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QUICK START GUIDE

grandMA3



Table of contents

1.	Welcome to the Quick Start Guide	3
2.	Create a New Show and Initial Setup	7
3.	First Patch with Simple Fixtures	10
4.	View and Window Setup	19
5.	Control Simple Fixtures	26
6.	3D Fixture Setup	32
7.	Groups, Appearances, and Scribbles	37
8.	Macros	45
9.	Store Cues and Use Executors	48
10.	Add Moving Lights	55
11.	Presets	64
12.	Phasers	72
13.	Sequence with Multiple Cues	80
14.	Network and How to Output DMX	87
15.	Index	92



1. Welcome to the Quick Start Guide

This guide is a quick tour of some of the most used elements of the grandMA3 software. This is written for version 1.6. If you are on a different version, then there might be elements that function slightly differently. The general functions and principles are the same. We will try to keep this guide updated to the latest version.

It is meant to be a more personal and loose reading experience compared to the main manual. It is basically a collection of tutorials, where you (the reader) follow the steps I (the author) explain as we, together, go along. If you are looking for short explanations on how to do a specific thing, then the main manual is a better choice. This guide has a lot of text and explanation behind the steps - hopefully, it is also a little fun to read.

It is highly recommended that you read the numbered chapters in order.

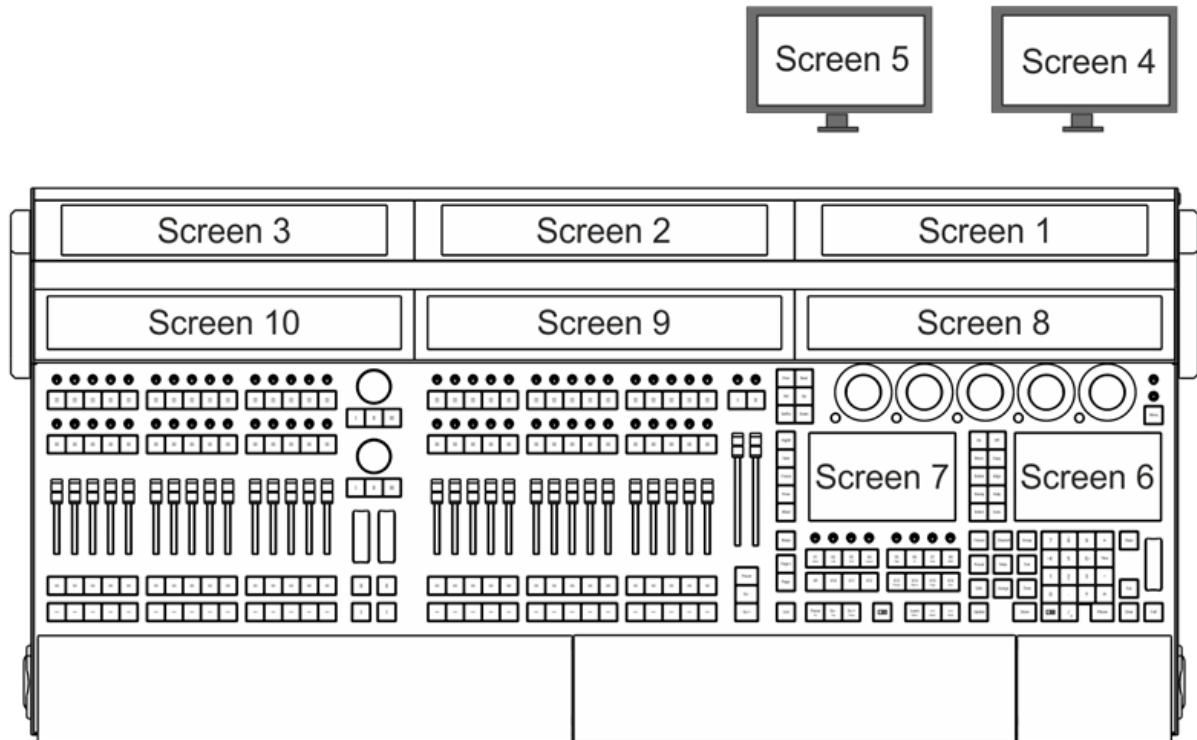
We are going to create a new show that has some fixtures with standard functions. We are going to create something with a cue sequence and some busking setup that can be used for a more dynamic live playback.

Preface

This guide is written using primarily the grandMA3 onPC. The thought is that most users that go through this, are on the onPC platform. If you have a grandMA3 console or a grandMA3 onPC command wing, then it can absolutely be used in this guide. If there is any difference in how to operate the onPC or console, then it will be explained. The primary difference is that you do not need to open windows with virtual keys and executors if you have real hardware.


A mouse/trackball is recommended. Often the guide will say something like "click the button". This is the same as tapping it on a console or on a touch screen. In rare cases, we might need to "Right-click" something with the mouse. It is the same as first pressing the **Edit** key and then tapping the object on a console. You can use an external mouse/trackball on the console, it is all up to you, but the interface is built to be touched.

If you are using the onPC, then you are going to work a lot on the "virtual" displays. The displays on the console are numbered like this.



The grandMA3 onPC is a little different.

- Display 1 is a combination of the console displays 1 and 8.
- Display 2 is console display 2 and 9.
- Display 3 is console display 3 and 10.
- Display E4 is external display 4.
- Display E5 is external display 5.
- Display S6 is console display 6.
- Display S7 is console display 7.

The displays can be toggled using the **Display** pop-up found in the **Control Bar** on the left side of the displays. It is the button with a screen icon (). It is not possible to turn off Display 1.

The **Control Bar** also gives access to virtual controls. There is the virtual **Command Section**, the **Master Controls**, the **Playback Controls**, and the **Custom/Master Section**. These can also be toggled using F3, F4, F5, and F7 keys on a keyboard. We will come back to all these controls later.

It is recommended that you read this online since it is the most up-to-date version. But you can also create this as a PDF and maybe print it. You could save the paper and maybe take the PDF with you and read it on your favorite electronic device instead. One favorite device could be the console or onPC where this guide is available in the help system - and then you do not need to create a PDF.



The Quick Start Guide is meant to be read from start to finish and it is meant for beginners. If you are looking for help on a specific topic you should try the main manual.

To get the best result you should try to do precisely what is written. If you change something that is not described you might get a different result.

Markup in the Quick Start Guide

In this guide, there are different markups in different situations.

Even though this is written using an onPC there are going to be some (virtual) key presses. If you should press or click keys then it is displayed like this: `Store Cue 1 Please`.

If we are just talking about a key, then it will be written in single quotes like this: The 'Store' key.

If it is an area on the screens you need to click or press then it is written like this `Internal`. This could be tabs in menus or a button on the screen.

If we are talking about a term, then it will look like this: **Store** is a function to save something.

If you need to use a keyboard and write something in the command line (we are going to look at what this is later) then it will look like this:

```
MA Admin[Fixture]> Store Cue 1
```

All input like this should be executed with an Enter on your keyboard. The enter is not displayed. It is the same as the `Please` key. It is not a visible command - it is the key that executes the typed command. There is a default keyword displayed in the command line input above. It is the word inside the square brackets. You do not need to write this; it is already there - it might be different than the one displayed above.

Feedback from the system is displayed like this:

```
OK : Store Cue 1
```

Notice that the Please or Enter is not displayed. The feedback can be seen in the Command Line Feedback window (more on this later).

If you need to write something on the keyboard that is not for the command line, then the keyboard input will look like this: Store Cue 1. This could, for instance, be a name.

There might be hints, important information, or restrictions throughout the guide. These are written in boxes with icons and a small headline showing what type of information it is.



Hint:

This is what a hint would look like.

Recap

Each chapter ends with a short recap of what we did. It might also include links to relevant topics in the main manual. These links are meant as guides to relevant locations in the manual where you can get more detailed information about specific topics touched in the guide chapter. You can take a break from the guide and read the manual topics if you want to, but you do not need to in order to continue to the next chapter.

For this chapter and introduction, I could add the following links:

Learn how to install the onPC in the [**Installation of grandMA3 onPC topic**](#).

For details about setting up the console have a look at the [**First Steps section**](#).

If you want to learn more about the command line input then read the [**Command Line Topic**](#).


At the end of the recap, there is a link to [**the next chapter**](#) - go ahead and click it when you are ready.

2. Create a New Show and Initial Setup

A Fresh Start

There might be a running show when you start it the onPC or console. It always boots up with the last loaded show. We are going to build our show from scratch.

This starts with the **Backup Menu**. This is where we store, load, or delete show files.


Locate and tap the gear  icon in the left menu (the Command Bar) on the onPC. This menu is not visible as a default on the consoles. On the console, you need to press the **Menu** button. Another way to get to this menu in the future is by pressing the 'F2' key on the keyboard.

Now the menu pop-up appears. This gives access to several important menus and settings. We will come back to some of them in later chapters. It is an important pop-up that gives you access to many menus and system settings.

For now, we need the backup menu, so click the **Backup** button.

This opens the backup menu in the **Save** tab. This lists all the current shows stored on the selected drive. The drive can be changed by tapping the drive button in the title bar. The default drive is "Internal". This is where you can select a USB flash drive as the selected drive.

Select the internal drive or a flash drive (if you got one). Now tap or click the **New** tab on the left of the menu. The software gives a suggested name that includes the current date and time.

The name pop-up can be expanded to include an on-screen keyboard. This might be useful on some devices, for instance, the Compact consoles. Tap the keyboard icon () in the left corner of the name input to show or hide the keyboard - try it out.

When you are happy with the name pop-up, name the show **QuickStart**.

If you are on a console or computer that you share with others, then it might be a good idea to add your name in front of the show name. This makes sure you are creating a new show and do not mess with others' show files.



Hint:

It is always a good idea to store your show in multiple locations. For instance, having a USB flash drive with the show file, and remember to always have the drive with you. Then you have the original file and if it is changed in the console, then you can always load the original. Hardware might also be destroyed or stolen. But that should not mean that your show is lost.

Create the show by tapping the **New Show** button.



Now you might be asked if you want to save any changes to the currently active show file. The options are **Save** or **Do Not Save** - selecting **Cancel** will cancel the new show creation.

I do not know the answer to this question in your case. But if I am in doubt I often choose not to save. It must be the responsibility of the programmer to store their show before leaving it. If you are employed in a company then there might be a policy regarding this. If not, then this might be a good opportunity to get one.

Select the option you are most comfortable with.

Now we have created a new completely empty show.

Log in as Admin

We might be logged in as guest user. But we need to have administrative rights to do any changes to the show. So the first thing we need to do is log in as the Admin.

The current user can be seen in the Command Line input. It could look like this:



In this example, we can see that the user is **Guest** and the default keyword is **Fixture**. The default keyword is the one the console assumes we will use if we do not specify anything else. More on this later.

The grandMA3 is a command line console. This means that most things can be done using commands written in the command line input. This might not be the most useful method, but simple operations can be faster to type on a keyboard. Especially when working with the onPC. The command line system also gives us very powerful macro and plugin tools - more on this in later chapters. It is very helpful to know the most common commands and their short versions. A short version means that you do not have to type (and correctly spell) the entire command. There is often a shorter version of the command.

Now we are going to log in as Admin. This is a user that exists in all shows and the username and password cannot be changed. We need to use the **Login** keyword followed by the user name and the password. Login is a short word so I prefer to write the entire word but the short version is **Log**.

Type and execute the following command:



Please be aware that the password is case sensitive and it all needs to be lower case letters.

Now we should have the following command line input:





Recap

In this chapter, we created a new empty show and logged in as the default administrator user. It lays the foundation for everything following it.

It is not necessary in order to proceed to the next topic, but if you want to read details on some of the things we did, then these are some suggestions:

The backup menu is described in the [**Show File Management topic**](#).

