on their position, their type or something completely different.

When you select a layer on the left part, the right part will show you the content (fixtures/channels) of the layer. Read below for a description of the different columns on the left and right side.

Below the layers and layer content, you'll find some buttons:

### Add Layer/Fixture:

This button can be used to create new layers or add new fixtures in the layers.

### Delete Layer/Fixture:

This can be used to delete existing layers or fixtures.

### Cut Layer/Fixture:

This can be used to cut a layer or fixture and later paste it (read below).

### Copy Layer/Fixture:

Instead of cutting a layer or fixture you can copy it and later paste it.

### Paste Layer/Fixture:

When you have cut or copied a layer or fixture you can press this button to paste it. If you have nothing in the "clipboard" they button is greyed out.

### Export Layer/Fixture:

Pressing this button will open the **Choose Style** pop-up where you can choose how to export the selected layer(s) or fixture(s).

### Diagnostic:

Pressing the Diagnostics button opens the **Diagnostics pop-up**. Here you can see any problems with your setup (if you have any). Follow the link below to read more about this pop-up.

### Patch Readout:

This button is a toggle button with two options: "Univ.Address" will display the patch address as the universe number and the DMX address separated by a dot. The "Abs.Address" will display the absolute DMX address. I.e. the first DMX address in the second universe will be 2.1 in Univ.Address mode and 513 in Abs.Address mode.

### RDM Devices:

If RDM is enabled (**Setup → Console → Global Settings**), this will open the **RDM Status** pop-up. Follow the link below for more information about this pop-up.

### Create Multipatch:

This will create a number of multipatch fixtures for the selected fixture. This will allow you to add extraDMX address to an ID number. It will also create extra virtual fixtures in the 3D stage.

On the right side of this menu there's three buttons.

"Fixture Types" allows you to see and edit the different fixture types.

"Fixture Positions" will open an editor that allows you to easily change the positions of the fixtures in a 3D environment.

"DMX Profiles" opens an editor that allows you to edit and create DMX profiles.

You can read more about the three different sections on the next pages.

## Layers

This list has three columns:

|          |                                                  |
|----------|--------------------------------------------------|
| Name     | This is the name of the layer.                   |
| Fixtures | This displays the range of fixture IDs (if any). |
| Channels | This displays the range of Channel IDs (if any). |
| Info     | Here you can add an infotext to each layer.      |

You can add a layer by pressing the "Add" button. When you do this you get the "Enter Name" pop-up.

## Layer content

The right hand section displays the content of the selected layer.

Each line represent a fixture. There are 16 columns:

|                            |                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FixID                      | This is the Fixture ID number. It can be empty.                                                                                                                                                                                                                                                                                                                                    |
| ChaID                      | This is the Channel ID number. It can be empty.                                                                                                                                                                                                                                                                                                                                    |
| Name                       | The name of the fixture/channel.                                                                                                                                                                                                                                                                                                                                                   |
| Fixture Type               | This is the fixture type.                                                                                                                                                                                                                                                                                                                                                          |
| Patch                      | This is the fixtures patch number (if any). Editing this value opens the <b>DMX Patch</b> pop-up. Follow the link below to read more about it. You can use the button called "Patch Rout" is actually 'Patch Column Readout'. This will change if the patch address is seperated into universe and address or the actual number. E.g. "2.1" in 'Separated' is "513" in 'Absolute'. |
| React to Master            | If this is On then the fixture responds to the status of the Grand Master.                                                                                                                                                                                                                                                                                                         |
| Pan DMX Invert             | When this is On then the console inverts the DMX values on the Pan parameter.                                                                                                                                                                                                                                                                                                      |
| Tilt DMX Invert            | When this is On then the console inverts the DMX values on the Tilt parameter.                                                                                                                                                                                                                                                                                                     |
| Pan Enc. (encoder) Invert  | This will invert the direction of the Pan movement when using the encoders. This will make it easier to match the 3D world with the real world.                                                                                                                                                                                                                                    |
| Tilt Enc. (encoder) Invert | This will invert the direction of the Tilt movement when using the encoders. This will make it easier to match the 3D world with the real world.                                                                                                                                                                                                                                   |
| Swap                       | This will swap the pan and tilt DMX output.                                                                                                                                                                                                                                                                                                                                        |
| Color                      | Pressing here gives you the <b>Edit Color pop-up</b> . Here you can add a color to the fixture/channel. Like putting a gel in front of it.                                                                                                                                                                                                                                         |
| Pos X                      | This the X position of the fixture/channel.                                                                                                                                                                                                                                                                                                                                        |
| Pos Y                      | This the Y position of the fixture/channel.                                                                                                                                                                                                                                                                                                                                        |
| Pos Z                      | This the Z position of the fixture/channel.                                                                                                                                                                                                                                                                                                                                        |
| Rot X                      | This the X rotation of the fixture/channel.                                                                                                                                                                                                                                                                                                                                        |
| Rot Y                      | This the Y rotation of the fixture/channel.                                                                                                                                                                                                                                                                                                                                        |
| Rot Z                      | This the Z rotation of the fixture/channel.                                                                                                                                                                                                                                                                                                                                        |

## Adding new fixtures

When you are in a layer and press the "Add" button you'll get this pop-up:



Selecting a fixture and filling out the green cells in this form and pressing the "Apply" button adds new fixtures in your patch.

There are at least 6 different cells here:

Fixturetype:

Pressing here gives you more screens. Read below for a description of them.

Name:

This is the name of the fixtures. If you name them with some text, a space and a number then the console will make the following numbers enumerate.

Quantity:

This number will dictate how many fixtures you will add.

Fixture ID:

If you write a number here then this will be the starting number for the new fixtures. if you write a "0" here, then the console will not add a fixture ID.

Channel ID:

If you write a number here then this will be the starting number for the new fixtures. if you write a "0" here, then the console will not add a channel ID.

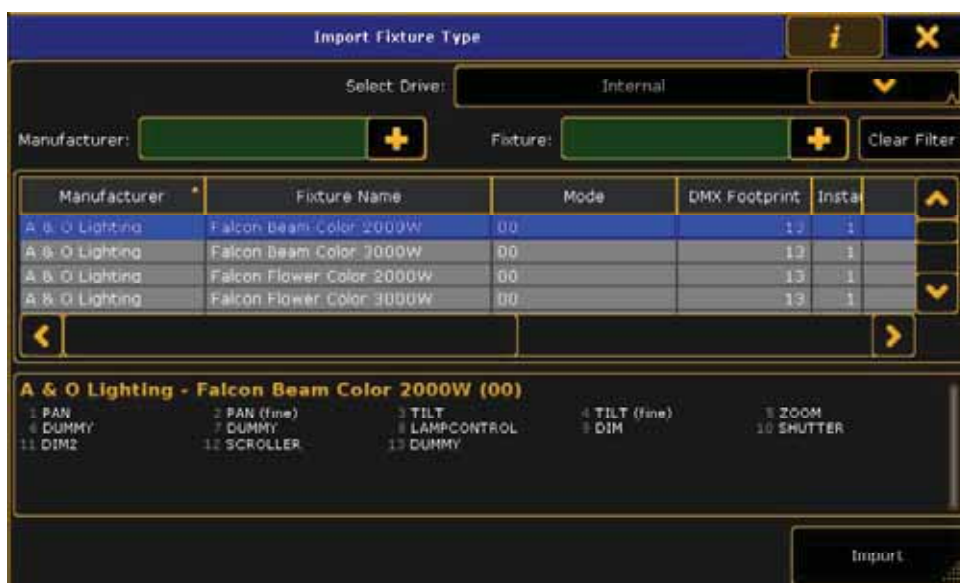
Patch Break 1:

Here you can add a starting patch number. It displays the address using the format you choose in the previous window, but you can use any of the two formats to input data. If you use fixture with more than one Patch Break there'll be more cells called "Patch Break". You can have up to 4 different patch breaks.

On the right side of the pop-up you'll see the "Select Fixture Type" area.

This is a list of imported fixtures. Imported means that a copy from the fixture library has been moved to the show file.

Pressing the "From Library" button gives you this screen:



This is the fixture library browser.

At the top you can select the source drive. There's also an  button. When this is active then you can see the fixture information at the bottom of the browser. This is displayed in the picture above. The information also displays the DMX channel mapping.

Below this there are two areas that can be used to filter the library to only display the manufacturer and/or fixture names you input. On the right side of the two filters there's a [Clear Filter](#) button that will empty the text in the two filter cells.

Below this there's the long list with all the fixtures in the library (unless you have applied a filter). There are some columns here:

Manufacturer:

This is the manufacturer name of the fixture.

Fixture name:

The name of the fixture type.

Mode:

This will display if the fixture type is using a specific mode (e.g. Standard, Vector).

DMX Footprint:

This displays the number of DMX channels.

Instances:

This is the number of instances in the fixture type.

Info:

This is the information/Notes attached to the fixture.

Filename:

This is the name of the fixture type XML file.

Filedate:

This is the date the file was last edited/created.

FileSize:

This is the size of the xml file.

You can sort the list by right-clicking the column header.

When you have selected a fixture you can confirm it by pressing the [Import](#) button or you can abort the selection by pressing the [X](#) button in the upper right corner.

## Related Links

- [DMX Patch pop-up](#)
- [Patch Conventions Task](#)
- [Patch Moving Lights Task](#)
- [Edit Color pop-up](#)
- [RDM Status pop-up](#)



## Reference: Setup / Show / Patch & Fixture Schedule / Fixture Types

This is a list of the fixtures you have imported to the show. It's also here you can change your fixtures.

When in the "Patch & Fixture Schedule" you can press the [U1](#) key and then you get a window like this:



This is a list of fixture types imported to your show. There are several columns:

LongName:

This is the long name of the fixture.

ShortName:

This is a shorter name of the fixture.

Manufacturer:

This is the long (full) name of the manufacturer.

**ShortManu:**

This is a shorter name of the manufacturer.

**Mode:**

This is the mode of the fixture.

**Used:**

This is the number of fixtures that uses this fixture type.

**Info:**

Here you can add info text to the line. This doesn't add info text to the fixture type!

**XYZ:**

You can add XYZ parameters to fixture types with Pan/Tilt parameters. If XYZ is added to a fixture type, then there'll be a "+" in this column.

**Model:**

This is used to assign a model in your grandMA 3D to this fixture type.

Below the list is a note area. This displays any notes about the fixture type. You can also edit this.

There are currently eight active buttons at the bottom of the screen:

**Add:**

Pressing this button adds a new (empty) fixture type.

**Delete:**

This deletes a fixture type.

**Edit:**

With this you can edit the fixture type. Read the following pages for more information about the edit windows.

**Import:**

With this you can import fixture types from the library. Read the previous page for information about the Import windows.

**Export:**

This exports the fixture type to the library (if there's a USB stick in the console, then it gets exported to this one).

**Diagnostic:**

This opens the **Diagnostics pop-up**. Here you can see any problems with the selected fixture type. Follow the link below to read more about the pop-up.

**+ XYZ:**

This will add XYZ parameters to the fixture type.

**- XYZ:**

This will remove XYZ parameters from the fixture type.



Any stored XYZ values in the show will be deleted if you remove the XYZ parameter - it will NOT be converted to Pan/Tilt values.

On the right side you find a button that gives you access to 'Attribute & Encoder Grouping'. Read the following pages for details about this section.

## Related Links

- [Diagnostics pop-up](#)



## Reference: Setup / Show / Patch & Fixture Schedule / Fixture Types / Edit Fixture Types

Here you can edit the fixture types. Please be aware that changes here can have catastrophic consequences for your show!

This isn't a full description on how to create or edit fixture types. This is a description of the windows.

You can access this editor via the **Setup ➔ Show ➔ Patch & Fixture Schedule ➔ Fixture Types ➔ Edit**. This you are editing the fixture selected when you pressed the Edit soft key.

There are three sub pages: 'Module Manager', 'Wheel Manager' & 'Instance Manager'. You can access these three pages by pressing the **U1**, **U2** & **U3** keys. Read about them on them following pages.

Below the main part there are some different buttons:

**Add:**

This adds an Attribute to the fixture (a line in the main part).

**Delete:**

This deletes an Attribute from the fixture.

**Edit Row:**

This opens a editor for the selected row in the main part. Read below for a description about the Row Editor.

**+ XYZ / - XYZ:**

This will add or remove XYZ attributes from the fixture profile. Remember if you remove XYZ attributes you'll delete all store XYZ values from your show!

**Diagnostic:**

This opens the Diagnostics pop-up. Here you can see any problems with the entire fixture profile.

There are also two buttons allowing you to select a line above or below the current line.

## Main part (Channels of Module)

This is what it could look like:

| No. | Attrib    | Break | Coarse | Fine | Ultra | Default | Highlight | Stage | Snap | Inv |
|-----|-----------|-------|--------|------|-------|---------|-----------|-------|------|-----|
| 1   | SHUTTER   | 1     | 1      |      |       | 100.00  | 99.81     |       |      |     |
| 2   | DIM       | 1     | 2      | 3    |       | 0.00    | 100.00    |       |      |     |
| 3   | COLORMIX1 | 1     | 4      |      |       | 0.00    | 0.00      |       |      |     |
| 4   | COLORMIX2 | 1     | 5      |      |       | 0.00    | 0.00      |       |      |     |
| 5   | COLORMIX3 | 1     | 6      |      |       | 0.00    | 0.00      |       |      |     |
| 6   | CTO       | 1     | 7      |      |       | 0.00    |           |       |      |     |
| 7   | COLOR1    | 1     | 8      |      |       | 0.00    | 0.19      |       |      |     |
| 8   | GOBO1     | 1     | 9      |      |       | 0.00    | 0.19      |       | On   |     |

This window describes the channels of a fixture (Module).

Each row is an attribute of the fixture. Each column describes an option for the attribute.

This is a short description of each column:

No.:

This is an auto generated number for the row. You can't change it.

Attribute (Attrib):

This is the attribute. Right clicking here opens the **Select Attribute** pop-up. Follow the link below to read more about this pop-up.

Break:

There can be 4 different "Breaks" defined by numbers 1 to 4. All attributes with the same number share one start patch number. This allows for creation of fixture with multiple DMX address'.

Coarse:

This is the 8-bit DMX number. This number describes the DMX address offset for the attribute ("1" being the same as the start patch number).

Fine:

This is the 16-bit DMX number (the attribute uses two DMX channels).

Ultra:

This is the 32-bit DMX number (the attribute uses three DMX channels).

Default:

This is the default value for the attribute (in percent). This value is used when the attribute doesn't get a value from anything.

Highlight:

This value is used when "Highlight" is activated.

Stage:

This is the value when Stage initialization is enabled (not implemented).

Snap:

Sets the attribute to snap, rather than cross-fade from cue to cue. When it's empty, it's disabled.

Invert:

When this is "on", the DMX output is inverted.

React to Master:

When this is "on", the attribute is bypassing the grandmaster and Solo function - only for intensity attributes.

MIB Fade:

This describes the time used for the attribute to fade when using MIB (Move In Black).

Profile:

Here you can define a "DMX Profile" for the attribute. Right clicking here opens the **Select DMX Profile** pop-up. Follow link below to read more.

Mode:

This indicates if the attribute is depended of a different attribute.

React to Dim:

This will make the attribute react to the dimmer value. This will open the small select pop-Up **React to Dim**. Here you can select "No Function", "Linear" (follows the dimmer value) and "Inverse" (is the inverse value of the dimmer).

Color:

This is used to visualize colors and light output in the stage window and the grandMA 3D. You can only change this for color attributes.

At the bottom of the main part there's a area that gives you a short description of the column and the allowed value.



### Channel Functions (Edit Row).

Pressing the Edit Row softkey (or the **X1** key) opens a new window. It could look like this:

| No. | SubAttrib      | Name           | Wheel  | From  | To     | From DMX | To DMX | From Phys | To Phys | Add Pr |
|-----|----------------|----------------|--------|-------|--------|----------|--------|-----------|---------|--------|
| 1   | COLOR1         | Select         | COLOR1 | 0.00  | 77.74  | 0        | 50943  | 0.00      | 1.00    |        |
| 2   | COLOR1_SPIN    | Spin           | None   | 77.74 | 85.94  | 50943    | 56319  | 1.00      | 0.01    |        |
| 3   | COLOR1_SPIN    | Spin           | None   | 85.94 | 94.14  | 56320    | 61695  | -0.01     | -1.00   |        |
| 4   | Colour Wheel R | Colour Wheel R | None   | 94.14 | 96.09  | 61696    | 62975  | 1.00      | 1.00    |        |
| 5   | Colour Wheel R | Colour Wheel R | None   | 96.09 | 98.05  | 62976    | 64255  | 0.50      | 0.50    |        |
| 6   | Colour Wheel R | Colour Wheel R | None   | 98.05 | 100.00 | 64256    | 65535  | 0.01      | 0.01    |        |
| New |                |                |        |       |        |          |        |           |         |        |

This displays the different functions for the attribute. The bottom buttons are the same, except there are now two extra buttons allowing you to change between the different main attributes.

Each line is a range of the attribute. This range there can have different functions. The following is a description of the columns:

No.:

This number is the auto-generated line number. This can't be changed.

Sub Attribute (SubAttrib):

This describes the sub attribute of the main attribute. Right-clicking here opens the **Select Subattribute** pop-up. Follow link below to read more.

Name:

This is the displayed name.

Wheel:

This selects the wheel affected. Right-clicking here opens the **Select Wheel** pop-up. Follow link below to read more.

From:

This is the first value of the range (in percent).

To:

This is the end value of the range (in percent).

From DMX:

This is the first value in the range (in DMX value).

To DMX:

This is the end value in the range (in DMX value).

From Phys (Physical):

This is the minimum physical value.

To Phys (Physical):

This is the maximum physical value.

Additional Phys (Physical):

This value is used by grandMA 3D.

Time:

This is the time used to travel from start to end of range (in grandMA 3D).

Mode Start:

This defines the start DMX value for a mode channel (if any).

Mode End:

This defines the end DMX value for a mode channel (if any).

Each line on this window can also be edited. Pressing the Edit Row softkey (or the **X1** key) opens the following window.

### Function Sets (Edit Row)

This is what it could look like:

Sets of function 'Select' [1/6] of channel 'COLOR1' of module 'Mac 700 Profile' of fixture

| No. | Name             | From  | To    | From DMX | To DMX | Slot No | Slot From | Slot To | Auto Create |
|-----|------------------|-------|-------|----------|--------|---------|-----------|---------|-------------|
| 1   | Open             | 0.00  | 3.51  | 0        | 2303   | 1       | 0.00      | 0.50    | on          |
| 2   | blue 111         | 3.51  | 10.16 | 2304     | 6655   | 2       | -0.50     | 0.50    | on          |
| 3   | green 206 1A0    | 10.16 | 16.80 | 6656     | 11007  | 3       | -0.50     | 0.50    | on          |
| 4   | pink 312         | 16.80 | 23.44 | 11008    | 15359  | 4       | -0.50     | 0.50    | on          |
| 5   | orange 306M      | 23.44 | 30.08 | 15360    | 19711  | 5       | -0.50     | 0.50    | on          |
| 6   | CTC 1/2 minus gr | 30.08 | 36.72 | 19712    | 24063  | 6       | -0.50     | 0.50    | on          |
| 7   | CTC 3200-4100K   | 36.72 | 43.36 | 24064    | 28415  | 7       | -0.50     | 0.50    | on          |
| 8   | CTC 5500-2900K   | 43.36 | 50.00 | 28416    | 32767  | 8       | -0.50     | 0.50    | on          |
| 9   | red 308          | 50.00 | 56.64 | 32768    | 37119  | 9       | -0.50     | 0.50    | on          |
| 10  | Open             | 56.64 | 60.16 | 37120    | 39423  | 1       | -0.50     | 0.00    | on          |

★ ChannelSet -> No.  
Allowed values: -9998.00 thru 10000.00

Add Delete Copy Paste Diagnostic

Each function can have a group of sets. Each row here are displayed in the pop-up calculator, and they are a quick reference to a defined value.

This is a short description of each column:

- No.: This is a auto generated number for the row.
- Name: This is the name for the value.
- From: This is the first value of the range (in percent).
- To: This is the end value of the range (in percent).
- From DMX: This is the first value in the range (in DMX value).
- To DMX: This is the end value in the range (in DMX value).
- Slot No.: If the value refer to a wheel, you can use this column to define what slot number the value corresponds to.
- Slot From: Slot-offset for beginning of range.
- Slot To: Slot-offset for end of range.
- Auto Create: When there's a "Yes" in this column, the function will be a part of an auto creation.

The title bar always tell you where you are, and you can always go back by pressing the yellow X in the upper right corner. '

Read the next pages for a description of the 'Module Manager', 'Wheel Manager' & 'Instance Manager'.

## Related Links

- [FixtureType reference](#)
- [Select Attribute pop-up](#)
- [Select DMX Profile pop-up](#)
- [Select React to Dim](#)
- [Select Sub Attribute pop-up](#)
- [Select Wheel pop-up](#)



## Reference: Setup / Show / Patch & Fixture Schedule / Fixture Types / Edit Fixture Types / Module Manager

Here you can edit the module. Please be aware that changes here can have catastrophic consequences for your show!

You can access this editor via the **Setup ➔ Show ➔ Patch & Fixture Schedule ➔ Fixture Types ➔ Edit ➔ Module Manager**.

Below the main part there are some different buttons:

- Add: This adds a module to the fixture.
- Delete: This deletes a module from the fixture. Only modules without attributes can be deleted.

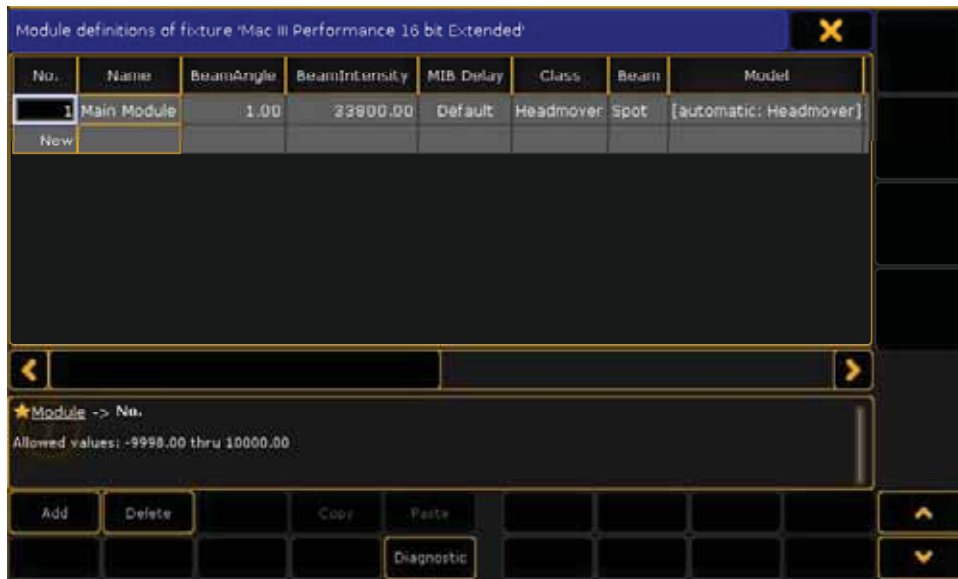
**Diagnostic:**

This opens the Diagnostics pop-up. Here you can see any problems with the module.

There are also two buttons allowing you to select a line above or below the current line.

**Module definition**

This is what it could look like:



This window describes the module of a fixture.

This is a short description of each column in the module manager:

**No.:**

This is an auto generated number for the row. You can change it.

**Name:**

Name of Module e.g. RGB-cell.

**BeamAngle:**

The angle of the Beam from this module, e.g. 15 (degrees).

**BeamIntensity:**

The intensity of the Beam from this module, e.g. 10000 (lumen). Displaying the intensity in grandMA 3d.

**MIB Delay:**

Time the module should wait after fadeout, before doing MIB.

**Class:**

Type of module, e.g. Headmover.

**Beam:**

Type of beam from this module, e.g. Wash.

**Size X / Size Y / Size Z:**

This is the size of the fixture in MA 3D. Editing one of these values opens the **Body Description** pop-up. Using this allows you to change the size of the fixture. Follow the link below to read more about it.

**Axis X / Axis Y / Axis Z:**

This is the rotation axis of the moving head or moving mirror. Editing one of these values opens the **Body Description** pop-up. Using this allows you to change the size of the fixture. Follow the link below to read more about it.

**Model:**

This is used to select a specific fixture model in your 3D. The default is the generic fixture model based on the fixture class. Creating your own fixture model is very complicated. Have a look at the section in the grandMA 3D manual called "3D Modeling and Import". Follow the link below (only online manual).

At the bottom of the main part there's a area that gives you a short description of the column and the allowed value.

You can return to the fixture editor by pressing the yellow X in the upper right corner.

**Related Links**

- [Body Description pop-up](#)
- [3D Modeling and Import \(only online manual\)](#)



## Reference: Setup / Show / Patch & Fixture Schedule / Fixture Types / Edit Fixture Types / Wheel Manager

Here you can edit the wheels in a fixture. Please be aware that changes here can have catastrophic consequences for your show!

You can access this editor via the **Setup ➔ Show ➔ Patch & Fixture Schedule ➔ Fixture Types ➔ Edit ➔ Wheel Manager**.

Below the main part there are some different buttons:

Add:

This adds a wheel to the fixture.

Delete:

This deletes a wheel from the fixture.

Edit Row:

This opens an editor for the selected row in the wheel manager. Read below for a description about the Row Editor.

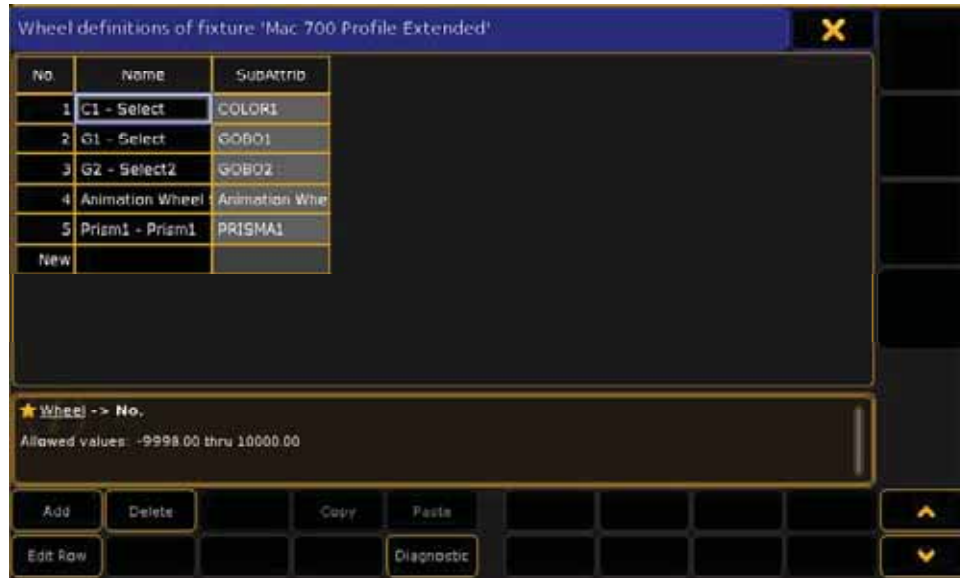
Diagnostic:

This opens the Diagnostics pop-up. Here you can see any problems with the selected wheel.

There are also two buttons allowing you to select a line above or below the current line.

### Wheel definition

This is what it could look like:



This window describes the wheels of a fixture.

This is a short description of each column in the wheel manager:

No.:

This is a auto generated number for the row.

Name:

Name of the wheel.

SubAttrib (Attribute):

The Attribute using this wheel.

At the bottom of the main part there's a area that gives you a short description of the column and the allowed value.

Pressing the "Edit Row" soft key (or the **X11** key) allows you to edit the selected wheel.

### Wheel Edit (Edit Row)

This is what it could look like:



This window describes the different slots in a wheel.

This is a short description of each column in the slot editor:

No.:

This is a auto generated number for the row.

Media Name:

Name of the slot.

Media FileName:

Path and filename of image, e.g. carallon/gobos/martin/03002401.png. Right clicking here opens the **Browser** pop-up. Follow link below to read more.

Color:

This is the color of the slot. Right clicking here opens the **Edit Color** pop-up. Follow the link below to read more.

At the bottom of the main part there's a area that gives you a short description of the column and the allowed value.

You can return to the fixture editor by pressing the yellow X in the upper right corner.

## Related Links

- [Browser pop-up](#)
- [Edit Color pop-up](#)



## Reference: Setup / Show / Patch & Fixture Schedule / Fixture Types / Edit Fixture Types / Instance Manager

Here you can edit the instances of modules. Please be aware that changes here can have catastrophic consequences for your show!

You can access this editor via the **Setup ➔ Show ➔ Patch & Fixture Schedule ➔ Fixture Types ➔ Edit ➔ Instance Manager**.

Below the main part there are some different buttons:

Add:

This adds an instance to the fixture.

Delete:

This deletes an instance from the fixture.

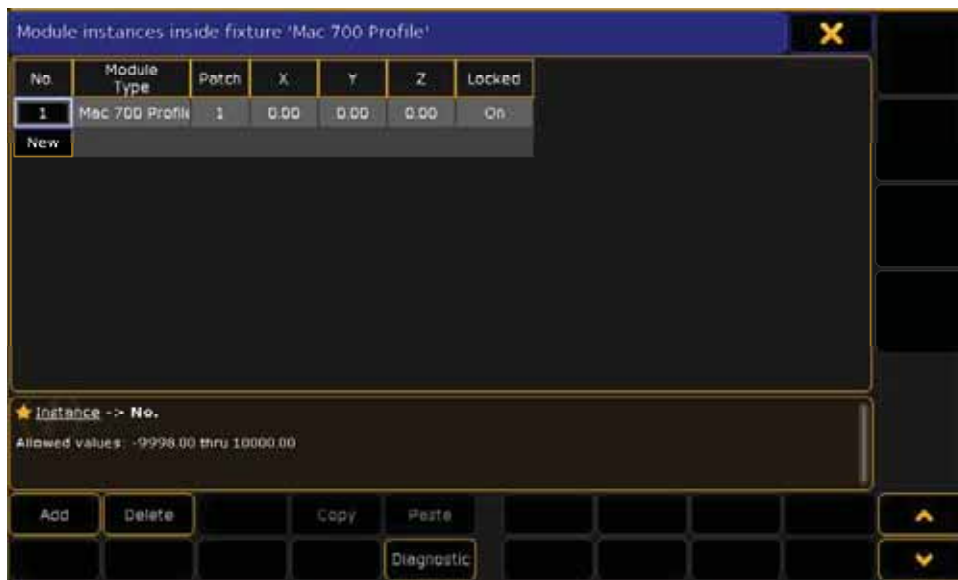
Diagnostic:

This opens the Diagnostics pop-up. Here you can see any problems with the selected instance.

There are also two buttons allowing you to select a line above or below the current line.

## Module instances

This is what it could look like:



This window describes the instances of modules in a fixture.

This is a short description of each column in the instance manager:

- No.: This is an auto generated number for the row.
- Module Type: Reference to a defined Module of this FixtureType.
- Patch: Relative start-address of this Instance.
- X: Relative X-position of Instance.
- Y: Relative Y-position of Instance.
- Z: Relative Z-position of Instance
- Locked: Enable if instance should not be individually movable.

At the bottom of the main part there's a area that gives you a short description of the column and the allowed value.

You can return to the fixture editor by pressing the yellow X in the upper right corner.



## Reference: Setup / Show / Patch & Fixture Schedule / Fixture Types / Attribute & Encoder Grouping

Here you can add, delete and move Preset types, features and attributes. Please be aware that changes here can have catastrophic consequences for your show!

This is what it could look like:



The fixtures attributes are organized in Preset types like Dimmer, Position, Gobo, etc.

In the Preset types there might be several features like Color1, Color2, etc.

Organized in the Features you'll find the attributes.

In the Features area you'll find a Universal column. You can't edit this column. Universal presets only works as real Universal preset for attributes with this column switch on. If this is empty then Universal presets will act like Global presets.

All Preset types, Features and Attributes have a Library Name that can't be changed after it's created. It also have a Screen Name. This can be changed to suit your needs.

You can reorganize, add or delete everything using the buttons! You can only delete empty sections. This can seriously harm your show!!

Adding new things doesn't harm your show and it allows you to create custom fixtures.

The Diagnostic button opens the **Diagnostic pop-up** for the selection. Follow the link below for more info about this pop-up

### Encoder Grouping

The encoder grouping allows you to change if more attributes should be activated when you activate one attribute. E.g. as a standard when you change the value of ColorMix1 (CM1) the values of ColorMix2, ColorMix3 and ColorMix4 are also activated and put in the programmer.

### Related Links

- [FixtureType](#)
- [Diagnostics pop-up](#)



### Reference: Setup / Show / Patch & Fixture Schedule / Fixture Positions

This is used to place the fixtures in a 3D environment.

When in the "Patch & Fixture Schedule" you can press the **U2** key and then you get a window like this:





### The Title Bar

In the title bar there are several drop down boxes and buttons:

#### Layer drop down box

This drop down box displays all the layers in your show and a "[all layers]" option. It works as a layer filter and displays only the fixture available in the selected layer.

#### Action drop down box

This is a list of the actions that happens when you press or click the stage area and move your pointer. There are 5 options: Select, Move, Orbit, Panning & Zoom.

#### Camera drop down box

This is a list of all the cameras in your show. It displays the name of the selected camera.

#### Reset Camera button

Pressing this button resets the selected camera.

### Stage Area

This displays the stage and the fixtures in the selected layer.

There are two controls on the right side of the screen. The circle with arrows allows you to move the stage around the screen. The other one is a bar that allows you to zoom in and out.

### Fixture List

Below the stage area is a list of all the fixtures in the selected layer. This is used to arrange the fixture in a 3D environment. Each line is a fixture. there are several columns:

#### ID

This is the ID of the fixtures. If the channel and fixture ID isn't identical then it displays the Fixture ID and then the Channel ID.

#### Name

This is the name of the fixture.

#### Pos. X / Pos. Y / Pos. Z

These cells are used to move the fixture in the 3D environment.

#### Scale X / Scale Y / Scale Z

These cells are used to change the physical size of the fixture.

#### Rot. X / Rot. Y / Rot. Z

These cells are used to rotate the fixtures in the 3D environment.

#### Visible

If this is On then you can see the fixture. This is relevant in the grandMA 3D visualizer.

#### Sunshade

If this is On then the "Sunshade" function in the grandMA 3D visualizer is active.

#### Follow Target

If this is On then the "Follow Target" function in the grandMA 3D visualizer is active.

### The bottom part

At the bottom part of this window there are two buttons: "Stage Smaller" and "Stage Bigger". They are used to change the relationship between the stage area and the fixture list.

The visualized stage is controlled by 3D elements set up in MA 3D. The default element is a stage plane that's 10 x 10 meters.



### Related Links

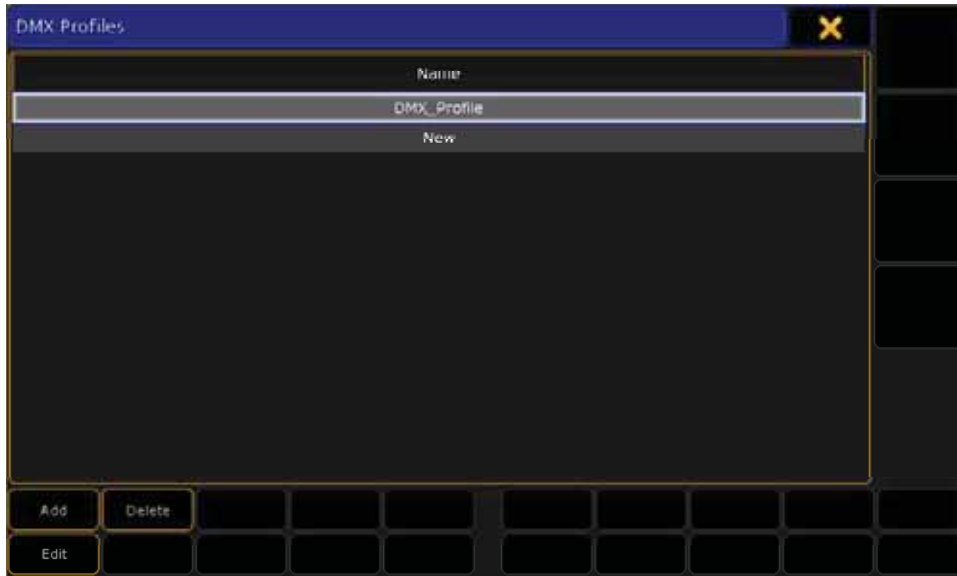
- [Stage View](#)



### Reference: Setup / Show / Patch & Fixture Schedule / DMX Profiles

This used to display and edit DMX profiles.

This is a list of the DMX profiles in the show. This is what it could look like:



There are a line for each of the DMX profiles.

There are three buttons at the bottom of this window:

Add

This adds a new DMX Profile.

Delete

This allows you to delete a DMX Profile.

Edit

This gives you a graphical display of the DMX profile. Follow the link below to read more about the **Graph Editor**.

### Related Links

- [Graph Editor](#)

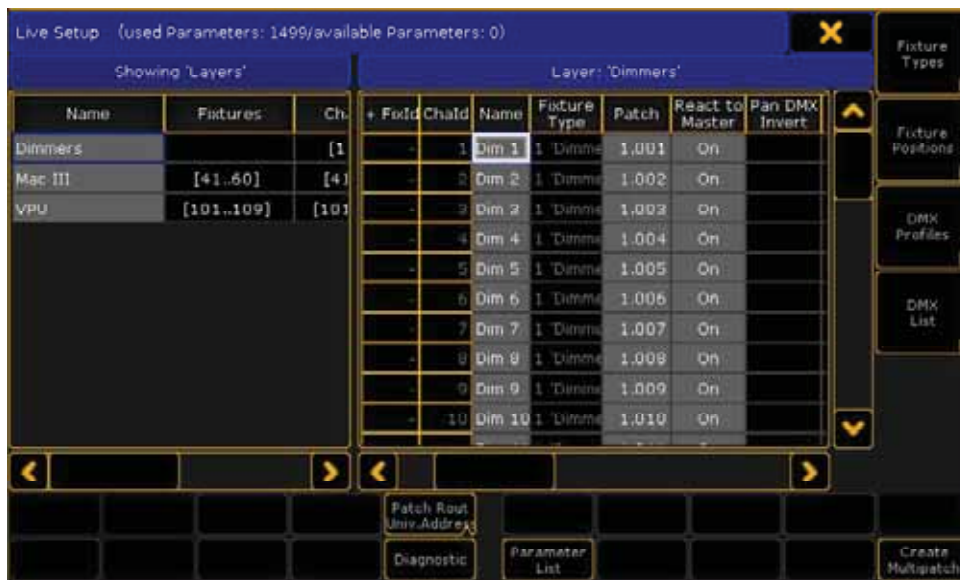


### Reference: Setup / Show / Patch Only (Live Setup)

This gives you access to change some things in your patch.

You can enter this window by pressing the **Setup** key, the "Show" tab followed by the "Patch Only (Live)" button.

Here you can change many things in your patch and fixture schedule. You cannot Add or Delete fixtures. This is what it could look like:



You can edit everything with a grey background incl. the color.

All the options you can change here are changed live and do not need a new show upload to all the stations in the network (as the exit from the full patch does).

There are two things that are unique to this section. It is the "DMX List" and "Parameter List". You can access them using the buttons in the lower part of the window. Read about them on the following pages.

You can create a Multipatch in Live Setup. But you can't delete it.

Read more about all the other options on this page, on the previous pages.



### Reference: Setup / Show / Patch Only / DMX List

This gives you access to change some things in your patch.

You can enter this window by pressing the **Setup** key, the "Show" tab followed by the "Patch Only (Live)" button and then the "DMX List" button (or **U4** key).

Here you can change how the desk should allow DMX merge of incoming DMX, how many DMX universes you have access to and how many your desk is asking for access to. You can also assign a DMX Profile to an Attribute. This is what it could look like:



You can edit everything with a grey background.

The list on the left displays a list of DMX universes. It has the following columns:

- No.: This is the DMX universe number
- Name: This is the name of the Universe.

DMX in Merge:

This opens a Small Select pop-up called **DMX In Merge**. Here you can choose how incoming DMX is merged into this universe. Follow the link below to read more about the pop-up.

Requested:

When this is on the console will calculate DMX values for this universe.

Granted:

A green yes here indicates that the universe has been requested and it's inside the parameter count. A red indicates that it has not been requested or the universe is outside the parameter count.

The list on the right side displays what's assigned to the DMX addresses in the (on the left side) selected universe.

Here you can assign a DMX Profile to each coarse attribute. Right click in the grey background in the row you wish to change and select a DMX profile in the **Select DMX Profile pop-up**. Follow the link below to read more about pop-up.

## Related Links

- [Select DMX In Merge](#)
- [Select DMX Profile](#)



## Reference: Setup / Show / Patch Only / Parameter List

This gives you access to change some things for your parameters.

You can access this window by pressing the **Setup** key, the "Show" tab followed by the "Patch Only (Live)" button and then the "Parameter List" button (or **X16** key).

Here you can change some of the options for each parameter. This is what it could look like:



You can edit everything with a grey background.

The list on the left displays the layers. It is the same as in the Patch Only window.

The list on the right side displays all the parameters in the selected layer.

You can change the following for each parameter:

- Default value.
- Highlight value.
- Stage Marker.
- Snap on/off.
- Invert on/off.
- Profile (read more below).

You can assign a DMX Profile to each parameter. Right click in the grey background in the row you wish to change and select a DMX profile in the **Select DMX Profile pop-up**. Follow the link below to read more about pop-up.

These changes are executed immediately.

You can change the same things using the **Edit Fixture pop-up**. Follow the link below to read more about the pop-up.

## Related Links

- [Select DMX Profile](#)
- [Edit Fixture pop-up](#)

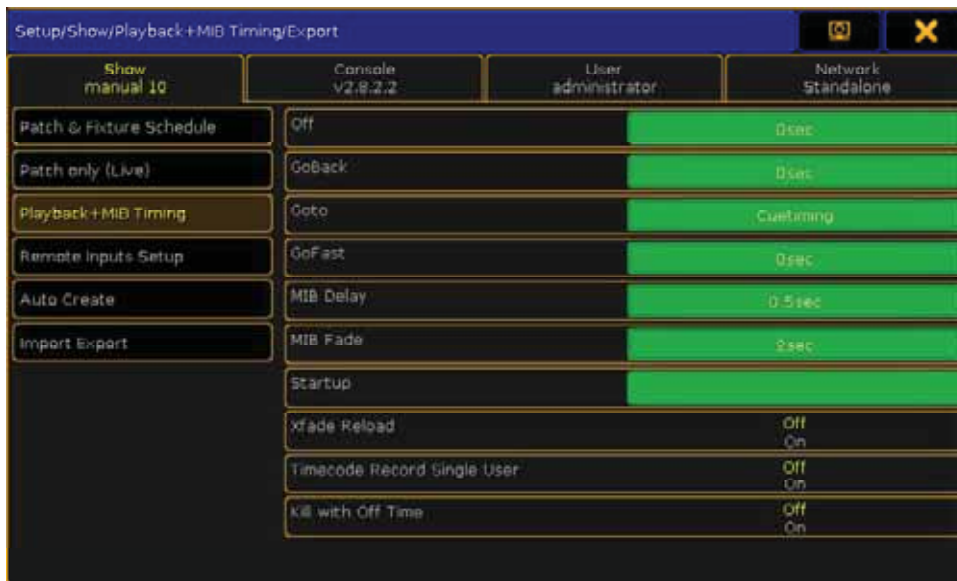


## Reference: Setup / Show / Playback + MIB Timing

This section enables you to adjust general timing used during playback.

You can access this by pressing the **Setup** key, the "Show" tab and the "Playback+MIB Timing" button.

This is what it could look like:



There are several options here. This is what they control:

Off:

Time used when Executors are switched **Off** while they are on.

GoBack:

Time use when a cue is called via the **GoBack** function.

Goto:

Time used when a cue is called via the **Goto** function.

GoFast:

Time used when a cue is called via the **>>>** and **<<<** functions.

MIB Delay:

Time to wait after a fadeout before starting to MIB.

MIB Fade:

Time used while MIB'ing.

Startup:

This is a macro line that the console will run when the show is loading.

Xfade Reload:

Crossfader only works in one direction (upwards) - move faders down to fetch the next cue.

Timecode Record Single User:

When this is 'On' then a timecode recording will only record the action from this user.

Kill with off Time:

The 'Kill' command will perform the kill action using executor Off time, with this options turned 'On'.



GoBack and Goto timing may be set to "cuetiming" rather than a fixed value.



## Reference: Setup / Show / Remote Inputs Setup

Here you can set what the desk should do with the remote inputs.

There are three different types of remote input. Analog, Midi and DMX. They each have their own tab in the Remote Inputs Setup window.

In the three tabs there are a lot of common things.

At the bottom of the screen there are 4 working buttons. There's an 'Add' button. With this you can add more remote inputs. There's a 'Delete' button. With this you can delete already existing inputs. There's an 'Enable' button. This can be 'On' or 'Off' (on when the text is yellow). When 'on' the console will react on the inputs. The last button is 'CLI' (Command Line Interact). This can also be turned On or Off.

When you add a remote input you also add a new line. There are some common columns in the three tabs:

**Type:**

With this you can choose what type of action the console should do when the contact is activated. There are up to 5 options: None, Executor, Macro, Hardkey and Programmer (programmer is only an option in DMX remote).

**Page:**

If the action is "Executor", this is the executor page number, or "current" for the active page.

**Executor:**

If the action is "Executor", this is the executor number.

**Button:**

If the action is "Executor", this determines what button or fader the console should activate. There are 4 options: Button 3, Button 2, Button 1 and Fader.

**Keycode:**

If the action is "Hardkey", then this is used to select what hard key it should activate.

**Macro:**

If the action is "Macro", then this is a macro line where you can write any command.

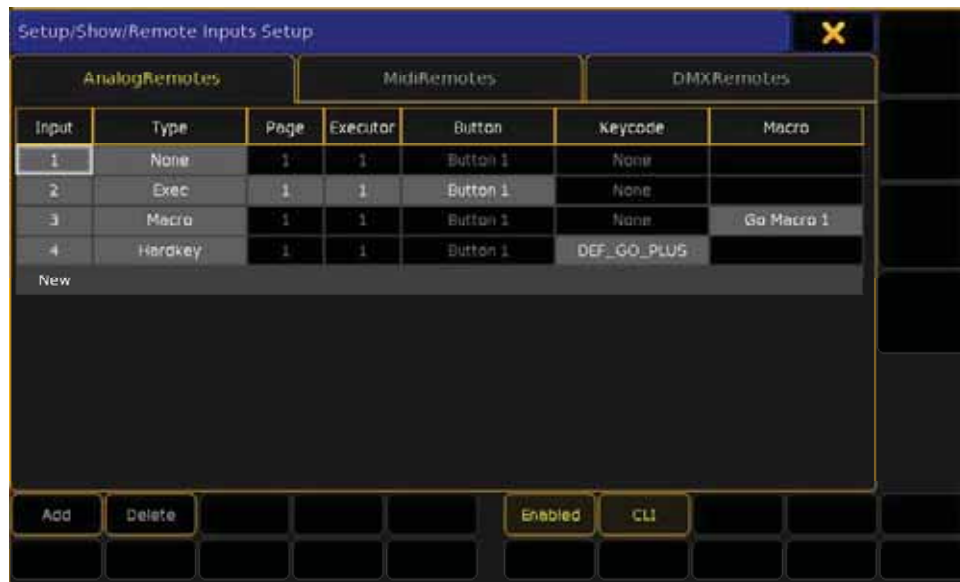
You can edit the options with a grey background.

The following is a description of the three tabs.

**Analog Remote**

On the back panel of the console you'll find a standard 25 D-sub plug. This supports 16 direct contact closure contacts to be connected to the console.

The setup window allows you to assign an action to those 16 contacts. It could look like this:

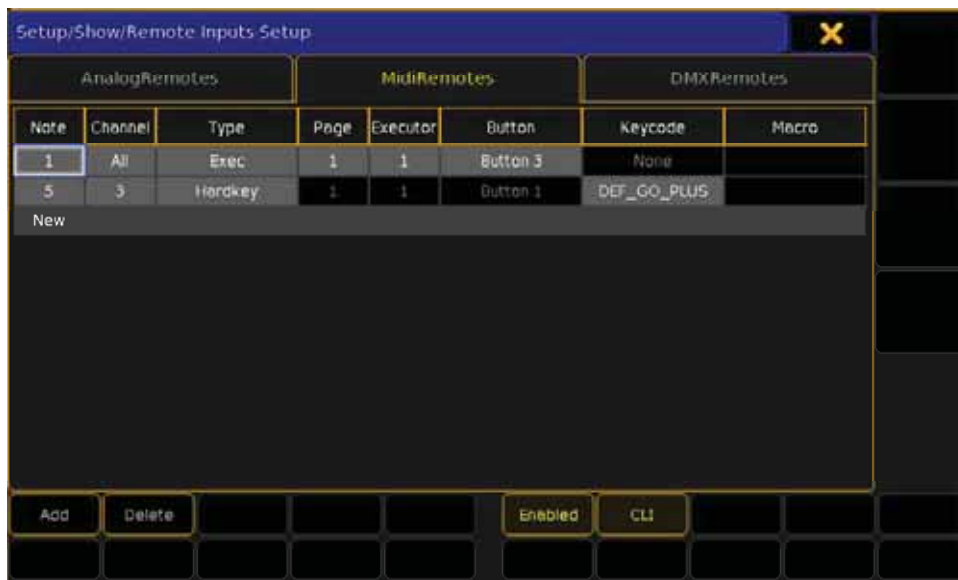


The Analog section has one special column. It's the "input" column. The numbers correspond to the contact numbers.

**Midi Remote**

The desk can accept midi notes from the midi input plug on the back panel of the desk. It supports notes from 1 to 128 on 16 channels.

The setup window allows you to assign actions to those notes. It could look like this:

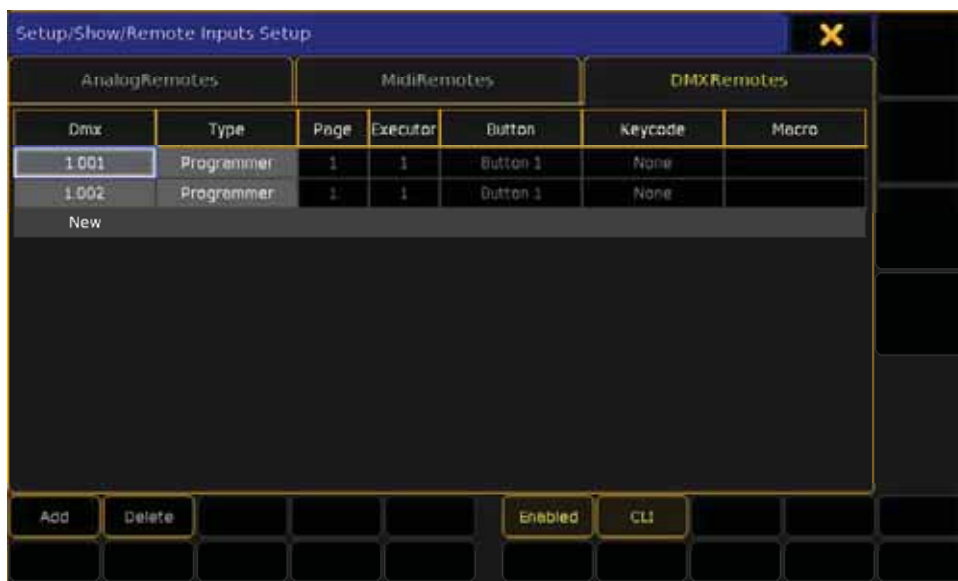


This tab has two special columns: "Note" and "Channel". Use these to select the input node.

### DMX Remote

You can use the DMX input (and DMX output) as a remote input. The console accepts and supports 131072 DMX channels as remote input. That's 256 complete universes.

The window allows for the setup of all those channels. It could look like this:



Buttons, Hardkeys and Macros are triggered at a DMX value of 129.

The DMX tab has one special column. It's the "DMX" column. Here you can input a DMX number. It's defined by the universe, a dot and the DMX address.

The DMX remote has the special type called "Programmer". When using this the incoming DMX signal will go directly into your programmer - if value was changed.



### Reference: Setup / Show / Auto Create

Here you can auto create Groups, Worlds, Presets and Channel Pages.

At the top you'll find four tabs for each of the different sections.

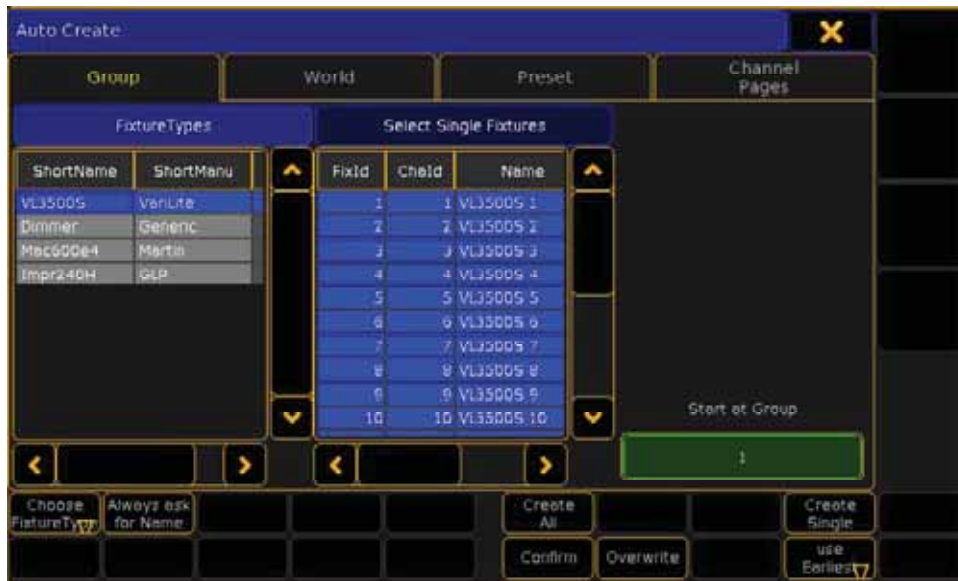
Read the following pages for details about the different sections.



### Reference: Setup / Show / Auto Create / Group

The grandMA2 can automatically create groups depending on your selection.

This is what it could look like:



There are two different sections of this window. The left one displays the FixtureTypes or the Layers (depending on your settings). The right one displays the content of the selection in the left section. There's a area where you can manually select the starting group.

Everything that has a blue background is selected. Multiple selection is possible using the **Ctrl** key on a keyboard.

There are some buttons at the bottom of the window:

Choose:

This button has two different modes: **Layer** and **Fixture Type**. It chooses what the left section displays.

Always ask for Name:

When this is On (yellow text and background), you will get a name pop-up when you create "All" groups.

Create All:

This will create "All" groups for each of the selected fixture types or Layers.

Create Single:

This will create single groups for every one of the selected fixtures.

Confirm:

When this is on, you'll get a pop-up telling what groups you created (when done).

Overwrite:

This will allow for auto create groups to overwrite existing groups. If this is off, and there's a conflict, the console will present you with an **Auto Create Conflict** pop-up (read more about this by following the link below).

Use:

This button has two modes. When it's **Use Earliest** the console will use the first free pool button. When it's **Use Latest** the console will use the first pool button after the last one used.

## Related Links

- [Auto Create Conflict pop-up](#)



## Reference: Setup / Show / Auto Create / World

The grandMA2 can automatically create worlds, based on your selections.

This is what it could look like:





There are two different sections of this window. The left one displays the FixtureTypes or the Layers (depending on your settings). The right one displays the content of the selection in the left section. There's a area where you can select the starting world.

Everything that has a blue background is selected. Multiple selection is possible using the **Ctrl** key on a keyboard.

There are some buttons at the bottom of the window:

Choose:

This button has two different modes: **Layer** and **Fixture Type**. It chooses what the left section displays.

Always ask for Name:

When this is On (yellow text and background), you will get a name pop-up when you create "All" groups.

Create:

This will create worlds for each of the selected fixture types or Layers.

Confirm:

When this is on, you'll get a pop-up telling what groups you created (when done).

Overwrite:

This will allow for auto create groups to overwrite existing groups. If this is off, and there's a conflict, the console will present you with an **Auto Create Conflict** pop-up (read more about this by following the link below).

Use:

This button have two modes. When it's **Use Earliest** the console will use the first free pool button. When it's **Use Latest** the console will use the first pool button after the last one used.

## Related Links

- [Auto Create Conflict pop-up](#)



## Reference: Setup / Show / Auto Create / Preset

The grandMA2 can automatically create presets, based on your selections.

This is what it could look like:





There are two different sections of this window. The left one displays the FixtureTypes. The right one displays the different preset types and a check box.

There's an area where you can select the Dimmer Increment for dimmer presets and a button that creates universal dimmer presets.

Every fixture type that has a blue background is selected. Multiple selection is possible using the **Ctrl** key on a keyboard. And all preset types with the check mark are selected, and the console will create global presets in this group.

There are some buttons at the bottom of the window:

Encoder Grouping:

When this is on the console will create preset combinations based on the encoder grouping settings. E.g. only create one common "Open" preset for both Gobo Wheel 1 and Gobo Wheel 2. Encoder Grouping setting you will find in menu "Setup / Patch + Fixture Schedule / Fixture Types / Attribute + Encoder Grouping".

Add Preset:

This will create all new presets behind existing presets.

Merge Preset:

This will merge presets of the same name e.g. only one position preset called "Center" for several fixture types..

Confirm:

When this is on, you'll get a pop-up telling what groups you created (when done).

## Related Links

- [Auto Create Conflict pop-up](#)



## Reference: Setup / Show / Auto Create / Channel Pages

The grandMA2 can automatically create Channel Pages depending on your selection.

This is what it could look like:



There are some different sections of this window. The left one displays the FixtureTypes or the Layers (depending on your settings). The right one displays the content of the selection in the left section. There's an area where you can set a Starting page, a starting Fader and a Page Width.

Everything that has a blue background is selected. Multiple selection is possible using the **Ctrl** key on a keyboard.

There are some buttons at the bottom of the window:

Choose:

This button has two different modes: **Layer** and **Fixture Type**. It chooses what the left section displays.

Always ask for Name:

When this is On (yellow text and background), you will get a name pop-up when you create "All" groups.

Create:

This will create channel pages for the selected fixtures Dimmer attribute (and only for the Dimmer attribute).

Create Next Page:

This will create Channel Pages for the selected fixtures Dimmer attribute but it will skip page 1.

Confirm:

When this is on, you'll get a pop-up telling what groups you created (when done).

Overwrite:

This will allow for auto create groups to overwrite existing groups. If this is off, and there's a conflict, the console will present you with an **Auto Create Conflict** pop-up (read more about this by following the link below).

## Related Links

- [Auto Create Conflict pop-up](#)



## Reference: Setup / Show / Import & Export

Here you can import and Export Macros, Effects, Masks and MATricks.

This is what the menu looks like:

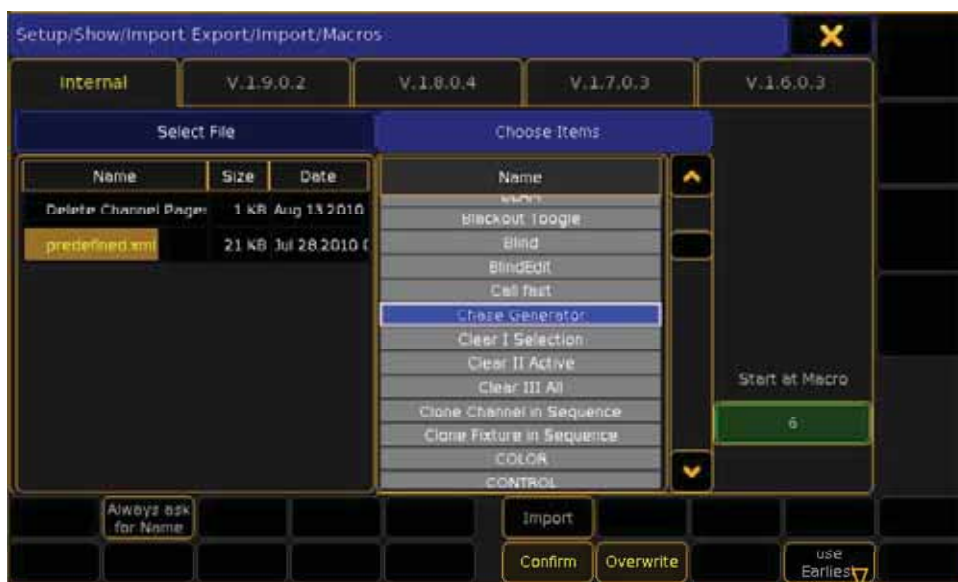


Here you can Import or Export Macros, Effects, Masks, MATricks and Bitmaps.

Bitmaps doesn't look like the others. They are described in their own chapters.

### Import of Macro, Effects, Masks and MATricks

When you Import something you get a menu like this (they are very similar for Macros, Effects, Masks and MATricks):



At the top you have tabs for the different drives and version available.

Below this there are two section. The left section allows you to select a source file. The right section shows you all the Macros, Effects, Masks or MATricks stored in that file.

Any Macro, Effect, Mask or MATricks with a blue background will be imported. You can select multiple Marcos, Effects, Masks or MATricks using the **Ctrl** key on a keyboard.

There's also an area where you can manually choose where the macros or Effects should begin.

Below this there are some buttons. This is what they do:

Always ask for name:

When this is On (yellow text and background), you will get a name pop-up when you import.

Import:

This will import the Macros, Effects, Masks or MATricks.

Confirm:

When this is on, you will get a pop-up telling what you imported (when done).

Overwrite:

This will allow for the import to overwrite existing Macros, Effects, Masks or MATricks. If this is off, and there is a conflict, the console will present you with at Auto Create Conflict pop-up (read more about this by following the link below).

Use:

This button has two modes. When it is **Use Earliest** the console will use the first free pool button. When it is **Use Latest** the console will use the first pool button after the last one used.

## Import of Bitmaps

When you Import bitmaps, there's a difference if you are in the internal drive or in one of the other tabs. For the internal you get a menu like this:



Here you can select the pictures and delete them.

If you select one of the other tabs, you get a menu like this:



There's a button here below the thumbnail picture. In the picture above it says "Import Files Only". This means that you will only import a bitmap. The other option is "Import Files and Create Bitmap Objects". This option makes it look like this:



Here you can choose the pictures you'll import and each imported picture will create an Bitmap Effect.

Below this there are some buttons. This is what they do:

Always ask for name:

When this is On (yellow text and background), you will get a name pop-up when you import.

Import:

This will import the Bitmap

Confirm:

When this is on, you will get a pop-up telling what you imported (when done).

Overwrite:

This will allow for the import to overwrite existing Macros, Effects, Masks or MATricks. If this is off, and there is a conflict, the console will present you with an Auto Create Conflict pop-up (read more about this by following the link below).

Use:

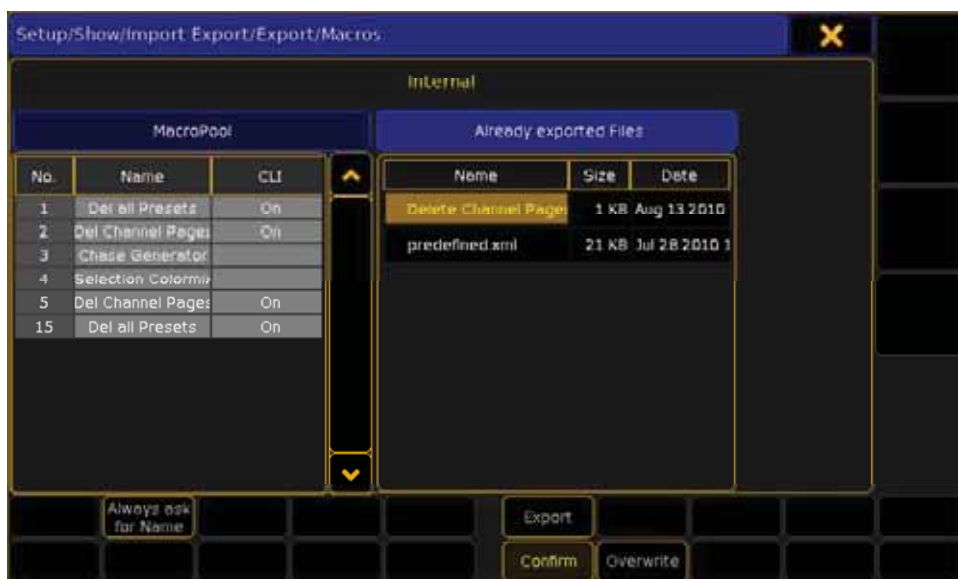
This button has two modes. When it is **Use Earliest** the console will use the first free pool button. When it is **Use Latest** the console will use the first pool button after the last one used.



You can only import "bmp" pictures.

## Export Macros, Effects, Masks and MATricks

When you Export something you get a menu like this (they are very similar for Macros, Effects, Masks and MATricks):



At the top you have tabs for the different drives.

Below this there are two sections. The left section allows you to select the file(s) you want to export. The right section shows you all ready exported files.

Any Macro, Effect, Mask or MATricks with a blue background will be exported. You can select multiple Macros, Effects, Masks or MATricks using the **Ctrl** key on a keyboard.

There are some buttons below this. This is what they do:

Always ask for name:

This does not really have any affect here.

Export:

This will give you a enter name pop-up, and when you press "please" to confirm the name, you have created a file with the selected Macros, Effects, Masks or MAtricks.

Confirm:

This does not work here.

Overwrite:

This does not work here.

## Export Bitmaps

When you Export Bitmaps you get a menu like this:



At the top you have tabs for the different external drives. You can only export Bitmaps to external drive like a USB memory stick or USB harddrives.

This menu is two sides. The left side displays the bitmaps in the internal drive. The right side is the bitmaps in the external drive.

You select the bitmaps you want to export on the left side and then press the **Export** button. It may cause your console to stop responding while it exports the bitmaps.

## Related Links

- [Auto Create Conflict pop-up](#)



**Reference: Coming soon**

Stay tuned.



**Reference: Setup / Console**

These settings apply to the console you are operating.

You can access this menu by pressing the **Setup** key and select the "Console" tab.

This is a picture of the menu:



There are several sub categories. Read the following pages for details about them.

### Related Links

- [Setup Key](#)
- [Setup Keyword](#)
- [Fixture Schedule Concept](#)



### Reference: Setup /Console / Desk Lights

These settings changes the light in the buttons and keys, backlight on the screens and the Littlights.

You can access this window by pressing the Setup key followed by the "Console" tab and then the "Desk Lights".



There are six different lights you can adjust here:

#### Intensity Button Background

This is the normal background light on the buttons.

#### Intensity Button Highlight

This is the intensity on the keys that have focus, content or are selected.

#### Intensity Executor LED

This is the intensity of the LED's under the executors.

#### Intensity 9 Inch

This is the back light intensity of the 9" multi touch screen.

#### Intensity 15 Inch

This is the back light intensity of the 15" touch screens.



**Intensity Littlight**

This is the intensity of the gooseneck littlights attached on the back of the console (if any).

When using an MA onPC wing the backlight of the buttons indicates the following:

**Backlight Off:**

The executor is empty.

**Backlight Dark:**

There's some content on the executor.

**Backlight Bright:**

The executor is active.



## Reference: Setup / Console / Screen Options

This setup window gives you access to calibrating the touch screen(s) and the screen saver.

You can access this screen by pressing the **Setup** key followed by the "Console" tab and then the "Screen Options".



There are two sections here and a screensaver button.

### Internal Screens:

The top row here gives you up to four buttons (one for each internal 15" screen and one for the multi touch). Pressing these will start the calibrating process.

This process will presents you with four points on the screen. One of them have a pulsating red ring - press this until the progress bar disappears. After pressing all four points or after 10 seconds without action the screen returns to the normal MA window.

There are also buttons that allows you to enable or disable the internal touch screens.

There are two pointers from version 2.7 - you have one for the mouse pointer (and external screens) and one for the internal touch screens. You can keep them separated **Mouse doesn't follow touch** or you can keep them together like they were in software versions before 2.7 - **Mouse follows touch**.

### External Screens:

Here you can set the resolution for your external screens. There are also a button that allows you to Assign a touchscreen. This process is used to identify the touch function for your screen.

And you can start the calibration process for the external screen.

### External touch screens for grandMA2

There are several possible touch screens available in the market - which are presented by different models and technologies within different brands. MA Lighting always recommended ELO touch screens as general orientation as ELO seems to be a kind of a standard when it comes to touch screens

Since ELO model description can be imprecise and change often we however cannot specify a particular model. Instead we offer the following specifications:

- Touch Technology\*: ELO Intelli-touch 4 wire touch technology
- Connectivity: A USB interface
- Video Interface: VGA or DVI
- Resolution: Monitors should have a minimum resolution of 1280x800.



\*ELO is using a variety of different touch technologies. In general every standard touch screen technology that can be handled as a USB-Input-Device (like keyboard, mouse) should work. Nevertheless, due to a completely different USB interface handling the APR-technology will not be supported.

ELO touch screens can be identified by a model name and a part-number. The part-number reflects the technology that is used within the model.

**Here are two tested devices as examples:**

- ELO-model 1919L: <http://www.elotouch.com/Products/LCDs/1919L/default.asp>  
Part-number: E015447 which reflects the Intelli-touch technology for EMEA region
- ELO-model 2200L: <http://www.elotouch.com/Products/LCDs/2200L/default.asp>  
Part-number: E808372 which reflects the Intelli-touch technology for EMEA region

**Supported consoles:**

- grandMA2 full-size
- grandMA2 light
- grandMA2 ultra-light
- grandMA2 replay unit
- grandMA2 onPC (might be depending on used hardware)

All console products can support as many touch screens as they support monitors, or mixed combinations of touch screen and standard monitor. grandMA2 hardware in grandMA series 1 mode doesn't support any touch-screen-functionality.

**There are more topics to think of when buying a touch screen!**

If working in loud environments any acoustic touch solution might be interrupted or at least might interfere with the noisy environment.

If working outside a sealed version that withstands rain and dust and might be temperature independent as much as possible is the best solution.

If touch and move is required not all technologies might support touch and hold to move an object via the finger move over the touch surface.

**Here are some more detailed information if required:**

Different technologies available (please follow the link):

Acoustic Pulse Recognition <http://www.elotouch.com/Technologies/AcousticPulseRecognition/default.asp>

Accu Touch 5 Wire Resistive <http://www.elotouch.com/Technologies/AccuTouch/default.asp>

Carroll Touch Infrared <http://www.elotouch.com/Technologies/CarrollTouch/default.asp>

Intelli Touch Surface Wave <http://www.elotouch.com/Technologies/IntelliTouch/default.asp>

Intelli Touch Plus Surface Wave <http://www.elotouch.com/Technologies/IntelliTouch/Plus/default.asp>

iTouch Surface Wave <http://www.elotouch.com/Technologies/iTouch/default.asp>

iTouch Plus Surface Wave <http://www.elotouch.com/Technologies/iTouch/plus/default.asp>

Projected Capacitive <http://www.elotouch.com/Technologies/ProjectedCapacitive/default.asp>

Surface Capacitive <http://www.elotouch.com/Technologies/SurfaceCapacitive/default.asp>

Secure Touch Surface Wave <http://www.elotouch.com/Technologies/SecureTouch/default.asp>

Overview and comparison of different technologies of ELO touch screens: [http://www.elotouch.com/Resources/compare\\_all.asp](http://www.elotouch.com/Resources/compare_all.asp)

**Screensaver**

There's also a button that allows you to set the time for a screensaver (5 minutes after the screen saver starts, the backlight of the 15" screens will be shut down) - or turn it off. Better to turn it on.



Screens have limited operating life due to technical reason. Life span can be increased by using the screen saver as often as possible.



## Reference: Setup / Console / Local Settings

Here you turn on or off DMX out when Standalone and other local settings.

You can access this window by pressing the **Setup** key, then the "Console" tab followed by the "Local Settings" button.

This is what it could look like:



There are several options here.

**Network DMX Out if Alone:**

When this is "On", the console will output DMX over network when in standalone mode. This can conflict with other console sending out DMX in the network.

**Show Release Notes on Start:**

You can turn "On" or "Off" if you want to see the Release Notes on startup.

**Flashing error LED, on wrong Faderposition:**

You can turn "On" or "Off" if you want the red LED to flash if the Fader isn't in the correct position - this is only available on grandMA Ultra Light and grandMA onPC.

**Exec CLI:**

You can turn "On" or "Off" if the command line interacts with the executors. E.g. if this is "Off" and you press the **Select** key followed by an executor button, this will NOT select the executor, but perform the action applied to the button.

**Intensity:**

There are 6 different intensity options. It's the same as the intensity settings in "Desk Lights" options (see previous pages for explanations).

## Related Links

- [Desk Lights options](#)
- [Screen Options](#)

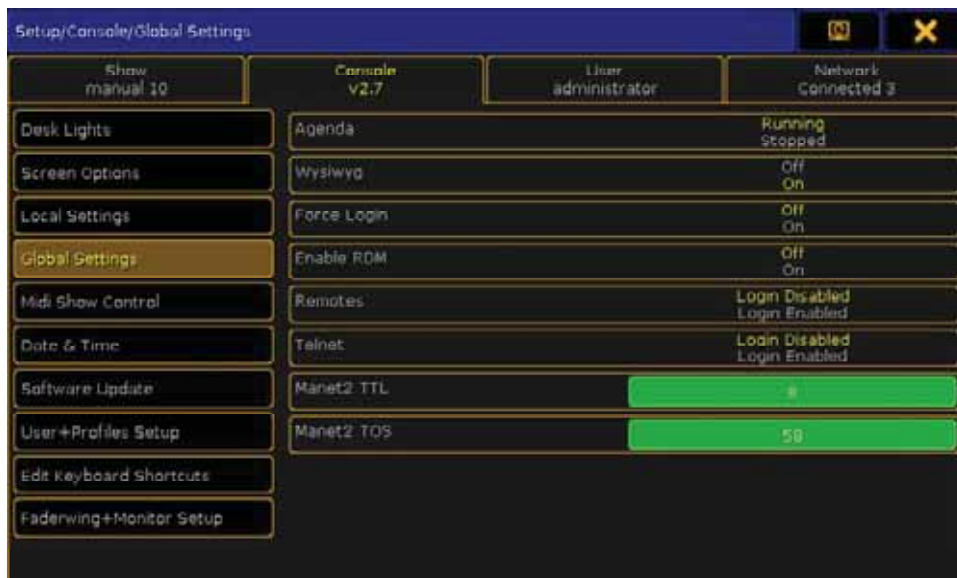


## Reference: Setup / Console / Global Settings

Here you turn on or off Agenda, WYSIWYG connection, forced login, Enable RDM and Remotes. All settings in this menu applies to all consoles within a session.

You can access this window by pressing the **Setup** key, then the "Console" tab followed by the "Global Settings" button.

This is what it could look like:



There are several options here.

**Agenda:**

This can be 'Running' or 'Stopped'. If it's 'Running' all the events in the agenda will be executed. If 'Stopped', none of the events will execute.

**Wysiwyg:**

This is simply turning 'On' or 'Off' the WYSIWYG connection.

**Force Login:**

If **Force Login** is enabled, you will be prompted with the **Login** window when the console is switched on.

**Enable RDM:**

Here you can turn on or off the RDM feature.

**Remotes:**

Here you can enable and disable login from remotes.

**Telnet:**

Here you can enable or disable login from a telnet connection.

**Manet2 TTL:**

This is "Time To Live" and it has to do with how many routers a session should "live" through. If you are not a MA system specialist, you shouldn't change this setting.

**Manet2 TOS:**

This is "Type Of Service" and it has to do with how your data packets move through the switches in your network. If you are not a MA system specialist, you shouldn't change this setting.

## Related Links

- [Agenda](#)
- [Login window](#)



## Reference: Setup / Console / Midi Show Control

This is the options for Midi Show Control.

You can access these settings by pressing the **Setup** key followed by the "Console" tap and the "Midi Show Control" button.

This is what it could look like:



There are many options here you can change. The following is a short description of them:

**Channel Midi In:**

This sets the receiving Midi channel.

**Channel Midi Out:**

This sets the transmitted Midi channel.

**Midi Thru:**

When this is 'On', the incoming Midi signal will also be routed to the Midi out connector.

**MSC In Device:**

This is used to set a device ID that the console should respond to.

**MSC In Group:**

This is used to set a Group ID, that the console should respond to.

**MSC In Port:**

When using MSC via Ethernet, you need to set the port the console should listen to.

**MSC In Mode:**

Pressing here opens the **Select MSC In Mode pop-up**. Here you have three different choices: 'Disabled', 'Ethernet' and 'Midi'. When it's 'Disabled' it will disregard incoming MSC. 'Ethernet' will allow the console to listen to MSC on Ethernet on the port set in the previous option. 'Midi' will allow the console to listen for MSC on the "Midi In" connector on the backpanel.

**MSC In Exec:**

Pressing here opens the **Select MSC In Exec pop-up**. Here you can select what executor should listen to the incoming command. The options are 'Default Only', 'Exec.Page' and 'Exec Page'.

**MSC In Command:**

Pressing here opens the **Select MSC In Command pop-up**. Here you can set what command type the console should listen to. The options are 'Moving Light', 'General Light' and 'All'.

**MSC Out Device:**

This is used to set a device ID that the console should Send to, should you choose to send to Devices (look below).

**MSC Out Group:**

This is used to set a Group ID, that the console should send to, should you choose to send to Groups (look below).

**MSC Out Port:**

When using MSC via Ethernet, you need to set the port the console should transmit to.

**MSC Out Mode:**

Pressing here opens the **Select MSC Out Mode pop-up**. Here you have three different choices: 'Disabled', 'Ethernet' and 'Midi'. When it's 'Disabled' it will not send MSC commands. 'Ethernet' will allow the console to send MSC commands on Ethernet on the port set in the previous option. 'Midi' will allow the console to send MSC commands on the "Midi Out" connector on the backpanel.

**MSC Out Exec:**

Pressing here opens the **Select MSC Out Exec pop-up**. Here you can set what executor the console should send to. The options are 'Default Only', 'Exec.Page' and 'Exec Page'.

**MSC Out Command:**

Pressing here opens the **Select MSC Out Command pop-up**. Here you can set what command type the console should transmit. The options are 'Moving Light', 'General Light' and 'All'.

**Send To:**

Pressing here opens the **Select Send To pop-up**. Here you can set what to send MSC commands to. The options are 'Send to Group', 'Send to Device' and 'Send to All'.

**Send Timecode:**

This isn't implemented yet.

In the right top corner there's also an area where you can see the incoming MSC signal. And in the lower right corner you can see the outgoing MSC commands.

! If you are both sending and receiving MSC on the same MIDI channel, you'll create an infinite loop.

### Related Links

- [MIDI Show Control \(MSC\) Concept](#)
- [Select MSC In Mode](#)
- [Select MSC In Exec](#)
- [Select MSC In Command](#)
- [Select MSC Out Mode](#)
- [Select MSC Out Exec](#)
- [Select MSC Out Command](#)
- [Select Send To](#)



### Reference: Setup / Console / Date & Time

With this window you can change the Date, Time and Location of the desk.

Here you can set the Time, Date and Location. This is what it could look like:



A positive longitude is the eastern hemisphere, a negative longitude gives you the western. A positive latitude is the northern hemisphere, and the negative is the southern.

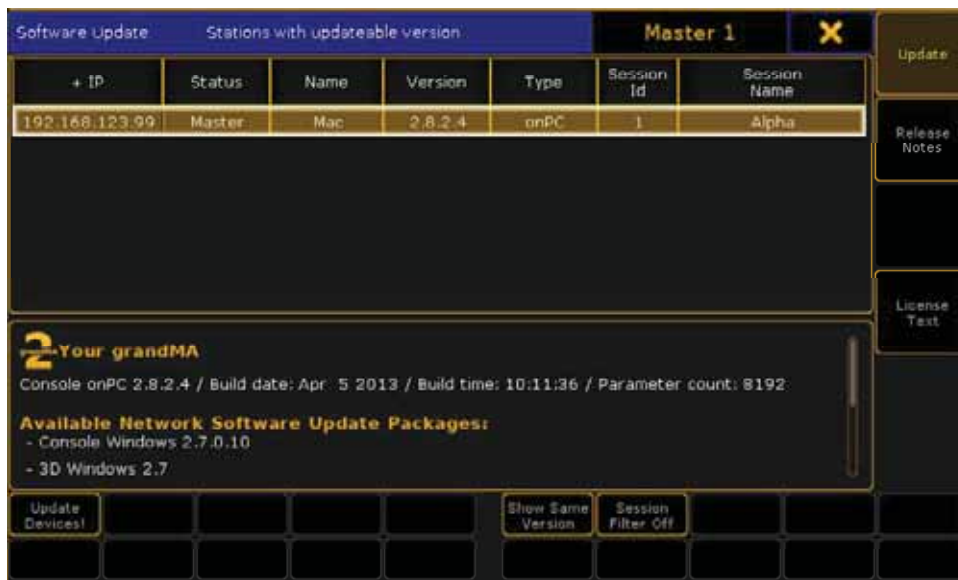


### Reference: Setup / Console / Software Update

Here you can update other consoles and read release notes.

You can access this window by pressing the **Setup** key, the "Console" tab followed by the "Software Update" button.

On the right side you'll find three buttons. The one called **Update** will give you a menu like this:



From version 2.8 it's possible to update grandMA2 consoles, grandMA2 onPC, MA 4 Port Nodes, NPU's, MA VPU's and MA 3D from ether grandMA2 consoles or grandMA2 onPC.

Stations running versions below 2.8 needs to be updated the normal way using a USB stick made with Stickmaker (follow the link below to read about this process).

To do an update via net work you need an empty USB stick formatet in the FAT32 file system. You need to download the following files (or just the ones you need):

- grandMA2[streaming gMA2][streaming gMA1].update
- 4Port\_[version].update
- MA 3D Installer (gMA3D\_[version][streaming].exe)
- MA VPU Installer (gMA-VPU\_[version][streaming].exe)
- grandMA2 onPC installer (gMA2onPC\_[version][streaming].exe)

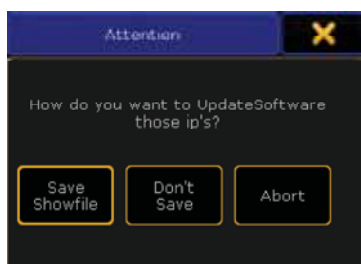
Copy the files needed to your USB stick in the root directory. And connect the USB stick to the console or computer (with onPC) that is going to update the other devices.

The you need to select the device(s) in the list in the Update Menu that you want to update. You can select multiple devices by simultaneously pressing hand holding the **CTRL** key on the keyboard.

You can see the devices with the same version by pressing the **Show Same Version** button.

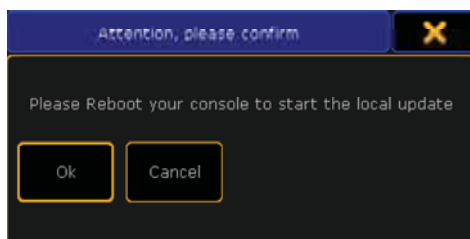
You can also add a session filter by pressing the **Session** button. Here you can select a session number, and the list will only display the stations in that session number. You can also turn the **Session Filter Off**.

When you have selected one or more devices in the list you can press the **Update Devices!** buttons. This will give you an attention pop like this:



This allows you to save the running show, don't save it or abort the software update.

After the software upload you'll get a pop-up like this:



This asks you to reboot the console to start the local update.

 Remember you can reboot a device on the network using the **Reboot** command. Follow the link below to read more about the reboot command.

Updating software can also be done using the commandline. The syntax is

```
UpdateSoftware [IP-Address]
```

You need to have your USB stick with the downloaded files connected to the console or computer with onPC when you update other devices. Follow the link below to read more about the UpdateSoftware command.

Back to the buttons on the right side of the screen. The button called **Release Notes** allows you to read the release notes of this version (and maybe previous versions).

It could look like this:



Here you can read the release notes. You can press the button with a globe to change language. Currently you can only choose between English and German. Follow the link below to read the release notes.

The last button on the right side is the 'License Text'. This is just a copyright notion and Software License.

## Related Links

- [Update Software via USB.](#)
- [UpdateSoftware Keyword](#)
- [Reboot Keyword](#)
- [Release Notes](#)



## Reference: Setup / Console / Software Update / Resource Update

This isn't used since version 2.8.



## Reference: Setup / Console / User+Profiles Setup

Here you create and delete user profiles and users.

You can access this window by pressing the **Setup** key, then the "Console" tab followed by the "User+Profiles Setup" button.

This is what it could look like:



The top half of this window you can see the users in the show and their options. You can see the user Name, Password (it displays '\*' instead of the actual letters), User Profile, Rights, the amount of users logged in using that user name and you can write an info text.

 The password is case sensitive. The password for the administrator user is 'admin'.

The bottom half is a list of the different User Profiles, how many uses each profile, how many are currently logged in using that User Profile and you can write an info text for each User Profile you have created..

### Creating a new user.

First thing you might need to do is to create a new User Profile. This is done in the bottom half.

To create a new user profile from an existing one you need to enter the command line.

```
[Channel]>copy upr 1 at 3
```

In the example above we have made a copy of user Profile 1 to user profile 3 - "UPR" is the short version of UserProfile (Numbering must be persistent, without a gap).

If you need to create a new UserProfile, you can press where it says "New". You only need to give it a name.

Then you should create a new User in the upper half. Right-click where it says "new". Then you can enter a 'Name', a 'Password' (only if you want one), select one of the 'User Profiles' and finally select one of the 'Rights'. Follow the link below for more about "Rights".

Closing the pop-up saves your new user. You still need to log in as the new user.

### Related Links

- [Multiuser](#)
- [Login Keyword](#)
- [Logout Keyword](#)
- [Login Window](#)
- [User Keyword](#)
- [UserProfile Keyword](#)
- [Select User Profile](#)
- [Select Rights](#)



### Reference: Setup / Console / Edit Keyboard Shortcuts

Here you can view and change the Keyboard shortcuts.

 Keyboard Shortcuts are currently only implemented for grandMA2 **onPC**.

This is what the editor could look like:





The top part of this is a list predefined shortcuts, that can't be changed.

The section below this is divided into four sections. Below each section there are buttons that allow you to add or delete shortcuts.

Each section have two columns. The first is the hardkey that will react. The second column is the key on the PC keyboard.

Each of the four sections respectively represents: pressing the keyboard key alone, pressing a keyboard key together with the "Ctrl" key, pressing a keyboard key together with the "Alt" key and finally pressing a keyboard key together with the "Ctrl" and "Alt" keys.

On the right side you'll find three buttons that allow you to import a set of shortcuts. You can also export the current shortcuts. They will both open the browser that allows you to select a location and a name for the file you wish to import or export.

The third button will reset the shortcuts to the factory defaults.

Exiting the editor (using the "X" in the top bar) when there's unsaved changes will open a warning pop-up. This will ask if you want to save the changes. Pressing **Yes** will store any unsaved changes to "keyboard\_shortcuts.xml" file. **No** will disregard the changes.

**Cancel** will return to the editor.

### Adding a Shortcut

When you press the "Add" button, you get the **Add Shortcut small select pop-up**. Here you can select one of the Hardkeys on the console. After you have selected the hardkey you'll get the **Select VirtualKeyCode pop-up**. This is a list of the keyboard keys that haven't been used yet. A keyboard key can only be attached to one console hardkey, but a console hardkey can have multiple keyboard shortcuts. If you need use use a keyboard key that's already in use, you'll have to delete its current function first.

### Deleting a Shortcut

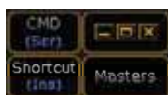
To delete a shortcut you have to select the line in the list you want to delete and then press the Delete button.

### Editing a Shortcut

To edit an existing shortcut you can press the **Edit** key or right click on the value you want to change. This will open the appropriate pop-up allowing you to select a new key.

### Extra buttons in the onPC

In the onPC you'll find two new buttons. They are **CMD** and **Shortcut**. They are near the top right corner. They look like this:



The **CMD** will send all your keyboard presses to the commandline.

The **Shortcut** will turn keyboard shortcuts On or Off. Keyboard shortcuts are temporarily turned off when there's a text input pop-up open.

These two buttons always have keyboard shortcuts activated.

### Related Links

- [Add Shortcut pop-up.](#)
- [Select Virtual Key Code pop-up.](#)

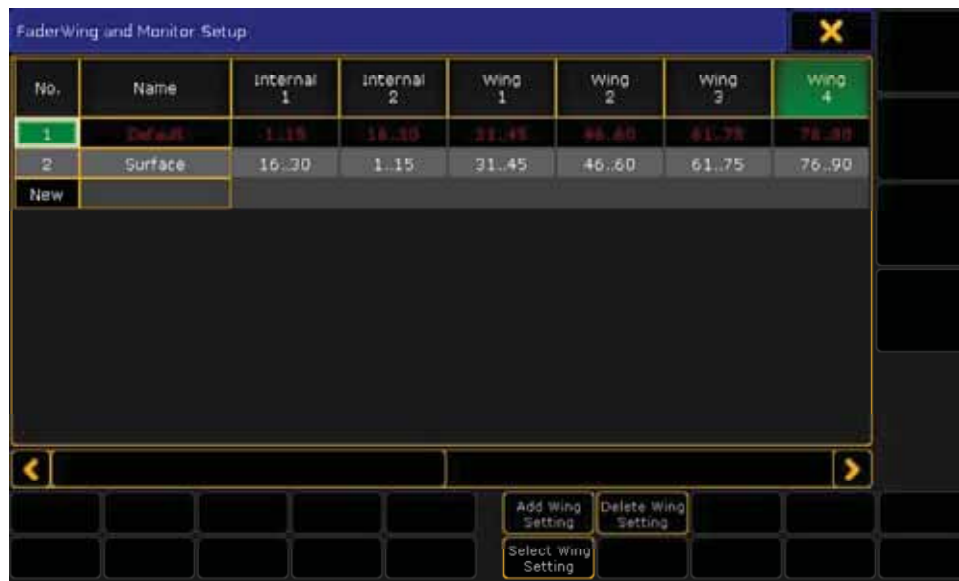


### Reference: Setup / Console / FaderWing and Monitor Setup

Here you create, select and delete FaderWing Setup.

You can access this window by pressing the **Setup** key, then the "Console" tab followed by the "Faderwing+Monitor Setup" button.

This is what it could look like:



This is used to create different setups for what 15 faders each element should control. There's always one default setup.

Each set of 15 faders can be assigned to any of the internal or external wings. You can also choose to disable the page buttons on the Fader Wings.

Even an onPC Command Wing takes a group of 15 faders even though it only have 6 actual faders. If you use an onPC you'll see "CMD Wing" and "Fader Wing" instead of "Internal 1" and "Internal 2".

Screen 3 and 4 will change the bottom part to follow the content of your faders.

There are 3 buttons below the main area:

Add Wing Setting:

This will add a new set of settings.

Delete Wing Setting:

This will delete the highlighted line.

Select Wing Setting:

This will select the highlighted line. The selected settings have a green background color on the number.

In the command line this is called "**surface**". So to use the command line to select the default settings, you can use this command:

```
[Channel]>surface 1
```



## Reference: Setup / User

These settings apply to current user profile, all stations, stored in show file .

You can access this menu by pressing the **Setup** key and then the "User" tab.

This is a picture of the menu:



There are several sub categories. Follow the links below to read more about them.

#### Related Links

- [Setup Key](#)
- [Setup Keyword](#)



#### Reference: Setup / User / Defaults

This is the user default settings.

This is a picture of the menu as it look when you Press the **Setup** key followed by the "User" tap and the "Defaults" button.



There are 3 sub categories.



#### Reference: Setup / User / Defaults / Sequence Defaults

These setting are used as defaults setting when storing cues and sequences.

You enter this window by pressing the **Setup** key, the "User" tab followed by the "Defaults" and "Sequence Defaults" buttons.

This is what it could look like:



There are several options here:

Fade:

This is the (up) fade time of the cue.

OutFade:

This is the fade time for values going down in value in this cue.

Delay:

This is used to define a delay time between the Go and the execution of the fade.

OutDelay:

This is a delay time (the time they wait before executing the Down Fade) for the values going down.

SnapDelay:

Some fixtures have features that are set to snap (disregard the fade time - and move instantly). With this percent value, you can control when this snap occurs. If it's set to 0% the snap executes right in the beginning of the fade. If it's set to 100%, then the snap executes at the end of the fade. But you choose to put anywhere in between. This should be called "Snap Percent".

CmdDelay:

This is the delay time for execution of the command (in the cue).

Trig:

This is the cue trigger. There are several options: 'GO', 'Time', 'Follow', 'Sound' and 'BMP' (Sound and BMP isn't implemented yet). Pressing here opens the **Select Trig pop-up**.

TrigTime:

If you have selected the trigger "Time", you can specify the trigger time here.

## Related Links

- [Select Trig](#)

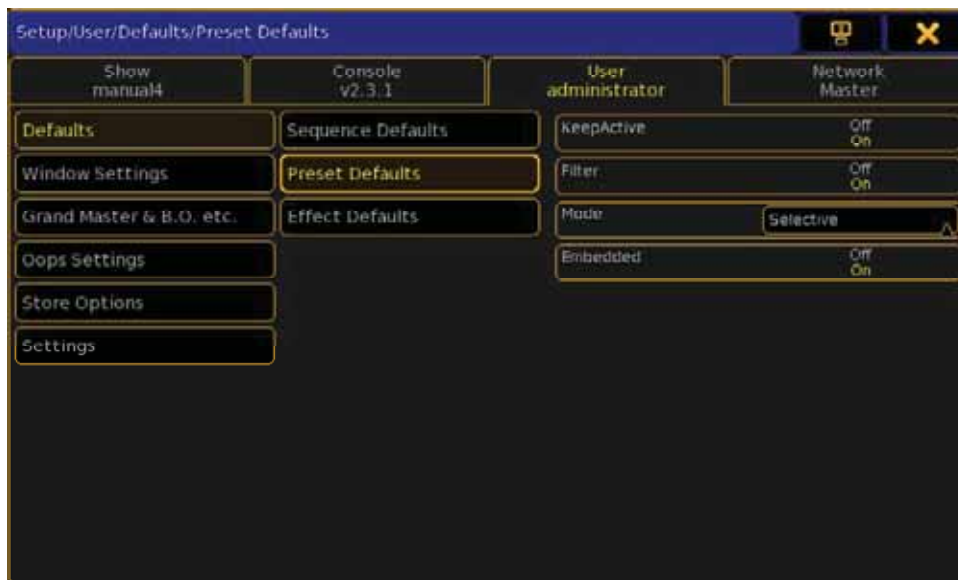


## Reference: Setup / User / Defaults / Preset Defaults

These settings are used as defaults when storing presets.

You enter this window by pressing the **Setup** key, the "User" tab followed by the "Defaults" and "Preset Defaults" buttons.

This is what it could look like:



There are several options here.

KeepActive:

If this is 'On', you will keep your values active (marked red / storable) in your programmer after storing a preset.

Filter:

If this is 'On' then you can only store the preset type in the respective preset pool. If it's set to Off, then you can store all values in every preset pool. The "All Preset" is not affected by this.

Mode:

Pressing here opens the **Select Mode (Preset) pop-up**. Here you can select if a preset should be 'Selective', 'Global' or 'Universal'.

Embedded:

If this is 'On', then the preset can hold (one or more) embedded presets. For example a gobo preset and a color preset are stored in an embedded All Preset. Changing this color preset later, also the All Preset will be revised.

## Related Links

- [Select Mode \(Preset\) pop-up](#)



## Reference: Setup / User / Defaults / Layout Defaults

These settings are used as default settings when creating new layouts.

You enter this window by pressing the **Setup** key, the "User" tab followed by the "Defaults" and "Layout Defaults" buttons.

This is what it could look like:



There are several options here:

- Grid X:**  
This will give you a grid with the specified size on the X axis. If this or the "Grid Y" is 0, the view will have no grid.
- Grid Y:**  
This will give you a grid with the specified size on the Y axis. If this or the "Grid X" is 0, the view will have no grid.
- Snap Grid X:**  
This will specify the size of the grid on the X axis, that objects snaps to (if this is on).
- Snap Grid Y:**  
This will specify the size of the grid on the Y axis, that objects snaps to (if this is on).
- Snap Always:**  
This will turn on or off the snapping function for objects.
- Background:**  
Pressing here opens the **Edit Background Color** pop-up. Here you can select a background color for the view.
- IDs:**  
This will toggle if ID's are visible or not.
- Fixture Names:**  
This will make fixture names visible or not.
- Dimmer Bar:**  
This will toggle is there's a intensity bar in each fixture symbol.
- Dimmer Value:**  
This toggle if theres a numeric value for the intensity in each fixture symbol (in percent).
- Marker:**  
When this is on you will see the colored markers (programmer, Effects, Preset, etc.) in the view.
- Fast Call:**  
This turns on or off fast call for presets in the layout view. This can also be changed in the top bar.
- Pool Playback:**  
This turns on Pool Playback for Effects, Bitmap Effects and Sequences.
- Default Gauge:**  
This will open the **Default Gauge select pop-up**. Whith this you can select the default gauge for fixtures/channels.
- Double tap mode:**  
Here you can disable the double tap function to temporarily change between select and move mode.

## Related Links

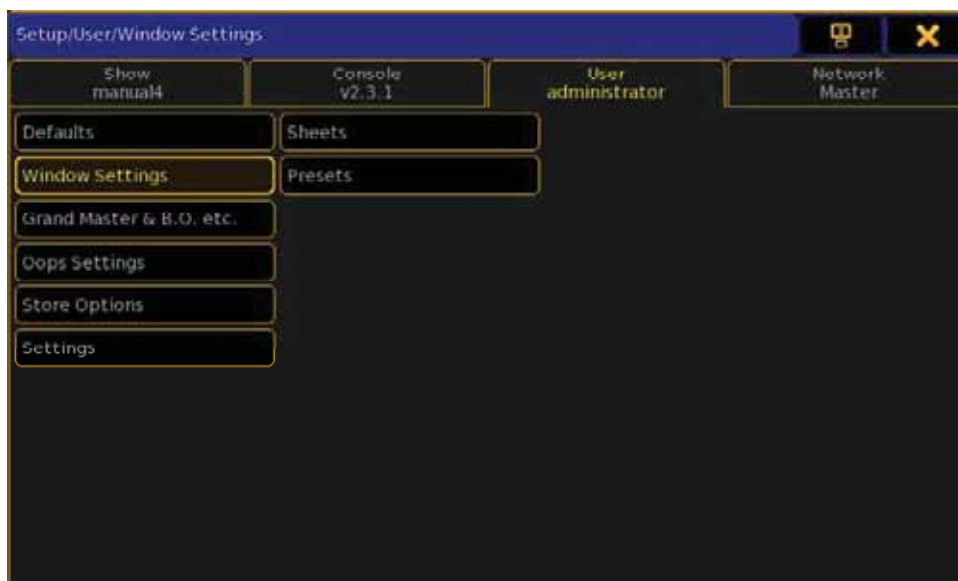
- [Select Default Gauge](#)



## Reference: Setup / User / Window Settings

This is the user window settings.

This is a picture of the menu as it look when you press the **Setup** key followed by the "User" tap and then the "Window Settings" button.



There are two sub categories.



## Reference: Setup / User / Window Settings / Sheets

This section gives you access to the default options in the sheets.

You enter this window by pressing the **Setup** key, the "User" tab followed by the "Windows Settings" and "Sheets" buttons.

This is what it could look like:



There are 6 different buttons here. Pressing them directs you to the default options for each sheet. You can read more about the sheets and the options by following the links below.

#### Related Links

- [Channel Sheet](#)
- [DMX Sheet](#)
- [Fixture Sheet](#)
- [Sequence Content Sheet](#)
- [Sequence Executor Sheet](#)
- [Sequence Tracking Sheet](#)
- [Sheet Options](#)



#### Reference: Setup / User / Window Settings / Presets

This section gives you access to the default options of the presets.

You enter this window by pressing the **Setup** key, the "User" tab followed by the "Windows Settings" and "Presets" buttons.

This is what it could look like:



There are different buttons here. Pressing them directs you to the default options for each preset pool. You can read more about the presets and the options by following the links below.



The last button resets all the color settings for the Preset Pools - they go back to a gray color. There is a small warning pop-up asking if you are sure.

### Related Links

- [Preset Pools](#)
- [Preset Options](#)
- [All Preset Pools Color Reset Warning Pop-Up](#)



### Reference: Setup / User / Grand Master & B.O. etc.

Here you can choose to activate or deactivate Grand Master fader, Grand Master key, Solo and Highlight keys.

You can enter this window by pressing the **Setup** key, the "User" tab followed by the "Grand Master & B.O. etc." button.

This is what it could look like:



There are 4 On/Off options here:

Blackout:

If this is "On" then the **B.O** (Black Out) key is active. When "Off" the key doesn't work.

Solo:

If this is "On" then the **Solo** key is active. When "Off" the key doesn't work.

Highlight:

If this is "On" then the **Highlt** (Highlight) key is active. When "Off" the key doesn't work.

GrandMaster:

If this is "On" then the Grand Master Fader is active. When "Off" the fader doesn't work.

Channel Page +/-:

This can be used to turn off Channel Pages.

Link Fader & Button Page:

You can link the Executor Fader Page and the Executor Button Page. So when you press the **Fd Pg +** button it also changes the Button page number.

### Related Links

- [B.O. Key](#)
- [Solo Key](#)
- [Highlt Key](#)

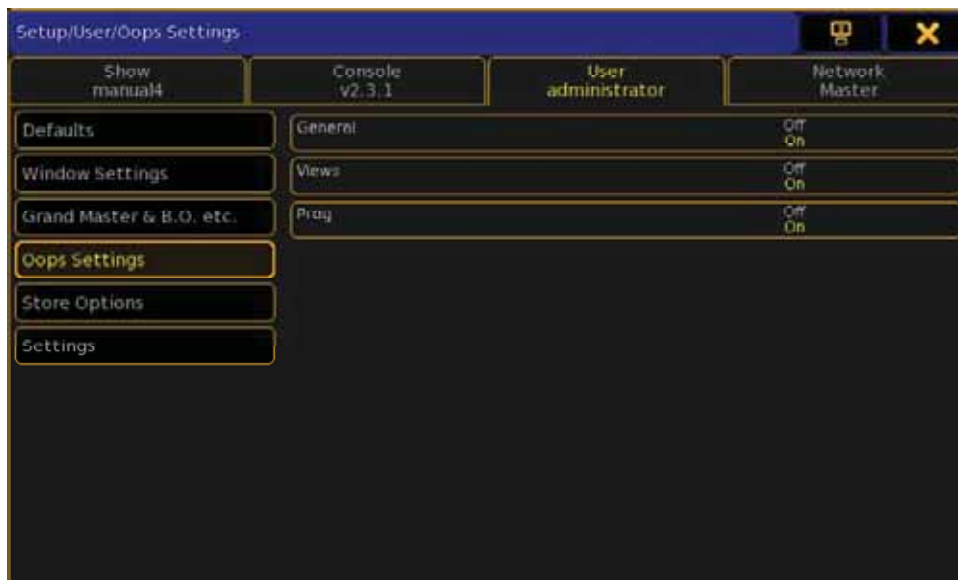


### Reference: Setup / User / Oops Settings

This is the oops settings for the current user.

You can access these settings by pressing the **Setup** key followed by the "User" tap and the "Oops Settings" button.





There are three settings here that you can change. They are all **On** or **Off** settings:

General:

If this is "On" then you can Oops general changes.

Views:

If this is "On" then you can Oops your view changes.

Prog:

If this is "On" you can Oops your programmer changes.

### Related Links

- [Oops Keyword](#)
- [Oops Key](#)

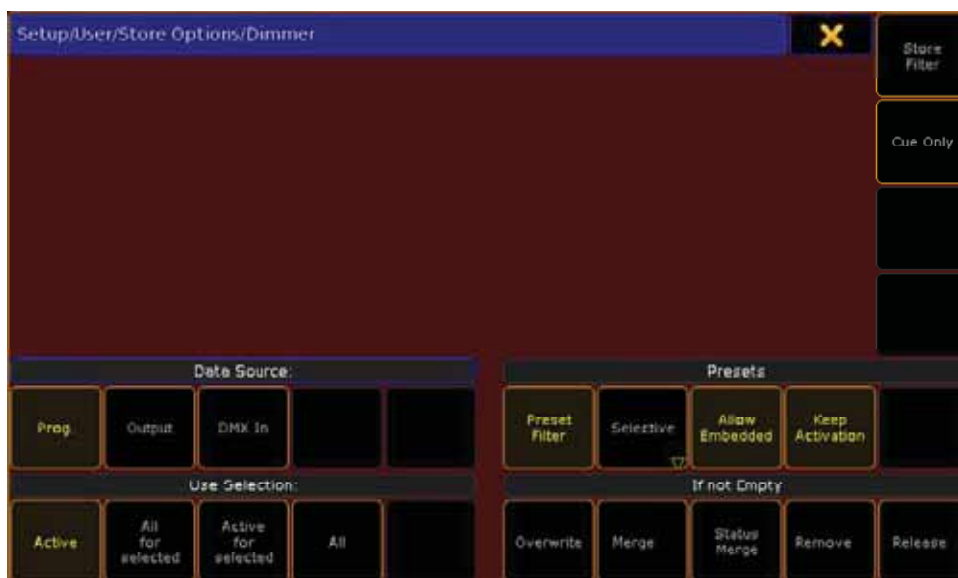


### Reference: Store Options

Here you can see and change your default store options.

You can enter this window by pressing the **Setup** key, the "User" tab followed by a press on the "Store Options" button. You can close this window by pressing the big yellow "X" in the upper right corner

This is what the window could look like:



All the buttons with yellow text are activated options.

There are many options here. They are divided into different sections.

**General:**

These are the options that aren't in any category.

**Store Filter:**

This opens the 'Store Filter'. Here you can set a filter for what attributes, value, value times and effects you want store. This is the same as the **Attribute Filter** pop-up. Follow the link below to read more about the Attribute filter (Store Filter).

**Cue Only:**

This will store as cue only, thus restoring all tracked values in the next cue and not track the current stored values.

**Data Source:**

This is the source the console will use when storing something.

**Prog. (Programmer):**

When this is selected, the console will store the content in the programmer.

**Output:**

This will store status of the current output from the console.

**DMX In:**

This will store the current DMX input.

**Presets:**

This is options used when storing presets.

**Preset Filter:**

When this is 'On' then you can only store preset types in the correct preset. E.g. You can only store color values in a color preset. If this option is 'Off' then you can also store color values in a position preset. You can always store every kind of value in an "All" preset.

**Selective/Global/Universal:**

Creates preset for single fixtures, all of same fixturetypes, or all fixtures regardless of types.

**Allow Embedded:**

This will allow presets to be stored within other presets.

**Keep Activation:**

This will keep the active values in your programmer when you have stored the preset.

**Use Selection:**

This decides what values will be used when storing something.

**Active:**

This will store the active values.

**All for selected:**

This will store all attributes of the selected fixtures

**Active for selected:**

This will store only all active (red colored) attributes for the selected fixtures.

**All:**

This will store everything.

**If not Empty:**

This is options used when storing somewhere that isn't empty. If none of the below is selected, you'll get asked every time.

**Overwrite:**

Original content of object is removed and is replaced with new content.

**Merge:**

New content is merged with original content. New content takes precedence if overlapping with original content.

**Status Merge:**

Merges Programmer content and the tracking status of current cue of selected executor, into destination cue.

**Remove:**

New content is removed from original content.

**Release:**

Merges Programmer-content as Release-tags into destination Cue. A parameter with release-tag will relinquish control to other executors/default value, and is displayed in Tracking Sheet and Cue Editor with the value (R).

**Related Links**

- [Store Options pop-up](#)
- [Attribute Filter pop-up](#)

**Reference: Setup / User / Settings**

Here you can change the trackball and wheel mode, message box options and Speed mode.

You can enter this window by pressing the Setup key, the "User" tab followed by the "Settings" button.

This is what it could look like:



There are several different options here.

**Message Box on all screens:**

When this is 'On' the message boxes will appear on all screens.

**Default Colormode:**

There are two options here: RGB or CMY. This is used to select your default color system. If you mostly deal with RGB colors or CMY colors. You can change what sheets and encoders displays, but you should set this to your preferred system.

**Speed Mode:**

Pressing here opens the **Select Speed Mode pop-up**. Here you can set if the speeds should be in 'Hz', 'BPM' or 'Sec.'. Follow the link below to read more about the pop-up.

**Trackball Sequence:**

Pressing here opens the **Select Trackball Sequence pop-up**. Here you can set the order of the modes for the Trackball. Follow the link below to read more about the pop-up.

**Trackball Resolution:**

Pressing here opens the **Select Trackball Resolution pop-up**. Here you can set the resolution of the Trackball. The options are: 'Fine', 'Normal' or 'Coarse'. Follow the link below to read more about the pop-up.

**Trackball Rotation:**

Pressing here opens the **Trackball Rotation pop-up**. Here you can rotate the trackball to suit your needs. Follow the link below to read more about the pop-up.

**Wheel Mode:**

Pressing here opens the **Select Wheel Mode pop-up**. Here you can set the default mode for the Wheel. The options are: 'Additive', 'Incremental', 'Prop.+ ' or 'Prop.-'. Follow the link below to read more about the pop-up.

**Wheel Resolution:**

Pressing here opens the **Select Wheel Resolution pop-up**. Here you can set the resolution of the Wheel. The options are: 'Fine', 'Normal' or 'Coarse'. Follow the link below to read more about the pop-up.

**Channel Page Width:**

Pressing here opens the **Select Channel Page Width pop-up**. Here you can select the width of the channel pages. The options are: "Default", "Half Page" (15 faders) and "Full Page" (giving you 30 faders). This cannot add more faders to your console. If you only have 15 faders you don't get 30 - but you can scale down a FullSize). Follow the link below to read more about the pop-up.

**Dynamic Channel Page Shows Only Selected:**

When this is "on" then the console will only display the selected fixtures in 'Dynamic Channel Pages'.

**At Normal Percent:**

Here you can define what percent should be considered "At Normal". This is used when you press the **At** key twice.

**Single Digit Value**

All numeric cue value inputs below 10 will be multiplied by 10; e.g. channel 1 at 5 = channel 1 gets value 50.

**Max. Program Time:**

This is the maximum allowed Program time for the Program Time Special Master. Follow the link below to the **Encoder Toolbar** to read more about the Program Time.

**Max. Exec Time:**

This is the maximum allowed Executor time for the Executor Time Special Master. Follow the link below to the **Encoder Toolbar** to read more about the Exec Time.

**Special Fader Buttons:**

Here you can enable or disable the extra buttons above the 100mm faders. Follow the link called "Encoder toolbar" to read more about this function.

**Disable View Button and View CLI:**

With this option activated Views and Viewbuttons will not interact with the commandline anymore. E.g. Hitting the store button to store a group and realizing you have to change the View to get a group pool would not accidentally store a view anymore.

**Patch Column Readout is absolute DMX address:**

This will set your Patch columns to display the absolute DMX address instead of a universe and address split. E.g. with this on you'll see an address like "2.1" (universe.address) as "513".

### Related Links

- [Select Speed Mode](#)
- [Select Trackball Sequence](#)
- [Select Trackball Resolution](#)
- [Select Trackball Rotation](#)
- [Select Wheel Mode](#)
- [Select Wheel Resolution](#)
- [Select Channel Page Width](#)
- [Encoder Toolbar](#)

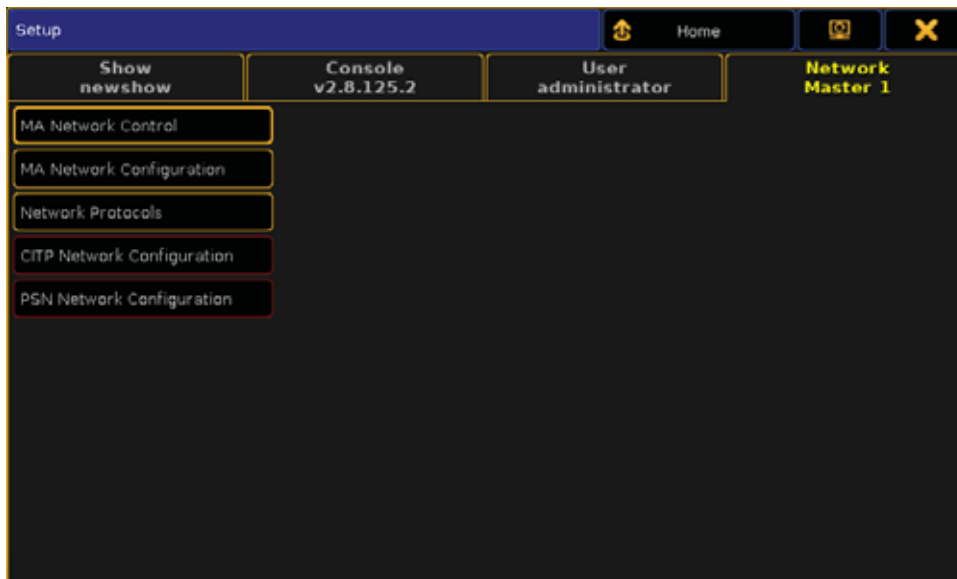


### Reference: Setup / Network

These settings all applies to each station according to IP, stored in show file.

You can access this menu by pressing the Setup key.

This is a picture of the menu:



There are several sub categories. Follow the links below to read more about them.

### Related Links

- [Setup Key](#)
- [Setup Keyword](#)



### Reference: Setup / Network / MA Network Control

This menu is used to create and join sessions and invite or dismissing other stations. To use the network together with other users, a session must be created. There is always one "master" and several "slaves" (connected).

This is what it could look like:



In the top bar (where you can close this menu), you can see this stations current status and session number. Below it you'll find two sections.

One is called "Sessions". This displays all the active Sessions and a group called "Unconnected" (This is the stations that isn't connected to any sessions).

In the "Sessions" section besides the Session ID, and Name you find two columns: "Master IP" and "Type". This is due to the fact that a NDP can also hold up a session, in that case as the status "Administrator". A Console can only be "Master" or "Connected".

#### Master IP

Shows the IP address of the Master / Administrator that controls the session. This can be a console or a NDP.

#### Type

Can be Console or NDP: If the session is controlled by a console, then it is a regular session. Is the Type a NDP session, then the session is without any console or onPC2 and only NDP's are in that session. This session is then used for the NDP's to spread their configuration data to the other NDP units. If a console joins a session that is marked as Type "NDP", then this console keeps its showfile, the NDP's don't transfer any showfile to the console. Only the consoles are merged into the **Network Configuration** settings.

Next to the "Sessions" section there's a section called "Stations". This is a list of Stations (Consoles and onPC's) in the Session you have selected in the sessions section. It displays the IP address, status, name, version and type.

Underneath all this you find the options for your station. This is also divided into session and station sections. These are the options in the Session part:

#### Session ID:

Here you can (before creating a session) choose a session ID number between 1 and 32. You cannot choose a number that's all ready in use.

#### Session Name:

This is the name of the session.

#### Session Password:

Here you can set a password for the session.

This is the options in the Station part:

#### Station IP:

Here you can change your stations ip address. When you do this (can only be done when your not in a session), it displays a pop-up giving you a warning that you need to reboot desk before the change is made. Follow the link below to read more about the pop-up.

#### Station Name:

Here you can change the name of your station (only when not in a session).A pop-up opens: new name ist activ after re-boot.

#### Station Priority:

Here you can set the priority of your station. When consoles has the same priority, the session creator becomes master. If a console with higher priority enter the session, this console gets the showfile and becomes master. "Never" means, this console never becomes master.

At the bottom of the screen you'll have seven buttons. They do the following:

#### Create Session:

This will crate a new session.

#### Join Session:

With this button you join the selected session. If you join "unconnected" then you leave any active sessions.

#### Leave Session:

With this you can leave the current session.

#### Invite Station:

With this button you can invite the selected station (if it allows it).

**Dismiss Station:**

With this button you can remove other stations from your session.

**Invite Enabled / Disabled:**

This button have two modes. When it's disabled your console can't be invited to other sessions.

**Autojoin Enabled / Disabled:**

This button have two modes. When this is disabled your console will not join or create a session on startup.

You can close the Network Control options by pressing the big yellow "X" in the upper right corner.

**Related Links**

- [Warning pop-up: IP change needs Reboot](#)
- [Tools Key](#)
- [Tools Keyword](#)
- [Networking Concept](#)
- [Multiuser Concept](#)

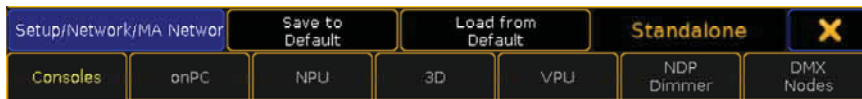
**Reference: Setup / Network / MA Network Configuration**

In the MA Network Configuration window you can add stations to your network and configure your DMX outputs and inputs in the network.

You can enter this section by pressing the **Setup** key, selecting the "Network" tab followed by a press on the "MA Network Configuration" button.

**The title bar.**

The title bar has several tabs. This is what it could look like:



The title of this menu tells you where you are in the setup menu. There are three buttons. Two of them allows you to store your current options as the default options and load the currently store options. The third one closes the MA Network Configuration.

Under this you will find 7 different tabs with the different sections of this menu. Read the following pages for details about them.

**The buttons at the bottom.**

At the bottom part you currently have two buttons. An "Add" button and a "Delete" button. With these you can add new stations (read the previous page) and delete stations by marking it (it gets a blue/white frame) and then pressing the delete button.

There are also up to 8 different buttons that allow you to do different things. The different special buttons are mentioned in the description of the different tabs. The three common buttons are mentioned here:

**Add Present:**

This is on all tabs. It will add the devices (defined by type) that are currently present.

**Remove Absent:**

This is on all tabs. It removes devices (defined by type) that are currently not present.

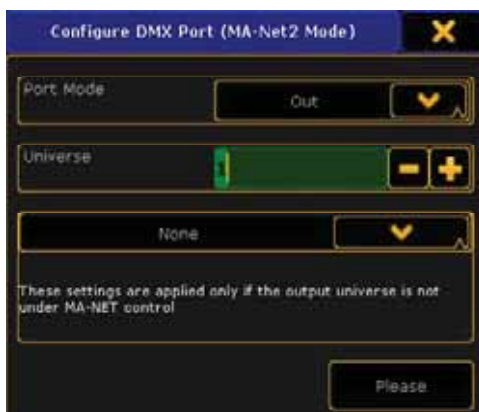
**Remove Non-Members:**

This is on all tabs. It removes devices (defined by type) that aren't members of your session.

**Configuring DMX ports**

This section has 6 tabs with different areas of the network.

In many of the tabs you have the option to change a DMX port in the network. When you right click on the cell with the port with your mouse (or press the **Edit** key followed by the cell) you get a pop-up like this:



Here you can select the port mode. It can be "In", "Out" or "Off". You can also choose what universe it should use. Merge mode might have an affect if the console is in standalone mode. There are four options here:

- None:  
There will be no merging.
- LTP:  
The universes will merge following the Latest Takes Precedence.
- HTP:  
The universes will merge following the Highest Takes Precedence.
- LoTP:  
The universes will merge following the Lowest Takes Precedence.

This decides how the output from the console will be affected by an incoming (merging) universe.

When in a network, the merging is controlled in the **DMX List** menu in the Live Patch. Follow the link below to read more about the DMX list.

### Adding a station to your network.

In all the sections (except console) you can add stations to the network. You do this by pressing the "Add" button on the screen or right clicking on the "New" label at the bottom of every section. When you do this you get the Select Station Pop-up. It could look like this:



Here you can select a station to add. You can see the Mac address, the IP address and the Name of the station.

Read the following pages for more information about the 6 different tabs.

### Related Links

- [DMX List menu](#)



### Reference: Setup / Network / MA Network Configuration / Consoles

In this section you can add consoles (NOT including grandMA2 onPC) to your network.

This is what it could look like:



At the main part of this window you can see a list of all the consoles in your network and what they output (or input) on their DMX ports.

Any lines with a green background on the IP cell are stations that are currently a member of the session. Red backgrounds are consoles not available to your session. A grey background shows consoles in your network, but not in your session.

The window has the following columns:

- IP:  
This is the IP address of the console. See above for a description of background colors.
- Name:  
This is the name of the console.
- Type:  
This tells you what kind of console it is (e.g. Fullsize, Light).
- XLR A to XLR F:  
Here you can set what universes the console should output or input from the (up to) 6 female XLR plugs in the back panel of the console.
- XLR In:  
This is the male XLR plug on the consoles back panel. Here you can set what universe the console should input or output.
- Version:  
This is the software version of the station. A red number tells you that the console doesn't have the same streaming version.
- Memory Complete/Free:  
This displays the complete and available memory.



## Reference: Setup / Network / MA Network Configuration / onPC

In this section you can add grandMA2 onPC's to your network.

This is what it could look like:



At the main part of this window you can see a list of all the onPCs in your network and what they output (or input) on their DMX ports.



You can only input DMX on Command wings "DMX in" and "DMX out A"

Any lines with a green background on the IP cell are stations that are currently a member of the session. Red backgrounds are onPCs not available to your session. A grey background shows onPCs in your network, but not in your session.

This window have the following columns:

- IP:  
This is the IP address of the computer. See above for a description of background colors.
- Name:  
This is the name of the computer.
- Type:  
This tells you that it's an onPC.
- XLR A to XLR D:  
Here you can set what universes the onPC Wings should output or input from the XLR plugs in the back of the wing.
- Version:  
This is the software version of the software. A red number tells you that the onPCs don't have the same streaming version.
- Memory Complete/Free:  
This displays the complete and available memory of the computer.



Each onPC is represented with three lines. The top line is the Command Wing (you can only connect one Command Wing). The next two lines is the Fader Wings. You can connect up to two Fader Wings. When you connect two Fader Wings you need to tell the system which one is Fader Wing 1 (the middle line) and which one is Fader Wing 2 (the bottom line).

This is done by pressing the **Identify Fader 1** button and then any key on that Fader Wing (within 10 seconds). And then repeat it with Fader Wing 2 (but pressing **Identify Fader 2**).



## Unit

### Reference: Setup / Network / MA Network Configuration / NPU Network Processing

In this section you can add MA NPU's (Network Processing Unit) to your network.

This is what it could look like:



At the main part of this window you can see a list of all the grandMA2 NPU's in your network and what they output on their DMX plugs.

The window has the following columns:

IP:

This is the IP address of the station.

Name:

This is the name of the NPU.

Session Member:

If this is "Yes", the station will be invited onto this stations current show.

XLR A to XLR H:

Here you can set what universes the NPU should output or input from the (up to) 8 female XLR plugs in the back panel of the NPU.

Version:

This is the software version of the station. A red number tells you that the console doesn't have the same streaming version.

Memory Complete/Free:

This displays the complete and available memory.



It's very important to know that, if a NPU is set to be a member of several sessions in a network, It will connect to the session that reaches the NPU first!! If that session is then closed - Then the NPU will connect to the next session it finds on the network, possibly creating a very different DMX output!

## Related Links

- [Guide - NPU pages](#)



### Reference: Setup / Network / MA Network Configuration / 3D

In this section you can add grandMA 3D to your network.

This is what it could look like:



At the main part of this window you can see a list of all the Visualizers in your network and what user they follow.

The window has the following columns:

IP:

This is the IP address of the grandMA 3D computer.

Session Member:

If this is "Yes", then the station will be invited onto this devices current session.

User:

Here you can set what user the 3D should follow (cameras and blind).

Version:

This displays the software version. If the number is red then the 3D have a different streaming version.

Memory Complete/Free:

The displays the complete and available memory of the 3D computer.



## Reference: Setup / Network / MA Network Configuration / VPU

In this section you can add MA VPU's (Video Processing Unit) to your network.

This is what it could look like:



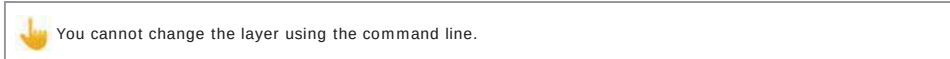
At the main part of this window you can see a list of all the VPU's in your network.

The window has the following columns:

IP:

This is the IP address of the MA VPU.

- Name:**  
This is the name of the MA VPU.
- Session Member:**  
If this is "Yes", the MA VPU will be invited onto this consoles current show.
- Layer:**  
Here you can select the Layer for the MA VPU's - this tells the VPU what setup to use.
- Content:**  
This will open the **small select Content pop-up**. Here you can select if the VPU is "Distributor" or "Receiver". A Distributor will distribute content to the Receivers.
- Backup VPU:**  
When there's a "Yes" in this column, then the VPU is a backup VPU for other VPU's.
- Version:**  
This displays the VPU software version.
- Memory:**  
This displays the Complete and Free amount of memory.



At the bottom you have several special buttons for the video section and some common ones:

- Add:**  
This will add a MA VPU to your list.
- Delete:**  
This will delete highlighted line in your VPU list.
- Add Preset:**  
Pressing this button will add all the VPU's currently in your network.
- Remove Absent:**  
Pressing this button will remove any VPU that's not in your network (red background color).
- Remove Non-Member:**  
Pressing this button will remove any VPU's that isn't a part of your session.
- Edit:**  
This allows you to edit some of the VPU options. Read more about it on the following subpages.
- Backup Manager:**  
If you have a backup VPU then pressing this allows you to configure VPU backup. Read more about it on the following subpages.
- Content Distribution:**  
Content distribution is used to manage how to transfer content from one source to all the VPU's in your network. That way you don't need to have physical access to all VPU's. Read more about it on the following subpages.
- Global VPU Settings**  
With this pop-up you can edit the global VPU settings.

### Related Links

- [Select Content](#)



### Reference: Setup / Network / MA Network Configuration / Video / Edit

Here you can change a lot of the settings in the grandMA VPU.

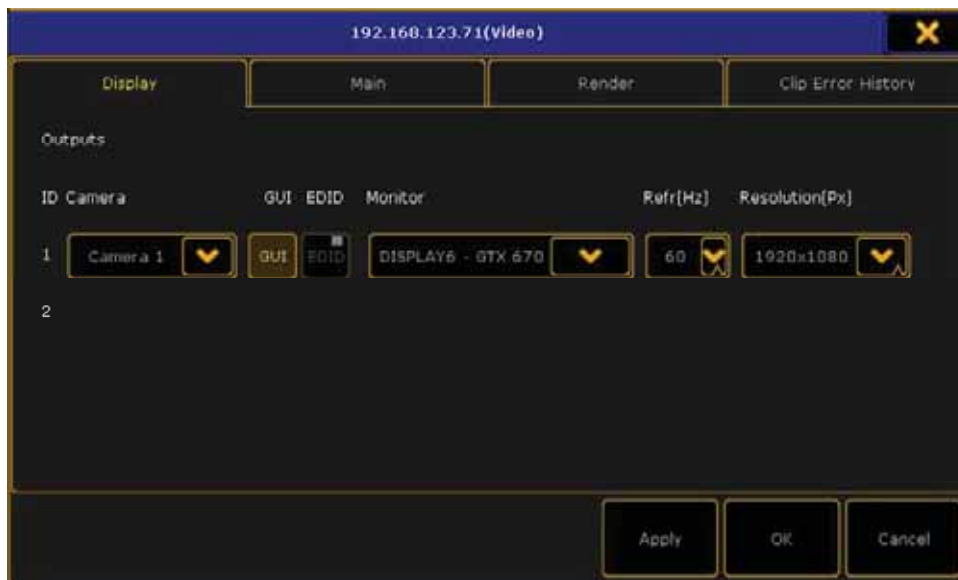
You can access this window by pressing the "Edit" button in the Video tab in the **Setup ➔ Network ➔ MA Network Configuration**.

There are four different tabs. They give you access to different areas of the VPU. Read the next sections for a short description of each area.

For a full description you should go to the grandMA VPU manual:  
[http://help.malighting.com/view/?map=map/Map\\_FullContent\\_Video.xml](http://help.malighting.com/view/?map=map/Map_FullContent_Video.xml)

### Display.

This is what it could look like:



There are several settings here that can be changed:

**Camera:**

Here you can select the camera for the output.

**GUI:**

This can only be active for one output. When this is turned on (yellow text), then the Graphic User Interface is active on that screen.

**EDID:**

Here you can see if EDID is turned on (yellow text) or off.

**Monitor:**

Here you can select the monitor for the output.

**Refresh rate:**

Here you can change the refresh rate for the output.

**Resolution:**

Here you can change the resolution for the output.

When you have changed something you can apply the change without closing the window by pressing the "Apply" button. If you are happy with your settings you can apply then and close the window by pressing the "OK" button. If you want to close the window without changing anything you can press the "Cancel" button or the "X" in the upper right corner.

**Main.**

This is what it could look like:



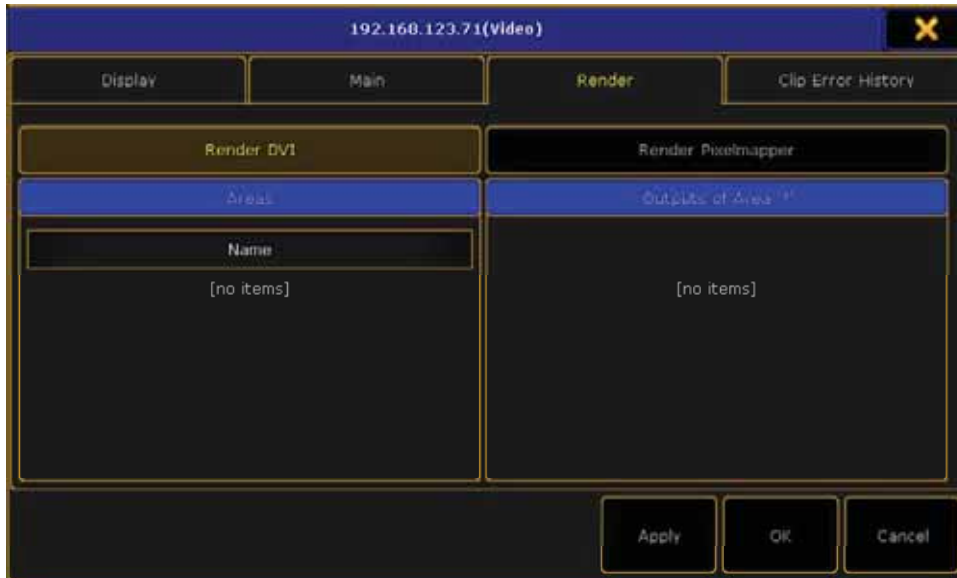
For a full description of the different functions, you should go to the grandMA VPU manual:

[http://help.malighting.com/view/?map=map/Map\\_FullContent\\_Video.xml](http://help.malighting.com/view/?map=map/Map_FullContent_Video.xml)

When you have changed something you can apply the change without closing the window by pressing the "Apply" button. If you are happy with your settings you can apply then and close the window by pressing the "OK" button. If you want to close the window without changing anything you can press the "Cancel" button or the "X" in the upper right corner.

**Render.**

This is what it could look like:

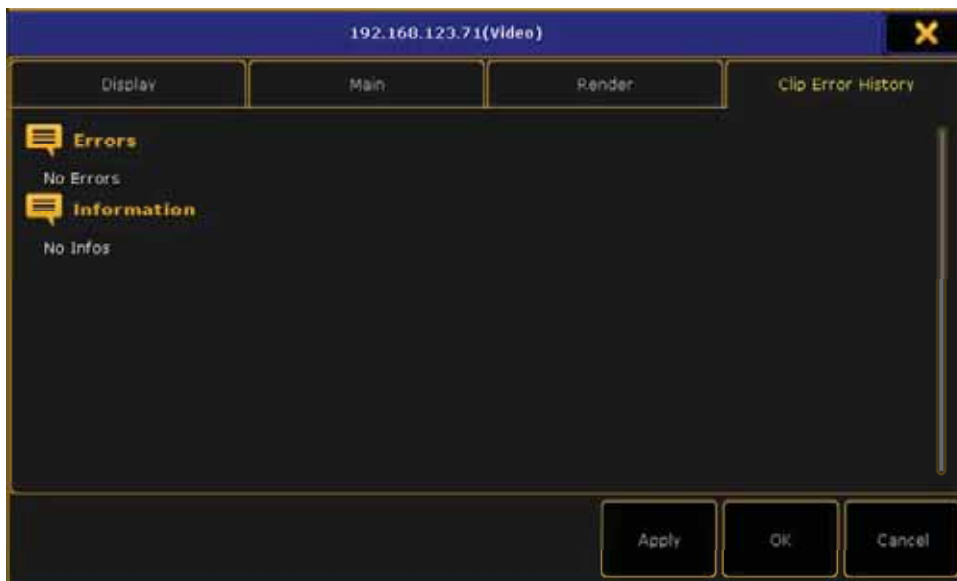


For a full description of the different functions, you should go to the grandMA VPU manual:  
[http://help.malighting.com/view/?map=map/Map\\_FullContent\\_Video.xml](http://help.malighting.com/view/?map=map/Map_FullContent_Video.xml)

When you have changed something you can apply the change without closing the window by pressing the "Apply" button. If you are happy with your settings you can apply then and close the window by pressing the "OK" button. If you want to close the window without changing anything you can press the "Cancel" button or the "X" in the upper right corner.

**Clip Error History.**

This is what it could look like:



For a full description of the different functions, you should go to the grandMA VPU manual:  
[http://help.malighting.com/view/?map=map/Map\\_FullContent\\_Video.xml](http://help.malighting.com/view/?map=map/Map_FullContent_Video.xml)

When you have changed something you can apply the change without closing the window by pressing the "Apply" button. If you are happy with your settings you can apply then and close the window by pressing the "OK" button. If you want to close the window without changing anything you can press the "Cancel" button or the "X" in the upper right corner.

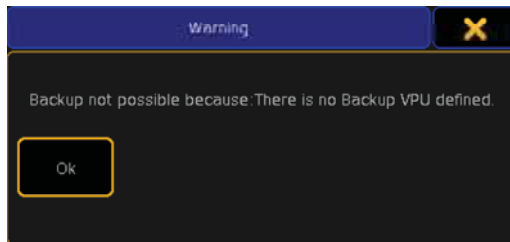
**Reference: Setup / Network / MA Network Configuration / Video / Backup Manager**

This is used to assign backup VPU's to their masters.

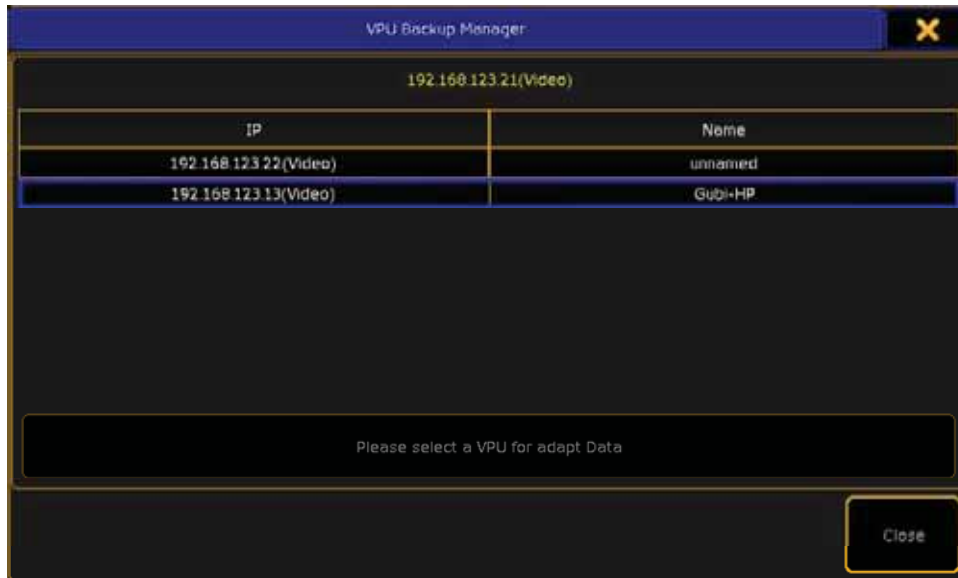
You can access this window by pressing the "Backup Manager" button in the Video tab in the **Setup → Network → MA Network Configuration**.

This window is used to assign master VPU's to backup VPU's. It's also used to transfer the data from the source VPU to the backup VPU.

If none of the VPU's are back you get this warning:



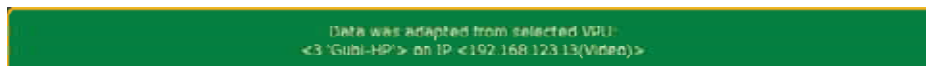
If on the other hand you have a VPU as a backup, you get a window like this:



If there's several VPU's as backup, the top will display a tab with each one of them. Here you can select one of the other VPU's as a backup source. When you select one of the VPU's, the big button below the list changes to this:



If you press this button, you change the settings on the backup VPU. The button changes to this:



Now the backup VPU have the same settings as the source VPU.

You can close the window by pressing the "Close" button or the "X" in the upper right corner.

Please read the VPU manual for details about the grandMA VPU.

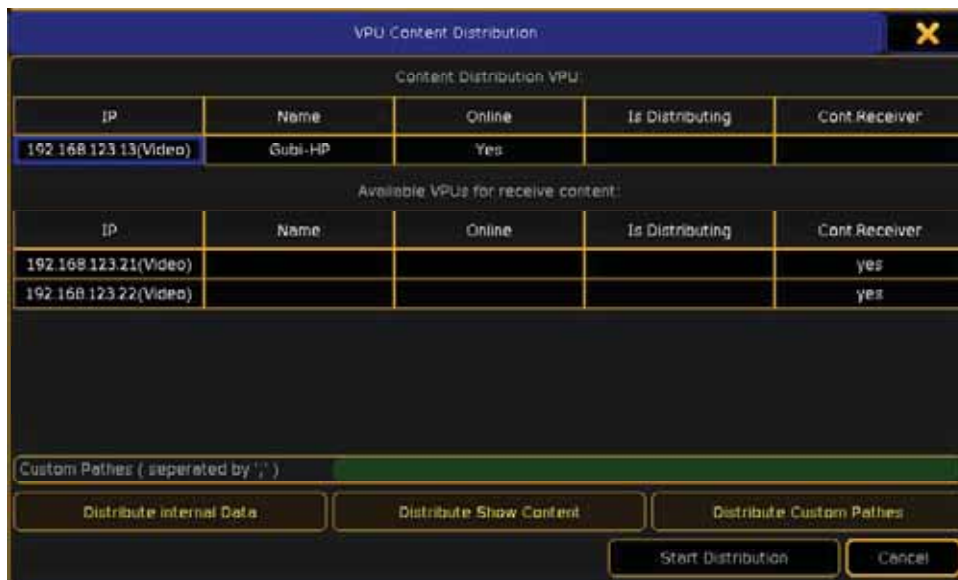


## **Reference: Setup / Network / MA Network Configuration / Video / Content Distribution**

Here you can manage content distribution.

You can access this window by pressing the "Content Distribution" button in the Video tab in the **Setup ➔ Network ➔ MA Network Configuration**.

The window can look like this:



There are three different parts of this window.

The top part is the VPU that is set to distribute content.

Below this are the VPU's that are set to receive content.

And at the bottom, you'll find different settings regarding the distribution. Please read the grandMA VPU manual for details about content distribution.

You can upload the content by pressing the "Start Distribution" button.

You can close the window without making any changes by pressing the "Cancel" or the "X" in the upper right corner.

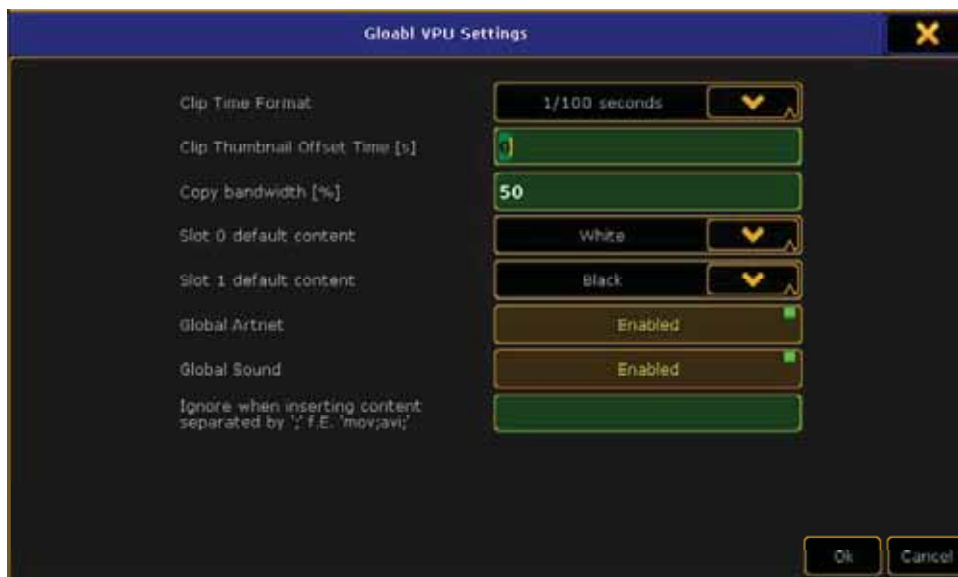


## Reference: Setup / Network / MA Network Configuration / Video / Global VPU Settings

Here you can change the Clip Time Format and the Clip Thumbnail Offset Time.

You can access this window by pressing the "Global VPU Settings" button in the Video tab in the **Setup → Network → MA Network Configuration**.

The window could look like this:



There are several settings you can change here.

[Please read the VPU manual for details about the settings.](#)

Press the "OK" button to confirm your changes. Press the "Cancel" or the "X" in the upper right corner to close the window without any changes.



## Reference: Setup / Network / MA Network Configuration / NDP Network Dimmer Processor

In this section you can add NDP's (Network Dimmer Processor) to your network.

This is what it could look like:

| Setup/Network/MA Network Configuration                                                                                                                                     |         |         |                |             |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|----------------|-------------|---------|
| <div> <div>Save to Default</div> <div>Load from Default</div> <div>X</div> </div>                                                                                          |         |         |                |             |         |
| <div> <div>Consoles</div> <div>NPJ Network...</div> <div>Visualizer</div> <div>Video</div> <div>NDP Network...</div> <div>2Port</div> </div>                               |         |         |                |             |         |
| + IP                                                                                                                                                                       | Name    | Session | Session Member | Rack Number | Version |
| 192.168.0.112                                                                                                                                                              | NDP_112 | None    | Yes            | 6           |         |
| 192.168.0.113                                                                                                                                                              | NDP_113 | 5       | Yes            | 1           | 2.10.11 |
| 192.168.0.114                                                                                                                                                              | NDP_114 | 5       | Yes            | 1           | 2.10.11 |
| 192.168.0.115                                                                                                                                                              | NDP_115 | 5       | Yes            | 2           | 2.10.11 |
| 192.168.0.116                                                                                                                                                              | NDP_116 | 5       | Yes            | 2           | 2.10.11 |
| New                                                                                                                                                                        |         |         |                |             |         |
| <div> <div>Add</div> <div>Delete</div> <div></div> <div></div> <div></div> <div></div> <div>Add Present</div> <div>Remove Absent</div> <div>Remove Non-Member</div> </div> |         |         |                |             |         |

At the main part of this window you can see a list of all the NDP's in your network and what session they connect to.

To change values here, press **Edit** and click on the corresponding field to change it. Only cells with a green / grey background can be changed. Cells that have a black background can only be viewed.

- A line does turn green in case a NDP is online and is in the session with the console / onPC2 you are currently using.
- A line does turn grey if the NDP is not online or in the session

The window has the following columns:

IP:

This is the IP address of the station. If a NDP is connected to your session and you change the IP address here, you change the IP in the NDP as well. Opposite to all other dialogues in **Setup → Network Configuration** this does have an effect on the to be controlled unit. In the other menus this does only try to address a different machine with a different IP address without changing any configuration data on that machine

Name:

This is the name of the **NDP** station.

Session:

This displays the current **Session ID**. It does display "none" if the NDP is in no session with any other NDP or console.

Session Member:

If this is "On" the station will be invited onto this stations current show.

Rack Number:

This will indicate the rack number the NDP is controlling. If two NDPs are set to the same Rack ID, this will indicate that they are working as a backup pair.

Version:

Here you can see what software version the NDP's have.



NDPs do carry their own configuration, so when starting to enter values here before the NDP is in session with the console you are using, the NDP will overwrite the information with his local values again when he joins. Do only change values here when the NDP is in session with your console (line is green).

### Related Links

- [Setup / Network / MA Network Control](#)
- [MA Dimmer Network](#)
- [grandMA NDP Tutorial](#)



## Reference: Setup / Network / MA Network Configuration / DMX Nodes

In this section you can add 2 Port Nodes, 4 Port Nodes, 8 Port Nodes and NSP's (4 Port Node) to your network.

This is what it could look like:





At the main part of this window you can see a list of all the Nodes in your network, their options and what they output or input on their DMX plugs.

The window has the following columns:

- IP:  
This is the IP address of the station.
- Name:  
This is the name of the node.
- Mode:  
This tells you what mode the node is running. It can be "MA-Net1"(for use with grandMA series1), "MA-Net2", "Art-Net" or "sACN" .
- Session ID:  
Here you can set what session number the node should connect and listen to.
- Type:  
This tells you what type your nodes are.
- XLR A and B:  
These two ports are available when using Nodes and NSP's (Network Processing Unit) as a DMX node.
- XLR C and D:  
These two ports are only available when using a 4 Port node and NSP (Network Processing Unit) as a node. The NSP can only use the XLR C and D as a DMX input.
- Light Mode:  
Here you can select what should be affected by the "Light Intensity". There are four options: Dark, LED's, Display and LED+Display.
- Light Intensity:  
Here you can set the level (between 0 and 15) of intensity on the LED's and/or the Display (according to your selection in "Light Mode").
- Firmware:  
This is the firmware version of the nodes. If this number is red then the software is not the same as the console.

Below this you'll see the Node firmware version corresponding to your software.

There are two special buttons just for the DMX Nodes section. They are called: "Identify" and "2Port SW Update".

Pressing the "Identify" button will make the screen on the DMX Node blink (doesn't work for NSP).

Pressing the "2Port SW Update" button will update the software on the 2Port node you have selected (doesn't work for 4 Port Nodes, 8 Port Nodes and NSP).



### Reference: Setup / Network / DMX Protocols

This for outputting DMX over network.

There are currently 6 different protocols available.



Ethernet-output are transmitted by the session-master, which means that you need to start a session to output any network protocols.



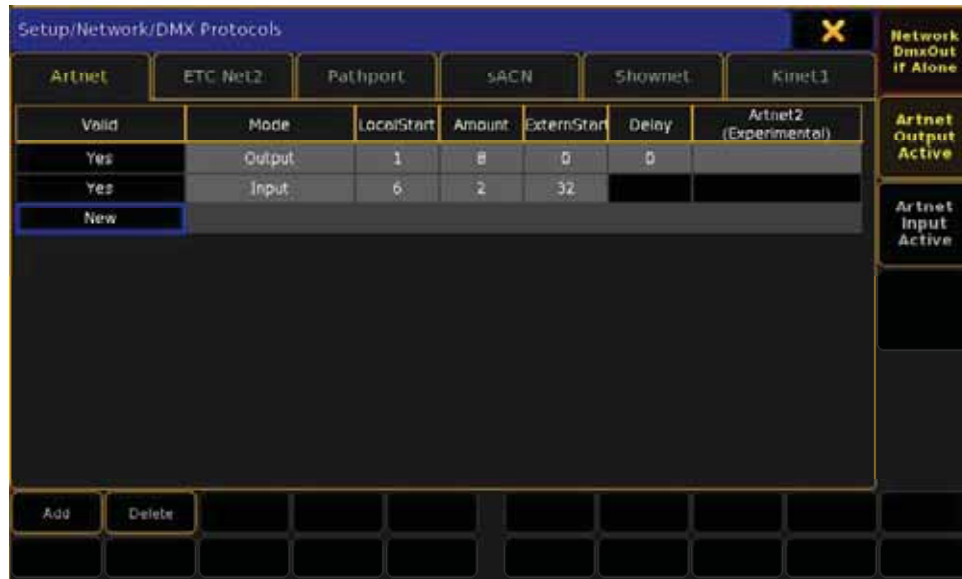
### Reference: Setup / Network / DMX Protocols/ ArtNet

The grandMA2 can receive / output DMX via Art-Net.



ArtNet is outputted from Ethernet connector 2.

This is what the window could look like:



Art-Net is a public protocol for transporting DMX via Ethernet.

On the right side of the ArtNet options there's three buttons:

Network DmxOut if Alone:

When this is active (the text is yellow), then the console will output DMX via the network. All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX (via ArtNet). If the frame is green then this console outputs network DMX (via ArtNet).

Artnet Output Active:

When this is on (the text is yellow), then you can output ArtNet.

Artnet Input Active:

When this is on (the text is yellow), then you can input ArtNet.

You can add lines in the ArtNet window. Every MA universe can only have one ArtNet universe assigned.

There several options for each line:

Valid:

This option can't be changed, but it tells you if the line is valid and will provide output or input.

Mode:

This is used to change between the output and input.

Local Start:

This is the first DMX universe to transmit.

Amount:

This sets the number of DMX universes to transmit.

Extern Start:

This will shift the transmitted universe number. E.g. if you set it to (decimal) 15 it will send your first universe to Art-Net 0:F. Set it to 16 and you got Art-Net 1:0. This is currently the only way to set this address. Follow the link below for a table that compare Decimal address til ArtNet address.

Delay:

This is the milliseconds between packets. Only for ArtNet output.

Artnet2:

Only for ArtNet output. Art-Net II was introduced 2009. There are currently no support for ArtPoll.

Art-Net is a royalty free protocol developed by Artistic Licence (<http://www.artisticlicence.com>).

## Related Links

- [Decimal - ArtNet \(Hex\) Table](#)

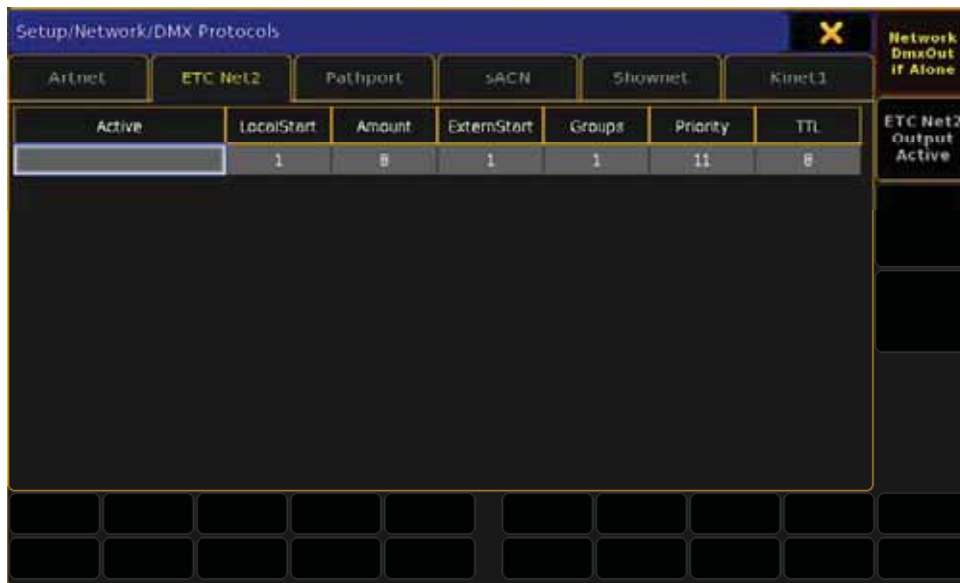


## Reference: Setup / Network / DMX Protocols / ETC Net2

This is used to transmit DMX using ETCNet2.

! ETC-Net2 is outputted from Ethernet connector 1.

This is what it could look like:



On the right side you'll find two buttons. The top one is called "Network DmxOut if Alone". This toggles the network output if the console isn't in a network.

When this is active (the text is yellow), then the console will output DMX via the network. All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX. If the frame is green then this console outputs network DMX.

All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This is toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX. If the frame is green then this console outputs network DMX.

The other button turns ETC Net2 output on or off.

There are several options:

**Active:**

This is an 'On'/'Off' option. When 'On' the console will transmit ETCNet2. When it's "off" it's hidden. This can also be toggled by the button on the right side.

**Local Start:**

This is the first DMX universe to transmit.

**Amount:**

This sets the number of DMX universes to transmit.

**Extern Start:**

This will shift the transmitted universe number.

**Groups:**

ETCNet2 uses multicast groups to simplify and optimise the transmission. Here you can select what group to transmit to.

**Priority:**

Priority is used in ETCNet2. It decides who a node should listen to in a conflict. The lowest number has the highest priority.

**TTL (Time To live):**

Specifies the number of routers (hops) that multicast traffic is permitted to pass through before expiring on the network. For each router (hop), the original specified TTL is decremented by one (1). When its TTL reaches a value of zero (0), each multicast datagram expires and is no longer forwarded through the network to other subnets.

ETCNet2 is developed by ETC (Electronic Theatre Control - <http://www.etcconnect.com>). It was introduced in 1997.

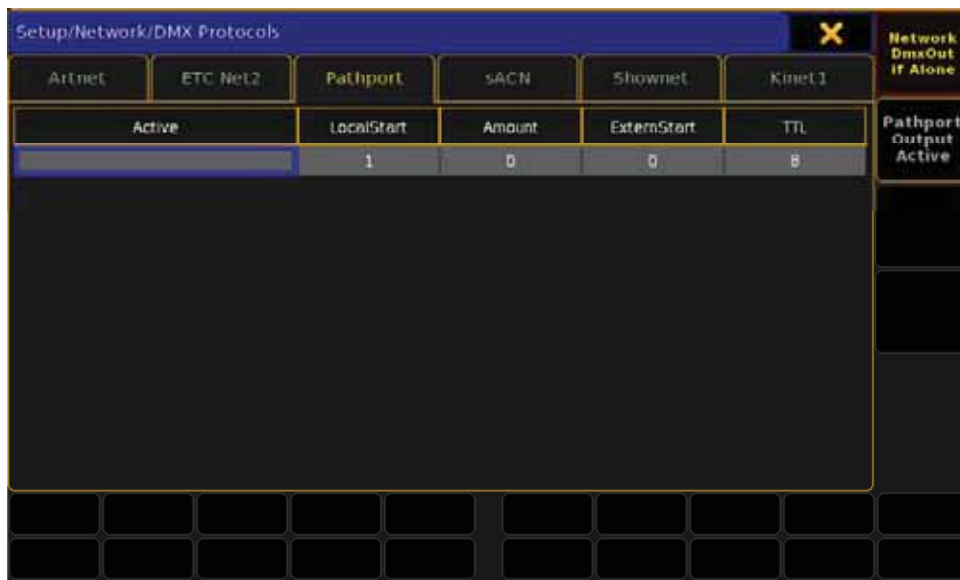


## Reference: Setup / Network / DMX Protocols / Pathport

You can transmit DMX using the Pathport protocol using your grandMA.

! Pathport is outputted from Ethernet connector 1.

This is what it could look like:



On the right side you'll find two buttons. The top one is called "Network DmxOut if Alone". This toggles the network output if the console isn't in a network.

When this is active (the text is yellow), then the console will output DMX via the network. All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX. If the frame is green then this console outputs network DMX.

The other button turns Pathport output on or off.

There are several options:

Active:

This is an 'On'/'Off' option. When 'On' the console will transmit Pathport. When it's "off" it's hidden. This can also be toggled by the button on the right side.

Local Start:

This is the first DMX universe to transmit.

Amount:

This sets the number of DMX universes to transmit.

Extern Start:

This will shift the transmitted universe number.

Priority:

Priority is used in Strand Shownet. It decides who a node should listen to in a conflict.

Pathport is created by Pathway Connectivity (<http://http://www.pathwayconnect.com>).



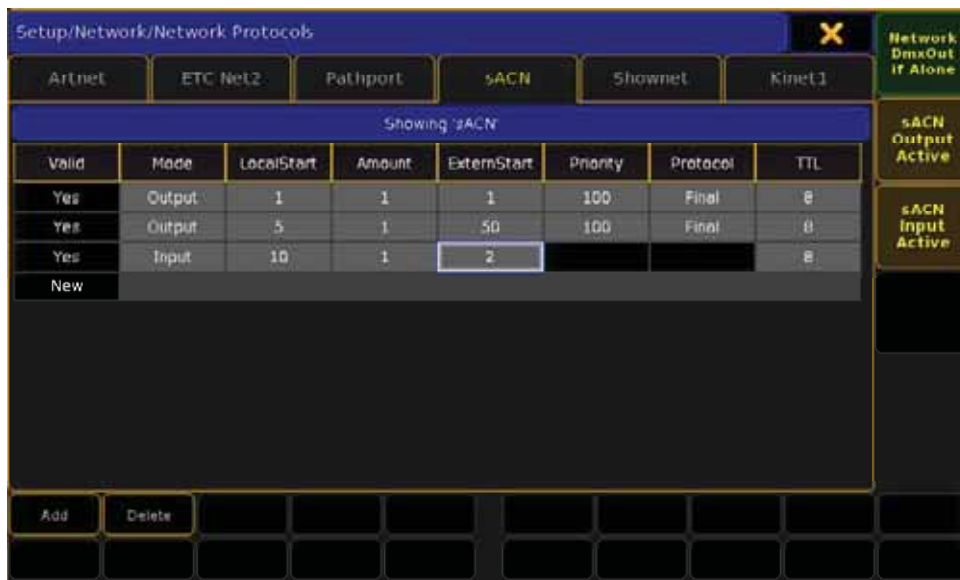
## Reference: Setup / Network / DMX Protocols / Streaming ACN

This is used to transmit and receive DMX using streaming ACN.



sACN is outputted from Ethernet connector 1.

This is what it could look like:



On the right side you'll find three buttons. The top one is called "Network DmxOut if Alone". This toggles the network output if the console isn't in a network.

When this is active (the text is yellow), then the console will output DMX via the network. All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX. If the frame is green then this console outputs network DMX.

The other button turns sACN output on or off. The last one activates sACN input.

There are several options:

Valid:

This displays a "Yes" if the line is valid.

Mode:

This allows you to toggle between "output" and "input". This decides if the line is received or transmitted.

Local Start:

This is the first DMX universe from the console to transmit or the universe in the console to receive.

Amount:

This sets the number of DMX universes to transmit. If the line is an Input, then you can only select a "1" here.

Extern Start:

This is the transmitted or received universe number.

Priority:

Priority is used in streaming ACN. It decides who a node should listen to in a conflict. The allowed value is 0 to 200. The highest number has the highest priority.

Protocol:

Here you can select between two different sACN protocols. You can choose the "Draft" or "Final" release of the sACN protocol. Some equipment have implemented the draft version of sACN before the final release.

TTL (Time To live):

Specifies the number of routers (hops) that multicast traffic is permitted to pass through before expiring on the network. For each router (hop), the original specified TTL is decremented by one (1). When its TTL reaches a value of zero (0), each multicast datagram expires and is no longer forwarded through the network to other subnets.

ACN (Architecture for Control Networks) is suite protocol. It uses a lot of element that is currently not supported by grandMA. But the ACN protocols also have a lighter version. It's called 'Lightweight streaming protocol for transport of DMX512 using ACN' or more popular "streaming ACN" or "sACN".

ACN (and Streaming ACN) is an ANSI/ESTA international standard. Further readings:

[http://en.wikipedia.org/wiki/Architecture\\_for\\_control\\_networks](http://en.wikipedia.org/wiki/Architecture_for_control_networks)



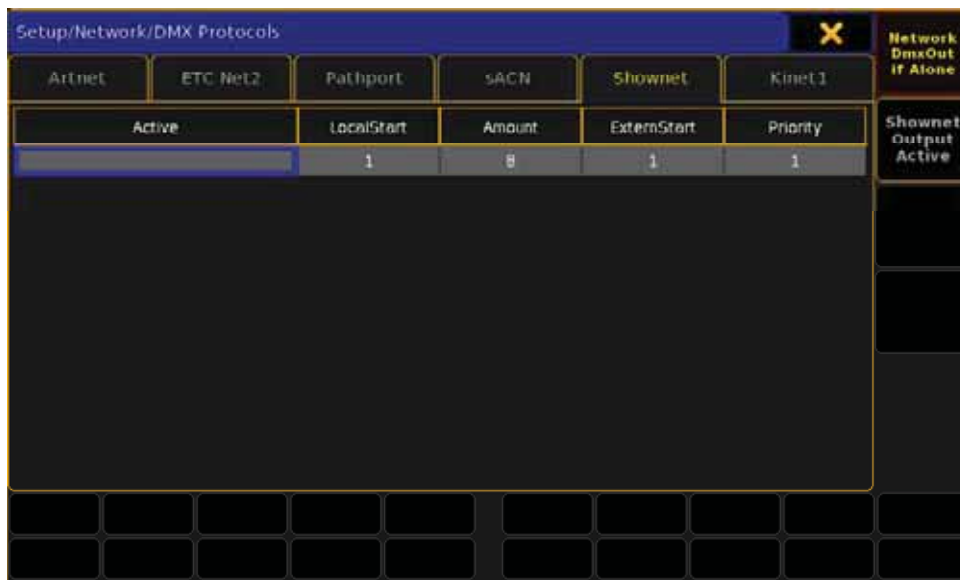
## Reference: Setup / Network / DMX Protocols / Strand Shownet

Strand Shownet was the first Ethernet protocol to transport DMX. You can transmit Strand Shownet using your grandMA.



Shownet is outputted from Ethernet connector 1.

This is what it could look like:



On the right side you'll find two buttons. The top one is called "Network DmxOut if Alone". This toggles the network output if the console isn't in a network.

When this is active (the text is yellow), then the console will output DMX via the network. All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX. If the frame is green then this console outputs network DMX.

The other button turns Shownet output on or off.

There are several options:

Active:

This is an 'On'/'Off' option. When 'On' the console will transmit Strand Shownet. When it's "off" it's hidden. This can also be toggled by the button on the right side.

Local Start:

This is the first DMX universe to transmit.

Amount:

This sets the number of DMX universes to transmit.

Extern Start:

This will shift the transmitted universe number.

Priority:

Priority is used in Strand Shownet. It decides who a node should listen to in a conflict.

Strand Shownet is created by Strand Lighting (<http://www.strandlighting.com>)



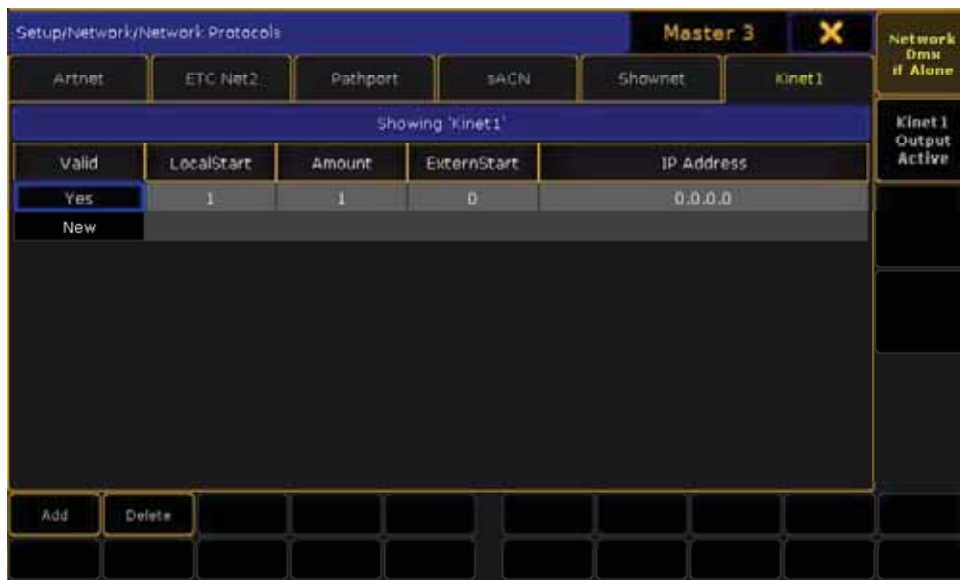
## Reference: Setup / Network / DMX Protocols / Kinet1

This is used to transmit DMX using the Kinet1 protocol used by Color Kinetics products.



Kinet-1 is outputted from Ethernet connector 1.

This is what it could look like:



On the right side you'll find two buttons. The top one is called "Network DmxOut if Alone". This toggles the network output if the console isn't in a network.

When this is active (the text is yellow), then the console will output DMX via the network. All network protocol is only sent from the master in a session. If there's no slave consoles you need to turn this on to output network DMX. This toggles all network DMX outputs. If the frame is red, then this console doesn't output network DMX. If the frame is green then this console outputs network DMX.

The other button turns Kinet1 output on or off.

There are several options:

Valid:

There will be a "Yes" for each line that is a valid line.

Active:

This is an 'On'/'Off' option. When 'On' the console will transmit Kinet1. When it's "off" it's hidden. This can also be toggled by the button on the right side.

Local Start:

This is the first DMX universe to transmit.

Amount:

This sets the number of DMX universes to transmit.

Extern Start:

This will shift the transmitted universe number.

Kinet1 is developed by Philips Color Kinetic (<http://www.colorkinetics.com/>).



## Reference: Setup / Network / CITP Network Control

Here you can setup the CITP Network

CITP/MSEX protocols are used to transfer information between consoles, media server and visualizers. In this first implementation on grandMA, it's used to transfer thumbnail pictures of media files from a media server to the console. This puts the thumbnails in the smart view and in the calculator pop-up.

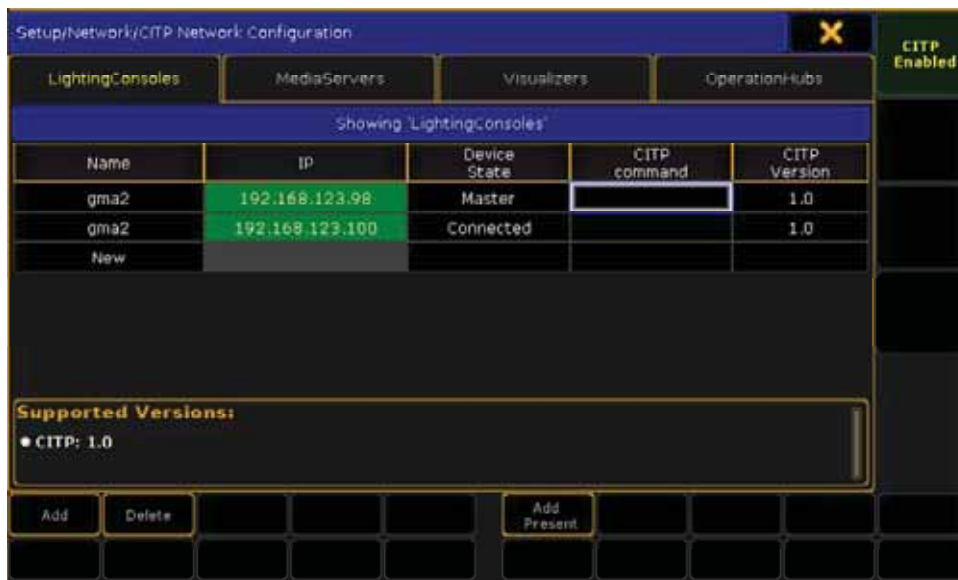
The CITP Enabled button in the upper right corner will enable the CITP protocol on all consoles in your session.

The configuration have four tabs. Only one of them (Media Servers) is actually active right now.

### Lighting Console tab

This is only for informational purpose.

This is what it could look like:

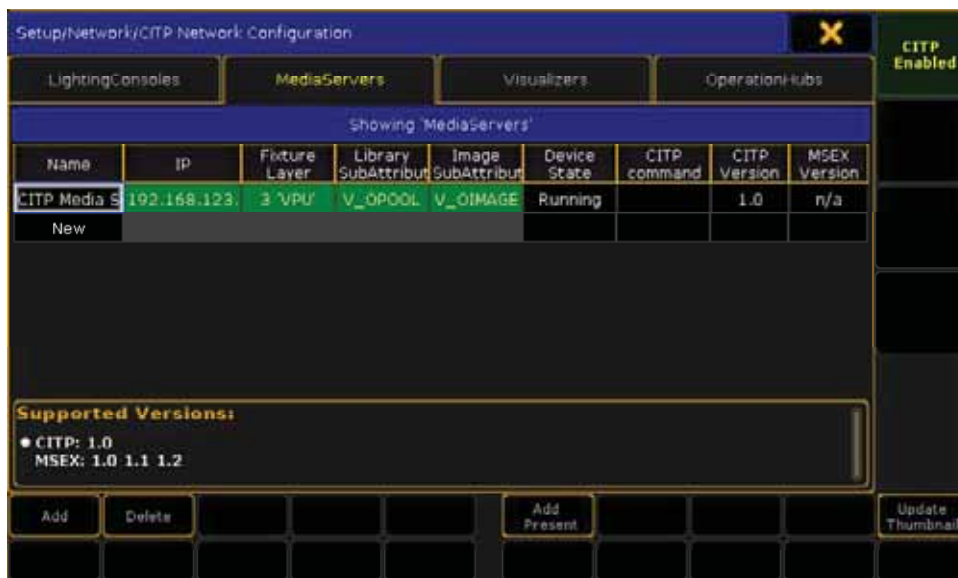


This displays the lighting consoles in your network that have CITP enabled.

When you press **Add Preset** it populates the list with possible consoles.

### Media Server tab

This is what it could look like:



Here you add the 3rd party media servers. Press the **Add** button to manually add a media server. Or you can use **Add Preset** to automatically add all the Media Server in your network (the ones using CITP).

The **Delete** button deletes the highlighted line.

If the line have a red background then the server isn't present or it have CITP disabled.

A green background indicates an active media server.

You need to specify the Fixture Layer and have a fixture setup here that matches the Media Server.

If the library and image subattributes isn't automatically recognized by the system, then you need to manually select the Library and Image SubAttribute.

The Media Server will provide information like the server "Name", "Device State", "CIP command", "CIP Version" and "MSEX Version".

When all is set up correctly then you can press the **Update Thumbnails** button. This will start the transfer of the thumbnails to the wheels in the console. This might take a while and there will be a progress bar in the "CIP Command" cell.

### Visualizer tab

This part isn't implemented yet.

This is what it could look like:





### Operation Hubs tab

This part isn't implemented yet.

This is what it could look like:



### Reference: Backup Menu

This is where you can save and load your shows.

Pressing the **Backup** key (or writing it in the command line) gives you access to the Backup Menu. This is what it looks like:



In the title bar of this menu you have the option to close this menu and you can move the menu between screen 1 and 2.

### The main part.

In the main part of this menu you can have several tabs. There's always 'Internal' (the harddrive) and 'Demoshows'. 'Internal' is the harddrive in the desk. 'Demoshows' is also placed in the harddrive, but they are "read only" show files. They will typically provide you with a basic setup and patch.

Other tabs will represent plugged in USB memory sticks and older showfiles. USB sticks function like the harddrive but with the option to use "ASCII show read". Tabs representing older software versions only allow you to load and delete shows.

They all have the same buttons, but some might not be available to you. These are the options:

#### New Show:

This gives you the **New Show pop-up**. Here you can create a new show. Read more about it by following the link below.

#### Load Show:

When pressing this button you'll get the **Load Show pop-up**. Here you'll get a list of previous store shows. Read about it by following the link below.

#### Partial Show Read Initialize:

Pressing here gives you the **Load for PSR** pop-up. When you have selected a show you get the **Partial Show Read Prepare** pop-up. Here you can select the patch and prepare the Partial Show Read. Follow the links below to read more about the pop-ups.

#### Partial Show Read:

This will give you the **Partial Show Read** pop-up.

#### Save Show:

With this you save your current show (with the same name).

#### Save Show As:

This gives you a pop-up asking for a new name.

#### Delete show:

This gives you the **Delete Show Pop-up** where you can browse the library and choose the show to delete. Follow the link below to read more about delete show.

#### Ascii Show Read:

This will give you the option to import an ASCII show file. This is currently only implemented for ASCII show files from Strand Genius light consoles.

### Backup Options

In the backup options you can set a "Server Backup", Pressing this gives you the **File Server Configuration** pop-up. With this you create a new tab in the top of this window. This allows you to store, load, etc. shows from an external server.

"Quick Save" isn't implemented yet.

Option "Auto Save": Pressing this button will set a time interval between an automatic save of the current show. If this is 'on' then it will present you with a count down to the next save. Shows are saved on all stations in the network, but only when show was modified.

### Related Links

- [New Show Pop-up](#)
- [Load Show Pop-up](#)
- [Delete Show Pop-up](#)
- [Load for PSR Pop-up](#)
- [Partial Show Read Prepare Pop-up](#)
- [Partial Show Read Pop-up](#)
- [Backup Key](#)
- [Backup Keyword](#)
- [Backup Concept](#)



### Reference: Off Menu

The Off Menu can be used to turn off active executors, macros, timecode shows, etc.

You can access this menu by pressing the  key twice. This is what it could look like:



In the top bar you will find two buttons. One of them can be used to move this menu to different screens. The other one closes the menu.

The different tabs represent different types of executors including macros and timecode shows. There's also a tab for "all" types.

You can turn off active executors by pressing on them.

You can also use the U1 to U4 keys to turn off different sections.

- U1 - Off Pool Playbacks  
This turns off all playbacks from all pools.
- U2 - Off All Buttons  
This turns off all button executors.
- U3 - Off All Faders  
This turns off all fader executors.
- U4 - Everything Off  
This turns off everything.

You can use the "X" keys to turn off all executors in each category.

When the "Only My Playbacks" button is active (the text is yellow), you only turn off the executors you have started (or other using your User Profile).

"Preview Playback" displays everything you have active in the preview executors.

When the "Freeze Off Menu" button is active (the text is yellow), the executor is still turned off, but the row stays.

## Related Links

- [Off Key](#)
- [U1 - U4 Key](#)
- [X1 - X20 Key](#)



## Reference: Assign Menu

The Assign Menu is used to edit the properties of executors.

You access the Assign Menu by pressing the **Assign** key and then one of the executor buttons.

The Assign Menu has two different windows. One is the "Function" window and the other is the "Options" window. You can change between the two by pressing the **U1** and **U2** keys, or where it says "Function" and "options".

### The Function Window

This is an example of the function window:



A lot is going on in this window.

The top bar is telling you that you are in the assign menu, what executor you are assigning something to (in the example above it's executor 1 on page 2 and pool 1) and what's already (if anything) assigned to it (in the example it's "The Gold Watch").

There are also five buttons in the top bar. The first button will store the options to the sequence and they will also apply when the sequence is played from the Sequence Pool. The next two are used to save the current options as your default sequence options and to load your default options in a different sequence. The third moves the window between the different screens. The last one is the yellow X that closes the menu.

At the bottom you can see what function the X1 to X20 has.

The main window and the "X" keys are separated into two parts.

The left part is displaying a graphic version of the executor buttons and faders you have available. You can use the X1 to X5 keys to expand the number of faders and buttons for what you are assigning.

Pressing one of the graphic versions of the buttons opens the **Select Function (Button) pop-up**. This allows you to assign a function to a button.

The executor buttons can have the following functions:

Empty:

The button has no function.

<<<:

This jumps one cue back without fade and delay times.

>>>:

This jumps to the next cue without fade and delay times. It doesn't executes follows.

Black:

This turns off the intensity of the executor as long as you have the button pressed.

DoubleSpeed:

This multiplies the current Speed with 2.

DoubleRate:

This multiplies the current Rate with 2.

Fix:

This fixes or unfixes the executor.

Flash:

This turns the executor on as long as you have the button pressed.

Go:

This executes a "Go". It uses the fade and delay times.

GoBack:

This fades backwards.

Goto:

This gives you the **Select Cue** pop-up that allows yo to select a cue to goto.

HalfSpeed:

This divides the current Speed by 2.

HalfRate:

This divides the current Rate by 2.

Kill:

This is the same as a "Go" but it also turns of all other executors (except those that has "Kill protect" turned on - see below).

Learn:

This sets the speed. By pressing it at least two times it automatically adjusts the speed.

|              |                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load:        | This gives you the <b>Select Cue</b> pop-up that allows you to select a cue to load.                                                                                |
| Off:         | This turns the executor off.                                                                                                                                        |
| On:          | This turns the executor on.                                                                                                                                         |
| Park:        | This parks the fixtures in the sequence, group or (bitmap)effect.                                                                                                   |
| Pause:       | This stops a active fade and/or delay. This also pauses a timecode show.                                                                                            |
| Rate1:       | This resets a Rate fader to 1:1. See "Rate" below.                                                                                                                  |
| Select:      | This selects the executor.                                                                                                                                          |
| Selfix:      | This selects the fixtures in the sequence, group or (bitmap)effect.                                                                                                 |
| Swop:        | When this button is pressed all other fixtures are faded out (except those that has "Swop protect" turned on - see below). They return when you release the button. |
| Temp:        | This turns the executor on as long as you have the button pressed.                                                                                                  |
| Toggle:      | This turns an active sequence Off and vice versa.                                                                                                                   |
| Top:         | This fades to the first cue in the sequence.                                                                                                                        |
| UnPark:      | This unparks any parked fixtures of the sequence, group or (bitmap)effect.                                                                                          |
| ToFull:      | This function will take your Master to 100%.                                                                                                                        |
| ToZero:      | This function will take your Master to 0%.                                                                                                                          |
| ManualXfade: | This toggles the Manual X Fade function when assigned to an "Programmer Time" or "Executor Time" fader.                                                             |

Pressing the graphic version of the executor fader opens the **Select Function (Fader) pop-up**. Here you can select a function for the fader.

The executor faders can have the following functions:

|             |                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------|
| Empty:      | The executor fader has no function.                                                                         |
| Master:     | This is an intensity fader.                                                                                 |
| Crossfade:  | This is a single fader manual crossfade between two cues.                                                   |
| CrossfadeA: | This is the first of a two fader manual crossfade between two cues. This works with "CrossfadeB".           |
| CrossfadeB: | This is the second of a two fader manual crossfade between two cues. This works with "CrossfadeA".          |
| Rate:       | This is the rate fader. With this you can adjust the fade and delay times in a sequence. See "Rate1" above. |
| StepFade:   | This is the fade time between steps in a chaser. It's also described as the "softness" of a chaser.         |
| MasterFade: | This is the On and Off fade time of chasers when you are activating and deactivating the chaser.            |
| TempFader:  | This is a fader that will crossfade the cue On when pulled up, and crossfade the cue Off when pulled down.  |
| Speed:      | This is the speed fader. With this you can adjust the speed of chasers and effects.                         |

The "X" keys on the right side of the window allows you to select what type the executor is. They can be:

|                 |                                                                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Empty:          | The executor is empty. This is the default option. Once something has been assigned to the executor, you cannot select "Empty" again. You need to delete the executor. |
| Sequence:       | This allows you to assign a sequence to the executor.                                                                                                                  |
| Group Master:   | With this you can use the executor as a group master.                                                                                                                  |
| Special Master: | These are a group of masters that include the Grand Master, Speed Masters, Playback Masters, etc.                                                                      |
| Effect:         | This allows you to assign an effect to the executor.                                                                                                                   |

**Bitmap Effect:**

This allows you to assign bitmap effects to the executor.

**Macro:**

With this you can assign a macro to the executor.

Above the keys you can see a tree structure where you can select what sequence, group, effect, etc. to assign.

**The Options Window**

This is an example of the options window:



The top bar is the same as in the Function Window. Some of the buttons are toggle buttons. When they are active the text is yellow. Other buttons opens a select pop-up. The options are arranged in 8 different sections.

**Start:****Auto Start:**

Switches the executor 'On' when master is moved above zero.

**Auto Stop:**

Switches the executor 'Off' when master is moved down to zero.

**Auto Fix:**

Disable page-change for the executor if it's 'On'.

**MasterGo:**

This gives you the **Select Master Go pop-up**. Here you have the option to trigger additional actions when fader is moved above zero: 'Go' or 'On'.

**Auto Stomp:**

Prevents Effects from other Executors to affect values from this Executor.

**Playback:****Priority - This opens a Select Priority pop-up. It has the following five options:****Swp:**

Master controls intensity attributes as Swap (LTP with higher priority than HTP).

**HTP:**

Master controls intensity attributes as Highest Takes Precedence (above LTP).

**High:**

Master controls intensity attributes as Latest Takes Precedence, high LTP priority.

**LTP:**

Master controls intensity attributes as Latest Takes Precedence, normal LTP priority.

**Low:**

Master controls intensity attributes as Latest Takes Precedence, low LTP priority.

**Soft LTP:****Soft LTP:**

Master act as crossfade between executors until other executor is fully overwritten.

**Playback Master - This opens the Select Playback Master pop-up:****Master Pb:**

With this you can select if the sequence should follow one of the 50 Playback masters. You can also select "Master Pb None". Playback masters are like group masters for sequences.

**Wrap Around:****Wrap Around:**

Loop from last to first cue. It also tracks values from the last cue to the first.

**Restart - This opens a Select Restart Mode pop-up. Here you have the following three options:**

First Cue:

The executor will restart with the first step/cue.

Current Cue:

The executor will restart with the last active step/cue.

Next Cue:

The executor will restart with the next step/cue.

**Trigger is Go:**

Trigger is Go:

Automatic Cue triggers like Follow and Time are temporary disabled. Everything in the 'Trig' column in a **Sequence Executor sheet** turns red.

**Cmd Disable:**

Cmd Disable:

The sequence will not execute any commands in the Cmd column, when this option is active (yellow text and background).