Every keyword in the console is described in more detail. Here is a link to the [**Login**](#) keyword. Any keyword can be found by searching for it. If you want to browse through the keywords then have a look at the [**All Keywords topic**](#).

The grandMA3 is made to accommodate multiple users working together in the same show. This is one of the reasons to have different users. Read more about users and how to create them in the [**Single User and Multi User Systems topics**](#).

When you are happy, then move on to the [**next chapter**](#).



3. First Patch with Simple Fixtures

The new show file we created is empty!

We need to add some devices to our patch to be able to do something meaningful with the grandMA3.

We are going to create a mock-up festival rig. It will not be the perfect rig, but it will give us a very diverse and flexible rig that we can use to try some of all the features in the software.

The setup is going to have 7 "pods" each with the same fixtures. But before we are going to add a lot of complex fixtures, we are going to start with the conventional fixtures in our setup.

The conventionals are going to be front light, some sidelight, and blinders. We will start with these simple fixtures, to get a basic understanding of the workspace and how to structure the patch and show file.

Everything about fixture set up is done in the patch. Some tools might give us easier access to fixture properties (we will get back to these in future chapters), but every fixture property ultimately lives in the patch.

Fixture properties include the fixture type and mode, the DMX patch address, the fixture position in a 3D space, etc.

There are different tools available to us for organizing the fixture setup. I am going to explain some of them before we start adding fixtures.

Grouping Fixtures

A fixture is typically represented as a single row in our fixture sheet. This makes it possible to see all the different values a fixture might have. If we have a lot of fixtures then it might be a very long list of fixtures.

Fixtures can be grouped inside a special grouping fixture. This is especially nice for fixtures that often do the same thing. The grouping fixture is a virtual fixture that can have an ID number. Using this ID to select fixtures actually applies the values to the fixtures inside. The grouping fixture itself does not contain any values. Fixtures inside a grouping fixture need to have their own ID and can be accessed individually using their ID number.

Having fixtures inside grouping fixtures creates a hierarchy. There are many hierarchies in grandMA3 and they can have many layers. Two terms often used with hierarchies are **Parent** and **Child**. When talking about grouping fixtures, the actual fixtures are the children inside the parent (the grouping fixture). The child fixtures can be selected using their own unique ID as mentioned above, but they can also be selected using the parent ID and a Child index number. We'll explore this more in chapter 4.



Sub-fixtures

Some fixtures have sub-fixtures. This is often the case when a fixture has multiple elements that do the same. For instance, an LED fixture with multiple LED cells which can be controlled individually. There would be a parent fixture with all the shared functions, for instance, pan and tilt. And then there would be a child or sub-fixture for each LED element. These sub-fixtures are addressed as a sub-ID from the parent fixture ID. The parent and child IDs are separated by a dot (.).

For example, a Clay Paky A.leda B-EYE K10 can have the LEDs separated into 19 different individually controlled LEDs (Standard RGB mode). If the fixture has ID 17, then selecting 17 would only select the main parent fixture. If the main and all the sub-fixtures need to be selected, then you need to select "17." - that is the ID followed by a dot. Selecting fixture 17.1 would only select the first LED element - the first sub-fixture.

IDTypes

The fixtures can be organized in different **IDTypes**. There are eight different types that we can use. Two of those are **Fixture** and **Channel**. The other six can be renamed to match our needs. The default names are **Houselights**, **NonDim**, **Media**, **Fog**, **Effect**, and **Pyro**.

Each IDType have their own number range from 1 and upwards.

A fixture can have two different ID numbers. The first one is always the **Fixture** IDType and it is called **FID**. The second can be one of the other IDTypes and is called **CID**. A fixture needs to have at least one ID for us to be able to select and ultimately control the fixture.

Enter the Patch

Here is the goal for this chapter:

- Add 14 standard dimmer channels that we can control.
- Add another 14 dimmer channels that are the audience blinders.
- Organize the blinders in a Grouping fixture.

We need to get to the patch. Press **Menu** (or the Gear Icon  in the onPC) and then click **Patch**.

Insert New Fixtures Wizard

The first time we open the patch it is empty and we are presented with the **Insert New Fixture wizard** that helps us provide the needed information to add the fixtures.



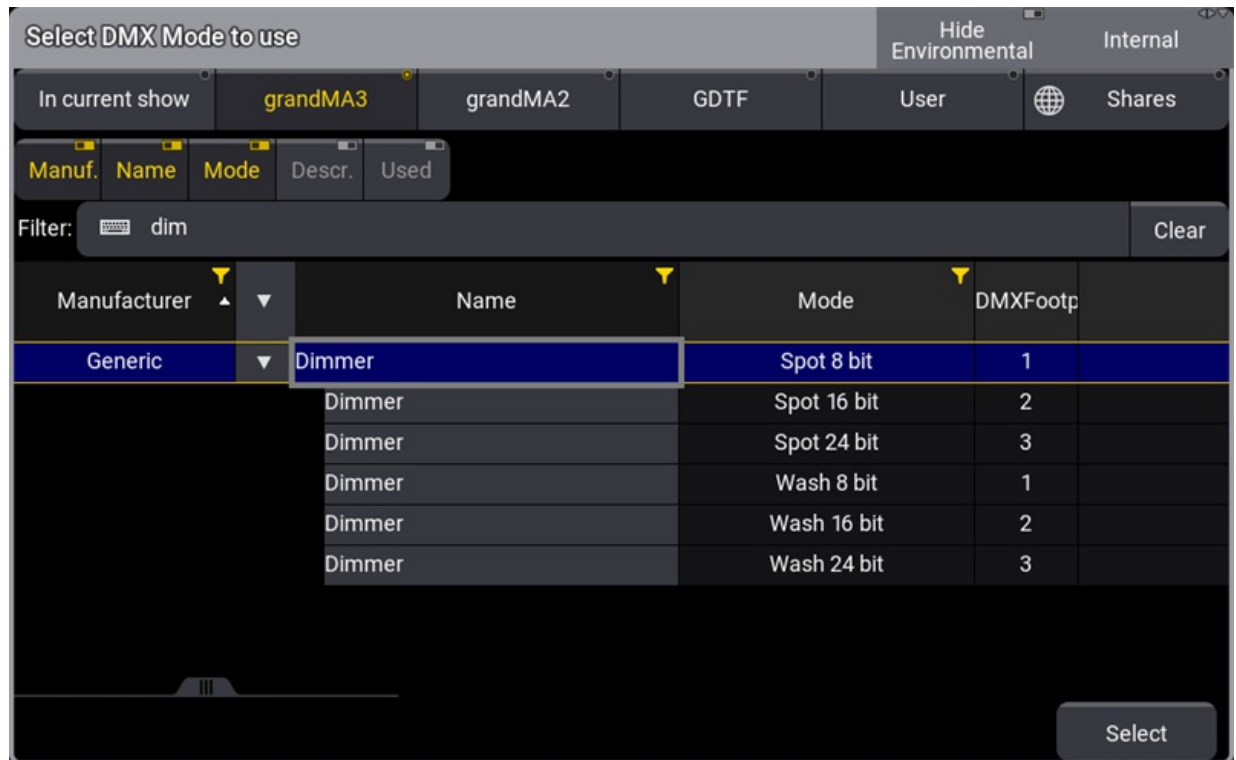
The cursor is ready in the **Filter** input field and can be used to filter the list presented to us.

The list is the **grandMA3** fixtures as default in a new show. Other lists can be chosen, but this is fine for the first fixtures.

We need dimmers so type **dim** in the filter.

Now the list is limited to only showing fixtures that have **dim** somewhere in the manufacturer name, the fixture name, or the fixture mode.

It might look like this:



In the image above I have expanded the fixture type by clicking the white triangle to show all the different **Modes** the fixture has.

Whenever you see a triangle arrow like this it means that an element can be unfolded or collapsed.

This is when a fixture has several operating modes with different DMX channels and functions. It is often the same physical fixture, but running in a selected mode.

This makes more sense for more complex fixtures.

We need the dimmer in the "Spot 8 bit" mode. Make sure this line is selected (blue background as in the image above) and click **Select** in the lower right corner.

Now you can give the fixtures a name. If the name ends with space and number, then the fixtures are automatically numbered starting from the number you type.

Just leave it as the default "Dimmer 1" and click **Enter**.

Next is the quantity, meaning how many fixtures do we want to add.

Type **28** and then click **Apply** on the left (not the 'Please' in the number input).



Now we have 28 dimmers named "Dimmer" followed by a number. They are patch to DMX address 1 in DMX universe 1.

They have an FID from 1 and up to 28.

This solves some of our goals for this chapter. Next, we need to add the grouping fixture.

Scroll to the end of the list and select the cell called "New Fixture" and click **Insert New Fixture** in the menu. Now we are back at the **Insert New Fixture wizard**.

Now we look at the list called "In current show" and there is only the dimmer, which is nice if we needed to add more dimmers, but we need to add a new fixture type into our show.

The idea behind this is that there are different libraries of fixture types and we import a copy of the fixture type from the library into our show.

We need the grouping fixture and this is in the "grandMA3" library, so click the **grandMA3** button above the filter input to select this library.

Now type **group** in the filter input and select the "Grouping" fixture and click **Select**.

Name the fixture **Blinders**. We only need 1 but we want it to have FID 20 - type **20** in the FID input. This gives us a red background in the FID input to show us that there is a problem:

Fixture Type	Grouping Default
Name	Blinders
Quantity	1
FID	20
Apply	

Ignore the problem for now and click **Apply**.

The problem was that we already had a fixture with FID 20 and since we can only have unique FIDs the previous fixture 20 now have "None" in the FID column.

We need to fix this and we are going to renumber all the blinder fixtures. The blinders are the last 14 dimmer fixtures on the list. We need to select the FID for these fixtures.



Left-click and hold the FID 15 and drag down to FID 28 and release. it should look like this:

Patch	FID	Name	FixtureType	Mode	Patch	Pan DMX Invert	Tilt DMX Invert	Pan Enc Invert	Tilt Enc Invert
Fixture Types	15	Dimmer 15	2 Dimmer	1 Spot 8 bit	1.015				
	16	Dimmer 16	2 Dimmer	1 Spot 8 bit	1.016				
	17	Dimmer 17	2 Dimmer	1 Spot 8 bit	1.017				
Attribute Definitions	18	Dimmer 18	2 Dimmer	1 Spot 8 bit	1.018				
	19	Dimmer 19	2 Dimmer	1 Spot 8 bit	1.019				
Parameter List	None	Dimmer 20	2 Dimmer	1 Spot 8 bit	1.020				
	21	Dimmer 21	2 Dimmer	1 Spot 8 bit	1.021				
DMX Universes	22	Dimmer 22	2 Dimmer	1 Spot 8 bit	1.022				
	23	Dimmer 23	2 Dimmer	1 Spot 8 bit	1.023				
	24	Dimmer 24	2 Dimmer	1 Spot 8 bit	1.024				
Stages	25	Dimmer 25	2 Dimmer	1 Spot 8 bit	1.025				
	26	Dimmer 26	2 Dimmer	1 Spot 8 bit	1.026				
DMX Curves	27	Dimmer 27	2 Dimmer	1 Spot 8 bit	1.027				
	28	Dimmer 28	2 Dimmer	1 Spot 8 bit	1.028				
	20	Blinders	3 Grouping	1 Default					

Now we need to edit this. Easy to do with a mouse, just right-click in the blue area. On the console, you can press **Edit** and then tap in the blue area.

A number pop-up appears where we need to click **2 1** and confirm with **Please**. Now the fixtures are renumbered. We also need to move them to be children of the grouping fixture.

Keeping the selection simply click **Cut**, to cut them from the list into the clipboard. The result is that they are now gone from the fixture list.

We need to paste them back in at the new location.

Click the triangle arrow next to the Blinders fixture so it unfolds and select **New Fixture** inside the "Blinders". Like this:

14	▶	Dimmer 14	2 Dimmer
20	▼	Blinders	3 Grouping
		New Fixture	
		New Fixture	

It is important that you do not select the lowest **New Fixture** as this is outside the "Blinders".

Now click **Paste** and the fixtures are now children of the blinder grouping fixture.



These were all the goals for the chapter, but there is one more thing we should do now that we are here.

The fixtures have a shape in a 3D virtual space. This shape is defined by the fixture type we select. Let us change the fixture for the blinders and find another fixture.

Select the 14 fixtures again, but this time in the **FixtureType** column and edit the value with a right-click.

Now we are back to the fixture finding pop-up. Here we need to select the **grandMA2** library and type **blinder** in the filter.

Unfold the **Briteq COB Blinder 2x100W** and select the one that uses 1 DMX channel (DMXFootprint). Confirm the choice by clicking **Select**.

Finally, let us change the name of the blinders.

Select all the blinders in the name column and edit the name. Type **Blinder 1** and confirm with **Enter**.

The patch should look something like this:

FID	Name	Type	Patch
1	Dimmer 1	Dimmer - Spot 8-bit	1.1
2	Dimmer 2	Dimmer - Spot 8-bit	1.2
3	Dimmer 3	Dimmer - Spot 8-bit	1.3
4	Dimmer 4	Dimmer - Spot 8-bit	1.4
5	Dimmer 5	Dimmer - Spot 8-bit	1.5
6	Dimmer 6	Dimmer - Spot 8-bit	1.6
7	Dimmer 7	Dimmer - Spot 8-bit	1.7
8	Dimmer 8	Dimmer - Spot 8-bit	1.8
9	Dimmer 9	Dimmer - Spot 8-bit	1.9
10	Dimmer 10	Dimmer - Spot 8-bit	1.10
11	Dimmer 11	Dimmer - Spot 8-bit	1.11
12	Dimmer 12	Dimmer - Spot 8-bit	1.12
13	Dimmer 13	Dimmer - Spot 8-bit	1.13
14	Dimmer 14	Dimmer - Spot 8-bit	1.14
20	Blinders	Grouping	
21	Blinder 1	COB - Blinder 2x100w	1.15
22	Blinder 2	COB - Blinder 2x100w	1.16
23	Blinder 3	COB - Blinder 2x100w	1.17
24	Blinder 4	COB - Blinder 2x100w	1.18
25	Blinder 5	COB - Blinder 2x100w	1.19
26	Blinder 6	COB - Blinder 2x100w	1.20
27	Blinder 7	COB - Blinder 2x100w	1.21
28	Blinder 8	COB - Blinder 2x100w	1.22
29	Blinder 9	COB - Blinder 2x100w	1.23
30	Blinder 10	COB - Blinder 2x100w	1.24
31	Blinder 11	COB - Blinder 2x100w	1.25
32	Blinder 12	COB - Blinder 2x100w	1.26
33	Blinder 13	COB - Blinder 2x100w	1.27
34	Blinder 14	COB - Blinder 2x100w	1.28

Exit the patch by clicking the **X** in the upper right corner. Now you are asked if you want to keep the changes. Confirm this by clicking **Save and Exit**.

Finally, save the show. Let us do this by using the command line.

Type the following keyword shortcut:





And execute the command with **Enter/Please**.

Now the show is saved with the same name. We used the short version of the **SaveShow** keyword.

Recap

In this chapter, we have added simple dimmer fixtures to the patch and we can now start learning how to control the dimmers.

There are some places in the manual you could look at to learn details about the patch.

The topic called **Add Fixtures to the Show** covers what we did and has detailed information. We will return to the patch in a later chapter and have a closer look at some of the functions there.

If you want to learn about fixture types, then there is a whole section called **Fixture Types**.

We used one keyword in the command line - follow this link to learn a little bit more about it: **SaveShow Keyword**.

I suggest simply continuing to the **next chapter** in this guide.

4. View and Window Setup

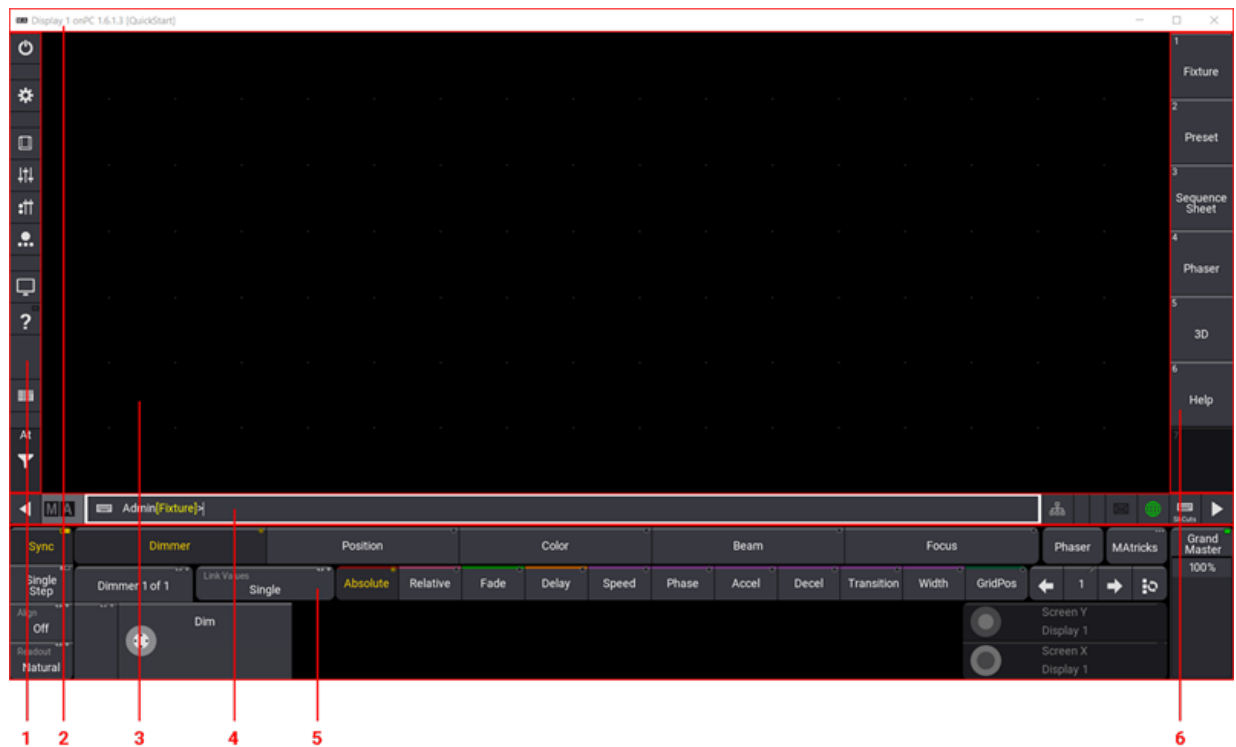
In the previous chapter, we added some dimmer fixtures.

Now we need to see the fixtures and set up our screens to show the relevant windows.

Quick Interface Introduction

First, we need to have a quick look at the interface.

This is display 1 on the grandMA3 onPC:




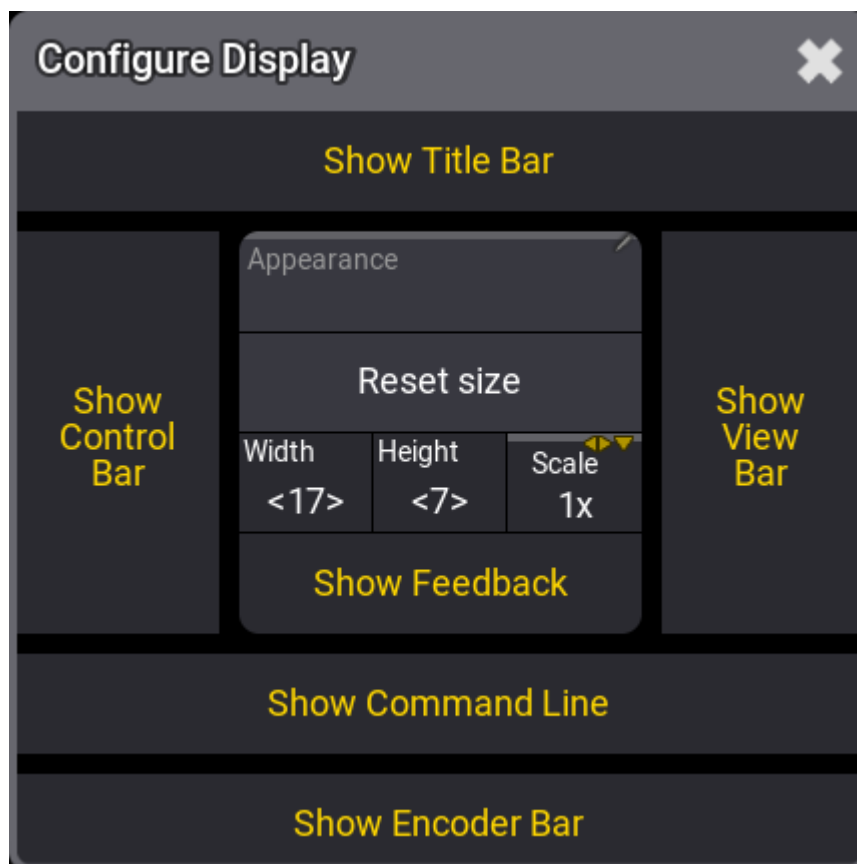
There are six different areas indicated in the picture above. The areas have different purposes:

1. **Control Bar** - Very useful when using the grandMA3 onPC. It has shortcuts to different windows and menus.
2. **Title Bar** - This is the Windows/Mac title bar. It shows the display number, the software version, and the name of the show file.
3. **User-defined Area** - This area is where you can create views with different windows.
4. **Command Line** - This row has different indicators and buttons with quick access to different menus. The center part is the **Command Line Input**. Here you can write commands to the software.
5. **Encoder Bar** - This area is often used to apply values to the different attributes of the fixtures. The right side has controls for the **Grand Master** for the console.
6. **View Bar** - This bar has buttons, called ViewButtons, where we can store and recall different views.

The interface dynamically adjusts when you are using a grandMA3 on PC. The user-defined area can expand and contract based on the size of the display.

It can also be configured to hide some of the areas or scale the interface. This is done using the **Configure Display** pop-up. This can be accessed when the Menu selection pop-up is visible. Do this by clicking the gear icon

() in the control bar. Then click **Configure Display**.



Here the different areas can be toggled On or Off. When something has a yellow text color, then it is On or selected.

Width and Height define how many square fields the user-definable area has. Scale can be used to visually scale the entire interface.

Predefined Views

When we talk about a view, then it is the set up of windows in the user-defined area. These views can be stored and recalled. They can be assigned to the buttons like the one in the **View Bar** on the right side of the interface.

If you make a change to a view that you would like to keep, then you simply store the view again.



A new show file has some predefined views that can be very useful.


Click the one called **Fixture**.

Depending on your display size, you might see a view that is cut off on the bottom or on the right side. This is because the stored view is bigger than the current size of the user-defined area.

A brown thin frame indicates that the view is bigger. Scroll bars appear to allow you to scroll to other parts of the view. If you have touch screens then a three-finger touch and scroll also move the view around inside the user-defined area.

Fixture Sheet

We are going to create our own view. So the first thing we need to do is to get an empty user-defined area.

Again we can use the Menu selection pop-up. Click the gear icon () or press the **Menu** key.

All screens now have a small pop-up in the lower right corner. Click **Delete This Screen** in the small **Display** pop-up.

Now the user-defined area is empty.

We want to create a window that shows us the dimmer values of the fixtures in our show. So far we only have fixtures with dimmers.

Click the upper left corner in the user-defined area.

An **Add Window** pop-up appears. This pop-up gives access to all the different windows in the system, They are organized into different tabs. One of the tabs is called "All", this has all the windows in one alphabetically sorted list.