**Playback Filter - this opens the Select Playback Filter Pop-up:**

No filter:

The sequence will playback all stored values for the stored attributes.

Worlds:

The sequence will playback all the fixtures and attributes stored in a World.

Filters:

The sequence will playback all the fixtures and attributes stored in a defined Filter.

**X-Fade:** This button toggles between two states.

AB / Split Xfade:

Dual crossfaders work as crossfaders for increasing/decreasing values, or as masters for current/next cue.

**Tracking:**

Tracking:

Values from previous cues will track forward into following cues until it reaches the next stored value.

Release Firststep:

Do not track from last to first cue, if "wrapping around".

Cue Zero:

This will open the **Select Cue Zero Mode pop-up**. There are four options: "Off", "On", "Dimmers Only" and "All". "Off" will not create a cue zero and any existing cue zero will be deleted cue only. "On" will create a Cue Zero for all stored attributes in this sequence. "Dimmers Only" will create a Cue Zero for dimmer attributes only. "All" will create a Cue Zero for all Attributes for any fixture that have any attribute stored in this sequence.

Cue Zero Extract:

This option is available when Cue Zero is used. When this is on, then it will extract the current default values and store them in the "Cue Zero". This will then keep your show intact, should you later change the defaults. I.e. if you have added a fixture with a zoom value of 50% and the 50% are now stored in the cue zero. And you later change the default zoom to 45%. If you didn't use "CueZero Extract" the value in cue zero would now be 45%. If you used "CueZero Extract" the value in cue Zero would still be 50%.

Input Filter:

This will open the **Select Input Filter pop-up**. Here you can select "No Filter", a "World" filter or a Filter from the filter pool. This will limit the attributes that can be stored in this sequence.

**Speed:**

Speed (factor):

Multiply/divide speed set by Learn or Speedmaster, according to the given factor. This gives you the **Select Speed Factor pop-up**.

Speed (master):

Optionally link speed to one of the 16 Speed group masters (Special masters). This gives you the **Select Speed Group pop-up**.

Rate (master):

Optionally link rate to one of the 16 Rate masters (Special masters). This gives you the **Select Rate Master pop-up**.

Stepped Rate:

Enable this to bind the rate fader to defined steps instead of a variable value.

Link Effect To Rate:

Enable this to allow embedded effects to be controlled by the sequence rate fader.

**Protect:**

Swap Protect:

Protect executor from being swapped by other executors.

Kill Protect:

Protect executor from being turned off (Killed) by other executors.

Off On Overwritten:

Switch executor off if it's fully overwritten (no longer has control of any attributes).

**MIB:**

MIB Always:

Enable MIB (early) for all cues without individual MIB-settings

MIB Never:  
Temporary disable all MIB functionality.

Auto PrePos:  
When enabled, only intensity attributes will use on/off-timing, other attributes will snap pre fade-in / post fade-out .

#### Function:

Chaser:  
Change mode of sequence to chaser (same timing and trig for all cues).

Also in the Function section, there's a special button, when the executor is a group master. Pressing it gives you the **Select Groupmaster Mode pop-up**. It has the following options:

Positive:  
Enable programmed intensity values for Group, according to fader.

Negative:  
Inhibit programmed intensity values for Group, according to fader.

Additive:  
HTP output override of intensity values for Group, according to fader.

#### Related Links

- [Select Function \(Button\) pop-up](#)
- [Select Function \(Fader\) pop-up](#)
- [Select Master Go](#)
- [Select Priority](#)
- [Select Playback Master](#)
- [Select Restart Mode](#)
- [Select Playback Filter](#)
- [Select Cue Zero Mode](#)
- [Select Input Filter](#)
- [Select Speed Factor](#)
- [Select Speed Group](#)
- [Select Rate Master](#)
- [Select Groupmaster Mode](#)



#### Reference: Encoder Toolbars

This section is about all the different encoder toolbars.

The Encoder Toolbars are at the bottom of the screen 2.

They supply you with some buttons and displays the content of the four encoders below the screen.

#### Left side:

The left side of the screen could look like this:



This always display the selected executor.

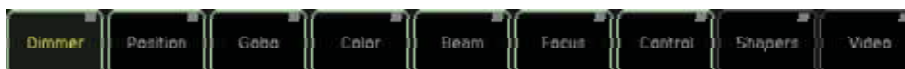
The top of this displays the number of the selected executor, the name of the sequence, the priority, the tracking state and the sequence number.

The middle part displays the previous cue, the current cue and the next cue (should you choose to press 'Go').

The lower part displays the status and content of the two faders below this section. You can change the type of executors by pressing where it displays the current type. That will give you the **Fader Assignment** pop-up. Follow the link below for more info on the pop-up.

#### Top middle:

The middle top part could look like this:



This represent all the different Preset Types you have available. If you don't have any fixture with the 'Video' preset type, this button will not be visible. This also applies if you are in a limited world. If you are in a world with only dimmer attributes, the bar will only display the dimmer preset type.

There's a brighter frame around the presets types available to the fixtures you have selected.

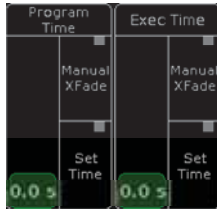


Pressing one of the button changes the focus to this preset type. A second / third press on the same Presettype Button activates / deactivates all attributes of the presettype of all even selected fixtures. Pressing first the "Off" Button and then the Presettype Button, all programmer values of these preset types of the selected fixtures will be resetted.

When you have values in your programmer in a preset type, theres a red (instead of a grey) square in the upper right corner of the button.

#### Right side:

The right side of the screen could look like this:



This represent 'Program Time' and 'Exec Time' faders. You can set the fader at a time value and you can turn on or off the 'Manual XFade' and 'Set Time'. When one of these have focus you can use the screen encoder to change the value.

 "Exec Time" applies to Button Executors only (not Fader executors).

#### Related Links

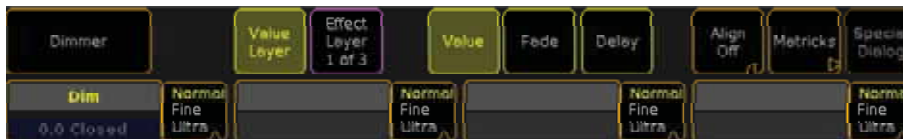
- [Select Fader Assignment](#)



#### Reference: Encoder Toolbar / General (Attribute control)

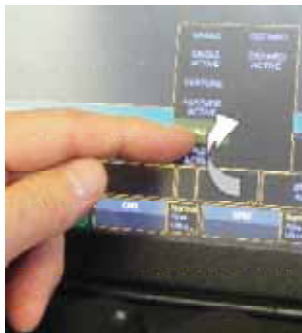
This encoder toolbar is the most common toolbar.

This is what it could look like:



The encoder toolbar have two lines.

Some of the buttons have a small wave like symbol in the lower right corner (like "Align" button in the picture above). This indicates that you can "swipe" the button to open a list of options. "Swiping" means that you press, hold and move your finger out of the button area, and then releasing the finger. Pressing one of these buttons shortly toggles through the different options.



The top line has different buttons that gives you access to different options.

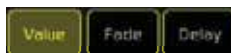
The first one changes between the different features in the selected preset types (the standard row above).

The two next buttons allow you to change between the 'Value Layer' and the 'Effect Layers'.

These two buttons changes most of the other buttons.

#### Value Layer

This will give you the following buttons:



Value:

This gives you access to 'Value' layer.

Fade:

This gives you access to the 'Fade' time layer.

Delay:

This gives you access to the 'Delay' time layer.

When this is active they you also have access to the 'Special Dialog' when you have selected a fixture feate that supports the Special dialog (ColorMix and Shaper).

## Effect Layers

When you press the 'Effect Layer' button, the buttons change to this:



A new button appears between the 'Feature' and 'Value Layer' buttons. This is the 'Link' button. This is used to select what should be affected by the value you are currently assigning. It has several options:

Link Single:

Only sets the value for the attribute you change.

Link Single Active:

Same as above, but limited to parameters that are already active in programmer.

Link Feature:

Sets the value for all attributes in the selected feature. E.g. if you set a delay time for 'Pan' it will also set the time for 'Tilt'.

Link Feature Active:

Same as above, but limited to parameters that are already active in programmer.

Link All:

This sets the value for all attributes.

Link All Active:

Same as above, but limited to parameters that are already active in programmer.

Link Defined:

Sets the value for the attributes selected in the **Time Filter**.

Link Defined Active:

Same as above, but limited to parameters that are already active in programmer.

Also the 'Special Dialog' button changes to call the Effect Editor.

The 'Effect Layer' button have three pages. The other two looks like this:



This changes the layers the encoders are controlling. It gives you access to all the effects layers:

Form:

This is the form the effect uses to transform between two values.

Rate:

This is a multiplier of the Effect speed. If this value is below 1 then the effect line is slower than the overall speed of the effect. If it's above 1 then the line is faster than the overall effect speed.

Low:

This is the Low value in the effect.

High:

This is the High values in the effect.

Phase:

Phase is a way to spread the effect and the values.

Width:

With this you control the width of the form.

Fade:

This is the fade time for the effect.

Delay:

This is the delay time for the effect.

Attack:

On some forms you can change the angle of attack. This means you can make the fade from one value to another.

Decay:

Much like "Attack" handles how to change from a value to another, Decay handles the transaction back from the last value to the first.

ID:

This will display the ID of effects already running.

The next button allows you to select the Align option.

The next button opens the **MATricks Encoder Toolbar**. Here you can create a MATricks selection.

The bottom row is the encoder content and the values. Each encoder has a small button that toggles the resolution of the encoder. There are three steps: 'Normal', 'Fine' and 'Ultra'.

### Related Links

- [Preset Control bar](#)
- [Layer Control bar](#)
- [Effect Editor](#)
- [MAtricks Encoder Toolbar](#)
- [Special Dialog](#)



### Reference: Encoder Toolbar / Agenda

This is the agenda encoder toolbar.

This is what it could look like:



This toolbar has two lines.

The top line has different buttons:

- Last Month:  
This takes you one month back.
- last Week:  
This takes you one week back.
- Last Day:  
This takes you one day back.
- Today:  
This takes you to today.
- Next Day:  
This takes you one day forward.
- Next Week:  
This takes you one week forward.
- Next Month:  
This takes you one month forward.

The lower line tells you what element your encoders control and the current value.

The first encoder allows you to scroll through days. The next encoder scrolls through weeks. The next scrolls through months. The last encoder scrolls through years.

### Related Links

- [Agenda](#)



### Reference: Encoder Toolbar / Bitmap Effect

This is the bitmap effect encoder toolbar.

This is what is could look like:



This toolbar has two lines.

The top line has different buttons and areas:

- Number & Name:  
This area tells you the number and name of the bitmap effect .
- Editor button:  
Pressing this button takes you to the editor mode. Follow the link below for the **Bitmap Effect Editor Toolbar**.
- Skip back:  
This doesn't do anything.
- Backward Play:  
This runs the effect backwards.
- Off:  
This turns the effect off.
- Forward Play:  
This runs the effect forward.
- Skip forward:  
This doesn't do anything.

Pause:  
This pauses the effect. Pressing this button again continues the run.

The lower line tells you what element your encoders control and the current value.

The encoders can have the following options:

Master:  
This is the Master (Intensity) for the Bitmap Effect.

Speed:  
This is the speed for the effect.

Off Time:  
This is the time used when the bitmap effect is turned off (This isn't implemented yet).

Follow the link below to read more about the bitmap effect editor.

## Related Links

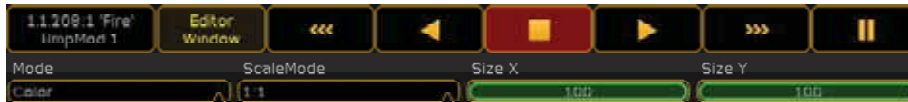
- [Bitmap Effect Editor Encoder Toolbar](#)
- [Bitmap Effect Editor](#)



## Reference: Encoder Toolbar / Bitmap Effect Editor

This is the bitmap effect editor encoder toolbar.

This is what it could look like:



This toolbar has two lines.

The top line has different buttons and areas:

Number & Name:  
This area tells you the number and name of the bitmap effect.

Editor button:  
Pressing this button takes you out of the editor mode.

Skip back:  
This doesn't do anything.

Go back:  
This runs the effect backwards.

Off:  
This turns the effect off.

Go:  
This runs the effect forward.

Skip forward:  
This doesn't do anything.

Pause:  
This pauses the effect. Pressing this button again continues the run.

The lower line tells you what element your encoders control and the current value.

The encoders can have the following options:

Mode:  
This is the mode. There are three options: 'Gray', 'Trigger' and 'Color'. Pressing here gives you the **Bitmap Effect Mode select pop-up**.

ScaleMode:  
This is the Scale mode. There are four options: '1:1', 'Fit', 'Width' and 'Height'. Pressing here gives you the **Scale Mode select pop-up**.

Size X:  
This is the "X" size of your output.

Size Y:  
This is the "Y" size of your output.

Follow the link below to read more about the bitmap effect editor.

## Related Links

- [Bitmap Effect Editor](#)
- [Select Bitmap Effect](#)
- [Select ScaleMode](#)
- [Bitmap Effect Encoder Toolbar](#)



## Reference: Encoder Toolbar / Chaser

This is the chaser encoder toolbar.

This is what it could look like:



This toolbar has two lines.

The top line has different buttons and areas:

Executor Number, Sequence number and Cue number + Name:

This area tells you the executor number, the sequence number (a chaser is an sequence running in a loop) + sequence name and the current cue number and cue name.

Editor button:

Pressing this button opens the chaser editor (follow the link below).

Skip back:

This jumps one cue back without fade times and pauses the chase.

Go back:

This makes the chaser run backwards.

Pause:

This stops the chaser from running. Pressing this button again makes the chaser run again.

Stop:

This turns the executor off (using the off time).

Go:

This makes the chaser run forward.

Skip forward:

This takes you one cue forward without the fade times and pauses the chase.

The lower line tells you what element your encoders control and the current value.

The first encoder is the 'Master' - controlling intensity. The second encoder is the 'Speed' - allowing you to adjust the speed of the chaser. The next encoder is the 'Fade' - this controls if the chaser should fade (complete fade is 100%) the steps (cues) or snap (0%). The last encoder is the 'MFade' (it's labelled wrong) - this allows you to set a time to fade in or out when the executor is turned on or off.

## Related Links

- [Edit Chaser pop-up](#)
- [Chaser Mini Executor](#)
- [Chaser Concept](#)



## Reference: Encoder Toolbar / DMX

This encoder toolbar can be used to test, park and patch DMX channels.

The encoder toolbar is visible when the **DMX sheet** has focus or when you press the **Channel** hardkey twice. It could look like this:



Whit this toolbar you can force the console to transmit DMX value to a DMX address. It doesn't matter if the DMX address is patched or not. You have fast access to park DMX addresses. You can also use the toolbar to open a **Patch address to fix /ch** pop-up where you can patch the selected DMX address to a fixture or channel.

 The DMX tester function has higher priority then anything else - even parked channels! But if you have DMX-In or ArtNet-In they will only be HTP overwritten.

The toolbar has two lines. The top line have a lot of buttons:

Selection drop-down-box:

Here you have three options: "All", "Patched" and "Unpatched". With this you can limit what addresses you can select.

Select All:

This button will select all the addresses you have modified using this toolbar. You can identify values from the toolbar by a white flashing square. You can identify the selected addresses by a yellow square.

Release Current:

This will release the values on the current selection (yellow square).

Release Others:

This will release all the address that isn't a part of the current selection.

Release All:

This will release all the addresses that gets values from this toolbar.

**Park Current:**

This will park the value for the DMX address with the white frame. You can identify parked values by a blue square.

The bottom bar work with the encoders. You can scroll the encoders or you can press them to get the calculator pop-up.

The first encoder is used to select the universe. The second encoder is used to select the address. There's a toggle button attached to this encoder. It has two settings: "Release" or "Retain". With "Release" you release the addresses you scroll trough. With "Retain" you keep the values in the address you scroll through.

The third encoder is used to assign a value. Pressing the encoder gives you a calculator pop-up. In this you can select some general values and you can select "None". This is the same as releasing the address. There's a toggle button attached to this encoder. With this you can toggle between "Percent" or "Decimal". This will change the value mode on the input value. The sheet doesn't change the readout.

The fourth encoder doesn't do anything when you scroll. But when you press the encoder you get a screen like this:



Here you can select a fixture/channel that you want to patch the address to. At the top of this pop-up there's two green areas where you can filter the displayed fixtures and channels. There's also a drop down box that allows you to display "All" the fixtures/Channels or only the "Unpatched". Then there's an entire list of the fixtures/channels (according to your filters). At the bottom there's three buttons. "Overwrite", "Merge" and "Append". "Overwrite" and "Merge" will patch the selected fixture/channel to the selected DMX address. "Append" will create a multipatch for the selected fixture/channel.

You can close the pop-up without making any changes using the "X" in the upper right corner.



## Reference: Encoder Toolbar / Executor

This is the executor encoder toolbar.

This is what it could look like:



This toolbar has two lines.

The top line has different buttons and areas:

**Number + Name:**

This area tells you the number and name of the sequence assigned to the executor.

**Editor button:**

Pressing this button opens the sequence editor (and changes the toolbar to 'Sequence Toolbar').

**Skip back:**

This jumps one cue back without fade times.

**Go back:**

This goes one cue back with fade times.

**Off:**

This turns the executor off (using the off time).

Go:

This takes you one cue forward using the fade time.

Skip forward:

This takes you one cue forward without the fade times.

Pause:

This stops any active fades. Pressing this button again continues the fades.

The lower line tells you what element your encoders control and the current value.

The first encoder is the 'master' - controlling intensity. The second encoder is the 'Rate' - allowing you to adjust the fade times. The last encoder is the 'Off Time' - this allows you to set a time to be used, when the executor is turned off.

## Related Links

- [Sequence Executor Sheet](#)
- [Sequence Toolbar](#)



## Reference: Encoder Toolbar / Graph Editor

This is the graph editor encoder toolbar.

This is what page 1 looks like:



This is the second page:



This toolbar have two pages as you can see above.

Two of the buttons in the top row allows you add and/or delete points on the graph. The button on the right changes between the two pages.

On page 1 (Build) - the first encoder is used to scroll through the different graphs and points. The next two encoders is used to move the cursor along the graphs. The last encoder changes the line mode.

On page 2 (Transform) - The first encoder is the same on both pages. The second encoder moves the point on the Y scale. The third encoder scales the value. This is really nice in 2D mode. The last encoder rotates the point(s). This also work really great in 2D mode.

## Related Links

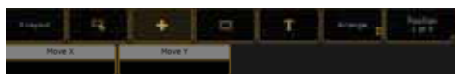
- [DMX Profiles](#)
- [Form Pool](#)



## Reference: Encoder Toolbar / Layout View

This is the Layout View encoder toolbar. It's only active when you are in the Setup mode.

This is what it could look like:



This toolbar has two lines. The bottom line have three different "pages". Read below for the content of the bottom line.

The top line has different buttons and areas:

Number/Name:

The first button displays the number and name of the layout.

Lasso:

This turn on the "Lasso" mode, where you can select multiple fixture in the view.

Move:

This turns on the move mode, where you can move the view inside the frame.

Box:

When this is active you can draw boxes in the view.

Text:

When this is active you can create text boxes in the view.

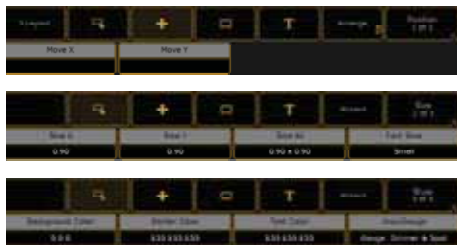
Arrange:

This will change the toolbar to the "Arrange" mode. This will help you arrange your objects. Read below for details.

Page changer:

This button changes the content of the bottom line and what the encoder controls. There are three different "pages".

The lower line tells you what element your encoders control and the current value. You can toggle through three "pages" of options.



The encoders can have the following options:

- Move X:**  
This moves the object on the X axis. If you press and hold the encoder, you'll go into "snap" mode.
- Move Y:**  
This moves the object on the Y axis. If you press and hold the encoder, you'll go into "snap" mode.
- Size X:**  
This changes the size of an object in the X axis.
- Size Y:**  
This changes the size of an object in the Y axis.
- Size All:**  
This changes the size of an object in both X and Y axis at the same time.
- Font Size:**  
This changes the size of the objects text. There are three options: "Small", "Default" and "Big".
- Background Color:**  
Pressing here opens the **Select Color** pop-up. Here you can change the background color of the selected object.
- Border Color:**  
Pressing here opens the **Select Color** pop-up. Here you can change the border color of the object.
- Text Color:**  
Pressing here opens the **Select Color** pop-up. Here you can change the text color of the object.
- Icon/Gauge:**  
Pressing here opens the **Small Select Icon/Gauge** pop-up. This is used to select the icon or gauge for the object. Icons are static symbols and Gauges change how they look according to your fixtures.

## Arrange

This is the arrange mode of the toolbar:



Here's also a group buttons. The content of the encoders change function according to what arrange function you have chosen:

- Number / Name button:**  
This is the number and name of the layout.
- Line:**  
This will arrange your objects on a line.
- Circle:**  
This will arrange your objects in a circle, semicircle or spiral.
- Rectangle:**  
This will arrange your objects in a rectangle.
- Scale:**  
This changes the distance between your objects.
- Camera:**  
This is used to grab the fixtures position from the stage view. It will take the view from one of the cameras and arrange the fixtures in a 2D space according to that camera's view.
- Apply:**  
This will apply any arrange changes, you have selected.
- Cancel:**  
This cancels the arrange action.
- Element Properties:**  
This will take you back to previous toolbar.

The selection order is important when you use the different arrange options (except the Camera).

## Related Links

- [Layout Pool](#)
- [Layout View](#)
- [Select Color pop-up](#)
- [Small Select Icon/Gauge pop-up](#)



## Reference: Encoder Toolbar / Live Effect (Quick & Dirty Effects)

This is the Live Effect encoder toolbar.



This toolbar gives you access to many of the used functions when editing an effect in your programmer.

This is what page 1 (Basics) could look like:



This toolbar have two lines.

The top line have different buttons:

Select Effect:

If you have several effects in your programmer, you can use this to select a specific one or all of them.

Edit Program:

This will open the Effect Editor. Follow the link below for more about the Editor.

Mode:

Here you can change between Low/High, Center/Size or Auto (will change according to Relative or Absolute mode).

Prop/Inc

This changes between proportional or incremental changing of values. This is used when you have selected several effects in "Select Effect". In Proportional mode all values are increased/decreased by the same factor. In Incremental mode all values are changed by the same value. E.g. if you have selected two effects. Effect 1 is running at 30 BPM and Effect 2 at 60 BPM. In Prop. mode: If you turn the encoder until the speed of Effect 1 is doubled to 60 BPM you have also doubled the speed of Effect 2 (now running at 120 BPM). In Incr. mode: If you turn the encoder until the speed have changed from 30 to 60 BPM you will have added 30 BPM to both Effects - end Effect 2 is now running at 90 BPM.

Relative <> Absolute:

This will change the effect between Relative or Absolute values.

Direction:

Pressing this will toggle the direction.

Off Effect:

Pressing this will off the effect and take it out of the programmer.

Release Effect:

This will put the release value in your programmer.

Stomp Effect:

This will put the Stomp value in your programmer.

Page toggle

This will change between the two pages of this encoder toolbar.

The bottom row on page 1 have the following buttons:

Speed:

Here you can change the speed of your effect.

Low/Center:

This allows you to modify the Low or Center value. Pressing the encoder allows you to enter negative or very big values.

High/Size:

This allows you to modify the High or Size value. Pressing the encoder allows you to enter negative or very big values.

Phase:

Here you can change the phase.

Pressing any of the encoders will open the Calculator with the relevant fast options.

The second page (Advanced) could look like this:



The bottom row now have different functions:

Form:

This will rotate the individual fixture around each fixtures axis.

Width:

This will rotate the entire group of fixtures around the combined axis.

Attack:

Here you can edit the attack value.

Decay:

Here you can edit the decay value.

If the values have a red color, then it means you have this value in the programmer. Gray values indicate that the value comes from the Effect.

## Related Links

- [Effect Pool](#)
- [Effect Editor](#)



## Reference: Encoder Toolbar / MAtricks

This is the MAtricks encoder toolbar.

This is what it could look like:



This toolbar is used to control the MATricks. Some of the functions here, is also mapped to hardkeys on the console.

There is a lot of different buttons and areas in this toolbar. The following is a short description of the different areas:

#### Interleave:

This is the size (array-width) of the MATricks. You can also use the **Set** together with **Prev** and **Next** keys to move through different sizes.

#### MATricks Filter:

This allows you to add a filter. You can select "Off" (no filter), all the selected fixtures with an Odd ID number or all the selected fixtures with an Even ID number.

#### Single X:

This selects your MATricks in a vertical order. This can be combined with "Single Y". You can also use the **Prev** and **Next** keys to move through the selection. This will include wrap around.

#### Single Y:

This selects your MATricks in a horizontal order. This can be combined with "Single X". You can also use the **MA** together with **Prev** and **Next** keys to move through the selection. This will include wrap around.

#### Block X & Y:

This will create blocks in the selection. You can also use the **MA** & **Set** together with **Prev** and **Next** keys to move through different sizes.

#### Align Group X & Y:

This generates groups of the selection for alignment. (fan function)

#### Wing:

This will add wings in your selection.

#### Wing Style:

This only works for Pan and Tilt. This allows you to select if the wing should affect Pan, Tilt, both or none (Normal).

#### MATricks Active:

This turns the MATricks on or off. This can also be done using the **Set** key.

#### Reset:

This will clear all your MATricks settings. This can also be done with a "Clear All" or "MatricksReset".

#### Circular Copy:

This allows you to circular copy values using the MATricks selection.

#### Shuffle Selection:

This applies Shuffle Selection to the selection.

#### Close:

This closes the MATricks encoder toolbar.

All the settings you change in the toolbar gets a green background. This can be stored on a MATricks pool button. And settings you have stored in a MATricks pool can be assigned to User buttons.

The MATricks pool is user based.

## Related Links

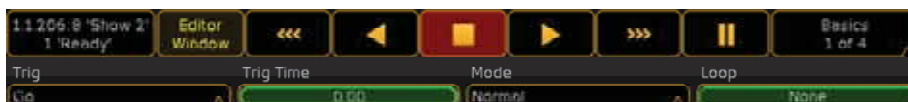
- [MATrick Pool](#)
- [MATricks Tutorial](#)



## Reference: Encoder Toolbar / Sequence

This is the sequence encoder toolbar. It's only active when you are in the Sequence Editor.

This is what it could look like:



This toolbar has two lines. The bottom line have four different "pages". Read below for the content of the bottom line.

The top line has different buttons and areas:

#### Number, Name & Cue number:

This area tells you the number and name of the sequence and the current cue number.

#### Editor button:

Pressing this button takes you out of the editor mode and changes the toolbar to the 'Executor toolbar'. Follow the link below to read more about this toolbar.

- Skip back:**  
This jumps one cue back without fade times (depending on your user settings).
- Go back:**  
This goes one cue back with fade times (depending on your user settings).
- Off:**  
This turns the executor off (using the off time).
- Go:**  
This takes you one cue forward using the fade time.
- Skip forward:**  
This takes you one cue forward without the fade times.
- Pause:**  
This stops any active fades. Pressing this button again continues the fades.
- Page changer:**  
This button changes the content of the bottom line and what the encoder controls. There are four different "pages".

The lower line tells you what element your encoders control and the current value. You can toggle through four "pages" of options.



The encoders can have the following options:

- Trig:**  
This is the cue trigger. There are several options: GO, Time, Follow, Sound and BMP (sound and BMP isn't implemented yet). Pressing here gives you the **trig select pop-up**.
- TrigTime:**  
If you have selected the trigger "Time", you can specify the trigger time here.
- Mode:**  
This opens the **Select Mode (Cue)** pop-up. The options are: 'Normal', 'Assert', 'X-Assert', 'Break' and 'X-Break'. Follow the link below for more info about the pop-up.
- Loop:**  
If you need a loop in the sequence you can specify what cue to jump to when reaching this cue.
- Lcount:**  
If you have a looping sequence you can use this column to specify how many times the loop should loop.
- Ltime:**  
If you have a looping sequence you can use this column to specify for how long time the loop should loop.
- MIB:**  
Pressing here opens the **Select MIB** pop-up. Follow the link below for details about MIB.
- Delay:**  
This is used to define a delay time between the Go and the execution of the fade.
- Fade:**  
This is the (up) fade time of the cue.
- Out Delay:**  
This is a delay time (the time to wait before executing the out fade) for the values going down in value.
- Out Fade:**  
This is the fade time for values going down in value in this cue.
- Snap Percent:**  
Some fixtures have features that are set to snap (disregard the fade time - and move instantly). With this percent value, you can control when this snap occurs. If it's set to 0% the snap executes right in the beginning of the fade. If it's set to 100%, then the snap executes at the end of the fade. But you can choose anywhere in between. The default is 0% and this isn't displayed in the column.
- Cmd Delay:**  
Here you can specify a delay before the command (written in the "Cmd" section) is executed.

## Related Links

- [Sequence Executor Sheet](#)
- [Executor Toolbar](#)
- [Select Trig pop-up](#)

- [Select Mode \(Cue\) pop-up](#)
- [Select MIB](#)



## Reference: Encoder Toolbar / Stage Setup

This is the Setup Stage encoder toolbar.

This is what it looks like:



This toolbar basically has two lines.

The top line has five different buttons and selection buttons.

The first button selects the move / rotation axis:

Object Axis:

Move or rotate along the axis of the object.

Stage Axis:

Move or rotate along the world (stage) axis.

The next button chooses how the fixtures should rotate when you have multiple fixtures selected. This makes a lot of sense when rotating fixtures:

Single:

This will rotate the individual fixture around each fixture's axis.

Group:

This will rotate the entire group of fixtures around the combined axis.

The next button allows you to use the align functions in your placement of fixtures.

The next button opens the **Wizard** pop-up. The wizard allows you to arrange multiple fixtures in different formations. Follow the link below for more info about the stage wizard.

The last button toggles the elements assigned to the encoders. There are two "pages", one with location and one with rotation.

The lower line tells you what element your encoders control and the current value.

There are two different "pages". In 'Location' you can use the first three encoders to move the selected fixture(s) in 'X', 'Y' and 'Z' axis. In 'Rotation' you can rotate the fixture(s) also using 'X', 'Y' and 'Z' axis.



## Related Links

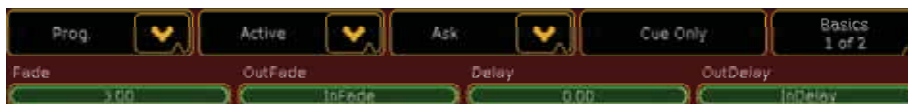
- [Stage window](#)
- [Stage Wizard](#)



## Reference: Encoder Toolbar / Store

This is the store encoder toolbar.

This is what it could look like:



This toolbar has two lines.

The top line has four different buttons and areas.

The first button selects the source:

Prog. (Programmer):

When this is selected, the console will store the content in the programmer.

Output:

This will store status of the current output from the console.

DMX In:

This will store the current DMX input.

The next button chooses what values to store:

**Active:**

This will store the active values.

**All for selected:**

This will store all values for all attributes in the selected executor/sequence.

**Active for selected:**

This will store all active values for the selected executor/sequence only.

**All:**

This will store everything.

The next button sets what to do when the destination isn't empty:

**Overwrite:**

Original content of object is removed and is replaced with new content.

**Merge:**

New content is merged with original content. New content takes precedence if overlapping with original content.

**Status Merge:**

Merges Programmer content and the tracking status of current cue of selected executor, into destination cue.

**Remove:**

New content is removed from original content.

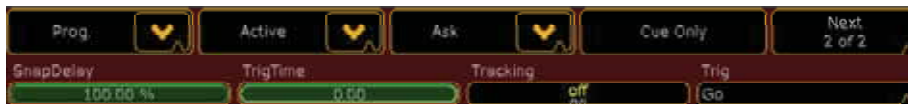
**Release:**

Merges Programmer-content as Release-tags into destination Cue. A parameter with release-tag will relinquish control to other executors/default value, and is displayed in Tracking Sheet and Cue Editor with the value (R).

**Ask:**

This will ask you what to do by presenting you with a pop-up.

The last button toggles the elements assigned to the encoders. There are two "pages".



The lower line tells you what element your encoders control and the current value.

There are two different "pages" with elements for the encoders. The following can be on the encoders:

**Fade:**

This is the (up) fade time of the cue.

**OutFade:**

This is the fade time for values going down in value in this cue.

**Delay:**

This is used to define a delay time between the Go and the execution of the fade.

**OutDelay:**

This is a delay time (the time to wait before executing the out fade) for the values going down in value.

**SnapDelay:**

Some fixtures have features that are set to snap (disregard the fade time - and move instantly). With this percent value, you can control when this snap occurs. If it's set to 0% the snap executes right in the beginning of the fade. If it's set to 100%, then the snap executes at the end of the fade. But you can choose anywhere in between. The default is 0% and this isn't displayed in the column.

**TrigTime:**

If you have selected the trigger "Time", you can specify the trigger time here.

**Tracking:**

When this is 'On' the cue will be stored as a tracking cue. When 'Off' it will store as cue only.

**Trig:**

This is the cue trigger. There are several options: GO, Time, Follow, Sound and BMP (sound and BMP isn't implemented yet). Pressing here gives you the **Select Trig pop-up**.

## Related Links

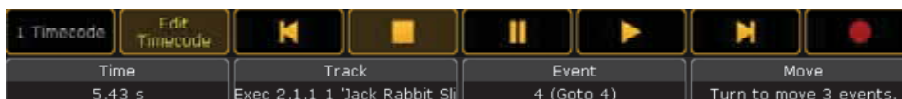
- [Store Options](#)
- [Select Trig](#)



## Reference: Encoder Toolbar / Timecode

This is the timecode encoder toolbar.

This is what it could look like:



This toolbar has two lines.

The top line has different buttons and areas:

**Number and Name:**

This area tells you the number and name of the timecode show.

**Editor button:**

Pressing this button opens the timecode editor.

**Rewind:**

This jumps to the beginning of the timecode show.

**Stop:**

This stops the timecode show.

**Pause:**

This pauses the time.

**Play:**

This activates the timecode show. If the timecode source is internal, the show will run immediately. If the source is external the show will sync up with the time (when it runs).

**Skip to end:**

This will move the time to the end of the timecode show.

**Record:**

This starts a recording of the show.

The lower line tells you what element your encoders control and the current value.

The first encoder is the current time. If you have stopped the show you can use the encoder to change the time. The time can't be a negative number and the maximum allowed time is 255 hours 59 minutes 59 seconds and 29 frames. This uses the show time unit. You can change the time unit in the timecode options.

The next encoder selects a track.

The next encoder selects an event on that track.

The last encoder allows you to move the event. If you have selected more than one event then it displays the number of selected events.

If you are using the Timecode View, then you can use the encoders to view the events. You can't edit them. If you need to edit the events then you need to open the Timecode Editor.

**Related Links**

- [Timecode Editor](#)
- [Timecode View](#)

**Reference: Mini Executor Dialogs**

These are the dialogs that appear at the bottom of screen 3 (on light and fullsize) and 4 (on a fullsize). They also appear in the Playback windows.

These Mini Executor Dialogs display valuable information about the content and functions of the executor.

You can assign functions to the executors using the **Assign Menu**, or you can use the assign key. Read more about them by following the links below.

**Related Links**

- [Assign Menu](#)
- [Assign Key](#)

**Reference: Mini Executor Dialog / Bitmap Effect**

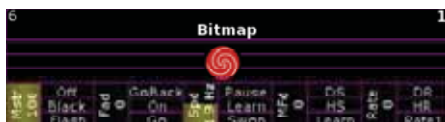
This is the bitmap effects executor when assigned to the executors.

This displays a lot of information about the bitmap effect assigned to this executor.

This is what it could look like when assigned to one executor fader:



You can change the width of this to take the size of up to five executors. This it could look like this:



You can also assign this to one (or up to five) of the executor buttons. It could look like this:



This Mini Executor Dialog is divided into three parts.

### The top Part

The top part displays the Bitmap Effect name.

In the top left corner you'll find the executor number.

In the right corner you'll find the effect number.

If you press the top part you open the **Assign Menu** for this executor.

There are other special options and situations that also affect the appearance of the top part. This only alters the colors in the top bar. Read more about this below.

### The middle part

The middle part displays a thumbnail of the image used in the effect. When the bitmap effect is running, there's a red bar with a yellow dot moving from left to right indicating the speed and direction of the bitmap effect.

Pressing the middle part will opens the **Bitmap Effect Editor pop-up**.

### The bottom part

At the bottom part you can see the fader position and the function of the executor hardkeys.

The left side shows you the position of the fader. It will tell you the function of the fader and the current value.

If you have assigned the sequence to an executor button, then this will be a virtual master. It will not give you the information mentioned above, but will simply visualize the fader position.

The right part represent the three executor hardkeys on the executor fader or the one hardkey on the executor button.

If the executor uses more than one executor fader or button, then this part will be repeated for each executor it uses in the width.

Pressing this area will execute the function you pressed or move the fader to a new position.

### Selected Executor

The selected executor will get a green color in the top part.

It could look like this:



### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Fixed executors are displayed with an Orange background color and the bottom part of the Mini Executor Dialog. If the effect is selected, then the top part will have the green background color and the bottom part will have the orange background color.

The picture below display two effects - one is a normal fixed executor the other is a *selected* fixed executor:



### Locked Executors

Executors and bitmap effects can be locked. If an executor is locked then the small executor number in the upper right corner is red.

If the bitmap effect is locked then the bitmap effect number in the upper left corner is red.

It could look like this:



### Edit Pop-up and Assign Menu

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red, and the adds an "Assign" in front of the effect name.

When you press the middle part of the Mini Executor you open the Editor. When the editor is open then the background color of the top part is changed to dark red, and the adds an "Edit" in front of the effect name.

It could look like this:



## Related Links

- [Assign Menu](#)
- [Bitmap Effect Pool](#)
- [Bitmap Effect Editor Pop-up](#)
- [Bitmap Concept](#)
- [Executor concept](#)



## Reference: Mini Executor Dialog / Chaser

This is the chase executor for a sequence running as a chase.

This displays a lot of information about the sequence assigned (as a chase) to this executor.

This is what it could look like when assigned to one executor fader:



You can change the width of this to take the size of up to five executors. This is what it could look like:



You can also assign this to one (or up to five) of the executor buttons. It could look like this:



This Mini Executor Dialog is divided into three parts.

### The top Part

The top part displays the Sequence Name.

In the top left corner you'll find the executor number.

In the right corner you'll find the sequence number (remember the chase is based on a sequence).

Other information here might include the following:

- L:  
This means that the chase is in Lowest Take Precedence mode.
- H:  
This means that the chase is in Highest Take Precedence mode.
- S:  
This means that the chase is in Swap priority mode.
- [triangle pointing up]:  
The executor is in High priority mode.
- [triangle pointing down]:  
The executor is in Low priority mode.
- T:  
This indicates that the chase is in tracking mode. This option follows the sequence.

If you press the top part, you open the **Assign Menu** for this executor.

There are other special options that also affect the appearance on the top bar. This only alters the colors in the top bar. Read more about this below.

### The middle part

The middle part shows you information in three lines.

The top line displays the speed. All the way from "stop" to the maximum of the speed mode you have selected in User Settings in Setup. The background of this is a bar that moves from left to right depending on how fast the chase is running.



The middle line displays the StepFade percent. This decides how much the chase should fade between the different steps in the chase on a scale from 0% to 100%. The background of this line is a bar moving from the left to the right depending on how high the fade percent is.

The bottom line display what step number you are on and the total number of steps. The background of this is a blue bar (when running) that moves from the left to the right following the step number.

Pressing the middle part will open the **Edit Chase pop-up**.

### The bottom part

At the bottom part you can see the fader position and the function of the executor hardkeys.

The left side shows you the position of the fader. It will tell you the function of the fader and the current position from 0% to 100%. If the function is "Master" then it displays the priority of the executor.

If you have assigned the chase to an executor button, then this will be a virtual master. It will not give you the information mentioned above, but will simply visualize the fader position.

The right part represent the three executor hardkeys on the executor fader or the one hardkey on the executor button.

If the executor uses more than one executor fader or button, then this part will be repeated for each executor it uses in the width.

Pressing this area will execute the function you pressed or move the fader to a new position.

### Playback Master

Executors can be assigned a Playback master. If one is assigned then the left fader side of the bottom part is divided into two columns. The left one will be the fader for the executor. The right one will be the position of the playback master. The displayed function (or priority) and value will follow the local fader.

It could look like this (in this example both faders are at 100%):



### Selected Executor

The selected executor will get a green color in the top part.

It could look like this:



### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Fixed executors are displayed with an Orange background color in the top and bottom part of the Mini Executor Dialog. If the sequence is selected, then the top part will have the green background color and the bottom part will have the orange background color.

The picture below display two chases - one is a normal fixed executor the other is a *selected* fixed executor:



### Locked Executors

Executors and sequences can be locked. If an executor is locked then the small executor number in the upper right corner is red.

If the sequence is locked then the sequence number in the upper left corner is red.

It could look like this:



### Input and Playback filter

Using the Assign Menu you can assign Input and/or Playback filters. The Playback filter is applied to the executor and is indicated by adding a orange background color to the executor number. The Input filter is applied to the Sequence, and is indicated by adding an orange background color to the sequence number.



If the executor is selected or fixed, then the green and orange background color is only applied to the name in the top part.

### Edit Pop-up and Assign Menu

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red, and the adds an "Assign" in front of the sequence name.

When you press the middle part of the Mini Executor you open the Editor. When the editor is open then the background color of the top part is changed to dark red, and the adds an "Edit" in front of the sequence name.

It could look like this:



### Related Links

- [Chaser Concept](#)
- [Assign Menu](#)
- [Edit Chase pop-up](#)
- [Chaser Encoder Toolbar](#)
- [Cues & Sequences concept](#)
- [Executor concept](#)



### Reference: Mini Executor Dialog / Effect

This is the effects executor when assigned to the executors.

This displays a lot of information about the effect assigned to this executor.

This is what it could look like when assigned to one executor fader:



You can change the width of this to take the size of up to five executors. This it could look like this:



You can also assign this to one (or up to five) of the executor buttons. It could look like this:



This Mini Executor Dialog is divided into three parts.

### The top Part

The top part displays the Effect name.

In the top left corner you'll find the executor number.

In the right corner you'll find the effect number.

Other information here might include the following:

- A: This indicates that it's an absolute effect.
- R: This indicates that it's a relative effect.
- S: This shows you that it's a selective effect.
- T: This tells you that the effect is transparent.

If you press the top part you open the **Assign Menu** for this executor.

There are other special options that also affect the appearance of the top bar. This only alters the colors in the top bar. Read more about this below.

### The middle part

The middle part have three lines. The top line shows you the speed of the effect. The middle line the MasterFade time The bottom line shows you a moving blue bar if the effect is running.

Pressing the middle part will open the **Effect Editor pop-up**.

### The bottom part

At the bottom part you can see the fader position and the function of the executor hardkeys.

The left side shows you the position of the fader. It will tell you the function of the fader and the current value.

If you have assigned the sequence to an executor button, then this will be a virtual master. It will not give you the information mentioned above, but will simply visualize the fader position.

The right part represent the three executor hardkeys on the executor fader or the one hardkey on the executor button.

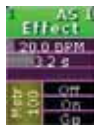
If the executor uses more than one executor fader or button, then this part will be repeated for each executor it uses in the width.

Pressing this area will execute the function you pressed or move the fader to a new position.

### Selected Executor

The selected executor will get a green color in the top part.

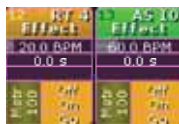
It could look like this:



### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Fixed executors are displayed with an Orange background color in the top and bottom part of the Mini Executor Dialog. If the effect is selected, then the top part will have the green background color and the bottom part will have the orange background color.

The picture below display two effects - one is a normal fixed executor the other is a *selected* fixed executor:



### Locked Executors

Executors and effects can be locked. If an executor is locked then the small executor number in the upper right corner is red.

If the effect is locked then the effect number in the upper left corner is red.

It could look like this:

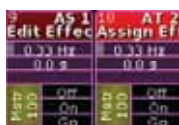


### Edit Pop-up and Assign Menu

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red, and the adds an "Assign" in front of the effect name.

When you press the middle part of the Mini Executor you open the Editor. When the editor is open then the background color of the top part is changed to dark red, and the adds an "Edit" in front of the effect name.

It could look like this:



### Related Links

- [Assign Menu](#)
- [Effect Pool](#)
- [Effect Editor pop-up](#)
- [Effects concept](#)
- [Executor concept](#)

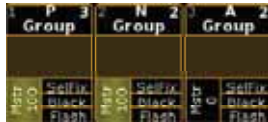


### Reference: Mini Executor Dialog / Group Master

This is the Group master executor.

This is a master for a group. You can see some information here.

This is what it could look like when assigned to executor faders:



This example is three group masters with different options (read more below).

You can not assign group masters to take up more than one executor in the width and they cannot be assigned to Executor Buttons.

This Mini Executor Dialog is divided into three parts.

### The top Part

The top part displays the Group Name.

In the top left corner you'll find the executor number.

In the right corner you'll find the group number.

Other information here include the following:

- P: This means that the sequence is in Lowest Take Precedence mode.
- N: This means that the sequence is in Highest Take Precedence mode.
- A: This means that the sequence is in Swap priority mode.

If you press the top part you open the **Assign Menu** for this executor.

There are other special options that also affect the appearance on the top bar. This only alters the colors in the top bar. Read more about this below.

### The middle part

The middle part doesn't do anything but pressing it allows you to edit the group.

### The bottom part

At the bottom part you can see the fader position and the function of the executor hardkeys.

The left side shows you the position of the fader. It will tell you that the function of the fader is "Master" and the current value. "Master" is the only valid function for the fader.

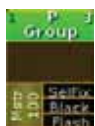
The right part represent the three executor hardkeys. There are only a limited allowed set of functions for a group master.

Pressing this area will execute the function you pressed or move the fader to a new position.

### Selected Executor

The selected executor will get a green color in the top part.

It could look like this:



### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Selected executors are displayed with an Orange background color in the top and bottom part of the Mini Executor Dialog. If the group master is selected, then the top part will have the green background color and the bottom part will have the orange background color.

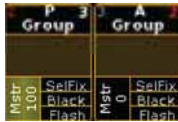


### Locked Executors

Executors and groups can be locked. If an executor is locked then the small executor number in the upper right corner is red.

If the group is locked then the group number in the upper left corner is red.

It could look like this:



### Edit and Assign Group

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red, and the adds an "Assign" in front of the group name.

When you press the middle part of the Mini Executor you go into edit mode. When this mode is active, then the background color of the top part is changed to dark red, and the adds an "Edit" in front of the group name.

It could look like this:



### Related Links

- [Assign Menu](#)
- [Group Pool](#)
- [Group concept](#)
- [Executor concept](#)

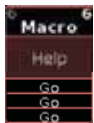


### Reference: Mini Executor Dialog / Macro

This is the macro executor when a macro is assigned to an executor.

This displays a lot of information about the macro assigned to this executor.

This is what it could look like when assigned to one executor fader:



You can also assign this to one of the executor buttons. It could look like this:



This Mini Executor Dialog is divided into three parts.

#### The top Part

The top part tells you that you have assigned an macro to the executor.

In the top left corner you'll find the executor number.

In the right corner you'll find the macro number.

If you press the top part you open the **Assign Menu** for this executor.

There are other special options and situations that also affect the appearance of the top bar. This only alters the colors in the top bar. Read more about this below.

#### The middle part

The middle part displays the name of the macro.

Pressing the middle part will opens the **Macro Editor pop-up**.

#### The bottom part

At the bottom part you can see the functions of the executor hardkeys.

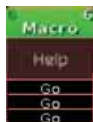
There are three lines that represent the three executor hardkeys on the executor fader or the one for the hardkey on the executor button.

Pressing this area will execute the function you pressed.

#### Selected Executor

The selected executor will get a green color in the top part.

It could look like this:



### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Fixed executors are displayed with an Orange background color in the top and bottom part of the Mini Executor Dialog. If a fixed executor is selected, then the top part will have the green background color and the bottom part will have the orange background color.

The picture below display two executors - one is a normal fixed executor the other is a *selected* fixed executor:



### Locked Executors

Executors and macros can be locked. If an executor is locked then the small executor number in the upper right corner is red.

If the macro is locked then the macro number in the upper left corner is red.

It could look like this:

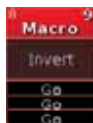


### Assign Menu

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red.

When you press the middle part of the Mini Executor you open the Editor. This isn't indicated for macros on executors.

Macros with the assign menu open could look like this:



### Related Links

- [Assign Menu](#)
- [Macro Editor pop-up](#)
- [Macro Pool](#)
- [Macros concept](#)
- [Executor concept](#)



### Reference: Mini Executor Dialog / Sequence

This is the sequence executor for a sequence not running as a chase.

This displays a lot of information about sequence assigned to this executor.

This is what it could look like when assigned to one executor fader:



You can change the width of this to take the size of up to five executors. This is what it could look like:



You can also assign this to one (or up to five) of the executor buttons. It could look like this:



This Mini Executor Dialog is divided into three parts.

### The top Part

The top part displays the Sequence Name.

In the top left corner you'll find the executor number.

In the right corner you'll find the sequence number.

Other information here might include the following:

- L: This means that the sequence is in Lowest Take Precedence mode.
- H: This means that the sequence is in Highest Take Precedence mode.
- S: This means that the sequence is in Swap priority mode.
- [triangle pointing up]: The executor is in High priority mode.
- [triangle pointing down]: The executor is in Low priority mode.
- T: This indicates that the sequence is in tracking mode.

If you press the top part you open the **Assign Menu** for this executor.

There are other special options that also affect the appearance on the top bar. This only alters the colors in the top bar. Read more about this below.

### The middle part

The middle part shows you the cue (or cues if there's more than one) number and cue name. The active cue have a blue background. If you have more than one cue, the active one will always be in the middle. The previous active cue will be above and the next cue (should you press GO) are below.

The background of the cue will follow the background of the fading bars from the **Sequence Executor Sheet**.

Pressing the middle part will open the **Edit Sequence pop-up**.

### The bottom part

At the bottom part you can see the fader position and the function of the executor hardkeys.

The left side shows you the position of the fader. It will tell you the function of the fader and the current position from 0% to 100%. If the function for fader is "Master" then it displays the priority of the executor.

If you have assigned the sequence to an executor button, then this will be a virtual master. It will not give you the information mentioned above, but will simply visualize the fader position.

The right part represent the three executor hardkeys on the executor fader or the one hardkey on the executor button.

If the executor uses more than one executor fader or button, then this part will be repeated for each executor it uses in the width.

Pressing this area will execute the function you pressed or move the fader to a new position.

### Playback Master

Executors can be assigned a Playback master. If one is assigned then the left fader side of the bottom part is divided into two columns. The left one will be the fader for the executor. The right one will be the position of the playback master. The displayed function (or priority) and value will follow the local master.

It could look like this (in this example the playback master is at 20%):



### Selected Executor

The selected executor will get a green color in the top part.

It could look like this:



### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Fixed executors are displayed with an Orange background color in the top and bottom part of the Mini Executor Dialog. If the sequence is selected, then the top part will have the green background color and the bottom part will have the orange background color.

The picture below display two sequences - one is a normal fixed executor the other is a *selected* fixed executor:



### Locked Executors

Executors and sequences can be locked. If an executor is locked then the small executor number in the upper right corner is red.

If the sequence is locked then the sequence number in the upper left corner is red.

It could look like this:



### Input and Playback filter

Using the Assign Menu you can assign Input and/or Playback filters. The Playback filter is applied to the executor and is indicated by adding a orange background color to the executor number. The Input filter is applied to the Sequence, and is indicated by adding an orange background color to the sequence number.



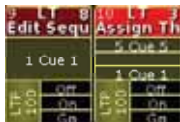
If the executor is selected or fixed, then the green and orange background color is only applied to the name in the top part.

### Edit Pop-up and Assign Menu

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red, and the adds an "Assign" in front of the sequence name.

When you press the middle part of the Mini Executor you open the Editor. When the editor is open then the background color of the top part is changed to dark red, and the adds an "Edit" in front of the sequence name.

It could look like this:



### Related Links

- [Assign Menu](#)
- [Edit Sequence pop-up](#)
- [Cues & Sequences concept](#)
- [Executor concept](#)



### Reference: Mini Executor Dialog / Special Master

This is the description of the different special masters when assigned to an executor.

When a special master is assigned to an executor, there's always a lot of information.

Special masters can only be assigned to single executor faders. So no executor buttons and not spanning more than one executor fader.

There's a group of Special Masters that relate to the selected executor. They follow the selected executor and when you move the fader, the change are applied to the selected executor.

This is what they could look like when assigned to executor faders:

| 1 Master | 2 XFade | 3 XFade A | 4 XFade B | 5 Rate | 6 Fade | 7 MFade | 8 Temp | 9 Speed |
|----------|---------|-----------|-----------|--------|--------|---------|--------|---------|
| 100 %    | 0.0 %   | 0.0 %     | 0.0 %     | 1:1    | 0.0 s  | -10.0 s | 0.0 %  | 1.00 Hz |
| 100 %    | 0.0 %   | 0.0 %     | 0.0 %     | 1:1    | 0.0 s  | -10.0 s | 0.0 %  | 1.00 Hz |
| 100 %    | 0.0 %   | 0.0 %     | 0.0 %     | 1:1    | 0.0 s  | -10.0 s | 0.0 %  | 1.00 Hz |

Another group of Special Masters have to do with operations of the console. You can create a mirror version of the grand master or physical faders for Program and Executor Time. The last three have to do with sound - sound out is the volume of the build-in speaker, sound in is the gain on the sound input and Sound BPM is currently not implemented.

They could look like this:



| 10 Grand | 11 Program Time | 12 Exec Time | 13 Snd Out | 14 Snd In | 15 Sound BPM |
|----------|-----------------|--------------|------------|-----------|--------------|
| 100%     | 3.4 s           | 4.1 s        | 42.0 %     | 40.4 %    | 50.0 %       |
| Find     | Black           | Flash        | Find       | Black     | Flash        |

The last group is the Speed, Rate and Playback Masters. You can have up to 16 speed masters and 16 rate masters and 50 playback masters.

Here's one of each:

| 1 Sp     | 1 Ra   | 1 Pl   |
|----------|--------|--------|
| Spd 1    | Rate 1 | Play 1 |
| 60.0 BPM | 2.00   | 100    |
| Find     | Black  | Flash  |

This Mini Executor Dialog is divided into three parts.

### The top Part

The top part tells you special master you have assigned to the executor.

In the top left corner you'll find the executor number.

If you have a speed master, then the center top part will say "Sp" and in the right corner the master number. If it's a rate master it says "Ra" in the center top part. If it's a playback master it says "Pl". The row below is the name of the Speed, Rate or Playback master.

If you press the top part you open the **Assign Menu** for this executor.

There are other special options and situations that also affect the appearance of the top bar. This only alters the colors in the top bar. Read more about this below.

### The middle part

The middle part displays the value of the master.

### The bottom part

At the bottom part you can see the fader position and the function of the executor hardkeys.

The left side shows you the position of the fader. It will tell you the function of the fader and the current value.

The right part represent the three executor hardkeys on the executor fader.

Pressing this area will execute the function you pressed or move the fader to a new position.

### Selected Executor

You can select one of the special masters but that doesn't really make any sense. Any special master that have to do with the selected executor loses any function.

Anyway, this is what it could look like:

|       |
|-------|
| MFade |
| 0.0 s |
| MFade |
| Off   |
| Black |
| Go    |

### Fixed Executor

An executor can be fixed, meaning that it will stay visible even when you change page. Fixed executors are displayed with an Orange background color in the top and bottom part of the Mini Executor Dialog. If a fixed executor is selected, then the top part will have the green background color and the bottom part will have the orange background color.

The picture below display a fixed special master:

|      |
|------|
| Rate |
| Rate |
| Rate |
| Rate |
| Rate |
| Rate |

### Locked Executors

Executors can be locked. If an executor is locked then the small executor number in the upper right corner is red.

It could look like this:

|        |
|--------|
| 1 Fade |
| 0.0 s  |
| Fade   |
| Rate   |
| Rate   |
| Go     |

### Assign Menu

When you press the top part of the Mini Executor you open the Assign Menu. When the menu is open then the background color of the top part is changed to a bright red and there's an "Assign" in front of the function description.

Special Masters with the assign menu open could look like this:



### Related Links

- [Assign Menu](#)
- [Executor concept](#)



### Reference: NPU windows

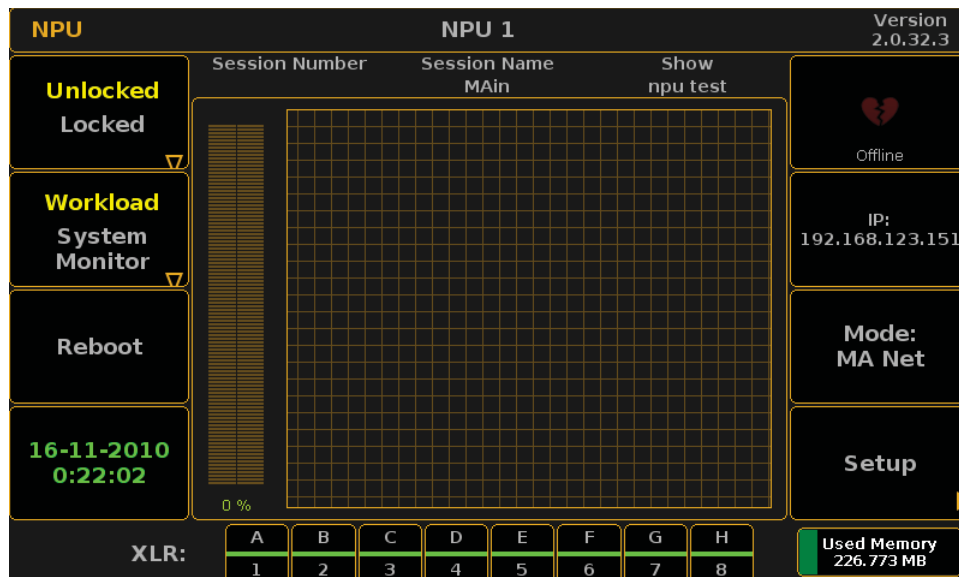
This is a description of the different windows on the NPU (in series 2 mode).



### Reference: NPU / Main Screen

The is the default main view of the NPU.

This is what it could look like:



The screen is divided into different parts.

There's the top bar and the session information area below the top bar. The two sides with buttons and information.

The center part displaying the workload or System Monitor.

The bottom part displaying the status of the DMX ports and the amount of used memory.

The following is a description of the different parts.

#### The Top Bar:

In the left side of the Top Bar you can see that it's a NPU. The center part displays the name of the NPU. On the right side of the Top Bar you can see the version number.

#### The Session Information Section:

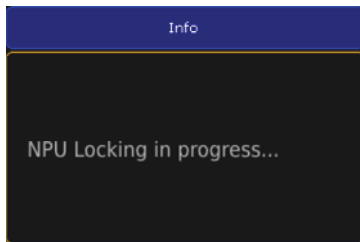
Below the Top Bar in between the two sides, you can see the Session Number (if connected to a session), the last (or active) Session Name and the last uploaded Show.

#### The Left Side:

##### Unlocked / Locked button:

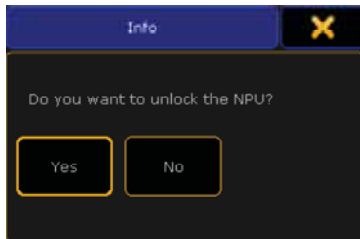
The Left Side have four different buttons and information area. The top button is a button to Unlock or Lock the NPU. The yellow color indicates the current status.

Pressing the button gives you one of two pop-ups. If the NPU is unlocked you get this pop-up:



It's only there as long as it takes to lock the NPU. When the NPU is locked, you can only touch this button on the NPU. You can change the DMX port settings from a console.

If the NPU is locked and you press the button, you'll get this pop-up:



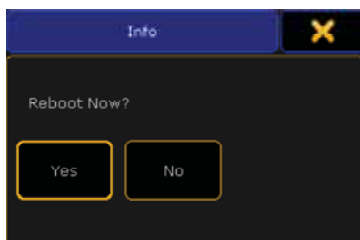
This asks you if you want to unlock the NPU.

#### **Workload / System Monitor button:**

This toggles the Center Part of the screen. Read about the center part below.

#### **Reboot button:**

This button gives you this pop-up:



Pressing "Yes" reboots the NPU. Pressing "No" (or the "X" in the upper right corner) aborts the reboot.

#### **Date / Time area:**

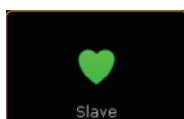
This area displays the date and time. The NPU follows the time in the session.

#### **The Right Side:**

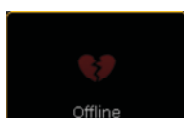
##### **Network state:**

This button displays the current session state. There are two different states:

Slave - The NPU is connected to a session:



and Offline - The NPU is not connected to a session:



##### **IP address:**

This area displays the current IP address.

##### **Mode:**

This displays the mode of the NPU.

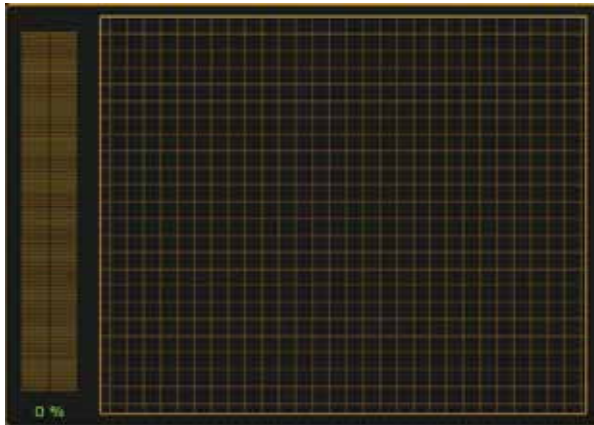
##### **Setup Button:**

Pressing here opens the **NPU Setup** window. Follow the link below to read about the **NPU Setup** window.

#### **The Center Part:**

This part can show two different things. You can toggle between the two using the button on the left side.

One is the current workload and a graph of the last three minutes workload:



Or it can display the System Monitor:

```
0h29m37.451s  ROOT : * ending show download
0h29m37.451s  ROOT : *****
0h29m37.451s  ROOT : LOADED (DB_ROOT:=Work_DataPackets)
0h29m37.451s  ROOT : SM_SHOW_VALID
0h29m37.527s   RT : Output is stable
0h29m59.809s  ROOT : DELTA=207.502ms
0h30m59.820s  ROOT : DELTA=195.695ms
0h31m11.988s MainPult : *****
0h31m11.988s MainPult : * STARTING MODAL LOOP 0x9134280 I
0h31m11.988s MainPult : *****
0h31m15.350s MainPult : -----
0h31m15.358s MainPult : * ENDING MODAL LOOP FOR DIALOG 0x
0h31m15.358s MainPult : *****
0h31m17.726s MainPult : -----
0h31m17.726s MainPult : * STARTING MODAL LOOP 0x9134280 I
0h31m17.726s MainPult : *****
0h31m21.795s MainPult : -----
0h31m21.795s MainPult : * ENDING MODAL LOOP FOR DIALOG 0x
0h31m21.795s MainPult : *****
```

This can be very useful for fault finding.

#### The Bottom Part:

At the bottom part displays the current status of the DMX ports on the NPU back panel. It could look like this:

| XLR: | A | B | C | D | E | F | G | H |
|------|---|---|---|---|---|---|---|---|
|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 5 |

The letter corresponds with the port markings. The number is the assigned DMX univers. The green colored line indicates the port is set to Output. A yellow line indicate an Input. And a grey line indicates that the port is turned off.

There's also an area displaying the amount of used memory.

#### Related Links

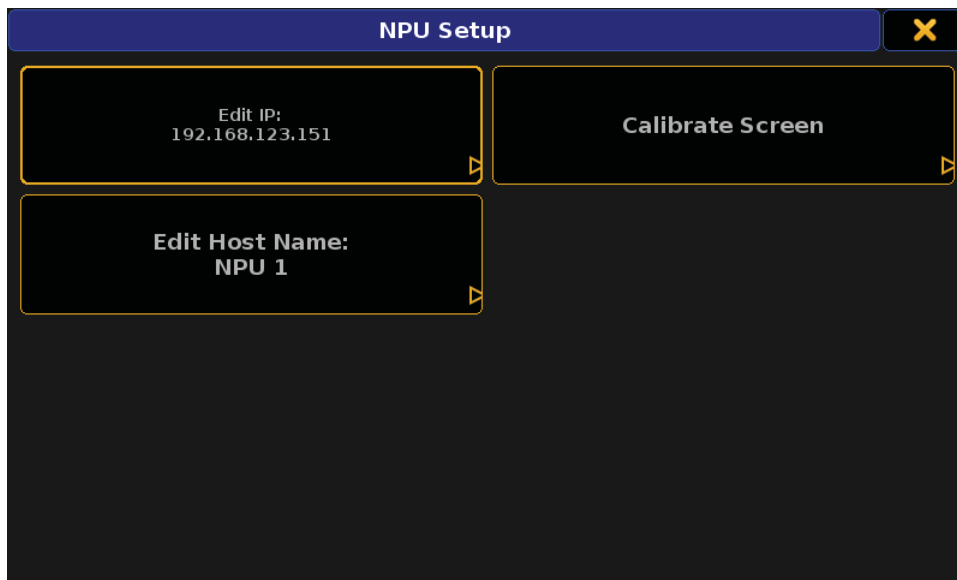
- [NPU Setup](#)



#### Reference: NPU / NPU Setup

This window gives you access to the options you can change on on the NPU.

On the NPU Main window you can press the "Setup" button. This gives you access to this window:

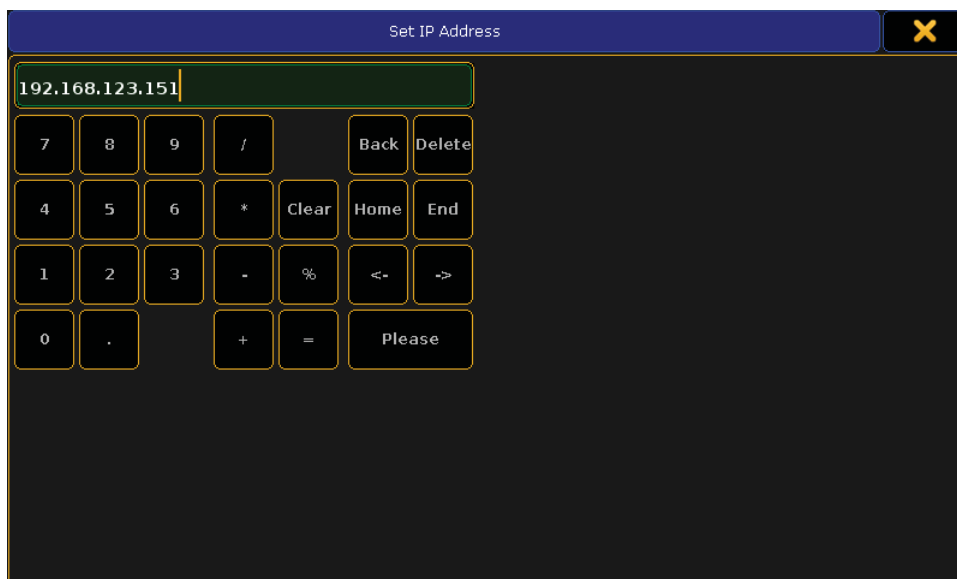


Here you have three (well, if you include the window closing "x" in the upper right corner, it's actually four) buttons.

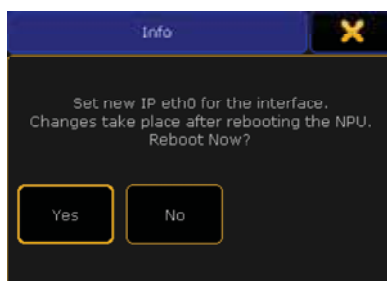
Read about what each button does below. You can close the window and return to the main window using the "X" in the upper right corner.

#### Edit IP:

Pressing here gives you the calculator pop-up:



Here you can type a new IP address. And you confirm your new IP with "Please". This gives you this pop-up:



This tells you that you need to reboot the NPU before the IP address is changed. The pop-up gives you the option to reboot now - by pressing "Yes", or do it later - by pressing "No". Pressing the "X" in the upper right corner of the pop-up is the same as pressing the "No" button.

#### Edit Host Name:

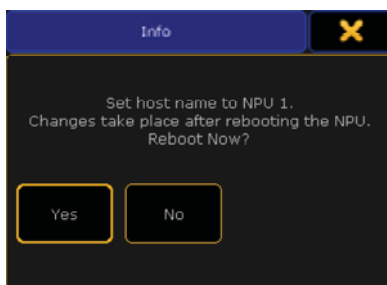
Pressing here gives you the **Enter Host Name** pop-up. This comes in two different sizes. This is the small version:



You can change between the two sizes pressing the "+" in the upper left corner. This is the big version:



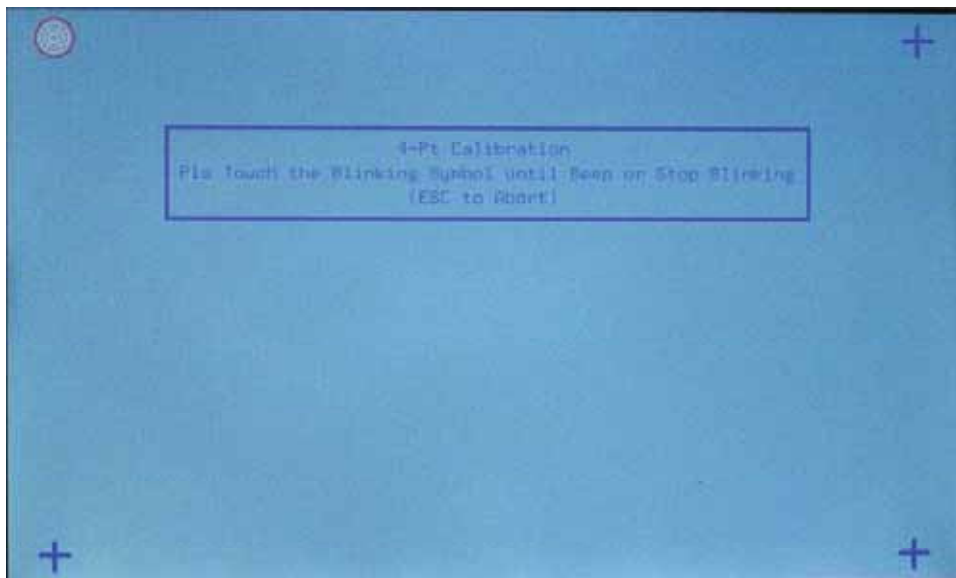
Here you can type a new name. And you confirm the name with "Please". This gives you this pop-up:



This tells you that you need to reboot the NPU before the name is changed. The pop-up gives you the option to reboot now - by pressing "Yes", or do it later - by pressing "No". Pressing the "X" in the upper right corner of the pop-up is the same as pressing the "No" button.

#### Calibrate screen:

Pressing here opens the screen calibration:



This asks you to touch the blinking corners. Then it saves the calibration and returns you to the **NPU Setup** window.



#### Reference: NPU / Shutdown pop-up

A small pop-up appears when you press the power button on the front panel.

Pressing the power button on the front panel gives you this pop-up:



Pressing "Yes" shuts down the NPU. Pressing "No" or the "X" in the upper right corner aborts the shut down.



## Reference: Remote

This section describes the windows in the remote.

The remote for grandMA2 supports only iOS! But you can use it on iPod Touch, iPhone and iPad.

For the remote to work you need to enable it on the console and naturally a WiFi access point!

To turn it on in the console you need to go to **Setup → Console → Global Settings** and turn on "Login Enabled".

To download the new grandMA remote go to the appstore.



## Reference: General controls on the grandMA2 remote

There are a top bar and bottom bar that almost never change.

When you use the grandMA2 remote there are some controls at the top and bottom that's almost always visible.

In many views you'll also have access to a command line. The command line could look like this:



You can press in the green area and use the keyboard to start typing any command you like. If you press the yellow ball you get a **Commandline Response** pop-up. This displays the previous responses from the system.

### Top bar

This is what the bar could look like:



In this bar you can see what console you are connected to.

On the right side there are two buttons:

**Scroll / Select:**

This button toggles between "Scroll" and "Select". "Scroll" allows you to scroll through the screen without selecting all channels and "Select" allows you to use the lasso function and select multiple channels.

**Wheels:**

This gives you the **Wheel** view. This is a remote version of the four main encoders. Follow the link below to read more about this.

### Bottom bar

This is what the bottom bar could look like:



There are five buttons here:

The one on the left side opens the **Select View** pop-up. Here you can select a different view. Follow the link below to read more.

The next button will always return you to the **Command 1** view. If you are in that view it will display the **Command 2** view instead. Press it again and you are back in **Command 1**. Follow the links below to read more about the two views.

The middle button opens a on screen keyboard.

The next button opens the **Select Command** pop-up. With this you can select additional commands. Follow the link below for details about the pop-up and the commands you can choose.

The last button is executes the "Next" command.

### Related Links

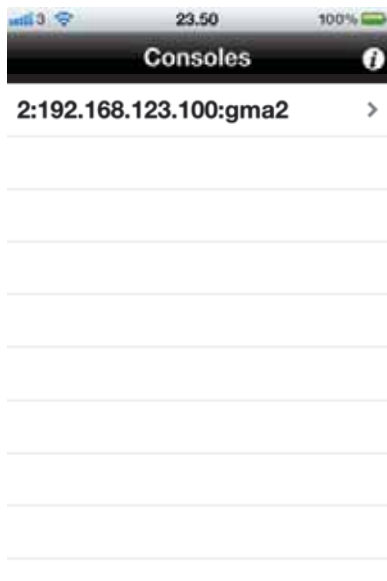
- [Commandline Response pop-up](#)
- [Wheel pop-up](#)
- [Select View pop-up](#)
- [Command 1](#)
- [Command 2](#)
- [Select Command pop-up](#)



### Reference: Console select

Starting the remote program you are forced to select a console to connect to.

This is what it could look like:



This displays a list of the available console in your network. Pressing the line with the desired console will give you the Login view. Follow the link below for more information on this view.

If you press the "i" in the upper right corner you'll get information about the remote version number, copyright and developer information (MA Lighting Technology GmbH). It will also have a "Done" button that returns you to this view.

### Related Links

- [Login view](#)



### Reference: Login

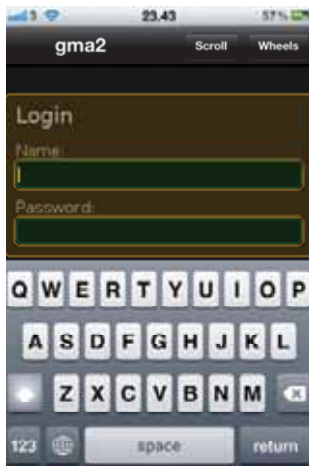
To use the remote you need to login.

This is the first screen you are presented with when you are connected to a console.

The login screen looks like this:







You need a user to login. You cannot use the Administrator or the Guest login. And you can only have two remotes logged in at the same time.

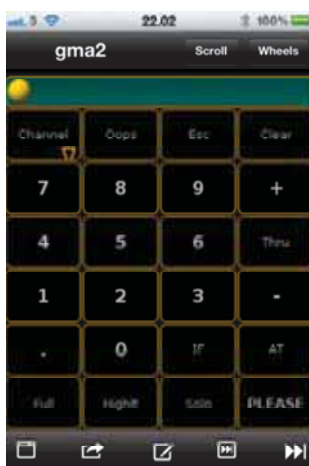
When you have typed in a name and password you can use the remote.



### Reference: Command 1

This is one of the main views in the remote.

This is what the view looks like:



This gives you a lot of buttons and a commandline. They are all used to enter commands and do what the label says it does.

The Highlight (Hight) and Solo buttons are toggle buttons. They are "on" when the text is yellow.

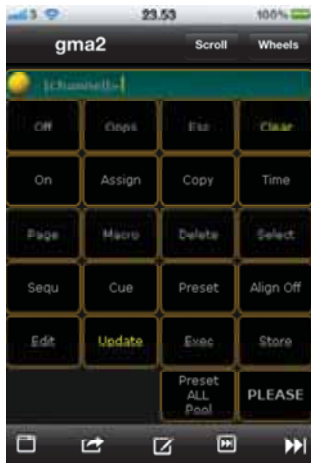
The button in the upper left corner toggles between four different keywords. They are "Channel", Fixture", Group" and "DMX".



### Reference: Command 2

This is one of the two main views in the remote.

This is what the view looks like:



This gives you access to many of the common commands. They are all used to enter commands and do what the label says it does and they work as they does on the console. Pressing many of the buttons will switch to the **Command 1** view. Some will give you special pop-ups. You can read about the special button below. Follow the links below to read more about different pop-ups.

Pressing the "Off" twice give you the **Off Menu** pop-up.

Pressing "Update" (when possible) gives you the **Update** pop-up.

In the bottom row you'll find a button called Preset [something] Pool. This will give you the pool view of the preset type displayed on the button. Follow the link below to read more about the Preset Pool.

Pressing the "Align [something]" button will open the **Select Align** pop-up.

Pressing and holding the "Store" button will open the **Store Options Temporarily** pop-up when you release it.

## Related Links

- [Command 1 view](#)
- [Off Menu pop-up](#)
- [Update pop-up](#)
- [Preset Pool](#)
- [Select Align pop-up](#)
- [Store Options Temporarily pop-up](#)

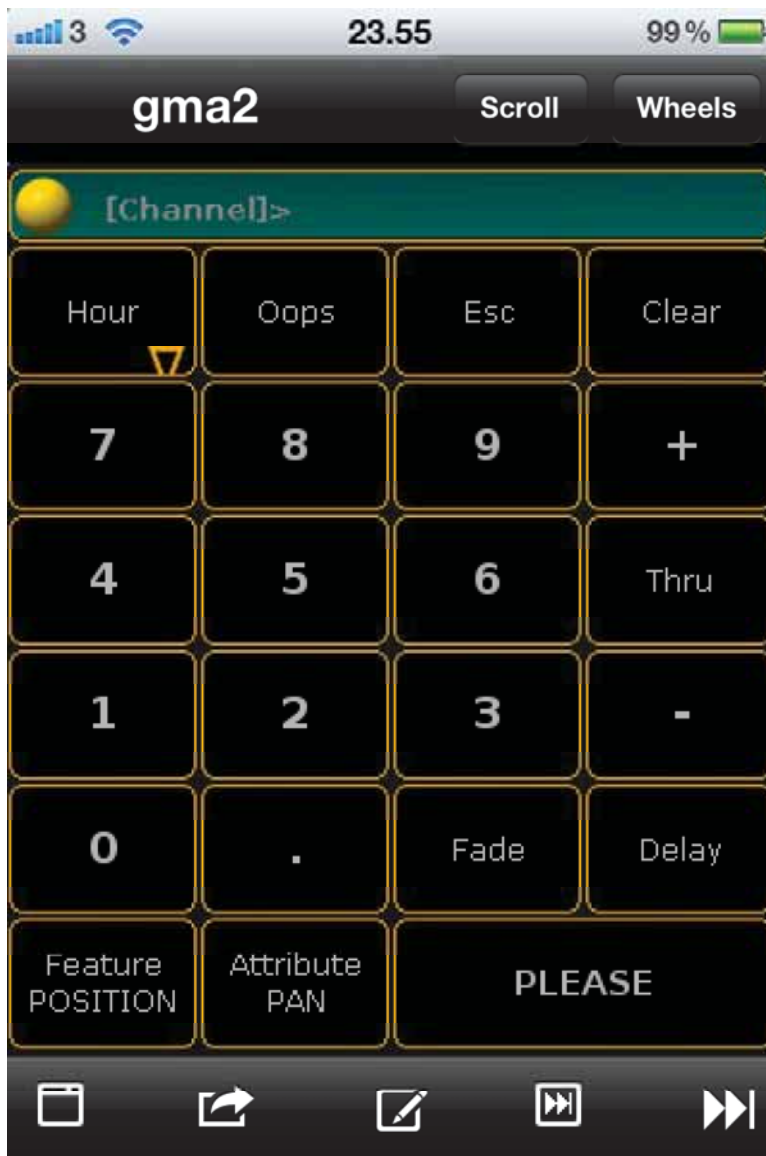


## Reference: Command Time

This view is used to assign times to an attribute.

This is what the view could look like:





The main part of this view gives you buttons that put something in the programmer. There's a commandline in the top of the view.

Some buttons are a bit special.

The button in the upper right corner toggles between three different time formats "Hour", "Minute" and "Second".

The bottom row has a "Feature" button. Pressing here opens the **Select Feature** pop-up. Follow link below to read more.

The bottom row has an "Attribute" button. Pressing here opens the **Select Attribute** pop-up. Follow link below to read more.

#### Related Links

- [Select Feature pop-up](#)
- [Select Attribute pop-up](#)



#### Reference: Fixture Sheet

The fixture sheet allows you to view and select values of the fixtures.

This is what the view could look like:

iPad 14.06 100%

**gma2** Scroll Wheels

Channel Sheet Readout Auto Clear

| ID F/C | Name      | Position<br>Pan Tilt | Dimmer<br>Dim | Robot<br>On Off | Robot<br>On Off | Animation<br>Adm. Values | Color<br>Cl Wheel | ColorMix<br>CM1 CM2 CM3 | CTC<br>CTC | Shutter<br>Shutter | Beam<br>Pos | Effect<br>Effect | Focus<br>Focus | Zoom<br>Zoom | L |
|--------|-----------|----------------------|---------------|-----------------|-----------------|--------------------------|-------------------|-------------------------|------------|--------------------|-------------|------------------|----------------|--------------|---|
| 11     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 12     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 13     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 14     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 15     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 16     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 17     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 18     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 19     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 20     | Mac3PeEx  | center               | closed        | open            | 0               | open 0                   | open Shake        | 0                       | 0          | open (-)           | open        | open 0           | 0              | 50           |   |
| 21     | VL3500S 1 | center               | closed        | open            | 0               | open                     | open              | 0                       | 0          | open               |             |                  | 0              | narrow       |   |
| 22     | VL3500S 2 | center               | closed        | open            | 0               | open                     | open              | 0                       | 0          | open               |             |                  | 0              | narrow       |   |
| 23     | VL3500S 3 | center               | closed        | open            | 0               | open                     | open              | 0                       | 0          | open               |             |                  | 0              | narrow       |   |
| 24     | VL3500S 4 | center               | closed        | open            | 0               | open                     | open              | 0                       | 0          | open               |             |                  | 0              | narrow       |   |
| 25     | VL3500S 5 | center               | closed        | open            | 0               | open                     | open              | 0                       | 0          | open               |             |                  | 0              | narrow       |   |

Feature POSITION Fixture Sort Prog. Only Group Pool

⏏ ↻ ⏏ ⏏ ⏏



The main part of this view is a normal fixture sheet. There's a commandline in the top of the view.

There are two rows of buttons. Some are a bit special. Follow the links below to read more about the different pop-ups.

In the top row there's a button called "Channel Sheet". Pressing here gives you the **Channel Sheet** view.

The top row also have a button that toggles between "Readout" and "Font". Of you press and hold for about 4 second and then release you open either the **Select Readout Mode** pop-up or the **Select Font** pop-up.

The last button I will mention in the top row is the Layer button (in the example above it says "Preset & Values"). Pressing here gives you the **Select Layer** pop-up.

The bottom row has a "Feature" button. Pressing here opens the **Select Feature** pop-up.

The bottom row also has a Preset Pool button. Pressing here opens the preset pool that's mentioned on the button..

#### Related Links

- [Channel Sheet](#)
- [Select Readout Mode pop-up](#)
- [Select Font pop-up](#)
- [Select Layer pop-up](#)
- [Select Feature pop-up](#)
- [Preset Pool](#)



#### Reference: Channel Sheet

The channel sheet allows you to view and select values of the channels.

This is what the view could look like:





The main part of this view is a normal channel sheet. There's a commandline in the top of the view.

There are two rows of buttons. Some are a bit special. Follow the links below to read more about the different pop-ups.

In the top row there's a button called "Fixture Sheet". Pressing here gives you the **Fixture Sheet** view.

The top row also have a button that toggles between "Readout" and "Font". Of you press and hold for about 4 second and then release you open either the **Select Readout Mode** pop-up or the **Select Font** pop-up.

The last button I will mention in the top row is the Layer button (in the example above it says "Preset & Values"). Pressing here gives you the **Select Layer** pop-up.

The bottom row has a Preset Pool button. Pressing here opens the preset pool that's mentioned on the button..

#### Related Links

- [Fixture Sheet](#)
- [Select Readout Mode pop-up](#)
- [Select Font pop-up](#)
- [Select Layer pop-up](#)
- [Preset Pool](#)



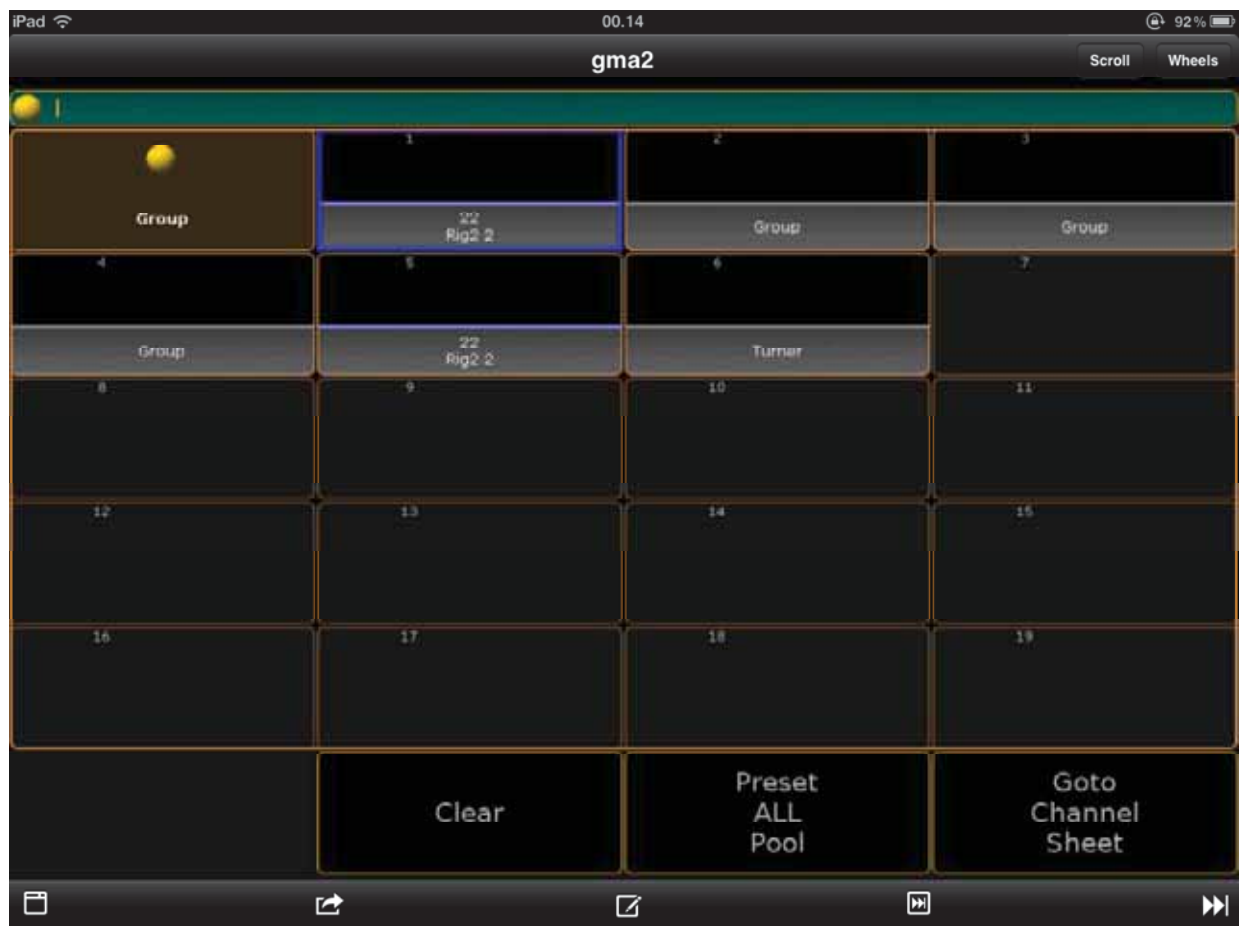
#### Reference: Group Pool

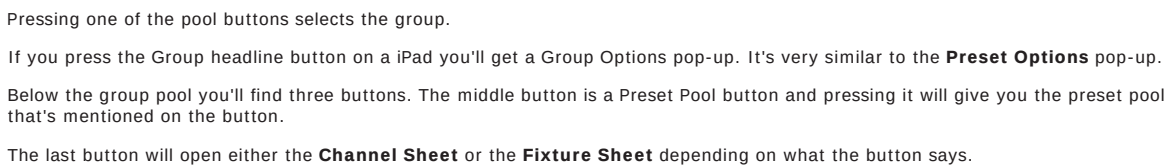
This is the group pool.

This view gives you 19 (iPad) or 15 (iPhone) groups, a commandline and three other buttons. You can of course scroll in the pool.