We need the window called **Fixture Sheet**. This can be found in the **Common** tab. Click **Common** and then **Fixture**.

Now we have a fixture sheet filling the entire user-definable area.

This window shows us the fixtures in rows and the attributes (in this case only the dimmer) in columns.

The **Blinders** fixture is collapsed and does not show the child fixtures. This can be changed by clicking the white triangle arrow either at the top of the left column or the arrow next to the **Blinder** name.

When we are only interested in looking at the dimmer values, then we can change how the window looks. This is done in the **Settings** for the window. All windows have an MA logo in the upper left corner. Click this to open the settings for the window.


Different windows have different settings. Some are common settings and some are individual for a specific type of window. The settings are often organized into different tabs. We want to change a setting called **Sheet Mode**.

It is found in the **Display** tab. Click **SheetMode** until it says **Channel**.

The settings should look like this:



Now the Fixture Sheet is changed and it only shows tiles with the FID and the dimmer value.


This window is much bigger than it needs to be and we can adjust it to match our needs. The lower right corner of the window looks like this: . This can be used to resize the window.

Click and hold the resize corner and move it to a new location in the user-defined area. Release the mouse button (or screen) on a location where the window looks nice to you.

Store the View

We want to store the new view on one of the ViewButtons on the right side.

Let us begin by clearing a button for our new view.

We need to press the 'Delete' key. If you use a grandMA3 onPC, then there is an on-screen version of the physical keys of the **Command Area** of the consoles. This can be opened by clicking the  icon in the command bar on the left or by pressing **F3** on a keyboard. It can be closed again by clicking the X in the upper right corner or by pressing **F3** again. I am going to write "press" a key. This might mean that you open this on-screen representation of the command keys and click the representation of the key. But I am going to write about them

as if you had the physical keys on a console.

So, Press **Delete** and then close the Command Area pop-up, and then click the top ViewButton on the right. Now the ViewButton should be empty.

Next is to store the current look of the user-defined area on the empty ViewButton.

Instead of pressing the 'Store' key, we are going to use the command line input.

Click the command line input where it says "Admin[Fixture]>". Now write **Store** so the command line looks like this:



Now click the empty ViewButton.

This opens a **Store View Options** pop-up.





Here we can see that we are currently storing the windows on display "Internal 1" and we can give the view a name or label. Write **Dimmer** as the name/label and click **OK**.

The view is now stored on the button and it can be recalled anytime by clicking the view button.

Command Line History

Another view that can be useful to have visible is the **Command Line History** window.

Often it can be an advantage to see how the console reacts to your input. The **Command Line History** window continually gives you a lot of information. It shows how our user input is interpreted by the software and it shows if the input is not understood or gives an error.

Do not be confused about all the information. We will go through it when needed.

Let us create the window.

When we made the fixture sheet we clicked in the upper left corner and the window took all the available space. Now we are going to try a different technique.

Click and hold below the fixture sheet and drag a square of the size you want the window to be. Now release the mouse/screen.

Now the **Add Window** pop-up appears again and in the **Common** tab click **Command Line**.

Now you have a **Command Line History** window.

You can still adjust the size if you are not happy with the size you made.

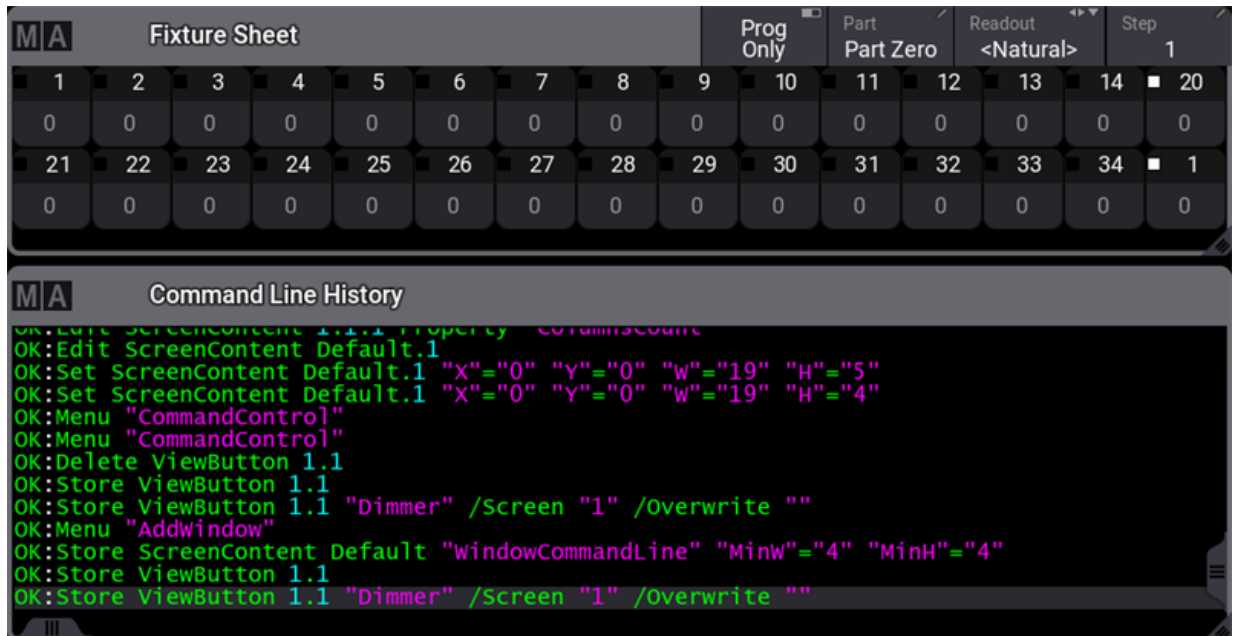
A window can be moved around by clicking and hold the title bar and dragging the window around. If there is not enough space, then the window will resize automatically on the right and bottom sides.

Update the View

When you are happy with the size, location, and look of the windows, then we can store the view on the view button again.

Use any of the methods you have learned to get the **Store** command in the command line and then tap the view button. Confirm the name and the store action by clicking **OK** in the **Store View Options** pop-up.

Here is my result. I have changed the **#Columns** option in the fixture sheet settings to 15. This makes the fixtures align nicely in the sheet.



When you look at this you might wonder "Why are there two fixtures 1 in the sheet". The one in the lower right corner is actually a virtual universal fixture that the system automatically creates. It is not "Fixture" 1, it is "Universal" 1. The universal fixture contains some of the most generic functions in fixtures. For now, all you need to do is ignore it and do not worry about it.

You should save your show.

Recap

In this chapter, we had a brief introduction to the user interface and the command line input.

We also looked at creating windows in the user-defined area and store the windows, their settings, and their arrangement on a view button.

The manual has an entire section with details about the windows and view. It is called **Windows, Views, and Menus**.

The fixture sheet is described in detail in the **Fixture Sheet** topic.

The command line and the **Command Line History** window are described in detail in the **Command Line** topic.

In the **Next Chapter**, we are going to control the dimmers.

5. Control Simple Fixtures

In this chapter, we are going to look at controlling the dimmers we patched in chapter 2.

The grandMA3 system uses a **Programmer** as a temporary memory to hold values until they are stored or released.

To do something with a fixture we need to select it first. Click one of the fixtures in the **Fixture Sheet**.

Fixtures with a yellow ID text are selected fixtures.



Fixture 1 is selected in the image above.

Selected fixtures can get a dimmer value using a lot of different methods.

If you have grandMA3 hardware for example from the console range or a grandMA3 onPC command wing model, then there is a level wheel on the right side. This can be scrolled up and down to adjust the dimmer value.

A value can also be typed using the numeric keys. Type this: `At 50 Please`.

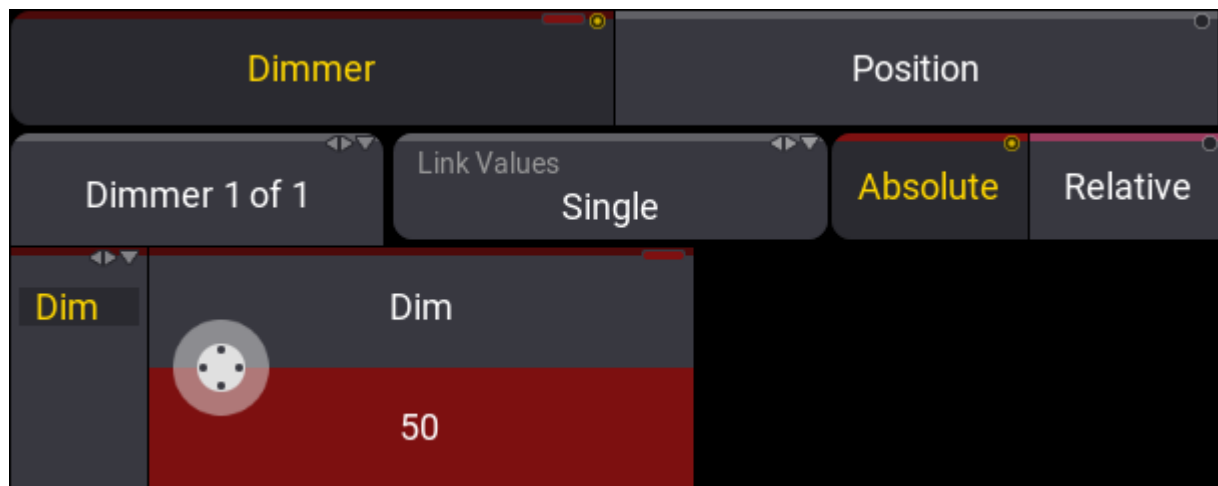
Now the fixtures dimmer value is 50%.

There are other physical keys that can be used to set a value. For instance 'Full'. This will take the dimmer value to 100%. Pressing 'At' twice takes the dimmer to a defined value called **Normal**. The default for this is also 100%, but it can be modified. Double pressing '.' (dot) takes the dimmer to **Zero**.

Try these keys and see the result in the fixture sheet and the command line history.

Another control option are the encoders. There are five dual encoders on the control hardware.

The **Encoder Bar** we saw in the last chapter shows us what the encoders are controlling. It should look something like this:



There are three rows in the encoder bar. The top row are the different **Feature Groups** - we will return to these when we have fixtures with more than dimmers. The important part is that **Dimmer** is selected (yellow text).

We will also return to the second row in later chapters. It has buttons that do different things and a row of layer selection buttons.

The bottom is the encoder labels. We also call this **Attribute Control** because it can be used to control the different attributes in fixtures. Our fixtures only have dimmer.

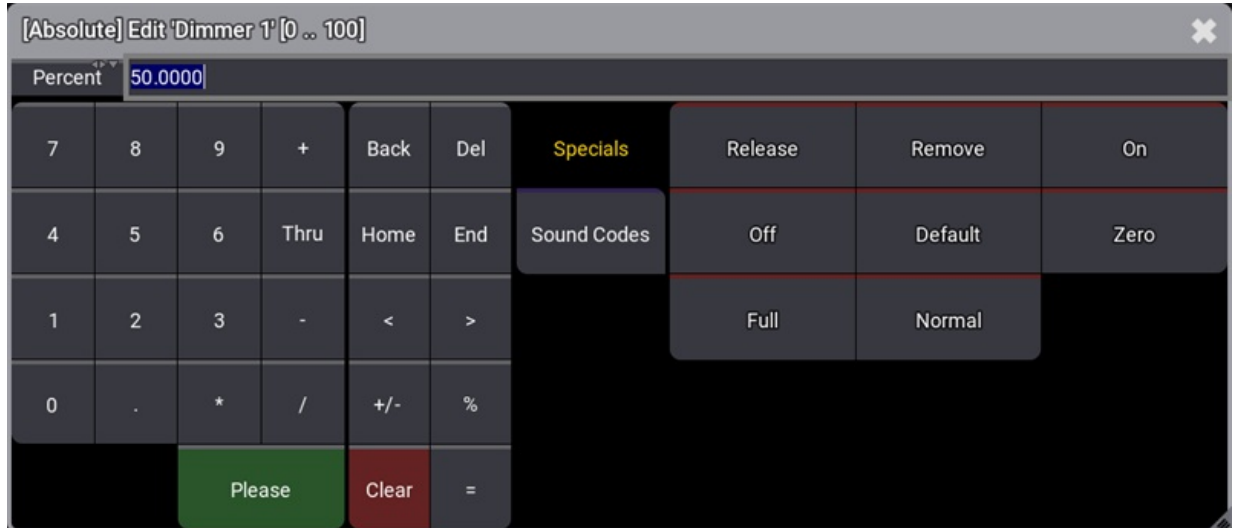
We can use this to control the dimmer value. If you have physical hardware then you can turn the left most encoder to change the value. The inner encoder changes the value in larger steps than the outer encoder.