This is what it could look like:





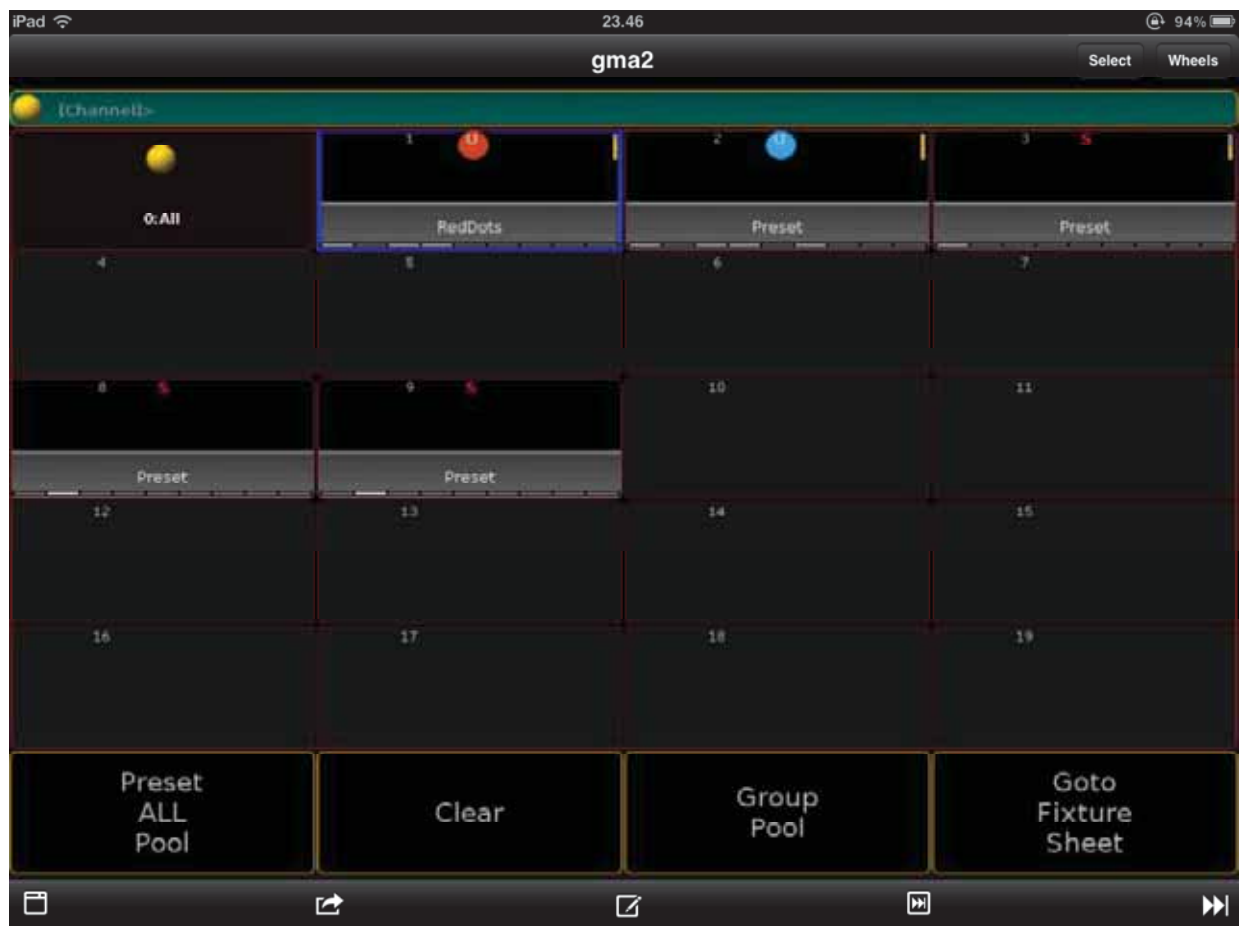


- [Preset Options pop-up](#)
- [Preset Pool](#)
- [Channel Sheet](#)
- [Fixture Sheet](#)



This is the preset pool.

This is what it could look like:





Using the pool is just like on the console. If you press the Preset headline button you'll get the **Preset Options** pop-up.

Below the pool buttons you'll find four buttons. The first button (from the left) is the Preset Pool button pressing it will give you the Select Preset pop-up. Here you can select a different preset type.

The "Clear" button works just like pressing the Clear hard key.

The next button will change your view to the **Group Pool** view.

The last button will open either the **Channel Sheet** or the **Fixture Sheet** depending on what the button says.

#### Related Links

- [Preset Options pop-up](#)
- [Select Preset pop-up](#)
- [Group Pool](#)
- [Channel Sheet](#)
- [Fixture Sheet](#)



#### Reference: Macro Pool

This is the Macro pool.

This view gives you 23 (iPad) or 19 (iPhone) macros and a commandline. You can of course scroll in the pool.

This is what it could look like:





Pressing one of the pool buttons will execute the macro.

If you press the Macro headline button on an iPad, you'll get a Macro Options pop-up. It's very similar to the **Preset Options** pop-up.

#### Related Links

- [Preset Options pop-up](#)

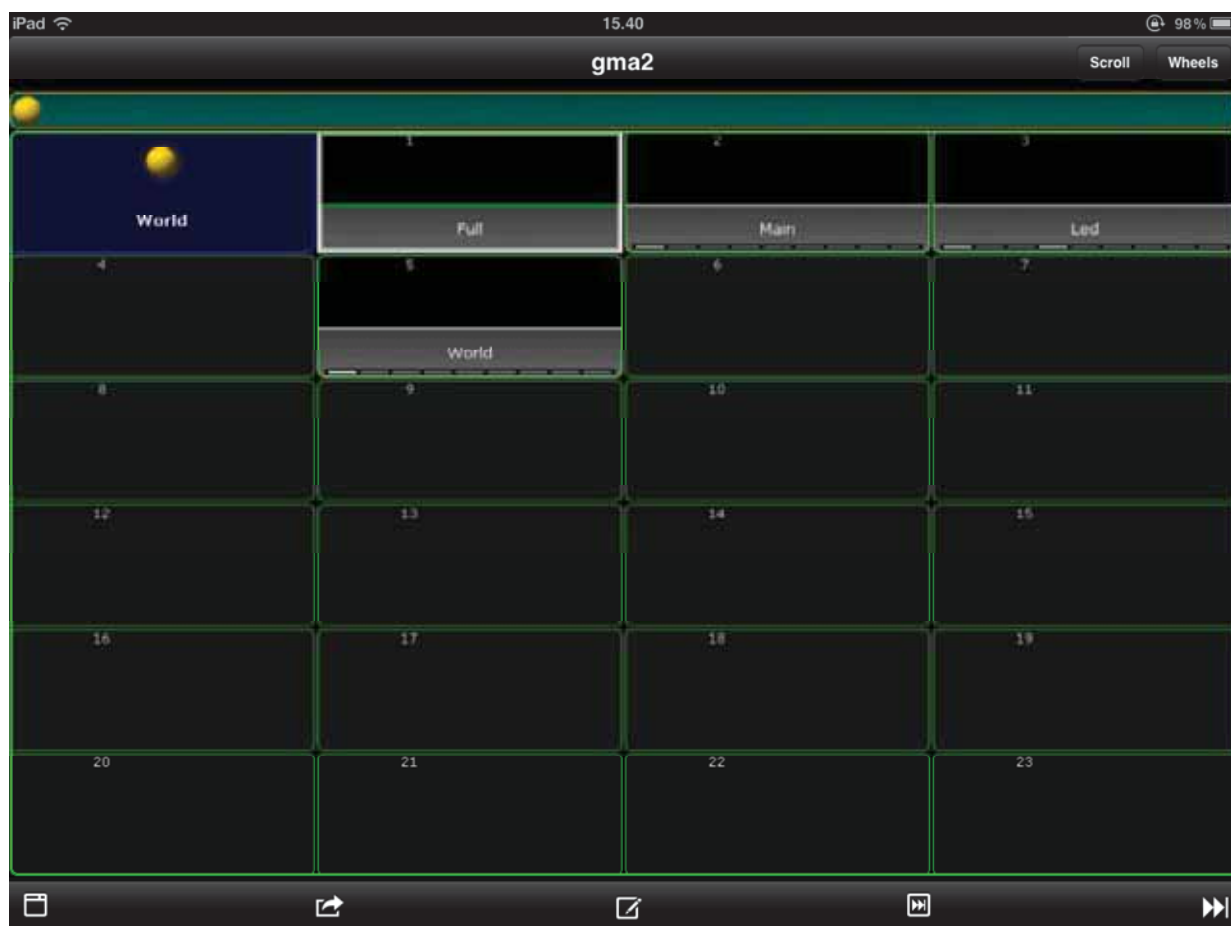


#### Reference: World Pool

This is the World pool.

This view gives you 23 (iPad) or 19 (iPhone) worlds and a commandline. You can of course scroll in the pool.

This is what it could look like:





Pressing one of the pool buttons will switch to the selected world.

If you press the World headline button on an iPad you'll get a World Options pop-up. It's very similar to the **Preset Options** pop-up.

#### Related Links

- [Preset Options pop-up](#)



#### Reference: Wheel

This is a special view that simulate the four encoders below screen 2 on a console.

This is what it could look like:







There's a lot of things going on in this view.

On the right side you'll find the different preset types available.

The top part displays the attribute and value on the encoder. The big "Wheels" allows you to adjust the value up or down. You can also change the resolution.

Below the wheels you'll find buttons that gives you access to the **Select Wheel Feature** pop-up and the **Select Wheel Layer** pop-up.

Below all this you'll find four buttons. The one on the left opens the Special Dialog pop-up (this isn't implemented yet). The three other buttons execute the "Previous", "Set" and "Next" commands.

#### Related Links

- [Select Wheel Feature pop-up](#)
- [Select Wheel Layer pop-up](#)
- [Special Dialog pop-up](#)



#### Reference: Remote Pop-ups

This is the Remote Pop-ups

This section contains the following pages.

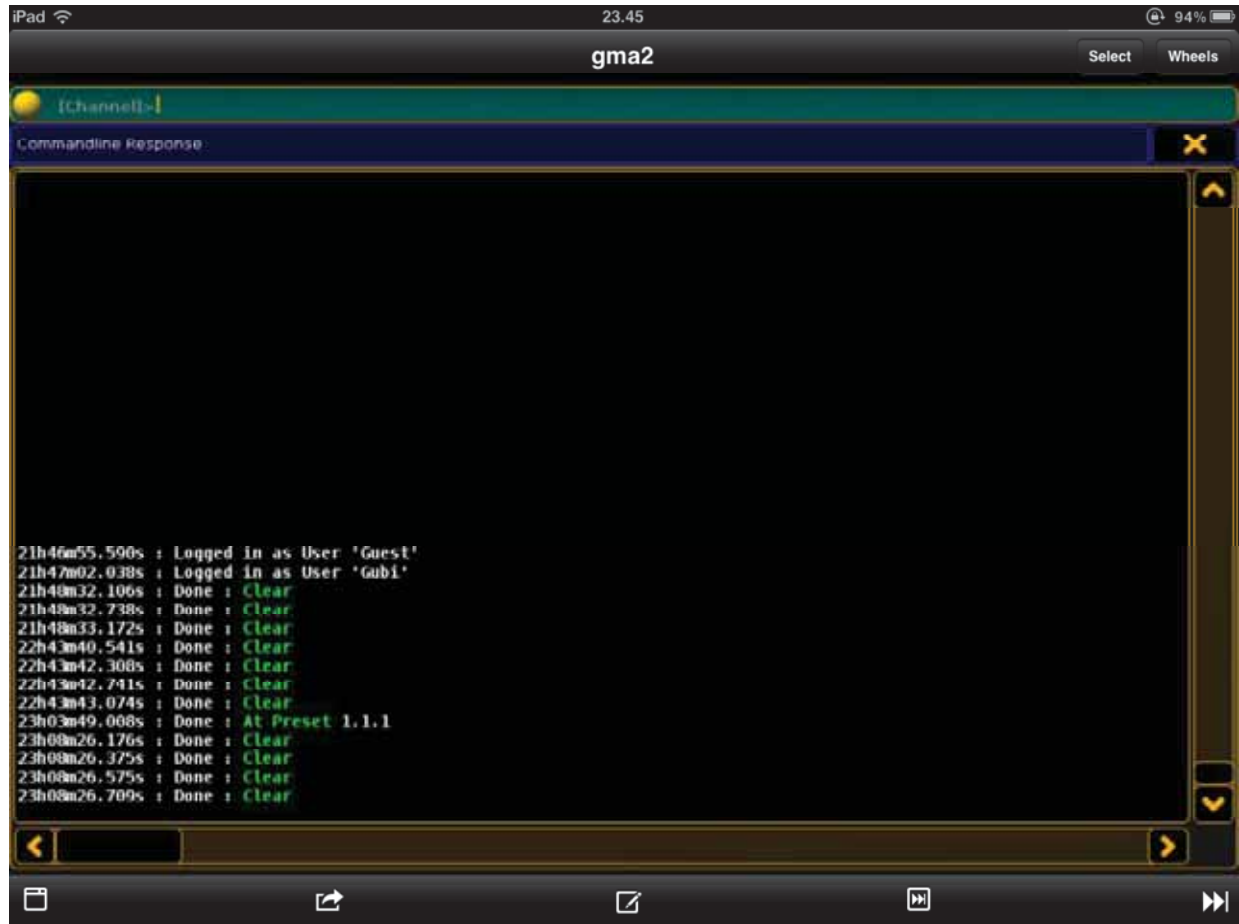


#### Reference: Commandline Response Pop-up

This pop-up displays the feedback from the MA system.

You get this pop-up by pressing the yellow ball in the commandline.

This is what it could look like:





You can close the pop-up using the "X" in the upper right corner.

#### Related Links

- [General Controls](#)



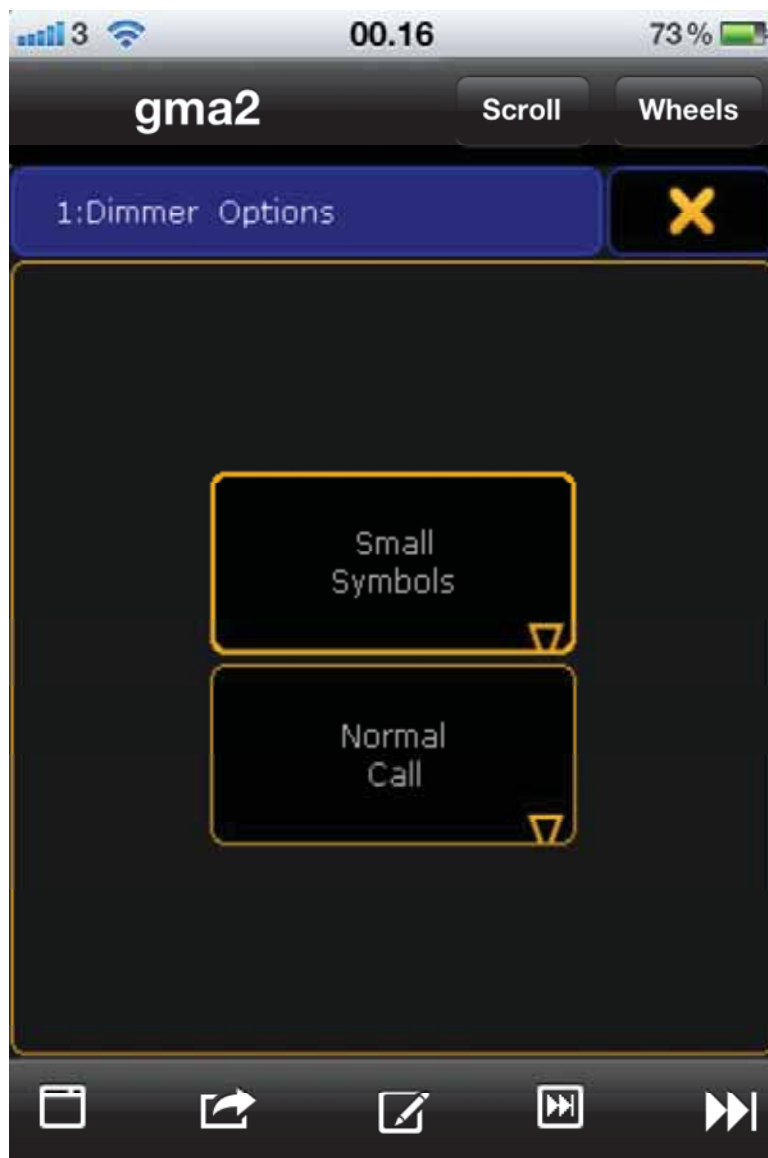
#### Reference: Preset Options Pop-up

This pop-up displays the options for a preset pool.

You get this pop-up by pressing the Preset headline. This pop-up also appears when pressing the headline in the Group pool, Macro pool and World pool on the iPad.

This pop-up appears very different on the iPad and the iPod/iPhone. This is what it could look like:





When you have change the options (or not ), you can close the pop-up using the "X" in the upper right corner.

#### Related Links

- [Preset Pool](#)
- [Group Pool](#)
- [Macros Pool](#)
- [Worlds Pool](#)



#### Reference: Off Menu pop-up

This is a short description of the Off menu on the remote system.

You can access this pop-up by pressing the off button twice in the **Command 2** view.

This is what it could look like:





There's nothing here that doesn't work like the **Off Menu** in the console. Follow the link below to read more about the menu.

#### Related Links

- [Command 2 view](#)
- [Off Menu pop-up](#)



#### Reference: Update pop-up

This is a short description of the Update pop-up in the remote system.

You can access this pop-up by pressing the update button in the **Command 2** view. You can only press this when the text is yellow.

This is what it could look like:







There's nothing here that doesn't work like the **Update pop-up** in the console. Follow the link below to read more about that pop-up.

#### Related Links

- [Command 2 view](#)
- [Update pop-up](#)



#### Reference: Store Options Temporarily

This is a short description of the Store Options Temporarily pop-up in the remote system.

You can access this pop-up by pressing and holding the Store button in the **Command 2** view for approx. 4 seconds and then releasing it.

This is what it could look like:





There's nothing here that doesn't work like the **Store Options Temporarily pop-up** in the console. Follow the link below to read more about the general store options.

#### Related Links

- [Command 2 view](#)
- [Store Options](#)



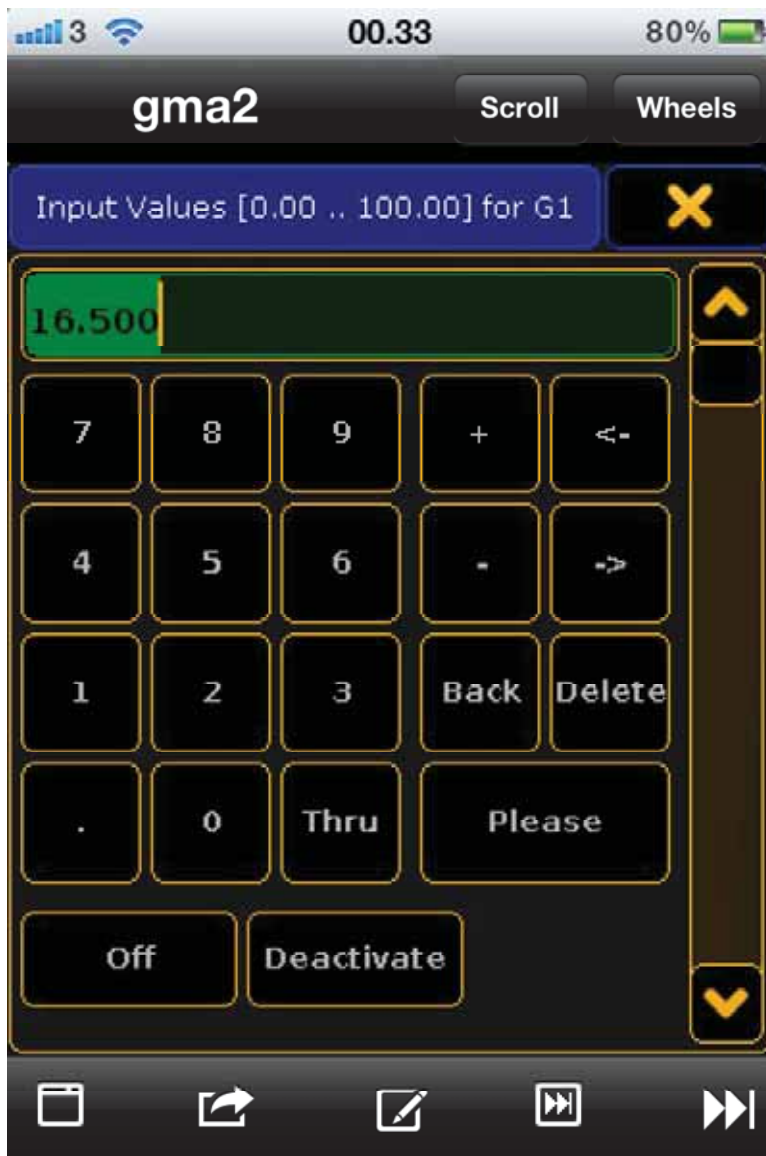
#### Reference: Calculator pop-up (remote)

This is a short description of the Calculator pop-up in the remote system.

You can access this pop-up by pressing above the wheels in the **Wheel** view.

This is what it could look like:





On the iPhone/iPod version you might need to scroll down to see the function sets.

There's nothing here that doesn't work like the **Calculator pop-up** in the console. Follow the link below to read more about that pop-up.

#### Related Links

- [Wheel view](#)
- [Calculator pop-up](#)

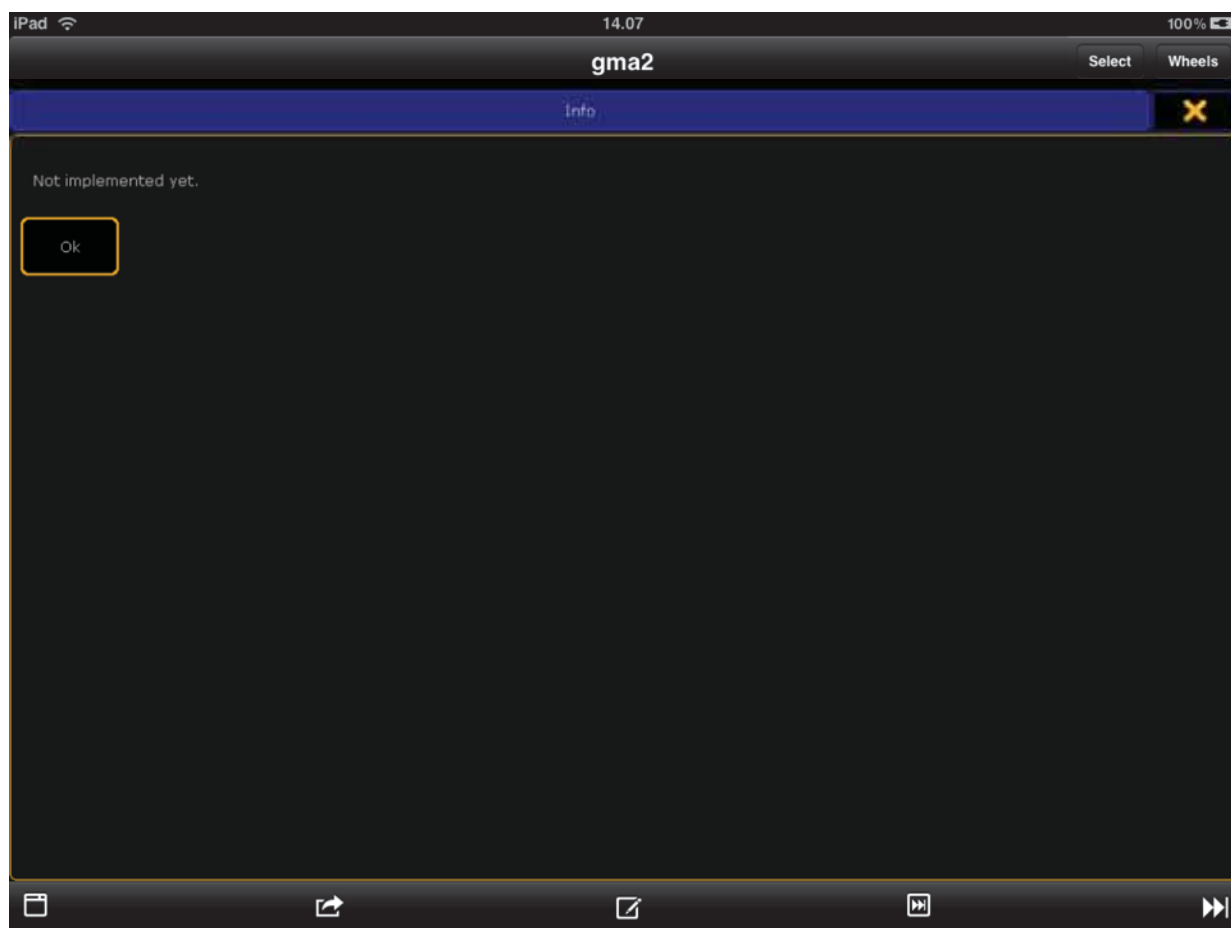


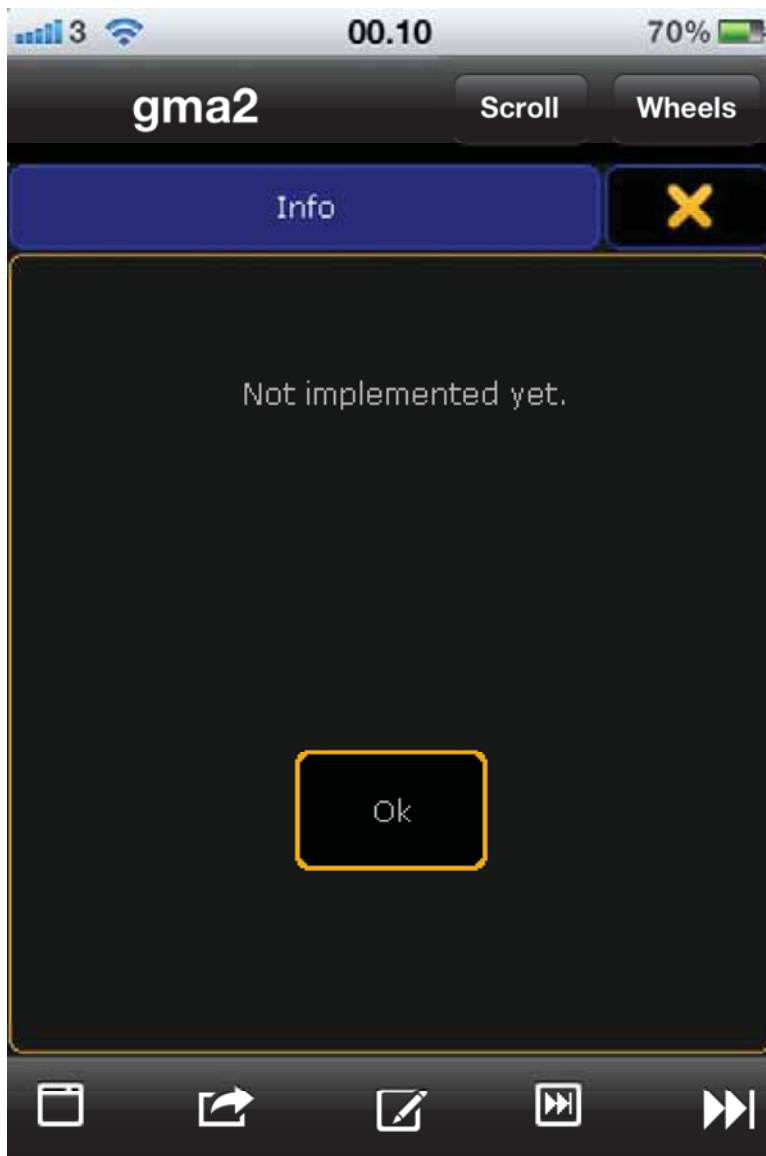
#### Reference: Special Dialog pop-up

This is the Special Dialog pop-up in the remote system. It isn't implemented yet.

You can access this pop-up by pressing the Special Dialog button in the **Wheel** view. The Special Dialog isn't implemented yet. So this is actually a pop-up telling you that.

This is what it could look like:





The only option you really have here is to close the pop-up using the OK button or the "X" in the upper right corner.

#### Related Links

- [Wheel view](#)



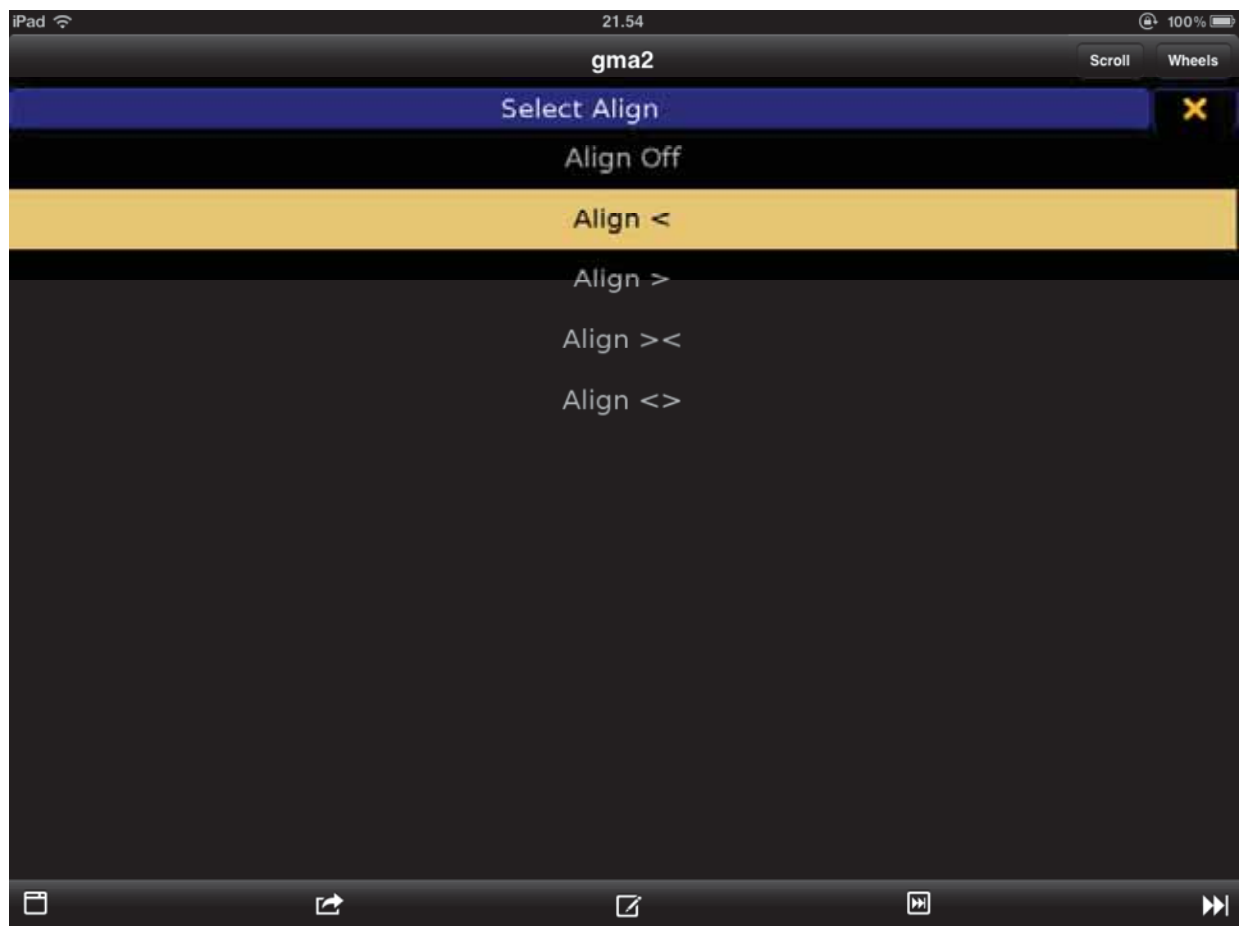
#### Reference: Align pop-up

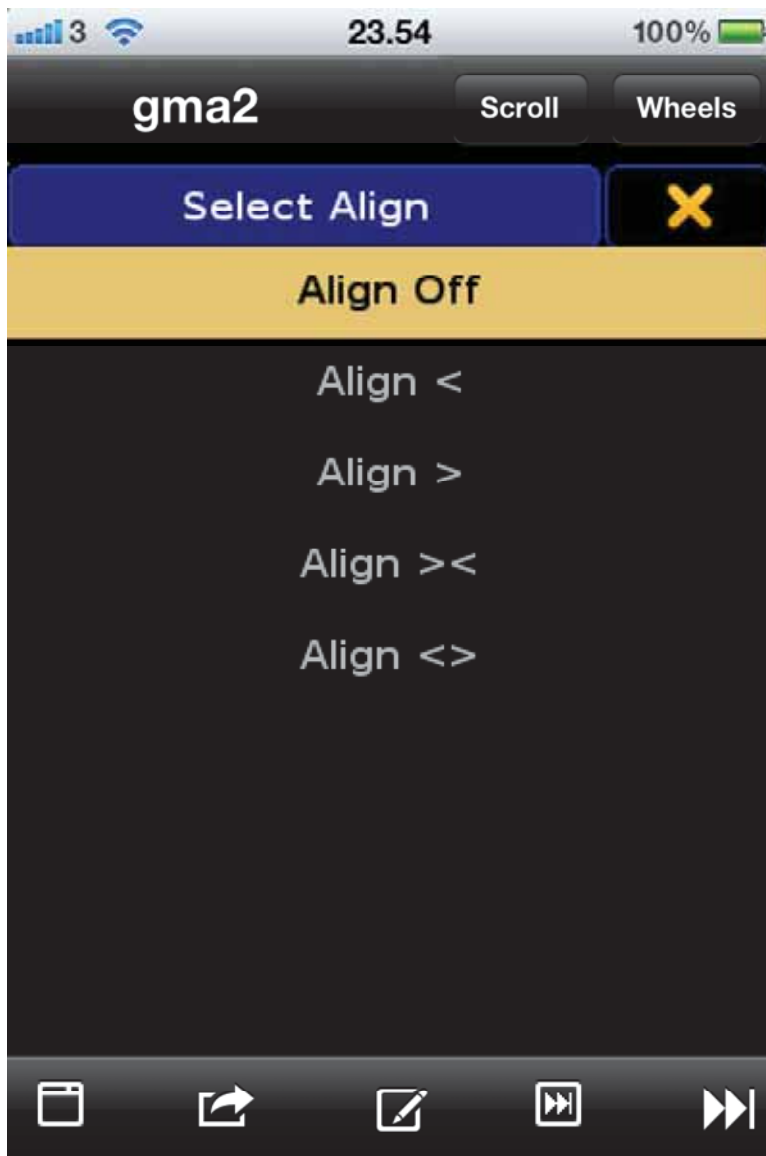
This is a short description of the Align pop-up in the remote system.

You can access this pop-up by pressing the Align button in the **Command 2** view.

This is what it could look like:







There are five different Align options. Here you can select one of them.

#### Related Links

- [Command 2 view](#)



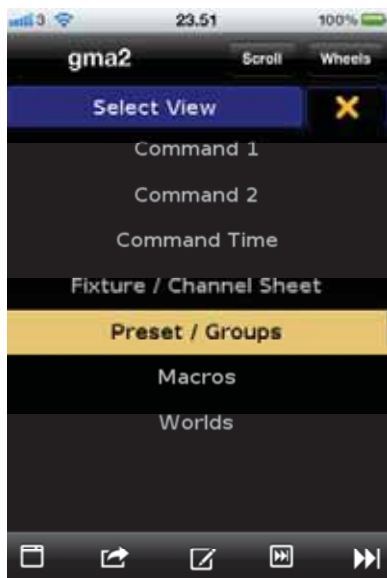
#### Reference: Select View pop-up

This is a short description of the Select View pop-up in the remote system.

You can access this pop-up by pressing the Select View button in the bottom bar with general controls.

This is what it could look like:





With this you can select the different main views in the remote. Follow the links below to read more about the General controls and the different views.

#### Related Links

- [General Controls](#)
- [Command 1](#)
- [Command 2](#)
- [Command Time](#)
- [Fixture Sheet](#)
- [Channel Sheet](#)
- [Preset Pool](#)
- [Group Pool](#)
- [Macros Pool](#)
- [Worlds Pool](#)

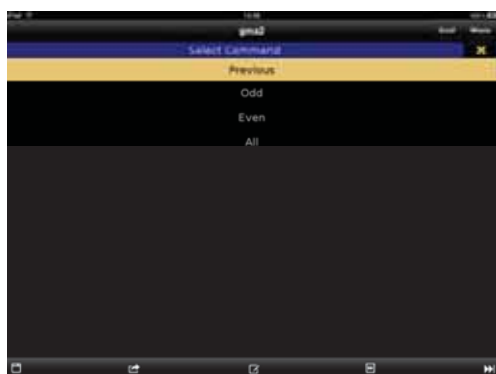


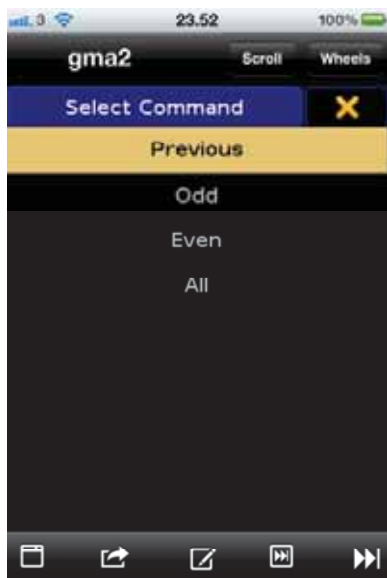
#### Reference: Select Command pop-up

This is a short description of the Select Command pop-up in the remote system.

You can access this pop-up by pressing the Select Command button in the bottom bar with general controls.

This is what it could look like:





This is a list of commands that will be executed when you press your selection.

### Related Links

- [Commandline Response pop-up](#)

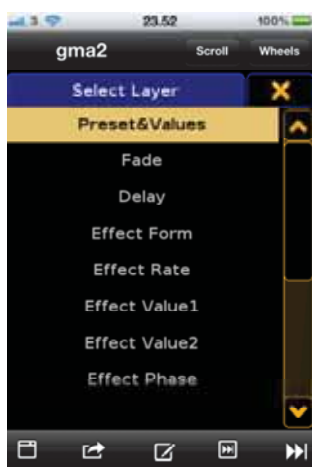
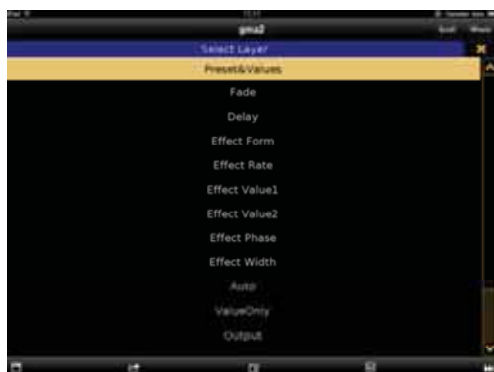


### Reference: Select Layer pop-up

This is a short description of the Select Layer pop-up in the remote system.

You can access this pop-up by pressing the Layer button in the **Fixture Sheet** and **Channel Sheet**.

This is what it could look like:



This is a list of layers you can select for your sheet. Below there's a link to Layer filter description.

### Related Links

- [Fixture Sheet](#)
- [Channel Sheet](#)
- [Layer Filter description](#)

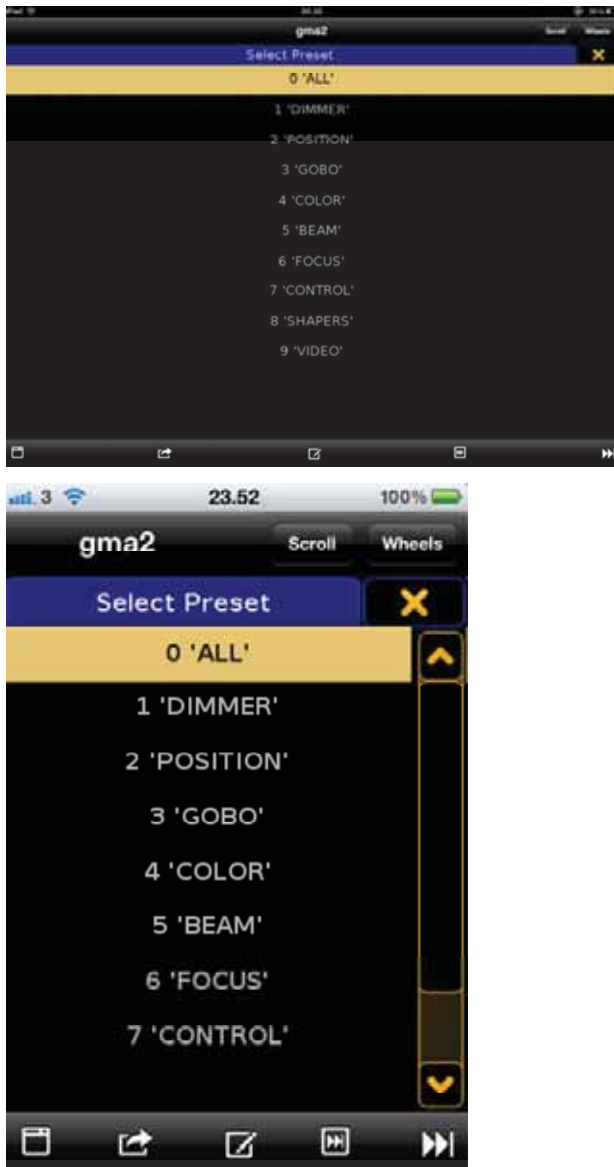


### Reference: Select Preset pop-up

This is a short description of the Select Preset pop-up in the remote system.

You can access this pop-up by pressing the Preset [Type] Pool button in the **Preset Pool**.

This is what it could look like:



This is a list of preset types you can select for your preset pool view. Below there's a link to the pool view.

### Related Links

- [Preset Pool](#)

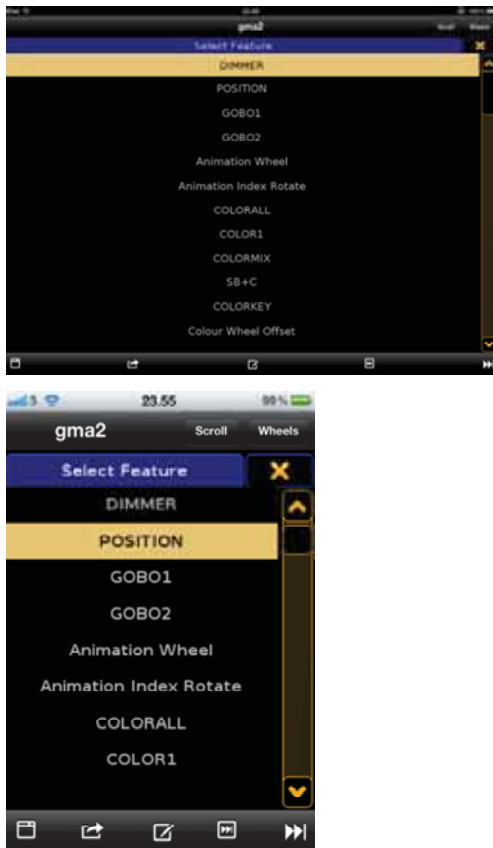


### Reference: Select Feature pop-up

This is a short description of the Select Feature pop-up in the remote system.

You can access this pop-up by pressing the Feature [Type] button in the **Command Time view** and the **Fixture Sheet**.

This is what it could look like:



This is a list of the features you can select for your time command. Below there's a link to the command time and fixture sheet views.

#### Related Links

- [Command Time](#)
- [Fixture Sheet](#)

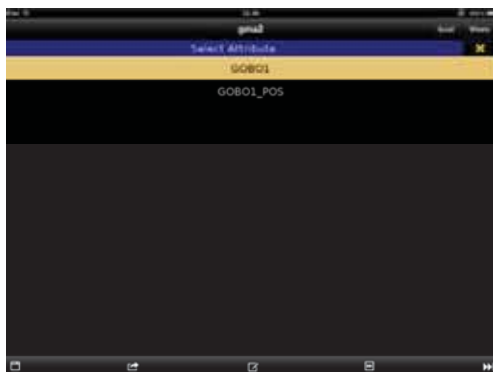


#### Reference: Select Attribute pop-up

This is a short description of the Select Attribute pop-up in the remote system.

You can access this pop-up by pressing the Attribute [Type] button in the **Command Time view**.

This is what it could look like:





This is a list of the attributes you can select for your time command. Below there's a link to the command time view.

### Related Links

- [Command Time](#)

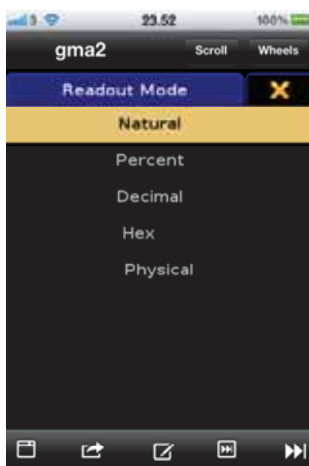
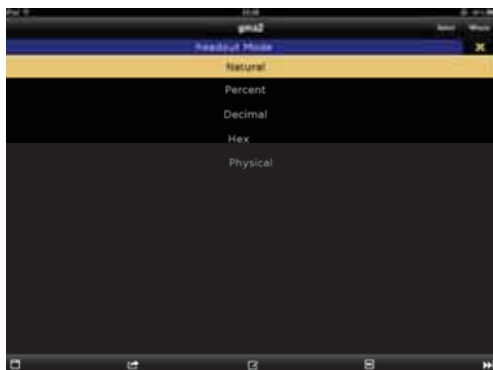


### Reference: Select Readout Mode pop-up

This is a short description of the Select Readout Mode pop-up in the remote system.

You can access this pop-up by pressing and holding the Readout button in the **Fixture Sheet** and the **Channel Sheet** and after a few seconds you release.

This is what it could look like:



This is a list of the five different readouts you can select for your Channel or Fixture sheets.

### Related Links

- [Fixture Sheet](#)
- [Channel Sheet](#)

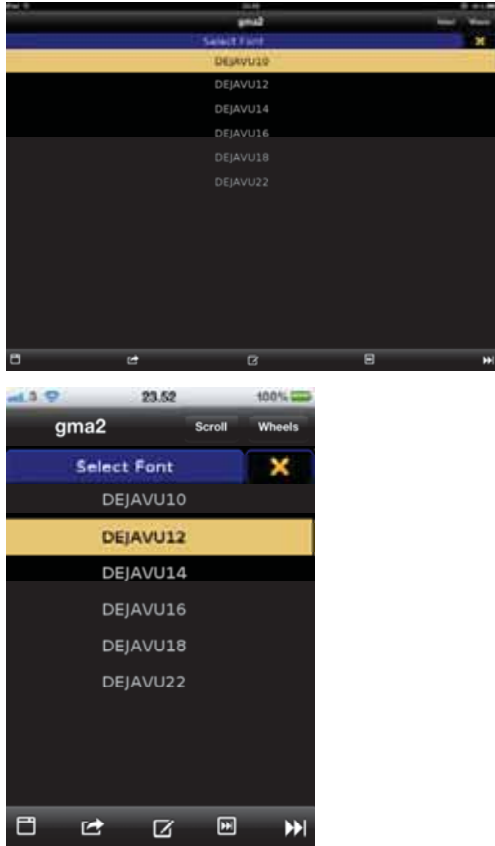


### Reference: Select Font pop-up

This is a short description of the Select Font pop-up in the remote system.

You can access this pop-up by pressing and holding the Font button in the **Fixture Sheet** and the **Channel Sheet** and after a few seconds you release.

This is what it could look like:



This is a list of the different font sizes you can select for your Channel or Fixture sheets.

### Related Links

- [Fixture Sheet](#)
- [Channel Sheet](#)



### Reference: Select Wheel Feature pop-up

This is a short description of the Select Wheel Feature pop-up in the remote system.

You can access this pop-up by pressing the Feature button below the two first wheels in the **Wheel view**. You might need to have a fixture selected.

This is what it could look like:







This is a list of the features you can select for your wheels.

### Related Links

- [Wheel view](#)



### Reference: Select Wheel Layer pop-up

This is a short description of the Select Wheel Feature pop-up in the remote system.

You can access this pop-up by pressing the Layer button below the last two wheels in the **Wheel view**.

This is what it could look like:



This is a list of the layers you can select for the values on your wheels. Below is a link to a description of the different layers

### Related Links

- [Wheel view](#)
- [Layer Filter description](#)



## Concept: Objects



## Reference: FixtureType Object

FixtureType objects are used to generate fixtures in your Fixture Schedule.

FixtureTypes may be viewed, created and edited via **Setup ➔ Show ➔ Patch & Fixture Schedule ➔ FixtureTypes**

### Properties

|              |                                             |
|--------------|---------------------------------------------|
| LongName     | Full name of fixturetype e.g. Mac 2000 Wash |
| ShortName    | Short name of fixturetype e.g. M2000W       |
| Manufacturer | Full name of manufacturer e.g. Varilite     |
| ShortManu    | Short name of manufacturer e.g. VL          |
| ModelScale   | Relative size of Object                     |
| ModelKey     | 3D model of Object                          |
| Notes        | Comments regarding this fixturetype         |

### Sub-objects

The FixtureType object has three types of sub-objects: **Modules**, **Instances** and **Wheels**.

! In **Simple Mode** only the first **Module** is displayed, and Instances and Wheels are hidden. Please enter **Expert Mode** to do advanced editing



## Reference: FixtureType Modules

The Modules-element has no properties by itself, but acts merely as the parent of one or more actual modules

Selecting **Modules** in the tree-browser will list all modules and their properties in the grid. A standard fixture will have only one instance of one module, while complex fixtures may have several instances of one or more different modules.



## Reference: FixtureType Module

A Module is a definition of a part of a fixture-type

### Properties

|      |                              |
|------|------------------------------|
| Name | Name of Module e.g. RGB-cell |
|------|------------------------------|

|               |                                                                |
|---------------|----------------------------------------------------------------|
| BeamAngle     | The angle of the Beam from this module, e.g. 15 (degrees)      |
| BeamIntensity | The intensity of the Beam from this module, e.g. 10000 (lumen) |
| MIB Delay     | Time the module should wait after fadeout, before doing MIB    |
| Class         | Type of module, e.g. Headmover                                 |
| Beam          | Type of beam from this module, e.g. Wash                       |
| ModelScale    | Relative size of Object                                        |
| ModelKey      | 3D model of Object                                             |

### Sub-Objects

A Module contains one or more **ChannelTypes**. Selecting a **Module** in the tree-browser will list all channeltypes and their properties in the grid



### Reference: Module ChannelType

A ChannelType is a control-channel of a fixture

### Properties

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| Attrib    | Main Attribute of ChannelType                                        |
| Break     | DMX-patch block (1-4)                                                |
| Coarse    | DMX channel 8-bit                                                    |
| Fine      | DMX channel 16-bit                                                   |
| Ultra     | DMX channel 32 Bit                                                   |
| Default   | Generic value when nothing is On or in programmer                    |
| Highlight | Generic value when highlight is On,                                  |
| Stage     | Generic value when Stage initialisation is enabled (not implemented) |
| Snap      | Enable to snap, rather than cross-fade from cue to cue               |
| Invert    | Invert DMX-output                                                    |
| Master    | Enable for intensity-attributes to bypass grandmaster                |
| MIB Fade  | Time used to preposition via MoveInBlack                             |
| Profile   | Curve for non-linear output                                          |
| Mode      | Conditional behaviour based on specified attribute                   |

### Sub-Objects

A **ChannelType** contains one or more **ChannelFunctions**. Selecting a channeltype in the tree-browser will list all channelfunctions and their properties in the grid.



### Reference: ChannelType ChannelFunction

A ChannelFunction is a controllable parameter of a fixture

### Properties

|            |                                                                            |
|------------|----------------------------------------------------------------------------|
| Attrib     | Attribute of ChannelFunction (in parentheses if same as parent)            |
| Wheel      | Wheel-number for slotted values                                            |
| From       | Start of Generic value-range, e.g. -100                                    |
| To         | End of Generic value-range, e.g. 100                                       |
| From DMX   | Start of DMX value-range, e.g. 0                                           |
| To DMX     | End of DMX value-range, e.g. 65535 (16bit)                                 |
| From Phys  | Start of Physical value-range, e.g. -270 (degrees)                         |
| To Phys    | End of Physical value-range, e.g. 270 (degrees)                            |
| Time       | Seconds to travel from start to end of range (for grandMA3D)               |
| Mode Start | Start of DMX value-range of mode-channel that enables this channelfunction |
| Mode End   | End of DMX value-range of mode-channel that enables this channelfunction   |

### Sub-Objects

A **ChannelFunction** may contain one or more **ChannelSets**. Selecting a channelfunction in the tree-browser will list all ChannelSets and their properties in the grid.



### Reference: FixtureType Channelset

A ChannelSet is a named value-range for a given ChannelFunction

|           |                                            |
|-----------|--------------------------------------------|
| Name      | Name of range/slot, e.g. "Open"            |
| From      | Start of Generic value-range, e.g. 0       |
| To        | End of Generic value-range, e.g. 10        |
| From DMX  | Start of DMX value-range, e.g. 0           |
| To DMX    | End of DMX value-range, e.g. 25            |
| Slot#     | Slotnumber of Wheel for this range, e.g. 1 |
| Slot From | Slot-offset for beginning of range, e.g. 0 |
| Slot To   | Slot-offset for end of range, e.g. 0,5     |



### Reference: Instances

The Instances-element has no properties by itself, but acts merely as the parent of one or more actual instances

Selecting **Instances** in the tree-browser will list the instances and their properties in the grid. A standard fixture will have only one instance of one module, while complex fixtures may have several instances of one or more different modules.



A FixtureType with more than one Instance will create fixtures with Subfixtures, e.g Fixture 1.1, 1.2, 1.3



### Reference: FixtureType Instance

An Instance is an occurrence of a Module

#### Properties

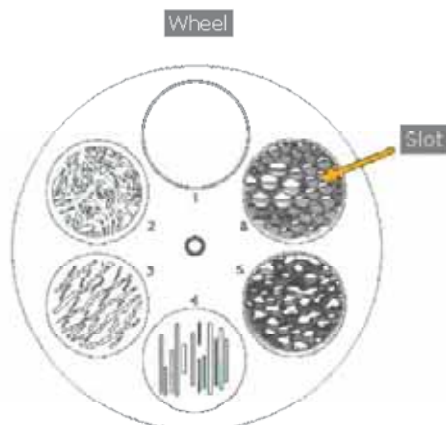
|             |                                                        |
|-------------|--------------------------------------------------------|
| Module Type | Reference to a defined Module of this FixtureType      |
| Patch       | Relative start-address of this Instance                |
| X           | Relative X-position of Instance                        |
| Y           | Relative Y-position of Instance                        |
| Z           | Relative Z-position of Instance                        |
| Locked      | Enable if instance should not be individually moveable |



### Reference: FixtureType Wheels

The Wheels-element has no properties by itself, but acts merely as the parent of any actual wheels

Selecting **Wheels** in the tree-browser will list any wheels and their properties in the grid. A Wheel is used by Modules to look-up color/gobo visualisation data for sloted attributes.



### Reference: FixtureType Wheel

A Wheel contains color and gobo information for sloted attributes

## Properties

Attrib

The Attribute using this wheel

## Sub-Objects

A **Wheel** contains one or more **Slots**. Selecting a wheel in the tree-browser will list all slots and their properties in the grid



## Reference: Wheel Slot

A Slot is a defined position on a Wheel

## Properties

Media Name

Name of slot, e.g. Dark Blue

Media Filename

Path and filename of image, e.g. carallon/gobos/martin/03002401.png

R

Decimal value of Red component, e.g. 255

G

Decimal value of Green component, e.g. 128

B

Decimal value of Blue component, e.g. 0



## Reference: Specifications



## Reference: Specifications grandMA2 full-size

Basic data about the grandMA2 full-size



- Real-time control for up to 65,536 parameters per session in connection with MA NPUs (up to 256 DMX universes)
- 8,192 HTP / LTP-parameters built in (6 x DMX out)
- 3 internal wide mode touchscreens (15,4" WXGA)
- 2 external screens (UXGA)
- 1 internal command screen - multi-touch (9" SVGA)
- 30 motorized executor faders
- Built in keyboard drawer
- Built in UPS
- 2 Ethercon connectors
- 5 USB 2.0 connectors
- Motorized monitor wing
- 2 motorized A/B fader 100mm
- Individually backlit and dimmable, silent keys
- Power: 110 - 220V, 50/60 Hz, no switching necessary
- Weight: 54kg [119lbs]
- Dimensions: 1284 x 661 x 204mm [50,6 x 26 x 8 inch]
- Operating limits; temperature 41°F - 104°F; 41°F up to + 90°F in "silent version". Version can be recognized by the label on the back side. humidity (operation) 20% - 80% rel. humidity, no condensation; humidity (storage) 10% - 80% rel. humidity, no condensation. Storage / Transport -10°C up to + 50°C / 14°F up to 122°F
- Cased: 98kg [216lbs], 1360 x 915 x 315mm [53.5 x 36 x 12.4 inch] incl. wheels



## Reference: Specifications grandMA2 light



- Real-time control for up to 65,536 parameters per session in connection with MA NPUs (up to 256 DMX universes)
- 4,096 HTP / LTP-parameters built in (6 x DMX out)
- 2 internal TFT wide mode touchscreens (15,4" WXGA)
- 2 external screens (optional - UXGA)
- 1 internal Command Screen - Multi-Touch (9" SVGA)
- 15 motorized executor faders
- Built-in-keyboard (drawer)
- Built-in-UPS
- 2 Ethercon connectors
- 5 USB 2.0 connectors
- Motorized monitor wing
- 2 motorized A/B fader 100mm
- Individually backlit and dimmable, silent keys
- Power: 110 - 220V, 50/60 Hz,
- Weight: 44kg [97lbs]
- Dimensions: 935 x 652 x 204mm [36.8 x 25.7 x 8inch]
- Operating limits: temperature 41°F - 104°F, 41°F up to + 90°F in "silent version". Version can be recognized by the label on the back side. humidity (operation) 20% - 80% rel. humidity, no condensation; humidity (storage) 10% - 80% rel humidity, no condensation. Storage / Transport -10°C up to + 50°C / 14°F up to 122°F
- Case: 79kg [174lbs], 1020 x 915 x 315mm [40.2 x 36 x 12.4 inch] incl. wheels



### Reference: Specification grandMA2 ultra-light

Basic data about the grandMA2 ultra-light



- Real-time control for up to 65,536 parameters per session in connection with MA NPUs (up to 256 DMX universes)
- 4,096 HTP / LTP-parameters built in (6 x DMX out)
- 1 internal TFT wide mode touchscreen (15,4" WXGA)
- 2 external screens (UXGA)
- 1 internal command screen - multi-touch (9" SVGA)
- 15 executor faders
- 2 Ethercon connectors
- 4 USB 2.0 connectors
- Motorized monitor wing
- 2 A/B fader 100mm
- Individually backlit and dimmable, silent keys
- Power: 110 - 230V, 50/60 Hz, no switching necessary
- Weight: 33kg [73lbs]
- Dimensions: 935 x 652 x 204mm [36.8 x 25.7 x 8inch]
- Operating limits: temperatur 41°F - 104°F; 41°F up to + 90°F in "silent version". Version can be recognized by the label on the back side. Humidity (operation) 20% - 80% rel. humidity, no condensation; humidity (storage) 10% - 80% rel. humidity, no condensation. Storage / Transport -10°C up to + 50°C / 14°F up to 122°F
- Cased: 70kg [154lbs], 1020 x 915 x 315mm [40.2 x 36 x 12.4 inch] incl. wheels



### Reference: Specifications grandMA2 replay unit

Basic data about the grandMA2 replay unit.



- Real-time control for up to 65,536 parameters per session in connection with MA NPUs (up to 256 DMX universes)
- 4,096 HTP / LTP-parameters built in (6 x DMX out)
- 2 external screens can be connected (UXGA)
- 1 internal command touchscreen (7")
- 2 Ethercon connectors
- 3 USB 2.0 connectors
- No internal faders or buttons - easy to protect
- Numerous remote interfaces
- Weight: 10kg [22lbs]
- Dimensions: 485 x 332 x 126mm [19 x 13 x 5inch]
- Operating limits: temperature 41°F - 104°F; humidity (operation) 20% - 80% rel. humidity, no condensation; humidity (storage) 10% - 80% rel humidity, no condensation. Storage / Transport -10°C up to + 50°C / 14°F up to 122°F
- Power: 110 - 220V, 50/60 Hz, no switching necessary, Max. 150 VA.



### Reference: Specifications MA NPU

Basic data about the MA NPU (Network Processing Unit)



- Real-time calculation for up to 65,536 parameters (up to 256 DMX universes)
- 4,096 HTP / LTP-parameters (8 x DMX out)
- 1 internal command touchscreen (7")
- 1 Ethercon connector
- 2 USB 2.0 connectors
- Weight: 9kg [20lbs]
- Dimensions: 485 x 332 x 126mm [19 x 13 x 5inch]
- Operating limits: temperature 41°F - 104°F; humidity (operation) 20% - 80% rel. humidity, no condensation; humidity (storage) 10% - 80% rel. humidity, no condensation. Storage / Transport -10°C up to + 50°C / 14°F up to 122°F
- Power: 110 - 230V, 50/60 Hz, no switching necessary, max. 150 VA power consumption



### Reference: Specifications grandMA2 faderwing

Basic data about the grandMA2 faderwing



- 15 Fader Executors, each with motorized fader and 3 Function Buttons.
- 15 Button Executors, each with one Function Button.
- 1 Window Encoder.
- 6 Page up/down keys.
- MA-bus link to any console (Full-Size, Light, Ultra-Light or Replay-Unit) of the grandMA2 series.
- Up to 4 faderwings can be daisy-chained per console.
- Individually backlit and dimmable, silent keys.
- Weight: 8kg [18lbs].



- Dimensions: 425 x 367 x 162mm [16.7 x 14.4 x 6.4inch].
- Operating limits: temperature 32°F - 104°F; humidity (operation) 20% - 80% rel. humidity, no condensation; humidity (storage) 10% - 80% rel. humidity, no condensation. Storage / transport -10°C up to + 50°C / 14°F up to 122°F.
- Cased: 20kg [44lbs], 490 x 490 x 260mm [19,3 x 19,3 x 10.2inch].



## Reference: Specifications grandMA2 onPC

Basic data about the grandMA2 onPC



- Supports all functions of the grandMA2 on graphical PC display
- Optimised presentation and surface for using all grandMA2 function on your PC
- Ideal possibility to use it as grandMA2 live show controller or backup system in connection with the NPU or 2Port Node onPC/onPC PRO
- Communication via Ethernet with the grandMA2 in a Multi-User system is possible



## Topic: Error messages.

This is a short description of error messages of the grandMA 2.

### # 0 Unknown error.

The console have encountered an unknown error.

### # 1 Unknown command.

You have tried to execute a command that isn't known to the desk.

### # 2 Input too long.

What you are trying too input is too long.

### # 3 Illegal character.

After this error message the illegal character is displayed. Telling you what is wrong.

### # 4 Command not implemented.

You have tried to use a command that is not know to the desk.

### # 5 Number expected.

The console was expecting a number.

### # 6 IP expected.

The console was expecting a IP address.

### # 7 Number too long.

The number you entered are to long.

### # 8 Number too small (min=1).

The number you tried to enter must be 1 or above.

### # 9 Number too big (max=1).

The number you tried to enter can not exceed 1.

### # 10 Expected.

The console expected some (more) input.

**# 11 Expected argument.**

The command you are trying to enter are missing an argument.

**# 12 Expected name.**

The desk needs a name to executed the command you entered.

**# 13 Illegal name.**

You have tried to name an object and the name is not allowed. Maybe you have used a character that is not a part of the grandMA. You can for instance type local characters (characters not in the English alphabet), but they are not allowed by the desk.

**# 14 Object does not exist.**

You have tried to use an object that doesn't exist in the desk.

**# 15 Object not accessible.**

You have tried to access a non accessible object.

**# 16 Resize forbidden.**

You are trying to add or remove objects on a location that doesn't permit it.

**# 17 Delete forbidden.**

You are trying to delete objects on a location that doesn't permit it.

**# 18 Create Forbidden**

You are trying to create an object on a location that doesn't permit it.

**# 19 Illegal range.**

You ahve entered a value outside the range.

**# 20 Multiuser access conflict.**

Minimum one other user is currently accessing what you are trying to use.

**# 21 Can not leave current destination.**

Probably a multiuser conflict does that you cannot leave the current destination at the moment.

**# 22 Can not enter destination.**

Another user is currently accessing the destination.

**# 23 File not found**

You are trying to import a non-existing file.

**# 24 File format invalid.**

The format of the file is not correct for the destination.

**# 25 No unique Sequence given**

You are trying to access a cue of multiple sequences

**# 26 No unique Page given.**

You haven't entered a unique page number.

**# 27 Syntax error.**

The syntax you entered is wrong.

**# 28 No cue source given.**

You are missing a cue number for the source.

**# 29 Illegal cue number.**

The cue number is illegal.

**# 30 No default executor.**

You have tried to access a default executor, but have not selected one.

**# 31 Limit exceeded.**

You are trying to exceed the limit.

**# 32 Unknow option**

You have tried to set an option which don't exist for the object.

**# 33 Destination not empty, no copy mode given.**

You are trying to copy something to an occupied destination, and you haven't specified how the console should react.

**# 34 No cue for part given.**

You are storing a part, but the console doesn't know the cue.

**# 35 Edit single object only.**

You have tried to edit multiple objects, and you can only edit one.

**# 36 Too many numbers.**

There are too many numbers in the command.

**# 37 Copy N to M elements not supported.**

You are trying to copy a larger number of objects to a smaller number of objects.

**# 38 Move N to M elements not supported.**

You are trying to move a larger number of objects to a smaller number of objects.

**# 39 Move 1 to N elements not supported.**

You are trying to move one object to several destinations.

**# 40 Missing hardware.**

You are trying to access hardware that aren't there.

**# 41 Illegal layer.**

The layer you are trying to access is illegal.

**# 42 Illegal filename.**

The filename are illegal.

**# 43 Login Needed**

You need to login to perform the desired action.

**# 44 Insufficient user rights.**

You don't have the sufficient user rights.

**# 45 Not a valid clone source.**

The source for your clone action isn't valid. There might be a mismatch between the source and destination fixture.

**# 46 Not a valid clone destination.**

The destination for your clone action isn't valid. There might be a mismatch between the source and destination fixture.

**# 47 Clone source fixture list expected.**

The console expected a source fixture list. Check your syntax.

**# 48 Clone destination fixture list expected.**

The console expected a destination fixture list. Check your syntax.

**# 49 Expected objects to be cloned.**

The console expected more fixtures. Check your syntax.

**# 50 Invalid version.**

You are trying to do something that's not supported by the versions

**# 51 Illegal time format.**

The time format you have entered is not valid.

#### # 52 Operation aborted by user.

You have aborted an operation.

#### # 53 PSR not available.

You can't Partial Show Read the shows you've selected.

#### # 58 Object is locked.

You are trying to edit a locked object. You need to unlock it first.



## Topic: Release Notes - 2.9.0.7

### grandMA2 Version



#### Important:

- The MA-Net2 protocol has changed to support the 8Port Node devices. All MA devices need a new network streaming protocol with the 2.9 software. Once updated to the correlating Version to grandMA2 v2.9, 2Port, 4Port, 8Port, NSP 4Port Node and the NDP will no longer work in a session with an older network streaming protocol (e.g.: grandMA2 v2.8). Down-dating MA 2Port Nodes and NSP running in 4Port Node Mode to be v2.8 compatible is possible only via grandMA1 v 6.801. All other devices can be down-dated via USB or windows installer only.
- If you would like to update your dimMA system from any version below 7.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of grandMA onPC and MA 3D require minimum Windows XP with Service Pack 3. The latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed.

### Main feature overview:

- The colour picker is now able to handle multi-colour LEDs and colour wheels
- A Q fader fades from purest colour through maximum brightness to a clean RGB mix
- The colour picker is an independent view now
- Copy, paste and insert at many places, e.g. for fixtures and layers inside the setup
- Import and export of users and user profiles (new menus)
- Import and export of preset references together with fixture types
- New running playbacks view
- The layout view can contain images (new image pool) and pool objects showing real-time graphics, e.g. timecode as well as static video thumbnails
- New camera pool to directly control MA 3D cameras
- Filters can be applied to the stage view
- It is possible to have a height offset for the follow function inside the stage view
- Time code shows do also record group and special masters
- Pools and presets can be stored without specifying numbers
- Screens can be turned to black
- New flash on, flash go, swop on and swop go commands
- Load next and load previous commands for executors
- Different infade and outfade times for Chasers
- New syntax allows aligning several ranges of values at the same time.
- New improved calculator functionality
- Improved x-y-z engine setup
- Improved clarity for the setup dialogue
- New Clone menu
- New views inside the grandMA2 onPC optimized for onPC command/fader wing usage
- Implementation of the non-proprietary PosiStageNet(PSN) protocol for real-time x-y-z tracking systems
- clean-up and improvements of multiple places in views and menus

### New functions and features in detail:

- **Colour Mixing System**
  - Colour special dialogue has new operating elements which define which colour attributes are used to mix the colour. In addition to colourRGBs, colour wheels(C1...) and scroller are supported.
  - RGB (Headline in fixture sheet) was renamed in Mix colour and contains all additive colours.
  - There is a "RAW Faders" view. All colour channels of the current selected fixtures are displayed e.g. R G B A W.
  - The"HSB" view has a "Q" Fader. Only active when fixtures are selected which have also other additive colour channels than RGB. Set to 0% / Pure, the colour is mixed mainly from the additional colour channels(e.g.. Amber). Set to 50% / Max, maximum Intensity together with the RGB colour is adjusted. Set to 100% / Primary, only RGB channels are used for mixing.
  - There is also a new button which decides colour mixing preferences
    - "Prefer MIX colour" = prefer Mix colour and set all colour wheels to open white.
    - "Mixcolour only" = only ColourRGB attributes are controlled by this dialogue.
    - "Colourwheel only" = only Colour wheels (colour 1, 2, 3) and scrollers are controlled by this dialogue.
  - The values of the "Hue" Fader are displayed from 0-360. When option "Link Encoder HSB" is active the encoder wraps around."
- **Setup**
  - **Patch and Fixture Schedule**
    - "Setup / Show / Patch + Fixture Schedule: with "Cut...", "Copy...", and "Paste..." row can be moved or copied.Button names change automatically according to context (left area "Layers" or right area "Layer".When one or more rows

- are marked red ("cut") they can be pasted anywhere else. When copying fixtures or layers the ID Numbers and the Patch will be ignored (not allowed to exist twice). When pressing "paste" after having copied and selected a new row a pop-up will ask whether to overwrite or to insert the line(s).
- Export Patch and Fixture Schedule to File for viewing (HTML-Browser), or printing (Excel). Till now this was possible via predefined macros. Setup/Show/Patch + Fixture Schedule or Patch only: "Export Layer" or "Export Fixture", depends on selected row, one or more Layers / Fixtures can be exported. A pop-up will ask for a file-name if multiple rows are selected. When a USB Stick exists, it will be asked whether to store to usb drive or to internal hard drive. In an additional pop-up a style must be selected.
    - "Only Xml" = will create a xml file only.
    - "fixture + layer + layers@html@default.xml" = an HTML File for usage with an HTML Browser.
    - "fixture + layer + layers@csv.xml" = a CSV File which can be e.g. imported to Excel.
    - A folder "Fixture" or "Fixture\_Layers" will be created automatically, depending on exported type.
  - Select Fixture Type pop-up when exchanging fixture types (Edit Setup) displays the amount of DMX channels and the amount of instances per fixture type. e.g. FixtureType10(DMX 20 Ins. 2)
  - If "Patch Readout Absolute Address" is activated in the patch menu the "Universe" Encoder will be suppressed. DMX address of all universes can be addressed via the "Address" Encoder only. Also the DMX addresses on the right side of the menu are displayed absolute.
  - 3D environment can be modified inside Setup/Patch Fixture Schedule / Fixture Positions. 3d objects are listed in a separate layer inside this dialogue.
  - **Fixture Types**
    - 2 new columns in "Fixture Types" menu: "DMX Footprint" and "Instance". Number of DMX addresses and instances is shown.
    - In the Info area attribute to DMX address mapping of the selected fixture type is shown. Virtual attributes are shown below.
    - FixtureType and FixtureLayer Export - exporting multi selection creates one file per object.
    - The "Clean-up" button converts fixture types from former show files to collect duplicate features to provide a better overview in the calculator.
    - Attribute editor: "Identified As" column of sub-attributes show also the unit of the physical value in "[]" if there is one
    - When opening Import Fixture Dialogue: keyboard focus is at manufacturer filter and screen encoder focus is at fixture type grid.
  - **Fixture Type Editor**
    - Carallon lib 9.6 fixture library included.
    - MIB can be disabled per attribute inside fixture type editor.
    - "React to Master" can now be switched on/off for colour attributes even if there is no dimmer channel.
    - When fixture types are imported from the library into a show file they have extended channel sets. Minimum and maximum values for attributes with physical values are now displayed as e.g.. "open Iris", "min Strobe", "max Frost". The ranges of the physical sub-attributes are shown with units e.g. Unit of Position, Zoom and Iris is "degrees", Strobe is "Hertz" and Gobo rotation is "RPM". Also channel-sets and mode dependencies of animation wheels have been extended
    - Fixture types with CMY colour mixing system: A lot of fixtures have mode dependencies on their colour channels or having integrated macro functions mapped to the upper part of CMY attributes DMX channels CMY attributes of these fixture types are converted to RGB by converting only the range of the DMX channel controlling the colour.
    - Setup/Patch and Fixture Schedule/ Fixture Type editor sub-attribute selection dialogue is similar to attribute selection dialogue.
    - Fixture Type: Overlapping functions of channels or non-unique natural to DMX mapping result in non-operate-able fixture type. Diagnostic screen will show error message for the user, when having such an error in fixture type.
  - **Cloning**
    - Cloning of fixtures: Setup / Show / Cloning: the menu "Prepare Cloning" is divided into 2 parts: Left part of view displays the source - right part of view the destination fixtures. Fixture have to be selected and applied to the left or right side using the left or right side "take selection" button. Prepare will lead to the cloning menu. Here can be chosen whether the prepared fixtures are cloned in all sequences/presets/worlds/... or only in selected ("chosen sequences/presets/worlds/..."). The button "Clone" will open the "Perform cloning" pop-up. The clone priority can be defined here:
      - "Low Prio. Merge" = simple cloning with low priority. Takes only values which are containing in the source fixture and are free in the destination fixture (no existing data of destination will be overwritten or deleted).
      - "Merge" = Mixes Values from the source fixture into the destination fixture and overwrites also already existing values. Values only containing in the destination fixture and not in the source fixture are not overwritten
      - Overwrite" = All values of the destination fixture are overwritten with the existing and non-existing values of the source fixture"
  - **Import/Export Gobo Bitmaps**
    - Setup / Show / Import Export includes a user interface for importing and exporting Gobo Bitmaps" Exporting Gobo bitmaps to USB drives will export to /gma2/gobos/user\_gobos folder. Gobo bitmaps have to be copied to this folder at the USB drive to be able to import them to a grandMA2 onPC or console.
  - **Import/Export User Profiles**
    - User Profiles can be exported and imported at / Show / Import/Export/User Profile. Export menu displays all user profiles of current show file on the left and all user profile xml files stored at /gma2/user\_profile folder of current selected drive at the right column. Enabling "Always ask for Name" will provide possibility to custom label xml file when exporting. Import menu displays all user profile xml files stored at /gma2/user\_profile folder of current selected drive at the left column. Button to the right toggles between import user profile only an import user profile and create user. Enabling Always ask for name provides possibility to rename user profile and user when importing user profile. Export and import of user profiles is limited to one user profile per file when using this dialogue. If you would like to export multiple user profiles into one single xml file, please refer to grandMA2 online help command line syntax for exporting and importing multiple user profiles. When trying to import a file containing multiple user profiles using Import/export menu, only the first user profile of this file will be imported. All exported user profile xml files will be stored to /gma2/user\_profile folder of your hard drive or usb drive. User profiles which have been exported with grandMA2 v2.8.3 or earlier have to be manually copied from /gma2/importexport to /gma2/user\_profile to be able to import these profiles in grandMA2 v2.9.
  - **User + User Profiles**
    - Import/export user profiles includes view button thumbnails.
    - Import/Export User profile can be done using Import export menu or buttons in /Setup/Console/User and Profile Setup
    - Cut-Copy-Paste has been added to the User and User-Profile dialogue. Cut-Paste doesn't work for User Administrator and guest and UserProfile Default.
    - If in Setup / Console / User + Profiles a user has the focus, the button "Login" gives the ability for a direct login. In case of password protection the pop-up to login is displayed. In the headline the current user name is shown.
    - When copying or exporting user profiles, they always store the mask pool and the information on which screens the menus are to be opened
  - **Network**
    - **MA Network Control**
      - New command and button inside Setup /Network /MA Network Config /Endsession to end a session for all session members.

- Setup / Network / MA Net Control: Current Focus frame affects accessibility of buttons. Buttons without function for current focused object (console/session) will be greyed out.
- **MA Network Configuration / DMX Nodes**
  - DMX Node configuration can be exported to and imported from a XML file. Setup / Network / MA Network Configuration / DMX Nodes: the button "Export Config" saves the configuration of the DMX Nodes tab inside the "gma2 / network\_nodes" folder. The button "Import Config" loads exported configuration files and overwrites current DMX Nodes configuration with the one from the file.
  - MA 8-Port-Nodes can be configured using / Setup / Network / MA Network Configuration / DMX Nodes
- **Auto Create / Create Preset Reference**
  - Presets can be added to fixture types as preset reference. Setup/ Autocreate provides access to create a preset reference and to create presets from a preset reference. Preset reference is part of the fixture type and will be exported and imported inside the fixture type file.
  - Preset references can be created via commandline. At first a fixture of a fixture type must be selected. With the command "Store Fixturetype x.5" all presets of the currently selected fixtures are added to this fixture type. If a reference already exists, a pop-up occurs. The command can be restricted to single presettypes : "Store Fixturetype x.5 if Presettype "colour". With "Autocreate Preset Fixturetype x" all preset of that type will be generated and to eventually existing merged (same name). With the extension "/add" always new presets are added. This can be limited with "if" for each presettype. Presets are identified by their name of each presettype and applicable overwritten. Example: "Store Fixturetype x.5 /remove if Presettype "colour".
  - Autocreate Presets creates preset label by merging channelset and attribute label.
- **Misc**
  - Blind button can be disabled at Setup / User / Grand Master + B.O. etc.
  - Update local console reboot dialogue provides a reboot now button.
  - Setup / Show / Remote Inputs Setup: column "Macro" in the remote menu renamed to "CMD". Accordingly the remote Type "Macro" has been renamed to "CMD"
- **Views and Pools**
  - **Layout View Improvements**
    - Layout view: Following elements can be shown and visualized as a pool icons: effects, bitmap effects, filter, forms, groups, images, macros, channel pages, executor pages, sequences, timecodes and worlds"
    - Clean-up of Stage View and Layout view title bar buttons and view options
    - 1. Move and Select title buttons were combined into one list title button without icons
    - 2. Zoom In, Zoom Out title buttons have been exchanged by zoom bar (already known from stage stage view) zoom bar can be hidden via layout view options. Deactivate zoom on the screen encoder. 4.
    - Title button was renamed to "Reset camera" Title buttons in the layout view are customizable now.
    - The Layout View options have been divided into 5 areas.
    - Pool Element defaults: Basic adjustments for pool elements are defined if they have been added with the "assign" command into a new layout
    - Fixt. / Chan. defaults: Basic adjustments for fixtures and channels when they are added with the "store" command
    - Layout Data: basic adjustments for the layout itself e.g. "visible marker"
    - Tools: basic adjustments for the layout e.g. zoom Bar, zoom Encoder ,Scrollbar deactivation. Display of Dimmer value regarding fixture sheet ("Cue colours")
    - Title Buttons: Button in the title bar can be enabled/disabled. New are also "Pool Playbacks" in the headline
    - Frames in Layout View: In the "Setup" mode of the layout view frames can be created(via the Encoder bar). Frames are always displayed on the lowest level. To edit this level the option "Edit Rectangle" must be active. Images then can be selected in the edit menu or via the encoder bar. If the frame shall only visualize one background image, the selection of the frame can be switched off in the edit menu ("Group Select" -> "off")
    - New structure of elements in layout: The display of a pool / fixture Element can have different levels. The lowest is the visualisation of fixtures: Brightness, colour and gobos above those Images and Icons are displayed. These can contain alpha channels, means they can be transparent. Text, Id Numbers and Dimmer Values are on Top.
    - Edit of Channel / Fixture elements: Pressing "Edit" and onto a fixture in the layout view the fixture editor comes up. Same in "Setup" Mode opens the editor for the selected layout element. The assignment to a fixture can be exchanged by changing the ID Number. Additional Text and adjustments like visualisation, size or image / icon rotation per element are possible. In Tab "Subfixture" Element Channel Id and Fixture Id can be switched on or off
    - Editing of Pool Objects: Pressing "Edit" and then onto a pool element in the layout view, e.g. a preset, a "normal edit" will be executed, means the preset is taken into the programmer. Same in "Setup" Mode opens the editor for the selected pool element. E.g. a preset can be exchanged via the Id as well. "Visualization": "Simple" -> shows the object as usual. "Pool Icon" shows the pool element like in its own pool. For preset and bitmap elements the display of the symbols can be adjusted via Tab "Pool" "Spot", and "Filled".
    - Dimmer values and dimmer bar can be visualized for group pool elements "Filled" add colours and "Spot" Gobos in addition. The values of the last channels / fixtures in the group are used. Same for display of markers, when there are switched on in the layout.
    - Copy in layout view : In setup mode pool elements, text, frame elements can be copied with the "copy" button. Press "Copy", select pool element, click onto new position in layout. Fixtures and channels cannot be copied. These can only be used once per layout
    - Copy of Layout Views: With command "Copy Layout 1 at 2 /merge" it is possible to merge 2 different layouts. Layouts can be imported with PSR (Partial Show Read) as well.
    - Cloning fixtures can also be used to clone layouts.
    - Video attribute thumbnails are displayed in a layout now (like in a Preset pool).
    - Command "Assign" and multiple touch of object works same as "Move"
    - Image Recommendations for gMA2 layout view:
      - Format PNG
      - Canvas Size max 240X240
      - Colour Black
      - Image size max 180X180
      - Symbols outline 5 pixels 50% grey
      - Symbols shall have alpha fill
      - Area around symbols shall be black
  - **Stage View and XYZ**
    - New Stage View camera mode "Link Selected". Stage views will follow currently selected camera. Camera can be selected by touching a camera object inside camera pool or via commandline "Select Camera ID/Name" E.g. "Select Camera "Front" or "Select Camera 1"
    - Stage view yellow ball options menu has been extended. Calibration tab provides access to fixture position calibration dialogue Follow tab provides access to set z-offset of the stage view follow functionality. mask tab can be used to mask a stage view similar to masking any sheet. Title buttons tab provides the possibility to enable/disable title buttons.
    - Fixtures can be edited using stage view. Pushing edit and touching any fixture inside stage view or right mouse clicking any fixture in stage view provides access to edit fixture dialogue
    - Stage View Setup encoderbar provides possibility to "Reset Position" or "Reset Rotation". Resetting Position will move 3D models of current selected fixtures to XYZ position 0:0:0 Reseting Rotation will reset fixture rotation of current selection to 0. New commandline keywords "Move3D [at X Y Z]" and "Rotate3D [at X Y Z]". Using Move3D or

- Reset3D without coordinates will reset current selected fixtures to zero. E.g. "Move3D at 2.5 -5 3.3" positions current selected fixtures at X = 2.5, Y = -5 and Z = 3.3
- Stage View Setup mode encoder bar position encoders (x, y, z) show range of values min..max.
  - Stage View fixture calibration dialogue New functionality and new button "Reset all Values"
  - Selection of channels or fixtures in stage view has been improved.
  - Stage View options defaults can be adjusted per user profile. Options can be found at Setup/User/Windows Settings/Other/Stage
  - Calibrate fixture dialogue got a new button (Find alternative flip solution) to calibrate fixtures having wrong physical values. Pushing this button will toggle through all 4 possible calibration positions.
  - 3D object parameters can be modified at the fixture position dialogue of the setup (Patch and Fixture Schedule or Live Setup). Same as in MA 3D object Size input readout can be toggled between meters and Scaling factor.
  - Stage Markers and XYZ Offset can be stored selectively to different cues.
  - Stage View Follow Mode default has been defined by "No tilt flip"
  - Auto-generated 3d object for stage marker: orange ball with 25cm diameter
  - Stage markers are automatically collected inside a Stage marker folder in 3D assert view.
- **Channel and Fixture Sheet**
  - New Edit Fixture dialogue title buttons Next and Previous to edit next or previous fixture without having to close and reopen the editor.
  - Sheet and Stage view title bar set buttons can be edited inside the sheet options title buttons tab.
  - Readout decimal and hex have been split. Decimal and hex always shows 8bit values while decimal16 and hex16 always shows 16bit values.
- **Sequence Executor Sheet**
  - "I.Fade and I.Delay are editable inside executor sheet. Right mouse click will delete individual timing, holding down middle mouse button and moving mouse up or down will increase or decrease all individual timings. "
- **Tracking Sheet**
  - Additional warning message box when trying to delete the complete content of a sequence from the tracking sheet edit dialogue
- **Content Sheet**
  - New Content sheet sorting option. Content sheet can be sorted by Fixture ID or Channel ID first.
  - "Remove", "Off" and "Deactivate" buttons added to content sheet cell edit calculator.
- **DMX Sheet**
  - DMX View: new option "Readout is absolute DMX Address" - universe overlapping
- **Timecode**
  - In addition to sequence executors also groupmasters, specialmasters, effects assigned to executors and bitmap effects assigned to executors can be recorded into a timecode show.
  - Timecode shows can be merged together. Timecode Tracks, Timecode Subtracks and Timecode Events will be merged. Timecode show options will not be altered.
  - Timecode options can be saved to default and loaded from default using timecode option title bar buttons. Default options will be used when creating new timecode pool objects.
  - Adjustment of "Pre Roll" and "After Roll" for SMPTE and Midi possible ->. Setup / Console / Timecode.
  - Timecode editor options have been moved from separate options button to Title bar Yellow Ball options menu.
  - Jumping in timecode shows is possible via commandline. Syntax: Go Time (time) Timecode (number). E.g. "Go Time 3h5m Timecode 1" Timecodeshow 1 will start and jump to 3 hours and 5 minutes. "Pause Time 6s Timecode 4" will position timecode show 4 at 6 seconds and pause timecode show 4. "Goto Timecode X" or "Load Timecode x" will provide a list of events of timecode x to select the event to jump to. Pressing the button Time (Fade) will be processed as keyword time in combination with timecode.
  - New Commandline Time unit input possibility; dot separated input [h].[m].s[.1/10s]. E.g. "Goto Timecode x Time 3" jumps to 3 seconds. "Time 3.4" = 3 seconds and 40/100 frames. "Time 2.3.4" = 2 minutes 3 seconds and 40/100 frames. "Time 1.2.3.4" = 1 hour 2 minutes 3 seconds and 40/100 frames.
  - Timecode shows can be loaded from another show file using partial show read
  - Timecode FastOff event is in the list of manually addable events
- **Misc**
  - Special dialogue colour can be assigned to any view using Create basic window dialogue tab other. In addition to the functionality already known from the special dialogue, labels below the colour picker can be hidden.
  - New view: Create basic Window / Playbacks / Running Playbacks. All running playbacks are displayed. (Similar to temp. Off menu). In the headline there are 4 buttons: "Only my Playbacks" shows only playbacks started with own user profile. "Preview Playbacks" shows only in Preview Mode started playbacks. If "Link Encoders" is active, Playbacks can be operated in the command line and if "Off Mode" is on, playbacks can be directly switched off by clicking on them. The selected executor has in the first column a green background. In the option menu the font size is adjustable and an info column can be turned on. All options can be turned on and off in the headline as "Title Buttons".
  - New User-Pool: "Camera". "Store" on an empty pool object creates a new 3d Camera, which can be positioned. Clicking on the pool object will select this camera (object gets green). Works via command line as well: "Select Camera "Front" or "Select Camera 1".
  - "Pictures in layouts: There is a new pool to administrate pictures which can be used in the layout view as "Image" which can be assigned to the objects -> Create Basic Window / Pools / Images. Formats: bmp, gif, jpg, lossless jpg, png, tif, targa. To avoid huge show file, the size is limited per picture to 2MB, and the total size of the image pool to 10MB. Resolutions larger than FullHD (1920x1080) are downscaled automatically. With "Store" or "Edit" a pool object can be created or modified. With the button "Load Image" in the editor Pictures can be loaded into the pool from the "Bitmaps" Folder of the desk or the "gMA2" Folder of a memory stick. They are then part of the show file. The resolution and the size is displayed. In the option menu of the image pool the symbol size can be chosen (small / big) "
  - Command section window height limit has been removed. Command section can be scaled up to any screen size bigger Minimum size of command section is 2x3 grid cells.
  - OnScreen keyboard has been added to Info View multi-line editor.
- **Commandline**
  - Store Presettype X Please will store at the next empty pool object of the referring pool.
  - Storing a new preset generates a default name containing type of preset and index of preset inside preset pool. E.g. Store Preset 2.5 will generate a Position preset labelled "Position 5"
  - Move/copy/insert can be used to copy ONE empty object.
  - New commandline command BlackScreen [Screennumber]. The command BlackScreen will blackout all screens. The command BlackScreen 5 will blackout screen 5. Screens can be reactivated using the button "Show Screen" or "Show All Screens" in the bottom right corner of each screen of by using the command BlackScreen Off.
  - Commandline Feedback displays not existing commands also. A yellow message shows "Command not executed". If SpecialMaster 2.4 is on ("SpecialMaster "Snd out" at 100"), error sounds will be replayed (Not in grandMA2 onPC)
  - New command fOutput Fade(Delay) [time range] [Executor] selects all fixtures of a sequence currently using an individual fade or delay time. E.g. fOutput Fade 3 Executor 1 selects all fixtures stored or tracked with an individual fade time of 3 seconds at current cue of the sequence assigned to executor 1. fOutput Fade Executor 1 selects all fixtures stored or tracked with any individual fade time at current cue of the sequence assigned to executor 1. fOutput Fade 1 thru 10 selects all fixtures stored or tracked with an individual fade time between 1 and 10 seconds at current cue of selected executor.



- New command option "At": "/status". Example: "Fixture 1 thru 5 at Cue 5 /status". Result: Fixture 1 thru 5 get the values from Cue 5 including tracking values from Cue 0 to 4 active in programmer"
- Commandline command "Edit DMX x" or pushing Edit hard key and touching any cell inside DMX Sheet opens edit fixture dialogue of fixture using this DMX address x.
- Store Cue 2.1 thru 3.1 will create following cues: 2.1 + 2.2 + 2.3 + 2.4 + 2.5 + 2.6 + 2.7 + 2.8 + 2.9 + 3.0 + 3.1
- Absolute and relative negative Values in the commandline can be distinguished by not adding a blanc between "minus" and number. Example: "Attribute "Tilt" at -10" sets absolute (negative) Value -10. "Attribute "Tilt" at - 10" sets the value relative - 10 to the current value relative. This may have impact on existing macros (e.g. add a value (+5) now (+ 5)
- Screens can be copied to other screen using new copy screen x at y command. Screens can be merged or overwritten.
- Hard key combination MA+View adds keyword screen to command line.
- Off Time of Executors can be modified via commandline. Example 1: Assign Executor 1 /OffTime = 10. Example 2: Assign Executor 1 /OffTime = "default".
- Similar the Default Off Time: Example: "Assign Root 3.3 /off= 5s".
- Fixture At Fixture will extract preset information, if target fixture is not included in preset currently used by source fixture.
- Command "Fixture x at Fixture y" does now also work when the origin (y) is deriving from a sequence with Master Fader less 100%
- Playback Master are assignable to sequence executors via commandline. Example: "Assign Executor 1.1 /PlaybackMaster = 2" (0 for none). To assign a Playback Master to an empty executor: "Assign Specialmaster "Playback 2" Executor y"
- Telnet commands can be sent from grandMA2 commandline directly using the Syntax: Telnet IP-address [Port] "String"
- Current active pages can be changes per userprofile via commandline using a command like "Assign Userprofile x /CurrentFaderPage=1" possible parameters are "CurrentChannelPage" "CurrentFaderPage", "CurrentButtonPage" It is not possible to jump to non-existing executor or channel pages.
- Command SetUserVar works also with float values
- Command At EffectForm "form name" (e.g. "PWM") works
- Attribute and feature keyword in combination with numbers respects current presettype selection.
- Commandline support to assign loops in sequences. Assign Cue X /Loop=Y.
- **Executors**
  - New executor commands and executor button assignments: Flash+On, Flash+Go, Swop+On, Swop+Go. FlashON flashes executor, but does not switch off executor when releasing flash button. FlashGO flashes executor, steps to next cue and does not switch off executor when releasing flash button. SwopOn swops executor, but does not switch off executor when releasing swop button. SwopGo swops executor, steps to next cue and does not switch off executor when releasing Swop button.
  - New Executor button functionality, "Load Next" and "Load Prev". This will load the next/prev cue of the current loaded cue.
  - 2 new Special Master: "StepInFade" and "StepOutFade". Special Masters are divided into 5 groups of functions. Necessary to avoid renumbering for future extensions. Macros which contain special masters must be adapted.
    - Already done for predefined macros
    - Default Master 1.1 - 1.11
    - Grand Master 2.1 - 2.6
    - Speed Master 3.1 - 3.16
    - Rate Master 4.1 - 4.16
    - Playback Master 5.1 - 5.50"
  - Keys X1 - X20 can have a fixed link to Exec201 - 220. -> "Setup / User / Settings" Option "XKeys always for Exec". If turned on, User 1+2, and special menus (e.g. colour Picker) are only operable with touch-screen soft-keys.
  - New Sequence Executor assign menu option "Loop breaking Go". With this option activated a go command will break a currently running loop and will step to the next cue after the loop.
  - Sequence Executor assign menu defaults also include playback masters.
  - Sequence Executor assign menu defaults also include Input filter.
  - Sequence option "Forced Position Mode" can be adjusted using Edit Sequence dialogue
- **Encoderbars**
  - Special dialogues can be moved to other screens using Change screen title bar button.
  - Encoder Bar Frames follow current layer, value layer Yellow, fade layer Green, delay layer Orange and all effect layers Magenta.
  - New button "Link Encoder" in "Special dialogue Shaper". This button switches encoders for all shaper modes
    - Angle Mode (Invert B)" inverts the B attribute. In this mode the encoder changes all positive and negative values at the same time.
    - "Set All" selects all attributes.
    - "Invert All" inverts selection
    - A mouse click on the attribute value opens the calculator. Pressing on the encoder switches the attribute selection."
  - 100mm Fader on-screen buttons are using default button assignment of specialmaster assigned to the referring 100mm fader.
  - In the DMX Encoderbar (open e.g. with "Channel Channel 1") there is a new button "Universe / Absolute". In Position "Universe" the DMX address can be adjusted as usual with the Encoders "Universe" and "Address". In position "Absolute" only the "address" encoder can be used.
  - Encoder button menu Clear Screen soft button will also close any temporary window or pool.
  - Encoder bar encoder mode "Link defined" and "Link defined active" have been replaced by the new modes "Link Filter" and "Link Filter active" These options use the current setting of the filter pool respectively command filter
- **New Calculator**
  - New calculator: multiple entries in one line e.g. "0 thru 50 thru 0 thru 100" are possible. With the + - \* / Buttons values can be changed. When an attribute has more functions, this is displayed above the input line. In the right area only the "channelsets" of the selected "Function" are displayed. For each function also "Min" and "Max" Buttons exist. When the calculator is open, it is possible to scroll through the channelsets via the encoder - by pressing and turning through the feature.
  - Calculator +/- button can be used to input absolute values.
  - Input of complex ranges does work with the numeric keypad as well
  - Presetbar readout is updated by following tracking and content sheet in addition to fixture and channel sheet.
  - User option "Single Digit input" is used in commandline and calculator for dimmer attributes only.
- **Misc**
  - PosiStageNet (PSN) realtime tracking protocol added. Setup / Network / PSN Network Configuration. This allows to transmit XYZ Stage Positions to the grandMA2 System. Every tracking system which supports that protocol can drive stage marker and X,Y,Z positions of moving lights.
  - New iOS MA Remote app v1.011. Support for grandMA2 v2.9 and iPod/iPhone 5 added.
  - Create basic window clean-up: All system windows have been moved from the other tab to the new system tab.
  - Last called View button of each screen is highlighted.
  - The headline of the update menu is shown whether a filter is active.
  - Store and label message box title bar shows target object.
  - A pop-up warns the user if trying to label any object using illegal characters.
  - grandMA2 ultralight screen encoder 2 can be assigned to an external screen using Faderwing and Monitor. To assign the encoder to an external screen move the screen icon above the fader section of the grandMA2 ultralight icon.
  - Resolution of virtual Dimmer and XYZ Attributes has been increased to 24bit.
  - Programmer values of all users are not active anymore when loading a show file. (regardless of the last storage state)
  - AT Filter dialogue can be moved to other screens using Select screen title bar button.
  - Option buttons in pop-ups will be displayed with a checkbox. E.g. Copy Cue pop-up Cue only option button.
  - Tools / Login Screen: The keyboard "TAB" can be used to move cursor between "name" and "password" entry field.



- Improvement in Setup Dialogue-> When entering the setup all submenus for the 4 main tabs are displayed. With "Home" you get back from a sub menu to this setup overview.
- Show files from ADB consoles can be converted via "ASCII Show Read" to grandMA2 show files.
- grandMA2 CTP implementation supports different version for the same structure in CTP messages. So you should not face LSta message errors with Hippotizers anymore.
- CTP Progress bars for Green Hippo Update Thumbnails functionality has been improved.
- MBOX Content attributes are detected automatically when choosing a MBOX Fixture layer in the CTP menu
- **grandMA2 onPC**
  - New grandMA2 onPC Mode "Single Screen (Internal only)". grandMA2 onPC Mode can be changed via options dialogue (yellow dot left upper corner of the command screen). In "Single Screen (Internal only)" mode, all internal screens can be accessed in one single MS Windows window and external monitors will be displayed in two additional MS Windows windows. Moreover the button "CmdWing Bar" allows to adapt the encoderbar on screen 2 to an MAonPC command wing layout (means additional 6 playback fader)
  - New windows start menu short-cut to launch grandMA2 onPC "Launch onPC CleanStart". Using this short-cut will reset all grandMA2 onPC Windows to default size and starts grandMA2 onPC with a blanc show.
  - Command Wing bar can be chosen as window from the create basic window other tab. This bar contains a commandline, an encoder bar, a 100mm fader GUI and a six executor wide mini playback view.
  - grandMA2 onPC select screen buttons labels change to the following labels when connecting a grandMA2 onPC wing. "Screen 2" = "CMD Wing", "Screen 3" = "Fader Wing 1", "Screen 4" = "Fader Wing 2"
  - grandMA2 onPC native resolution has been increased to 1352x800 to be able to display original sized view buttons.
- **grandMA1To2 Show Converter**
  - grandMA1 STROBE and STROBE\_RATIO Attributes are converted to grandMA2 SHUTTER Attribute to be compatible with grandMA2 library.
  - Further conversion improvements: Executor Assignment, Attribute Names , Presettype Names , 16bit Attributes , "React to dim" , colour mixing system, Attack and Decay in Effects, Effect Links in Cues , Page numbers in Cue links, Macros , Agenda entries.
  - Effects, Group Master and Special Master in timecode shows are converted.
  - The Feature "PanTilt" is converted to "Position".
  - Effects and Cues do not create empty lines anymore"

### Fixed Bugs and improved functionality

- Importing fixture layer via command line in another show does not crash the desk anymore
- Import Fixture Type input filters using on screen keyboard are automatically applied.
- Editing a Faderwing inside graphical Faderwing + monitor setup has been improved.
- Command Dmx 2.1 Thru 20 At 100 means Dmx 2.1 Thru 2.20 At 100
- Maximum values for timecode options "length" and "offset" have been increased to 255h59m59s.
- Setting a Speedmaster to a specific value via commandline will reset any speedmaster scaling.
- Unblocking cues in the tracking sheet in a network environment does not crash the desk anymore
- Channel Sheet redraw bug after toggle vertical Scrollbar has been fixed.
- "Link Fader and Button Page" option will not offset Fader and button pages anymore when using channel pages in between.
- Setup / Show / Patch and Fixture Schedule: Newly added layers or fixtures are immediately sorted to correct grid position
- grandMA2 NPU USB mouse support has been fixed.
- Red Programmer markers of virtual dimmers are also displayed in Layout View DMX Layer readout mode.
- Error handling when patching fixtures containing patch collisions of subfixtures has been improved.
- Newly created show files also display default gobo and colour wheels symbols in a fixture sheet, regardless of current programmer status.
- Setting Executors containing off times to specific values via command line respects Auto Start and Stop setting.
- Mixed up crossfade A/B has been fixed. Crossfade A fades decreasing values, Crossfade B fades increasing values.
- Disabling GrandMaster, Highlight, Solo, Blind,... resets the disabled button function to default state
- Layout View: Value display and readout Option (DMX, Output, Value) is stored in show file.
- Setup / Network / MA Network Configuration / onPC: Column type displays the type of wing (MA onPC command or MA onPC fader wing)
- Edit Fixture dialogue grid can be sorted by highlight column.
- Forced Fixture ID of single fixture groups has been removed. Fixture ID can be removed when labelling a single fixture group.
- Setup / Network / MA Network Configuration / DMX Nodes: The column "Firmware" shows firmware version of MA 4Port Nodes.
- Action buttons can be edited again using the edit hardkey and pressing an action button afterwards.
- Setup / Network / MA Network Configuration / DMX Nodes: The first 2 columns (id, name) are always visible when scrolling horizontal
- Fixture names display of dynamic channel faders has been improved.
- Moving masks in pool does not destroy link to links to sheets anymore.
- Tracking sheet layer Values only is displayed correct in combination with merge same values option.
- Dynamic channel fader pages can be used in combination with colour readout CMY
- Channel page flash buttons respect world of current user.
- It is not allowed to copy or move fixtures or layers in live setup. These actions can be done in full edit setup only.
- The commandline feedback view can display more characters per line. E.g. List Executor shows all possible executor options.
- The command "goto cue "name" "has been fixed.
- Max amount of sACN input universes per grid row is one universe. Amount cell of sACN input rows are not editable.
- Fixed colour preset import from grandMA2 v2.7
- Sequence Sheet follow cue fade time display has been fixed.
- Empty Fixture sheet cells in vertical styled fixture sheets do not show off-colours anymore.
- Changing sheet colour readout changes also encoder bar readout.
- Visible button glowing added at Autocreate dialogue
- Setup/Patch Only/Fixture Position ID and name column is always visible, even when scrolling horizontally.
- The command "Selfix Bitmap x" selects all fixtures in a bitmap, even the bitmap is not linked to any executor
- Info window does not show wrong object numbers for fixtures anymore
- Patched DMX addresses of break 2-4 are displayed on the left side of the patch menu , when they belong to a subfixture
- grandMA1@grandMA2 hardware default keyboard layout has been set to english.
- Readability of Smart View Icons labels area has been improved.
- Backup Server Windows share mounting has been fixed.
- Network configuration DMX node clean-up: Mode column provides access to available modes of a MA 4port node only.
- Fixed "fuse=allforselected" bug when storing XYZ values using this option.
- MATricks button is available while having encoders linked in special colour dialogue
- Effect editor follows user profile mixcolour readout switch.
- Session collision pop-up does not disappear anymore when unlocking a desk.
- Knocking in XYZ values in combination with markers knocks in correct XYZ offset values.
- Editing Multiple effect lines at the same time will keep attribute selection when closing effect layer calculator.
- Reassign another SpecialMaster to an executor already containing a special master automatically loads special master button defaults.
- Colour Special dialogue link encoders have been changed to relative to be able to use them in combination with Align.
- Effect Editor encoder push and turn is 10 times faster than turning without push.
- Effect Editor / Edit Effect Line Low and High value wheels handling of template effects has been improved.

- Programmer effect encoder bar supports "Off Effect", "Release Effect" and "Stomp Effect" also when set to "All"
- When moving executors (move Executor 1 at 2) the motor fader of the empty exec will be moved to 0
- "The "Snap Percent" values of a sequence are obeyed when being executed as a chaser. The percent value will be calculated to the fade time of the chaser
- When desk is locked and non-motorized faders are moved, output does not jump anymore after unlocking the desk
- MSC (MidiShowControl) Slave takes over when becoming Master
- Off menu is working also with a few hundred pages of allocated executors
- Command "Update Cue" combined with a name will only be executed when the exact name already exists
- Trying to login with non-existing user using commandline login command will not logout current user anymore.
- Command "Attribute 1.1.1 at 50" without fixture selection does not work anymore
- Command "Kill" does not exist for bitmap and effect executors anymore, because it is only possible for sequence executors
- With the editor in the content sheet individual timings can be removed
- LED Fixtures with a real dimmer are displayed in the output layer of the layout view with same intensity as LED Fixtures with virtual dimmer.
- Command Store If Attribute "dim" + "pan" EndIf works with both attributes
- Learn speed function for Bitmap effect executors has been implemented.
- Bitmap effect editor button naming has been changed. Basic tab scale mode has been renamed to "Scale Bitmap". Tools tab Scale 1:1 and Scale Fit has been renamed to Scale Modulator 1:1 and Scale Modulator Fit
- BPM speed master is assignable to bitmap effect playbacks
- Partial Show Read: When importing a show via PSR into an existing show which contains multi-patches, these will be not be destroyed anymore
- "Partial Show Read: Playback Settings of executors will be taken correct into a show(Priority / Off On Overwritten)."
- Selecting Fixtures using commandline will be executed without please when touching inside the colourpicker dialogue afterwards.
- Timecode show option "Status Call" can also be used when timecode signal has been interrupted and cues were triggered manually.
- Timecode editor does not automatically jump to next event deleting current event.
- Creating Reports for USB export using the List command will automatically create new folder "Report" inside USB drive gma2 folder structure. Workflow to create reports for USB: Choose USB drive in backup menu, select an executor with assigned sequence, "List Cue /Filename="mycuelist"
- Clone command respects locking of objects. It is not possible to clone new fixtures into locked objects.
- Logged in user will not reset to administrator when receiving an show download from a slave console leaving Patch and Fixture Schedule.
- Agenda calculator month and year button labels have been fixed.
- **grandMA2 onPC**
  - grandMA2 onPC Encoder Mode Rotation resolution has been decreased so one turn (360deg) will be the same value change as when turning console encoders
  - Windows8 grandMA2 onPC Wing driver are installed automatically when installing grandMA2 onPC
  - onPC Faderwing + monitor setup: switch screen 5 + 6 will exchange screens as expected.
  - Users without admin rights are allowed to shutdown grandMA2 onPC
  - grandMA2 onPC executor views display empty executors with a grey frame instead of an orange one

## Appendix

! The command "store /remove" or pressing [store][cue][2] and the select [remove] in the pop-up will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.

! Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.

! The 4Port and 8Port Nodes do not supporting the SACN protocol by now.

! The gma2 folder on your USB stick needs 3 additional new folders:

- a. gma2/user\_profile (copy your old user profile xml files from the gma2/importexport folder to this new folder)
- b. gma2/network\_nodes (this folder will be used to Import/Export the Node Configurations)
- c. gma2/fixture\_layers (this folder will be used when you Export Layer in the Patch and Fixture Schedule menu)

! Network switch IGMP Snooping functionality has to be switched off to be able to update MA 2Port nodes.

## Known Limitations



- Release version **2.3** of grandMA2 divorced values and effect values! Therefore older show files might not be 100% compatible. Therefore please check your show file with the new version before using it live!
- With Version **2.5.70** the default speed of effects and the rate of effect lines has been exchanged by a single speed per line. Therefore older show files might not be 100% compatible. Please check your show file with the new version before using it live!!
- ASCII show import supports Strand, Transtechnik and ADB ASCII show files only.
- MA onPC command wing DMX input is supported for the ports "DMX In" and "DMX out A" only. The port "DMX out B" is allowed to be used as DMX out only!
- Before loading show files stored with grandMA2 **v2.7.x** the first time with grandMA2 v2.9.x, attribute Colormix4 and 5 and Colordim4 and 5 of self-made fixture types have to be manually adjusted to fulfil colour specification Amber has to be Colormix 4 invert or Colordim 4 without invert, and White has to be Colormix 5 invert or Colordim 5 without invert. Otherwise colour information of these fixture types will be lost after loading show file with v2.9.
- The Feature name for ColorDim/ColorMix has changed into MixColor. Macros using one of these feature names have to be adjusted.
- Known limitation when loading show files stored with **v2.8.x** for the first time in v2.9
  - Special Masters have a new data structure in grandMA2 software.
    - All Special Master custom labels will be reset to MA default labels
    - Assignment of 100mm faders will be reset to default.
    - Macros, referring to special masters have to be adjusted and have to use the new naming and numbering of special masters.
  - Macros referring to relative values have to be adjusted according to new relative/absolute syntax.
  - User profiles exported to usb drives have to be manually moved from importexport folder to user\_profile folder to be able to import these profiles using grandMA2 v2.9
- 4Port and 8Port Nodes have to be updated to v1.0.9 to be compatible with grandMA2 v2.9. 2-Port Nodes have to be updated to 1.74 to be compatible with grandMA2 v2.9.
- Channelset labels of fixture types have to be unique to be visible and accessible in calculator. E.g. Channel sets of Attribute Shutter = closed, open, open, open,... only one open is visible in the calculator. Changing channel set labels to closed, open, open(2), open(3),.... will result in all channel sets are visible in the calculator.



## Topic: Release Notes - 2.9.0.7

### grandMA2 Version



#### Important:

- The MA-Net2 protocol has changed to support the 8Port Node devices. All MA devices need a new network streaming protocol with the 2.9 software. Once updated to the correlating Version to grandMA2 v2.9, 2Port, 4Port, 8Port, NSP 4Port Node and the NDP will no longer work in a session with an older network streaming protocol (e.g.: grandMA2 v2.8). Down-dating MA 2Port Nodes and NSP running in 4Port Node Mode to be v2.8 compatible is possible only via grandMA1 v 6.801. All other devices can be down-dated via USB or windows installer only.
- If you would like to update your dimMA system from any version below 7.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of grandMA onPC and MA 3D require minimum Windows XP with Service Pack 3. The latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed.

### Main feature overview:

- The colour picker is now able to handle multi-colour LEDs and colour wheels
- A Q fader fades from purest colour through maximum brightness to a clean RGB mix
- The colour picker is an independent view now
- Copy, paste and insert at many places, e.g. for fixtures and layers inside the setup
- Import and export of users and user profiles (new menus)
- Import and export of preset references together with fixture types
- New running playbacks view
- The layout view can contain images (new image pool) and pool objects showing real-time graphics, e.g. timecode as well as static video thumbnails
- New camera pool to directly control MA 3D cameras
- Filters can be applied to the stage view
- It is possible to have a height offset for the follow function inside the stage view
- Time code shows do also record group and special masters
- Pools and presets can be stored without specifying numbers
- Screens can be turned to black
- New flash on, flash go, swop on and swop go commands
- Load next and load previous commands for executors
- Different infade and outfade times for Chasers
- New syntax allows aligning several ranges of values at the same time.
- New improved calculator functionality
- Improved x-y-z engine setup
- Improved clarity for the setup dialogue
- New Clone menu
- New views inside the grandMA2 onPC optimized for onPC command/fader wing usage
- Implementation of the non-proprietary PosiStageNet(PSN) protocol for real-time x-y-z tracking systems
- clean-up and improvements of multiple places in views and menus

### New functions and features in detail:

- **Colour Mixing System**
  - Colour special dialogue has new operating elements which define which colour attributes are used to mix the colour. In addition to colourRGBs, colour wheels(C1...) and scroller are supported.
  - RGB (Headline in fixture sheet) was renamed in Mix colour and contains all additive colours.

- There is a "RAW Faders" view. All colour channels of the current selected fixtures are displayed e.g. R G B A W.
- The "HSB" view has a "Q" Fader. Only active when fixtures are selected which have also other additive colour channels than RGB. Set to 0% / Pure, the colour is mixed mainly from the additional colour channels(e.g.. Amber). Set to 50% / Max, maximum Intensity together with the RGB colour is adjusted. Set to 100% / Primary, only RGB channels are used for mixing.
- There is also a new button which decides colour mixing preferences
  - "Prefer MIX colour" = prefer Mix colour and set all colour wheels to open white.
  - "Mixcolour only" = only ColourRGB attributes are controlled by this dialogue.
  - "Colourwheel only" = only Colour wheels (colour 1, 2, 3) and scrollers are controlled by this dialogue.
- The values of the "Hue" Fader are displayed from 0-360. When option "Link Encoder HSB" is active the encoder wraps around."
- **Setup**
  - **Patch and Fixture Schedule**
    - "Setup / Show / Patch + Fixture Schedule: with "Cut...", "Copy...", and "Paste..." row can be moved or copied. Button names change automatically according to context (left area "Layers" or right area "Layer". When one or more rows are marked red ("cut") they can be pasted anywhere else. When copying fixtures or layers the ID Numbers and the Patch will be ignored (not allowed to exist twice). When pressing "paste" after having copied and selected a new row a pop-up will ask whether to overwrite or to insert the line(s).
    - Export Patch and Fixture Schedule to File for viewing (HTML-Browser), or printing (Excel). Till now this was possible via predefined macros. Setup/Show/Patch + Fixture Schedule or Patch only: "Export Layer" or "Export Fixture", depends on selected row, one or more Layers / Fixtures can be exported. A pop-up will ask for a file-name if multiple rows are selected. When a USB Stick exists, it will be asked whether to store to usb drive or to internal hard drive. In an additional pop-up a style must be selected.
      - "Only Xml" = will create a xml file only.
      - "fixture + layer + layers@html@default.xml" = an HTML File for usage with an HTML Browser.
      - "fixture + layer + layers@csv.xml" = a CSV File which can be e.g. imported to Excel.
      - A folder "Fixture" or "Fixture\_Layers" will be created automatically, depending on exported type.
    - Select Fixture Type pop-up when exchanging fixture types (Edit Setup) displays the amount of DMX channels and the amount of instances per fixture type. e.g. FixtureType10(DMX 20 Ins. 2)
    - If "Patch Readout Absolute Address" is activated in the patch menu the "Universe" Encoder will be suppressed. DMX address of all universes can be addressed via the "Address" Encoder only. Also the DMX addresses on the right side of the menu are displayed absolute.
    - 3D environment can be modified inside Setup/Patch Fixture Schedule / Fixture Positions. 3d objects are listed in a separate layer inside this dialogue.
  - **Fixture Types**
    - 2 new columns in "Fixture Types" menu: "DMX Footprint" and "Instance". Number of DMX addresses and instances is shown.
    - In the Info area attribute to DMX address mapping of the selected fixture type is shown. Virtual attributes are shown below.
    - FixtureType and FixtureLayer Export - exporting multi selection creates one file per object.
    - The "Clean-up" button converts fixture types from former show files to collect duplicate features to provide a better overview in the calculator.
    - Attribute editor: "Identified As" column of sub-attributes show also the unit of the physical value in "[]" if there is one
    - When opening Import Fixture Dialogue: keyboard focus is at manufacturer filter and screen encoder focus is at fixture type grid.
  - **Fixture Type Editor**
    - Carallon lib 9.6 fixture library included.
    - MIB can be disabled per attribute inside fixture type editor.
    - "React to Master" can now be switched on/off for colour attributes even if there is no dimmer channel.
    - When fixture types are imported from the library into a show file they have extended channel sets. Minimum and maximum values for attributes with physical values are now displayed as e.g.. "open Iris", "min Strobe", "max Frost". The ranges of the physical sub-attributes are shown with units e.g. Unit of Position, Zoom and Iris is "degrees", Strobe is "Hertz" and Gobo rotation is "RPM". Also channel-sets and mode dependencies of animation wheels have been extended
    - Fixture types with CMY colour mixing system: A lot of fixtures have mode dependencies on their colour channels or having integrated macro functions mapped to the upper part of CMY attributes DMX channels CMY attributes of these fixture types are converted to RGB by converting only the range of the DMX channel controlling the colour.
    - Setup/Patch and Fixture Schedule/ Fixture Type editor sub-attribute selection dialogue is similar to attribute selection dialogue.
    - Fixture Type: Overlapping functions of channels or non-unique natural to DMX mapping result in non-operate-able fixture type. Diagnostic screen will show error message for the user, when having such an error in fixture type.
  - **Cloning**
    - Cloning of fixtures: Setup / Show / Cloning: the menu "Prepare Cloning" is divided into 2 parts: Left part of view displays the source - right part of view the destination fixtures. Fixture have to be selected and applied to the left or right side using the left or right side "take selection" button. Prepare will lead to the cloning menu. Here can be chosen whether the prepared fixtures are cloned in all sequences/presets/worlds/... or only in selected ("chosen sequences/presets/worlds/..."). The button "Clone" will open the "Perform cloning" pop-up. The clone priority can be defined here:
      - "Low Prio. Merge" = simple cloning with low priority. Takes only values which are containing in the source fixture and are free in the destination fixture (no existing data of destination will be overwritten or deleted).
      - "Merge" = Mixes Values from the source fixture into the destination fixture and overwrites also already existing values. Values only containing in the destination fixture and not in the source fixture are not overwritten
      - Overwrite" = All values of the destination fixture are overwritten with the existing and non-existing values of the source fixture"
  - **Import/Export Gobo Bitmaps**
    - Setup / Show / Import Export includes a user interface for importing and exporting Gobo Bitmaps" Exporting Gobo bitmaps to USB drives will export to /gma2/gobos/user\_gobos folder. Gobo bitmaps have to be copied to this folder at the USB drive to be able to import them to a grandMA2 onPC or console.
  - **Import/Export User Profiles**
    - User Profiles can be exported and imported at / Show / Import/Export/User Profile. Export menu displays all user profiles of current show file on the left and all user profile xml files stored at /gma2/user\_profile folder of current selected drive at the right column. Enabling "Always ask for Name" will provide possibility to custom label xml file when exporting. Import menu displays all user profile xml files stored at /gma2/user\_profile folder of current selected drive at the left column. Button to the right toggles between import user profile only an import user profile and create user. Enabling Always ask for name provides possibility to rename user profile and user when importing user profile. Export and import of user profiles is limited to one user profile per file when using this dialogue. If you would like to export multiple user profiles into one single xml file, please refer to grandMA2 online help command line syntax for exporting and importing multiple user profiles. When trying to import a file containing multiple user profiles using Import/export menu, only the first user profile of this file will be imported. All exported user profile xml files will be stored to /gma2/user\_profile folder of your hard drive or usb drive. User profiles which have been exported with grandMA2 v2.8.3 or earlier have to be manually copied from /gma2/importexport to /gma2/user\_profile to be able to import these profiles in grandMA2 v2.9.

- **User + User Profiles**
  - Import/export user profiles includes view button thumbnails.
  - Import/Export User profile can be done using Import export menu or buttons in /Setup/Console/User and Profile Setup
  - Cut-Copy-Paste has been added to the User and User-Profile dialogue. Cut-Paste doesn't work for User Administrator and guest and UserProfile Default.
  - If in Setup / Console / User + Profiles a user has the focus, the button "Login" gives the ability for a direct login. In case of password protection the pop-up to login is displayed. In the headline the current user name is shown.
  - When copying or exporting user profiles, they always store the mask pool and the information on which screens the menus are to be opened
- **Network**
  - **MA Network Control**
    - New command and button inside Setup /Network /MA Network Config /Endsession to end a session for all session members.
    - Setup / Network / MA Net Control: Current Focus frame affects accessibility of buttons. Buttons without function for current focused object (console/session) will be greyed out.
  - **MA Network Configuration /DMX Nodes**
    - DMX Node configuration can be exported to and imported from a XML file. Setup / Network / MA Network Configuration / DMX Nodes: the button "Export Config" saves the configuration of the DMX Nodes tab inside the "gma2 / network\_nodes" folder. The button "Import Config" loads exported configuration files and overwrites current DMX Nodes configuration with the one from the file.
    - 
    - MA 8-Port-Nodes can be configured using / Setup / Network / MA Network Configuration / DMX Nodes
- **Auto Create/Create Preset Reference**
  - Presets can be added to fixture types as preset reference. Setup/ Autocreate provides access to create a preset reference and to create presets from a preset reference. Preset reference is part of the fixture type and will be exported and imported inside the fixture type file.
  - Preset references can be created via commandline. At first a fixture of a fixture type must be selected. With the command "Store Fixturetype x.5" all presets of the currently selected fixtures are added to this fixture type. If a reference already exists, a pop-up occurs. The command can be restricted to single presettypes : "Store Fixturetype x.5 if Presettype "colour". With "Autocreate Preset Fixturetype x" all preset of that type will be generated and to eventually existing merged (same name). With the extension "/add" always new presets are added. This can be limited with "if" for each presettype. Presets are identified by their name of each presettype and applicable overwritten. Example: "Store Fixturetype x.5 /remove if Presettype "colour".
  - Autocreate Presets creates preset label by merging channelset and attribute label.
- **Misc**
  - Blind button can be disabled at Setup / User / Grand Master + B.O. etc.
  - Update local console reboot dialogue provides a reboot now button.
  - Setup / Show / Remote Inputs Setup: column "Macro" in the remote menu renamed to "CMD". Accordingly the remote Type "Macro" has been renamed to "CMD"
- **Views and Pools**
  - **Layout View Improvements**
    - Layout view: Following elements can be shown and visualized as a pool icons: effects, bitmap effects, filter, forms, groups, images, macros, channel pages, executor pages, sequences, timecodes and worlds"
    - Clean-up of Stage View and Layout view title bar buttons and view options
    - 1. Move and Select title buttons were combined into one list title button without icons
    - 2. Zoom In, Zoom Out title buttons have been exchanged by zoom bar (already known from stage stage view) zoom bar can be hidden via layout view options. Deactivate zoom on the screen encoder. 4.
    - Title button was renamed to "Reset camera" Title buttons in the layout view are customizable now.
    - The Layout View options have been divided into 5 areas.
    - Pool Element defaults: Basic adjustments for pool elements are defined if they have been added with the "assign" command into a new layout
    - Fixt. / Chan. defaults: Basic adjustments for fixtures and channels when they are added with the "store" command
    - Layout Data: basic adjustments for the layout itself e.g. "visible marker"
    - Tools: basic adjustments for the layout e.g. zoom Bar, zoom Encoder ,Scrollbar deactivation. Display of Dimmer value regarding fixture sheet ("Cue colours")
    - Title Buttons: Button in the title bar can be enabled/disabled. New are also "Pool Playbacks" in the headline
    - Frames in Layout View: In the "Setup" mode of the layout view frames can be created(via the Encoder bar). Frames are always displayed on the lowest level. To edit this level the option "Edit Rectangle" must be active. Images then can be selected in the edit menu or via the encoder bar. If the frame shall only visualize one background image, the selection of the frame can be switched off in the edit menu ("Group Select" -> "off")
    - New structure of elements in layout: The display of a pool / fixture Element can have different levels. The lowest is the visualisation of fixtures: Brightness, colour and gobos above those Images and Icons are displayed. These can contain alpha channels, means they can be transparent. Text, Id Numbers and Dimmer Values are on Top.
    - Edit of Channel / Fixture elements: Pressing "Edit" and onto a fixture in the layout view the fixture editor comes up. Same in "Setup" Mode opens the editor for the selected layout element. The assignment to a fixture can be exchanged by changing the ID Number. Additional Text and adjustments like visualisation, size or image / icon rotation per element are possible. In Tab "Subfixture" Element Channel Id and Fixture Id can be switched on or off
    - Editing of Pool Objects: Pressing "Edit" and then onto a pool element in the layout view, e.g. a preset, a "normal edit" will be executed, means the preset is taken into the programmer. Same in "Setup" Mode opens the editor for the selected pool element. E.g. a preset can be exchanged via the Id as well. "Visualization": "Simple" -> shows the object as usual. "Pool Icon" shows the pool element like in its own pool. For preset and bitmap elements the display of the symbols can be adjusted via Tab "Pool" "Spot", and "Filled".
    - Dimmer values and dimmer bar can be visualized for group pool elements "Filled" add colours and "Spot" Gobos in addition. The values of the last channels / fixtures in the group are used. Same for display of markers, when there are switched on in the layout.
    - Copy in layout view : In setup mode pool elements, text, frame elements can be copied with the "copy" button. Press "Copy", select pool element, click onto new position in layout. Fixtures and channels cannot be copied. These can only be used once per layout
    - Copy of Layout Views: With command "Copy Layout 1 at 2 /merge" it is possible to merge 2 different layouts. Layouts can be imported with PSR (Partial Show Read) as well.
    - Cloning fixtures can also be used to clone layouts.
    - Video attribute thumbnails are displayed in a layout now (like in a Preset pool).
    - Command "Assign" and multiple touch of object works same as "Move"
    - Image Recommendations for gMA2 layout view:
      - Format PNG
      - Canvas Size max 240X240
      - Colour Black
      - Image size max 180X180
      - Symbols outline 5 pixels 50% grey
      - Symbols shall have alpha fill
      - Area around symbols shall be black



- **Stage View and XYZ**
  - New Stage View camera mode "Link Selected". Stage views will follow currently selected camera. Camera can be selected by touching a camera object inside camera pool or via commandline "Select Camera ID/Name" E.g. "Select Camera "Front" or "Select Camera 1"
  - Stage view yellow ball options menu has been extended. Calibration tab provides access to fixture position calibration dialogue Follow tab provides access to set z-offset of the stage view follow functionality. mask tab can be used to mask a stage view similar to masking any sheet. Title buttons tab provides the possibility to enable/disable title buttons.
  - Fixtures can be edited using stage view. Pushing edit and touching any fixture inside stage view or right mouse clicking any fixture in stage view provides access to edit fixture dialogue
  - Stage View Setup encoderbar provides possibility to "Reset Position" or "Reset Rotation". Resetting Position will move 3D models of current selected fixtures to XYZ position 0:0:0 Resetting Rotation will reset fixture rotation of current selection to 0. New commandline keywords "Move3D [at X Y Z]" and "Rotate3D [at X Y Z]". Using Move3D or Reset3D without coordinates will reset current selected fixtures to zero. E.g. "Move3D at 2.5 -5 3.3" positions current selected fixtures at X = 2.5, Y = -5 and Z = 3.3
  - Stage View Setup mode encoder bar position encoders (x, y, z) show range of values min..max.
  - Stage View fixture calibration dialogue New functionality and new button "Reset all Values"
  - Selection of channels or fixtures in stage view has been improved.
  - Stage View options defaults can be adjusted per user profile. Options can be found at Setup/User/Windows Settings/Other/Stage
  - Calibrate fixture dialogue got a new button (Find alternative flip solution) to calibrate fixtures having wrong physical values. Pushing this button will toggle through all 4 possible calibration positions.
  - 3D object parameters can be modified at the fixture position dialogue of the setup (Patch and Fixture Schedule or Live Setup). Same as in MA 3D object Size input readout can be toggled between meters and Scaling factor.
  - Stage Markers and XYZ Offset can be stored selectively to different cues.
  - Stage View Follow Mode default has been defined by "No tilt flip"
  - Auto-generated 3d object for stage marker: orange ball with 25cm diameter
  - Stage markers are automatically collected inside a Stage marker folder in 3D assert view.
- **Channel and Fixture Sheet**
  - New Edit Fixture dialogue title buttons Next and Previous to edit next or previous fixture without having to close and reopen the editor.
  - Sheet and Stage view title bar set buttons can be edited inside the sheet options title buttons tab.
  - Readout decimal and hex have been split. Decimal and hex always shows 8bit values while decimal16 and hex16 always shows 16bit values.
- **Sequence Executor Sheet**
  - "I.Fade and I.Delay are editable inside executor sheet. Right mouse click will delete individual timing, holding down middle mouse button and moving mouse up or down will increase or decrease all individual timings. "
- **Tracking Sheet**
  - Additional warning message box when trying to delete the complete content of a sequence from the tracking sheet edit dialogue
- **Content Sheet**
  - New Content sheet sorting option. Content sheet can be sorted by Fixture ID or Channel ID first.
  - "Remove", "Off" and "Deactivate" buttons added to content sheet cell edit calculator.
- **DMX Sheet**
  - DMX View: new option "Readout is absolute DMX Address" - universe overlapping
- **Timecode**
  - In addition to sequence executors also groupmasters, specialmasters, effects assigned to executors and bitmap effects assigned to executors can be recorded into a timecode show.
  - Timecode shows can be merged together. Timecode Tracks, Timecode Subtracks and Timecode Events will be merged. Timecode show options will not be altered.
  - Timecode options can be saved to default and loaded from default using timecode option title bar buttons. Default options will be used when creating new timecode pool objects.
  - Adjustment of "Pre Roll" and "After Roll" for SMPTE and Midi possible ->. Setup / Console / Timecode.
  - Timecode editor options have been moved from separate options button to Title bar Yellow Ball options menu.
  - Jumping in timecode shows is possible via commandline. Syntax: Go Time (time) Timecode (number). E.g. "Go Time 3h5m Timecode 1" Timecodeshow 1 will start and jump to 3 hours and 5 minutes. "Pause Time 6s Timecode 4" will position timecode show 4 at 6 seconds and pause timecode show 4. "Goto Timecode X" or "Load Timecode x" will provide a list of events of timecode x to select the event to jump to. Pressing the button Time (Fade) will be processed as keyword time in combination with timecode.
  - New Commandline Time unit input possibility; dot separated input [h].[m].s[.1/10s]. E.g. "Goto Timecode x Time 3" jumps to 3 seconds. "Time 3.4" = 3 seconds and 40/100 frames. "Time 2.3.4" = 2 minutes 3 seconds and 40/100 frames. "Time 1.2.3.4" = 1 hour 2 minutes 3 seconds and 40/100 frames.
  - Timecode shows can be loaded from another show file using partial show read
  - Timecode FastOff event is in the list of manually addable events
- **Misc**
  - Special dialogue colour can be assigned to any view using Create basic window dialogue tab other. In addition to the functionality already known from the special dialogue, labels below the colour picker can be hidden.
  - New view: Create basic Window / Playbacks / Running Playbacks. All running playbacks are displayed. (Similar to temp. Off menu). In the headline there are 4 buttons: "Only my Playbacks" shows only playbacks started with own user profile. "Preview Playbacks" shows only in Preview Mode started playbacks. If "Link Encoders" is active, Playbacks can be operated in the command line and if "Off Mode" is on, playbacks can be directly switched off by clicking on them. The selected executor has in the first column a green background. In the option menu the font size is adjustable and an info column can be turned on. All options can be turned on and off in the headline as "Title Buttons".
  - New User-Pool: "Camera". "Store" on an empty pool object creates a new 3d Camera, which can be positioned. Clicking on the pool object will select this camera (object gets green). Works via command line as well: "Select Camera "Front" or "Select Camera 1".
  - "Pictures in layouts: There is a new pool to administrate pictures which can be used in the layout view as "Image" which can be assigned to the objects -> Create Basic Window / Pools / Images. Formats: bmp, gif, jpg, lossless jpg, png, tif, targa. To avoid huge show file, the size is limited per picture to 2MB, and the total size of the image pool to 10MB. Resolutions larger than FullHD (1920x1080) are downscaled automatically. With "Store" or "Edit" a pool object can be created or modified. With the button "Load Image" in the editor Pictures can be loaded into the pool from the "Bitmaps" Folder of the desk or the "gMA2" Folder of a memory stick. They are then part of the show file. The resolution and the size is displayed. In the option menu of the image pool the symbol size can be chosen (small / big) "
  - Command section window height limit has been removed. Command section can be scaled up to any screen size bigger Minimum size of command section is 2x3 grid cells.
  - OnScreen keyboard has been added to Info View multi-line editor.
- **Commandline**
  - Store Presettype X Please will store at the next empty pool object of the referring pool.
  - Storing a new preset generates a default name containing type of preset and index of preset inside preset pool. E.g. Store Preset 2.5 will generate a Position preset labelled "Position 5"

- Move/copy/insert can be used to copy ONE empty object.
- New commandline command BlackScreen [Screennumber]. The command BlackScreen will blackout all screens. The command BlackScreen 5 will blackout screen 5. Screens can be reactivated using the button "Show Screen" or "Show All Screens" in the bottom right corner of each screen or by using the command BlackScreen Off.
- Commandline Feedback displays not existing commands also. A yellow message shows "Command not executed". If SpecialMaster 2.4 is on ("SpecialMaster "Snd out" at 100"), error sounds will be replayed (Not in grandMA2 onPC)
- New command fOutput Fade(Delay) [time range] [Executor] selects all fixtures of a sequence currently using an individual fade or delay time. E.g. foutput Fade 3 Executor 1 selects all fixtures stored or tracked with an individual fade time of 3 seconds at current cue of the sequence assigned to executor 1. foutput Fade Executor 1 selects all fixtures stored or tracked with any individual fade time at current cue of the sequence assigned to executor 1. foutput Fade 1 thru 10 selects all fixtures stored or tracked with an individual fade time between 1 and 10 seconds at current cue of selected executor.
- New command option "At": "/status". Example: "Fixture 1 thru 5 at Cue 5 /status". Result: Fixture 1 thru 5 get the values from Cue 5 including tracking values from Cue 0 to 4 active in programmer"
- Commandline command "Edit DMX x" or pushing Edit hard key and touching any cell inside DMX Sheet opens edit fixture dialogue of fixture using this DMX address x.
- Store Cue 2.1 thru 3.1 will create following cues: 2.1 + 2.2 + 2.3 + 2.4 + 2.5 + 2.6 + 2.7 + 2.8 + 2.9 + 3.0 + 3.1
- Absolute and relative negative Values in the commandline can be distinguished by not adding a blanc between "minus" and number. Example: "Attribute "Tilt" at -10" sets absolute (negative) Value -10. "Attribute "Tilt" at - 10" sets the value relative - 10 to the current value relative. This may have impact on existing macros (e.g. add a value (+5) now (+ 5)
- Screens can be copied to other screen using new copy screen x at y command. Screens can be merged or overwritten. Hard key combination MA+View adds keyword screen to command line.
- Off Time of Executors can be modified via commandline. Example 1: Assign Executor 1 /OffTime = 10. Example 2: Assign Executor 1 /OffTime = "default".
- Similar the Default Off Time: Example: "Assign Root 3.3 /off= 5s".
- Fixture At Fixture will extract preset information, if target fixture is not included in preset currently used by source fixture.
- Command "Fixture x at Fixture y" does now also work when the origin (y) is deriving from a sequence with Master Fader less 100%
- Playback Master are assignable to sequence executors via commandline. Example: "Assign Executor 1.1 /PlaybackMaster = 2" (0 for none). To assign a Playback Master to an empty executor: "Assign Specialmaster "Playback 2" Executor y"
- Telnet commands can be sent from grandMA2 commandline directly using the Syntax: Telnet IP-address [Port] "String"
- Current active pages can be changes per userprofile via commandline using a command like "Assign Userprofile x /CurrentFaderPage=1" possible parameters are "CurrentChannelPage", "CurrentFaderPage", "CurrentButtonPage" It is not possible to jump to non-existing executor or channel pages.
- Command SetUserVar works also with float values
- Command At EffectForm "form name" (e.g. "PWM") works
- Attribute and feature keyword in combination with numbers respects current presettype selection.
- Commandline support to assign loops in sequences. Assign Cue X /Loop=Y.
- **Executors**
  - New executor commands and executor button assignments: Flash+On, Flash+Go, Swop+On, Swop+Go. FlashON flashes executor, but does not switch off executor when releasing flash button. FlashGO flashes executor, steps to next cue and does not switch off executor when releasing flash button. SwopOn swops executor, but does not switch off executor when releasing swop button. SwopGo swops executor, steps to next cue and does not switch off executor when releasing Swop button.
  - New Executor button functionality, "Load Next" and "Load Prev". This will load the next/prev cue of the current loaded cue.
  - 2 new Special Master: "StepInFade" and StepOutFade". Special Masters are divided into 5 groups of functions. Necessary to avoid renumbering for future extensions. Macros which contain special masters must be adapted.
    - Already done for predefined macros
    - Default Master 1.1 - 1.11
    - Grand Master 2.1 - 2.6
    - Speed Master 3.1 - 3.16
    - Rate Master 4.1 - 4.16
    - Playback Master 5.1 - 5.50"
  - Keys X1 - X20 can have a fixed link to Exec201 - 220. -> "Setup / User / Settings" Option "XKeys always for Exec". If turned on, User 1+2, and special menus (e.g. colour Picker) are only operable with touch-screen soft-keys.
  - New Sequence Executor assign menu option "Loop breaking Go". With this option activated a go command will break a currently running loop and will step to the next cue after the loop.
  - Sequence Executor assign menu defaults also include playback masters.
  - Sequence Executor assign menu defaults also include Input filter.
  - Sequence option "Forced Position Mode" can be adjusted using Edit Sequence dialogue
- **Encoderbars**
  - Special dialogues can be moved to other screens using Change screen title bar button.
  - Encoder Bar Frames follow current layer, value layer Yellow, fade layer Green, delay layer Orange and all effect layers Magenta.
  - New button "Link Encoder" in "Special dialogue Shaper". This button switches encoders for all shaper modes
    - Angle Mode (Invert B)" inverts the B attribute. In this mode the encoder changes all positive and negative values at the same time.
    - "Set All" selects all attributes.
    - "Invert All" inverts selection
    - A mouse click on the attribute value opens the calculator. Pressing on the encoder switches the attribute selection."
  - 100mm Fader on-screen buttons are using default button assignment of specialmaster assigned to the referring 100mm fader.
  - In the DMX Encoderbar (open e.g. with "Channel Channel 1") there is a new button "Universe / Absolute". In Position "Universe" the DMX address can be adjusted as usual with the Encoders "Universe" and "Address". In position "Absolute" only the "address" encoder can be used.
  - Encoder button menu Clear Screen soft button will also close any temporary window or pool.
  - Encoder bar encoder mode "Link defined" and "Link defined active" have been replaced by the new modes "Link Filter" and "Link Filter active" These options use the current setting of the filter pool respectively command filter
- **New Calculator**
  - New calculator: multiple entries in one line e.g. "0 thru 50 thru 0 thru 100" are possible. With the + - \* / Buttons values can be changed. When an attribute has more functions, this is displayed above the input line. In the right area only the "channelsets" of the selected "Function" are displayed. For each function also "Min" and "Max" Buttons exist. When the calculator is open, it is possible to scroll through the channelsets via the encoder - by pressing and turning through the feature.
  - Calculator +/- button can be used to input absolute values.
  - Input of complex ranges does work with the numeric keypad as well
  - Presetbar readout is updated by following tracking and content sheet in addition to fixture and channel sheet.
  - User option "Single Digit input" is used in commandline and calculator for dimmer attributes only.
- **Misc**
  - PosiStageNet (PSN) realtime tracking protocol added. Setup / Network / PSN Network Configuration. This allows to transmit XYZ Stage Positions to the grandMA2 System. Every tracking system which supports that protocol can drive stage marker and X,Y,Z positions of moving lights.
  - New iOS MA Remote app v1.011. Support for grandMA2 v2.9 and iPod/iPhone 5 added.

- Create basic window clean-up: All system windows have been moved from the other tab to the new system tab.
- Last called View button of each screen is highlighted.
- The headline of the update menu is shown whether a filter is active.
- Store and label message box title bar shows target object.
- A pop-up warns the user if trying to label any object using illegal characters.
- grandMA2 ultralight screen encoder 2 can be assigned to an external screen using Faderwing and Monitor. To assign the encoder to an external screen move the screen icon above the fader section of the grandMA2 ultralight icon.
- Resolution of virtual Dimmer and XYZ Attributes has been increased to 24bit.
- Programmer values of all users are not active anymore when loading a show file. (regardless of the last storage state)
- AT Filter dialogue can be moved to other screens using Select screen title bar button.
- Option buttons in pop-ups will be displayed with a checkbox. E.g. Copy Cue pop-up Cue only option button.
- Tools / Login Screen: The keyboard "TAB" can be used to move cursor between "name" and "password" entry field.
- Improvement in Setup Dialogue-> When entering the setup all submenus for the 4 main tabs are displayed. With "Home" you get back from a sub menu to this setup overview.
- Show files from ADB consoles can be converted via "ASCII Show Read" to grandMA2 show files.
- grandMA2 C1TP implementation supports different version for the same structure in C1TP messages. So you should not face LSta message errors with Hippotizers anymore.
- C1TP Progress bars for Green Hippo Update Thumbnails functionality has been improved.
- MBOX Content attributes are detected automatically when choosing a MBOX Fixture layer in the C1TP menu
- **grandMA2 onPC**
  - New grandMA2 onPC Mode "Single Screen (Internal only). grandMA2 onPC Mode can be changed via options dialogue (yellow dot left upper corner of the command screen). In "Single Screen (Internal only)" mode, all internal screens can be accessed in one single MS Windows window and external monitors will be displayed in two additional MS Windows windows. Moreover the button "CmdWing Bar" allows to adapt the encoderbar on screen 2 to an MAonPC command wing layout (means additional 6 playback fader)
  - New windows start menu short-cut to launch grandMA2 onPC "Launch onPC CleanStart". Using this short-cut will reset all grandMA2 onPC Windows to default size and starts grandMA2 onPC with a blanc show.
  - Command Wing bar can be chosen as window from the create basic window other tab. This bar contains a commandline, an encoder bar, a 100mm fader GUI and a six executor wide mini playback view.
  - grandMA2 onPC select screen buttons labels change to the following labels when connecting a grandMA2 onPC wing."Screen 2" = "CMD Wing", "Screen 3" = "Fader Wing 1", "Screen 4" = "Fader Wing 2"
  - grandMA2 onPC native resolution has been increased to 1352x800 to be able to display original sized view buttons.
- **grandMA1To2 Show Converter**
  - grandMA1 STROBE and STROBE\_RATIO Attributes are converted to grandMA2 SHUTTER Attribute to be compatible with grandMA2 library.
  - Further conversion improvements: Executor Assignment, Attribute Names , Presettype Names , 16bit Attributes , "React to dim" , colour mixing system, Attack and Decay in Effects, Effect Links in Cues , Page numbers in Cue links, Macros , Agenda entries.
  - Effects, Group Master and Special Master in timecode shows are converted.
  - The Feature "PanTilt" is converted to "Position".
  - Effects and Cues do not create empty lines anymore"

### Fixed Bugs and improved functionality

- Importing fixture layer via command line in another show does not crash the desk anymore
- Import Fixture Type input filters using on screen keyboard are automatically applied.
- Editing a Faderwing inside graphical Faderwing + monitor setup has been improved.
- Command Dmx 2.1 Thru 20 At 100 means Dmx 2.1 Thru 2.20 At 100
- Maximum values for timecode options "length" and "offset" have been increased to 255h59m59s.
- Setting a Speedmaster to a specific value via commandline will reset any speedmaster scaling.
- Unblocking cues in the tracking sheet in a network environment does not crash the desk anymore
- Channel Sheet redraw bug after toggle vertical Scrollbar has been fixed.
- "Link Fader and Button Page" option will not offset Fader and button pages anymore when using channel pages in between.
- Setup / Show / Patch and Fixture Schedule: Newly added layers or fixtures are immediately sorted to correct grid position
- grandMA2 NPU USB mouse support has been fixed.
- Red Programmer markers of virtual dimmers are also displayed in Layout View DMX Layer readout mode.
- Error handling when patching fixtures containing patch collisions of subfixtures has been improved.
- Newly created show files also display default gobo and colour wheels symbols in a fixture sheet, regardless of current programmer status.
- Setting Executors containing off times to specific values via command line respects Auto Start and Stop setting.
- Mixed up crossfade A/B has been fixed. Crossfade A fades decreasing values, Crossfade B fades increasing values.
- Disabling GrandMaster, Highlight, Solo, Blind,... resets the disabled button function to default state
- Layout View: Value display and readout Option (DMX, Output, Value) is stored in show file.
- Setup / Network / MA Network Configuration / onPC: Column type displays the type of wing (MA onPC command or MA onPC fader wing)
- Edit Fixture dialogue grid can be sorted by highlight column.
- Forced Fixture ID of single fixture groups has been removed. Fixture ID can be removed when labelling a single fixture group.
- Setup / Network / MA Network Configuration / DMX Nodes: The column "Firmware" shows firmware version of MA 4Port Nodes.
- Action buttons can be edited again using the edit hardkey and pressing an action button afterwards.
- Setup / Network / MA Network Configuration / DMX Nodes: The first 2 columns (id, name) are always visible when scrolling horizontal
- Fixture names display of dynamic channel faders has been improved.
- Moving masks in pool does not destroy link to links to sheets anymore.
- Tracking sheet layer Values only is displayed correct in combination with merge same values option.
- Dynamic channel fader pages can be used in combination with colour readout CMY
- Channel page flash buttons respect world of current user.
- It is not allowed to copy or move fixtures or layers in live setup. These actions can be done in full edit setup only.
- The commandline feedback view can display more characters per line. E.g. List Executor shows all possible executor options.
- The command "goto cue "name" " has been fixed.
- Max amount of sACN input universes per grid row is one universe. Amount cell of sACN input rows are not editable.
- Fixed colour preset import from grandMA2 v2.7
- Sequence Sheet follow cue fade time display has been fixed.
- Empty Fixture sheet cells in vertical styled fixture sheets do not show off-colours anymore.
- Changing sheet colour readout changes also encoder bar readout.
- Visible button glowing added at Autocreate dialogue
- Setup/Patch Only/Fixture Position ID and name column is always visible, even when scrolling horizontally.
- The command "Selfix Bitmap x" selects all fixtures in a bitmap, even the bitmap is not linked to any executor
- Info window does not show wrong object numbers for fixtures anymore
- Patched DMX addresses of break 2-4 are displayed on the left side of the patch menu , when they belong to a subfixture
- grandMA1@grandMA2 hardware default keyboard layout has been set to english.
- Readability of Smart View Icons labels area has been improved.
- Backup Server Windows share mounting has been fixed.



- Network configuration DMX node clean-up: Mode column provides access to available modes of a MA 4port node only.
- Fixed "/use=allforselected" bug when storing XYZ values using this option.
- MATricks button is available while having encoders linked in special colour dialogue
- Effect editor follows user profile mixcolour readout switch.
- Session collision pop-up does not disappear anymore when unlocking a desk.
- Knocking in XYZ values in combination with markers knocks in correct XYZ offset values.
- Editing Multiple effect lines at the same time will keep attribute selection when closing effect layer calculator.
- Reassign another SpecialMaster to an executor already containing a special master automatically loads special master button defaults.
- Colour Special dialogue link encoders have been changed to relative to be able to use them in combination with Align.
- Effect Editor encoder push and turn is 10 times faster than turning without push.
- Effect Editor / Edit Effect Line Low and High value wheels handling of template effects has been improved.
- Programmer effect encoder bar supports "Off Effect", "Release Effect" and "Stomp Effect" also when set to "All"
- When moving executors (move Executor 1 at 2) the motor fader of the empty exec will be moved to 0
- "The "Snap Percent" values of a sequence are obeyed when being executed as a chaser. The percent value will be calculated to the fade time of the chaser
- When desk is locked and non-motorized faders are moved, output does not jump anymore after unlocking the desk
- MSC (MidiShowControl) Slave takes over when becoming Master
- Off menu is working also with a few hundred pages of allocated executors
- Command "Update Cue" combined with a name will only be executed when the exact name already exists
- Trying to login with non-existing user using commandline login command will not logout current user anymore.
- Command "Attribute 1.1.1 at 50" without fixture selection does not work anymore
- Command "Kill" does not exist for bitmap and effect executors anymore, because it is only possible for sequence executors
- With the editor in the content sheet individual timings can be removed
- LED Fixtures with a real dimmer are displayed in the output layer of the layout view with same intensity as LED Fixtures with virtual dimmer.
- Command Store If Attribute "dim" + "pan" EndIf works with both attributes
- Learn speed function for Bitmap effect executors has been implemented.
- Bitmap effect editor button naming has been changed. Basic tab scale mode has been renamed to "Scale Bitmap". Tools tab Scale 1:1 and Scale Fit has been renamed to Scale Modulator 1:1 and Scale Modulator Fit
- BPM speed master is assignable to bitmap effect playbacks
- Partial Show Read: When importing a show via PSR into an existing show which contains multi-patches, these will be not be destroyed anymore
- "Partial Show Read: Playback Settings of executors will be taken correct into a show(Priority / Off On Overwritten)."
- Selecting Fixtures using commandline will be executed without please when touching inside the colourpicker dialogue afterwards.
- Timecode show option "Status Call" can also be used when timecode signal has been interrupted and cues were triggered manually.
- Timecode editor does not automatically jump to next event deleting current event.
- Creating Reports for USB export using the List command will automatically create new folder "Report" inside USB drive gma2 folder structure. Workflow to create reports for USB: Choose USB drive in backup menu, select an executor with assigned sequence, "List Cue /Filename="mycuelist"
- Clone command respects locking of objects. It is not possible to clone new fixtures into locked objects.
- Logged in user will not reset to administrator when receiving an show download from a slave console leaving Patch and Fixture Schedule.
- Agenda calculator month and year button labels have been fixed.
- **grandMA2 onPC**
  - grandMA2 onPC Encoder Mode Rotation resolution has been decreased so one turn (360deg) will be the same value change as when turning console encoders
  - Windows8 grandMA2 onPC Wing driver are installed automatically when installing grandMA2 onPC
  - onPC Faderwing + monitor setup: switch screen 5 + 6 will exchange screens as expected.
  - Users without admin rights are allowed to shutdown grandMA2 onPC
  - grandMA2 onPC executor views display empty executors with a grey frame instead of an orange one

## Appendix

! The command "store /remove" or pressing [store][cue][2] and the select [remove] in the pop-up will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.

! Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.

! The 4Port and 8Port Nodes do not supporting the SACN protocol by now.

! The gma2 folder on your USB stick needs 3 additional new folders:

- a. gma2/user\_profile (copy your old user profile xml files from the gma2/importexport folder to this new folder)
- b. gma2/network\_nodes (this folder will be used to Import/Export the Node Configurations)
- c. gma2/fixture\_layers (this folder will be used when you Export Layer in the Patch and Fixture Schedule menu)

! Network switch IGMP Snooping functionality has to be switched off to be able to update MA 2Port nodes.

## Known Limitations



- Release version **2.3** of grandMA2 divorced values and effect values! Therefore older show files might not be 100% compatible. Therefore please check your show file with the new version before using it live!
- With Version **2.5.70** the default speed of effects and the rate of effect lines has been exchanged by a single speed per line. Therefore older show files might not be 100% compatible. Please check your show file with the new version before using it live!!
- ASCII show import supports Strand, Transtechnik and ADB ASCII show files only.
- MA onPC command wing DMX input is supported for the ports "DMX In" and "DMX out A" only. The port "DMX out B" is allowed to be used as DMX out only!
- Before loading show files stored with grandMA2 **v2.7.x** the first time with grandMA2 v2.9.x, attribute Colormix4 and 5 and Colordim4 and 5 of self-made fixture types have to be manually adjusted to fulfil colour specification Amber has to be Colormix 4 invert or Colordim 4 without invert, and White has to be Colormix 5 invert or Colordim 5 without invert. Otherwise colour information of these fixture types will be lost after loading show file with v2.9.
- The Feature name for ColorDim/ColorMix has changed into MixColor. Macros using one of these feature names have to be adjusted.
- Known limitation when loading show files stored with **v2.8.x** for the first time in v2.9
  - Special Masters have a new data structure in grandMA2 software.
    - All Special Master custom labels will be reset to MA default labels
    - Assignment of 100mm faders will be reset to default.
    - Macros, referring to special masters have to be adjusted and have to use the new naming and numbering of special masters.
  - Macros referring to relative values have to be adjusted according to new relative/absolute syntax.
  - User profiles exported to usb drives have to be manually moved from importexport folder to user\_profile folder to be able to import these profiles using grandMA2 v2.9
- 4Port and 8Port Nodes have to be updated to v1.0.9 to be compatible with grandMA2 v2.9. 2-Port Nodes have to be updated to 1.74 to be compatible with grandMA2 v2.9.
- Channelset labels of fixture types have to be unique to be visible and accessible in calculator. E.g. Channel sets of Attribute Shutter = closed, open, open, open,.... only one open is visible in the calculator. Changing channel set labels to closed, open, open(2), open(3),.... will result in all channel sets are visible in the calculator.



## Topic: Release Notes - 2.8.3



### Important:

- If you would like to update your dimMA system from any version below 7.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of grandMA onPC and MA 3D require minimum Windows XP with Service Pack 3. The latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed.

### grandMA2 Version - 2.8.3.1

#### Fixed Bugs and improved functionality

- Patching fixture types containing more than 4 breaks crash the console - fixed.
- Vertical Style fixture sheet crash with a specific amount of columns - fixed.
- Multiple file selection crash in bitmap importer - fixed.
- Bitmap editor modulator sheet was not usable - fixed.
- Agenda events were not executed if event was not created or edited at the same day - fixed.
- Possible crash when leaving Patch and Fixture Schedule - fixed.
- grandMA2 Replay Unit system slow down if no grandMA2 Faderwing was connected - fixed.
- MA 4Port Node DMX Output drops merged DMX Universes - fixed.
- grandMA2 Backup Server Windows share mounting was not always possible - fixed.
- External keyboards connected to NPUs may not be recognized correctly - fixed.
- Partial Show Read of presets which have been moved inside a preset pool was not always possible - fixed.
- Layout View lasso selection is able to handle a mixture of Fixture and Channel IDs - fixed.
- Backup menu "Mark all" has to be renamed to "Check All"
- Wysiwig DMX Invert - fixed.
- Install of grandMA2 onPC Wing driver has been improved when using windows 8.

### grandMA2 Version - 2.8.3

#### Fixed bugs:

- FixtureTypes using mode channels with multiple dependent channelsets limit DMX output to range of first dependent channelset - fixed.
- Wrong sorting of color values in tracksheet when using part cues - fixed.
- Starting Preview mode does not remove input filter anymore.
- DMX Tester Encoder bar Encoder 3 is updated when DMX channel is selected via commandline.
- Readability of cue numbers using more than 5 digits has been improved inside sequence executor sheet cue renumber dialogue.
- Editing multiple grid cells using Lasso selection in combination with edit hardkey - fixed.
- Info View cursor position offset has been fixed.
- Link fader pages could be Offset, when using link fader pages in combination with dynamik channel pages. This has been fixed. It is not possible to have Buttons and faders at different pages while Link fader pages user Setting is active.
- Default effect mode has been set to Absolute for Feature ColorRGB.
- Color Special Dialogue refresh if Color Output is changed by starting a new playback or calling a cue.
- MA onPC command wing button longpress toggle bug has been fixed. E.g. Longpress Store will open Store Options in the same way as it is done at grandMA2 consoles.
- MA onPC command and fader wing are displayed in the network config onPC tab type column.

### grandMA2 Version 2.8.2.6

**Main feature overview:**

- Software Update via Network
- New Handling of additive and subtractive color mixing fixtures.
- Graphical Faderwing and Monitor Setup
- Improved and new structured fixture library
- Improved Patch Dialogue
- Macro Pool objects status indicator
- XYZ Stage Marker
- Sound In
- grandMA2 onPC Wing Configuration

**New functions and features in detail:**

- **Software Update via Network**

- Software Update via Network has been implemented. Minimum Streaming version for software update via network is grandMA2 [2.8.0]. Stations running former grandMA2 versions have to be updated the known way via USB. Network Update can be found at /setup/console/Software Update. List of stations to update can be filtered by session ID. Stations already running same version are hidden by default. Activating show same version will also show stations running same version. Software Update via network also supports updating multiple stations simultaneously by press and hold CTRL and select multiple stations. grandMA2 consoles and grandMA2 onPCs can be used to update other grandMA2 consoles, NPUs, MA 3D, MA VPUs MA 4Port Nodes and grandMA2 onPCs running grandMA2 Streaming [2.8.0] or later.

To be able to update via network, please download the following files from MALighting.com :

- grandMA2[streaming gMA2][streaming gMA1].update
- 4Port\_[version].update,
- MA 3D Installer ( gMA3D\_[version][streaming].exe )
- MA VPU Installer ( gMA-VPU\_[version][streaming].exe )
- grandMA2 onPC installer. ( gMA2onPC\_[version][streaming].exe )

Copy all files needed for your devices to an empty USB drive root directory. USB drive should use FAT32 file system. The USB drive has to be connected to the transmitting grandMA2 console or computer running grandMA2 onPC while updating.

- Software update via network is also possible using commandline. Syntax would be "UpdateSoftware [IP-Address]" Update Please would update current console. USB drive containing update files as described above has to be connected to grandMA2 console or computer running grandMA2 onPC while updating via commandline as well.

- **Setup**

- New Handling of additive and subtractive color mixing fixtures.
  - Due to the raising amount of LED fixtures and to improve fixture exchange, the former features Colormix and ColorDim have been exchanged by a new Feature called ColorRGB. grandMA2 library has been converted. Show files will be converted when loading the show file the first time with grandMA2 v2.8.0.
  - Generic LED fixtures from grandMA2 library always contain a dimmer. Fixtures not having a real dimmer inside their dmx footprint will get a virtual one. Virtual dimmers work like a master for all ColorRGB attributes.
  - New sheet readout option to choose sheet and encoder readout between Default, RGB and CMY. Per Default all sheets will follow global readout setting which can be changed at /setup/user/settings/Default Color mode. . This option changes the readout only. Fixture types will still use ColorRGBs. Encoder Color readout will follow last touched sheet readout. For fast readout switching a special title button color readout can be activated inside sheet options title button tab.
  - Special Dialogue Color has new option Link Encoders to control special dialogue faders via encoder. With activated link encoder encoder 1, 2 and 3 will control the choosen special dialogue colorfaders.
  - Edit Setup / Fixture Types / Attribute + Encoder Grouping: New Color Feature "ColorRGB". This feature replaces former features Colormix and ColorDim. Default ColorRGB colors are: ColorRGB1=Red, ColorRGB2=Green, ColorRGB3=Blue, ColorRGB4=Amber, ColorRGB5=White, ColorRGB6=Warm White, ColorRGB7=Cool White, ColorRGB8=Orange, ColorRGB9=Red Orange, ColorRGB10=Purple, ColorRGB11=Indigo, ColorRGB12=Cyan, ColorRGB13=Magenta, ColorRGB14=Yellow, ColorRGB15=UV, ColorRGB16=Green Cyan, ColorRGB17=Medium White.
  - Attribute and Encoder Grouping and Edit Fixture Type dialogue got a new column Color. These Colors will be used for displaying light output inside StageView and 3D and will also be used for colorpicker color calculation at future grandMA2 versions.
- grandMA2 Fader Wing
  - Graphic mode has been added to Setup / Console / Faderwing + Monitor Setup. Current connected hardware is marked by green check marks. New surfaces can be added or removed inside this dialogue. This dialogue can be used to arrange screens for mouse cursor navigation through all screens. To assign a screen encoder of an external fader wing to an external screen, the fader wing has to be moved above or below the screen. A grey encoder icon inside external screen symbol displays a correct assigned screen encoder. Pressing edit and touching any module or right mouse click any module can be used to assign a different part of current executor page to a fader module and to change screen assignment of external screens. Default surface 1 is locked and cannot be changed.
  - Surfaces can also be changed using commandline. E.g. The command Surface 2 will switch to surface 2.
- Fixture Types
  - Fixture type library menu has been improved. Library will be displayed as table and can be sorted by any column and filtered by manufacturer or fixture type. DMX footprint, number of instances and fixture info is also displayed inside this menu. Manufacturer and Fixture Type filter algorithm has been improved to be able to find fixtures without knowing the exact file name. Fixture filter filters by fixture and mode column. Info window displays attribute to DMX mapping, Info and Revision Notes of currently focused fixture. Info window can be hidden using the i title bar button.
  - By default, all fixture types are using a generic 3D model depending on the class of the fixture module. Custom 3D models can be assigned to fixture types inside module manager using model column. Module manager can be found at /Setup/Patch and Fixture Schedule/Fixture Types/Module Manager. Multi Instance fixtures can have a fixture housing model in addition to the module manager subfixture models. These housing 3D models are assigned by choosing them inside model column of fixture type table. Exporting a fixture type includes assigned 3D model. Exchanging a 3D model of a single fixture can be done using 3D application or using /Setup/Patch Live/Fixture Position/ dialogue model column.
  - "New keyword ""Model"" for 3d models in show file E.g. the command ""List Model"" lists all 3D models of this show file. The already existing keyword ""Items3D"" has been renamed to ""Item3D"" The syntax Assign [model] at [item3d] has been implemented to assign 3D models to fixtures using commandline or macros. E.g. "Assign model 2 at item3d 10"
  - Fixture type info editor has been reworked. Fixture types can contain Infos and Revision Notes with time stamps. Time stamps are automatically created, when manually adding Infos or revision notes.
- Patch
  - Patch dialogue has been reworked. Touching a DMX address at the right part of the patch dialogue patches current focused fixture to touched DMX address. Right hand side of patch dialogue only shows one universe at a time. Universe can be chosen via green soft key above scrollbar. A new Patch encoder bar has been implemented. Encoder one can be used to scroll through left all fixtures displayed at the left side of patch dialogue. Encoder 2 and 3 can be

- used to choose DMX Universe and Address. Pressing Encoder 3 will patch current focused fixture(s) to chosen DMX address.
- Patch dialogue DMX Test Output functionality has been implemented. Encoder 4 of the new Patch dialogue encoder bar can be used to set to a Level to test current chosen DMX address. Be aware using the Test DMX Output functionality of the patch dialogue also affects and resets DMX Tester generated DMX Output.
  - Setup / User / Settings: New User Option "Patch Column Readout is absolute DMX Address". Activating this option will display DMX Addresses as absolute values instead of separated by Universe and Address inside this universe. E.g. 2.500 = 1012. Additional, this option can be changed inside DMX Patch dialogue.
  - Create Multipatch has been moved from patch to fixture layer dialogue. Multipatches can include 3D models to be visualized in Stage View and MA 3D. Multipatch fixtures will be displayed as Master/Slaves in Fixture Layer. Deleting Master will move next multipatch up to be new Master. Position of Multipatch fixtures can be adjusted inside fixture position dialogue which can be found at the Patch and Fixture Schedule or Patch Live dialogue.
  - Patching using Commandline: Assign Fixture X at DMX Y deletes current patch of fixture X and patches fixture X at DMX address Y. Assign DMX Y at Fixture X creates a Multipatch for DMX Y at Fixture X. Assign DMX Y at Fixture X /reset will delete any MultiPatch of Fixture X.
- Multi Selection of Executors has been implemented. Press and hold select key and choose more than one executor. Last selected executor is displayed with light green background, all other selected executors are displayed with dark green background. The commands On, Off, Go+, Go-, Pause, Fast Forward, Fast Backwards and Top Please will be executed by all currently selected executors. Selecting a single Executor will deselect all other executors.
- grandMA2 consoles and NPU's can be remote rebooted or shut down via network using station IP address. E.g. The command Shutdown 192.168.0.4 will shutdown console or NPU with IP address 192.168.0.4 Reboot and shutdown can be canceled within 10s at the station receiving a remote reboot or shutdown command.
- Column width of setup tables has been included in user profile.
- Improved Multiuser Access Conflicts. E.g. As long as a user is changing a name, number or timing of a cue, other users cannot modify this cue. If another user tries to edit or modify this cue, he will get a automatically disappearing warning popup.
- Pressing MA+. will add Default to the commandline without automatically executing this command anymore. E.g. Pressing MA+. and an Encoder bar Presettype button afterwards will add default values for chosen Presettype.
- New command "menu /reset" to switch all dialogs back to default screen.
- New option for command Call: status Call Cue 3 activates all values of Cue 3 in programmer. Values of Cue Zero thru Cue 2.999 will be inactive in programmer. Call Cue 3 /status activates all values of Cue Zero thru Cue 3 in programmer.
- It is possible to reference Fader and Button pages by name using wildcards. E.g. Off Page "Song\*" will switch off all pages with page labels starting with "song".
- The store option "Status Merge" includes also effects.
- The commands Record Macro x and Record Timecode x will create a new macro/ timecode object, if object does not already exist. The commands Off Macro and Off Timecode without any following number will switch off all currently running macros or timecode playbacks.
- Channelpage buttons can be disabled and Faderpage and Buttonpage buttons can be linked to switch complete pages. Option can be set at Setup / User / GrandMaster + B.O. Settings.
- "add multiple" to add more than one new remote input row in Setup / Show / Remote Inputs Setup / Analog - Midi - DMX Remotes.
- Setup / Network / MA Network Configuration: onPCs are displayed inside a new TAB.
- Fixture Type Creation Choose Attribute dialogue has been improved.
- Kill can be used with or without considering Executor Off-time. Option can be set using Setup/Show/Playback+MIB Timing.
- New Option in User Setting: Setup / User / Settings / "Disable Viewbutton and View CLI". (CLI = Commandline Interaction). With this option activated Views and Viewbuttons will not interact with the commandline anymore. E.g. Hitting the store button to store a group and realizing you have to change the View to get a group pool would not accidentally store a view anymore.
- "Value Encoder resolution can be changed per attribute using Attribute and Encoder Grouping dialog or by using commandline: Assign Attribute """"/EncoderResolution. E.g. Assign Attribute ""Tilt"" /EncoderResolution=fine.
- **Pools and Sheets**
  - Macro Pool objects show their current status (Play, Pause and record) and the number of the current active macro line.
  - Sequence Executor Sheet: Multiple CMD cells can be selected using CTRL and edited at the same time.
  - New Sheet option "Merge Same Values". This option defines whether Attributes of the same feature currently having the same value are display as one value or as one value per attribute. This option does not apply for presets.
  - Editing any MATricks objects displays a new MATricks editor. Using this editor, MATricks object can be labeled, modified or exchanged by a predefined one.
  - Executor Assign menu list buttons are got list button indicator.
  - Info View window has been renamed to Info Sequence Window. New Info window can be used to create Info for any object. New Info View Window works like a text editor. Link Selected will display Info of selected sequence. using the Info title button and touching any object afterwards will show editable Info of this object, e.g. sequence, group, preset,...
  - All pool items display a small i, if a pool object contains a Info and is not locked.
  - Specialmaster BPM can be assigned as Effect Speed Group. Effects will follow calculated Sound-IN BPM signal. One Shot per BPM trigger.
  - Effect editor displays Rate and Speed column. These columns are related to each other.
  - Effect size defaults for P/T reduced to +/- 50
- **XYZ**
  - StageView Follow can be aligned. Activating any align mode and touch and move inside follow mode stage view will fan selected fixtures beam positions.
  - Stage Markers have been implemented. Stage markers are Moving Paths other fixtures using XYZ can refer to. XYZ beam position of fixtures not assigned to any stage marker are absolute XYZ coordinates in 3D space. XYZ beam position of fixtures assigned to a stage marker are relative to this stage marker's position. Moving, Rotating or Scaling a Stage marker will recalculate all XYZ beam positions of fixtures using this stage marker according to the changes made with the stage marker.
  - New Executor assign menu option "Forced Pos." to choose fixture position feature fades between always Pan/Tilt Fade (PT), always XYZ Fade(XYZ) and Auto. Auto mode will fade attributes as stored. Pan Tilt values fade in Pan Tilt mode and XYZ values fade in XYZ mode. The same setting can be chosen per cue using new sequence executor sheet column. A forced transition mode per cue will always overwrite forced transition mode set per sequence.
  - Stage View Calibration mode provides new button Stage values. This button will set current selected fixtures attributes to values of the fixture type stage column. Warning: grandMA2 library fixtures stage values are not set to be able to use this functionality stage values have to be set in fixture type first.
- **Sound**
  - Sound In has been implemented. Sound In View provides access to Special Masters related to Sound In. These Special Masters can also be assigned to executors. Sound In has to be connected to be able to see any information in this window.
  - Cues can be triggered using Sound or BPM trigger. Column Trig Time can be used to further adjust Sound trigger frequency or BPM scaling factor.
  - Chaser can be assigned to BPM master using Edit Chaser dialogue. Chaser will then follow Sound-In calculated BPM value.
- LoadShow and NewShow dialog enhanced by "set all markers" button.
- Speedmasters can be set to values beyond 225 BPM using learn button or double or half speed button. Speedmaster max value will be automatically changed any time when using this buttons.
- Executors triggered via timecode or commandline will be transmitted via Midi Show Control.
- Pop-up will be displayed if commands cannot be executed because of insufficient user rights.
- Session Collision Box will be displayed at all Screens. Session collisions have to be solved before being able to continue.

- Changing executor assign menu options will ask for confirmation if playback needs to be switched off for applying changed option.
- Swipe functionality has been changed. Swipe menu will only stay open if swipe gesture is moved out of swipe menu before releasing touch.
- Timecode Autostop Option "Switch Off" uses the Executor Off-Timing.
- grandMA2 library updated to Carallon 9.0.
- New ESP Vision driver enabling support for up to 255 MA net2 DMX Universes.
- Thumbnails received via CIP are shown in fixture type editor wheel slots manager.
- **grandMA2 onPC**
  - Setup / Network / MA Network Configuration: grandMA2 onPCs will be displayed in a separate TAB. Each grandMA2 onPC is always listed with all possible connected MA onPC Command and MA onPC fader wings. If more than one MA onPC fader wing is connected to a grandMA2 onPC, MA onPC fader wings have to be assigned to a logical fader wing 1 or 2 by using the "Identify Fader 1" or "Identify Fader 2" and press any button on that MA onPC fader wing within 10 seconds.
  - Support for grandMA2 onPC has been added to Wing and Monitor configuration menu. Menu can be found at /setup/console/Faderwing and Monitor Setup. In Multi Screen Mode This menu can be used to remap faders or mirror internal screens to external screens. Surface 1 is a locked default surface. Editable surfaces can be added using "Add Surface" button.
  - "Additional external screen resolutions have been added to onPC multi-screen mode: 2048x1152, 1650x1050 and 1280x768.

### Fixed Bugs and improved functionality

- Crash fixed when enabling all Tracksheet headline buttons.
- Crash fixed when activating and deactivating XYZ without leaving Patch and Fixture Schedule in between.
- Crash fixed when editing tracking part cue values.
- Crash fixed when one console (or onPC) with an opened Label Bar (label group x), while receiving a show download from another station.
- Sequence speed and rate assigned to executors can be faded using the Executor x at y fade z command.
- Setup Fixture Layer: Columns FixId and ChId are fixed when scrolling horizontal.
- Using Coolux Pandoras Box Desktop Streamer in combination with CIP doesn't crash grandMA2 software any more.
- Off menu is sorted from first called to last called from bottom to top. Any playback calling will bring this playback to the top of the off menu list. After show uploads this list is initialized from bottom to top.
- If station, which currently calculates channels, will leave the session, output will stay as is for cue with active crossfade or temp fader.
- Content Sheet window resize functionality is also possible in combination with horizontal scroll bar.
- Partial Show Read doesn't mix up the attribute and encoder grouping of current loaded show file any more. All Attributes from current show file will stay at their position. Attributes coming from partial show read show file will be moved to the referring position of current loaded show file.
- Partial Show Read Prepare merges also 3D Environment. With the soft key use other stage also the stage plane of the partial show read show file can be merged.
- Partial Show Read: If fixtures coming from partial show read show file create a patch collision, these fixtures will be unpatched leaving the patch of current loaded show file included fixtures untouched.
- grandMA1To2 Show file converter: Semi colon in macro lines will be converted to grandMA2 show file.
- Program and Exec time assigned to executors can be faded using the Executor x at y fade z command. E.g. Executor 1 at 50 fade 3.
- The command "executor x at 50" also works for Temp faders.
- Auto Stomp functionality of high priority executors in combination with deactivated Soft LTP has been improved.
- Chasers started using Temp faders are able to run forwards or backwards.
- Insert executor pages has been improved and does not move unnecessary pages anymore.
- Alternating between Scroll bar and scroll encoder inside big lists is possible at any position.
- Executor Assign menu Save Default Sequence Options also saves current Input filter setting.
- Encoder resolution settings have been included in user profile.
- Command Import "" at cue x import at specified cue number. If cue already exist then user will be asked.
- grandMA 1To2 Show Converter: Effect default speed is 60 BPM. Dim and Move Paths are converted correctly. Highlight and Zoom From values in Fixture types are converted correctly. Command links in cues that have more than one command are converted correctly as far as possible.
- Goto Cue x Executor y thru z calls Cue x for all executors y thru z containing a cue x.
- Command Assign Executor 1 thru 10 /option=value assign option to all possible executors of given executor range.
- Fixture profiles are allowed to use more than 512 DMX channels.
- onScreen Keyboard: long press Backspace key has been fixed.
- Follow cues are automatically triggered correctly after finishing manual x-fade to the cue in front of the follow cue.
- "Xfade and Temp fader are using the Snap percent setting of the cue / Snap% works with XFade and Temp Fader also when fading down.
- Renumber Cue dialogue: Stepping through the dialogue using Please when renumbering a single cue has been fixed.
- Timed macros can be triggered by TelNet.
- Tracksheet option extract preset can be used in combination with lasso selection.
- Playback Big View soft fader bounce has been fixed.
- The command "Menu Update" always opens update menu, even if there is nothing to update - update button is not highlighted.
- Highlight is not automatically disabled any more when a user in the session forces an upload by leaving Patch and Fixture Schedule.
- Patch dialogue calculator is able to summate dmx addresses input via mathematical expressions like 25+24.
- Macro wait time ranges can be spread to multiple macro lines if more than one macro line is selected.
- Button Executor master is automatically reset to 100% when an executor is assigned, copied or moved to a button executor.
- Group master overview displays different mode groupmasters of one group separately.
- 7inch Multitouch functionality has been implemented for pool playbacks.
- Fixtures not having any 3D body cannot be positioned inside Setup, stage view or 3D any more.
- Single fixture group name executor display has been improved and looks the same as single fixture group pool name display.
- Motor Fader functionality of reassigned external fader wings connected to a grandMA2 Ultralight has been fixed.
- Playback filters of running playbacks are initialized correctly when loading a show file.
- Setup DMX Patch column always displays first used DMX Address (DMX start address) of this fixture instead of DMX start address of first subfixture.
- Running effects view does not show already deleted effects any more.
- No more additional space is reserved for an additional dimmer attribute, if it's not present in any fixture having a channel ID.
- Tracksheet autoscrolling in Preview of 'Not Linked' tracksheets has been fixed.
- Reassigning a fixture type does not destroy link to moving paths any more.
- Auto created groups can also be used as masking objects.
- Off + lasso in a fixture sheet has been improved to also work on multiple attributes.
- Stage Plane dimensions can be adjusted using MA 3D application only.
- Fixture position and rotation changes can be undone using oops.
- Sequence Executor Sheet multi-selection using CTRL+touch or CTRL+mouse click has been implemented.
- Update Oops Update does update the correct part cue again.
- Fixed Faders are reassigned correctly after changing surfaces.



- Edit Sequence dialogue "Test Cmd" works also with Part Cues or multiple cues selected.
- DMX Profile editor got a Label Profile button.
- Nonfunctional Add and Delete buttons inside /setup/Patch only have been removed.
- Preset pool display of 4 digit preset pool numbers has been improved.
- Fixture sheet column width of last column can also be saved to default or remembered when recalling a view.
- Import dialog: Use earliest/use latest softbutton label is changing when using hardkey X19.
- Edit Cue X - Update please updates all values to their correct part cue.
- Stage view rotation calculator respects Group/Single rotation.
- Triggering a button executor from a macro is now respecting current exec time setting.
- Fixtures can be removed from presets using programmer "Remove" values.
- Deleting an executor page will automatically unfix all fixed executor of the deleted page.
- Sheet title bar Preview indicator will stay visible after updating cues in Preview mode.
- Snap Percent setting will be used when using Exec Time Set Time or Exec Time Manual X-Fade Mode.
- Activating Auto Fix of already running executors immediately will auto fix executor.
- Attribute filter menu background has been changed from red to dark grey.
- Labeling CueParts within store operations also works without having to label Cue Part 0 first.
- Autofixed Effects using off time are un fixed after being switched off.
- Split XFade A / B has been improved for non-tracking sequences.
- Switching off paused chasers considers Off time.
- Xfade revert is working as expected when jumping inside sequence using Goto or Load.
- Channel X At +/-Y knocks in current output value +/- Y and is respecting Sequence Masters.
- MA onPC Wing DMX In has been improved.
- grandMA2 onPC has been improved to run more smooth on older graphic cards.
- Numeric keypad hard keys can be assigned to other functions than numbers as well via onPC Keyboard shortcuts.

## Appendix



If you would like to update your dimMA system from any version below 7.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.



The command "store /remove" or pressing [store][cue][2] and the select [remove] in the pop-up will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.



Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.



- Release version **2.3** of grandMA2 divorced values and effect values! Therefore older show files might not be 100% compatible. Therefore please check your show file with the new version before using it live!
- With Version 2.5.70 the default speed of effects and the rate of effect lines has been exchanged by a single speed per line. Therefore older show files might not be 100% compatible. Please check your show file with the new version before using it live!!

## Known Limitations



- show file Conversion from Version 2.2 and earlier: The speed of a selective effect, stored in a cue, will not be brought correct into programmer, if the cue gets edited and the default speed of the effect in the pool is not 60 BMP.
- ASCII show import supports Strand ASCII show files only.
- MA onPC command wing DMX input is supported for the ports "DMX In" and "DMX out A" only. The port "DMX out B" is allowed to be used as DMX out only!



## Topic: Release Notes 2.7.0.10



### Important:

- If you would like to update your dimMA system from any version below 7.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of grandMA onPC and MA 3D require minimum Windows XP with Service Pack 3. The latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed.

## Bugfix Release 2.7.0.10

### Fixed Bugs and improved functionality

- DMX drop to Zero while show upload - fixed
- Sorting the effect editor grid crashes the console - fixed
- Crashes when using auto generate with broken fixturetypes - fixed
- Changing the selection in timecode view/editor in a multiuser environments led to crashes - fixed
- It was possible to open the prepare menu twice within partial showread - this led to a crash - fixed
- Using the command copy screen x at y crashed the console - fixed

- When in preview jumping to Cue Zero caused problems (crash) - fixed
- Inside the fixture sheet it was not possible to combine a command line entry (e.g. Off) with a lasso selection - fixed
- gMA2 external screens are not displayed fullscreen and are missing parts of the screen - fixed
- Presets containing RGB and/or CTC from show files generated with gMA2 software Version 2.5 were not converted correctly - fixed
- onPC Windows XP onPC incompatibility bug - fixed.
- onPC GUI login does not work without physical keyboard - fixed
- onPC in Single screen mode: Encoderbar malfunctions in screens other than the first - fixed
- onPC external Displays in multiscreen mode: additional resolutions: 2048x1152, 1280x768

### Bugfix Release 2.7.0.6

#### Fixed Bugs and improved functionality

- Network session freeze fixed, when loading show files containing illegal XYZ Cue data.
- Mask Seq- has been fixed
- Crash fixed when patching fixtures containing illegal attributes
- grandMA2 onPC C1TP update thumbnails freeze bug has been fixed.
- Crash fixed when trying to create a new encoder grouping.
- Colordim preset pool color symbols bug has been fixed.
- Pan and Tilt Encoder invert conversion bug when loading old show files has been fixed.
- Dummy channels cannot be controlled by calculators any more
- Bug fixed which prevented in some cases the positioning of multi instance fixtures in stage view.
- Edit Cue X will bring the status of cue X in the programmer, Cue content as active values, tracked content as inactive values.
- Playback fades should not be affected when storing or updating objects anymore.
- Reselecting fixture X after Off fixture X bug has been fixed.
- Cropped external screens bug has been fixed.

### Release 2.7.0.3

#### Main feature overview:

- XYZ - Virtual Position Feature
- C1TP/MSEX - Media server thumbnail exchange
- Timecode clock view.
- Improved Timecode editor
- Timecode trigger as cue trigger.
- grandMA2 Fader Wing alignment of internal and external fader modules.
- Live recording of Macros
- Expanded DMX Sheet
- Session password
- Group master overview expanded to Special master overview
- Free scalable grandMA2 onPC
- Changed grandMA2 onPC parameter count.

#### New functions and features in detail:

- **XYZ**
  - Stage View XYZ Follow Mode has been added. Activating the follow mode will temporarily deactivate all other stage view modes (Select, Orbit, Panning and Zoom) until the follow mode is disabled. Touching the stage view with activated follow mode will move the beams of the currently selected fixtures with enabled XYZ to this position if possible.
  - Virtual XYZ Attributes can be added to any fixture using physical pan/tilt attributes by pressing the new "+XYZ" button at the fixture type editor. Pressing the "-XYZ" button at the fixture type editor will remove the virtual XYZ attributes of the edited fixture type. This will also remove any XYZ values stored for fixtures using this fixture type from your show. XYZ Encoder Resolution Normal = 0.1m, fine=0.01m, ultra=0.001m. The following virtual attributes are added, when adding XYZ support to a fixture.
    - PosMod: Mode Attribute to switch between Pan/Tilt and XYZ Mode.
    - X, Y and Z: 3 Attributes to define the illuminated position on stage.
    - Flip: Attribute to define which flip position of a moving head fixture should be used to reach a certain XYZ position. Special flip modes are:
      - AutoFlip: fixture flip is avoided as far as possible.
      - NoTiltFlip: fixture tilt axis will never be flipped. This is needed to avoid upside down projections of Gobos or Shaper modules.
    - Mark: Reference Markers attribute is for future use.
    - Distance: This attribute is needed for seamless transitions between Pan/Tilt and XYZ. The distance attribute value is the distance between a fixture and the illuminated position/object.
  - Stage view displays positions of 3D objects with activated "Follow Target" option at the stage view. When creating a new show or loading a show file from a previous version, follow target is activated for the stage plane only.
  - New MATricks wing-style modes "X", "Y", "Z" and "X+Y" in addition to the already existing Pan and Tilt wing-style modes.



Do not unblock sequences containing a mixture of XYZ and Pan/Tilt position data nor store /remove or remove values to remove single attributes of the position preset type of cues when using virtual XYZ. This could result in unexpected loss of position data inside your sequence!

- Stage fixture position calibration implemented.
  - The button to open the Stage fixture position calibration dialogue can be found at the stage view options menu. Press the yellow ball to open this menu.
  - To be able to calibrate, please mark and measure the corner points (A,B,C,D) of a rectangle at the stage.
  - There are two modes of entering the positions of the points A,B,C and D at the calibration dialogue.
    - Absolute Mode: Please Select fixture(s) and enter the coordinates of point A (X,Y,Z) and the correct distances to the points B and D.
    - Free Mode: Select fixtures and enter the correct coordinates of point A (X,Y,Z), B (X,Y,Z), C (X,Y,Z).
  - Focus each fixture to position A using pan and tilt attributes.
  - Select all fixtures again and press the **Store** button followed by the soft button **A**. The position of the current selection will be stored for point A.
  - Repeat steps 3 and 4 for points B, C and D.
  - Select all fixtures again and press the soft button **Calibrate**. The physical positions of all selected fixtures are calibrated now.