If you use grandMA3 onPC then there are different ways to mimic the hardware.

You can place the mouse pointer in the white encoder icon and then scroll the mouse wheel (if you have one).

Another option is to use a kind of invisible on-screen encoder. You can also click and hold the encoder icon and while keeping the mouse button move the pointer to another area of the screen. This is now the center of the encoder. While still holding the mouse button you can now draw circles around the center of your invisible encoder. The further away from the center, you draw the circle, the finer resolution you have. Small circles close around the center make the value change faster (smaller resolution). When you are happy with the value, then you can release the mouse button.

Finally, you can click the red area or shortly press the inner encoder. This opens the **Calculator** pop-up.



The calculator pop-up gives access to type a value or to select one of the named values on the right side, for instance, 'Full', 'Zero', and 'Normal'.

This pop-up is named calculator because we can do some arithmetic with this. In my example, the dimmer is at 50%. If I click **+** **1** **0** **Please** then I add 10 to the current value. We can also subtract, divide, and multiply.

If we have selected more than one fixture then we can even type a value range using "Thru". Clicking "Please" closes the pop-up. You can also close it without making any change by clicking the 'X' in the upper right corner of the pop-up.

Try to select multiple fixtures either by click and drag in the fixture sheet or by typing. For instance, **1** **Thru** **1** **0** **Please**.

Now open the calculator and click **1** **0** **Thru** **1** **0** **0** **Please**.

The result should be a nice range of values from 10% to 100% across the selected fixtures.

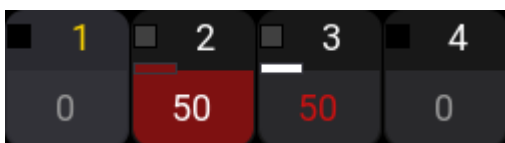
This is also where the fixture selection order matters. The value is spread out across the fixtures in the selection order. So if we selected the same fixtures in a different order - for instance, 10 thru 1 - and then applied the same value range then the result would have been reversed.

The programmer has three levels of information. It is the **selected** fixtures, **active** values, and **inactive** values. We can remove each level by pressing 'Clear'. A long press clears all three levels at once and all values in our programmer are gone.

If we on the other hand just press 'Clear' once then we release the selection of fixtures. This means that we do not have any selected fixtures and trying to give a value does not change anything.

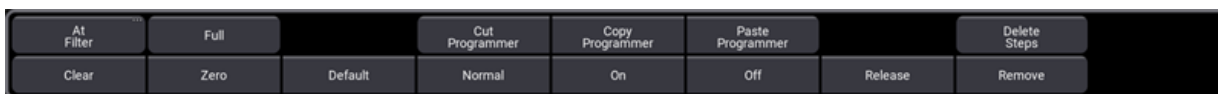
If we do not have a fixture selection and we press 'Clear', then we make active values inactive. This means that the value is still sent to the output, but it is typically not stored if we try to.

If we press 'Clear' without a fixture selection and with no active values, then the inactive values are cleared from the programmer.



The image above shows the programmer levels. Fixture 1 is selected. Fixture 2 has active values. Fixture 3 has inactive values. Fixture 4 does not have anything in the programmer.

A final programmer tool I will introduce you to is the **At Overlay**. This is very useful especially when you are using the grandMA3 on PC.



It can be opened by clicking the **At** in the Control Bar or by pressing **F1** on a keyboard. It can also be opened using a command: Menu "AtOverlay"

The overlay has buttons with access to many useful commands including Clear, Zero, Full, and Normal.

Selecting Fixtures

We talked about selecting fixtures in the fixture sheet, but they can also be selected using the keypad in the command section.

When we look at the command line it should look like his:



The fixture part of this is the default keyword. This means that if we do not define a different beginning keyword, then it assumes we want to begin our command with **Fixture**.

Fixtures can be selected using their ID numbers. This means that you can select fixture 1 simply by writing **1** in the command line and execute the command.

If you look at the **Command Line History** window. It says





You can add a fixture to the selection by writing **+ 2** and run the command.

Removing a fixture from the selection can be done using minus.

A range of fixtures can be selected using thru. Write the following in the command line and run the command:

9 Thru 14

As long as we have not given the fixtures a value, we keep adding fixtures to our selection. If you give the selected fixtures a value by any of the methods described above, then the system assumes that the next fixture selection means that you are done with the previous selection and clears it before selecting the new fixtures.

A single 'Clear' will clear the fixture selection.

If numbers are left out on the sides of the "Thru" keyword, then the range will go as far as possible. This means that **Fixture Thru** selects from the lowest to the highest number. This is often all fixtures.

The 14 blinders have their own individual FID numbers, but they are also children of the **Blinders** grouping fixture. We also call these **Sub-fixtures**.

This means that they can also be selected using a sub-fixture index number. **Fixture 20.11** is the same as **Fixture 31**.

There is a lot of different combinations of commands that allow you to use this recursive selection of sub-fixtures. We will explore a few of them. Start by clearing the programmer completely.

Now do **Fixture 20.** (remember the dot at the end).

Adding the dot at the end will select the main fixture 20 and all the sub-fixtures. Clear the programmer again.

Now type **Fixture 20.2 thru 10**

This selects sub-fixtures 2 thru 10 in fixture 20.

Try other combinations of fixture selections until you are comfortable selecting fixtures and sub-fixtures.

Finish this chapter by clearing the programmer.

Recap

In this topic, we learned about the programmer, fixture selection, and how to assign dimmer values.

The primary manual has a section called **Operate Fixtures**. This section of topics has information about the programmer and fixture control.



Noteworthy keywords from this chapter are **Fixture**, **Thru**, **Clear**, **ClearAll**, **-[minus]**, **+ [plus]**, and **At**.

In the next chapter, we are going to look at the 3D virtual space.

6. 3D Fixture Setup

3D window

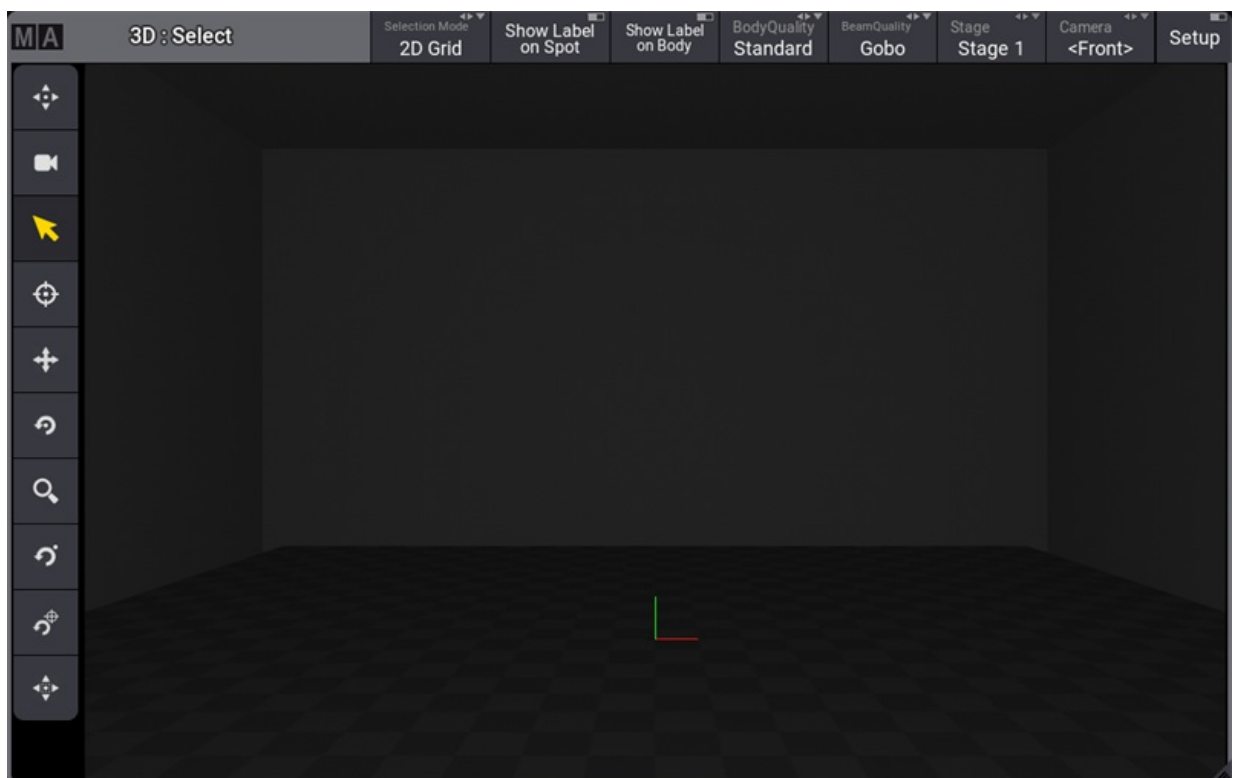
The grandMA3 software has a virtual 3D stage area.

The fixtures we patched exist in this environment and other elements can be imported to match the stage and set elements.

It is a visualization tool where the fixtures can be positioned to match the real-world positions and the fixtures can be rotated to point in the correct direction.

You can create a new window to see the 3D stage area. The window is found in the **Common** tap in the **Add Window** pop-up. It is called **3D**.

This is what it currently looks like:



When the fixtures are patched, they are positioned at the zero position. This is where we can see a green and red line in the image above. As a default, it is on the floor in the middle of the stage area.

We are looking at the stage area through a virtual camera. There are several default cameras, but for now, we are just gonna use the one called **Front**.

The toolbar on the left side of the window has different tools that allow for fixture selection and view manipulation. From the top they are:

- **Zoom to Fit** - moves the virtual camera to fit all elements.
- **Camera Reset** - moves the virtual camera to its default position.
- **Select** - for selecting fixtures or other objects.
- **Follow** - we are not gonna cover this function in this topic. It is used to point moving lights at the position you click in the window.
- **Rotate Center** - This rotates the camera around the center (0,0,0) position.
- **Zoom** - Zooms in and out from the position clicked.
- **Rotate Pivot** - Rotates the camera around a set pivot point.
- **Set Pivot** - Sets the pivot point for the rotate function above.
- **Fit Selected** - Moves the camera to fit the selected fixtures.

If the window you created is below six squares high in the user-definable area, then the menu is split into two columns.

Try out the different tools and get comfortable moving the camera around.

Did you notice that the fixtures appear to be under the floor?

This is because the fixture's insert point is usually its hanging point.

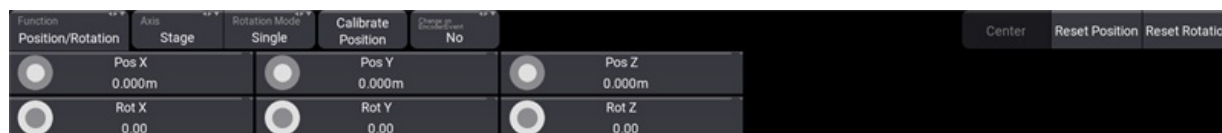
For this to be useful, we need to position and rotate fixtures to match our setup.

The 3D window has a mode called **Setup**. Setup is turned Off when you do not want to make changes to the fixture position and rotation but simply want to use the window. Setup is turned On when you want to change the fixture setup. The mode can be changed by toggling the "Setup" button in the 3D windows title bar.

Turn the setup mode On.

Select fixture 1.

Now the encoder toolbar has changed to allow you to use the encoders to change the fixture position and rotation.




The 3D axes are X, Y, and Z. They can be positive or negative numbers. The X-axis is usually set up to be stage left and right. Stage right would be negative numbers if 0 is on the centerline. The Y-axis is usually downstage and upstage. Positive numbers are upstage. The Z-axis is the height. Positive numbers are typically above the floor.



The inner encoders move the fixture around and the outer encoder ring changes the fixture rotation. Try moving and rotating the fixture. Notice that when you are changing one of the rotation values, it may also change the values for the two other rotation axis.

On the right side of the encoder bar, there are buttons to reset the fixture position and rotation.

The position and rotation values are actually a part of the patch information. Changing the values using the 3D window writes the values to the setup. If you are changing a lot of fixtures and you know the values, then it might be easier to make the changes in the patch.

Click the  icon in the control bar (or **Menu**) and click **Live Patch**.

Live Patch is a version of the patch menu where you can make live changes that can be done without changing the show configuration. This means that you, for instance, cannot add or delete fixtures to the show, but we can change what DMX address a fixture is patched to. And we can change the fixture position and rotation.

The patch menu has two different column modes. They are **Condensed** and **Full**. Condensed only shows a few common columns. Full shows all the different columns and settings available for the fixtures. The mode can be changed by toggling the "Columns" button in the patch menu title bar. Change it to **Full**.

Now you can see all the different fixture settings that belong to the patch.

There are position and rotation columns for the fixture.

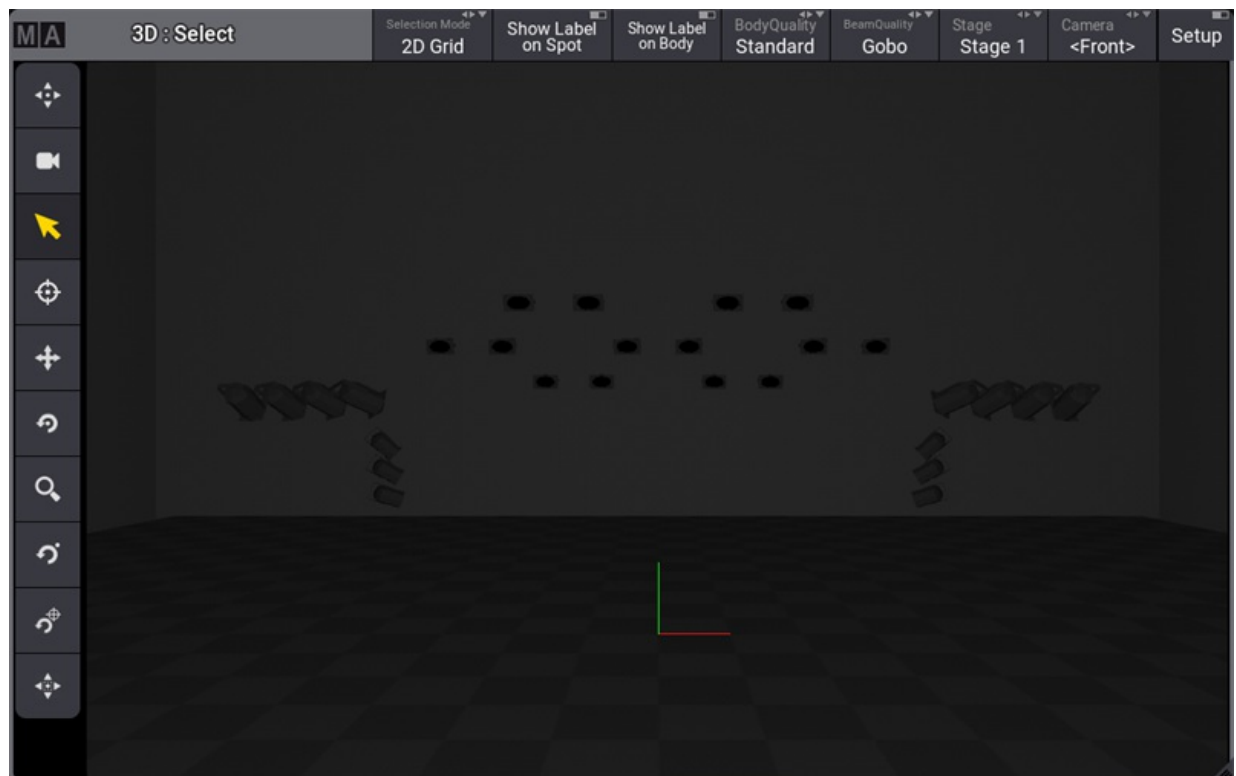
Change the numbers to match the following table. You can select multiple cells with lasso selection or by holding **Ctrl** on a keyboard while clicking cells.

FID	Name	Type	Patch	X-Pos	Y-Pos	Z-Pos	X-Rot	Y-Rot	Z-Rot
1	Dimmer 1	Dimmer - Spot 8-bit	1.1	-4.00m	-4.00m	3.30m	60.20	-3.50	-6.00
2	Dimmer 2	Dimmer - Spot 8-bit	1.2	-3.67m	-4.00m	3.30m	61.25	-9.00	-15.75
3	Dimmer 3	Dimmer - Spot 8-bit	1.3	-3.33m	-4.00m	3.30m	63.20	-14.00	-25.65
4	Dimmer 4	Dimmer - Spot 8-bit	1.4	-3.00m	-4.00m	3.30m	66.14	-18.75	-36.00
5	Dimmer 5	Dimmer - Spot 8-bit	1.5	3.00m	-4.00m	3.30m	66.14	18.75	36.00
6	Dimmer 6	Dimmer - Spot 8-bit	1.6	3.33m	-4.00m	3.30m	63.20	14.00	25.65
7	Dimmer 7	Dimmer - Spot 8-bit	1.7	3.67m	-4.00m	3.30m	61.25	9.00	15.75
8	Dimmer 8	Dimmer - Spot 8-bit	1.8	4.00m	-4.00m	3.30m	60.20	3.50	6.00
9	Dimmer 9	Dimmer - Spot 8-bit	1.9	-4.00m	0.00m	2.80m	16.00	-45.00	0.00
10	Dimmer 10	Dimmer - Spot 8-bit	1.10	-4.00m	0.00m	2.40m	16.00	-57.50	0.00
11	Dimmer 11	Dimmer - Spot 8-bit	1.11	-4.00m	0.00m	2.00m	16.00	-70.00	0.00
12	Dimmer 12	Dimmer - Spot 8-bit	1.12	4.00m	0.00m	2.80m	16.00	45.00	0.00
13	Dimmer 13	Dimmer - Spot 8-bit	1.13	4.00m	0.00m	2.40m	16.00	57.50	0.00
14	Dimmer 14	Dimmer - Spot 8-bit	1.14	4.00m	0.00m	2.00m	16.00	70.00	0.00

FID	Name	Type	Patch	X-Pos	Y-Pos	Z-Pos	X-Rot	Y-Rot	Z-Rot
20	Blinders	Grouping							
21	Blinder 1	COB - Blinder 2x100w - 1 ch	1.15	-2.00m	0.50m	4.70m	-73.00	0.00	0.00
22	Blinder 2	COB - Blinder 2x100w - 1 ch	1.16	-1.00m	0.50m	4.70m	-73.00	0.00	0.00
23	Blinder 3	COB - Blinder 2x100w - 1 ch	1.17	1.00m	0.50m	4.70m	-73.00	0.00	0.00
24	Blinder 4	COB - Blinder 2x100w - 1 ch	1.18	2.00m	0.50m	4.70m	-73.00	0.00	0.00
25	Blinder 5	COB - Blinder 2x100w - 1 ch	1.19	-3.50m	2.00m	4.20m	-73.00	0.00	0.00
26	Blinder 6	COB - Blinder 2x100w - 1 ch	1.20	-2.50m	2.00m	4.20m	-73.00	0.00	0.00
27	Blinder 7	COB - Blinder 2x100w - 1 ch	1.21	-0.50m	2.00m	4.20m	-73.00	0.00	0.00
28	Blinder 8	COB - Blinder 2x100w - 1 ch	1.22	0.50m	2.00m	4.20m	-73.00	0.00	0.00
29	Blinder 9	COB - Blinder 2x100w - 1 ch	1.23	2.50m	2.00m	4.20m	-73.00	0.00	0.00
30	Blinder 10	COB - Blinder 2x100w - 1 ch	1.24	3.50m	2.00m	4.20m	-73.00	0.00	0.00
31	Blinder 11	COB - Blinder 2x100w - 1 ch	1.25	-2.00m	3.50m	3.70m	-73.00	0.00	0.00
32	Blinder 12	COB - Blinder 2x100w - 1 ch	1.26	-1.00m	3.50m	3.70m	-73.00	0.00	0.00
33	Blinder 13	COB - Blinder 2x100w - 1 ch	1.27	1.00m	3.50m	3.70m	-73.00	0.00	0.00
34	Blinder 14	COB - Blinder 2x100w - 1 ch	1.28	2.00m	3.50m	3.70m	-73.00	0.00	0.00

When the numbers match you can close the patch menu and accept the changes if the software asks.

Now the fixtures are positioned and rotated and the 3D window should look something like this:





Try to turn on the fixtures to see the light from the fixtures and try to move the camera around to see it from different positions.

When you are happy remember to turn the 3D window "Mode" back to **Standard** by turning Off the **Setup** button. You can store this as a new view or store it on top of the default "3D" view.

The 3D window has a lot of different settings, that allow you to adjust the window to match your wishes. For instance, it can be set up to have priority and running on a grandMA3 onPC on a powerful graphics computer, giving you high-quality real-time visualization. Or the quality can be scaled down to run on a console, where the priority is the user interface and cue control.

For now, we are just gonna use it with the default settings.

Recap

in this chapter, we looked at the 3D window and positioned the fixtures in the 3D virtual space.

If you want to learn details about the 3D window then read the [3D Window](#) topic.

Fixture positioning is explored in more detail in the [Position Fixtures in the 3D Space](#) topic.

We are going to add more interesting fixtures to our patch and 3D space in future chapters.

The next chapter, however, is about groups, appearance, and scribble.

7. Groups, Appearances, and Scribbles

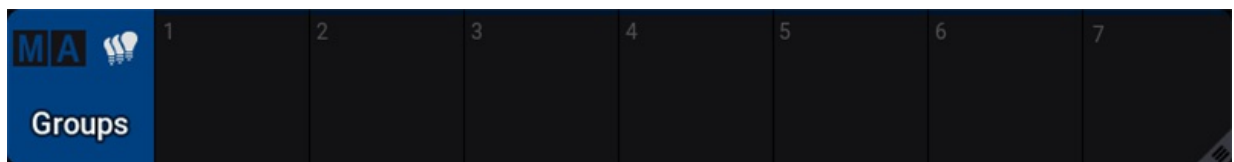
Fixture selection can be done using the methods we explored in chapter 4, but when there are fixtures we often use together and need to select them together, then there is another option called **Groups**.

A group is a fixture selection. The group store the fixture selection and the selection order.

Groups are organized in a **Group Pool**. This can be created as a window for easy creation, overview, and selection.

Make room in a user-defined area to create a group pool window. The **Groups** window is created like other windows and can be found in the **Pool** tab in the **Add Window** pop-up.