It is possible that each individual fixture can be calibrated within a separate physical rectangle. A'(\*)' means that the parameters of the rectangles are not equal across current selection.

#### • CITP/MSEX 1.0

- CITP/MSEX is a network communication protocol designed for communication between lighting consoles and Media servers or visualizers. This first implementation includes thumbnail exchange between third party media servers and grandMA2 consoles.
- The CITP configuration can be found at /Setup/Network/CITP Network Configuration.
- The CITP Enabled button in the upper right corner of this dialogue is a global switch to enable/disable CITP session wide.
- There are 4 tabs inside this dialogue, Lighting consoles, Media Servers, Visualizers and Operation Hubs.
  - **Lighting consoles tab:** When pressing add present button at the lighting console tab, any lighting console with enabled CITP will be listed here (for information purposes only).
  - **Media Servers tab:** At the Media Server Tab, Media Server can be manually added using the add button, or automatically when using the add present button.
    - If the row of a media server is red, the media server is not present at the current network, or the CITP functionality of the media server has been switched off.
    - If a row of a media server is displayed green, media server is present at the current network.
    - At fixture layer column, grandMA2 fixture layer containing media server fixtures has to be chosen.
    - If the library and the image subattribute of the media server is not automatically recognized correctly, the user can change them manually by editing the referring grid cell. After pressing the button update thumbnails, the thumbnails of the video or image content will be copied from the media server to wheels inside the fixturetype of the first fixture of the chosen fixture layer. Attribute mode dependencies and channelsets of the chosen library and image attribute of the fixturetype of the first fixture of the chosen layer will be updated. Depending on the number of received thumbnails and the speed of your network, this may take some time. A progress bar at the CITP command cell of the respective media server row is displayed until the transmission is finished.
  - Visualizers tab: for future use.
  - Operation hubs: for future use.

#### • Timecode improvements

- New clock view modes: SMPTE Timecode and Midi Time Code. Incoming Timecode signals may be displayed using these new clock modes. Receiving valid Timecode signal is displayed by green text color while the text color is grey as long as no valid Timecode signal is received.
  - The Timecode Editor Cursor position is not allowed to be negative anymore.
  - The current time marker stays in centre of timeline while playback or record at the Timecode Editor and Timecode Viewer.
  - The number of selected events is shown in the label of encoder 4 "Turn to move n events" at the Timecode editor encoder bar. The new button "clear selection" deselects all currently selected Timecode events.
  - Timecode show: There is one time cursor per Timecode show in a network session. The selection of Timecode events and the focus of Timecode tracks is per user profile in a network session.
  - Encoder 3 of Timecode bar is now also available in the Timecode view. Events will only be focused and not selected because Timecode view is read only.
  - As long as follow time is active in the time code editor or viewer, in graphic mode, the last triggered event of the currently selected track/subtrack is automatically selected/focused during playback. In Text mode, the last triggered event of all currently visible tracks/subtracks is automatically selected/focused during playback. If Timecode sync is set to intern, the Timecode show playback is paused as soon as an event is moved using encoder 4.
  - "Copy and paste has been implemented in the Timecode editor. If no event is selected, but a subtrack is focused, all events of that focused subtrack will be copied. In this case the time offset before the first event will be used while pasting at the destination. If events of one subtrack are selected, these events will be copied to the clipboard. The focus has to be set to the target subtrack and the time position the first selected event should be pasted before pressing the paste button. If events of more than one subtrack are selected, all selected events will be copied to the clipboard. The focus has to be set to the first target subtrack and the time position the first selected event should be pasted before pressing the paste button. Pasting multiple subtracks is possible, if the type of the target subtracks matches the source subtracks."
  - The Timecode pool has a "link encoder" option. As long as this option is activated the Timecode encoder bar will be present as soon the Timecode pool is touched.
  - A right mouse click on the title of a command track in the Timecode editor opens the "change executor" window.
  - A right mouse click on the title of a subtrack in the Timecode editor opens a popup to change the subtrack function.
  - Timecode Editor: "Add Here" adds event at next frame, if there is already a event at the current position of the current subtrack. If there is also a event at next frame, no event will be added
  - Selecting a Timecode event will show the current trigger time of the selected event above the event. Touching and moving this flag will move the event. When selecting more than one event, the flag will be at the last selected event.
  - Timecode editor calculator is using the current Timecode show time unit. The time unit of a Timecode show can be adjusted at the Timecode editor options menu.
  - Timecode editor calculator maximum time has been increased to 255h59m59s29F
  - Add multiple events wizard at the Timecode editor. The number of added events can be adjusted at the first input box. The second and the third input box are related to each other when changing one of them the other will automatically be recalculated. At the forth input box, the cue of the first event can be selected. Hitting please will create the events. If the number of cues is less than the number of events to add, the wizard will continue adding event starting from the first cue of the sequence.
  - There are 4 symbols in front of all Timecode tracks at the Timecode editor: a plus/minus to expand or collapse the subtracks of each track, a checkbox for toggling the visibility of each track in text view, a play symbol (arrow) to enable/disable the playback of each track and a record symbol (red dot) to enable/disable the record functionality of each track.
  - Timecode tracks and subtracks can be locked and unlocked using the referring button at the track functions popup. A padlock will be displayed, if a object is locked.
  - The Timecode editor text view grid can be sorted by any column. Touching and swipe upwards or downwards at the headline of a column sorts the grid by this column. The sorting order is displayed by a small arrow inside the headline of the column.
- Two more trigger types have been added as cue triggers, SMPTE and MTC. The Timecode position has to be entered at the trig time column of the sequence executor sheet. As any other cue trigger, the SMPTE and MTC trigger will only trigger the referring cue if the sequence playback is on and the cue previous to the Timecode triggered cue is active.
- #### • Fader Wing setup
- The mapping of the logical 15 fader wide blocks of executors to the physical internal fader modules and external fader wings can be setup at this menu.
  - The Fader Wing setup can be found at the /setup/console/Faderwing and Monitor Setup
  - The button Add Wing setting adds a new configuration set.
  - The button Delete Wing setting deletes the current focused setting.
  - The button select Wing setting activates the currently focused setting. The currently used setting is displayed at the menu headline and by an green cell background color.
  - The Page+ /Page- buttons of the external fader wings can be disabled at this dialogue too.

**Note:** Monitor configuration setup is not supported yet



**Note:** The Mini executor displays of screen 3 and 4 are not following the remapped executors, when remapping the internal fader modules.

- New DMX Sheet headline buttons: "Programmer Colors" displays the DMX values in the same colors as the fixture sheet does. At the "Show additional" button the following options can be chosen: "Show only values" shows only the DMX values; "Show IDs" shows the Channel/Fixture ID, name and the DMX value; "Show Attributes" shows the Attribute controlled by this DMX Channel, and "Show Address" shows all single DMX Addresses above the DMX Value.
- **Command Line**
  - Remove has been added to the calculators of the following effect layers: low, high, phase and width.
  - New oops option: "oops /clear" deletes all oops events.
  - Moving executors will not switch off the executors any more.
  - New command: Selfix DMX [universe].[address] will select the channel/fixture patched at the referring DMX address. Pushing "Selfix" (2xSelect), and touching any cell at a DMX sheet will select the fixture patched at this address.
  - The Default camera of MA 3D can be set by the new command "Select Camera [name of the camera]"
  - New Command Line command: "Update Cue Thru /addnewcontent" (or "/an") will store the current active values at all cues of the selected executor. "Update Cue Thru /originalcontent" (or "/or") will update the current active values at the cues of the selected executor already containing the origin values for this attribute.
  - Test buttons for macro/sequence/agenda editor implemented. The button can be found at the X10 hard key in the edit sequence dialogue, at the X9 and X10 hard key in the macro editor dialogue and at the left side of the agenda day view.
  - New Macro editor functions: disable single lines and enable/disable macro timing.
  - New COMMENT character # in Command Line. Everything behind the command character will be ignored (of course the comment character can still be used inside strings)
  - Live recording of macros has been implemented. The Syntax "Record Macro X" starts the live recording. The hardkey combination MA+Learn will provide direct access to the record keyword. An alternating Learn and Macro button backlight will indicate an active Macro recording. Hitting "Record Macro Please" again will switch off the recording mode. Live Recording of Macros will always generate timed macros.
- **Graphical User Interface**
  - Mouse cursor and touch cursors have been separated; there is one permanently visible mouse cursor (white arrow) representing the hardware mouse. Each internal touch screen has its own touch cursor and will not set the mouse cursor of the hardware mouse anymore. External touch screens will share the mouse cursor with the hardware mouse. The mouse cursor can be set to an internal touch screen position by holding down the nipple button while touching the screen. The mouse cursor will always follow the touch cursor, if this option is activated at the Setup/Console/Screen Options.
  - Buttons provide visual feedback when pressed. - glow after button click is visible for 0.2 seconds after mouse up.
  - Numeric keypad can be used to input a cue number at the load cue pop up.
  - The current logged in user is displayed additionally at the tools menu
  - Frame color of macros assigned at view buttons or x-keys is linked to the frame color of the macro pool.
  - Layout View: double tab temporarily toggling between select and move mode can be activated/deactivated at the layout view options.
  - Bitmap files import/export GUI has been added to the Setup - Show - Import/Export dialogue. In addition to import the files this dialogue can also create one bitmap effect per file by changing the option "import files only" to "import files and create bitmap objects"
  - View Pool display options have been extended: Symbols displays small screenshots of the view at the pool item for single screen views and a screen layout icon for multi-screen views. Stored screen displays the screen layout icon for all views. No Symbols displays a view containing more space for naming.
  - When choosing a bitmap in the bitmap editor, also USB drives can be used as bitmap source.
  - Fixture positions can be set at the setup/patch+fixture schedule layer view. The position and rotation columns are sorted to the far right at the referring fixture rows.
  - Former group master view has been extended to the master view. The master view contains tabs displaying group masters, rate masters, speed masters and playback masters.
  - Repeating agenda events will be displayed at every day/month/year the event will be executed.
  - New menu commands:
    - Menu ""User1"" or Menu ""U1"", to switch the X-key display to userkeys 1 thru 20.
    - Menu ""User2"" or Menu ""U2"" will switch the X-key display to userkeys 21 thru 40 and
    - Menu ""List"" or Menu ""LI"" will switch the X-key display to executor buttons 201 thru 220.
At a Replay unit the x-key display will be shown at the encoder bar area."
- **Bitmap**
  - It is possible to delete Bitmaps from the internal drive at the Setup / Show/ ImportExport/Import Bitmaps dialogue.
  - Bitmap Effects Colour Correction defaults and ranges have been improved.
  - Bitmap Effects: The new option "Add Dimmer" at the basic tab sets the dimmer value of all fixtures controlled by this bitmap effect to 100% while the bitmap is applied to the colormix attributes.
- **Setup**
  - 3D models of fixture types are dynamically created. The physical set up of a fixture type can be changed at Setup/Patch + Fixture Schedule/Fixture types/Edit/Module Manager. Editing one of the 6 new columns "Size X Y Z" or "Axis X Y Z" will open the body description dialogue showing a graphic representation of the fixture class chosen at the class column of the module manager. Each body dimension can be edited. At a connected MA 3D application.
  - The possibility to connect to a console using telnet can be disabled at the Setup / Console / Global Settings / Telnet.
  - The session wide network setting TTL (Time to live) and TOS (Type of Service) can be set at the setup/console/global settings dialogue.
  - Changed MA Network Control dialogue: Sessions can be protected using a session password. The "Create/Join Session" button has been separated into two buttons. Start Session creates a new session using the settings of the MA Network Control dialogue. Join session joins the session currently highlighted by the white focus frame. Pressing the join session button while the white focus frame is set to unconnected the console will leave the current session. Consoles with disabled autojoin option will not create nor join a session at startup.
  - The current network status and session ID is permanently displayed at the network configuration screen headline.
  - The encoders for the attributes Pan and Tilt can be inverted to adjust the encoder rotation to the moving direction of each fixture. This setting can be done per fixture at the Patch + Fixture Schedule or when editing the fixture using the Edit Fixture command.
  - Setup/Patch+Fixture Schedule/Fixture Types/Attribute+Encoder Grouping/Attributes of Feature: New column Universal. Universal presets only work as real universal presets for attributes with this column switched on. Universal presets of attributes with this column empty show global preset behaviour. Black cells inside this column are not editable predefined; e.g Gobo attributes.
  - The minimum needed version of the MA NDP is displayed at the lower part of the Setup / Network / MA Network Control / NDP tab.
- **grandMA2 onPC**
  - grandMA2 onPC parameter count has been changed. A network session of an grandMA2 onPC without any console connected is limited to 4096 parameters. The parameters of one command wing and all connected MA 2Port Nodes onPC, MA 2Port Nodes onPC Pro and MA NSP in 4Port Node mode are counted until the limit of 4096 parameters is reached.

- Edit macro Line or Sequence CMD column popup also supports the onPC Executor View. Assignable playback views cannot be used as input for the macro line and have to be entered using the command hard keys instead.
- grandMA2 onPC can be scaled by the user.
- Improved onPC Wing Firmware
- New indicator feature of the onPC wing executor button backlight:
  - Button 1 backlight off: Executor is empty;
  - Button 1 backlight dark: Executor is not empty;
  - Button 1 backlight bright: Executor is active;
- New Calibration dialogue for the 15.4 touch screens.
- New screensaver has been implemented. The backlights of the 15.4 screens are turned off after 5 minutes of screensaver activity
- If the sequence pool is full, it will not be possible to store new sequences anymore. In this case, a popup will warn the use and an error will be displayed in the command line response.
- Special touch cursor added, to display the current touched position at the screen.
- Update keyword and update menu: second press of the update hardkey cancels the update keyword at the Command Line and closes the update dialog.
- The GUI support for parking single attributes has been implemented. E.g. pressing the park hardkey and the tilt encoder label afterwards will park tilt values of current selection.
- Buttons have been added to the mini executor view above the 100mm faders. The specialmasters 1 thru 9 display the buttons of the selected sequence; all other special masters display the buttons referring to this special master. This feature can be deactivated at the setup/user/setting Special Fader Buttons option.
- The current version of the MA 2 port node software is displayed at the lower part of the Setup / Network / MA Network Control / 2Port tab.

### Fixed Bugs and improved functionality

- Removing fixtures from the setup also removes these fixtures from the layout view.
- Fixture Type used column counts used fixtures instead of used sub fixtures.
- The align function will be reset as soon as the fixture selection changes.
- The commands Preview Next and Preview Previous are self-terminating. Confirmation please is not needed anymore.
- The Effect encoder bar provides access to attack and decay only, when these parameters are supported by the chosen effect form.
- The screen encoder function has been improved when the Setup - user - setting are visible at screen 1
- Channel and Fixture sheet are automatically updated when leaving the Patch and fixture schedule after adding channel or fixture IDs to the fixtures
- The Artnet 2 network protocol will send to up to two Artnet 2 receivers unicast. If more than two receivers are requesting a specific Universe, this universe will be sent broadcast.
- The Edit Effect Line dialogue low/high respectively center/size wheels have been fixed when setting the value readout to auto.
- The X6 thru X10 + X16 button at the off-menu have been fixed
- The setup /? crash has been fixed.
- Crash fixed when deleting a form while editing the same form at the same time.
- Trig Time column does show a + again when the trigger is set to "Follow"
- The layout view headline is drawn red immediately when activating edit blind.
- Selecting a DMX channel at the DMX sheet will set the DMX encoder bar correct in "Selected only" mode as well.
- Sequence Executor sheet break lines will be drawn at small sequence executor sheets as well.
- Assigning a playback filter to a running executor will switch off this executor.
- Crash fixed which occurred sometimes when touching multiple times at the color special dialog.
- Calling a filter at the layout view bug has been fixed.
- View pool no symbol setting gets not lost any more when loading a show file.
- Tracksheet bug has been fixed. Deleting multiple values of one attribute at the Tracksheet will not results in changed values of other attributes anymore.
- Fixture sheet does display the values at the correct attribute column if other attributes of this feature are not used by this fixture
- It is not possible to set the From Cue to a higher cue than the To Cue any more when renumbering cues at sheets.
- The Command "Copy Cue x at y" Popup remembers the last status of the "cueonly" and "Status" button.
- Extract fixture X functionality has been changed: Extract Fixture X without having a selection will exchange the preset reference with the hard values stored at that preset. Extract Fixture X while having some fixtures selected will set the current selection to the hard values stored at the preset currently used by fixture X.
- Moving Executors will not affect other executors any more.
- Bug fixed which forced the user to press the list button again after closing a dialogue at screen 1 to reactivate the X-key button executor function again.
- Dimmer wheel animation is displayed correct again, when moving the onPC Command wing dimmer wheel.
- Moving executors and oopsing this action afterwards has been improved at large network environments
- USB drive is displayed at the Import/Export dialogue when inserting a USB drive while the import export dialogue is opened.
- Import Export dialogue will not display the not useable Template folder any more.
- AT CUE do not add tracked values to the programmer anymore. CALL CUE will add tracked values as inactive programmer values to the programmer.
- Update menu is not displaying preview playbacks any more, when not in preview mode.
- Preview visualization at the Sequence pool has been fixed.
- Fixed color settings of fixtures containing subfixtures. Changing the visualization color of the fixture at the setup will change the color for all subfixtures. To change the color of a single subfixture, the color has to be changed at the edit subfixture dialogue(e.g. edit fixture 2.3)
- Selection Sheet masking bug fixed which corrupted the sheet masking if the fixture schedule has been changed afterwards.
- Changing a stored value to default link using the Tracksheet calculator has been fixed.
- Crash fixed when executing a Macro containing two locate commands without having added a wait time.
- It is possible to renumber a single cue to x.999 if next cue =x+1
- Store /statusmerge [target range] will not create new cues or sequences if at least one cue or sequence of the target range already exists.
- Locked effects assigned to executors are marked by a red effect pool number in the upper right corner of the mini playback view
- Bug fixed at the edit effect line dialogue attribute selection.
- The align buttons and the speed group button are activated/deactivated correct at the effect line editor.
- Running effect overview off mode has been fixed and will not open the edit edit window while swiching off effects.
- Removing effects using speedgroups from the programmer will use a eventually set program time to fade out.
- Shuffle Selection will be done per effect instead of per effect line. All effect lines will use the same shuffled selection afterwards.
- Absolute and Relative effect mode is not inverted anymore when loading show files stored with grandMA2 software prior 2.3.
- Automatically fading XFADE Executors using the command Executor x at 100 Fade z will not crash the desk any more.
- Bug fixed which prevented "OffOnOverwritten" when calling cues containing mostly Release values and some hard values.
- Bigger Update menu rows for easier touchscreen access.
- Setup/Network/Network Config/2Port pressing the Identify button without any ethernet connection doesn't crash the desk anymore.
- Setup/Network/Network Config/2Port load from default has been fixed and load default setting for currently selected MA 2Port Nodes.

- The timestamp of show files is displayed correct again at the grandMA2 onPC backup dialog.
- The onPC Screen encoder up/down was mixed up at the DMX Profile Editor. This has been fixed.
- Timecode editor remembers the mode (graphic/text) it has been used last, when reopened.
- Off menu will not be opened anymore, when pressing the Off key more than once while editing a cue CMD or macro.
- Fixed executors restore their former position correctly when unlocking the desk.
- Label object command will respect the current world. E.g. when inside a world commands like label channel thru will only label channels contained in the current world.
- Removing a playback filter and oopsing this action afterwards has been fixed.
- Double tab groups to activate/deactivate programmer content of this group is oopsable now.
- The "Open" button has been relabeled to "Load Show" in the backup menu.
- When the current selected world does not contain color attributes, the special dialogue color will be locked.
- Active programmer "Remove" values are displayed in sheets filtered by "Programmer Only".
- Editing values using the content sheet has been improved. The editing features are similar to the edit features of the Tracksheet.
- Save default exec options saves the playback filter.
- Fixture and Gobo library updated to Carallon 8.5.

## Appendix



The command "store /remove" or pressing [store][cue][2] and the select [remove] in the pop-up will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.



Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.



- Release version **2.3** of grandMA2 divorced values and effect values! Therefore older show files might not be 100% compatible. Therefore please check your show file with the new version before using it live!
- With Version 2.5.70 the default speed of effects and the rate of effect lines has been exchanged by a single speed per line. Therefore older show files might not be 100% compatible. Please check your show file with the new version before using it live!!

## Known Limitations



- show file Conversion from Version 2.2 and earlier: The speed of a selective effect, stored in a cue, will not be brought correct into programmer, if the cue gets edited and the default speed of the effect in the pool is not 60 BMP.
- ASCII show import supports Strand ASCII show files only.
- MA onPC command wing DMX input is supported for the ports "DMX In" and "DMX out A" only. The port "DMX out B" is allowed to be used as DMX out only!



## Topic: Release Notes Version 2.6.1

2012-07-27



### Important:

- If you would like to update your dimMA system from any version below 6.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of onPC and 3D require minimum Windows XP with Service Pack 3 (the latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed).
- With Version 2.5.70 the default speed of effects and the rate of effect lines has been exchanged by a single speed per line. Therefore older show files might not be 100% compatible. Please check your show file with the new version before using it live!!

## Bugfix Release 2.6.1

### Fixed Bugs and improved functionality

- Move in black in combination with Release values has been fixed.
- Fixture sheet does not display the values centered at the feature column anymore, if the fixture is using only one attribute of this feature.
- Sequence executor sheet break lines are also drawn at narrow sheets.
- Crash fixed which occurred in some cases when deleting multiple lasso selected values at the tracksheet.
- DMX Tester encoder bar universe encoder follows the selected universe while DMX sheet link encoder option is enabled.
- Calling a filter at the layout view has been fixed.
- X-keys will automatically switch back to the previous X-key mode when closing a special dialogue, setup or backup view at screen 1.
- Shaper dialogue POV bug fixed.
- Crash fixed which occurred sometimes when touching multiple times at the color special dialogue.
- Fading an XFade-executor using the command Executor X at Y Fade Z does not crash the desk anymore.
- Crash fixed when executing a Macro containing two locate commands without having added a wait time.
- Setup /? crash has been fixed.
- Edit none attributes fixture crash has been fixed.
- Deleting a form at the form pool while editing the same form crash has been fixed.
- Crash fixed when pressing the Identify button at the 2Port network configuration without having any network cable connected.
- View pool no symbol setting will be saved at the show file.

- Crazy effect dialogue center/size low/high calculator readout bug has been fixed.
- Edit effect button activation/deactivation when deselecting/selecting attributes has been improved.
- Artnet 2 implementation has been improved. The Artnet 2 network protocol will send to up to two Artnet 2 receivers unicast. If more than two receivers are requesting a specific universe, this universe will be sent broadcast.

## Release 2.6.0

### New functions and features

- **Playback**
  - Xfade is now aborting x-fade if fader returns to 0%
- **Pools**
  - Pools: objects can be moved around as long as the "Move Button" is switched on.( similar to grandMA series 1)
  - New Command "Insert" in Pool ( press 2times "Move"-Button )
- **Sheets**
  - Fixture, channel, tracking and content sheets: frames of empty cells can be suppressed in the option menu via "Hide Empty Cells"
  - New button in sequence view / option menu: "Hide timing countdown". If active absolute values will be displayed and not the cue timing countdown
  - Track Sheet: with the tracking options presets can be exchanged or the value of an attribute exchanged with a preset. The available presets are shown in the calculator with the preset numbers. The destination button in the tracking option popup is now also valid for preset exchange
  - new functionality in user options (setup/user/window settings/preset) ->"Reset all preset pool colors"
  - Running effect view: New Button: "Follow selection". This decides whether the current selection is respected in "Release Mode" or "Stomp Mode". If switched off then Release/Stomp will be executed for all fixtures of an effect, regardless of the fixture selection
  - View Pool: new option: Symbols / no symbols :content view of screen can be shown. Only possible when one monitor is in that view
  - Agenda: pressing the encoder pops up a new calculator which makes it easier to edit the entries
  - Profile editor: Scale conversion either percent or decimal
  - Exec Mini Dialog: When an executor is locked, the number in the exec mini sheet is displayed in red. Similar for the sequence number
  - MATricks Load predefined provide access to all predefined MATricks stored at the predefined.xml
  - Live effect bar ( Quick & dirty Encoderbar ) : Buttons "Off effect", "release effect" and "stomp effect" added
  - DMX view: New button in caption bar: "Only selected". If active only the DMX universes patched, current selected fixtures are shown.
  - First MATricks pool object is now "Reset" (MATricks)
  - MATricks encoder bar: Circular copy, shuffle selection buttons added
  - edit effect menu: New button "predefined". Predefined template effects can be loaded ( similar to the import function ). Effects corresponding to non-existing attributes in the show will be set to NONE.
  - Form Editor and DMX Editor: Table mode has a separate index column per row to display the point index
  - preset in effect line is now shown in 2 lines: preset number and preset name
  - Presets which only containing timing do show an Indicator for selective, global or universal
  - Effect editor and effect special dialog: the button "value readout (for changing the columns "Low value" / "High Value" or "Center" / "Size" ) has an additional option "Auto". When "Auto" is selected columns are changing on their own - dependent on editing an relative or an absolute effect
  - Menu which were restricted to be opened in screen 1 or 2 can be opened on all available screens now using the select screen popup.
  - The store and the off menu can be opened at any screen using the select screen popup.
  - The encoder hardkey options have a new button "switch dialogues to default screen. This option will reset all dialogues back to their default screen.
- **Commandline**
  - Is a view button in a pool pressed during an active move command the move command will not be interrupted
  - random for chasers is "lighting random", not real random. (like grandma1). That means, that it will be avoided to play 2 directly following cues
  - During deleting Effect/Preset/Forms which are in use Console warn user that it is not oopsable. The elements will be restored but the link to the sequence lists not
  - New button combination "MA+At+4" ( 4 e.g. for a number ) means Stomp presettype colour
  - New button combinations: 3 times <<< brings an master fader of an executor to zero. 3 times >>> to full
  - Playbacks are now divided into 4 sections: value / value timing / effect / effect timing. Example: When a fixture with dimmer values and individual dimmer fade times is played back out of a sequence it is now possible to take only the fade time activ into the programmer.
  - Combining the store options "status merge" and "prog." will overtake the preset links. Combining "status merge" and "output" will not do so.
  - increased max multipatch to 1024 ( had been 15 before )
  - New option for the commands "At", "Stomp" and release: "/IgnoreSelection" (Abbr. "/is" ). A command e.g. "Stomp Presettype Dimmer /is" does not regard the current selection
  - New: Hard key access to PresetType: MA+Preset
  - Goto Cue X works with executor ranges and sequence ranges
  - "Auto Stomp" in assign menu does now work for temp faders and temp buttons. Attn.; "Auto stomp" only refers to effects from other sequences.
  - command "fixture x at cue y" is obeying filter now
  - Setting Effect Speeds via Commandline works now in BPM. E.g. "Assign Effect x /Speed=y".
  - remote via DMX - In ( Setup / Remote Inputs Setup / DMX Remotes; Executors, macros or hardkeys are triggered with value around 128 ( like grandMA series 1 ) (was 255 before )
  - Long press store doesn't cancel already active store anymore.
  - Import Export 3D cameras obeys camera name and rotation
  - with the AT filter it is possible to apply multidimensional forms to specified attributes. Select a presettype , set the link option to "link feature" and choose a form in the form pool. With the AT filter you can select all attributes to which this form should not be applied
  - new commandline access : Artnet input on/off. sACN on/off
  - command DMX at full and DMX at 0 will be executed without "please"
  - OFF fixture thru or Off selection use now the programm time. "OFF fixture thru fade x" and "OFF selection fade y" follow the time as well
  - New Command: RESETDMXSELECTION: Resets the selection in the DMX Tester
  - New Hardkey to access "Mask": MA+GroupGroup
- **Setup**
  - Create / change fixture types: the attributes Colordim do work with fixturetypes with a real dimmer
  - Colordim attributes extended to 17 : "COLORDIM1" = red "COLORDIM2" = green. "COLORDIM3" = blue."COLORDIM4" = amber. "COLORDIM5" = white."COLORDIM6" = warm white"COLORDIM7" = cool white"COLORDIM8" = orange"COLORDIM9" = red orange"COLORDIM10" = purple"COLORDIM11" = indigo"COLORDIM12" = cyan"COLORDIM13" = magenta"COLORDIM14" = yellow"COLORDIM15" = uv"COLORDIM16" = green cyan"COLORDIM17" = medium white

- new and updated gobos from carallon lib 8.2
- **onPC**
  - grandMA2 onPC external displays: 800x480 possible
  - grandMA2 onPC command wing DMX-In support has been implemented.

### Fixed Bugs and improved functionality

- Bitmap effects do follow a virtual fade master. That means that on- and off switching times will work without a motorical move of the executor masters
- calling macros and views does NOT reset the command filter anymore
- Effect option bounce: PWM does work even if attack and decay values are set
- Stage View setup mode encoder bar is now closing when closing the stage view. fixed in: Stage view, Layout view, Timecode, Agenda, DMX patching address dialog
- when a just executed temp fader executor will be overwritten from another one by the " off on overwritten" option , this temp fader now can be pushed to zero without beeing executed again
- selective effects using presets are updated, when updating the preset
- off presetype x respects program time
- when cues are updated in edit or blind this will be executed not directly , but calling the cues again
- TC shows with recorded temp faders are looking same with different start position of the temp fader
- Pressing the "Delete" button and clicking in the Headline does now work in Layout View, Smart View, Clock, Agenda, Encoderbar, CMD Line, CMD Section, Help View, Info View, Groupmaster View, running Effect View, Stage View, System Monitor View...
- Setup/ Full and Live access Sorting the layers by fixture or channel ID is now sorting correctly
- Fixed Executors in the Action button view are only display when the Option "Button Page floating" in the option menu is active. With the option "select page" the existing links on an executor are shown
- Autofix is cleared when switching off an executor using an OFF time
- Switching Abs/Rel mode of effect doesn't change size values anymore
- command "Extract" also extract default link values in normal default values
- if an executor is assigned to "empty" , Selfix will no longer be executed
- Layout view does not forget its internal layout data anymore after going and leaving to full setup ( arrange functions )
- When editing an executor the focus stays in the current cue
- Lasso renumber cues does now work when release of lasso is on a cuePart>0
- When storing a scrolled fixture sheet as a view the position will be stored regardless whether a mask is switched on or not.
- Executors on x-keys are usable even if an edit popup or assign popup or the off menu was open
- Form Editor: changing from graphical to table mode and vice versa sets the focus to the currently selected graph and point
- Assert effect bug fixed. Effect phasing at non tracking sequences will always assert its phasing.
- Invalid amount of pathport universes does not crash the desk anymore
- OOPs when adding effectlines will no longer crash the desk
- Import/Export for TimeCodeShow: all data will be exported
- Pool playback effects: network bug removed
- Track Option: Block/Unblock... with Encoder Grouping
- New: Per default selected preset type is Dimmer.
- command "goto cue x sequence y" does now work ( without the sequence having to be assigned to an executor ( pool playback ) )
- Oops for values called from the Smart View is working now
- effect editor : when assigning low or high presets to attributes in columnsthey will be listed in numeric order
- active highlight or solo will not be taken onto the blind or preview programmer
- Command "Executor 1 at full" is working right now
- PSR with effects is working
- Ultra-Light + Wing bug with first motorfader on wing fixed ( channel fader mode )
- Changing the speed group using the crazy effect dialog speed group popup will not assign the wrong speed group any more.
- Manually adding Timecode events using the timecode editor will not generate additional unexpected events at other connected consoles any more.
- GUI glitch of the Mini Exec Dialog priority arrows has been fixed.
- Losing the master of a session will recalculate the currently running sequences in the correct order.
- onPC X-keys view thumbnails: when storing a screen 1 view using the onPC x-keys, the view thumbnail will be displayed with the original color.
- onPC Installer will add a link to the show folder at the start menu.
- onPC only: The enter key from the keyboard will open the "Patch new layer" popup.
- onPC only: Crash fixed when disconnecting and reconnecting onPC Command Wing.
- onPC: Automatic closing of the command overlay when switching screens will not leave non visible commands in the commandline anymore.
- onPC freeze has been fixed when windows has been locked and unlocked while onPC2 was still running.
- onpc scaling bug fixed. Overlays can be operated by the mouse at the scaled onPC.

### Appendix

! The command "store /remove" or pressing [store][cue][2] and the select [remove] in the pop-up will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.

! Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.

! Release version **2.3** of grandMA2 divorced values and effect values! Therefore older show files might not be 100% compatible. Therefore please check your show file with the new version before using it live!

### Known Limitations



- show file Conversion from Version 2.2 and earlier: The speed of a selective effect, stored in a cue, will not be brought correct into programmer, if the cue gets edited and the default speed of the effect in the pool is not 60 BMP.
- ASCII show import supports Strand ASCII show files only.





## Topic: Release Notes Version 2.5.70.6

2012-04-03



### Important:

- If you would like to update your dimMA system from any version below 6.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of onPC and 3D require minimum Windows XP with Service Pack 3 (the latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed).
- With Version 2.5.70 the default speed of effects and the rate of effect lines has been exchanged by a single speed per line. Therefore older showfiles might not be 100% compatible. Therefore please check your showfile with the new version before using it live!!

### Bugfix Release 2.5.70.6

#### Fixed Bugs and improved functionality

- Sequence Executor Sheets do not lose their scroll position any more when updating a cue.
- Knock in bug has been fixed. Store mode all and store mode all for selected work as expected now.
- Missing Reset of the Store bar filter has been fixed.
- Channel sheet columns are resized correctly again when resizing the channel sheet.
- Colordim fixtures with a real master dimmer are visualized correctly at the 3D and Stage view.
- Commandline default is not changed when hitting update.
- Preset symbols display has been fixed.
- Effects running from HTP executors can be stomped.
- Effect off time calculation bug has been fixed.
- Very fast running chasers do not blip the dmx universes any more.
- DMX remote triggering buttons threshold has been set to 128 instead of 255.
- Touch screen long press has been improved for sheets.
- Library subfixture spacing has been fixed for a huge amount of fixtures.
- Crash fixed, when using the commandline to patch or unpatch fixtures.
- grandMA2 onPC resizing has been improved. The grandMA2 onPC will resize to the screen it has been started. The onPC only changes its size when started. If you move the onPC from one screen to another, you have to restart the onPC to resize it to the new resolution. The maximum resolution of the internal screens is 1280 x 800, the resolution of the external screens can be adjust at the onPC options when using multiscreen mode.

### Release 2.5.70

#### Fixed Bugs and improved functionality

- **Commandline**
  - The command "update please" updates the current cue of the selected sequence obeying the settings of "Add new Content / Original Contents only" and "Tracking Update / Update Cue Only" (inside the Update menu). Using the command extension "Update (Cue) x" allows to update Cues not outputted at the moment. Accordingly pushing the hardkey "Update" an Executor Button does the same.
  - Setup/Console/local settings/ "Exec CLI": When CLI (Command Line Interaction) for Executors is disabled a combination of the command line content with- with the exception of the selected Executor.
  - Automatic MATricks Single X and Y Reset: The current "Single X" and "Single Y" settings of the MATricks will be reset if a fixture selection changes or gets cancelled using "clear".
  - The functionality of the commands "Stomp", "Release" and "Remove" for effects are brought into line. Using one of the above commands in combination with an effect will add the referring command to the programmer for attributes of current selection currently using this effect. "Stomp/Release/Remove Effect x", without having fixtures selected: Signs all attributes of Effect x with "Remove" set active into the programmer, to e.g. store/merge this into an existing Cue and thereby remove all such effect information.
  - Implemented the "edit next/prev" functionality. With "Edit Please" the editing function for the selected sequence of the first Cue (when switched off), resp. for the current cue. "Edit Next" edits the next Cue - "Edit Prev" the previous one.
  - Playback commands can be filtered by user profiles, e.g. "off page 1 /UPR=2" or "OFF EXEC 1 /userprofile="Gabi". Only the executors last used by User 2 (resp. "Gabi") will be considered.
  - Using the command "info" with an object (Pool): Info property is listed in command line for: BMP, Effect, Fade Path, Filter, Fixture, Fixture Layer, Fixture Type, Form, Group, Macro, Master, MATrix, Page, Preset, Sequence, Time Code, User, User Profile and View.
  - Workflow using the decimal keyboard in the command line: "Channel 1 at 50". The selection will be executed right after keying in the channel / fixture (before an AT). This can be helpful in case e.g. channels shall be re-sorted in a view -> actual values can be seen before changing them.
  - New Commands: "CrashLogCopy", "CrashLogDelete", and "CrashLogList". The command "CrashLogCopy" copies existing Log files coming from a crash to the first recognized USB-Stick to the folder gma2/"temp". "CrashLogList" views such files in the "Commandline Feedback" view. "CrashLogDelete" deletes them from the harddrive.
  - The Showfile History can be displayed in the "Commandline Feedback" view. The command "List 1.1 thru" displays this showfile information.
  - Pages can be called with their names (alias): e.g. instead of typing "Page 1" the command "Page "Admission"" can be used. The names need to be typed in completely - no wildcards (\*, ...) are allowed.
  - "Shuffle selection" works in combination with MATricks.
  - The executor buttons have new functions in the assign menu: "ToFull" and "ToZero". "ToFull" sets the master fader of an executor to 100%, - "ToZero" to 0%. When "auto start" or. "auto stop" is active sequences and effects on this executor will be switched on/off as well.
  - Rate / Rategroups, Speed / Speedgroups can be used in the command line.e.g.. "Assign Specialmaster x at Effect y thru z". With the "List" command entries in the command feedback view can be executed. "List 19.1.1.1".
  - When effect values are entered via the command line different attributes get the default adjustments "absolute/relative".
  - Opening the calculator of an encoder it follows the "Program Time"
  - Lock / unlock: Complete pools can be locked. Indicator is a yellow lock sign. If cues in a sequence are locked and the sequence will be deleted the locked cues remain existing. Indicator: red font colour.Lock / unlock follows oops. When trying to update locked cues, effects or presets, the update menu shows this with red font colour as well.
  - Command "Selection" can be combined with "if".e.g.. "Store if Presettype Position if Selection" = only pan/tilt is stored for the current selection.

- Command "default" (keys "MA" and ".") accepts filters.e.g. set only attribute position at default. "Default if Filter x" .
  - "List function" (e.g. list 19.1.1.1) in the command feedback display uses more colours . green: changeable values (assign /speed=30). yellow: Assignable values (Assign Specialmaster 16 Effekt 1). red: unchangeable (locked ) values
  - When executing Cue Mode "Release" will no more be break nor assert cues.
  - New Option"overwrite all" in overwrite Popup when exporting- e.g.. "export Preset 0.1 thru /overwrite". ( similar as "/noconfirm" before)
  - The Fixture Button has a new function: 2 x press = "Selection"
  - The Delete Button has new functionality: 2 x press = "Remove", 3 x press = "Release". This can be filtered with an IF as well. e.g.. Fixture 1 thru 5 are selected: "Remove if Presettype Position" = Write Pan and Tilt for the selected fixtures with remove into the programmer. These can be removed out of a sequence with a store/merge.
  - Fixture and sequence views: Moving Attribute / Functions in the headline will insert them at the target position.
  - New view (create Basic Window/ "Others") : Command Filter. The AT / Store Filter is shown permanently and visible.
- **Effects**
- Effect Editor and Effect Line Editor: With "Take selection" in the Edit Effect menue the current selection in the selected effect lines will be taken as usual.With the new button "Take MATricks" the "Block X", "Align Group X" and "Wing" adjustments will be taken from the current MATricks. With "Show selection" the selection and groups, blocks and wings are also taken into the MATricks. (If more than one sequence lines with different adjustment are selected the adjustments of the last selected are taken.
  - New structure of effect speeds in effect editor:the "default effect speed" and the possibility to replace the start speed with a speed group has been completely taken out.The column "Rate Group" has been changed in "Speed Group". This enables to use a speed group or a rate group to each effect line.This is always active when using the effect in the programmer as well as storing the effect in a cue.The column"Rate" has been changed in"Speed". In the headline the unit is shown (Hz, BPM, Sek in Userprofil adjustable) and times can be directly entered. (If rate groups in older version were used you will now find them in the speed group column). Also in channel, fixture and misc. views the layer "Rate" was exchanged with "Speed". That means that nomore a factor can be entered , but the speed directly.In the commandline speeds have to be entered in Hz. If an effect which follows a speedgroup is stored in a sequence this effect can only be changed with the speedgroup -no longer with the speed fader of the sequence executor
  - When starting an selective Effect in the Effectpool, only the Effect ID will be taken into the programmer ( not the rate ( now speed) anymore )
  - New Mode Buttons in the "Running Effect" View. Is no mode selected, clicking an effect opens the corresponding encoder bar. Switching to the "Off Mode" or "Stomp Mode" , this action takes place on the afterwards selected effect.If "All Stomp" or "All Off" in single columns is selected, all Effects of a column will be switched off, or with "Stomp" taken into the programmer. Attention: "Off" in column "Sequence" switches off the complete sequence, in the column "Programmer" the effects will be taken out of the programmer.
  - If "Link Feature" ( encoder bar ) is selected when creating an effect,it is possible with the command "at Form 19" (Circle) to add directly to both sub-forms the attributes pan and tilt e.g. for presettype position.This also works when in the special effect dialogue more than one attributes are selected ( U-Keys) and a form with multiple subforms is selected.
  - New button "Shuffle Selection" in Edit Effect menue. Works for currently selected effect lines. Shuffle Selection does not work for template effects(no Selection in Effect lines available).
  - In Form Editor new button "Link Graphs" can combine 2 graphs - means they have a similar number of points in 2d Mode.
  - Form Editor: editing a form with 2 Graphs in 2d Mode, "Load Predefined" gives new 2 dimensional form which are shown animated in the editor.
  - New buttons in Assign menu: "Stepped Rate" and "Link Effect To Rate". Is "Stepped Rate" active ,the rate fader does not work analogue but discrete: 1:32, 1:16 , 1:8 , 1:4 , 1:2 ,1:1, 2:1 , 4:1 , 8:1 , 16:1, 32:1. Is "Link Effect To Rate" active, the rate fader does not only change the fade times of a cues but also the speed of effects in cues. Attention: This only works with effects not using speed groups.
  - Rate Fader can be tapped with the "learn" Button. The "Stepped Rate" in the executor assign menu has to be switched on.
  - Edit Effect Dialogue: entering presets for "Low", "High", "Center" or "Size" will change the effect lines from "Relative" in "Absolute"
  - Effect Editor : buttons which have temporarily no functionality are not displayed anymore e.g.. Effect has no selection (Temp. Effect).
  - On/off times for Chaser/Effects and off times for Sequence - Toggle fade now via a virtual master.
  - FAST\_OFF - FAST\_ON for Chaser and Effect
- **Layout View**
- Defaults for layout views can be stored now:. Setup / User / Defaults / Layout defaults. The new buttons "Save to default" and "load from default" in the caption bar of the layout view options will store / recall these settings. The size of new inserted fixtures and elements is corresponding to the values "Grid X" and "Grid Y". (a little bit smaller to have a distance).
  - Circle arrangement in Layout view: Special behaviour if angle sum is 360 degrees: Last element is at "next to last" position. Otherwise last element is at last position.
- **Sheets**
- Tracking Sheet: Create Individual times (where there had only been default times).
  - Tracking view: Tracked values can be changed directly.Selected Cells will be blocked automatically, when they are changed via middle mouse button or via edit button in option menu..With new "Edit Cue Only" button in the headline it can be chosen whether the cells in the next cue are blocked as well so that the changed values will not be tracked. The editor can be opened with the mouse as well :press middle and right mouse button and then release right mouse button.
  - Touchscreen long-press edit has been implemented for Sheets and layers. (same behaviour as right mouse click or hitting edit and touching the sheet or layer ).
  - Masks (in Mask Pool) can now be displayed with a selection: e.g. "Assign Fixture x Mask y" or "Assign selection" and click in the mask pool
  - New options in fixture masks: Full Patched
  - Sequence Sheet: If "Move in Black" is possible in a cue , the column "MIB" displays "IY", when "MIB always" is active in the assign menue. Corresponding "IN" is displayed in red , when "MIB never" is active.
  - Tracking view: Attribute can be also edited on Effect Layers.
  - A long touch press or right mouse button click on a layer in Channel or Fixture views (Value, Fade, Form...) opens the calculator directly.
  - A input filter assigned to a sequence is also visible in the sequence pool
  - Worlds and Masks are displayed clearly in the headlines
  - Tracking + Sequence Sheet: CueNumber Popup provides the option to block or unblock the selected cues.
  - Fixture and Content Sheets do have in vertical mode the button "Namefield" in the Options menu.
  - Fixture Sheet :Fixture Sort Funktion active : If more fixtures which can be shown at a time are selected and next" or "prev" are used to step through, the view scrolls automatically
  - The Button Function PARK and UNPARK on a Group Master Fader now works
  - Exec Master Dialogues = special masters on executors have now short names in the naming area: "Sp" Speed Group, "Ra" Rate Group , "PI" Playback Master.
- **Setup**
- grandMA2 onPC also provides grandMA 1 style keyboard shortcuts. (Setup / Console / Edit Keyboard Shortcuts / import)
  - Page Pool Buttons in Layout views can be executed now.
  - Copying Presets does obey the Preset Mode (Selektiv, Global, Universal).
  - "Setup encoder bar will not disappear unexpected when adding objects to the 3 Layout"

- Buttons Setup / Network / MA Network Control menu are better readable.
- Parameter list in Setup/Patch only dialogue. In this list all single parameter of all fixtures in fixture layers are displayed. Sorting: click right mouse button in the caption of a column (or with finger in touchscreen) , and then move upwards or downwards
- Import / Export in Setup/Show is also available for MATricks.
- Setup / User / Settings: new options for trackball buttons "Trackball Sequence" "Mouse - Off" and "Mouse - Wheel - Off"
- New Info column in setup in layers and fixture types.
- Clear filter button inside the fixture library - display info field for selected fixture type.
- Fixture and Gobo library updated to Carallon 8.1
- Setup: If fixtures are added with the "Add new fixtures wizard" then ID Numbers can only be given when a fixture type was selected.
- Load Show Dialogue : New button "I" (Info). Info Text (show description) and history are displayed. Show files are automatically stamped with Software Versions.
- Midi Show Control(MSC) dialogue has a MSC Input and a MSC output info window. MSC commands will not be displayed any more at the system monitor.

#### • Miscellaneous

- New views ( especially for working with onPC )
  - "Command section" ( with "Master Section" and "Time Controls" ) /
  - "Commandline" (with"Entry Field" to show command input )
  - "Encoderbar". You can find them in in "Create Basic Window" / other
- U3 = Label for Sequence Editor, Effect Editor, Form Editor, Macro Editor, MATricks Editor, TimeCode Editor
- MATricks Pool: editing an empty Pool Button lets select predefined MATricks (Button "Predefined").
- View Pool with display of stored screens. Rule: pressing a View Pool Button which contains only one screen it will be opened there. In case or more stored screens they will be opened where they have been stored.
- Executor Assign menu: column "Start" 4th button of Optionsmenue has new option: "Master Top" -> If "Auto Stop" is switched off and the Master Fader of Executors is 0 -> pulling again the master sets the sequence to first cue
- ArtNet IP Adresse 10.x.x.x is outputted, even when the Subnet Mask is not 255.0.0.0 (e.g.. 255.255.254.0)
- The IF Button works again with clone e.g.: "clone Fixture 1 thru 10 at Fixture 101 thru 110 if Sequence 1"
- Fixed : Multi-instance fixtures are not visualized correctly
- 8bit grandMA series 1 mode channels are now converted correctly to grandMA2 mode channels
- Fixture / Channel views: when the Option "Readout" in the caption bar changes the display of the values, now the value range of the encoder ( and calculator) changes as well
- When "Cue Zero" is active on an executor, "Block Sequence x" now has the same result as "Block Cue Thru".
- PWM Effects with Attack or Decay times > 0 do now fade equally in or out
- When importing / exporting Macros, Effects, Masks, or MATricks the Screen Encoder now has the focus on the left side : "Select File".
- Filter 1 in Filter Pool is now named "All", (was "Full" before )
- Fixed: when pressing Backup / Save Show (both OnPC and console), the Backup key backlight will turn Off, while is should be kept On, until exiting the Backup menu
- Tracking Sheet improvements: horizontal scroll offset
- Selecting the Prog only view in a connected iOS remote software does not crash the console anymore
- 22 Presettypes do not crash the desk anymore
- Sequence executor Sheet X-Break lines drawn correctly now
- Form pool indentionation (Used forms has blue Pool number) is correct...
- When a fixture type has more than one attribute, or one attribute which is not a dimmer, the fixture wizard automatically suggests a Fixture ID
- The command "Assign Channel 1 Thru 513 at Dmx 256.1 does not patch invalid DMX channels anymore. Result: Channel 1 to 512 will be patched to the last universe, Channel 513 is not patched.
- Sequence Executor view: When in the last Cue of a Sequence the Mode "Release" is executed, Cue one will not show the delay progress bar anymore.
- Long Cue names result in graphical glitches in the mini executor view in onPC
- Moving executors does not automatically switch on MIB anymore
- Very slow dimmer wheel movements result in slowly changing dimmer values

### Bugfix Release 2.5.4.3

#### New functions and features

- onPC Command Wing support added.

 Known Restrictions:

- DMX In is not yet supported by the onPC Command Wing.
- Midi Show Control is not yet supported by the onPC Command Wing.

- onPC scales its size automatically to the screen resolution, if the screen resolution is smaller than 1280x800 pixels.

#### Fixed Bugs and improved functionality

- MANET2 network session member handling improved. NPUs and VPU should not stay in non-existing sessions any more.
- Cue Mode "Release" will no longer be a break cue. A Cue with cue mode release will finish fade in of this cue and then release the executor using executor off time.
- Stomp Presettype will add stomp to the programmer only for attributes of selected fixtures currently using effect parameters.
- Playback settings should be copied correctly when copying executors
- Release first step executor option switch has been fixed.
- Exec/Remote CLI mode bug has been fixed.
- Crash fixed when entering or leaving patch and fixture schedule while having more than 22 presettypes.
- MidiShowControl compatibility bug has been fixed.
- The size of the MA network control columns at screen 1 is adjustable again.
- GUI glitch fixed when scrolling the help pages at the onPC help popup.
- Store popup will be displayed at all screens if onPC is used in single screen mode in combination with onPC wing hardkeys.
- onPC should be compatible with HP Elitebooks.
- Activating the Prog only view at a connected iOS remote app does not crash the desk any more.
- Scaling of the resolution buttons has been fixed.
- Multi instance fixtures are visualized correctly again, when added to a showfile.

### Release 2.5.3.6



### Main feature overview:

- Sheet Masks
- Filter
- Playback Filter
- grandMA Show Converter

### Overview Worlds, filters, masks.

- Worlds are containing a selection and an attribute filter. Calling a world filters all views and programmer access.
- The new attribute filter is replacing the former separated Store filter and At filter. This filter contains an attribute filter and a layer filter (Value, Value Times, Effects). This filter can be stored at the new filter pool. A filter from the pool can be used temporarily (calling the filter), permanent (selecting the filter) or together with If at the commandline.
- Worlds and filters can be used as input filters for sequences and as playback worlds for executors.
- Masks provide wide variety combinations for masking sheets to display only fixtures and attributes following these criteria at a sheet. These masks can be stored at the new mask pool and can be assigned to any sheet.

### New functions and features in detail

- The sheet masking has been revised and extended. The Feature Mask from previous versions has been improved and can be found by setting the right hand side of the new sheet mask options to: Show if in Saved Attributes, then pressing the 'Define Mask' button to choose what features or attributes to display.
- Interactive Sheet Masking
  - Fixtures, Groups, Worlds, Filters, Masks, Presettypes ... can be assigned at sheet headlines to mask the current sheet to only show fixtures/attributes of the assigned object.
  - Example: Assign Group 1 fixture sheet headline; the fixture sheet will display only fixtures of group 1.
- Assigning an object to a sheet headline will be displayed by a red ghost. Any other active mask will be displayed by an orange ghost. Every sheet can only be masked by one mask at the same time. Using a set button or assigning a mask to the sheet headline will overwrite the local mask with the new settings.
- Sheet Masking
  - Sheets have a new sheet mask editor in the sheet options.
    - The Show if / hide if button decides whether this line will be shown or hidden.
    - The ☐ black tick box is for inverting the current line.
    - The pull down menu provides all possible masking settings.
    - With the Save to button the current mask settings can be stored to the Sheet Mask pool.
    - With the Load from button masks can be loaded from the mask pool.
    - With the Copy andgt;andgt;andgt; / Copy andlt;andlt;andlt; buttons mask settings can be copied from the fixture to the attribute side and vice versa.
  - Sheet masks can be stored into the new Sheet mask pool. With this pool, sheet masks can be created once and can be used by multiple sheets.
  - The pool objects 1 to 6 are predefined and cannot be modified or deleted.
  - Sheet masks are able to mask fixtures and attributes.
  - Right mouse click a sheet headline mask button will call this button and edit this button.
  - Sheet mask is selectable and editable. The currently selected mask is displayed by a green button background.
  - Sheets can be switched to follow selected mask mode.
  - Hitting a mask pool object will select this mask and all sheet set to follow selected mask will follow this mask.
  - Sheet mask can be assigned to a sheet using ASSIGN, touch a sheet mask in the pool and hit a sheet headline afterwards.
  - Up to 10 customisable Set buttons can be assigned to the sheet headlines to provide fast access to sheet masks.
  - In addition to the already known masks, the following new criteria for creating masks have been included.
  - at the Fixture Section
    - **"Used in Show"** displays all fixtures stored in cues, selective effects, selective presets or additive group masters.
    - **"Selected"** displays currently selected fixtures.
    - **"DMX tested"** displays all fixtures with one or more attributes are overwritten by DMX tester values.
    - **"Fade / Delay"** displays all fixtures with individual fade or delay timing stored at currently active cues or is active in programmer.
    - **"Effect"** displays all fixtures currently using effect parameters at the output.
    - **"In Object"** displays all fixtures currently using the defined object. Object can be a Group, Effect, Preset, Sequence or World.
    - **"Live"** displays all fixtures with a dimmer output above 0% or with dimmer output at 0% blocked in current active cue.
    - **"In Saved Selection"** displays the saved selection. The current selection can be saved by the take selection button.
    - **"Moved"** displays all fixtures with blocked non dimmer values at cues currently active at the output.
  - at the Attribute section:
    - **"Used in Show"** displays all attributes stored in cues, selective effects, selective presets or additive group masters.
    - **"Selected"** displays all attributes of currently selected fixture.s
    - **"DMX tested"** displays all attributes overwritten by DMX tester values.
    - **"Fade / Delay"** displays all attributes with individual fade or delay timing stored at currently active cues or is active in programmer.
    - **"Effect"** displays all attributes currently using effect parameters at the output.
    - **"In Object"** displays all attributes currently using the defined object. Object can be a Group, Effect, Preset, Sequence or World.
    - **"at Non Default"** displays all attributes currently having non default values.
    - **"Of current Presettype"** displays the presettype currently selected at the encoder bar.
    - **"Of current Featuretype"** displays the featuretype currently selected at the encoder bar.
    - **"In Saved Attributes"** displays the attributes defined by the define attribute button.
- New sheet headline button to change the sheet readout.
- Filter Pool
  - Store filter, At filter, Circular Copy filter and link defined filter have been merged together to one attribute filter and can be stored and recalled by the filter pool. The filter pool is a global pool used by all users.
  - Store a filter at the filter pool will store the current status of the filter into the pool object. As at the world pool also at the filter pool filter pool object 1 is reserved for the all filter and is not editable.
  - Filters can be called (small green bar in the filter pool icon) or selected (Lower half of the filter pool icon is displayed green).
  - The selected filter will be used for any store/at/copy... operation until another filter is selected. Selecting Filter 1 will reset the filter to all attributes.

- Filter can be selected by pressing **[select]** and touching the filter pool object afterwards.
  - The called filter will override the selected filter and will be used for the next operation and will be falling back to the current selected filter afterwards.
  - If the setting "Reset filter on clear" is active in the "Attribute filter menu" a called filter will stay active until 3x clear is pressed (former At filter behaviour).
  - A temporary filter set in the store menu or by long pressing the At key can be stored to the next empty filter pool object by pressing the button "Store filter and select"
  - Filter can be called by touching the referring pool item.
  - The flashing **[AT]** key indicated an active attribute filter.
- Playback Worlds
    - Worlds or filters can be assigned as sequence executor playback filters. The filtered sequence executor will only playback fixtures and attributes of the assigned world or filter.
    - If a filter is used as a playback world, the playback will be filtered by attributes only, it will not filter by layer (Value, Value Times, Effects).
    - Worlds or filters can be assigned by using commandline: **[Assign] [World] [3] [Executor] [1] [Please]**, by using the assign menu, or by pressing **[Assign] [World 3]** pressing an executor button of an executor with assigned sequence.
    - A orange executor number background in the mini executor view identifies an assigned playback world.
  - Input Filter
    - Worlds or filters can be assigned as sequence input filters. The filtered sequence will only store fixtures and attributes of the assigned world or filter.
    - Worlds or filter can be assigned by using commandline: **[Assign] [World] [3] [Sequence] [1] [Please]**, by using the assign menu, or by pressing **[Assign] [World 3]** pressing a pool sequence button.
    - A orange sequence number background in the mini executor view identifies an assigned input filter.
  - New if function to filter while store, delete and at operations with.
    - New keyword endif. The Endif offers the possibility to use the phrase if condition1 + condition 2 ... endif in the commandline syntax and execute this command with an executor button.
    - Pressing the **[If]** key and any object you want to filter by will add the touched object and endif automatically to the commandline.
    - Pressing the **[If]** key will add Endif to the commandline if an if is already in the current commandline string.
    - Holding down the **[If]** key while hitting multiple object will filter by any of these pushed objects.
    - Possible objects are for example the encoder bar
      - Presettype buttons,
      - Groups,
      - Worlds,
      - Sequences,
      - Cues
      - Filter pool objects,
    - Examples:
      - **[Store] [Cue] [2] [If] [Dimmer] [Executorbutton 1.1.16]** will add "Store Cue 2 If Presettype "Dimmer" Endif Executorbutton 1.1.16" and will store only active dimmer data at cue 2 of executor 1.1.16 and keep other active attributes in the programmer.
      - **[Store] [Cue] [2] [If] + [Dimmer] [Color] [Position] [If] [Executorbutton 1.1.16]** will add "Store Cue 2 If Presettype "Dimmer" + "Color" + "Position" Endif Executorbutton 1.1.12" at the commandline and will store only active Dimmer, Color and Position data at cue 2 of executor 1.1.12 and keep other active attributes in the programmer.
      - **[Store] [If] - [Dimmer] [If] [Cue] [X]** will add "Store If Presettype "Dimmer" EndIf Cue X" at the commandline and will store all active attributes except the Presettype "Dimmer" to cue X
  - Please can be used to step through the Edit Cue Number Window.
  - Export sequence command has been improved.
    - New parameter /style for the export command to select a xsl-stylesheet for the exported xml file. Example: `&Export Sequence 1 "NiceFileName" /style="sequ@executorsheet"`. By now included styles `sequ@executorsheet.xsl`, `sequ@trackingsheet.xsl`, `sequ@html@default.xsl`. If no style parameter will be added to the export command, the stylesheet with the filename containing @default will be used.
    - The command export sequence 1 "nice-sequence" /transform will generate an HTML Table of the sequence. This command can be combined with the /style=... parameter as well.
  - Shortcut **[MA] + [1] ... [9]** to switch to the referring presettype. Hitting the same number multiple times while pressing MA to go through the Features of the referring Presettype.
  - Shortcut: Hitting **[Time]** steps through Value, Fade, Delay. Hitting **[MA] + [Time]** to go through the effect layers. Long-press **[Time]** always switches to the value layer.
  - All pool elements used in show are marked by a cyan pool item number instead of the grey one.
  - DMX using Artnet can also be sent and received alternatively at 10.x.x.x. Former versions of the grandMA2 software were only capable to send Artnet at 2.x.x.x. The IP address of the Artnet network interface can be changed using the command `SetIP 10.x.x.x. 255.0.0.0`. After changing the IP address, a reboot is necessary.
- Be aware it is not possible to send to 2.x.x.x and 10.x.x.x at the same time.
- New function Lock object to lock or unlock objects like Sequences, Cues, Presets,... by using the commandline. Locked object have to be unlocked to edit or update them.
    - Objects locked by the system are displayed by a red padlock at the referring pool item. Objects locked by the system cannot be unlocked by the user.
    - Object locked by the user are displayed by an orange padlock and can be unlocked by the command `unlock object X`
    - Examples
      - Lock Preset 1.1 thru 1.10 will lock the dimmer presets 1 thru 10.
      - Unlock Preset 1.5 will unlock dimmer preset 5.
      - Unlock Sequence Thru will unlock all sequences
  - Shortcuts: Keyboard shortcuts have been implemented for OnPC. Pressing the keyboard Insert key (**[Ins]**) toggles the shortcut mode.
    - The shortcuts can be configured at the / Setup / Console / Edit Keyboard Shortcuts.
    - The **[Reset to Defaults]** button will reset the keyboard shortcuts to the build-in default settings.
    - the current keyboard shortcut setting will be stored automatically to the keyboard\_shortcuts.xml file, when pressing save at the displayed pop up when leaving this dialog.

- Add will ask for a function and a keyboard key and will add the shortcut assignment.
- Multiple keyboard keys can be assigned to one function, but only one function can be assigned per key. The Select key pop-up will only provide available keys. If a key is already in use, it has to be deleted before it can be reassigned.
- Shortcuts will be temporarily disabled as long as a text input pop-up is present.
- OnPC improvements
  - Encoders can be controlled via mouse wheel. Position the mouse pointer at the encoder and just turn the mouse wheel to adjust the referring parameter.
  - Right button mouse click at an encoder will open the referring calculator.
  - OnPC will return the last viewed screen after leaving the setup or backup dialog.
- MA remote improvements
  - Consoles with disabled remote login are displayed with a red background at the MA remote available console screen.
  - It is possible to logout from one console and login at another console without closing the app by using the new Logout button at the selecting view pop-up.
- Delete button works interactive with sheet and pool headlines. E.g. Hitting Del and touch a fixture sheet headline will delete this sheet.
- New command "Delete Screen X " to clear a single or multiple screens via commandline or macro.
- grandMA Show Converter



- grandMA Show Converter will convert only show data.
- grandMA1 macros and Cue command links will be converted as far as possible. Commands not compatible with grandMA2 syntax will not be converted!
- grandMA1 userprofiles are not compatible with grandMA2 and will not be converted at all.
- grandMA1 effects, bitmap effect, layouts and modulators will not be converted at all and have to be rebuild with the grandMA2 effects engine.
- grandMA1 Fixture Schedule function invert per fixture will not be converted.
- A fully featured list of all converted parts of a grandMA1 show can be found at the [grandMA Show Converter Help](#).

- The grandMA show files have to be stored with grandMA Version 6.615
- The converted show files can only be loaded with grandMA2 versions beyond current version.

### Fixed Bugs and improved functionality

- Off Feature X, Off Attribute X and Off Presettype X is using program time now.
- Store options are temporarily visible while holding down the store button. Long-press of the store button will display the store options pop-up also after releasing the store button.
- Goto / Load pop-up will be visible at all screens, if the option Messagebox on all screens is set to on.
- Improved Cue Zero handling in preview mode.
- Session collision handling has been improved. Session collision dialogs have to be solved by the user and should not disappear automatically anymore.
- Updating a preset currently visible at the output should not drop the output to the previous preset values before the updated values are present anymore.
- Orange progress bar is drawn correct in the executor sheet now.
- Deleting a cue will not affect the edit executor sheet column width anymore.
- No more useless Cue only pop ups, when deleting the last cue of a cuelist.
- Fixtures with already done MIB will not snap back to their origin position when knocking the fixture in the programmer or updating a cue of that sequence.
- Sheets with activated fixture sort react to selection change again. E.g. when using shuffle selection.
- Select DMX Profile pop up position has been improved.
- Resizing the column width inside the "Patch andamp; Fixture Schedule" or "Patch Only" dialog will not shrink other column width anymore.
- Sometimes not working store encoder bar encoders have been fixed.
- Deleting an effect while this effect is displayed at the running effects window will not crash a console anymore.
- Deleting an assigned effect was not displayed correctly in the effect overview.
- The not very useful command assign and hitting an encoder afterwards does not crash the desk anymore.
- Move multiple executors at executor 220 will not crash the desk anymore.
- Trying to move or copy a sequence executor to a channel page does not crash the desk anymore.
- Crash when trying to access the tools menu while full access enter layer name pop up is visible has been fixed.
- Importing a sequence with activated cue zero does not crash the desk anymore.
- Crash fixed when calling the Commandline Response while the Full Access window was open at the same screen.
- Setup / Network / MA Network Configuration: delete the first Line of any Menu = the content of the line do not jump to the left side anymore.
- Special dialog shaper is able to display default link values.
- Graphical artifacts of the Analog clock hands have been removed.
- Chaser have been improved, especially when using Backward, Random, Bounce, Loop Shot-Off and Loop Shot-On chasers will not overshoot one step anymore.
- Chasers running backward or random chasers are correctly calling their tracking status now.
- On screen keyboard improvements
  - State(opened/closed) of the on screen keyboard will be restored when a text pop up is created.
  - Closing the on screen keyboard at one screen will close the on screen keyboard at all screens.
- Not working X-keys at the startup of the console have been fixed.
- Swipe graphic position has been adjusted. BTW.



- You don't have to wait for the swipe icon to use the swipe, just swipe the referring button to open the pull down menu.

- Missing Oops, when assigning an object to a layout view has been fixed.
- Further improvements of ASCII Show Read.
- NPU dark screen bug has been fixed.
- Setup / Network / MA Network / Configuration / NDP: NDP software version color display has been fixed. A red software version number means, the NDP software version is not compatible to the current console software version and the referring NDP is not allowed to be a session member of this MANet2 session.
- NDP dimmer profiles can be edited in the dimmer view table as well as in the edit dimmer module view now.
- Fixture Library has been updated to Carallon Lib 7.7
- Creating a multi-attribute effect in programmer and storing this to the effect pool will not create unnecessary lines anymore.
- Temp-faders will not switch off other executors with activated option OffOnOverwritten anymore.
- Hitting the Align encoder bar soft-key will not reset the commandline anymore.
- Effect stomp and effect release will be ignored by the ifoutput command.

- Leaving the edit blind mode after loading a show file stored in the edit blind mode does not crash the console anymore.
- Further improvements of the Sheet masking
- Leaving the Partial Show Read Initialize dialog with the X-key has been fixed.
- Flashing Ultralight red LED as indicator of a wrong fader position is adjustable in local settings. (Setup/Console/Local settings: "Error LED is flashing when fader position is wrong.")
- Create basic window pop-up is able to display up to 20 Icons per tab without scrolling.
- Wrong display of the autosave countdown at the Backup menu after loading show files has been fixed.
- Import Export of fixtures also imports exports the fixture 3D position scaling and rotation.
- Keyboard focus issue when labeling pool objects has been fixed.
- Leaving blind mode directly after loading a show file stored in blind mode will not crash the desk anymore.
- Crash fixed when using the used in object sheet mask in combination with user profiles from previous software versions.
- Calling an Executor X without any function will execute a selfix executor X.
- DMX Tester retain mode bug at the onPC has been fixed.
- Patch diagnostics screen also show unpatched subfixtures now.
- Not working fixed executors in action button view have been fixed.
- Fixture Schedule: The column "Master" has been renamed to "React to Master".
  - Only fixtures with "React to Master"=On will react to the Grandmaster and the Solo function.
  - Edit Fixture or Edit Fixture Type: Only attributes with "React to Master"=On will react to the Grandmaster and the Solo function.
- Improved ASCII Showread:
  - "Link go" / "Link toggle" : ASCII show file effects will be converted to grandMA2 chasers and assigned at executors. A "Link Go" or a "Link toggle" will be added to the referring cue command column of the main sequence.
  - "Effect Prio.LTP / Effect Prio.High The assigned chaser will be set to Priority
- Edit Bitmap Effects has been fixed.
- Saving show files in network sessions has been changed. Storing a show file at one console will force all grandMA2 consoles and onPC2s and 3D Applications of this network session to save the show file.



The VPU will not save any show file in a network session anymore. The VPU will only save its show file when shutting down.

- The command "Executor X at 100 Fade 5" is also possible for executors with assigned bitmap effects.
- Commandline response of the command "List Sequence X" shows the correct Cue Zero setting.
- MIB has been changed and is only possible for cues instead of part cues now.
- Missing gobos or content symbols will not be displayed as open symbols anymore.
- Fixed executors in action button view are working now.
- Knocking out effect layers using the Quick and Dirty bar has been fixed.
- Deleting an effect line doesn't change the selection of other effect lines anymore.
- Exchanging fixture types will not destroy the link to a moving path for that fixture at the 3D anymore.
- Displaying pool playbacks as fixed executors (orange background) bug fixed.
- Console does not crash anymore, if the Content Distribution window has been left open for a long time.
- Cues with stored dummy attributes can be deleted again.

## Appendix



The command "store /remove" or pressing [store][cue][2] and the select [remove] in the pop-up will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.



Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.



Release version **2.3** of grandMA2 divorced values and effect values! Therefore older showfiles might not be 100% compatible. Therefore please check your showfile with the new version before using it live!

## Known Limitations



- show file Conversion from Version 2.2 and earlier: The speed of a selective effect, stored in a cue, will not be brought correct into programmer, if the cue gets edited and the default speed of the effect in the pool is not 60 BMP.
- ASCII show import supports Strand ASCII show files only.



## Topic: Release Notes Version 2.4.3.2

released 2011-11-22



### Important:

- Release version 2.3 of grandMA2 divorced values and effect values! Therefore older showfiles might not be 100% compatible. Therefore please check your showfile with the new version before using it live!
- If you would like to update your dimMA system from any version below 6.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of onPC and 3D require minimum Windows XP with Service Pack 3 (the latest version of Microsoft's Net. Framework (4.0) will be installed on your computer, if not already installed).

## Main feature overview:

- Preview

- Cue Zero
- Default Reference
- Temporary Pool Views
- Maximum Program Time and Exec Time can be defined per user.
- Random functions
- Info View

### Bugfix Release 2.4.3.2

released 2011-11-22

- Knockin of values into programmer takes the output values, if there are only values to knockin. If there are values and effects to knockin, the cue content will be knocked, disregarding the current executor fader position.
- Deleting an effect line of a multi-line effect will not change the selection of the other lines any more.
- The Small stage view inside the Bitmap effect editor has been fixed.
- Handling of Cue Zero when updating a cue in Preview has been fixed.
- Orange progress bar display at the sequence executor sheet has been fixed.
- Further improvements of ASCII Show Read regarding 16bit channels, toggle/go and effect priority.
- Triggering macros with programmer commands using Midi Show Control (MSC) doesn't crash the desk any more.
- Importing sequences or effects from older versions doesn't crash the desk any more.
- Network Timing improvements of MAnet2. Especially for networks with NDPs.

### Bugfix Release 2.4.1.2

released 2011-09-29

- Cue zero extract mode has been fixed.
- Remote popup bug fixed.
- Pressing store preview does not crash the desk any more.
- Deleting the last cue of a sequence will not ask for cue only any more.
- Reserved DMX In merge mode has been removed.
- HTP Executor Preview Bug has been fixed.
- CanBus Firmware update to version 1.36.
- Crash fixed, when deleting an effect while this effect was displayed at the effect overview.
- It is possible to store or update a selective effect at a cue with an already stored stomp or release.
- Effect Default setting have been changed. The user setting effect default relative/absolute has been exchanged by the following settings.
  - Absolute effect as default for Dimmer, Color and any wheels.
  - Relative as default for anything else.
  - Relative effects default start with center value of zero when a new effect line is created in the effect editor.
  - Effect Release has been converted to a effect form.

### Release 2.4.0.2

released 2011-09-08

#### New functions and features in detail

- **PreviewEdit**
  - PreviewEdit mode is very similar to working in normal Live mode, but without any programmer actions or Store/Update actions affecting the output on stage.
  - What is the difference between EditBlind and PreviewEdit? EditBlind is only a second programmer not affecting the output at all. EditBlind will not show you any cue transitions or effects. Whilst PreviewEdit will start a preview playback which behaves like a normal playback beside the fact that there will be no output on stage. The advantage of using EditBlind is a particularly lower usage of performance resources compared to PreviewEdit.
  - Fixture-, channel- and stage- views as well as a 3D logged in with the same user are following the "Preview Edit". In "Preview Edit"-Mode the title bars in all views are kept in red. Sequence-, tracking- or content- sheets display a preview (and turn to the red title bar) only when either the Mode "Link Selected" together with Preview for the selected sequence - or the Mode "Link last Go" is enabled. When selecting the Mode "Not linked" a Preview is only displayed when an assigned Executor is called. 3D follows Preview only when enabled the option "Follow into Preview" (located inside 3D's tools menu).
  - When in sequence- or tracking sheet the title bar is displayed in red the previewed Cue is indicated by a red frame, too. In case the displayed sequence is identical with the selected sequence the current Cue (going Live) is indicated by a yellow frame. In Preview Mode the fixture- and channel- views mask all values but the content of the Preview Cue which are displayed in Cue colors. Tracked values coming from former Cues are displayed in magenta. Even a Cue involves several Parts initially the complete Cue is displayed. Using the Part Cue Encoder allows to highlight single Parts in Cue colors while all other Parts are displayed in magenta.
  - Hitting the **Preview** button will bring the Preview keyword into the commandline and opens the Preview Encoder Bar.
  - How to enter Preview Mode:
    - **Preview Please** or softbutton Preview Selected will enter PreviewEdit mode for all parts of the CURRENT cue of the selected executor or the next cue if this executor is not active.
    - **Preview Next** will enter PreviewEdit mode for all parts of the next cue of the current executor (Selected Executor in livemode, PreviewExecutor in PreviewEdit-mode)
    - **Preview Previous** will enter PreviewEdit mode for all parts of the previous cue
    - **Preview Cue 5** will enter PreviewEdit mode for all parts of cue 5 of the selected executor.
    - **Preview Cue 3 executor 3** will enter PreviewEdit mode for all parts of cue 3 of the executor 3.
  - Hitting the **Preview** button twice while in PreviewEdit mode will leave the PreviewEdit mode.
  - Hitting the **Preview** button twice while not in PreviewEdit mode will recall the PreviewEdit mode with the state it has been left before.
  - Keeping the **Preview** button pressed allows selecting more than one Executor. The Preview merge the result. Only the last selected will be displayed in Cue colors
  - Pushing and releasing the **Preview** button and then selecting an Executor resets all former Previews and displays just the one selected in Cue colors
  - **OFF Preview** turns off the Preview for the last chosen Executor and switches back to Live Mode
  - **ESC** switches back to Live Mode without turning off the Preview Playbacks

- Hitting a playback command button like Go+ or Top and the Preview button afterwards while in PreviewEdit mode, will execute the referring command for the current previewed sequence with cue timing and follow cues.
- Hitting **Assign** **Time** **x** **Preview** changes the fade time of the current previewed cue to x seconds.
- New Preview Encoder Bar:
  - The new Preview Encoder Bar pops up every time the preview key is hit.
  - The buttons **Preview Previous** and **Preview Next** switch to the previous or next cue of the sequence which is currently previewed. If there is no previewed sequence the buttons will activate preview for the selected executor (without Cuetiming) .
  - The button **Preview selected** switches to the current cue of the selected sequence or, if not active, to the first cue of the selected sequence.
  - If **AutoUpdate** is activated, all changes will automatically update the currently previewed cue. A alternating flashing edit and update button will indicate this mode.
  - If **Cue Only** is activated in addition to **AutoUpdate** , the automated update will be done cue only.
  - If **Keep Selection** is active, the programmer will keep its selection, when entering the PreviewEdit mode.
  - If **Keep Programmer** is active, the content of the live programmer will be copied to the preview programmer when entering the PreviewEdit mode.
  - Using the left "Sequence" Encoder allows to scroll thru the sequence pool. While scrolling only the one in focus will be previewed while the former will be closed. Touching into the Seq. field above the encoder opens a window to select from all sequences. Again the former selected sequence will be closed.



Keep Programmer and AutoUpdate are not allowed to be activated at the same time. When activating one of these, the other will be turned off.

Keep Selection and Keep Programmer are only used, when entering the PreviewEdit mode. The preview programmer will never be copied to the live programmer.

It is not possible to use the blind hardkey while PreviewEdit mode is active.

- Preview Playback button in the Off Menu
  - When the Preview Playback button is activated (located bottom left inside the Off Menu) only the enabled Preview Playbacks will be displayed. As usual single Playbacks can be switched off.
  - When Preview Playback is activated the Everything Off button only switches off Preview Playbacks. Live Playbacks will not be touched.



- In Preview Mode Trigger Follow and Trigger Times will not be executed except playback commands like > GO PreviewExecutor < are used.
- In Preview Mode Cue commands (CMD) will not be executed.
- Unless re-entering the saved state of Preview, Preview Mode uses the world, which has been used live last. Changing the world while in Preview Mode will not change the live world when leaving the Preview Mode.

- **"Default value"** button in the calculator has been replaced by a **Default link** button: This button will basically work as a preset and provide a link to the fixture default values, which can be changed in the setup or when editing the fixture. To get the hard default values like in earlier versions, you have to extract (refer to extract in the help) the default link afterwards.

The "Default Link" values are marked by bracketed values in all sheets.

#### • Cue Zero

Cue Zero is an option in the sequence executor Assign Menu. Cue Zero is an automatically created cue containing a link to default values of attributes. Cue Zero cannot be modified manually. A Cuelist with activated Cue Zero will start at the first cue after Cue Zero. This cue provides default values when starting the sequence and provides the missing default data when moving or copying cues.

- **Cue Zero Off** : Cue Zero will not be created and Cue zero will be deleted Cue Only.
- **Cue Zero On** : Cue Zero will be created and will contain default values for all attributes used by this sequence.
- **Cue Zero Dimmers Only** : Cue Zero will be created and will contain default values for dimmer attributes only.
- **Cue Zero All** : Cue Zero will be created and will contain default values for all attributes of fixtures that have any of its attributes stored in the sequence.
- In addition to the default value reference, the cue zero will also include a stomp for every attribute that is using an effect in that sequence.
- "Cue Zero extract" will extract the default link and store hard values of the current fixture defaults into Cue Zero.
- Switching off "Release First Step" is not possible in combination with cue zero on or cue zero all.



There will be NO "CUE ZERO" in a "Non-Tracking-sequence"

Sequences with only one CUE will NOT have a "CUE ZERO"

The "CUE ZERO" cannot be selected nor edited nor updated.

#### • Temporary Pool Views

- can be accessed via macro/commandline "menu object". e.g. "menu View" or via hardkeys. Both hardkeys have to be pressed at the same time. Possible pools are:
  - **List** + **View**
  - **List** + **Effect**
  - **List** + **Page**
  - **List** + **Macro**
  - **List** + **sequence**
  - **List** + **Group**
- **ESC** closes the view



- **Template show file folder:**

This folder is a read only folder. Showfiles cannot be stored inside this folder from the consoles user interface. Users can save show files in this folder only by using a FTP connection. When connected to the console using a FTP client, the template show file folder can be found at /ma/templateshows. The purpose of this new folder is to allow the user to create his own showfile templates and protect them against any overwriting. Even a software update will not overwrite this folder. The only exception is a full install.



As the new template folder is the third tab in the backup menu, the drive number of backup servers and usb stick connected to the console will be increased by one. Macros using commands like "selectdrive 3" or "sd 3" need to be corrected respectively.

- **"Info" - View**

- With the current implementation the Info view window lists only the Sequence Cue info. The selection of one particular sequence depends on the activated button Link Selected or Link last Go in the title bar.
- Cue numbers and names are displayed in green Letters. The current Cue will be displayed in yellow letters.

- **New command Info**

- Any console object which can be labeled is able to hold an information text, e.g. fixtures, sequences, cues, presets.
- New commands for setting and reading Information of objects:
  - Info [object] "Information" to store Information to an object.
  - Info [object] to read the stored Information in the commandline response
- Example:
  - The command >Info Sequence 3 "This is the Information of sequence 3"< will add the quoted text as Information to Sequence 3.
  - The command >Info Sequence 3< or >Info Sequence Thru< will list the Information of sequence 3 or of all sequences in the commandline response.

- **New Odd/Even Channel ID MATricksFilter function for filtering a selection by odd or even Channel/Fixture ID.** The filter will always refer to the Channel ID, in case there is no channel ID it will refer to the fixture ID. This filter may also be accessed by the commands MaTricksFilter "Off"(Shortcut: MF 0), MaTricksFilter "OddId" (Shortcut MF 1) and MaTricksFilter "EvenId" (Shortcut: MF 2)

- **New commandline commands and options in the Tools menu**

- **CircularCopy**

The CircularCopy function does a filtered move of values through a selection. The movement can be performed forwards or backwards. Forwards means, that the values of each fixture is moved to the next fixture of selection. CircularCopy can be filtered by applying the At Filter.

- Circular copy can be accessed
  - by typing the command >CircularCopy +1< or >CircularCopy -1< or using the shortcut >cc +1< and >cc -1<
  - by entering the new circularcopy section inside the tools menu. The At Filter may also be accessed by softkey from the tools menu.
- **Random functions**
  - Using ShuffleSelection: one can randomly change the order of the current selection.
  - Using ShuffleValues: one can randomly change the assignment of the values in respect to the selected fixtures.
- **New function Flip:** one can point a moving head to the same position with different Pan and Tilt values.
- ShuffleSelection, ShuffleValues and Flip can be accessed
  - by typing the command: ShuffleSelection, ShuffleValues, Flip
  - by entering the new Random Function section of the tools menu.
- Maximum Program and Exec Time can be defined by the user. The settings can be found at /Setup/User/Settings.
- Multi-Touchscreen can be switched on/off by pressing the nipple button and hit the "Enable Multitouchscreen"/"Disable Multitouchscreen" button in the lower right corner of the internal screens.
- Active additive groupmasters are indicated in the Channel and Fixture Sheet by a white arrow up.
- New sequence executor option setting "CMD Disable". With this setting, the CMD column of the sequence is deactivated and will not be executed.
- Fixture library has been updated to Carallon lib 7.5.
- Sheet headlines have been reworked and can be customized. There is a new tab in the sheet options to select the headline buttons, the sheet should display.
- Sheet masks can be switched On/Off by the new Mask button in the sheet headlines. Watch out for the ghost!
- SACN improvments
  - Setup/network/network protocols/sACN menu (similar to artnet setup): It is possible to add more lines (by pushing the Add button). Inputs and Outputs can be configured as usual.
  - It is possible select the new SACN Protokoll ACN E1.31 in the Protocol column. It is listed as: "Draft 10/2008".



Limitation: A maximum of 10 lines can be used for Inputs, each addressing just 1 DMX Universe.

- New option "React to Dimmer" inside the "Edit Fixture Types" menu. Using this option allows to limit an attribute value by applying a linear or inverse limitation controlled by the attribute dimmer. Example: Provided that a fan attribute has a default of 80% and is linear linked to a dimmer attribute. As a result the fan will be controlled in accordance to the dimmer value. If the dimmer value is at 100% the fan will run at 80%. If the dimmer is at 50% the fan will run at 40%. If the fan attribute and the dimmer value are inverse linked the fan would run at 100% when the dimmer value is 0. When the dimmer is set to 100% the fan value would be 80%.
- Using the command "List Agenda" lists all entries of the agenda in the command view (similar to the options menu agenda view).
- By using the command "Assign function At Fader x.x.x" "Assign function At Executor x.x.x" it is possible to assign functions e.g. master or rate to executor faders without using the assign menu.
- The command "List Executor x.y" lists all settings from the assign menu of one executor in the command view which are not directly assigned in the sequence. It is possible to change those settings via the command line (e.g. by using macros). Example: The command "assign Executor 1.1 /cmdDisable=1" suppresses the execution of Cue commands (CMD).
- New option for Cue colors (channel and fixture sheet options): Off/On/My Executor
  - Off: All Cue values are displayed with yellow letters.
  - On: The selected sequence values are displayed in Cue colors.
  - My Executor: Displays in Cue colors only Executors started with user profile used on my console - Executors started by others are greyed out.
- New Stomp button in the effect overview headlines. This Button will add a stomp to the programmer for all attributes used by effects of this section.
- New exec button functionality, hitting the exec key twice will enter the keyword "SpecialMaster" at the commandline.
- Edit FixtureType menu: setting or removing a DMX fine address will automatically adjust the corresponding "functions of channel". If the range of the "functions of channel" is not corresponding to the DMX address settings, the line will have a red background and a warning will be given at the diagnostics screen.

- Edit cue X: Handling of the "Update Last Object" dialog has been changed. It is possible to abort this dialog without leaving the edit mode now. Same for all other edit object commands.
  -  will update the edited object.
  -  will end the edit mode without updating the edited object.
  -  will close the dialog and stay in the edit mode.
- Tracksheet performance improved for huge showfiles.
- Changing the commandline default, e.g. "Fixture Please" is also possible by macro now.
- Button Executor Goback and Goto functions will use the exec time, if set to cuetiming by the show settings.
- MATricks Pool elements can be merged or overwritten.
- New command >Menu "CR"< or >Menu "CommandLineResponse"< will pop up a temporary commandline response window.
- New feature at the Edit Timecode View: The table in the text view mode has a new column timing overwrite.
  - If this column is empty, the command of this line will be executed with their normal timing setting. Off will use off timing, go will use cue timing, goto will use the settings from Setup/Show/Playback + MIB Timing ...
  - If this column is not empty all other fade and delay timings will be ignored and the refering command of this line will use the timing overwrite time. As a result of this, all Parts of a cue will be called simultaneously.
- New DMX Universe Pool.Can be found at the pools tab of the create basic window popup.
  - The letters in the first line of each icon indicate the status of DMX universe.
    - A blue P indicates parked DMX addresses.
    - A red R indicates Requested = off.
    - A red G indicates DMX universe granted =off.
    - The white letter shows DMX IN merge mode (no letter = none, H=HTP, Lo = LoTP).
  - - The small green square in the second line displays changing DMX output.
    - The second line also displays the valid DMX In sources (DMX In, ArtNet, Streaming ACN). Maximum 2 different Input sources are allowed per universe.
  - White font color of the universe name indicates at least one address of this universe is used by a fixture/channel.
  - DMX universes can be labeled using commandline >Label DMX Universe X < or using the DMX Universe pool.
  - A DMX universe can be edited using the command >Edit DMXUniverse X< or hitting  and touching a DMX pool object afterwards.
- It is possible to use Partial Show Read again. Console has to be in Standalone Mode to enable Partial show Read.
- Partial Show Read tree view shows the names of all objects.
- Partial Show Read ("PSR") should not muddle object IDs any more, if the target object is empty.

### Fixed Bugs and improved functionality

- Single groupmasters show their correct name in the Mini executor view and the groupmaster overview now.
- Ooping group selection was not always displayed correctly in the group pool.
- Programmer effect rate wheels and encoders cannot be turned into a virtual negative any more.
- Store Cue X /merge executor Y generates a new sequence if executor Y is empty.
- Sheets don't lose their horizontal scroll position any more when changing layers.
- Oops also works for Default and Highlight presets again.
- When moving Cues, oops that move and then press go does not crash the desk any more.
- Off selection will redraw the programmer encoder bar.
- The problem with redrawing the display when moving a range of executors and Oops afterwards has been fixed.
- The command "At Cue X" will respect the selection, the At Filter and the MATricks.
- Effect Editor: Form encoder changes the form of the first line only, if more than one line has been selected
- Storing presets obey the Store Filter, even if the Preset Filter is switched off
- Create basic window popup buttons are sorted in alphabetic order now. The only exception is the preset tab, which is sorted by presettype numbers.
- Improvement: The assigned timing to the command "goFast" ( >>> ) will be displayed in the sequence view while the command is executed.
- Crash removed: "Move Executor 2 + 3 at 1" (moves executor to already allocated targets) doesn't lead to a crash anymore.
- Midi note remote inputs can control executors with assigned groupmasters and other non userprofile related specialmasters. E.g. Program and Exec time are userprofile related and cannot be controlled via midi.
- Executor assign menu option "MIB always" can be stored as user default.
- ARTNET IN is only possible at the network interface eth1(console ethernet port 2). It is not possible any more to use ethernet port 1 as ARTNET IN port.
- Changing the effect size don't alter effect center any more. If the range of center or size are exceeded, a warning will be given above the corresponding encoders.
- Patching of fixtures with more than 3 modules and multiple instances has been fixed.
- MIB late functionality bug fixed, when the last cue in front of the cue with MIB has been deleted, MIB late was not working any more.
- Copying with overlapping source and target ranges does not crash the desk any more.
- When moving or copying objects, the original spacing between the source objects will only be kept, when copying cues. e.g.
  - copy cue 3 + 6 at cue 13 will copy cue 3 at cue 13 and cue 6 at cue 16 if there is no other cue in between.
  - but copy preset 1.3 + 1.6 at 1.13 will copy preset 1.3 at preset 1.13 and preset 1.6 at preset 1.14.
- Import of a single layer will also import the DMX Adresses.
- Editing a Default or Highlight preset will bring the values from the preset into the programmer.
- The MIB indicator (\*) also be displayed correctly for Part Cues.
- The command > Goto Cue X Fade t < is respecting the snap time settings.
- Black and Flash is also possible for Rate Masters.
- Goto/Load Popup has been resized and displays the active cue.
- Manual entered timecode events can be undone by using oops.
- Assigning a new sequence at an executor with an already assigned sequence will not reset the executor options any more.
- X-Key layout at the running effects overview improved.
- NPU's shut down properly and should not stop at the OS console.
- Drop down dialogs at external screens are controllable by the internal mouse.

### Appendix



The command "store /remove" or pressing [store][cue][2] and the select [remove] in the popup will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.



- ! Selecting multiple fixtures with a lasso in the layout view is respecting the snap grid settings to interpolate small position differences of fixture icons. The selection order will always be made inside of one snap grid cell first, afterwards line by line in the direction of the lasso movement.

### Known Limitations



- Showfile Conversion from Version 2.2 and earlier: The speed of an selective effect, stored in a cue, will not be brought correct into programmer, if the cue gets edited and the default speed of the effect in the pool is not 60 BMP.
- ASCII show import supports Strand ASCII showfiles only.



## Topic: Release Notes Version 2.3

released 2011-06-27



### Important:

- Updating to this release version 2.3 of grandMA2 the values and effect values are divorced! Therefore older showfiles might not be 100% compatible. Therefore please check your showfile with the new version before using it live!
- If you would like to update your dimMA system from any version below 6.x please contact your MA-dealer or MA direct for any update information. Should you be using grandMA2 in connection to our dimMA solutions, please get in touch with us, since a console update will now require a NDP update and vice versa. We are happy to assist you.
- The current versions of onPC and 3D require minimum Windows XP with Service Pack 3 (the latest version of Microsoft's .Net. Framework (4.0) will be installed on your computer, if not already installed).