The pool looks like this when empty:



The square on the left is the **Title Field**. All pools have one of these. It tells you what kind of pool it is and the MA logo is used to access the settings - just like the logo in the left corner of other windows title bar.

Pools often have fewer settings than more complex windows like the fixture sheet.

The other squares in the pool window are where we can store pool objects. The objects we store in the group pool are groups. A lot of the things we create are stored in pools. For instance, the views we have stored and modified are actually stored in a **View** pool.

Create Group

We are going to create a few groups with our current fixtures.

The first group is going to be the front lights.

Make sure to start with an empty programmer and then select fixtures 1 thru 8. You do not need to give them a dimmer value.

Now click and hold the first group field until a group object appears.

If you look at the **Command Line History** window then you can see that we did a "Store Group 1" command.

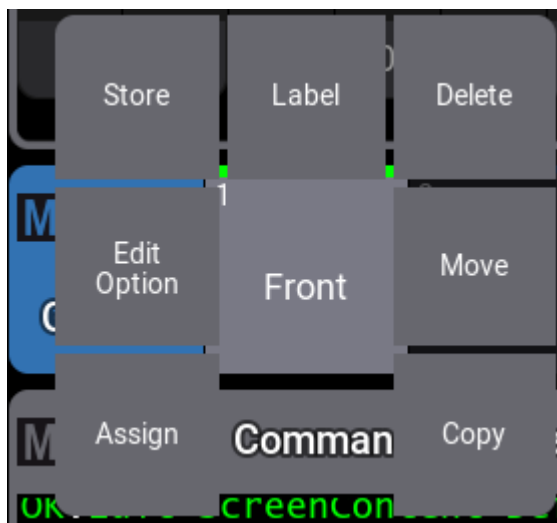
Try to clear your programmer and then click the group. Now you have reselected the fixtures.

The group does not have a name, but we can label the group easily. The last thing we give focus to has a white frame. When a pool object has focus and we start writing on our keyboard then the system assumes we giving it a label.

So you can just start to type: **Front** - this opens the Edit Name pop-up. Complete the labeling by pressing 'Enter' on the keyboard.

Now the group has a name. There are other ways to do this.

Pool objects have a special **Swipecy** menu that gives access to some common functions. The menu is accessed by clicking and holding the group and then moving the pointer out of the group pool object.



The menu has seven buttons that appear around the pool object. The top center button can be used to give the group a new label. The menu is visible as long as you hold the mouse button pressed or as long as you touch the screen. Move the pointer/finger to the desired button and release. If you do not want to do anything then you can release it outside the buttons.

Create a second group with fixtures 9 thru 14. Label it "Sides". Make sure it only contains the desired fixtures.

Our third group is all the blinders (fixture 21 thru 34).

We are going to make two more groups. It is two selections of the blinders. These two groups together are all the blinders, but we are going to make two symmetrical selections.

Group four is fixtures 21, 24, 25, 27, 28, 30, 31, and 34 - label this "Even Blinders". It is not strictly the even numbers but just ignore this.

The last group is fixtures 22, 23, 26, 29, 32, and 33 - label this group "Odd Blinders".

Now we have the groups we need.

Appearance

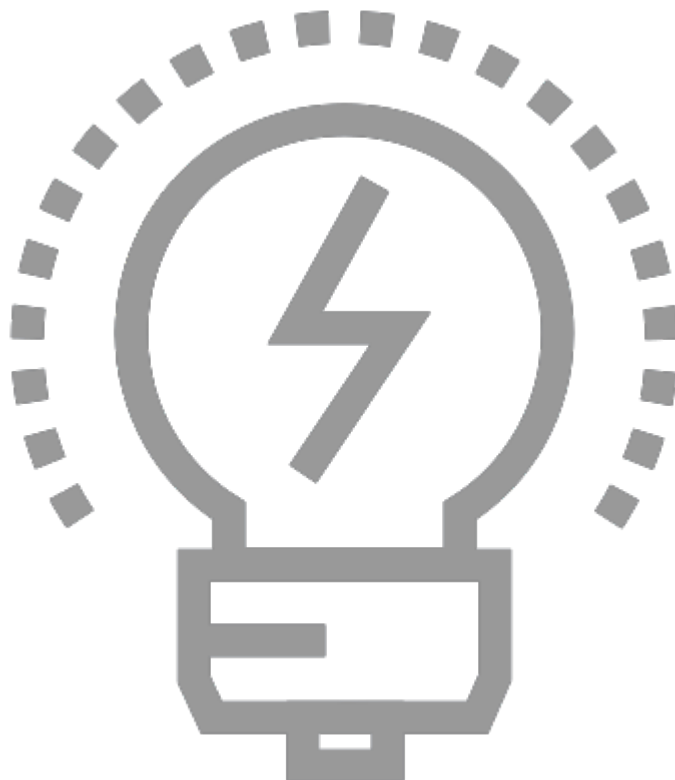
Appearances are a defined look that can be applied to most objects. The appearances are also organized in an **Appearance** pool. A new show already has some appearances in the pool. These can be used like any other appearances you create.

Most objects in the grandMA3 have the option to add an appearance. The purpose is to customize the look of the objects. This can be used as indicators of different fixture types, special cues, or to add icons or images to elements for faster identification.

Images

Images can be used in appearances. There is a separate pool for images. Images can be imported into the pool.

I am going to import and use this image:



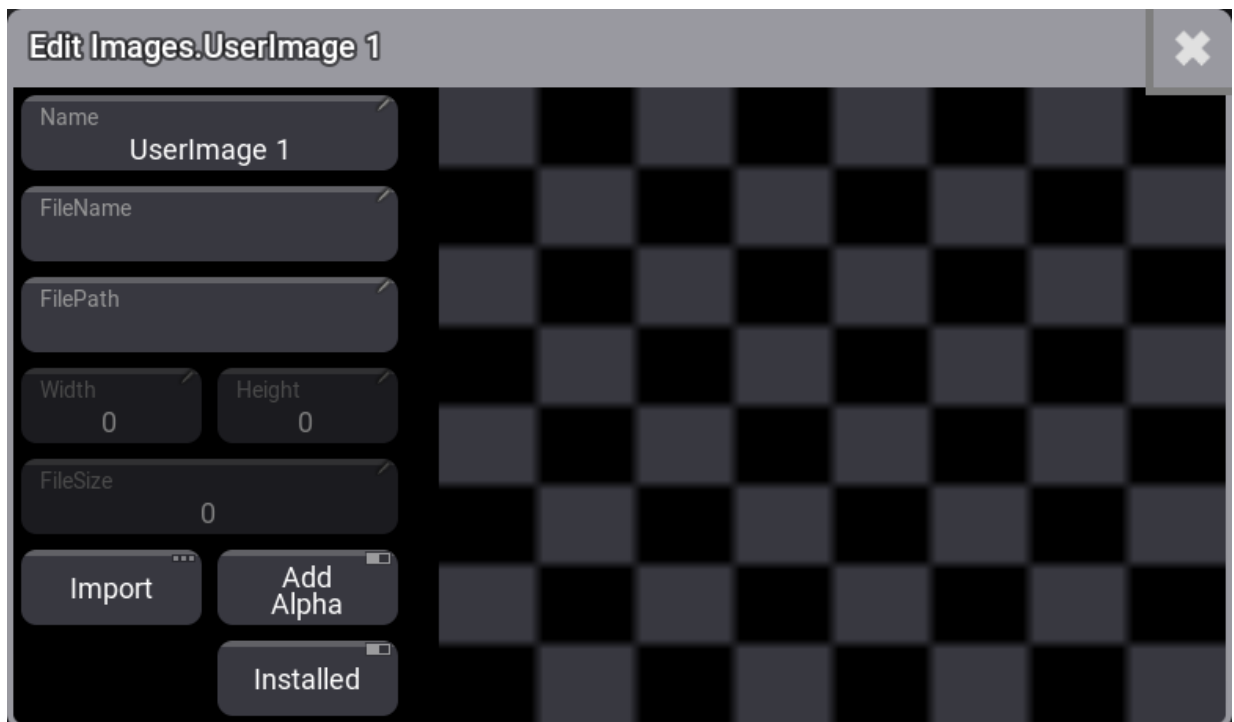
You can right-click it in a browser and save it if you want to follow the example.

It is easiest to have a USB flash drive that you use to import, export, and store show. The drive needs a specific file structure and the image needs to be put in a specific location for the software to be able to import the image. The file structure is created when you use the flash drive with the software. If you insert a stick and save the show to the USB flash drive then you get the needed structure.

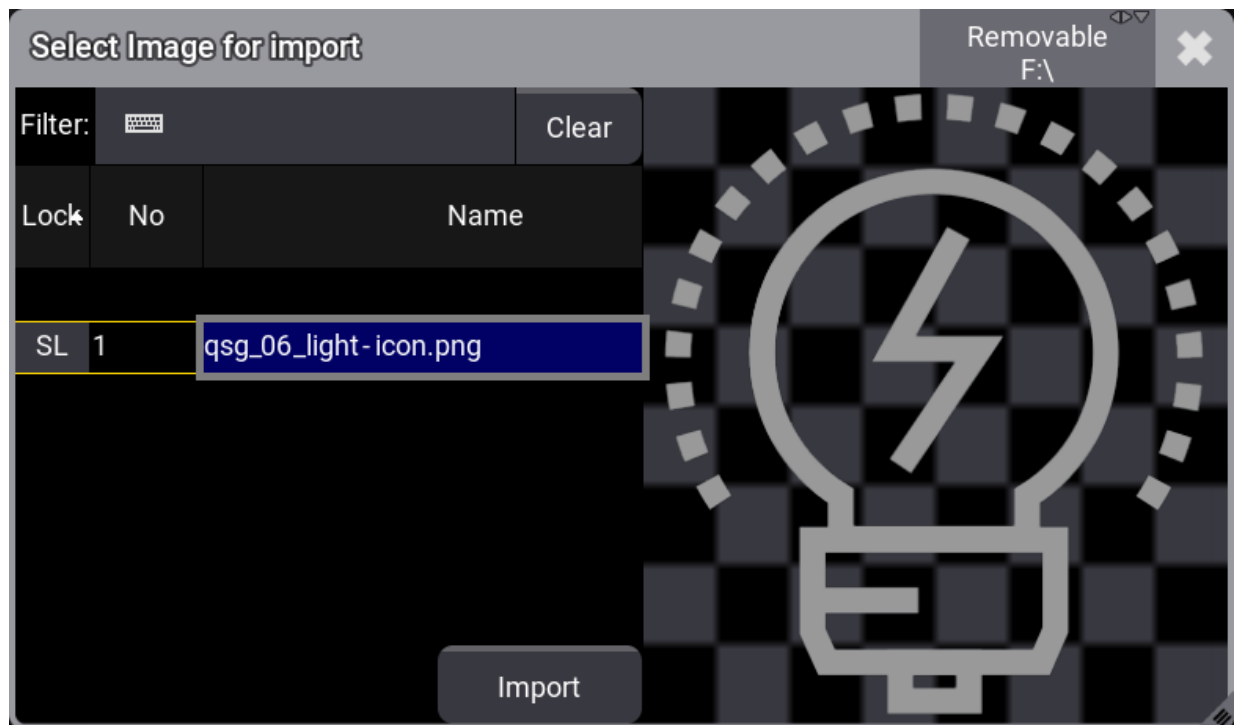
The image needs to be saved in **\grandMA3\gma3_library\media\images**

With the image at the correct location on a USB flash drive, we can import it to the image pool.

Create the image pool somewhere in the user-defined area and right-click the first empty pool object. This opens the image editor:



Click **Import** and change to the USB flash drive in the drive selection in the title bar. Then you should be able to select the image:



Click **Import**.