### Main feature overview:

- Values and effects are now separated from each other.
- Values and effects have their own, separated Tracking.
- Values and effects have their own, separated individual fade and delay timings.
- Multidimensional effect forms.
- New sheet layers and markers.
- External touchscreen integration for many touchscreen types.
- New encoder-bars.
- Pool playbacks.
- Store filter.
- Individual fade and delay times are displayed in the executor sheet.
- Further improvements on Strand Showfile conversion.

### Release 2.3.0.3

released 2011-06-27

### New functions and features in detail:

- Renamed "universal effects" to "Effect Templates". These effects are marked with a "T" inside the effect pool.
- Effect Overview can be accessed using long press on the Effect hardkey
- Effect Overview can be assigned as a view on a screen. In the option menu of that view, it can be assigned which types of running effects will be displayed.



The effect needs to be stored in the effect pool first to be visible in the running effect overview. Cues with stored effect layers without an effect ID will not be displayed

- Editing an effect template will automatically reapply the template for currently selected fixtures



To edit a Template blind, make sure to have none fixtures selected

- Effect templates can be created using universal and/or global presets
- Phase range has been extended to +/-2880 (= +/- 16 Pi)
- New encoderbar added Effect Programmer encoderbar ("quick & dirty" Bar): With activated "link encoder" option in the effect pool options, the bar appears when an effect is called from the pool or when the effect pool headline gets pressed. With deactivated "link encoder" option, the bar will only appear by pressing the effect pool headline. The Effect Programmer encoderbar edits active effect layers of all attributes or attributes of a specific effect for the selected fixtures in the programmer. The "select effect" button allows selecting for editing between ALL or a particular single effect. One can use the AT-Filter to filter the attributes, the Crazy Effect encoderbar is manipulating. The button "edit programmer"/"edit effect" toggles between "quick and dirty bar" and the edit effect bar and dialog.
- New keyword: **Stomp** ( + )
  - Note: "Stomp" works similar to the "At" keyword, but suppresses additionally the running effects on this parameter, e.g.
  - "channel x at 50" takes only the value 50 in the programmer (potentially running effects -for example- from cues continue)
  - "channel x stomp 50" takes the value 50 and the effectform "stomp" in the programmer (but suppresses the effect).
  - "channel x stomp preset 1.1" takes the preset 1.1 and the effectform "stomp" in the programmer
  - The stomp command can be used with presettypes/features/attributes.
  - Fast access is possible using MA+At and the Presettype buttons of the encoderbar afterwards
  - "stomp presettype "Position"" without a selection will stomp all fixtures, that are currently using Position Effect parameters
  - "stomp presettype "Position"" with some fixtures selected will stomp the fixtures of the current selection, that are currently using Position Effect parameters
- A new sequence option in the assign menu: "Auto Stomp".
- New keyword: **Extract** ( + + )

- "Extract" works basically the same as the "At" keyword, but it will break any reference and apply hard values into programmer and suppresses the links to an effect or preset,
  - e.g. "Channel x At Preset 2.1" takes the link to the preset 2.1 into the programmer
  - "Channel x Extract Preset 2.1" takes the hard values stored in preset 2.1 into the programmer without any link to preset 2.1
  - "Channel x Extract Effect 1" takes the hard values out of effect 1 into programmer without any link to effect 1
  - "Fixture 2 Extract Fixture 1" selects fixture 2 and sets it to the hard values of fixture 1
  - "Group 3 Extract Cue 4" selects Group 3 and sets it to the hard values of Cue 4 "Extract Please" throws away the preset link of the current selection
- Multidimensional effect forms can be stored and edited in the form pool. They can be assigned to effects.
  - There are three ways to open the graph editor: 1. push "edit" and "form"; 2. push three times the "effect" button or 3. click with the right mouse button into the form pool.
  - Inside the graph editor new points can be created by "add point". Forms can be manipulated by moving those points. "add Graph" creates sub forms within a form. Editing a form while it is used by a fixture or running effect will automatically update the output. While editing an effect and selecting just one effect line a pop up menu will appear to allow a selection from possible sub forms. While editing an effect and selecting more than one effect line the related sub forms will be assigned in numerical order. Note 1: Using this new functionality allows to create form combinations for effects, e.g. combination of a ramp form to modulate the attribute tilt and a PWM form for the attribute dimmer will result in an effect so called "fly out".
  - Note 2: The predefined forms 1 to 18 in the form pool cannot be manipulated or deleted by the user. Predefined forms are displayed with a lock symbol in form pool.
  - Note 3: User created forms ( > Form 18) will be handled as presets. Changing a form will automatically update sequences, selective and template effects using this form. If a form is deleted, sequences and effects using this form will not function any more. Note 4: Subforms can also be used via "at", e.g. "At Form 18.2"



Different from all other pools: The items in the form pool cannot be moved.



Deleting a form will destroy all effects using this form without any warning.

- Fade and delay time calculator have a new option: "remove" works for times similar to the former "basic", and will remove any individual timing when updated or merged to a cue.
- New Executor Sheet columns: individual fade and individual delay In addition, the cue fade and cue delay columns get a green/orange background, if there are any individual times stored in this cue
- By default all lines are selected when Effecteditor is opened, to enable fast editing of all lines via the Encoderbar or the Multitouch effectline-editor.
- Effects have their own fade and delay times. (new layer in sheets)
  - Effects in cues use by default cuetiming, or individual value fade/delay timing if available, or individual effect-fade/delay timing if available.
- Effect Layers Attack and Decay are displayed in sheets
  - The fade in time "Attack", and the fade out time "Decay" are only available for the special Effect forms: Random, PWM and Chaser.
  - The values "Form", "Attack" and "Decay" will always be activated together inside the programmer. Even just changing an effect form inside the programmer "Attack" and "Decay" will be activated, too.
- Effects do have a "default effect speed" which can be set. In this entry field one can also assign a speedmaster. Note: The default speed is used when an effect is assigned to an executor, is started as pool playback or brought into the programmer. Changing the speed of an effect, assigned to an executor will not change the default speed of this effect.
- Calling a selective effect will bring the selective effect ID and its related speed as active layers into the programmer. If a rate master has been assigned to an effect line, the programmer -and after storing this to a cue, also the cue- will use this ratemaster. Note: If you knock out (deactivate) the rate before storing this into a cue, the effect will use the default speed of the sequence when the cue is recalled. It will not store the speed it was running with when the cue has been stored.
- The edit effect dialog now has a new column: "Interleave". This column defines the selection gaps, e.g. "odd" or "even". Inside the direction column "dir" contains also the function "bounce" now.
- Effects can be set to "absolute" or "relative" as default. (setup/user/defaults/effect defaults). This setting applies to the effect pool. In the special effect dialog and in the programmer this applies only if the effect form was selected first. The factory default is set to "relative" In sheets, a "R" or "A" in front of the Form ID in the Effect Layer Form indicates whether the effect is relative "R" or absolute "A"
- New Button in Effect menu: "value readout" with the options "low/high" and "center/size" Note: The former "value1" and "value2" are renamed to "low" and "high" (which seems to be more intuitive)
- Effect form calculator has new options: remove: Store a "remove"-value to a cue: The option will remove earlier stored effect forms release: Store a "release"-value to a cue: The option will release earlier stored effect forms in this cue stomp: Store the "stomp"-value to a cue: All effects will be suppressed (applies to ALL! executors).
- New options for the effect phase calculator "0 thru 360", "0 thru -360", The "0 thru -360" can be used to change the direction of the pattern. This is necessary, as a sinus function, for example, will be executed mathematically correct from left to right per fixture. Nevertheless the resulting pattern on stage will look like a moving pattern from right to left, if the Phase is set to "0 thru 360". Changing the phase to "0 thru -360" will change the pattern direction to from left to right. (Same as grandMA series 1)
- The attribute-encoder-linking (Link Single, Link Feature...) which is part of the General Encoderbar works now also for Low and High effect layers. Note: The attribute filter opens automatically if "Link defined" or "link defined active" is selected
- New commandline syntax: "IfOutput Effect X" will select all fixtures currently running Effect X "IfOutput Effect" will select all fixtures currently running any Effect. An additional "If Executor x", "If Sequence x" or "if Sequence x cue y" afterwards will filter the selection so that only fixtures used by this executor, Sequence or Cue and currently running an effect will be selected
- Pool playbacks: It is possible to start sequences, selective effects directly from a pool without assigning them to an executor.
  - Press **Go+** and then the wanted item in the pool. This will create a pool playback. This will behave as if the items had been assigned to an executor.
  - The hardkeys **Go+**, **Go-**, **Goto**, **Top**, **>>>** etc can also be used together with a running pool playback icon. Hitting the hardkey and afterwards the pool item will execute the chosen command.
  - Optional effect and sequence pools can be set to pool playback mode. The first touch of a pool object will start the pool playback of that object and will switch the icon to a mini executor icon with the same functionality as the mini executor icon has in the mini executor view above the executors.
  - With the option "direct action", every touch of a pool object will then execute the default single button executor assignment command (e.g. Go, Toggle, ...) on that item.
  - Pushing the assign hardkey and a running pool object afterwards will open the assign menu options to set the pool playback options for that effect, sequence or chaser.
  - Pool playbacks can be switched off using the **Off** hardkey and touching the pool item or using the **Off menu** (hit the off hardkey twice to enter the off menu)
  - With the new button "remember settings" in the **Assign menu** headline, it is possible to set the pool playback options for an effect, sequence or chase to the current settings of the same item assigned to a real executor.

- his item is also listed in the off menu with the executor number 0.x.y. The first digit identifies the user (for pool playbacks: 0, in normal cases: 1). The second digit either identifies the network slot for pool playbacks, (exception: As a standalone console has no network slot the 2nd digit is set to 1), or the executor page in case of standard playbacks. For pool playbacks the third digit will be automatically assigned in the order of the call. For normal playbacks it represents the number of the executor. It is also possible to recall pool playbacks via the option "pool playback" from either the effect, bitmap effect or sequence pool. These sequences can also be manually switched off, paused, go+ or even updated from the programmer (e.g. Inside a sequence pool: Press the hard-key "top" followed by a sequence in the pool will go to the first cue in that sequence). Each additional press on sequence e.g. will perform a "Go+" by default. Any other operational instruction can be added together with a pool entry, just as with a regular executor.
- Only one pool playback per Effect X / Sequence X is allowed. Pool playback effects, or effects assigned directly to an executor are coloured in dark pink in the fixture / channel sheet. Pool playback effects, or effects assigned directly to an executor have a higher priority than sequence executors.
- Effects and chasers assigned to executors or started as pool playbacks use the default or individual On/Off timings [not working properly as of 2.3.0.3]
- New layout view option: "Pool Playback". If "pool playback" and "fast call" is activated in the Layout View Options, presets will be fast called; sequences and effects will create a pool playback.
- All sheets have new dynamic markers:
  - Red = the value is active in the programmer (as before) (not available in tracking and content sheet).
  - White = the value is in the programmer (as before) (not available in tracking and content sheet)
  - Yellow = the value is called from a cue. Green = the individual fade time for a value is active in the programmer (as before).
  - Orange = the individual delay time for a value is active in the programmer (as before). Cyan = the value comes from a preset (as before).
  - Magenta = an effect is in use (channel and fixture sheet)/is stored (tracking and content sheet)
  - Magenta + red on the right side = the effect is active in the programmer (not available in tracking and content sheet).
  - Magenta + white on the right side = the effect is in the programmer (not available in tracking and content sheet).
  - Magenta + red + green = an individual fade time for the effect is active in the programmer.
  - Magenta + red + orange = an individual delay time for the effect is active in the programmer.
  - Grey = a profile is in use (as before)/(not available in tracking and content sheet). (only displayed in output layer - DMX)
  - Dark blue = The attribute is parked (as before)/(not available in tracking and content sheet). (only displayed in output layer - DMX.) Additionally: A small line marker means: This is a tracked value/effect A half width effect marker means: This is a stomp effect. Redesign of Programmer Encoderbar
- Sheets have a new layer control bar. The layers are now sorted in 3 general groups: "value layer", "effect layer" and "output layer". Channel and fixture sheets have additional output layers: "effect executor id", "effect seq. id" and "DMX". Channel and fixture sheets have additional effect layer: "fade", "delay", "attack" and "decay". Note 1: the DMX layer shows also values altered by a profile (with an grey marker), and parked values (with an blue marker). Note 2: DMX values generated in the DMX-tester are displayed with a white background.
- The layer in fixture and channel sheets have new dynamic markers: Red marker in value layer/effect layer = there is an active programmer value in the corresponding layer. White marker in value layer/effect layer = there is a programmer value in the corresponding layer. Blue marker in the output layers = an attribute is parked.
- The layer in the tracking sheet has new markers: The value layer shows a yellow marker, when at least one value in the whole sequence was stored. The effect layer shows a magenta marker, when at least one effect in the whole sequence was stored.
- The layers in the content sheet have new markers: The value layer shows a yellow marker, when at least one value in the displayed cue was stored. The effect layer shows a magenta marker, when at least one effect in the displayed cue was stored.
- The touchbuttons in the middle line of the encoder toolbar (align/activation/attribute) or in the store encoder toolbar (progr/selection/ask) are in swipe button style now. Keeping the touchbutton pressed, swipe the finger upwards. The pop-up opens to allow selections. The popup menu will also open by a long press.
- Fade and delay times can be stored without values in cues if values already exist. Note 1: It is not allowed to store only a fade or delay time in an empty cue (a cue without values). Note 2: When you delete a value, the individual fade and delay timing will be deleted, too. Note 3: An effect uses a value-fade or value-delay only if a value is stored in this cue, too.
- "Trigger is GO" as Executor Playback Option added. Pressing this key will switch on "Trigger is GO". The Sequence/Chaser can only be controlled by the GO button and will ignore Follow and Trigger times.
- New button in the headline of sequence sheet, content sheet and tracking sheet: "Link encoders". Touching the sheet will only open sequence playback encoderbar when this option is activated.
- 3 new Filter options for the "At" filter: "Values", "Value times" and "Effects". These buttons are specifying what will be used for "At" command.
- New colors in the channel and fixture sheets when working in the network: The values from playbacks controlled by another user are displayed in grey colors. Executor IDs and Value IDs are displayed by using the cue colors for background.
- The executor sequence sheet has a new option in the "mode" column: "release". A cue with the "release" option switches the executor off when its cue time is completed. Note: "release" uses also the "executor off timing".
- Better workflow with parts: The command "store part x" stores a partcue in the actual cue of the selected sequence. The command "store cue x part y" needs only one press to the button "cue" after the first "cue" press.
- New Function: "Single digit value". (setup/user/settings) as it used to be in grandMA Series1. All numeric cue value inputs below ten will be multiplied by 10
- The command: "channel x at y time z" brings the value "y" with the timing "z" live on stage and into the programmer) if the "program time" is switch on. Note: The program timing will be overwritten.
- New Syntax: "At Remote 3" activates the current selection to the incoming values of the Remote-DMX-In Type Programmer in order to create a kind of snapshot.
- DMX sheet: New buttons "link encoders" and "release all" in the headline. When the button "link encoders" is active, every touch in the DMX sheet, opens the DMX-tester encoder bar. A double click in the DMX sheet brings this address in the DMX-tester. The new "release all" button has the same function, as the button in the DMX-tester.
- Auto shutdown popup (when power is lost with grandMA2 light or full-size only) has a new button "continue for 120 seconds". If you choose this option, the popup reappears after 120 seconds.
- Setup/patch & fixture schedule: Diagnostic report is now sorted by errors and warnings.
- When saving big showfiles, the compression of the Showdata will be done in the background. During this process the backup button will be blinking and there is a new progressbar indicating, while one can continue to work.
- Console supports external touchscreens (input-device-technologies only (e.g. APR-Technology from ELO is not supported by now)). External Touchscreens need to be connected before powering up the console (no plug & play). On first usage the operator needs to assign and calibrate the touchscreens (setup/console/screen options). The correct order: 1. If not detected automatically, the operator needs to set up the desired screen resolution. 2. Pushing the button "assign left touchscreen" displays an identification bar on the screen the console supposed to be the left one. The operator needs to touch this screen within the time frame indicated by the identification bar. 3. Same procedure is required for the right touchscreen. Known Limitation: After a software update, the external touchscreens have to be reassigned and recalibrated.
- 3D default camera (grandMA 3D can follow it) can be changed via commandline: e.g: change default camera of the first userprofile to the first camera: cd 31 (userprofiles) cd 1 (user default) Assign 16 /DefaultCamera=1
- 3D camera of stageview is fully controllable from the commandline: e.g. set position, rotation and zoom (fov) of the first camera of the first userprofile: cd 31 cd 1 cd 16 Assign  
1 /X=1.27 /Y=-4.32 /Z=3.93 /Rot.X=-21.41 /Rot.Y=0.0 /Rot.Z=22.58 /FOV=0.79
- New columns and colors in MA network configuration: The column "name" shows the device-name. The column "memory" shows the complete and free memory of the devices. The color green shows that a network party is a session member. The color grey shows that a network party is present in network, but in no session. The color red shows that a network party is member of another session, when a version number is visible, or is not available in network, when no version number is visible.

- The off menu (off off) now displays from which user profile an executor or an effect had been started, i.e., from which the latest go had been given. The new button "show only my playbacks" filters all running executors from other users. With this option activated, all other buttons in this menu will only affect the playbacks of the current user. Playbacks with coloured background belong to the current user. Playbacks with black background belong to other users.
- New option in the update sheet: "Executor called by me" Note: Filters the "cue Destinations"-display for Executors latest touched by me.
- Timecode record has now a user selective mode. (setup/show/playback + MIB timing) Note: When "timecode record single user" is turned to "on" the executor playbacks will be recorded only from the user who switch the record button on.
- New fade option for executors: the commandline entry "Executor 1 At 50 Fade 5" will fade the executor 1 to 50% in 5 seconds.
- Export/Import of effects includes the forms, used by these effects.
- Export function for user Command syntax: Export user <range> <file\_name> <please> <range> - can be: [Number]; [Number\_first] Thru [Number\_Last];
- Import function for user. Command syntax: Import <file\_name> at user <Number>
- Export/import function for userprofile Example: Export Userprofile 5 "filename" Export Userprofile "Tom" "filename" Import "filename" at Userprofile 2
- Export/import function for layout Export Layout 10 "filename" Import "filename" at layout 10
- Export/import function for executor and page Export page 5 "filename" Import "filename" at page 7
- Export/import function for presets Export preset 2.13 "filename" Import "filename" at preset 2.15
- 16 special Rate masters added.
- A warning appears when one tries to delete a profile which is in use.
- Store options gets new button: "Store Filter". Press and hold the store button to enter the store options. A new button "filter" appears in the top right corner of the frame. This allows filtering to be used when storing items (presets, features, attributes, effect times and effect values). Works similar to the AT-filter.



"Clear all" reset this filter except you save the entries as default.



The store filter also affects the update function. If you deactivate the effect layers in the store filter, you will not be able to update effect layers either.

- Store bar has new filter buttons for fast access to the most important store filter options Pushing the "Store Filter" button will open the store filter at screen 1 The store filter button is highlighted, if the filter is set to anything else than all. The button "values", "value times" and "effects" have the same functionality as the have inside the store filter. They define whether values, timing and/or effects will be stored.
- Store command. There are new options in command line: "store /source=<source type>". Source type could be: "prog", "output" or "dmxin" "store /useselection=<selection type>". (Short name: "/use" ) Selection type could be: "active", "Allforselected", "Activeforselected", or "all". "store /values" means that only values will be stored. (Short name "/v" ) "store /valuetimes" means that only value times will be stored. (Short name "/t" ) "store /effects" means that only effects will be stored. (Short name "/ef" ) If in the command line several command filter options are used (/values, /valuetimes /effects) then they will be mixed. e.g. "store /v /ef" means that value and effect data will be stored. Note: The option "/filter" got renamed to "/presetfilter" (short name "/pf" )
- New ways to toggle activation of channels, fixtures, or groups individually. Double press on group button toggles attribute activation of grouped fixtures in programmer Commandline: Entering [Channel]/[Fixture]/[Group] [1] [Please] twice toggles activation of Channel/Fixture/Group 1
- New keyword: DmxUniverse (push the "channel" button 3x) Syntax: Park DmxUniverse 5 Unpark DmxUniverse 5
- Groupmaster Overview can be accessed using a longpress of the Group hardkey. The group masters can be selectively, depending on their kind (positive, negative, additive) set to 0 or 100. Inside the overview every group master can be changed individually. Pressing on the headline of a group master makes the executor page jump to where the group master is assigned. The group master overview can also be assigned as a view (create basic window / other).
- Setup / Show / Patch & Fixture Schedule: Fixture Wizard will auto open every time a new layer is generated.
- MIB Indicator (\*) is back.
- Autosave function has been changed: Autosave only saves the showfile at a defined interval, if the showfile has been changed since the last saved showfile version.
- If the focus is at the patch column it is possible to use the numeric pad for editing.
- If a macro line can be executed by "go" it can be executed reversely by "go-".
- New command line help function lists command combinations e.g. "store /?" lists all command combinations for the store command in the command line. Additional examples: "copy /?" "delete /?" "assign /?" "loadshow /?"
- If the option "fixture sort" is activated and there are more fixtures selected than visible in the fixture sheet, stepping through the selection using "next" or "previous" will scroll the fixture sheet to have the current selection visible at the screen.
- Many menus can be called directly via commandline or macro. Example: "menu >" "menu name"<" will toggle the called menu "menu >status< >" "menu\_name"<" will set the menu to the specified status, status could be: "on", "off" or "toggle". The command "menu /?" list the current menu list names. Example: the command " menu "groupmaster" " switches the group master overview on and off.
- The Layout view shows dimmer values of the selected sequence in cue colors.
- Stage View: Fixtures can be deselected using the minus("-")- hardkey and touch the fixture to be deselected in the stage view.
- The selected sequence section at screen 2 shows the executor page of the selected executor.
- A light-blue number in the sequence pool shows the number of executors using this sequence.
- A button in the Smart View is marked with an "m" (=merged), if more than one fixturetype has a Channelset with that name.

### Fixed Bugs and improved functionality

- User passwords will be hidden while typed in.
- User passwords are case sensitive now. Administrator password is "admin"
- MIB will not be executed, if dimmer values >0 or dimmer effects are running formerly only dimmer values prevented MIB
- Setup Full Access: Fixture sort by number has been fixed.
- Sequence Flash Button is not overwriting an assigned Playback Master anymore.
- DMX Tester -> Park and UnPark Current have been changed to Park and Unpark Selection of DMX Tester.
- Calculator buttons "Half" and "Double" multiply correctly if more than one fixture is selected
- Two commands have received a new Shortcut: s - store ; sh - Shutdown;
- When a channel has a default value >0, htp cues work correct now.
- Edit timecodebar does not crash the desk anymore
- It's forbidden (and the console prevents it now) to make changes in "live access", while another desk in the session is in state "full access" already. (Before: the "live access" desk crashed when the "full access" desk leaves the "full access" state with "save")
- Deleting the last cue of a sequence with the Delete button from the keyboard in edit sequence does not crash the desk anymore
- External desk inputs (DMX/midi remotes) will still operate even when the desk is locked.
- Store/Merge for a range of cues is working again even when the cue range is not linear. (1,3,4,7,9..)
- Off time for executors is working now correctly with follow cues.
- Moving a chaser doesn't reset direction and loop settings to default anymore.
- Content Distribution will not crash the console anymore if the user presses Oops after the distribution took place.
- 50% values (127:128) lock into the one (127) or the other state (128) and do not jump anymore for long cue fadetimes.

- When moving a cue to a new cue list position located between two other cues, and Oops this action, will no longer result to a confusion of the numbering of the cue list.
- The command fixture at fixture considers now also effect values which are coming from an effect executor.
- Colors in Preset pool: When a preset has a fade or delay timing additional to a value, the value is displayed now with a yellow marker. (before it was red).
- Agenda: Entries in the week view are back.
- NPU: Workload representation has now a 100% grid.
- Playback bar: State of playback buttons in the playback bar is now correct.
- Stageview and grandMA 3D support 4 color wheels (before 2)
- Timecode show: after deleting a cue the referring event is assigned to "No Cue".
- Partial showread evaluates about wheels and mode dependencies.
- The "off timing" (setup/show/playback + MIB timing) works now also with the function "toggle" for executors.
- OffOnOverwritten is no longer recorded as "off-event" in timecode shows.
- Bug fixed: HTP-Cue at executor with values below default value increased the output value
- Selection of a bigger number of fixtures in the Layout view does not crash the desk any more.
- PWM Effect: No more "blips" if effect was running in reverse mode.
- FTP Access to grandMA1 folder at grandMA2 hardware has been fixed.
- Delete an All Preset in the Layout View using GUI has been fixed.
- Store with Source DMX-In stores the virtual dimmer with 100% as soon as one of the related CMY-channels is stored with a value >0.
- It is not allowed any more to patch Multi Instance fixtures across DMX universe borders.
- Patch Dialog is not auto closed anymore before all fixtures are patched.
- Patch Dialog: Pressing the screen encoder or please opens the calculator.
- Renaming a fixture will automatically reset the related subfixture names.
- The "Use Value" Section got renamed to "Use selection".
- When a timecode sequence is recorded, only manual key presses and fader moves are stored. A "release" in the mode option of a cue is not handled as a recorded event any more. The same is true now for manual set release times of executors (the release will be no longer recorded).
- Fixture library has been updated to Carallon Version 7.3
- Auto generated groups are broadcasted correctly to all session members.
- MIB and AE (assert effect) are not usable with non-tracking sequences and are deactivated for this sequences in the executor sheet.
- Content Sheet: Size of the name and the number column can be stored in views.
- Status views can be assigned with different font sizes at the same time.
- Scrolling fast through the desk help files is not crashing the desk any more.
- Merging setups using Partial Show Read Initialize is still possible.
- Backup menu: Load "userprofiles" from a showfile, overwrites the existing user and all userprofiles. Note: A normal "load show data" without userprofiles, merges userprofiles. Notes regarding the NEW Effect-handling:

### Bugfix Release 2.3.1.1

released 2011-07-27

- It is possible to enter fade and delay times in seconds, minutes and hours with the calculator.
- Groupmasters can be set with fade time. Example: Executor 1 is a Groupmaster. CMD: Executor 1 at 100 Fade 5 will bring executor 1 to 100% in 5 seconds
- Deactivate button is back in the calculator.
- Console help search function has been improved
- Speed- and Ratemaster can be paused.
- Improved renumbering for copying cues, cues with negative range will get a step width +1 if possible. Example: copy cue 5+3 at cue 7 will copy cue 5 at cue 7 and cue 3 at cue 8 (if cue 8 does not exist)
- Sequence assign menu speed factor setting has been fixed
- Release values can be set to normal values using the encoders again.
- Moving or deleting an executor will not start other executors any more.
- Groupmaster overview shows also names of single fixture groups now.
- Crash fixed when entering the Agenda option menu
- At filter popup will not close any more, if another user is using a grandMA remote.
- Pools don't lose keyboard focus any more after labeling pool objects
- It is possible to oops while in setup/live or full access
- improved programmer update function, when editing effect templates
- Crash fixed, when moving or copying cues and oopsing this afterwards.
- Using update or store /merge will not start effects stored in later cues in the current cue any more.
- Analog, Midi and DMX Remote for button executors can be used at any page, not just current page again.
- When adding lines in the DMX-In Remote view, the screen will not jump to the first row any more.
- Users with Userrights "Preset" or "Playback" are not allowed to overwrite existing effects or macros, when importing new ones.
- It is possible to use the command "Extract Effect x" for selective effects and effect templates now
- Switching of Effect Pool Playbacks will respect the exec time.
- When assigning a selective effect to an executor, the effect will use the default off-time.
- If you want to set a individual off time for that executor, please use the effect playback bar.
- As it is not possible to start effect templates as pool playback, they are darkened, when effect pool is switched to playback mode.
- Oops is possible for Highlight and Default Presets as well.
- Improved conversion of Showfiles, stored with version 2.2.0.13 and earlier.
  - Effects from showfiles, stored with version 2.2.0.13 or earlier will be converted to run the same direction as when they have been stored in the previous version.
  - Release Values and Effects will be converted correctly.
  - Tracking Sheet views with activated AutoScroll converted from older showfiles will autoscroll again.

### Appendix



 How to use 'Speed' and 'Rate' in Sequences 1. All cue fade times can be modified in relation to their programmed timings (faster if rate > 1, slower if rate < 1) by using a rate fader assigned to a sequence executor or the rate encoder of the sequence playback bar. If the option "Effect Speed" in the assign menu is enabled, the rate fader modifies the speed of effects stored in cues, too. When turning off the executor the rate fader switches back to its default value (1:1), allowing setting up a new rate value before turning the executor back on again. 2. A speed fader assigned to a sequence executor relates only to the speed of the effects stored in this cue. When a sequence executor is carried out as a chaser the speed fader also controls the speed of the chaser. When turning off the executor of a sequence the speed fader switches back to its default value (60BPM/1Hz/1sec). When a sequence executor is carried out as a chaser the speed fader doesn't switch back to default. 3. Consequently: When a rate fader and a speed fader is assigned to a sequence executor the rate fader controls the fade times between cues while the speed fader is in charge for the effects (Provided the option "Effect speed" inside the assign menu is turned off). 4. There's no difference when assigning rate master and speed master instead of individual rate and speed faders beside the exception that they won't reset to default when switching of the executors. Notes regarding the removing of layers and attributes in cues.

 The command "store /remove" or pressing [store][cue][2] and the select [remove] in the popup will remove the whole attribute with all (!!) its layers for fixtures having any value or effect layer of this attribute active in programmer. It can be filtered to only remove values, value timings or effects by using the buttons in the stored encoder bar. To remove only specific layers, for example only individual effect fade, the operator needs to open the calculator for these layers and select "remove" in the calculator. Afterwards the operator needs to update the cue, or has to use store /merge to remove the specific layers.

 **Known Limitations**

- Partial Show Read has been disabled in the current version. Merging setups using Partial Show Read Initialize is still possible.
- It is not possible to store or update an selective effect at a cue with an already stored stomp.

**Workaround:**

- The stomp has to be removed from the cue first.
- Then it is possible to store or update an selective effect at that cue.

- Showfile Conversion from Version 2.2 and earlier: The speed of an selective effect, stored in a cue, will not be brought correct into programmer, if the cue gets edited and the default speed of the effect in the pool is not 60 BMP.



## Topic: Release Notes v2.2

### New functions and features in detail:

- New help functions: Search function added in help view. (Magnifying Glass) Pushing and holding the "help" hardkey while pushing another hardkey, brings up information about this key. Pushing the "help" hardkey, pushing another hardkey and completing with "please", brings up a help about the keyword. (for "edit" or "store", the command must be written in the commandline).
- Server backup: The desk automatically creates a folder structure (similar to the one which would be created when using a USB stick) when using the backup option "ftp / windows shared folder", (gma2 / shows... macros...) for the first time. Note: The first show which is saved, after a backup server is configured, creates the folder "gma2/shows"
- Backup menu: Loading only "userprofiles" (without data) from a showfile overwrites the existing user and all userprofiles. Note: A normal "load show data" without userprofiles, adds user and userprofiles.
- Backup menu: In the option "delete show(s)" it is now possible to select several lines by using a lasso.
- New button assignment and defaults for special master. New functions "halfspeed" and "doublespeed" for speedfader added.
- New representation in mini executor sheet, when a sequence has only one cue.
- The "mini executor sheets" (above the executor fader) have an indicator in the small fader bar, when a "playback master" is assigned.
- "Setup / show / midi show control" menu has a "msc in monitor" field for incoming msc commands.
- MSC (midi show control) supports now also "flash" and "black" button presses.
- Added hardkey support for keyword "Call": Push 2x "on"
- "call cue x" for a nontracking sequence loads actual content of (selected sequence) Cue x into the programmer and activates these values. "call cue x" for a tracking sequence loads tracking values of (selected sequence) Cue x into the programmer (as non-active values) and loads actual content of Cue x into programmer and activates these values. Note: "call thru x" loads the status of cue x in the active programmer.
- Speed master has now a status LED.
- The speedmaster status is now stored in showfile.
- Sequence executors have now "halfspeed" and "double speed" buttons. Note: They are working synchronized to the rate.
- Better workflow when using "at filter": target - source - filter. e.g. "fixture 2 at fixture 1", then long press of "at", choose filter, "please".
- The DMX tester has a new "unpark" button.
- The command "shutdown" has now the options: "Save", "Don't save" and "Esc."
- Edit an embedded preset now shows the original preset name/number in the fixture sheet.
- Random function in effects improved.
- Sequence executor sheet: Set a time in the column "trig time" switches the trigger automatically from "go" to "time".
- Bitmap Effects support 32bit BMP -files.
- The command "delete sequence x" deletes only fixtures of the current world in this sequence. If the current world includes all fixtures which are stored in this sequence, the whole sequence will be deleted. (same as before).
- The command "assign time" "please" (without values) assigns the default time (Setup/User/Defaults/Sequence defaults) to the current cue of the selected sequence.
- "program time" and "exec time" assigned to a executor fader, shows the function (with an indicator) in mini executor sheet.
- "Oops" now works for "park", "unpark" and "import"
- Content sheet in "manual" mode has a new focus: Touch in the grid, the scroll-encoder scrolls inside the shown cue. Touch in the titlebar, the scroll-encoder scrolls inside the cuelist.
- The 100mm faders have a new option "empty".
- Typing the command "label" before doing a lasso selection in the channel sheet allows to label all selected channel names in one go.
- MSC - Cue commands having less than three digits had been ignored - no longer!
- Tracking sheet: The width of the "number" + "name" columns is now stored in views.
- Setup: The "user" tap redraws, when changing the user via the commandline.
- Assign menu: The "empty" field works now.
- DMX-Tester selection is now cleared on show-load, new-show, and show-download.
- CMDHELP filter operates again. E.g. "cmdhelp c\*" shows all commands starting with "c".

- "CMD link" in cues works now when executor started with a "flash" or "temp" button, too.
- In the tracking sheet the height of rows adapt to the font size.
- Desk light status is now loaded from showfile. (setup / console / local settings)
- Follow Cues, timed cues, or chaser overwrite now also contained values in the programmer, when "freeze" is off. Note: Before only the first cue did overwrite programmer values
- "edit preset x.y" / "update", destroyed the preset filter and the embedded mode - no longer.
- Export of large Cuelists doesn't crash the desk anymore.
- The "special master"s 1 thru 8 are displayed in green. Note: They apply only to the "selected sequence".
- A sequence on an executor fader can now be started with a X-fader, even the x-fader is up (on 100).
- Delete a running sequence / chaser with a opened edit view will not crash the desk anymore.
- When deleting showfiles from a usb drive, the drive is synchronized immediately.
- "edit executor x", the focus of the edit popup view is now in the actual cue, and can be changed directly with the encoder.
- The command "assign view 1 thru 5 viewbutton 11.1 thru" works correctly.
- Delete the selected sequence and store a new cue on the same executor, the selection is no longer lost.
- You can't delete channel faders which are not in your world no more.
- An executor "temp or flash button" does not switch off another executor, when "off on overwritten" is switched on. e.g.: Now you can assign the same sequence on the executor 1 (cues with colors) and executor 111 with a flash button.
- The desk has now only one single ftp access: User=data, password=data. No access to the /root anymore (user "root" will be no longer supported)
- "Copy cue only" works when the target cue does not exist.
- The magenta colour frame is displayed correctly now, when a jumping by "go-" into a looped cue.
- Pushing the "flash" button on a channel fader shows the output value now in the mini executor window (above the fader)
- The "load" and "goto" popups can be operated with the numeric keys.
- The replay unit (RPU) displays the preset types in the encoder tool bar now.
- Fixtures with virtual dimmer display the correct values in the Stage View (and 3D), when working in edit blind programmer
- Park / unpark and a lasso in the channel sheet is working again.
- The keyword "color" is switched to "gel". (press the hardkey "preset" 3x) - b.t.w the respective functionality does not exist by now
- The command "assign selection channel fader 1" is working now.
- The command "store cue 1 /m" and push an executor hardkey, works now.
- Moving a fixed executor moves now also the fix status.
- A virtual channel has now the "virtual dmx range" 0-255 (before 0-1). All channel functions and channel settings can be created/edited related to that range. (MIB works now for fixtures with virtual dimmer.)
- Import keyword using in the commandline: if "bla-xml" contains two macros the command import "bla" at macro 10 will import these two macros to macro 10 and macro 11. If macro 11 already exists the user will be asked whether to overwrite it. (To prevent overwrite by mistake.) import "bla" at macro 15+20 will import the macros to 15 and 20. "import" shows some info in the commandline. Parameter "/noconfirm" skips overwrite warning. Parameter "/quiet" disables the extra info in the commandline
- New Features, attributes and subattributes will be inserted at a better position (before they were always added at the end). E.g. if "gobo1" and "gobo3" exists, "gobo2" will be created in-between. Or if the attribute "movingpath->translation-y" exists, "translation-x" will be inserted before; "translation-z" will be added after. This belongs to manual creation of these objects and to the import of fixture types, too.

#### Known bugs and limitations:

- Remote configuration of 2Port Nodes via grandMA2 is shown right in the display of the nodes, but do not change the real output online. After resetting the nodes (disconnect/connect mains) everything is working fine.
- Fixture Types with more than 2 Mode channels may not work



### Topic: Release Notes v2.1

- \* Means something was changed/fixed.
- + Means something was added.
- Means something was removed.

#### Version 2.1.0.6 released 2010-11-30

##### MAIN FEATURE OVERVIEW:

- + grandMA2 iPod/iPad Remote
- + Partial show read
- + DMX Tester
- + Full VPU configuration
- + RDM
- + ArtNet in / new protocols

##### IN DETAIL:

- + Remote for i-pod is implemented. Remote must be enabled in the setup. (setup/console/global settings)

Note: It is not allowed to login as administrator or as guest. Remote needs a own user / userprofile. Max. two remotes are permitted to connect with a desk. <http://itunes.apple.com/app/grandma2-remote/id403226319?mt=8>

- + Implementation of Partial show read (PSR).

1. Use the "partial showread initialize" dialog. (backup menu)
2. In the view "partial show read prepare" a wizard helps you to select. Attn. Your setup might be changed.
3. Inside the "partial show read" a "PSR tree" dialog will show to help to merge or overwrite new parts to the existing show.

Note1: PSR follows the current world

Note2: When a sequence which contains effects based on presets is the source, then PSR imports sequence, effects, presets simultaneously

Note3: The current implementation doesn't work with user profiles.

PSR Syntax for commandline:

"PSRLIST Sequence" ( shows all available/changed sequences of the showfile which should be inserted )

"PSRPrepare [filename] [/usemine]" (uses the current setup).

or "PSRPrepare [filename] [/mergeother]" (merge with the new setup).

or "PSRPrepare [filename] [/useother]" (overwrites the current setup and uses only the new setup).

Shortcuts are:

[/usemine] = [/um]

[/mergeother]" = [/mo]

[/useother] = [/uo]

"PSR seq x" ( eg. x=1 ; PSR on the sequence )

"PSR seq x if channel y thru z" (PSR on seq with filtered "if")

+ "DMX tester" is implemented (Direct access to DMX values).

A click into the dmx sheet, or double click on the channel button (DMX) opens a new encoder toolbar.

Note1: The values from the DMX tester are identified by a blinking white square.

Note2: The priority of the DMX tester output is higher than all other values, even parked. Exception: In case of DMX-in / Artnet-in values they'll be only overwritten HTP-wise.

+ The dmx-sheet can be used interactive with the commands park, unpark, off. e.g. "park" and touch on a Address in the dmx view. (park this channel)

e.g. "assign channel x" and touch on a Address in the dmx view. (patched this channel)

+ VPU content distribution is implemented. (setup/network/ma network configuration/video).

+ VPU backup manager implemented. (setup/network/ma network configuration/video).

+ Full VPU configuration from desk. (setup/network/ma network configuration/video). (Display, sdi, pixelmapper, main settings, ...)

+ RDM found its first implementation (setup/show/patch&fixture schedule/RDM devices)

RDM must be enabled in the setup. (setup/console/global settings)

"update" displays the basic informations from the RDM devices over all DMX outputs connected to your grandMA2 or MA NPU.

Note1: RDM is disabled by default everytime when loading a show.

Note2: The RDM information are only visible on the session Master (or a standalone desk).

A better GUI, Error checks and more device information will be provided in later software versions.

**WARNING:** Please disable RDM if you experience strange behaviour of attached DMX devices (like fixtures, etc.). Some of those doesn't have the compliant DMX implementation and will corrupt the whole DMX output.

+ Artnet-in is implemented (setup/network/dmx protocols/artnet)

Artnet can be setup in a more detailed way (multiple rows)

Notes: In the column "mode" you can switch between input and output. Every MA universe can be assigned only to one artnet universe. The column "Valid" indicates that the settings are correct. On the right side, you can switch the input and output active.

+ All network protocols are send from the master in a network session only. When there is no slave in the session, the "Network DmxOut if alone" button must be switch on, to send out the protocols. This option is stored for every desk. You'll find it in the setup/console/local settings. (a red frame = protocols are not send, a green frame = send)

+ Pathport OUT protocol is implemented (setup/network/dmx protocols/pathport)

+ KINET-1 network protocol is implemented. (setup/network/dmx protocols/KINET1)

Note: It is used by Philips Color Kinetics.

+ Enhanced EXPORT / IMPORT - functionality

Deep changes in the way Export and Import is performed are done.

The following parts of a Showfile can be exported: Macros, Colors, Effects, Fixture Types, Layers, Fixtures, Subfixtures, Sequences, Cues.

More parts will follow in further releases.

For those who can handle xslt-files you'll find first templates for stylesheets in the "styles"-folder.

When exporting any of above mentioned parts to an USB-stick one of the following folders will be added: "macros"; "library"; "effects"; "colors" importexport (all the rest).

In case a fitting stylesheet exists (on the USBStick or inside the desk) additionally a folder called "styles" will be created inside the existing folder importexport In order to display the output the usage of a standard web browser is required (tested on Internet Explorer and Firefox) The browser will automatically use the stylesheet named in the exported XML-file.

Using this feature it is possible to create a customized "documentation" following definable rules by editing the template stylesheet.

+ Backup over external server is implemented: (Backup menu, bottom left).



The backup can be performed from the master console only. It's possible to backup on USBstick, internal Harddrive or (when configured) on an external server.

In case an external server is configured every backup on every medium will additionally create a backup on this server. From "YourServer"-Tab it is only possible to load show files.

- + Executor Pages Pool displays the current Fader and Button Pages, shown "F" or "B"
- + Cuepartnames are possible.
- + Presettypes in the encoder toolbar show an indication which presettype a selected fixture has.
- + The feature Field in the encoder toolbar is reduced to accessible features (filtered by fixtures). e.g. a LED shows only "colormix", a moving light shows "color1", "color2" and "colormix".
- + Midi show controll: Midi Input is active, if Network is selected.
- + grandMA 3D: new column in materials grid: "Owner Name" (shows the name of the 3d object that owns it).
- + New (empty) shows contain always the fixture type "Dimmer 8Bit".
- + Widgets can show context sensitive help.

Press "Help" (or type "help" into the commandline) and click in the title of a window. -> help opens a page explaining that window. (this works also on the bars at bottom of several sheets).

- + 4-port nodes support dmx-in on xlr-3 and xlr-4 now.
- + Playback masters are assignable. (Executor assign menu)
- + Highlight Mini Executor by Fader touch
- + Recursive Macros can be interrupted ("OFF + MACRO" stopps all macro execution including cue links and startup macros)
- + Switch off a desk brings a popup "save" / "don't save" showfile.
- + In the calculator it is possible to work with open alignings, e.g. "1 thru"
- + Store output works also for paused cue fades or effects now.
- + COLORDIM channels are real light emitter channels now. (stage view and 3d). They are active light sources of the fixture - equal to a "DIM" channel.

"COLORDIM1" = red = RGB red

"COLORDIM2" = green = RGB green

"COLORDIM3" = blue = RGB blue

"COLORDIM4" = amber

"COLORDIM5" = white

"COLORDIM6" = warm white

"COLORDIM7" = cool white

"COLORDIM8" = orange

"COLORDIM9" = red orange

"COLORDIM10" = purple

"COLORDIM11" = indigo

"COLORDIM12" = cyan

"COLORDIM13" = magenta

"COLORDIM14" = yellow

"COLORDIM15" = uv

Note: Real (non-virtual) DIM channels are multiplied with the current output color. Other color channels are filters (subtractive color).

- + Layout View shows the dimmer bar for virtual dimmer.
- + "Master SpeedRate fader" are automatically labeled now.

Used by a sequence = rate

Used by a chaser = speed

- + New canbus version 1.33 (Individual LED dimming, for service purposes only)

\* The console settings in setup have been divided in "local settings" and "global settings".

Note: "local settings" are used only on the current desk, "global settings" are for all desks in a network session.

\* The actual World for a user is stored in the showfile. Load a showfile brings every user in his world. When a user leave the full access, all other user keep there world after the show download.

\* "Fixture sort" in channel or fixture sheet, shows now the right selection order. (no longer the physical order)

\* When a user leaves the session, only highlight and solo are deactivated, programmer values will remain.

\* Command and value columns inside the timecode-editor are editable via right click.

\* Macros asking for keyboard entries can be cancelled by pushing "ESC"

\* Number of Speed groups increased to 16

- \* MIB popup can now be used with the screen encoder.
- \* "Off effect 1 thru 10" repaired.
- \* Using "Load Cue" with a not existing cue number doesn't show that Cue number anymore (does actually nothing now).
- \* "Pause" works for effects in cues, when the option "effect speed" is switched on in the assign menü.
- \* "store /m group x" works now and merges without further demand.
- \* Remotes to executors uses the correct executor on the correct page again.
- \* When turning on the desk, the green LEDs indicating enabled executors are remembered again.
- \* The presettypes (eg."Position") above the encoders change their functionality no more, when selecting a presets from other presettypes (eg."Color").
- \* Screen 1/2 Navigation Encoder follow now all popup windows.
- \* Edit an empty macro pool object (blue Focus is on the line "new"), the first key press on keyboard opens a popup and is used as first letter for the command.
- \* A desk freezes no more when it is alone in the network with the screensaver on over long period.
- \* The special master "programmer time" is changed to the shorter name "program time" in new shows created with Ver. 2.1. and higher.
- \* Stage View and 3d: "Reset Camera" is repaired. \* grandMA 3D: Initialization of shows runs a lot of faster.
- \* "off effect" does now work for all fixtures which are running with this effect. (in version 2.0 this command does only work for the selected fixtures)
- \* Build an effect with the "special effect" menu, does not put a "width" value into the programmer anymore
- \* Store an effect in a cue with individual effect informations only (not from the effect pool) does work now.
- \* ASCII Profiles revised
- \* When cancelling a "session colisson dialog" with the "ESC" button, the desk leaves the session.
- \* Release tracking values (R) in tracking sheet, displayed darker now.
- \* It is no longer possible to change the sACN priority.
- \* Edit Fixture: By changing the attribute of a fixture module, the subattribute follows the change automatically, if...
  - the channel type has exactly ONE channel function
  - the existing channelfunction's subattribute is a default subattribute of the existing channeltype's attribute (default subattribute means, that the subattribute is the first child of its parent attribute)
- \* The command "park selection" works now. (as a new predefined macro available)
- \* Default values of COLORDIM channels will be set to 0, if the fixture has no dimmer channel.
- \* Layout View: Changing background color of a frame, the z-order is fixed now. Frames are always drawn behind fixtures. Change color to "transparent": Just rotate the color encoder counterclockwise. The color will turn to black and then to transparent.
- \* When 2 different users are working in the same world then changes given to this world by User A are displayed and updated also for User B.
- \* Fixture types in the setup are always displayed with a number at the beginning of their name and their mode (to distinguish similar fixture types).
- \* Updated fixture types and gobos from carallon lib 6.7
- \* New predefined macros. In all predefined macros, CLI = on.
- \* Sequence sheet: loop starts from the last cue, when trigger is "time" or "follow".
- \* Edit fixture types: The AutoCreate default for all channel sets inside channel function with the subattribute "DUMMY", "RESERVED", "NOFEATURE", "UNKNOWN", "MACROPART" is "False" (no AutoCreate will be performed)
- \* Fixture Sheet: After disabling "feature sort" features will be sorted back to default.

#### Known bugs and limitations:

- Remote configuration of 2-Port Nodes via grandMA2 is shown right in the display of the nodes, but do not change the real output online. After resetting the nodes (disconnect/connect mains) everything is working fine.
- Fixture Types with more than 2 Mode channels may not work



### Topic: Release Notes v2.0

- \* Means something was changed/fixed.
- + Means something was added.
- Means something was removed.

**Version 2.0.0.6 (Bugfix) released 2010-10-19**

\* The presettypes (eg."Position") above the encoders change their functionality no more, when selecting a presets from other presettypes (eg."Color").

\* crash 'copy Layout inside a layout' removed

\* crash 'export effect from demo show' removed

\* crash 'move cue x at y from not selected sequence' removed

\* crash 'poolsize too small for giant shows' removed

\* this version automatically removes invalid doubled DMX-Remotes from folder

#### **Known bugs and limitations:**

- Remote configuration of 2-Port Nodes via grandMA2 is shown right in the display of the nodes, but do not change the real output online. After resetting the nodes (disconnect/connect mains) everything is working fine.

- Fixture Types with more than 2 Mode channels may not work

#### **Version 2.0.0 released 2010-09-01**

#### **IMPORTANT!!!!!!**

THE CURRENT VERSIONS OF OnPC AND 3D DEMAND MINIMUM WINDOWS XP WITH INSTALLED Service Pack 3 (THE LATEST VERSION OF Microsoft's .net Framework (4.0) WILL BE INSTALLED IF NOT EXISTING ON YOUR COMPUTER)

#### **IMPORTANT!!!!!!**

#### **MAIN FEATURE OVERVIEW:**

- + Layout
- + MATricks
- + Auto create
- + "fast call"
- + "Dynamic Channel Fader"
- + Tracking sheet options
- + MA network dimmer

#### **IN DETAIL:**

+ Layout pool and layout view are implemented (New hardkey combination: press "MA" + "group")

You can store a selection of channels or fixtures in the layout pool.

Pressing a layout pool button selects this layout.

This shows the layout directly in the layout view. (If the layout view is "link selected")

Note 1: "setup" opens the layout encoderbar. Hardkey "clear" deselects all objects when "setup" is turned on. It's possible to assign macros, preset, effects or groups onto a layout button ("assign macro x layout y"), or directly in the layout view. Assign presets in a layout is only possible via the commandline, because a command "assign preset x" will open directly the assign options. Right mouse button on an object assigns a text.

Note 2: Layout view options: "snap always" setting "no" can be temporarily disabled by pressing and turning the encoder button. ("setup" in layout view must switched on). Layout view options: "fast call" is a direct call for presets and effects.

Note 3: Hardkey "delete" and afterwards pressing onto a layout-object will delete this. via commandline: "delete layout 1 fixture x"

Note 4: Selection of multiple cha/fix via frame object possible

Note 5: Copying fixture positions from the stage view to the layout view: Store the fixtures in the layout, push the button "arrange" in the layout-setup encoderbar. The button "camera" enables to select all stage view cameras via an encoder. Positions from selected objects will be directly mapped into the layout view "apply" will take the stage positions. "line", "circle" and "rectangle" work similar, and take the new positions with the "apply" button as well the "element properties" button will bring you back to the position encoder bar.

+ MATricks implemented (new button in the encoder bar)

Select any Fixtures.

"interleave" is the matrix size.

(The "set" button indicator lights up.)

"single X" selects your "MATricks" in horizontal order.

"prev" and "next" buttons do the same.

"single Y" selects your "MATricks" in vertical order.

"MA+prev" and "MA+next" buttons do the same.

"MATricks active" has the same function as the "set" button, it toggles between the whole selection and the MATricks selection.

"blockX/Y" generates blocks of selections.

"Align group X/Y" generates groups of selection for alignment.

"Wingstyle" does only work for Pan and Tilt.

A long "clear" (AllClear) resets the MATricks.

All settings (green background) can be stored in the new "MATricks Pool"

Note 1: Its possible to assign a MATricks pool button to a user button (X1 - X20). The MATricks pool is user based. (Same as view pool)

Note 2: Use via commandline:

|                    | Next (inc)         | Prev (dec)           | Next & Prev (reset)      |
|--------------------|--------------------|----------------------|--------------------------|
| -none-             | Next               | Previous             | All                      |
| +MA (vertical)     | NextRow            | PreviousRow          | AllRows                  |
| +Set (Interleave)  | MatricksInterleave | + MatricksInterleave | - MatricksInterleave off |
| +MA & Set (Blocks) | MatricksBlocks +   | MatricksBlocks -     | MatricksBlocks off       |

+ Auto create group/world/preset/channel pages implemented (setup/show)

Notes group/world: Multi selection is possible (Fixture types/single fixtures) with the "ctrl" button. "use earliest" takes the first free pool button, "use latest" takes the first pool button after the last used. "always ask for name" does not work for "create single groups"

Notes presets 1: if the button "encoder grouping" is set, preset combinations are produced on the based on the encoder grouping settings in channel sets. (setup/show/patch&fixture schedule/fixture types/attribute&encoder grouping) E.g. "Gobo 1 and gobo 2 open", "color 1 and colormix open"

Notes presets 2: The channel sets of fixtures now have a new column "auto create" Notes channel pages: Only attribute dimmer will be auto created to channel fader.

+ Clone is implemented (New hardkey combination: press "copy"-key twice)

The syntax for using the clone cmd is:

"CLONE SourceFixtureList AT DestinationFixtureList [IF CloneObjectList] [/merge] [/overwrite]"

Options:

No option - simply clone (low priority merge) does only clone data which exist in the source - not in the target

Merge - executes a normal merge that overwrites existing data - additional information which only exists at the destination remains untouched

Overwrite - as the name implies the destination object is completely overwritten by the source object (Note: all existing data at destination will be removed, resp. exchanged) the option shortcuts are /m /o

Note 1: Without specifying options, clone is a performing a "low-priority" merge which is non-destructive. It does not overwrite already existing data, and it does not remove already existing data. If clone is performed on a specific object list, it will perform a clone also for the dependencies of those objects (like presets and effects used in a sequence). This second level run (it may also perform a third and a fourth if necessary) is always performed with the non-destructive default setting.

Note 2: Clone respects the "at" filter

Note 3: Clone respects worlds for the destination. But it is possible to clone data from outside into the current world.

Example 1: CLONE FIXTURE 1 AT 2 IF SEQUENCE 1 -> if fixture 2 has nothing else to do, it will do what fixture 1 did.

Example 2: CLONE FIXTURE 1 AT 2 IF SEQUENCE 1 /merge -> fixture 2 will do everything fixture 1 did, but it may have additional data that existed before.

Example 3: CLONE FIXTURE 1 AT 2 IF SEQUENCE 1 /overwrite -> fixture 2 will do exactly what fixture 1 did and nothing else

+ New option "fast call" for presets and effect pools (indicated by a red background in the pool). In the Mode "normal call", the first press on a preset/effect select the fixtures, the second press executes the preset/effect. (as before). In the mode "fast call" the preset/effect does not need a selection. It executes directly for the stored selection (selective/global/universal)

Note: The command "call" can also be used ( via a macro) with the commandline. Call [object] will do a fast call, in a normal call pool.

+ New option "fast call" for sequence pool (indicated by a red background in the pool). In the Mode "normal call", the press on a sequence button only selects the fixtures. In the mode "fast call" it will bring the status of the last cue into the programmer.

+ "Dynamic Channel Fader" Mode implemented. (Headline of channel/fixture sheet) When an attribute e.g. "Position" is selected in the headline of a fixturesheet and the "link" button is pressed, all selected fixtures with pan/tilt will automatically be mapped at the new dynamic channel fader page With the following commands (for macros) usable:

>ChannelLink< = Toggle the function on/off.

>ChannelLink on< = Switch the function on.

>ChannelLink on Feature "colormix"< = shows all selected fixtures with colormix.

>ChannelLink on Attribute "Iris"< = shows all selected fixtures with Iris.

>ChannelLink on Attribute "dim" + "Iris"< = shows all selected fixtures with dimmer + iris.

>ChannelLink on Presettype 0< = shows all attributes off selected fixtures.

>ChannelLink on and than type on a preset type button< = show this preset type.

Note: >ChannelLink< toggles from current stade to attribute "dimmer".

+ "Dynamic channel Fader": Whether only the selected channels/fixtures or all are displayed can be choosen via an option (setup/user/settings)

+ Channel page width implemented (setup/user/settings) Command: >assign channel thru channelpage 1.1< Note: "normal" uses the number of channelfader of your console (fullsize or light/ultra) "half page" -> 15 channelfader p. page "full page" -> 30 channelfader p. page

+ Import/export macros and effects implemented (setup/show)

Note: To import effects you need to create fixture types in the edit setup first, otherwise the attributes wiil not be transferred.

+ Export/Import of FixtureType will also include the used profiles of the FixtureType(s)

Note: If a DMX profile is imported with a fixture type and this profile does already exist, then the profile will be renamed (name extended by a number)

+ Tracking options implemented (right mouse or edit on a selection in tracking sheet).

Note: The "edit" button opens the calculator for the selected fields.

+ Tracking sheet: It is possible to select columns with the same attribute horizontal and edit the values with the middle, or "middle and right" (opens the calculator), mouse button.

Note: Only values, not for presets at this time.

+ Move cues implemented.

Note: The target must be empty.

+ New commands:

"delete sequence x fixture y": delete this fixture from this sequence.

"delete cue x fixture y": delete this fixture from this cue.

"delete group x fixture y": delete this fixture from this group.

"delete preset x.x fixture y": delete this fixture from this preset.

Note: This only works for selective presets.

+ session collision dialog is implemented

+ "Highlight" and "solo" does now work per User in Network (was desk local before.)

Note 1: "highlight" and "solo" will be switched off when the user logs out.

Note 2: When the user works in different worlds, every user has his own "solo".

Note 3: When the user works in the same world, user A can take fixtures in his programmer, which were controlled from highlight or solo from user B.

+ MA network dimmer (NDP) for MA-Net2 has been finally implemented Since NDPs are fully integrated in MA-Net2, it becomes necessary to run the same streaming version on consoles and NDPs!

+ Poolwindows have frames.

+ Patching and labelling is possible on the channelpages.

+ [assign] and pressing a preset button opens a pop-up to change the Special Preset Mode directly. ( Special Preset Modes: Normal, Default, Highlight ).

+ Breaks in Cues: Changing values in a tracking sheet, does now respect break cues.

+ Views on user keys (X1 - X20) show which view is stored.

+ 2 Ranges of combined selections are possible. e.g. "store seq 1+3+5 cue 5+7".

Example: You have 3 Sequences, called "truss red" "truss blue" and "truss green", The command "store truss\* cue 2" stores a cue 2 in all 3 sequences.

+ New preset symbols:

e.g. a color preset has values from color1 and colormix is open = coloured circle and small square

e.g. a color preset has values from colormix and color1 is open = coloured square and small white circle

+ New preset indicator. When a preset is not part of a world, the preset name is displayed in red. When parts of a preset with multiple presettypes are not in the current world, the presettype indicator is displayed in red

+ "page down" long press jumps to page 1. (about 2 seconds)

+ The cmd command "/noconfirm" executes the command with no warnings.

Example: "Assign Fixture 1 At DMX 1.1 /noconfirm" does not give any warning.

+ Programmer values in network: When a user logs out of a session, his programmer will be cleared.

+ Setup/console/user+profiles setup: Display which user/profile is used.

+ Mini-scrollbar in text views (e.g. in help view) can now used for mouse scrolling (before it displayed only the current position).

+ New function for executor fader with "special master programmer time" or "special master exec time": MXF = manual x-fade (to switch on/off programmer times and button executor times)

+ New grids allow sorting the data in a grid via a mouse gesture:

Click into head cell and drag to top or to bottom. (old style via right click also possible)

e.g. Swatch book in detail view.

+ Fixture Type Revision Notes can be edited. (Scroll down to "Make Editable") Note: Line breaks are not supported. Long notes will be cutted.

+ Backup: Show backups are deleteable.

+ "auto pre pos" is implemented. (assign menu)

+ "Default at" Value implemented. (setup/user/settings: at normal percent)

+ Copy cue with multiple cues implemented. The copy will get the same name as the origin cue - extended by a number.

+ Setup/user/settings: "Trackball sequence" show the function of the mouse button

+ Setup/user/settings: "Trackball rotation" rotates the position of the trackball.

Note: First implementation only for "pan/tilt", "xyz stage" will follow.

+ Fixtures invert pan/tilt: The inversion flags do now only change the output, not the stage view and 3D.

Note: Please check your xyz position and rotation in 3D and stage view. This has only influence on inverted pan and tilt attributes from older showfiles.

+ Sequence pool button: Right Mouse button opens the edit sequence popup.

+ New focus management Scroll focus (blue frame) and keyboard focus (white frame, can be used with the "please" from the keyboard) are separated.

+ New fixture wizard: (setup/show/patch&fixture schedule) Usability issue, works now as expected.

Single click places the cursor at the clicked point - entered text is added at that point.

Double-click selects all text entries in the field - entered text replaces existing text.

+ It is possible now to update the On-desk help files via USB-stick without reinstalling the console (setup/console/software update/update resource). This is because the help files are completed after the final implementation of features.

Download resource-file and copy it to a /gma2/import/ folder on your USB-stick (<http://www.grandma2.de/help/download>)

New command "ImportResource [filename] /import", e.g. for help update Parameter "list" to list all update files on current drive. (ImportResource /list)

+ edit setup: new button "same as channel id" in the calculator of fixture id's.

+ "swap" (pan / tilt) is implemented.

+ The command "delete fixture x" (to unpatch this fixture) will bring up a warning dialogue.

+ "Time to live" (TTL) is implemented. (setup/network/ma network control) and (setup/network/DMX protocols/ETC net 2 and streaming ACN).

Note: The Time-To-Live (TTL) value specifies the number of routers (hops) that multicast traffic is permitted to pass through before expiring on the network. For each router (hop), the original specified TTL is decremented by one (1). When its TTL reaches a value of zero (0), each multicast datagram expires and is no longer forwarded through the network to other subnets.

+ Very simple csv report function for the command line command "list" added.

E.g. "list cue thru /f="test" or "list /filename="test" saves the list output at the folder "reports" as file "test.csv"

\* The command keywords of matrixes have changed. When you use the old (predefined) macros, the "interleave" keyword is wrong. Please use the new matrixes functions in the encoderbar, and store them in the "matrixes pool" .

\* Changed: "preset times" names now "programmer times"

\* The shortcut for "userprofile" has been changed from "up" to "upr" because "up" is reserved for the up button function.

\* Focus in "store popup" changed: When the box appears with the "Create Second Cue" option, this is default selection. When the box appears without the "Create Second Cue" option, "merge" is default selection.

\* Pressing a timecode pool button select this timecode directly.

Note: This shows the selected timecode in the in the timecode view.

\* Id's in sheets have a new representation:

When a fixture has only a fixture id: 20:

When a fixture has only a channel id: :20

When a fixture has both ids: 20

Note: In all option menus of sheets the visibility of channel or fixture ids can be switched off.

\* "if output", "if active" and "if program" do no more select fixtures from other users.

Note: "if output" selects all channel/fixtures with dim >0 from the own programmer and all running sequences with dim >0.

\* Rate fader has now much more dynamic towards the end position.

\* The "Invert" cmd does now work when active values are in the programmer

\* The list button shows in screen 1 the button page number.

\* >Fixture y AT Cue THRU X< loads active values into the programmer.

\* Changing the video layer in network configuration. A scrollbar appears when you have more then 10 layers ( multitouch ).

\* Smart view now also works with preset times.

\* "Assign Time x Please" adjusts the fade time only for the current cue in the selected executor.

\* Labelling speedgroups works in network environment.

\* Changing userprofiles in network is locked, when the profiles are in use.

\* The gofast (>>>) timing is be displayed rightin sequence executor sheet.

\* Edit Effect: "kill individuals" does now work for all selected lines at once.

\* "programmer times" (means "preset times" in former versions) do now work also with colorpicker and swatch book.

\* Group Master can now be selected and used on the 100mm fader.

\* system time between onPC and desks are now correct

- \* Pan and tilt axis of all mirror fixture models corrected. Take the new fixtures from the library
- \* When assigning a group with a single Fixture as a Groupmaster, labelling does now take the name of the Fixture automatically, just like the Group already did
- \* If you swap a fixturetype in your show file, the snap/invert/default/highlight values are swapped correctly now
- \* The "Red Filter" / "Green Filter" / "Blue Filter" from catalyst fixtures are changed to colormix 1, 2, 3 and do now work with the colorpicker.
- \* onPC now supports special characters, e.g. @
- \* onPC in single screen mode with option "messageboxes on all screens": The on screen keyboard has now the right functionality.
- \* When using the internal DMX-out as source for DMX-in remote while starting the show it is no longer possible to receive undefined internal DMX streams.
- \* Multi oops view crashes the desk no more when "clear screen" is in the list.
- \* Edit Setup: sort a Layer by the Fixture Id's: Results: 1,2,3,...,10,11,12...
- \* user fade time (setup/user/defaults/sequence defaults) is now used immediately after change.
- \* We can now directly label a new stored color preset, even the colorpicker is open.
- \* Midichannel 1 thru 16 via commandline use now the same enumeration as Midi-Remotes and MSC-setup, Channel 1=1 Channel 16=16 (before 0 thru 15)
- \* Representation of Groupmaster (darker name field in fixture + channel sheet) remains when a NPU is in the Session.
- \* Chaser and sequences have now own user defaults (assign menu).
- \* An option button inside the Showfile browser became new titles: "Viewing Shows", "Viewing Shows & Backups", "Viewing Backups Only" - the functionality remained the same.
- \* Edit fixture types: if a channelset value (from or to) is identical with the minimal or maximal value of the parent channel\_TYPE\_, the programmer will no longer be set to the center of the channelset value range. Instead the programmer will be set to the boundary value. As a result a DIM "closed" channel set will be shown in a channel sheet exactly as 0.0 (before e.g 0.2)
- \* Artnet does no longer send wrong Artnet sequence informations. (caused delayed output to artistic licence nodes )
- \* Additional plausibility check for network address (e.g. 192.168.0.0) and broadcast address.
- \* Fixture sheet: Having selected an Attribute cm1, cm2 or cm3, an edit of a colormix value with the right mouse button opens directly the calculator.
- \* The green and blue fade-time bars in Tracking and Sequence sheet are displaying right values, when fading the cue with the A + B Crossfader.
- \* Sequence executor sheet progress bars displays now the right information, when a switched-off sequence will be switched-on with a "load cue x".
- \* The "move" button in "attribute & encoder grouping" does work as in grandMA series 1.
- \* After a showdownload in a session a "locked desk" remains locked.
- \* selecting a dimmer now changes the encoderbar to presettype dimmer.
- \* The commandtree numbering has changed. Macros which are based on these numbers may call wrong functions- pls use function names or use the new predefined macros
- \* Auto join mechanism in network improved
- \* Network: the "join session" button has new label "start/join session".
- \* The "update view" refresh follows now the "selected executor only", when changing the selection afterwards.
- \* The LED of the "def. pause" button is working.
- \* Patch operation shows progress bar (...when patching large amount of fixtures).
- \* Create presets in a completely new show does work.
- \* Macros with fade or delay work if they are combined with "(" or ")".
- \* The command "block cue thru fixture x" does work.
- \* "edit preset x", "update", keeps the right status (selectiv/global/universal).
- \* The commands "ifoutput full" and "ifoutput .." do work. Note: "ifoutput" does not work for default values.
- \* The commands "dmx y full" and "dmx y .." do work.
- \* The command "attribute 1 thru 9 at 100" does work with world attribute filter.
- \* The "if" command "group x if group y" does work.
- \* Units of measurement from encoders are now in sync with the displayed readout from the actual channel/fixture sheet. (natural/percent/decimal/hex/physical).
- \* The "symbol output" field in channel sheet shows now also highlight values and values from additive group master.
- \* Profiles on dmx level have now also functionality in network.
- \* Edit timecode: Press the "event encoder" will open and execute the event list immediately. (press the event encoder on "goto" opens the cue selection list).
- \* If the subattribute of a channel function is changed (or a channelfunction was created) and the physical values are empty, default physical values will be set.

\* Values in phys columns of channel functions in setup are extended by their unit sign - e.g. "20 hz". \* Update cue/presets clears programmer when playback is updated.

\* Fixture library updated.

\* Changing the colors in the "edit fixture" "edit color wheel", the smartview will be updated.

\* "channel fader" and "dynamic channel fader" have new button assignment

Note: The "off" button does not deselect the current selection.

\* The keyword to transmit MIDI Program Change messages is changed from "MidiPage" to "MidiProgram".

\* "flash" in a running sequence will only flash the dimmer.

\* Move fixed executors, moves also the fixing.

\* After storing a preset and name it, the fixture sheet will display the name directly.

\* "invert" does work without a 2nd selection.

#### **Known bugs and limitations:**

- Remote configuration of 2-Port Nodes via grandMA2 is shown right in the display of the nodes, but do not change the real output online. After resetting the nodes (disconnect/connect mains) everything is working fine.

- Fixture Types with more than 2 Mode channels may not work



### **Topic: Release Notes v1.x**

\* Means something was changed/fixed.

+ Means something was added.

- Means something was removed.

#### **Version 1.9.0 released 2010-05-25**

+ "Force login" implemented. (Setup/console/global settings).

Note 1: When Force login=off and you start a new show, you are logged in per default as administrator (no longer as guest) When Force login=on, you are logged in per default as guest. You can change the user (tools/login) with your user name and password.

Note 2: When you start a show in a network the login popup does not work .

+ User rights implemented.

Note: The user "guest" has only the permission to "playback". All shows where the user formerly had the profile "guest", are now converted to the profile "administrator". It is possible that macros which were created by the user "guest", will not work correctly. In this version the user right "preset" and "none" is not yet available.

+ Sequence Executor sheet: A and B columns are canceled. Now you have a column mode. This allows "assert" as normal (it takes the cue times from the cue, where the assert values are stored), "x-assert" (applies the current cue timings to the "assert" values) "break" treats values as "cue only" values. It interrupts a tracking list. "x-break" (the same timing behavior as "x-assert").

Note 1: The "break" includes the assert functionality.

Note 2: Values which are stored afterwards in a prior cue, will be released in the as "break" marked cue.

Note 3: Known limitation in this version: Update Original Content ignores Breaks when locating the original value(s). If these updated values then track into a "Break" cue, they will be treated as described above and will NOT track into the current cue(s) being updated.

Note 4: Any tracking sheet edit ignores break as well.

+ copy cue with status / cue only implemented.

Note: "copy cue" will copy all part-cues + engine for cue transition profiles (path) fully implemented Note: Path works for all parameters in a cue/part-cue (In grandMA series 1 this does only work as dimPath and movePath).

+ New Playback "Action Buttons" View.

Note 1: when the option "direct action" in the headline of this view is active, the whole executor touch button has the function from the hardkey.

Note 2: The Playback button view has multitouch functionality.

+ Chaser Speed Mode implemented (setup/user/settings).

+ A/B cross-fade implemented. "Split X-fade" is set to default.

Note: The settings "Split X-fade" and "AB X-fade" have also impact on the normal X-fader.

+ Effects do have now speedgroups.

+ Speedgroups can be assigned on the 100mm Fader.

+ DMX list implemented (setup/show/patch only).

Note 1: In the list of universes you can merge DMX-in and additionally assign which universe will be calculated by the existing parameter count.

Note 2: On the right side you see the DMX patch per channel and can assign profiles directly to the DMX channels. (only coarse) (In the DMX list of grandMA series 1 you can assign profiles only to parameters).



Attention: When you assign a profile to a parameter and at the same time to the same DMX channel, it might neutralize the setting for both assignments.

Note 3: A right click in the headline sorts by columns.

- + Align Function in special color dialog in HSB and Fader view implemented.

Note: In HSB view, the brightness will be displayed with varying crosses. Fixtures with different colours have own markers.

- + Add new Fixtures in the setup does now show more patch lines in the fixture wizard, when the fixtures have more than 1 break (dmx start addresses).

- + High speed MA-net possible Note: when the desk is switched on, the network card determines the current status (100MB / 1GB). In a session is started, the network speed is determined by the slowest participant. You can see this in the commandline view with the command "ni" (networkinfo).

- + In the headline from the edit setup the number of available / used parameters is displayed.

- + executor buttons are now assignable as temp buttons Note: active OffOnOverwritten will NOT be ignored ( as in series1 ).

- + Commandline history implemented. Use the up / down buttons from the keyboard, when the focus is in the commandline in screen 1 or 2.

- + Confirmation box to save old showfile before loading new one.

- + Automatic save show (when switching off the desk) only when the showfile is changed. (the call of views, or a change of pages only, does not force a save show file).

- + NPU does now display the used memory in the main screen.

- + Patch collision dialog implemented.

- + Fixture and Channel Id collision dialog implemented.

- + Multipatch in the patch dialog implemented.

- + Added acceleration of selection via PLEASE key in patch dialog.

- + Telnet access requires login for safety ( Uses user login data).

- + Telnet supports request from command line.

- + Delete cue only implemented.

- + Deleting cue parts methods implemented.

Note: with deleting parts you can also move the values to the default part.

- + Startup macro line implemented (Setup/show/playback+MiB timings).

Note: These commands are executed when the show is loading.

- + Store Option "dmx in" implemented.

- + Sequence Executor sheets interact with commandline.

Note 1: you can use the hardkeys store / label / del directly with a cue line.

Note 2: This interaction works only with the sequence executor sheet, not with the edit sequence sheet.

- + ASCII show read: reading and converting now grandMA series 1 exported files.

- + Backup/load show: select shows or backups or both.

Note: "saveshow" creates one backup for every show with the ending .backup.

Additional: System wide can exist up to 10 backup files with the ending .x.backup (where x is a number from 1..10).

- + Effects can now be switched off in the off-menu.

- + Touchscreens can now be disabled (setup/console/screen options).

- + A new software installer examines the storage capacity of the desk / npu and allows to delete old software versions.

Note: it is not allowed to delete the last software version, because we need the last console settings (ip address..)

- + The Layer from a VPU can now be selected from the Desk (setup/network/ma network configuration/video)

Note: This operation is not possible via commandline.

- + The user from a 3d can now be switched from the desk. (setup/network/ma network configuration/visualizer).

- + Special Presets are now marked in the preset pools.

Note 1: With the command "assign preset x.y /special=z" you can build a special preset Variable "z": 0=normal, 1=default, 2=highlight, 3=stage (3 is not implemented yet).

Note 2: These presets will change the fixture/channel default/highlight values directly in the setup!!!

Note 3: You will find new predefined Macros to create special Presets.

- + Edit the MiB field in sequence executor sheet opens now a "select MiB" menu.

Note 1: Known limitation: "late" works only in cues with a full cue number (with cues like 1.1, or 2.3 it will not work).

Note 2: Known limitation: does not work for nontracking sequences.

- + Oops History List implemented (long press on Oops button).

Note 1: it is allowed to select a row in the popup window and oops more operations at one time.

Note 2: Leaving the "patch & fixture schedule" by save, clears the oops list.

+ "Trackball Mode" can be set in user defaults (setup/user/settings).

+ Diagnostic View implemented (Setup/Patch&Fixture Schedule) It shows a report of warnings/errors from the current range, you are.

Note: When you will leave the edit setup you see a selection menu, when they are warnings.

+ "Manual x-fade" for presets and executor buttons implemented (encoder bar).

Note 1: When enabling the function "set time" or "manual x-fade" for presets the number of attributes from the selected fixtures are displayed. When enabling the function "manual x-fade" for executor buttons, the number of different buttons, pushed prior to the manual fade will be displayed The LEDs of the corresponding executor buttons blink.

Note 2: This timings are not working with the colorpicker at this time.

Note 3: The preset times does work for all programmer actions except effects.

+ Predefined Profiles are implemented. (setup/patch+fixture schedule/DMX profiles/edit profile).

+ Timecode editor: New Buttons "add track", "change executor" and "add subtracks" (in track functions).

Note: The "Delete Track"-Button now also deletes "Sub Tracks" If a command sub track is selected [first subtrack], the whole track will be deleted. Otherwise only the selected subtrack will be deleted.

+ Timecode editor - text view: added lasso selection im timecode grid.

+ "DMX at" implemented ( similar to grandMA series1 ).

+ Fixture library updated. (from carallon lib 6.2) + Color library updated.

Note: The color library is only reimplemented in a new, empty show To use in old showfiles: commandline: cd 9, delete \*, import swatchbook, cd/.

+ Fixturesheets are now able to display 16 attributes of one feature (previous versions 8).

+ Option menu in preset pools has now a "reset color" button. (also in setup/user/window settings/presets/...).

\* deleting a fixture layer and then saving the showfile does no longer destroy the showfile.

\* Progress bars show better status of showupload / download and save showfile.

\* The "auto shutdown" popup must be confirmed on the touchscreen and cannot be confirmed accidentally with the "please" button of the keyboard anymore (there is no focus automatically in the popup).

\* Close the Expand Virtual Keyboard in Backup / new Show, will no more created directly a new show.

\* In the "cue renumbering popup" the numeric keypad does work also.

\* "ifoutput" in combination with bitmap effects crashes the desk no more.

\* Loop funktion now also works for cues with timed trigger.

\* Content sheets with Part cues cannot crash the desk anymore.

\* Crash in SequenceExecutorSheet Fade Bars removed.

\* Temp fader in network is working.

\* Content Sheet: assigning an executor directly (not linked) the "manuel mode" does now work.

\* Relative effects from old showfiles were imported as absolute.

\* Save Show and Quicksave do reset the Auto-Save timer now.

\* Playback view has no longer random color frames.

\* A cue jump with the loop function in sequence executor sheet does now display the right color.

\* Setup/Show/Playbacktiming: The time is displayed in seconds now.

\* The faders in special dialog "color" does now work , when RGB or CMY all at "100".

\* "X fade reload=off" does now work on 100mm Faders.

\* Cue numbers and cue names can be renamed in the tracking sheet t cue.

\* onPC: Encoder settings are displayed on screen 1.

\* The fixture sheet in "vertical mode" updates fixture names, when changing these names in live access.

\* The learn button on speedgroups and effects works again.

\* Edit profiles: Graph editor limits movement of points to the current value range. ...means you can no longer drag points of a dmx profile outside the display area.

\* Smart view to control video: The view of images will be updated, when changing the i-pool with the encoder.

\* The screen encoder does work in colorpicker.

\* The softbutton "sync effects" in special effect dialog (multitouch)is displayed.

\* Backup menü: It is allowed to delete showfiles from old software verions.

\* Right mouse click on the fixture id number in fixture sheet does open the edit fixture popup.

\* Empty executors are not longer fixed, when loading a new show.

\* Edit timecode options: Only "User Bits" and "Auto Start" will be disabled if timecode sync mode is "Intern".

\* Edit timecode "direct tools": The command "add here" does add "goto (next cue)" in the timeline.

- \* Edit timecode "text mode": In the column "values" the cue number and the cue name are displayed.
- \* When switching off fixtures, the Channel and fixture sheets ( with "prog only" option) are refreshed.

#### Changes:

- \* "X fade reload" has been moved from the assign menu of all executors to the defaults. (Setup/show/playback+MIB timing).
- \* "Knightrider effect" is taken out (locked state of console).

#### Known bugs and limitations:

- Remote configuration of 2-Port Nodes via grandMA2 is shown right in the display of the nodes, but do not change the real output online. After resetting the nodes (disconnect/connect mains) everything is working fine.
- Fixture Types with more than 2 Mode channels may not work.

#### Version 1.8.0 released 2010-04-12

+ Move in Black (MIB) with the possibility to enter the MIB-executing cue in the MIB column Additional Options: "Early" / "Late" / "-x" (cues) (while MIB is running, the LEDs off the Executor Button flash: fast = MIB delaytime, slow = MIB fadetime).

Note: First MIB now works without storing a zero dimmer-value before. (this was necessary in grandMA series 1).

+ "temp fader" and "temp master fader" (for selected sequence) implemented also in combination with "restart first cue" and "restart next cue".

Note: "temp fader" fades also swap attributes. "x-fader" switch the swap attributes.

- + New Fixture editor - Divided into "module manager", "wheel manager" and "instance manager".
  - + Attribute & encoder grouping with new subattributes The column "encoder grouping" includes names.
  - + New Keyword: "shuffleselection" (You will find it in the predefined Macros also).
  - + New Keyword: "clearactive" (clear II). (You will find it in the predefined Macros also).
  - + New Keyword: "cmdhelp". ( a overview of all Keywords).
  - + New Keywords: "Layer Value", "Layer Fade", "Layer Delay", "Layer EffectForm", "Layer EffectRate", "Layer EffectValue1", "Layer EffectValue2", "Layer EffectPhase", "Layer EffectWidth".
  - + Playback and MIB defaults in Setup / Show. New >>> + <<< timings (The default timings are stored in the showfile).
  - + An effect can now be "absolute", "relative" or "transparent". This is shown in a new column in the edit effect view, and in the effect pool in the headlines of the effects as A, R, T .
- Let's assume we have 2 different executors: exec 1 has some beams on stage positions and exec 2 has a circle effect (cuelist style, not directly assigned effect). How normal modes (absolute or relative) behave:
- a) Starting exec 1 first and then overwriting it with exec 2 would by default make the beams circle around their center positions and not around the stage position from exec 1, because that is overwritten.
  - b) Starting exec 2 first and then overwriting it with exec 1 would by default stop the circle and the beams would go to a steady stage position because the effect is overwritten.

How transparent mode behaves:

- a) looks different, because the circle effects will be laid 'transparently' over the exec 1 stage positions.

If you assign a high priority to exec 2, then also b) looks different, because it will always overlay other normal or low priority executors in this transparent way.

As an easy reminder : Transparency defines whether effects and values are combined between different playbacks.

+ Effect pools now also show the number of the current fixtures using this effect, even they are out of cues. We can switch of any of these fixtures, when making a fixture selection and "off" this effect. When there is no fixture selection, an "off effect x" switches off the whole effect.

- + New effect button in presetbar
  - + Press and hold the wheel button opens a popup for the encoder, the wheel resolution and clear screens
  - + New patch dialog in setup
  - + Fixture, channel and tracking sheet: Preset values can now be shown by their name or by their number (selectable in the option menu)
  - + The commands "on", "off", "park" and "unpark" now work in combination with the feature field in the attribute encoder bar.
  - + DMX-in merge: The grandMA2 now merges 2 DMX-in Universe HTP to 1 DMX-out. The DMX-in can be plugged-in on different consoles or NPUs in the network. (known limitation: this currently does not work with 2-port Nodes) When plugging in more the 2 universes, only the first 2 will be used, all others will be ignored.
  - + New preset style: Global "selective" stores values for single fixtures "global" stores values for fixture types "universal" stores values for all fixture types which own the currently stored attributes.
- Note1: "universal" works only for the attributes Dimmer, Pan Tilt, RGB, CMY, ( Stage positions xyz will be implemented later ).
- Note2: the function "universal" from grandMA series 1 had to be changed to "global", due to have "universal" equal in presets and effects.
- + Loops call up the tracking status of a cue now (same as goto x).
  - + Assign menu: The option buttons are rearranged. MIB never is added.
  - + New functions in "special dialog" of swatch book: "clear filter" + "live preview".

+ Midi Remotes: velocity works on Executor Fader.

Note1: if "auto start = on" and "auto stop = on" then velocity brings up the fader to 100% (velocity = 127). When velocity is going to "0", the fader remains untouched and the executor is switched off. If "auto start = on" and "auto stop = off" then velocity brings the fader up and down and the executor stays on.

Note2: you can see the incoming midi notes and their velocity in the "system monitor"

+ "Fast off" for "auto stop" implemented.

Note: "executor off times" are ignored when pulling the master fader to 0 ("auto stop = on") When the master fader is >0: the first "off" takes the "off times", the second "off" switches the executor directly off. Switching off over the "off menu" will follow the "off times".

+ Import / Export effects implementiert Note: to export via commandline: "sd 3" (selectdrive) followed by "Export effect x thru y nameofFolder" To import: command "sd 3" (selectdrive) followed by "cd effect" (change to effect folder on the harddisk) and then "import \*".

+ New firmware update 1.28 (adjusts the brightness of the new LEDs in new consoles).

+ grandMA2 onPC will automatically and temporarily add an artnet IP-address to adapter ( if not already defined ).

\* Faderwings now store their position in the console.

\* "Load cue" now loads the status of a tracking cue when the cue is started with an "x fader" or a "tempfader".

\* Delete cues or merge new cues does not confuse the timecode-links anymore.

\* Command entry via the numerical block >Channel x full<, >time time 0 thru 5< does work correct now.

\* "at filter view" now supports internal mouse control.

\* The backup menu now can show the filenames as symbols or list, or details.

\* Label an existing View on a Viewbutton does now show the existing name.

\* Open a Calculator of an attribute with more than 28 channel sets -> now there is a scroll bar.

\* Edit Chaser brings up the chaser playback bar directly to the encoder.

\* Loading a show containing NPUs -> active sequences have output.

\* External timecodeview cannot crash the desk anymore when the view is in text mode.

\* Deleting an effect when the effect edit view is open will not crash the desk anymore.

\* Flashing fixtures which are running a chaser effect do have the right timing now.

\* In a macro line the "+, - and thru" do now work from numeric keypad.

\* Remove a fixture from the current world now refreshes the Fixture sheet.

\* Fixture x at fixture y now copies also effects which have been started from a cuelist.

\* A effect assigned directly on an executor can now also be started with go-.

\* Fixture sheet: The layer "values only" does no more show the channel sets.

\* Predefined macros which are switching the remotes on / off had to be reworked because the folder structure was changed.

\* Effects where "phase from" and "phase to" have the same value do work now.

\* Saving shows with illegal filenames doesn't crash the network anymore.

\* Backwards running effects with low rate do work now correctly.

\* Remote DMX-in to programmer works again.

\* Multiselection in effect editor enabled (with "ctrl").

\* Multiple dummy channels possible when building a new fixtue.

\* Update Bug in the Off menu in Freeze Mode fixed.

\* Spezial effect dialog shows the right "default width" values.

#### Info:

When using a NPU in grandMA 1 compatibility mode as 4-port node, you must update the NPU with the newest software version also.

All RGB fixtures from the new Library have nomore RGB Attributes, they are converted to inverted CMY Fixtures. Whenever you create a new Fixture, and need RGB attributes with a real or a virtual dimmer, please take the CM1, CM2 and CM3 inverted attributes.

The old RGB attributes are now named colordim1 (red), colordim2 (green), colordim3 (blue), colordim4 (amber), colordim5 (white).

#### Know bugs and limitations:

- Remote configuration of 2-Port Nodes via grandMA2 is shown right in the display of the nodes, but do not change the real output online. After resetting the nodes (disconnect/connect mains) everything is working fine.

#### Version 1.7.0 released 2010-02-19

+ NPU has a NSP compatibility mode.

+ New Help view.

+ Select Timecode implemented / timecode viewer follows current selected timecode.

- + Timeline can be fixed or in follow mode ( regarding currently incoming timecode ).
- + within the timeline graphical view the wipe gesture is supported to scroll left and right.
- + Help Button and afterwards keyword button (e.g. "help effects or help exec button" ) shows a context sensitive help Help in commandline: e.g. "help assign please" opens a help popup. The old non-graphical commandline help can be called via using the parameter "/cmd" (e.g. "help m\* /cmd" to show all commands that begin with m).
- + Language in help view switchable ("world" symbole ).
- + New Filter "active only" in Headline of Channel und Fixture Sheet.
- + New symbol "output selection" in fixture and channel sheet.
- + The fixture attributes do now overlay the encoder in the encoder toolbar.
- + In cue link and commandline more than one Comands are allowed. Set a ";" between the commands.
- + New "store only" button direct in the "store encoder bar".
- + Save Yes/No dialog when leaving the Patch & Fixture Schedule.
- + Special Master "sound in" and "sound out" (for built in speaker).
- + In the "choose store method" dialog >prev< and >next< keys are available to navigate.
- + send "Midi-Notes" via command-line implemented e.g. "MN 5 on/off".
- + New NVidia driver.
- + a new label dialog in the store view pop up.
- + new button "default value" in the calculator of an attribute encoder.
- + Fixture Library updated.
- + Midi Interface in grandMA2 onPC implemented.
- + Midi show control: MSC output is working. Input not yet implemented.
- + Content sheet: stored values can be changed with the calculator(right click)- except presets.
- + Store new values for independet channels in smart view.
- + The screen 2 encoder can now set Preset/Exec.time faders when focus is on the touch fader.
- + Ctrl+C (copy) und Ctrl+V (paste) do work in text fields. E.g. info in a cue.
- \* Attributes with snap function do follow now the cue delay times.
- \* Push encoder opens and closes edit now.
- \* Closing Editing an entry with "Please" now jumps into the next line.
- \* Selecting Pages in the Playback View does not crash anymore.
- \* "Set Time and Date" Bug fixed (every date - time containing "1" causes malfunction of the agenda).
- \* Highlight in network works now better.
- \* The screen 2 encoder does not control the 100mm fader anymore , after having set the focus in an empty area of the encoder-bar.
- \* Copy executor does not lose the chaser- assignment anymore.
- \* The red points in smart view are back when values in programmer.
- \* mixed presets of color and colormix are displayed now the right thumbnails.
- \* Artnet does now work in compatibility Mode.
- \* "Updatef" command does now force the firmware update even if the modules are not reoguized.
- \* Flash executor buttons don't lose the blue bar in the executor labels anymore.
- \* Select colors from the swatch book works now also in detail view.
- \* Little workflow enhancement in Fixture Type Grid: LongName sets FixtureType:ShortName if empty (or reverse). Same with Manufacturer <-> ShortManu.
- \* "on fixture x" now activates the update funktion. "Fixture x at Fixture y" activates the update function as well.
- \* the Flash buttons on channel pages have now a function. Note: the values do not goes into the programmer.
- \* Kill Function does now work on first press.
- \* store a new sequence on an empty executor button in playback view does work now.
- \* Fixture + Channel Sheet: "Prog. only" + "Fixture sort" do work when in "edit effect" "show selection" is selected.
- \* The layer "effect id" in the tracking sheet and content sheet does now show the stored effects.
- \* Fixtures in the content sheet are now sorted by the fixture id.
- \* "name" column of tracking sheet: width is now stored in the views.
- \* new "fixture wizard" in edit setup.
- \* In update view: By moving on the touch screen in an empty area it is now possible to cancel an update after having selected already a cue, effect or preset line.
- \* Clear all does not clear the parked attributes in a fixture sheet with a park mask.

- \* Fixture + channel sheet: Prog only + fixture sort does now work when the "show selection" in "edit effect" is executed.
- \* Multiuser attribute activation does not destroy the selection for all users anymore.
- \* Ctrl and Shift Button does now work with the console integrated mouse.
- \* Changing values with the calculator in tracking sheet has now the right display.
- \* Label viewpages with long names are displayed with carriage return.
- \* Resizing a sound input view does now work correctly.
- \* Changing fixture types in edit setup deletes the dmx patch when the new fixture have more parameter than the old fixtures otherwise the patch remains untouched.



Editing a fixture and adding a one or more new attributes will cause wrong dmx patch. Repatch is necessary.

- \* Update Cue or Store Cue Merge when a preset was stored in the cue will work as well.
- \* Changed default for consoles DMX In to OFF.

#### Known bugs and limitations:

- Remote configuration of 2-Port Nodes via grandMA2 is shown right in the display of the nodes, but does not change the real output. After resetting the Nodes (disconnect/connect mains) everything is fine.
- when starting a show and a NPU is in the session the desk has no output from active sequences.
- DMX in on consoles does not work when a DMX in signal is first connected to the desk or NPU and afterwards the desk switch on.

#### Version 1.6.0.3 released 2009-12-22

- \* Crash removed when scrolling in content sheets and track sheets
- \* Crash removed when deleting timecode view
- \* unpatch fixtures when fixture type is substituted

#### Version 1.6, released 2009-12-18

- + Timecode is implemented. Operating philosophy as in grandMA Series 1 Additional: A new timecode view can be positioned freely on all screens. In timecode pool you now see the status from the timecode. The time is displayed green, if the incoming time is in the current record range Repeat function for Internal TC shows New Commandline Keyword record Userbits can identify an incoming timecode signal
- + Backup Menu: Automated copy of all showfiles of older versions in current folder is now suppressed. Now, there will be an own folder created for each version. That means that older showfiles can be loaded there and then will be stored in the current version folder. The old version showfiles remain untouched.
- + Attributes & Encoder grouping is implemented (Setup / Show / Patch & Fixture Schedule / Fixture Types) Note 1: it is now possible to delete preset types, after moving the attributes into another preset type. The remaining preset types will then be renumbered automatically. When you call a preset type from a macro, use the preset type name, not the id. Note 2: In this version the encoder grouping works only with numbers. When you activate an attribute in the programmer, all attributes with the same number will be activated as well.
- + Restart Options in assign menu First Step, Current Step, Next Step
- + Channel Pages are working in a first way: You can assign your own Fixtures to the channel pages: Switch to Channel Page to create a blank page >assign channel 1 thru< and push the first channelfader - this assigns all dimmer channels ( similar to grandMA series 1 ) >Assign channel x channelfader y< - this assigns this channel to the current channelpage (shortcut for channelfader = cf ) >Assign channel x channelpage y.z< - ( shortcut for channelpage = cp ) Note: The Flash button does not work in the programmer.
- + Setup / User / Settings Message box on all screens.
- + Setup / User / Settings: Wheel Mode The Wheel Mode is also displayed in screen 2
- + New Set Time button for preset time fader and executor Button time fader in screen 2. In addition you can assign an on and off button for this speciale Master to an executor.
- + Solo now works in the selected user-world.
- + Profiles can now be assigned to single attributes in single fixtures ( >Edit Fixture x< )
- + Patch in setup opens a new view with an overview of the current patched DMX channels.
- + Import Export Fixture Types
- + Macros to / from USB
- \* If Merge if not empty is switched on ( Store Options ), new Presets and Groups can be stored. The command >store 1 thru 6 merge< executed on a current cuelist which only contains cues 1, 3, +5 does not create new cues anymore.
- \* ATTN: Midi Notes send and receive numbering is now consistent ( means old setups +-1 )
- \* Setup / Remote inputs / midi remotes: Midi Channel set to 0 means "all" channels from one note
- \* Specialized shaper dialog: U1-U3 buttons have now functions, same as Softbuttons
- \* >channel x at channel y< displays now the correct Values, when the values from channel y comes from an selective preset.
- \* Split X Fade in non Tracking Sequences is working now correctly
- \* Tracking Sheet: when editing the predefined sets (1-5) corresponding window will be opened
- \* Fixture Sheet: Column order does not change anymore by accident

- \* Agenda: week view improved
- \* Agenda: Slave desk are now allowed to make entries
- \* Patch Fixtures with Breaks works now over commandline: >assign Fixture 1 true 10 at DMX 2.1/break=1<
- \* Running a preset or calling a viewbutton with the focus active in the presetpool does not switch the encoder bar anymore. Only focussing the title of a pool or calling the preset type name from the command line switches the bar now
- \* Short fadetimes in network ( after a showupload ) are working now in all network protocols
- \* The command Terminate effects now works in programmer
- \* If onPC2 runs with window frames the windows are only moveable by grabbing the title bar. Without window frames the only possibility to move the window is to hit the background.
- \* Follow cues without times run saver in networks with NPUs
- \* Deleting DMX Adresses via commandline from a slavedesk removes also the DMX Values on the output
- \* Sequence sheet: after moving the columns the content can be changed via the Encoder
- \* Update Cues original content only does work again
- \* Copy userprofiles does now work correctly in the network
- \* Store and Remove with Active for Selected does work now
- \* Chase encoder bar: reverse button has function now
- \* After a restart the user login stays same
- \* No encoder playbar when fixtures or channels in selection

### Version 1.5.0.3, released 2009-10-30

- \* Closing views does not crash the desk anymore.
- \* Preset Values in Cues could not be removed via Update.
- \* Smart Window always took focus after any Programmer change.
- \* Sheets Feature Sort do work now.
- \* Drop outs in the face panel have been removed.
- + New profile editor in setup / Show / Patch & Fixture Schedule Profiles only useable with Fixture Types.
- + New colors and options in fixture, channel, content and tracking sheet. Colored bars (marker): You can switch off the marker in the sheet options. "Programmer only" button in the headlines of fixture and channel sheet.
  - Red = active values in programmer.
  - White = not active values in programmer.
  - Green = fade values in programmer.
  - Orange = delay values in programmer.
  - Cyan = values from presets.
  - Magenta = values from effect.
  - Blue = parked values.
  - Grey = profile is assigned.
- + Chaser edit menu implementiert (Trigger with Sound / BPM is currently not available.).
- + Edit cue number menu implementiert (right mouse click in the "number" column of the sequence executor sheet) - incl. Cue renumbering.
- + The current focus can be stored in a view now.
- + New function: when updating "dimmer value full" on an executor with master fader on 50%, then a dimmer value of 200% will be stored.
- + Universal effects. (analogue to universal presets) effects can be used with all attributes of the type, the effect was created with. (The programmer timing is currently not available).
- + Off effect does now work in the programmer.
- + New keyword: "syncEffects" (press >MA< + >effect<) synchronizes effects in programmer.
- + The grandmaster and the 100mm faders work now motorized in Ultralight.
- + Backup / Load show have now a virtual keyboard.
- + At filter works now with world filter together and has Zoom buttons.
- + ASCII import from Strand Genius Plus: Profiles are now implemented.
- + Edit view (open it with press on the small executor window above the executor) can be displayed on screen 1 or screen 2 (adjustable).
- + >Ifoutput at time 1 thru 5< selects all fixtures with individuell times from 1 thru 5 seconds.
- \* The motorized Fader of faderwings does now work together with Ultralight please use the "alignf" command to arrange the wings to the fader positions 16 thru 30.
- \* ETC Net2: CCL is updated after Patch or Park changes.
- \* Smart view does not show wrong deactivated programmer values anymore.
- \* Macros with multiple text inquiries do now work.



- \* At filter does now work for >fixture x at cue y sequence z<.
- \* >Ifoutput< now selects only dimmer values >0 (similar to grandMA series 1).
- \* Resizing sheets does not destroy buttons in headlines anymore.
- \* >Save as< now uses new name of show on all consoles within a session.
- \* Default hardkeys GO / GoBack / Pause: function is now displayed in the command line feedback.
- \* >Clear< now only clears selected worlds (no more the hidden worlds).
- \* TEMP and FLASH buttons now acting correct with executor buttons.
- \* Predefined macro library has been revised.
- \* Invalid command >fixture thru at world x< does not crash the desk anymore.
- ~ Edit timecode and timecode view are not yet working!
- + New profile editor.
- + Profiles are displayed in channel / fixture Sheet with a white bar.
- + Storing multiple pools / sheets as a view on a screen, the current focus is also stored.
- + Updating "dimmer value full" on an executor with master fader on 50%, dimmer value of 200% will be stored.
- \* Display problems in sequence sheet.
- \* Smart view shows wrong deactivated programmer values.
- \* Macros with multiple text inquiries does not work.
- \* At filter does not work at >fixture x at cue y sequence z<.
- \* Edit view (open it with press on the small executor window above the executor) can be displayed on screen 1 or screen 2 (adjustable).
- \* >If at time 1 thru 5< selects all fixtures with individuall times from 1 thru 5 seconds.
- \* When in setup / any layer, a lot of fixtures, deleting a single fixture out of the list in the bottom, then the focus jumps up to the top.
- \* Resizing sheets destroys buttons.
- \* >Save as< did not use new name of show on all consoles within a session.

```
//----- ASCII import from Strand Genius Plus
===== Setup ASCII import of Profiles not implemented. ASCII import
of Parameter Limits EXPERIMENTAL - watch out for fixtures such as DLCs which can rely on this feature to prevent the scroller from
ripping off the end. Cues The cuelist has been imported as a fully unblocked, tracking sequence. Before editing, you may wish to look
at your Strand showfile and re-instate the blocks before you begin to edit your show. Submasters Check that the priority of the
executor faders is correct. Also note that Inhibitive Submasters are Negative Group Masters on MA2 and are imported accordingly.
Effects It is very likely that you will want to convert the imported effect sequences into chasers (and change the cue triggers to 'Go'),
or re-write them as MA2 Effects.If you want to keep the Strand effects as they are imported, you will need to make changes so they
actually go off - unfortunately, the Effect Off options are not exported to the ASCII file so you will need to go through your show and
make sure all effect sequences have an off trigger. Here are some ideas: Effects Off commands in the Cuelist Look through your
Strand Cuelist and where you see the lower case 'f', change the corresponding MA2 Cmd Link to stop the sequence. Effects Off after
Cycles Turn off [Wrap Around] Loop the last cue to the first and add the desired loop count Create a new blank cue at the end, set the
Trigger type as desired so it will run when the loop is completed and assign the relevant Cmd Link to stop the sequence. Effects Off
after Time Create a blank cue 0.001 at the very beginning of the sequence. Assign the Cmd Delay to the time you need and fill in the
Cmd field to instruct the sequence to stop. Use the Loop function on the remaining cues to ensure this cue is never re-triggered after
it's first execution. //-----
```

#### Version 1.4.1, released 2009-09-30

- + New 2Port Node Version 1.36: Performance of the 2Port Node increased when a lot of Parameters change their values at the same time.
- + New assign menu options for Sequences
  - Auto Stop has to be disabled, Master Go is activated, when taking the fader up again the next cue will be started.
  - Master On: same as explained above, but when taking the fader up the actual cue will be started again.
  - Master Go Off: same as explained above, but the cue is still active, only the dimmer is changed when the fader is taken up, the same cue is active all the time.
- + Virtual Dimmer functionality is now for CMY implemented.
- + New settings in the fixture sheet: readout "natural" reflects the range settings for the Fixture type itself. This means that you now can define the ranges for controlling fixtures yourself by editing the Fixture in the setup and changing the settings in the fixture sheet to shift also the units of your control encoders.
- + When starting a new show or saving a show identically with an existing show name, then a user prompt will warn the user.
- + The Encoder Selection Button for the screen encoder of screen 1 and 2 is intelligent now and changes its state with a focus change on screen 1 or screen 2.
- + Setup/Network/MA Network Control does only list consoles now All other stations can be configured, invited or dismissed via Setup/Network/MA Network Configuration.
- + Library of fixture types improved in grandMA2.
- + Multi patch can now be applied via the command line (e.g. Assign Channel 1 at DMX 1.1 thru 1.50 overwrites the actual patch of Channel 1. Assign DMX 1.60 at Channel 1 is adding a multi patch. DMX universes can also be addressed absolute now: e.g. Assign Channel 1 DMX 513 thru 1025.
- + RPU does have a screen saver option now.



- + MA button plus "." (dot) button does copy default values in the programmer for the selected Fixtures.
- \* Copy Cue X at Cue Y does copy all values now that have been entered in the Sequence Executor Sheet.
- \* Individual timings can now be taken out of the programmer by applying the option "basic" via the calculator, so cue timings are applied instead.
- \* Console settings, local exported macros, locally stored bitmap and fixture files are now copied when a new release is installed.
- \* Fixture X at Fixture Y does only copy non default values like in grandMA series 1 and uses the At Filter at the same time.
- \* Preset Time Fader can now be adjusted in seconds.
- \* If the width of a column in a sheet is adjusted and stored in a view, this adjustment is recalled when opening the view again.
- \* The option Multi Control is working again in the Fixture- and Channel Sheet.
- \* If Fixtures or Channels have been released, this is indicated with an (R) displayed in the Channel and Fixture Sheet.
- \* Text input in macros (e.g. Group("Which Group do you want to select?")) allows you to write a question mark in the user prompt text now.
- \* Off All Buttons, Off All Faders and Everything Off in the Off Menu is applied to all Executor Pages now.
- \* Activating dimmer values of Channels and Fixtures below 100% does only activate the value now and does not cause a jump to 100% now.
- \* The Smart View is automatically updated now.
- \* When controlling Fixtures which do not have the identical parameter (e.g. one with Pan / Tilt and one without) you can now enter values via the calculator again.
- \* You can select the units used for display above the Attribute Encoders via the Fixture Sheet. If more than one Fixture Sheet is used, then the last selected one controls them.
- \* Snap Delay Defaults in Setup/User/Defaults/Sequence Defaults/ are working now.
- \* When a Fixture Sheet is scrolled to do a certain selection, it keeps this state even if the user selects different Worlds now.
- \* The progress bar of Executors is now also considering Goto and Off commands combined with timings (e.g. Goto Cue 5 Fade 4).
- \* The At Filter is now working when used in combination with at Cue, At Preset and At Effect.
- \* Beam Intensities when editing fixture types can now have values above 180 (for 3D visualiser).
- \* Opening an edit window for an Executor and deleting Cue 1 does not crash the console any more.
- \* Disconnection of a session master automatically keeps the session alive by choosing another master station in the Session.
- \* When 2 consoles are connected and the slave console enters the setup and leaves it again, you will see no Art-Net value interruption any more.
- \* When you disconnect the association of a Channel or Fixture to the Grandmaster then you will see no Art-Net value interruption any more.
- \* Parked values are kept now when leaving the setup of a master console that is connected to a slave console.
- \* Relative Effects can now also have negative value ranges.
- \* It is now possible to copy ranges of Cues (e.g. Copy Cue 2 thru 4 at Cue 9).
- \* Edit Exec X and a Delete Cue Y does not crash the console any more.
- \* Edit Cue X does bring the status of the Cue in the Programmer including tracked information and not only the actual stored values in the Cue.
- \* If Part Cues are stored, a user prompt is only displayed now if the part already existed.

#### **Version 1.4.0.2, released 2009-09-11**

#### **General explanation of effects Short introduction into effects of grandMA2:**

When you think of the new effects - compare them very much to universal presets as you know them.

Effects contain 2 different kind of data sets:

- The first set contains generic rules.
- The second set contains individual overwrites for the generic rules per channel.

You may also want to compare this behaviour to basic/individual timing in cues.

Therefore we will call effect parameters that come from the generic rule BASIC, while we call the other effect parameters INDIVIDUAL.

#### **If you create a new effect by:**

- editing an empty effect
- adding one or more effect lines
- assigning attributes to the effect lines
- taking the current selection for the effect lines
- and playing around with the parameters

.. you will have a fully basic effect.

#### **There are 3 ways to run your new effect:**

- calling it like a preset into the programmer
- assigning it directly to an executor
- or storing it into a cue, after you called it like a preset

When you run it, you will see the effect parameters in the fixture sheet in grey, because your new effect only contains basic parameters.

But as soon as you switch your encoders to effect parameters and turn the encoder, you will activate individual overrides in the programmer and the update LED turns on.

Depending on the origin of your effect parameters, the update window will present you the choice to update the effect or alternatively to update the cue.

Updating the effect will store the individual changes into the effect, and all cues that use this effect in a basic way will also show the new effect parameters after the next go.

Updating the cue on the other side, will apply the individual changes to that cue only, and other cues that use the same effect in a basic way are not affected.

After updating, try to run the effect/cue again. The individual effect parameters are now standing out clearly in the fixture sheet, because they are coloured.

If you updated the effect and have a look at it in the effects editor, you might find 2 different things there:

- The effect changed its general rule by analysing the individual parameters The effect was also optimized in a way, that the majority of parameters that complied with the general rule is no more individual
- Effect lines that have individual parameters will be shown with a slightly red background

#### Another thing that differs from grandMA series 1 effects:

The output of an effect is calculated differently now. It is a value between VALUE1 and VALUE2 which are parameters of an effect line. The transition between VALUE1 and VALUE2 is controlled by the chosen FORM. It is even possible to use presets as VALUE1 or VALUE2 !!!

~ Programmer can not fade effects

#### + AsciiShowRead

*reads all files from USB sources.*

*supported at this time: Manufacturer 'Strand' Console 'GENIUSPLUS'*

*There is a warning, if you use a different source.*

*Goto Backup->USB->AsciiShowRead*

*Read All : create Setup + Data in an empty show.*

*Read Setup: create only the Setup in an empty show. (you can now check and maybe change the setup)*

*Read Data: create only the Data (works only if there is a matching Setup)*

*Group x below 900 will be at Preset All x.*

*Sub x will be assigned to Exec x.*

*Sub x Inhibit will be assigned to Exec x Group x.*

*Cuelist will be assigned to Exec 201 as DefaultExec.*

*Effect x will be assigned to Exec 100+x. Mode \$\$Bounce is supportet now.*

#### Other things:

+ Move functionality implemented

+ Saving a show to an existing filename or starting a show and naming that one identically to an existing filename does give you a prompt now if you want to overwrite it or cancel the process Writing "newshow anyshow /noconfirm" in the commandline creates a newshow without taking care if the chosen name is existing and no prompt will occur

+ Copy Cue implemented

\* NPU did not recognise a unpark command for Fixtures or values and did output the parked values until new values were

\* "Off" hardkey and a pressdown on one of the Attribute encoders deactivates that value in the Programmer but left an "off" in the commandline

\* "Assign Cue X Time Y" assigned time y to all the Cue and all Part Cues

\* Change of patch in "Patch&Fixture Schedule" sets DMX-values to zero when you leave the "Patch&Fixture Schedule"

\* Entering Modulator Sheets during a "Edit Bitmap X" crashed the console

\* Automatic numbering when setting Fixture names (e.g. Mac 1)P did not work

\* Copy Page x at Page y crashed the console

\* Identification of fixture type on the commandline view of the setup implemented

\* User fixture files with 16Bit resolution did only send the fine channels and not both DMX channels

\* Opening an Executor Sheet for a Sequence and doing a "Edit Sequence" / turning the "A" (Assert) or "MIB" encoder crashed the console

\* Stored Views in the Fixture Sheet did not correspond on a Page Down / Page Up selections (Fixture Sort has to be turned off)

\* Toggle assigned as a button function for an Executor does now reflect off timings

\* "Store Cue Thru" and choosing the option "remove" inserted new cues when gaps in Cue numbers were present in a Sequence

\* "Copy Preset x at Preset y" and choose "merge" allows you to merge two Presets now

\* Smart View is now linked with Attribute Encoders

\* Fixture Sheet options for Preset / Layer / Filter Control works correct again

\* Scrolling in an opened At Filter Menu deleted all selections in the filter

- \* Entering the setup from the GUI and from the command line and leaving the setup again crashed the console
- \* Entering the setup via Telnet is not possible anymore when any user is in the Setup via the GUI
- \* Store Preset X, label Preset X "33%", label Preset X "33% new" crashed the console
- ~ Attribute column of channel function is editable
- ~ Move Cue under development

#### **Version 1.3.0.1, released 2009-08-25**

- \* Change of patch in "Patch&Fixture Schedule" sets DMX-values to zero when you leave the "Patch&Fixture Schedule"

#### **Version 1.3, released 2009-08-13**

- + 4 Port Nodes are now implemented. Configuration only possible from grandMA2 console when the mode has been manually changed at the hardware interface of the NSP. The NSP has to run with version 6.123 from a update from grandMA series 1
- + New 2Port Node Version: 1.35. Configuration now possible from the grandMA2 console
- + A new user interface implementation for the effect engine has been started. This is not finalised, yet. Effect handling has not been improved until now
- + Goto Cue x Time y and Store Cue x Time y is now implemented (store Time y does store the next cue with a fade time and shortens the syntax)
- + Assign Time Time Time x Cue y assigns Delaytime x to cue y
- + Pressing Store or Assign and then Time button several times gives the following possibilities "Basic Fade", "Basic Out Fade", "Basic Delay", "Basic Out Delay", "Snap Percent" and "Command Delay"
- + Groups in the Group Pool do get a red bar if they are not part of the current world
- + Executors do now support Off Timings. Off Master allows to set a value between 0 to 10 sec
- + Option settings of the assign menu of an Executor are now also saved in the user profile. This covers Executor defaults, Chaser defaults, Effect Defaults, Bitmap Effects, Group Master and Special Master
- + Predefined Macros can now be inserted in the Macro menu. This is comparable to the Quikeys in grandMA
- + The Assignmenu, the edit Macro and the edit Effect menu can now be on Screen 1 or on Screen 2
- + Revised Backup menu: you can now create a new show and define with what settings to start
- + Grandmaster, Blackout, Solo and Highlite can be deactivated per user in Setup / User / Grandmaster B.O. etc. settings
- + Edit Channel x, Fixture x does open a edit dialogue on Screen 1
- + New functions in MA Network Configuration: Add Present, Remove Absent and Remove Non-Members
- + New function in MA Network Configuration: all members of the actual session will be displayed in green and can be invited / dismissed
- + Priorities of Executors are now displayed: < = Low, L = LTP, > = High, H = HTP, S = SWAP
- + The World Pool does now include a Attribute filter indicator
- + Remote DMX Input: new functionality "Programmer" = changed values from DMX In are now directly inserted into the Programmer
- + User profiles are now stored not only in the showfile but also in the consoles This means that loading a new show will keep the actual profile
- + Executing a save show command does save the show on the master and all other consoles in the session
- + In Backup / Load Show you can now select what to load from the showfile
- + "Edit Group" as a command does give you update functions now
- + "Copy Executor x <Page Up> at Executor y does allow copying of Executors across pages + "Edit Preset" or "Edit Group" does label the pool button now
- + In the remote settings there is now a new popup menu to select keycodes
- + All sheets do now display the World the user is working in
- \* Focus corrected: storing a Preset that was created in specialized color or - shaper dialogue the focus is now on the Preset and this can be directly labelled now
- \* VL3500 physical values of the shapers corrected
- \* Copy viewbutton x viewbutton y does work now
- \* Fixture sort in the Tracking Sheet does now work correctly
- \* Load Cue is now also displayed in the Tracking Sheet
- \* Executors can now display if they are selected, fixed or both at the same time
- \* Editing the Fade times with the calculator does now work for several cues in the Edit Sequence window
- \* Display for selected world works now in World Pool
- \* Gobo library revised
- \* Fixture type library revised (especially default values, highlight values and gobo wheels)
- \* Editing a Group in a Group Pool does open a Edit Menu and the Group is labelled with an "Edit" mark

- \* Delete or Edit Group x did not work when the user was not in a Full World
- \* The order of columns in a horizontal Fixture Sheet can also be stored in Views
- \* When having a Telnet connection to a console and working in the desk setup you can now close the telnet session without necessarily leaving the setup

#### Version 1.2, released 2009-07-20

+ 2Port Node is implemented for grandMA2. To update the 2port node use grandMA or grandMA onPC 6.122 as usual. The update in this version from grandMA2 does not work. There is no other way since the node in version 1.32 or below does not speak "grandMA2" language. In the future this procedure will work if the 2Port Node has ever seen Version 1.34.

+ 2Ports are now handled the way as NSP's are in grandMA and they have to be manually inserted in the setup. When clicking add you can see a list of all available units. In the future you can update the nodes from the console. "NNU" (network node update) in the command line and the "Software Update" soft button will do the job.

+ "NNI" (network node info) in the command line list the information about all available 2Port Nodes in the network.

+ Going out of desk lock the 100mm Main Executor and the Grandmaster recover their last position.

+ Graphical interface for DMX-port configuration of own console and devices in network.

+ Sequence Sheet has 5 Sets of columns.

+ Special Master functionality added to 100mm main executors.

+ Layer Control Bar in Channel- and Fixture Sheet does now reflect fade and delay values when in auto mode.

+ Assert option added in sequence content sheet This option reacts in terms of playback: if a value is tracked and not blocked in first sequence and overwritten by another sequence on an executor, enabling assert for the first sequence will output the tracked value of the first sequence even though the other executor is running.

+ Preset Time Fader for programmer now user independent over the whole network.

+ Update dialog implemented when editing a cue.

+ New wizard in the setup and patch and fixture schedule.

+ Renowned display of in- and outfade- and delay times in the sequence sheet.

+ Show upload is now compressed and allows shorter upload times.

+ Autosave is now implemented.

+ Onscreen keyboard implemented for command line for use in RPU / NPU.

+ Load Cue is also displayed in the Sequence Executor Sheet.

+ "Set to default" is now working for button assignments.

\* Dummy Parameters in fixtures could crash the desk when opening stage view.

\* Scrolling in smart view is now possible.

\* Graphical display of smart view is now correct.

\* Non motorized faders can now be grabbed and the red LED of faders not at the right position is now blinking.

\* Pressing Delete Hardkey and clicking on one of the numbers in Sequence Executor Sheet crashed the desk.

\* In the Sequence Executor Sheet delay and fade times are displayed correct now after transition is finished.

\* Assign Flash Executor Function Button 1 was always done on button 3.

\* Assign menu / "priority normal" changed to "priority LTP".

\* Less jitter and better notice of physical fixture limits in Crazy-Shaper-Dialog.

\* Better physical values in many build-in fixture types (e.g. for pan, tilt, zoom, shaper blades, beam angle, gobo rotation, ...).

\* Colors in color library corrected (mainly dark colors).

\* Fixed Playback View Pages took away the fixation of Executors.

\* Cue Fade and Delay times were not executed when jumping from the last to the first step of a sequence.

\* Update of Part Cues now possible.

\* Update window does close now automatically after an update process is finished.

\* "Edit Group" crashed the desk.

\* A Sequence over 2 Fader Executors and with speed on the second fader crashed the desk.

\* A fixture without Pan / Tilt attribute is not editable any more in setup and Edit Fixture Window.

\* Streaming ACN implementation redone.

\* Power Button of the RPU is working now.

\* Display of the ScrLck key is now working.

\* Everything Off in the off menu is now working.

\* Stations that do have a different streaming version or with Station Invitation "disabled" are now displayed red in the MA Net Control Window.

\* The console crashed when "thru" was inserted in info column of the Sequence Sheet.

- \* A blade that was dragged to far out of the Shaper Dialogue could freeze and not be moved any more.
- \* Cue Colour did not work as an option in the Fixture Sheet.

#### **Version 1.1, released 2009-06-17**

- + Copy programmer values from other fixtures: Fixture [Fixture List] At Fixture [Fixture List].
- + Artnet2 implemented (if not more then 2 Nodes per universe are found).
- + AT-Filter-Window (long press on "AT").
- + Improved Off Menu.
- + Activating the Scroll-Lock key interprets any keyboard press to the command line.
- + Improved Update Menu.
- + Page names are now displayed in the console.
- + Invite Station is now implemented in the network options.
- + Auto Invite option added to the network options.
- + Improved Art-Net and Streaming ACN protocol implementation.
- + Desk Lock dialogue now implemented.
- + Part Cues contain now additional info column.
- + Closing Edit Windows for sequences now automatically closes the bar above the encoders.
- + To keep the bar above encoders Edit Windows now feature a option: Keep Bar.
- + Editing fixtures in the fixture sheet gives access to the swatch book to select colours.
- + Channel and Fixture sheets now store their internal cut out.
- \* Inviting / dismissing a NPU caused all DMX values to default.
- \* Selecting several rows in a layer in the setup caused a crash.
- \* Changing worlds when having a fixture sheet with programmer only option enabled caused a crash.
- \* Renaming all fixtures of a layer in the setup caused a crash.
- \* Editing a selected Executor and deleting anything caused a crash.
- \* Editing a Executor and pushing down Encoder 1 caused a crash.
- \* When shutting down the console while being in the fixture schedule the console crashed.
- \* Focus and zoom were not displayed right in the Fixture Sheet.
- \* Presets were not storeable when the encoders were assigned for video presets.
- \* Some attributes were not displayed above the encoders.
- \* Dimmer encoder was controlling the master of a sequence when opening a edit sequence window.
- \* Turing Window Encoder 3 caused a Update when a update windows was already open.
- \* When entering command line information a turn a Window Encoder deleted the entry in the command line.
- \* Networked consoles did not handle the motor fader correct when changing pages.
- \* Ifoutput selected also fixtures that had values other then their defaults (e.g. Gobo).
- \* The contents of Presets were deleted when adding new Fixtures.
- \* Changing Effects in their form caused a crash.
- \* Activating Blind Mode caused wrong output in stage view.
- \* Controlling RGB and CMY fixtures with the special colour dialogue now possible at the same time.

#### **Version 1.0, released 2009-05-19**

- + The Loop function in Sequence is now active.
- + The Executor default button and fader assignment is storable as default now.
- + The Shaper-Dialog remembers point of view (POV) of each fixture inclusive undo.
- + There is a new Color library function available in the Crazy-Multitouch-Color-Dialog.
- + A new Column "Id" (Fixture-/Channel-Id) is added in the Setup/Fixture-Positions.
- + Crazy-Multitouch-Shaper-Dialog: A new reset button to reset all shapers.
- + HSB- Color Picker in the Crazy-Multitouch-Color-Dialog has now a "fat finger" border.
- + Bitmap Effects Editor: Added some menus with better control.
- + GOTO and LOAD command implemented.
- + COLOR keyword command implemented.
- + FLIP command implemented. Syntax: FLIP [flipnumber] [objectlist]

+ IFOUTPUT command implemented. Syntax: [+/-/INVERT] IFOUTPUT [AT from\_value THRU to\_value] [+/-/INVERT] [objectlist]. The [+/-/INVERT] selection mode can be in front or in the middle of the command as you prefer to type it. grandMA 1 syntax allowed the selection mode only in the middle of the command.

+ Release notes and version info at "Setup -> Console -> Software Update".

+ Group Selection has Order Numbers now.

+ Speed Group Master works for Chaser and Sequence now.

+ A new Store View Dialog with screen selection.

+ 50 Playback Special Master for Sequence.

+ Split Fade and A/B Fade option button.

+ Kill protect / Swap protect option button.

+ Swop function in the button assignment.

+ Update Menu implemented.

+ Off Menu implemented. The Off timing is not available now.

+ A new Pool option : Frame color.

+ The Desk lock function works with ALT+Pause.

+ Screen saver time and off setting in the Setup menu.

+ Patch Subfixtures is supported now.

+ RPU has now network functionality.

\* Crazy-Multitouch-Color-Dialog ignores (last selected) fixtures without RGB/CMY-Channels.

\* Stage-Wizard / Matrix-Arrangement: Width -> Horizontal Interval (=Width/Columns Count); Height -> Vertical Interval (=Height/Rows Count) new direction settings.

\* Arrangement-Wizard remembers last selected arrangement type.

\* Stage-Wizard and Stagebar respects the order of selection.

\* MA Network control menu now in setup/Network.

\* Sequence executor sheet modified.



## Topic: Index

This an Index of pages in the manual.

If you don't find what you are looking for here, you might want to try the search function.

### A:

ACN - see [Streaming ACN](#) (network setup menu)

[Action Buttons \(Window\)](#)

[Agenda \(Concept\)](#)

[Agenda \(Keyword\)](#)

[Agenda \(Window\)](#)

[Agenda \(Encoder Toolbar\)](#)

[Align \(Key\)](#)

[Align \(Keyword\)](#)

[AlignFaderModules \(Keyword\)](#)

[All \(Keyword\)](#)

[AllButtonExecutors \(Keyword\)](#)

[AllChaseExecutors \(Keyword\)](#)

[AllFaderExecutors \(Keyword\)](#)

[AllRows \(Keyword\)](#)

[AllSequenceExecutors \(Keyword\)](#)

[Analog Remote \(task - connecting\)](#)

[ArtNet \(task - connecting\)](#)

[ArtNet \(network setup menu\)](#)

[Assign \(Key\)](#)

[Assign \(Keyword\)](#)

[Assign \(Menu\)](#)

[Assign Preset \(Pop-Up\)](#)

[\\* - Asterisk \(Character\)](#)

[@ - At sign \(Character\)](#)

[Attribute \(Concept\)](#)

[At \(Key\)](#)

[At \(Keyword\)](#)

[Attribute \(Keyword\)](#)

[Attribute and Encoder Grouping \(Setup Menu\)](#)

[Attribute Filter \(Pop-Up\)](#)

[Auto Create \(setup menu\)](#)

## **B:**

[Backg \(Key\)](#)

[Backup \(Concept\)](#)

[Backup \(Key\)](#)

[Backup \(Keyword\)](#)

[Backup Menu \(Window\)](#)

[Basic Tutorial 1 \(Tutorial\)](#)

[Basic Tutorial 2 \(Tutorial\)](#)

[Bitmap \(Concept\)](#)

[Bitmap \(Keyword\)](#)

[Bitmap Effect Editor \(Pop-Up\)](#)

[Bitmap Effect Editor Encoder Toolbar \(Window\)](#)

[Bitmap Effect Encoder Toolbar \(Window\)](#)

[Bitmap Effect Tutorial \(Tutorial\)](#)

[Black \(Keyword\)](#)

[Blackout \(Keyword\)](#)

[Blade Mode - Specialized Shaper Dialog \(Window\)](#)

[Blind \(Key\)](#)

[Blind \(Keyword\)](#)

[BlindEdit \(Keyword\)](#)

[Block \(Keyword\)](#)

[Browser \(Pop-Up\)](#)

[Bt Pg+ \(Key\)](#)

[Bt Pg- \(Key\)](#)

[ButtonPage \(Keyword\)](#)

[B.O. \(Key\)](#)

## **C:**

[Calculator \(Pop-up\)](#)

[Call \(Keyword\)](#)

[Ch Pg+ \(Key\)](#)

[Ch Pg- \(Key\)](#)

[Channel \(Key\)](#)

[Channel \(Keyword\)](#)

[Channel Sheet \(Window\)](#)

[Channels & Fixtures \(Concept\)](#)

[ChannelDest \(Keyword\)](#)

[ChannelFader \(Keyword\)](#)

[ChannelFunction \(Fixture profile\)](#)

[ChannelLink \(Keyword\)](#)

[ChannelPage \(Keyword\)](#)  
[ChannelPage Pool \(Window\)](#)  
[ChannelSet \(Fixture profile\)](#)  
[ChannelType \(Fixture profile\)](#)  
[Chaser \(Concept\)](#)  
[Chaser - Edit Chaser pop-up \(Window\)](#)  
[Chaser Encoder Toolbar \(Window\)](#)  
[Chaser Mini executor \(Window\)](#)  
[CircularCopy \(Keyword\)](#)  
[Circular Copy \(Tools Menu\)](#)  
[Clear \(Key\)](#)  
[Clear \(Keyword\)](#)  
[ClearActive \(Keyword\)](#)  
[ClearAll \(Keyword\)](#)  
[ClearSelection \(Keyword\)](#)  
[Clock \(Window\)](#)  
[Clone \(Keyword\)](#)  
[CmdDelay \(Keyword\)](#)  
[CmdHelp \(keyword\)](#)  
[Colordim Concept](#)  
[Colors in Sheets](#)  
[Commandline \(Concept\)](#)  
[Commandline Browsing \(Concept\)](#)  
[Command Line \(Window\)](#)  
[Commandline Guide \(Guide\)](#)  
[Concept Guide \(Guide\)](#)  
[Concepts \(Concept\)](#)  
[Console Geography](#)  
[Content Sheet - \[Sequence Content Sheet \\(Window\\)\]\(#\)](#)  
[Copy \(Key\)](#)  
[Copy \(Keyword\)](#)  
[Corner Mode - Specialized Shaper Dialog \(Pop-Up\)](#)  
[Create Basic Window \(Pop-Up\)](#)  
[Crossfade \(Keyword\)](#)  
[CrossfadeA \(Keyword\)](#)  
[CrossfadeB \(Keyword\)](#)  
[Cue \(Key\)](#)  
[Cue \(Keyword\)](#)  
[Cues & Sequences \(Concept\)](#)

**D:**

[Date & Time \(Setup menu\)](#)  
[Default \(Keyword\)](#)  
[Default Preset \(Create task\).](#)  
[Default User Settings \(Setup menu\)](#)  
[Del \(Key\)](#)  
[Delay \(Keyword\)](#)  
[Delete \(Keyword\)](#)  
[Delete Show \(Pop-Up\)](#)  
[DeleteShow \(Keyword\)](#)  
[Desk Lights \(Setup menu\)](#)  
[Desk Status \(Window\)](#)



[Diagnostics \(Pop-Up\)](#)

Dimmer Preset - [Preset Pool \(Window\)](#)

[Disclaimer](#)

[DisconnectStation - DS \(Keyword\)](#)

[DMX \(Keyword\)](#)

[DMX Channels vs. Parameters \(Concept\)](#)

[DMX List \(Setup menu\)](#)

[DMX In Merge \(Tutorial\)](#)

[DMX Patch \(Pop-Up\)](#)

[DMX Profile \(Setup menu\)](#)

[DMX Protocols \(Setup menu\)](#)

[DMX Sheet \(Window\)](#)

[DMX Tester \(Encoder Toolbar\)](#)

[\\$ - Dollar Sign \(Character\)](#)

[. - Dot Sign \(Character\)](#)

[. - Dot \(Key\)](#)

[Down \(Key\)](#)

## E:

[Edit \(Key\)](#)

[Edit \(Keyword\)](#)

[Edit Channel \(Pop-Up\)](#)

[Edit Color \(Pop-Up\)](#)

[Edit Cue Number \(Pop-Up\)](#)

[Edit Fixture \(Pop-Up\)](#)

[Edit Fixture Type \(Setup Menu\)](#)

[Edit Sequence \(Pop-Up\)](#)

[Editors \(Pop-Ups\)](#)

[Effect \(Key\)](#)

[Effect \(Keyword\)](#)

[Effect Pool \(Window\)](#)

[Effect Tutorial](#)

[Effects \(Concept\)](#)

[Effects \(Task\)](#)

[\[Encoder\] \(Key\)](#)

[Encoder Settings \(Pop-Up\)](#)

[Encoder Toolbars](#)

[Enter Date \(Pop-Up\)](#)

[Enter Name \(Pop-Up\)](#)

[Errors - Warnings & Errors \(Pop-Up\)](#)

[Error Messages](#)

[Esc \(Key\)](#)

[Ethernet \(Connecting task\)](#)

[Exec \(Key\)](#)

[ExecButton1 \(Keyword\)](#)

[ExecButton2 \(Keyword\)](#)

[ExecButton3 \(Keyword\)](#)

[ExecButton4 \(Keyword\)](#)

[Executor \(Keyword\)](#)

[Executor Buttons](#)

[Executor \(Encoder Toolbar\)](#)

[Executor Labels](#)

[Executor Page Pool \(Window\)](#)

Executor Sheet - [Sequence Executor Sheet \(Window\)](#)

[Executors \(Concept\)](#)

[Expansion of parameters \(Concept\)](#)

[Export \(Keyword\)](#)

[Export \(Tasks\)](#)

[External Connections \(Tasks\)](#)

[External Screens \(Connecting task\)](#)

[Extract \(Keyword\)](#)

## **F:**

[Fade \(Keyword\)](#)

[Fader \(Keyword\)](#)

[Fader - Specialized Color Dialog \(Pop-Up\)](#)

[Fader - Specialized Shaper Dialog \(Pop-Up\)](#)

[FaderPage \(Keyword\)](#)

[Faderwing Specification](#)

[Faderwing \(Connect task\)](#)

[Fd Pg+ \(Key\)](#)

[Fd Pg- \(Key\)](#)

[Feature \(Keyword\)](#)

[Fix \(Key\)](#)

[Fix \(Keyword\)](#)

[Fixture \(Key\)](#)

[Fixture \(Keyword\)](#)

[Fixture Positions \(Setup Menu\)](#)

[Fixture Schedule \(Concept\)](#)

[Fixture Sheet \(Window\)](#)

[Fixture Types \(Setup Menu\)](#)

[Fixture Types Tutorial](#)

[FixtureType \(Keyword\)](#)

[FixtureType \(Object\)](#)

[Flash \(Keyword\)](#)

[Flip \(Keyword\)](#)

[Flip \(Tools Menu\)](#)

[Form \(Keyword\)](#)

[Freeze \(Key\)](#)

[Freeze \(Keyword\)](#)

[Full \(Key\)](#)

[Full \(Keyword\)](#)

[Full-Size Specification](#)

## **G:**

[Go \(Keyword\)](#)

[Go+ \(Key\)](#)

[Go+ - Large \(Key\)](#)

[Go- \(Key\)](#)

[Go- - Large \(Key\)](#)

[GoBack \(Keyword\)](#)

[Gobo Presets \(Window\)](#)

[Goose Neck lights - Littlights \(Connecting task\)](#)

[Goto \(Key\)](#)

[Goto \(Keyword\)](#)

[Graph Editor \(Window\)](#)

[Graph Editor \(Encoder Toolbar\)](#)

[Group \(Key\)](#)

[Group \(Keyword\)](#)

[Group - Auto Create \(Setup Menu\)](#)

[Group Master \(Window\)](#)

[Group Pool \(Window\)](#)

[Groups \(Concept\)](#)

[GUI - Graphic User Interface \(Concept\)](#)

[Guides to the manual](#)

## **H:**

[Help \(Key\)](#)

[Help \(Keyword\)](#)

[Help \(Pop-Up\)](#)

[Help Viewer \(Window\)](#)

[Highlt \(Key\)](#)

[Highlight \(Keyword\)](#)

[Highlight Presets \(Create task\)](#)

[HSB - Special Color Dialog \(Pop-Up\)](#)

## **I:**

[If \(Key\)](#)

[If \(Keyword\)](#)

[IfActive \(Keyword\)](#)

[IfOutput \(Keyword\)](#)

[IfProg \(Keyword\)](#)

[Import \(Keyword\)](#)

[Import \(Tasks\)](#)

[Import Export \(Setup Menu\)](#)

[ImportResource \(Keyword\)](#)

[Info \(Keyword\)](#)

[Info \(Window\)](#)

[Insert \(Keyword\)](#)

[Install Software \(Task\)](#)

[Instance Manager \(Setup Menu\)](#)

[Instances \(Fixture Type\)](#)

[Interleave \(Keyword\)](#)

[Introduction to the manual](#)

[Invert \(Keyword\)](#)

[InviteStation - IS \(Keyword\)](#)

## **J:**

[JoinSession - JS \(Keyword\)](#)

## **K:**

[Keyboard Keys](#)

[Keys & Buttons Guide](#)

[Keys & Buttons Reference](#)

[Kill \(Keyword\)](#)

[Kinet1 DMX protocol \(Setup Menu\)](#)

**L:**

[Label \(Keyword\)](#)  
[Labeling \(Concept\)](#)  
[Layer \(Keyword\)](#)  
[Layout \(Keyword\)](#)  
[Layout View \(Window\)](#)  
[Layout View Pool \(Window\)](#)  
[Layout View Setup \(Encoder Toolbar\)](#)  
[Layouts \(Concept\)](#)  
[Learn \(Key\)](#)  
[Learn \(Keyword\)](#)  
[LeaveSession - LS \(Keyword\)](#)  
[Light - grandMA Light Specifications](#)  
[List \(Key\)](#)  
[List \(Keyword\)](#)  
[ListEffectLibrary \(Keyword\)](#)  
[ListFaderModules \(Keyword\)](#)  
[ListLibrary \(Keyword\)](#)  
[ListMacroLibrary \(Keyword\)](#)  
[ListShows \(Keyword\)](#)  
[ListUserVar \(Keyword\)](#)  
[ListVar \(Keyword\)](#)  
[Littlight \(Connect task\)](#)  
[Load \(Keyword\)](#)  
[Load a Show \(Task\)](#)  
[Load for PSR \(Pop-Up\)](#)  
[Load Show \(Pop-Up\)](#)  
[LoadShow \(Keyword\)](#)  
[Local Settings \(Setup Menu\)](#)  
[Locate \(Keyword\)](#)  
[Lock \(Keyword\)](#)  
[Login \(Keyword\)](#)  
[Login \(Window\)](#)  
[Logout \(Keyword\)](#)

**M:**

[MA \(Key\)](#)  
[MA Network Configuration \(Setup Menu\)](#)  
[MA Network Control \(Setup Menu\)](#)  
[Macro \(Concept\)](#)  
[Macro \(Key\)](#)  
[Macro \(Keyword\)](#)  
[Macro \(Tasks\)](#)  
[Macro \(Tutorial\)](#)  
[Macro Editor \(Pop-Up\)](#)  
[Macro Pool \(Window\)](#)  
[Manual Guides](#)  
[Master \(Keyword\)](#)  
[MAtricks \(Encoder Toolbar\)](#)  
[Matricks \(Keyword\)](#)  
[MAtricks \(Tutorial\)](#)

[MATricks Pool \(Window\)](#)  
[MatricksBlocks \(Keyword\)](#)  
[MatricksFilter \(Keyword\)](#)  
[MatricksGroups \(Keyword\)](#)  
[MatricksInterleave \(Keyword\)](#)  
[MatricksReset \(Keyword\)](#)  
[MatricksWings \(Keyword\)](#)  
[Max Exec Time \(User Settings\)](#)  
[Max Program Time \(User Settings\)](#)  
[Menu \(Keyword\)](#)  
[Menus \(Windows\)](#)  
[Merge \(Keyword\)](#)  
[Midi \(Connect Hardware task\)](#)  
[Midi Remote \(Remote Input Setup\)](#)  
[Midi Show Control \(Setup Menu\)](#)  
[MidiControl \(Keyword\)](#)  
[MidiNote \(Keyword\)](#)  
[MidiProgram \(Keyword\)](#)  
[Minus \(Key\)](#)  
[Module Manager \(Setup Menu\)](#)  
[Modules \(Fixture Type\)](#)  
[Mouse \(Key\)](#)  
[Move \(Key\)](#)  
[Move \(Keyword\)](#)  
[Multi Oops \(Pop-Up\)](#)  
[Multiple key press list](#)  
[Multiuser \(Concept\)](#)

**N:**

[NDP \(Setup Menu\)](#)  
[Network \(Manual Guide\)](#)  
[Network \(Setup Menu\)](#)  
[Network Configuration \(Setup Menu\)](#)  
[Network Control \(Setup Menu\)](#)  
[Network Dimmer \(Window\)](#)  
[NetworkInfo \(Keyword\)](#)  
[Networking \(Concept\)](#)  
[New Show \(Pop-Up\)](#)  
[NewShow \(Keyword\)](#)  
[Next \(Key\)](#)  
[Next \(Keyword\)](#)  
[NextInterleave \(Keyword\)](#)  
[NextRow \(Keyword\)](#)  
[Normal \(Keyword\)](#)  
[NPU \(Concept\)](#)  
[NPU \(Manual Guide\)](#)  
[NPU \(Setup Menu\)](#)  
[NPU Specifications](#)  
[NPU Tutorial](#)  
[NPU \(Windows\)](#)  
[NPU \(Hardware Tasks\)](#)  
[NPU \(Software Tasks\)](#)

[\[Numeric\] \(Keys\)](#)

## O:

[Object Keywords](#)

[Objects \(Fixture Type\)](#)

[Objects \(Commandline\)](#)

[Object list \(Commandline\)](#)

[Off \(Key\)](#)

[Off \(Keyword\)](#)

[Off Menu \(Window\)](#)

[On \(Key\)](#)

[On \(Keyword\)](#)

[OnOffTime \(Keyword\)](#)

[OnPC parameters and nodes \(Concept\)](#)

[Oops \(Key\)](#)

[Oops \(Keyword\)](#)

[Oops Settings \(Setup Menu\)](#)

[Options - Pools \(Windows\)](#)

[Options - Presets \(Windows\)](#)

[Options - Sheets \(Windows\)](#)

[Other \(windows\)](#)

[OutDelay \(Keyword\)](#)

[OutFade \(Keyword\)](#)

## P:

[Page \(Key\)](#)

[Page \(Keyword\)](#)

[Parameter count and expansion \(Concept\)](#)

[\(\) - Parentheses \(Characters\)](#)

[Park \(Keyword\)](#)

[Partial Show Read \(Pop-Up\)](#)

[Partial Show Read Prepare \(Pop-Up\)](#)

[Patch & Fixture Schedule \(Setup Menu\)](#)

[Patch Conventionals \(Task\)](#)

[Patch Moving lights \(Task\)](#)

[Patch Only \(Setup Menu\)](#)

[Pathport \(Setup Menu\)](#)

[Pause \(Key\)](#)

[Pause - Large \(Key\)](#)

[Pause \(Keyword\)](#)

[Performance \(Window\)](#)

[Playbacks \(Windows\)](#)

[Playback + MIB Timing \(Setup Menu\)](#)

[Please \(Key\)](#)

[Please Confirm \(Pop-Up\)](#)

[+ Plus \(key\)](#)

[Pools \(Windows\)](#)

[Pop-Ups \(Windows\)](#)

[Power \(Connect task\)](#)

[Preset \(Key\)](#)

[Preset \(Keyword\)](#)

[Preset - Auto Create \(Setup Menu\)](#)

[Preset Pools \(Windows\)](#)

[Preset Default \(Setup Menu\)](#)

[Presets \(Concept\)](#)

[PresetType \(Keyword\)](#)

[Prev \(Key\)](#)

[Preview \(Keyword\)](#)

[PreviewEdit \(Keyword\)](#)

[PreviewExecutor \(Keyword\)](#)

[Previous \(Keyword\)](#)

[PrevRow \(Keyword\)](#)

[PrevInterleave \(Keyword\)](#)

[Programmer \(Concept\)](#)

[Programming \(Tasks\)](#)

[Protocols - DMX protocols \(Setup Menu\)](#)

[Prvw \(Key\)](#)

## Q:

["" - Quotes \(Characters\)](#)

## R:

[Rate1 \(Keyword\)](#)

[RDM Status \(Pop-Up\)](#)

[Reboot \(Keyword\)](#)

[Record \(Keyword\)](#)

[Reinstall Software \(Task\)](#)

[Release Notes](#)

[Remote \(Keyword\)](#)

[Remote \(Windows\)](#)

[Remote Input Setup \(Setup Menu\)](#)

[Replay Unit \(Concept\)](#)

[Replay Unit Specifications](#)

[Reset Console \(Task\)](#)

[Restart Console after crash \(Task\)](#)

[Resource Update \(Setup Menu\)](#)

[Root \(Keyword\)](#)

[Running Effects \(Window\)](#)

## S:

[SaveShow \(Keyword\)](#)

[Screen \(Keyword\)](#)

[Screen \(Connect hardware task\)](#)

[Screen Options \(Setup Menu\)](#)

[Select \(Key\)](#)

[Select \(Keyword\)](#)

[SelectDrive \(Keyword\)](#)

[Selection \(Concept\)](#)

[Selection \(Keyword\)](#)

[Selfix \(Keyword\)](#)

[;- Semicolon \(Character\)](#)

[Sequ \(Key\)](#)

[Sequence \(Keyword\)](#)

[Sequence \(Encoder Toolbar\)](#)

[Sequence Pool \(Window\)](#)

[Set \(Key\)](#)  
[SetIP \(Keyword\)](#)  
[Settings - Global \(Setup Menu\)](#)  
[Settings - Local \(Setup Menu\)](#)  
[Setup \(Key\)](#)  
[Setup \(Keyword\)](#)  
[Setup Menu](#)  
[SetUserVar \(Keyword\)](#)  
[SetVar \(Keyword\)](#)  
[Sheets \(Windows\)](#)  
[Sheet Options \(Window\)](#)  
[Show Converter](#)  
[ShuffleSelection \(Keyword\)](#)  
[Shuffle Selection \(Tools Menu\)](#)  
[ShuffleValues \(Keyword\)](#)  
[Shuffle Values \(Tools Menu\)](#)  
[Shutdown \(Keyword\)](#)  
[>>> - Skip+ \(Key\)](#)  
[>>> - Skip+ \(Keyword\)](#)  
[<<< - Skip- \(Key\)](#)  
[<<< - Skip- \(Keyword\)](#)  
[/ - Slash \(Character\)](#)  
[Slot \(Fixture Type\)](#)  
[Small Playback window](#)  
[Small Select Pop-ups](#)  
[Smart \(Window\)](#)  
[SMPTE \(Connect hardware task\)](#)  
[SnapPercent \(Keyword\)](#)  
[Software tasks](#)  
[Software Update \(Setup Menu\)](#)  
[Solo \(Key\)](#)  
[Solo \(Keyword\)](#)  
[Sound \(Connect hardware task\)](#)  
[Sound \(Window\)](#)  
[Specialized Dialogs \(Pop-Ups\)](#)  
[SpecialMaster \(Keyword\)](#)  
[Specifications](#)  
[Speed \(Keyword\)](#)  
[\[\] - Square Brackets \(Characters\)](#)  
[Stage \(Window\)](#)  
[Stage & 3D \(Concept\)](#)  
[Stage Setup \(Encoder Toolbar\)](#)  
[Stage Wizard \(Pop-Up\)](#)  
[Station-List \(Commandline\)](#)  
[StepFade \(Keyword\)](#)  
[Stomp \(Keyword\)](#)  
[Store \(Key\)](#)  
[Store \(Keyword\)](#)  
[Store \(Encoder Toolbar\)](#)  
[Store Method \(Pop-Up\)](#)  
[Store Options \(Setup Menu\)](#)



[Store Options Temporarily \(Pop-Up\)](#)

[Store View Options \(Pop-Up\)](#)

[Strand Shownet \(Setup Menu\)](#)

[Streaming ACN - sACN \(Setup Menu\)](#)

[Swap \(Keyword\)](#)

[Swatch Book - Specialized Color Dialog](#)

[Syntax \(Commandline\)](#)

[System Monitor \(Window\)](#)

[System Overview](#)

## T:

[Tasks](#)

[Tasks Guide](#)

[Temp \(Key\)](#)

[Temp \(Keyword\)](#)

[Template Effects \(Tutorial\)](#)

[Terminology](#)

[Thru \(Key\)](#)

[Thru \(Keyword\)](#)

[Time \(Key\)](#)

[Time - Date & Time \(Setup Menu\)](#)

[Time Code Editor \(Pop-Up\)](#)

[Timecode \(Concept\)](#)

[Timecode \(Keyword\)](#)

[Timecode \(Encoder Toolbar\)](#)

[Timecode Editor \(Pop-Up\)](#)

[Timecode Pool \(Window\)](#)

[Timecode View \(Window\)](#)

[Toggle \(Keyword\)](#)

[Toolbar - Encoder Toolbars](#)

[Tools \(Key\)](#)

[Tools \(Menu\)](#)

[Top \(Key\)](#)

[Top \(Keyword\)](#)

[Touchscreens / GUI \(Concept\)](#)

[Trackball Rotation \(Pop-Up\)](#)

[Tracking \(Concept\)](#)

[Tracking Sheet - Sequence Tracking Sheet \(Window\)](#)

[Tracking Options \(Pop-Up\)](#)

[Tutorials](#)

[Tutorials Guide](#)

## U:

[U1 - U4 \(Keys\)](#)

[Ultra-Light Specifications](#)

[Unblock \(Keyword\)](#)

Undo - see "Oops"

[Universe Pool \(Window\)](#)

[Universe - Edit \(Editor Pop-Up Window\)](#)

[Unoops \(Keyword\)](#)

[Unpark \(Keyword\)](#)

[Up \(Key\)](#)

[Update \(Key\)](#)

[Update \(Keyword\)](#)

[Update \(Pop-Up\)](#)

[Update Software \(Task\)](#)

[UpdateFirmware \(Keyword\)](#)

[User \(Keyword\)](#)

[User + Profiles Setup \(Setup Menu\)](#)

[User1 \(Key\)](#)

[User2 \(Key\)](#)

[UserProfile \(Keyword\)](#)

## V:

[V1 - V10 \(Keys\)](#)

[Version \(Keyword\)](#)

[View \(Key\)](#)

[View \(Keyword\)](#)

[View Buttons](#)

[ViewButton \(Keyword\)](#)

[ViewPage \(Keyword\)](#)

[View Pool \(Window\)](#)

[grandMA 3D Visualizer Configuration \(Setup Menu\)](#)

[grandMA VPU Video Configuration \(Setup Menu\)](#)

## W:

[Warnings and Errors \(Pop-Up\)](#)

[Welcome to the Manual](#)

[Wheel Manager \(Setup Menu\)](#)

[Wheels \(Fixture Type\)](#)

[Window Settings \(Setup Menu\)](#)

[Windows \(Concept\)](#)

[Windows - All the different windows and views](#)

[Windows Manual Guide](#)

[World \(Keyword\)](#)

[World - Auto Create \(Setup Menu\)](#)

[World Pool \(Window\)](#)

[Worlds \(Concept\)](#)

## X:

[X1 - X20 \(Keys\)](#)

## Y:

There's nothing in here that begins with "Y"!

## Z:

[Zero \(Keyword\)](#)

Hope you found what you are looking for.

If you think something is missing or should be explained more in detail please let us know. You can contact the Manual Team using [this form](#). Since it only allows you to send a message to us, please be as precise as possible :-)

## Table Of Contents

[Welcome](#)

[Manual Guide](#)

[Guide - Commandline](#)

[Guide - Keys & Buttons](#)

[Guide - Windows](#)

[Guide - Tutorials](#)

[Guide - Tasks](#)

- [Guide - Concept](#)
- [Guide - Network](#)
- [Guide - Macro](#)
- [Guide - NPU](#)
- [Introduction](#)
  - [Disclaimer](#)
  - [About the manual](#)
  - [Terminology](#)
  - [System Overview](#)
  - [Console Geography](#)
    - [Console Backpanel](#)
- [Concepts](#)
  - [Basic Operation](#)
    - [Attributes](#)
    - [Backup](#)
    - [Channels & Fixtures](#)
    - [Commandline](#)
    - [Cues & Sequences](#)
    - [Effects](#)
    - [Executors](#)
    - [Groups](#)
    - [Labeling](#)
    - [Presets](#)
    - [Programmer](#)
    - [Selection](#)
    - [Touchscreens / GUI](#)
    - [Tracking](#)
    - [Windows](#)
  - [System Setup](#)
    - [Fixture Schedule](#)
  - [Extended Operation](#)
    - [Agenda](#)
    - [Bitmaps](#)
    - [Chaser](#)
    - [Colordim](#)
    - [Commandline Destination](#)
    - [DMX Channels vs. Parameters](#)
    - [Hard key overview](#)
    - [Layouts](#)
    - [Macros](#)
    - [MSC](#)
      - [Decimal - Hex Table](#)
    - [Multiple key presses](#)
    - [Multiuser](#)
    - [Networking](#)
    - [NPU \(Network Processing Unit\)](#)
    - [Parameter expansion](#)
    - [Replay Unit](#)
    - [grandMA Show Converter](#)
    - [Stage & 3D](#)
    - [Timecode](#)
    - [Worlds, Filters and Masking](#)
    - [Worlds](#)
- [Tutorials](#)
  - [Tutorial Basic 1](#)
    - [Create a New Show](#)
    - [Patching Dimmers](#)
    - [Using Windows and Screens](#)
    - [Controlling Channels](#)
    - [Groups](#)
    - [Storing the first cue](#)
    - [Creating More Cues](#)
    - [Editing the Sequence](#)
  - [Tutorial Basic 2](#)
    - [Adding Moving Lights](#)
    - [Fixture Sheet](#)
    - [Controlling Fixtures](#)
    - [Preset Pools](#)
    - [Making Presets](#)
    - [A Second Sequence](#)
    - [Using Worlds](#)
  - [Tutorial Macros](#)
    - [CommandLine Interaction](#)
    - [Using Variables](#)
    - [Creating popups](#)
    - [Conditional Expressions](#)
    - [Macro Timing](#)
    - [Automate Settings](#)
    - [Import/Export](#)
  - [Tutorial FixtureTypes](#)
    - [Create a basic FixtureType](#)
  - [Tutorial Fixtures](#)
    - [Calibrate Fixture Position](#)
  - [Tutorial Effect](#)
    - [Setting up the show](#)
    - [Make an effect in the programmer](#)
    - [Make a template effect](#)
    - [Make an effect that use presets](#)
    - [Using Effects in cues](#)
    - [Edit effects using the Command Line](#)
    - [Change an effect using a macro](#)
    - [Different ways to use effects](#)
  - [Tutorial Sequences](#)

- [Working with MIB](#)
- [Working with Cue-modes](#)
- [Layout Tutorial](#)
  - [The Setup](#)
  - [Storing the dimmers into a Layout](#)
  - [Adding a background image](#)
  - [Setting up the Fixtures](#)
  - [The LEDs](#)
  - [The Movers](#)
  - [Adding pool elements](#)
  - [Final changes](#)
- [Bitmap Effect Tutorial](#)
  - [Bitmap Effect Tutorial - Setup Show](#)
  - [Bitmap Effect Tutorial - Create a Rainbow Scrolling Bitmap Effect](#)
  - [Bitmap Effect Tutorial - Create a Rotating Spiral Bitmap Effect](#)
- [MATricks Tutorial](#)
  - [MATricks Tutorial - MATricksInterleave](#)
  - [MATricks Tutorial - MATricksBlocks](#)
  - [MATricks Tutorial - MATricksWings](#)
  - [MATricks Tutorial - MATricksGroups](#)
- [DMX Input tutorial](#)
  - [DMX In recording](#)
  - [DMX Merge](#)
- [NPU Tutorial](#)
- [NDP Tutorial](#)
- [Show Converter](#)
- [Tasks](#)
  - [Hardware](#)
    - [Connecting peripherals](#)
      - [Connect Power](#)
      - [Connect External Screens](#)
      - [Connect Goose-neck Lamps](#)
      - [Connect USB Mouse and Keyboard](#)
      - [Connect Ethernet](#)
      - [Connect ArtNet](#)
      - [Connect DMX](#)
      - [Connect MIDI](#)
      - [Connect SMPTE \(LTC\)](#)
      - [Connect Sound](#)
      - [Connect grandMA2 Fader Wing](#)
      - [Connect Contact Closure Switch \(Analog Remote\)](#)
    - [Miscellaneous hardware tasks](#)
      - [Turn on the console](#)
      - [Resetting the desk using the Reset button \(hard reset\)](#)
      - [Turn off the console](#)
      - [Adjusting angle of Monitor Wing](#)
      - [Adjusting Desk Lights with Hardkeys](#)
      - [Adjusting level of internal speaker](#)
  - [NPU](#)
    - [Connecting to the network](#)
    - [Connect Power](#)
    - [Turning on the NPU](#)
- [Software](#)
  - [Update and install software](#)
    - [Update Software via USB](#)
    - [Reinstall Software & OS via USB](#)
    - [Boot from unknown USB stick](#)
    - [Enable boot from dedicated USB stick](#)
    - [Restart after a Crash](#)
  - [Setup](#)
    - [Create a New Show](#)
    - [Store a Show](#)
    - [Store a Show with a New Name](#)
    - [Auto Save a Show](#)
    - [Load a Show](#)
    - [Delete a Show](#)
    - [Create a New User and load it](#)
    - [Patch Conventionals](#)
    - [Patch Moving Lights](#)
    - [Create a View](#)
    - [Clear a Screen](#)
    - [Store a View on a ViewButton](#)
    - [Store a View on a UserButton](#)
    - [Recall a View](#)
    - [Delete a View](#)
    - [Calibrate the Touchscreens](#)
    - [Setting the IP address](#)
  - [Import](#)
    - [Using Commandline](#)
      - [Effect from USB](#)
      - [Macro from USB](#)
      - [Fixture Type from USB](#)
      - [Colors from USB](#)
    - [Using GUI](#)
      - [Effect from USB](#)
      - [Macro from USB](#)
      - [Fixture from USB](#)
    - [Using FTP](#)
      - [Effect via FTP](#)
      - [Macro via FTP](#)
      - [Fixture via FTP](#)
      - [Gobos via FTP](#)
      - [Bitmaps via FTP](#)

- [Export](#)
  - [Using Commandline](#)
    - [Effect to USB](#)
    - [Macro to USB](#)
    - [Fixture Type to USB](#)
    - [Colors to USB](#)
  - [Using GUI](#)
    - [Effect to USB](#)
    - [Macro to USB](#)
    - [Fixture Type to USB](#)
  - [Using FTP](#)
- [Programming](#)
  - [Setup](#)
  - [Controlling Conventionals](#)
  - [Controlling Moving lights](#)
    - [Controlling the Shaper Attribute](#)
  - [Macros](#)
    - [Creating/Editing a macro](#)
    - [Using macros](#)
    - [Assign a macro to a button.](#)
  - [Effects](#)
    - [Make an Effect using the Programmer.](#)
    - [Make an Effect using the GUI](#)
    - [Make an Effect with Presets](#)
    - [Assign and control Effects on Executors](#)
    - [Make an Universal Circle.](#)
    - [Using Effects in a Sequence](#)
    - [Make an 'appointment' in the Agenda](#)
    - [Create Highlight Presets](#)
    - [Create Default Presets](#)
- [External Connections](#)
  - [Connecting via Telnet](#)
  - [Get a Crashlog from the console](#)
- [NPU](#)
  - [Series 1 Mode](#)
    - [NPU - Starting in version 1 mode](#)
    - [NPU - Setting the IP address in Series 1 mode](#)
    - [NPU - Adding in a series 1 session](#)
  - [Series 2 Mode](#)
    - [NPU - Starting in series 2 mode](#)
    - [NPU - Changing the name of a NPU](#)
    - [NPU - Setting the IP address in Series 2 mode](#)
    - [NPU - Adding in a series 2 session](#)
    - [NPU - Calibrate the touch screen of a NPU](#)
    - [NPU - Setting a port configuration on a NPU](#)
  - [Updating the NPU software](#)
- [Reference](#)
  - [Commandline](#)
    - [Syntax](#)
      - [Function](#)
      - [Object](#)
      - [Object-list](#)
      - [Selection-list](#)
      - [Executor-list](#)
      - [Attribute-list](#)
      - [Station-list](#)
  - [Keywords](#)
    - [Function Keywords](#)
    - [Object Keywords](#)
    - [Helping Keywords](#)
    - [All Keywords](#)
      - [\[Asterisk\]](#)
      - [\[At-sign\]](#)
      - [\[Dollar-sign\]](#)
      - [\[Parentheses\]](#)
      - [\[Square Brackets\]](#)
      - [\[Dot\]](#)
      - [\[Semicolon\]](#)
      - [\[Slash\]](#)
      - [\[Quotes\]](#)
      - [+ Keyword](#)
      - [- Keyword](#)
      - [>>> Keyword](#)
      - [<<< Keyword](#)
      - [Agenda Keyword](#)
      - [Align Keyword](#)
      - [AlignFaderModules Keyword](#)
      - [All Keyword](#)
      - [AllButtonExecutors Keyword](#)
      - [AllChaseExecutors Keyword](#)
      - [AllFaderExecutors Keyword](#)
      - [AllRows Keyword](#)
      - [AllSequExecutors Keyword](#)
      - [Assign Keyword](#)
      - [At Keyword](#)
      - [Attribute Keyword](#)
      - [Backup Keyword](#)
      - [Bitmap Keyword](#)
      - [Black Keyword](#)
      - [Blackout Keyword](#)
      - [Blind Keyword](#)
      - [BlindEdit Keyword](#)
      - [Block Keyword](#)

[ButtonPage Keyword](#)  
[Call Keyword](#)  
[Camera Keyword](#)  
[Channel Keyword](#)  
[ChangeDest\(CD\) Keyword](#)  
[ChannelFader Keyword](#)  
[ChannelLink Keyword](#)  
[ChannelPage Keyword](#)  
[CircularCopy Keyword](#)  
[Clear Keyword](#)  
[ClearActive Keyword](#)  
[ClearAll Keyword](#)  
[ClearSelection Keyword](#)  
[Clone Keyword](#)  
[CmdDelay Keyword](#)  
[CmdHelp Keyword](#)  
[Copy Keyword](#)  
[CrashLogCopy Keyword](#)  
[CrashLogDelete Keyword](#)  
[CrashLogList Keyword](#)  
[Crossfade Keyword](#)  
[CrossfadeA Keyword](#)  
[CrossfadeB Keyword](#)  
[Cue Keyword](#)  
[Cut Keyword](#)  
[Default Keyword](#)  
[Delay Keyword](#)  
[Delete Keyword](#)  
[DeleteShow Keyword](#)  
[DisconnectStation Keyword](#)  
[Dmx Keyword](#)  
[DmxUniverse Keyword](#)  
[DoubleRate Keyword](#)  
[DoubleSpeed Keyword](#)  
[Edit Keyword](#)  
[Effect Keyword](#)  
[EffectAttack Keyword](#)  
[EffectBPM Keyword](#)  
[EffectDecay Keyword](#)  
[EffectDelay Keyword](#)  
[EffectFade Keyword](#)  
[EffectForm Keyword](#)  
[EffectHigh Keyword](#)  
[EffectHZ Keyword](#)  
[EffectID Keyword](#)  
[EffectLow Keyword](#)  
[EffectPhase Keyword](#)  
[EffectSec Keyword](#)  
[EffectWidth Keyword](#)  
[EndIf Keyword](#)  
[ExecButton1 Keyword](#)  
[ExecButton2 Keyword](#)  
[ExecButton3 Keyword](#)  
[ExecButton4 Keyword](#)  
[Executor Keyword](#)  
[Extract Keyword](#)  
[Export Keyword](#)  
[Fade Keyword](#)  
[FadePath Keyword](#)  
[Fader Keyword](#)  
[FaderPage Keyword](#)  
[Feature Keyword](#)  
[Filter Keyword](#)  
[Fix Keyword](#)  
[Fixture Keyword](#)  
[FixtureType Keyword](#)  
[Flash Keyword](#)  
[Flip Keyword](#)  
[Form Keyword](#)  
[Freeze Keyword](#)  
[Full Keyword](#)  
[Go Keyword](#)  
[GoBack Keyword](#)  
[Goto Keyword](#)  
[Group Keyword](#)  
[HalfRate Keyword](#)  
[HalfSpeed Keyword](#)  
[Help Keyword](#)  
[Highlight Keyword](#)  
[IdentifyModule Keyword](#)  
[If Keyword](#)  
[IfActive Keyword](#)  
[IfOutput Keyword](#)  
[IfProg Keyword](#)  
[Import Keyword](#)  
[ImportResource Keyword](#)  
[Info Keyword](#)  
[Insert Keyword](#)  
[Interleave Keyword](#)  
[Invert Keyword](#)  
[InviteStation Keyword](#)  
[Item3D Keyword](#)  
[JoinSession Keyword](#)

[Kill Keyword](#)  
[Label Keyword](#)  
[Layer Keyword](#)  
[Layout Keyword](#)  
[Learn Keyword](#)  
[LeaveSession Keyword](#)  
[List Keyword](#)  
[ListFaderModules Keyword](#)  
[ListLibrary Keyword](#)  
[ListEffectLibrary Keyword](#)  
[ListMacroLibrary Keyword](#)  
[ListShows Keyword](#)  
[ListUserVar Keyword](#)  
[ListVar Keyword](#)  
[Load Keyword](#)  
[LoadShow Keyword](#)  
[Locate Keyword](#)  
[Lock Keyword](#)  
[Login Keyword](#)  
[Logout Keyword](#)  
[Macro Keyword](#)  
[Mask Keyword](#)  
[Master Keyword](#)  
[Matricks Keyword](#)  
[MatricksBlocks Keyword](#)  
[MatricksFilter Keyword](#)  
[MatricksGroups Keyword](#)  
[MatricksInterleave Keyword](#)  
[MatricksReset Keyword](#)  
[MatricksWings Keyword](#)  
[Menu Keyword](#)  
[Merge Keyword](#)  
[MidiControl Keyword](#)  
[MidiNote Keyword](#)  
[MidiProgram Keyword](#)  
[Model Keyword](#)  
[Move Keyword](#)  
[NetworkInfo Keyword](#)  
[NetworkNodeInfo Keyword](#)  
[NewShow Keyword](#)  
[Next Keyword](#)  
[NextRow Keyword](#)  
[NextInterleave Keyword](#)  
[Normal Keyword](#)  
[Off Keyword](#)  
[On Keyword](#)  
[OnOffTime Keyword](#)  
[Oops Keyword](#)  
[OutFade Keyword](#)  
[OutDelay Keyword](#)  
[Page Keyword](#)  
[Park Keyword](#)  
[Part Keyword](#)  
[Paste Keyword](#)  
[Pause Keyword](#)  
[Preset Keyword](#)  
[PresetPool Keyword](#)  
[PresetType Keyword](#)  
[Preview Keyword](#)  
[PreviewEdit Keyword](#)  
[PreviewExecutor Keyword](#)  
[Previous Keyword](#)  
[PrevRow Keyword](#)  
[PrevInterleave Keyword](#)  
[Protocol Keyword](#)  
[PSR Keyword](#)  
[PSRList Keyword](#)  
[PSRPrepare Keyword](#)  
[Rate1 Keyword](#)  
[Reboot Keyword](#)  
[Record Keyword](#)  
[Release Keyword](#)  
[Remote Keyword](#)  
[Remove Keyword](#)  
[ResetDmxSelection Keyword](#)  
[Root Keyword](#)  
[SaveShow Keyword](#)  
[Screen Keyword](#)  
[Select Keyword](#)  
[SelectDrive Keyword](#)  
[Selection Keyword](#)  
[Selfix Keyword](#)  
[Sequence Keyword](#)  
[SetIP Keyword](#)  
[Setup Keyword](#)  
[SetUserVar Keyword](#)  
[SetVar Keyword](#)  
[ShuffleSelection Keyword](#)  
[ShuffleValues Keyword](#)  
[Shutdown Keyword](#)  
[SnapPercent Keyword](#)  
[Solo Keyword](#)  
[SpecialMaster Keyword](#)

[Speed Keyword](#)  
[StartSession Keyword](#)  
[StepFade Keyword](#)  
[Stomp Keyword](#)  
[Store Keyword](#)  
[Surface Keyword](#)  
[Swap Keyword](#)  
[Temp Keyword](#)  
[Thru Keyword](#)  
[Timecode Keyword](#)  
[ToFull Keyword](#)  
[Toggle Keyword](#)  
[Tools Keyword](#)  
[Top Keyword](#)  
[ToZero Keyword](#)  
[Unblock Keyword](#)  
[Unlock Keyword](#)  
[Unoops Keyword](#)  
[Unpark Keyword](#)  
[Update Keyword](#)  
[UpdateFirmware Keyword](#)  
[User Keyword](#)  
[UserProfile Keyword](#)  
[Value Keyword](#)  
[Version Keyword](#)  
[View Keyword](#)  
[ViewButton Keyword](#)  
[ViewPage Keyword](#)  
[World Keyword](#)  
[Zero Keyword](#)

#### [Keys & Buttons](#)

[\[Encoder\] Key](#)  
[\[Numeric\] Keys](#)  
[\[Dot\] Key](#)  
[+ Key](#)  
[- Key](#)  
[>>> Key](#)  
[<<< Key](#)  
[Align Key](#)  
[Assign Key](#)  
[At Key](#)  
[Backq Key](#)  
[Backup Key](#)  
[Blind Key](#)  
[Bt Pg+ Key](#)  
[Bt Pg- Key](#)  
[B.O. Key](#)  
[Channel Key](#)  
[Ch Pg+ Key](#)  
[Ch Pg- Key](#)  
[Clear Key](#)  
[Copy Key](#)  
[Cue Key](#)  
[Down Key](#)  
[Del Key](#)  
[Edit Key](#)  
[Effect Key](#)  
[Esc Key](#)  
[Exec Key](#)  
[Executor Buttons](#)  
[Executor Labels](#)  
[Fd Pg+ Key](#)  
[Fd Pg- Key](#)  
[Fix Key](#)  
[Fixture Key](#)  
[Freeze Key](#)  
[Full Key](#)  
[Go+ Key](#)  
[Go+ \(large\) Key](#)  
[Go- Key](#)  
[Go- \(large\) Key](#)  
[Goto Key](#)  
[Group Key](#)  
[Help Key](#)  
[Hightlt Key](#)  
[If Key](#)  
[Learn Key](#)  
[List Key](#)  
[MA Key](#)  
[Macro Key](#)  
[Mouse Key](#)  
[Move Key](#)  
[Next Key](#)  
[Off Key](#)  
[On Key](#)  
[Oops Key](#)  
[Page Key](#)  
[Pause Key](#)  
[Pause \(large\) Key](#)  
[Please Key](#)  
[Preset Key](#)  
[Prev Key](#)  
[Prvw Key](#)



- [Select Key](#)
- [Sequ Key](#)
- [Set Key](#)
- [Setup Key](#)
- [Solo Key](#)
- [Store Key](#)
- [Temp Key](#)
- [Thru Key](#)
- [Time Key](#)
- [Top Key](#)
- [Tools Key](#)
- [Up Key](#)
- [Update Key](#)
- [User1 Key](#)
- [User2 Key](#)
- [View Key](#)
- [View Buttons](#)
- [U1 - U4 Key](#)
- [V1 - V10 Key](#)
- [X1 - X20 Key](#)
- [Keyboard Keys](#)
- [Windows](#)
  - [Sheets](#)
    - [Channel Sheet](#)
    - [DMX Sheet](#)
    - [Fixture Sheet](#)
    - [Sequence Content Sheet](#)
    - [Sequence Executor Sheet](#)
    - [Sequence Tracking Sheet](#)
    - [Colors in the sheets](#)
    - [Sheet Options](#)
    - [Tools](#)
      - [Preset Control bar](#)
      - [Layer Control bar](#)
      - [Mask Control bar](#)
      - [Multi Control bar](#)
    - [Layer Mask](#)
    - [Display](#)
    - [Title Buttons](#)
    - [Assign Executor](#)
    - [Mask \(Local\)](#)
- [Pools](#)
  - [Camera Pool](#)
  - [Effect Pool](#)
  - [Bitmap Effect Pool](#)
  - [Filter Pool](#)
  - [Form Pool](#)
  - [Group Pool](#)
  - [Images Pool](#)
  - [Layout Pool](#)
  - [Macro Pool](#)
  - [Mask Pool](#)
  - [MAtricks Pool](#)
  - [Channel Page Pool](#)
  - [Executor Page Pool](#)
  - [Sequence Pool](#)
  - [Timecode Pool](#)
  - [View Pool](#)
  - [Universe Pool](#)
  - [World Pool](#)
  - [Pool Options](#)
- [Presets](#)
  - [Preset Pools](#)
  - [Preset Options](#)
- [Playbacks](#)
  - [Action Buttons](#)
  - [Playback Big](#)
  - [Playback Small](#)
  - [Running Effects](#)
  - [Running Playbacks](#)
- [Other](#)
  - [Agenda](#)
  - [Clock](#)
  - [Color Picker](#)
  - [Command Filter](#)
  - [Command Section](#)
  - [Command Wing Bar](#)
  - [Encoder Bar](#)
  - [Info](#)
  - [Layout View](#)
  - [Masters](#)
  - [Sequence Info](#)
  - [Smart](#)
  - [Stage](#)
  - [Timecode View](#)
- [System](#)
  - [Command Line](#)
  - [Desk Status](#)
  - [Help viewer](#)
  - [Network Dimmer](#)
    - [The Middle](#)
    - [The Bottom](#)
  - [Performance](#)

- [Sound](#)
- [System Monitor](#)
- [Popups](#)
  - [Assign Preset](#)
  - [Attribute Filter pop-up](#)
  - [Body Description](#)
  - [Browser](#)
  - [Calculator](#)
  - [Calibrate \(XYZ\)](#)
  - [Configure DMX Port](#)
  - [Confirm Oops](#)
  - [Create Basic Window](#)
  - [Create Multiple Events](#)
  - [Create Selection](#)
  - [Delete Show](#)
  - [Diagnostics pop-up](#)
  - [DMX Patch](#)
  - [Edit Channel](#)
  - [Edit Chaser](#)
  - [Edit Color](#)
  - [Edit Cue Number](#)
  - [Edit Fixture](#)
  - [Edit Mask](#)
  - [Edit MA Tricks](#)
  - [Edit Sequence](#)
  - [Edit Universe](#)
- [Editors](#)
  - [Bitmap Effect Editor](#)
  - [Effect Editor](#)
  - [Graph Editor](#)
  - [Macro Editor](#)
  - [Timecode Editor](#)
- [Encoder Settings pop-up](#)
- [Enter Date](#)
- [Enter Name of Object](#)
- [Groupmaster View](#)
- [Help pop-up](#)
- [Load for PSR](#)
- [Load Show](#)
- [Multi Oops pop-up](#)
- [New Show](#)
- [Partial Show Read](#)
- [Partial Show Read Prepare](#)
- [Please Confirm \(Shutdown\)](#)
- [RDM Status](#)
- [Running Effects](#)
- [Small Select pop-ups](#)
  - [Load Predefined Graph](#)
  - [Select Add Shortcut](#)
  - [Select Attribute](#)
  - [Select Button](#)
  - [Select ChannelPage Width](#)
  - [Select Chaser Loop Mode](#)
  - [Select Chaser Run Mode](#)
  - [Select Content](#)
  - [Select Cue](#)
  - [Select Cue for Load](#)
  - [Select CueColors](#)
  - [Select Cue Zero Mode](#)
  - [Select Default Gauge](#)
  - [Select Display Filter](#)
  - [Select DMX In Merge](#)
  - [Select DMX Profile](#)
  - [Select Effect Attribute](#)
  - [Select Event Command](#)
  - [Select Executor for Track](#)
  - [Select Fader Assignment](#)
  - [Select Filter](#)
  - [Select Fixture Layer](#)
  - [Select Function \(Button\)](#)
  - [Select Function \(Fader\)](#)
  - [Select Fixture Type](#)
  - [Select Font](#)
  - [Select Form](#)
  - [Select Groupmaster Mode](#)
  - [Select Icon/Gauge](#)
  - [Select Input Filter](#)
  - [Select Interleave](#)
  - [Select Keycode](#)
  - [Select Light Mode](#)
  - [Select Link Mode](#)
  - [Select Loop Destination](#)
  - [Select Mask](#)
  - [Select Master Go](#)
  - [Select MIB](#)
  - [Select Mode \(Bitmap Effect\)](#)
  - [Select Mode \(Cue\)](#)
  - [Select Mode \(Line\)](#)
  - [Select Mode \(Node\)](#)
  - [Select Mode \(Preset\)](#)
  - [Select MSC In Command](#)
  - [Select MSC In Exec](#)
  - [Select MSC In Mode](#)

- [Select MSC Out Command](#)
- [Select MSC Out Exec](#)
- [Select MSC Out Mode](#)
- [Select New Sub Track](#)
- [Select Object](#)
- [Select Page](#)
- [Select Playback Filter](#)
- [Select Playback Master](#)
- [Select Path](#)
- [Select Predefined Effects](#)
- [Select Predefined Macro](#)
- [Select Predefined MATricks](#)
- [Select Preset Readout](#)
- [Select Priority](#)
- [Select Rate Master](#)
- [Select Readout](#)
- [React to Dim](#)
- [Select Repeat](#)
- [Select Restart Mode](#)
- [Select Rights](#)
- [Select Start](#)
- [Select ScaleMode](#)
- [Select Send To](#)
- [Select Speed Group or Speed Master](#)
- [Select Speed Mode](#)
- [Select Speed Factor](#)
- [Select Speed / Rate Master](#)
- [Select Station](#)
- [Select Subattribute](#)
- [Select Symbol Output](#)
- [Select Sync Mode](#)
- [Select Time Units](#)
- [Select Trackball Resolution](#)
- [Select Trackball Sequence](#)
- [Select Trig](#)
- [Select Type](#)
- [Select User Profile](#)
- [Select Virtual KeyCode](#)
- [Select Wheel](#)
- [Select Wheel Mode](#)
- [Select Wheel Resolution](#)
- [Select Wizard \(PSR\)](#)
- [Specialized Dialog](#)
  - [Specialized Color Dialog](#)
    - [Specialized Dialog - Color - Fader](#)
    - [Specialized Dialog - Color - HSB](#)
    - [Specialized Dialog - Color - Swatch](#)
  - [Specialized Shaper Dialog](#)
    - [Specialized Dialog - Shaper - Corner Mode](#)
    - [Specialized Dialog - Shaper - Blade Mode](#)
    - [Specialized Dialog - Shaper - Fader Mode](#)
- [Stage Wizard](#)
- [Store Method](#)
- [Store Options Temporarily](#)
- [Store View Options](#)
- [Trackball Rotation](#)
- [Tracking Options](#)
- [Track Functions](#)
- [Update](#)
- [Warnings and Errors](#)
  - [All Preset Pools Color Reset](#)
  - [Auto Create Conflict](#)
  - [Beta Version](#)
  - [Content Distributor not online](#)
  - [Delete Something In Use](#)
  - [IP Change Needs Reboot](#)
  - [Leave Full Setup](#)
  - [Remove Individuals](#)
  - [Remove XYZ](#)
  - [Session Collision](#)
  - [Shutdown](#)
  - [Sorry](#)
  - [Window needs more space](#)
- [Menus](#)
  - [Tools](#)
    - [Login](#)
  - [Setup](#)
    - [Show](#)
      - [Patch & Fixture Schedule](#)
      - [Fixture Types](#)
        - [Edit Fixture Types](#)
        - [Module Manager](#)
        - [Wheel Manager](#)
        - [Instance Manager](#)
        - [Attribute and Encoder Grouping](#)
      - [Fixture Positions](#)
      - [DMX Profiles](#)
      - [Patch Only \(Live\)](#)
        - [DMX List](#)
        - [Parameter List](#)
      - [Playback + MIB Timing](#)
      - [Remote Inputs Setup](#)
      - [Auto Create](#)

- [Group](#)
  - [World](#)
  - [Preset](#)
  - [Channel Pages](#)
  - [Import Export](#)
  - [Cloning](#)
- [Console](#)
  - [Desk Lights](#)
  - [Screen Options](#)
  - [Local Settings](#)
  - [Global Settings](#)
  - [Midi Show Control](#)
  - [Date & Time](#)
  - [Software Update](#)
    - [Resource Update](#)
  - [User+Profiles Setup](#)
  - [Edit Keyboard Shortcuts](#)
  - [Faderwing+Monitor Setup](#)
- [User](#)
  - [Defaults](#)
    - [Sequence Defaults](#)
    - [Preset Defaults](#)
    - [Layout Defaults](#)
  - [Window Settings](#)
    - [Sheets](#)
    - [Presets](#)
  - [Grand Master & BO](#)
  - [Oops Settings](#)
  - [Store Options](#)
  - [Settings](#)
- [Network](#)
  - [MA Network Control](#)
  - [MA Network Configuration](#)
    - [Consoles](#)
    - [onPC](#)
    - [NPU \(Network Processor Unit\)](#)
    - [3D](#)
    - [VPU](#)
      - [Edit](#)
      - [Backup Manager](#)
      - [Content Distribution](#)
      - [Global VPU Settings](#)
    - [NDP Dimmer \(Network Dimmer Processor\)](#)
    - [DMX Nodes](#)
  - [DMX Protocols](#)
    - [Artnet](#)
    - [ETC Net2](#)
    - [Pathport](#)
    - [Streaming ACN](#)
    - [Strand Shownet](#)
    - [Kinet1](#)
  - [CITP Network Control](#)
- [Backup Menu](#)
- [Off Menu](#)
- [Assign Menu](#)
- [Encoder Toolbar](#)
  - [General Toolbar](#)
  - [Agenda](#)
  - [Bitmap Effect](#)
  - [Bitmap Effect Editor](#)
  - [Chaser](#)
  - [DMX \(Tester\)](#)
  - [Executor](#)
  - [Graph Editor](#)
  - [Layout View Setup](#)
  - [Live Effect](#)
  - [MAtricks](#)
  - [Sequence](#)
  - [Stage Setup](#)
  - [Store](#)
  - [Timecode](#)
- [Mini Executor Dialogs](#)
  - [Bitmap Effect](#)
  - [Chaser](#)
  - [Effect](#)
  - [Group](#)
  - [Macro](#)
  - [Sequence](#)
  - [Special Master](#)
- [NPU Windows](#)
  - [Main Screen](#)
  - [NPU Setup](#)
  - [Shutdown](#)
- [Remote](#)
  - [General Controls](#)
  - [Consoles](#)
  - [Login](#)
  - [Command 1](#)
  - [Command 2](#)
  - [Command Time](#)
  - [Fixture Sheet](#)
  - [Channel Sheet](#)
  - [Group Pool](#)

- [Preset Pool](#)
- [Macros Pool](#)
- [Worlds Pool](#)
- [Wheel](#)
- [Pop-up](#)
  - [Commandline Response pop-up](#)
  - [Preset Options pop-up](#)
  - [Off Menu pop-up](#)
  - [Update pop-up](#)
  - [Store Options Temporarily pop-up](#)
  - [Calculator pop-up](#)
  - [Special Dialog pop-up](#)
  - [Select Align pop-up](#)
  - [Select View pop-up](#)
  - [Select Command pop-up](#)
  - [Select Layer pop-up](#)
  - [Select Preset pop-up](#)
  - [Select Feature pop-up](#)
  - [Select Attribute pop-up](#)
  - [Select Readout Mode pop-up](#)
  - [Select Font pop-up](#)
  - [Select Wheel Feature pop-up](#)
  - [Select Wheel Layer pop-up](#)

#### [Objects](#)

- [FixtureType](#)
- [Modules](#)
  - [Module](#)
    - [ChannelType](#)
    - [ChannelFunction](#)
    - [ChannelSet](#)
- [Instances](#)
  - [Instance](#)
- [Wheels](#)
  - [Wheel](#)
  - [Slot](#)

#### [Specifications](#)

- [Specification full-size](#)
- [Specification light](#)
- [Specification ultra-light](#)
- [Specification replay unit](#)
- [Specification NPU](#)
- [Specification faderwing](#)
- [Specification onPC](#)

#### [Error Messages](#)

#### [Release Notes](#)

- [Version 2.9](#)
- [Version 2.8](#)
- [Version 2.7](#)
- [Version 2.6](#)
- [Version 2.5](#)
- [Version 2.4](#)
- [Version 2.3](#)
- [Version 2.2](#)
- [Version 2.1](#)
- [Version 2.0](#)
- [Version 1.x](#)

#### [Index](#)