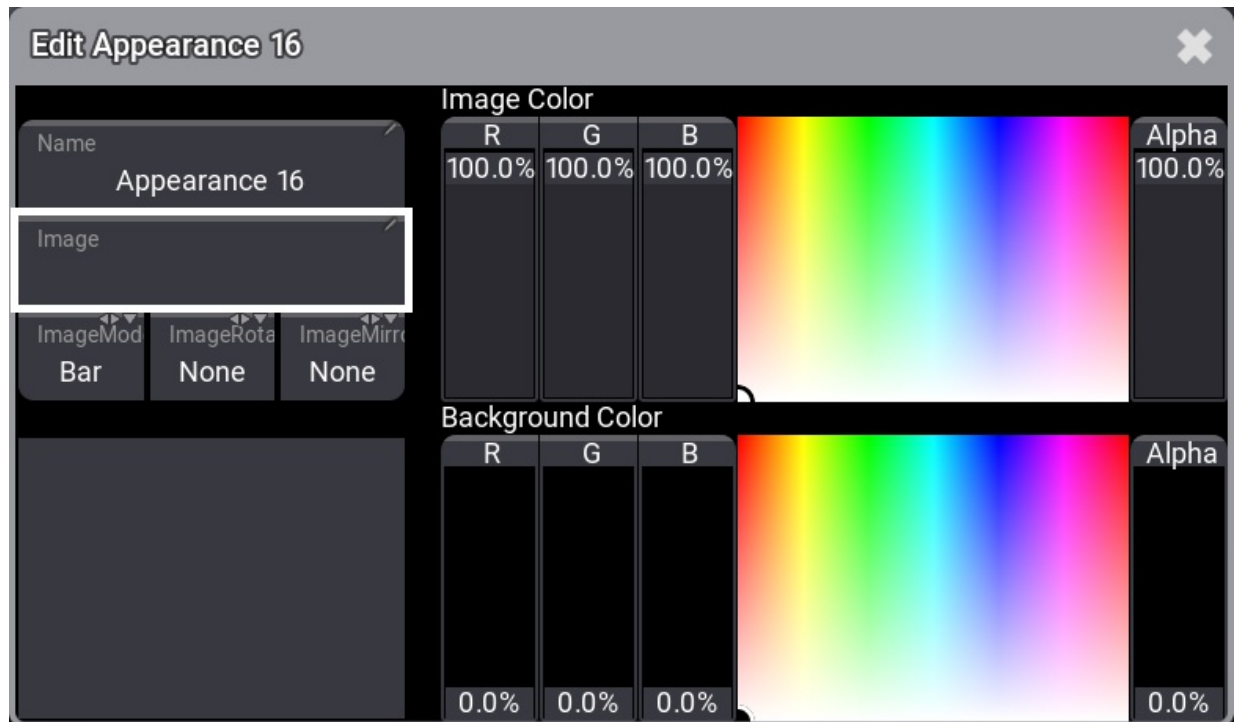
Now close the image editor by clicking the 'X' in the upper right corner. Now the image is in the image pool and it can be used in appearances.

If you want to use custom image icons, then it is a good idea to use a png file with a transparent background and a white icon. Then a colored background can be added to the appearance and the icon can be colored to create different appearances using the same icon.

Back to Appearance

You create an appearance by editing an appearance object in the pool.

The editor looks like this:



The left side allows you to change the name, add an image, control how the image is adjusted to the size and see a preview. The right side is two sections with color selection. The top one adjusts the image color. The bottom one adjusts the background color. It can only subtract existing colors from the image. It can however add color to a transparent background.

Click **Image** and select the image we imported.

Now adjust the colors to match your needs.

Close the editor when you are happy.

The appearance can be assigned to a lot of different objects. Many editors have an appearance setting that can be used to select an appearance, but you can also open the swipecy menu on the appearance and select 'Assign' and then click the object you want to have the appearance. You cannot assign an appearance to other appearances or any image.

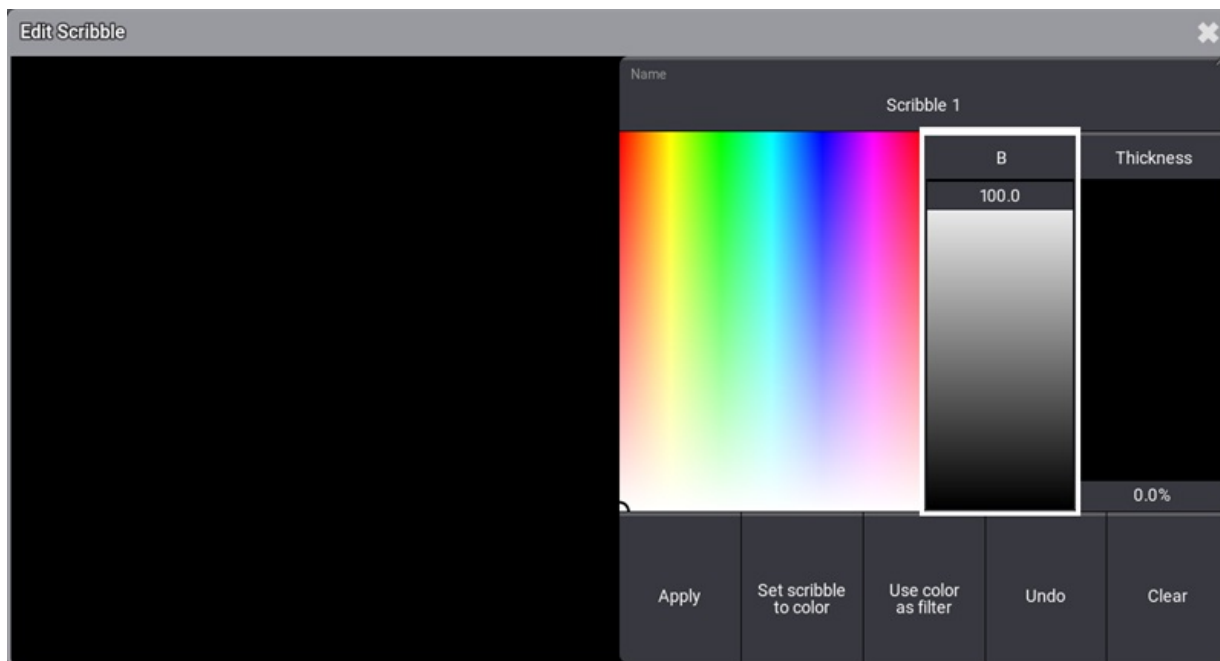
Scribble

Another way to add a custom indication to different objects is the scribbles.

These are small simple drawings that you can create and use. They also live in a pool.

Create the Scribble pool in your user-defined area and edit the first empty pool object.

This is the scribble editor:



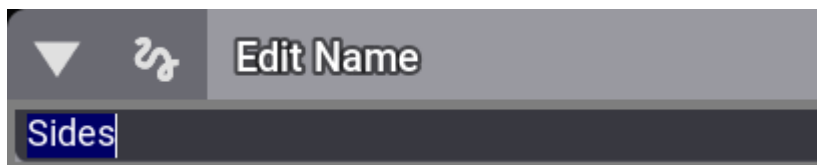
The left side is the drawing area. The right side is used to select a drawing color and line thickness. You can also give it a name and there are buttons to clear, undo, change some color, and apply or save the drawing to the pool.

Try the different drawing options.

When you are happy with your drawing then you can save it by clicking **Apply**.

Scribbles are applied like appearances. They are mostly applied to pool objects, where appearances can also be applied to a wider range of elements for instance, as backgrounds to windows, or the user-defined area.

When we label an object that can have a scribble, there is an extra icon in the corner of the **Edit Name pop-up**:



The down-pointing triangle opens the on-screen keyboard. The icon with the squiggly line is the scribble icon. Clicking this opens the scribble editor at the bottom of the edit name pop-up. Creating a scribble here and applying it to the object also adds the scribble to the pool.

When both scribble and appearance are assigned to an object then the appearance is at the back, the scribble is on top of the appearance and the name of the object is at the front.

It could look like this:



Recap

In this chapter, we looked at groups as a selection tool. Created some useful groups.

Finally, we looked at Appearances, Images, and Scribbles as tools to create custom indications and marking of objects.

Groups are described in detail in the [Groups section](#) of the main manual.

The main manual also has a section for [Images](#), [Appearances](#), and [Scribbles](#). They have more details on each of the different functions.

We are not going to talk more about appearance and scribbles, but feel free to add more and use them in the rest of the chapters.

The [next chapter](#) is about another useful pool - Macros.

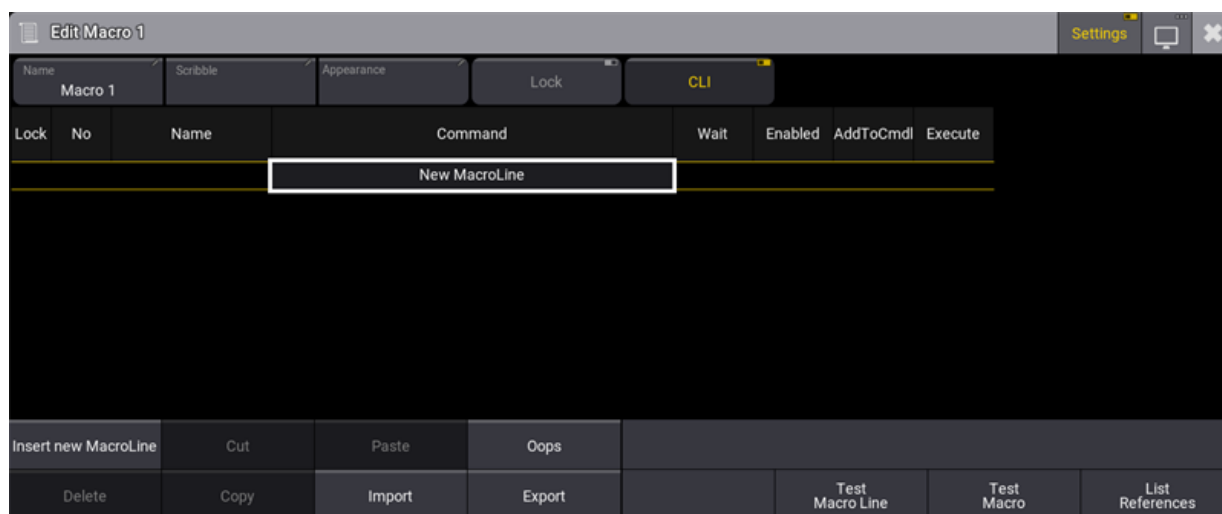
8. Macros

A macro is a command or a set of several commands, that can be executed when the macro is called.

Macros are stored in the **Macro** Pool. The previous chapter introduced the pools and how to use them.

So, create a macro pool somewhere in the user-defined area and edit the first empty pool object.

The macro editor looks like this:



In the editor, we can create macro lines. Each line is executed one by one. A macro needs at least one line.

The commands are the same as the ones we use in the command line input.

We do not write a please command at the end, it is automatically added if the **Execute** column says **Yes**.

Click **Insert new MacroLine**.

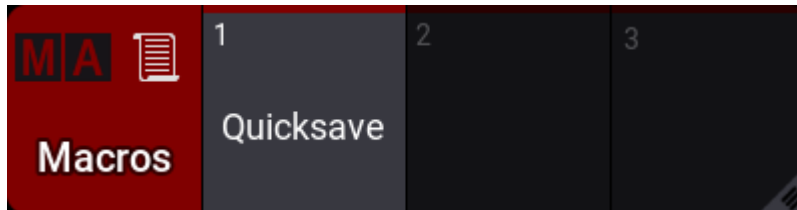
Now we have a macro line where we can add a **Command**.

We are going to create a simple macro that saves the show.

Edit the command field in the macro line and write **SaveShow**. It is important that it is one word.

Edit the **Name** input button at the top of the editor and write **Quicksave**.

Close the editor and click the macro in the pool:



This was one of the most simple macros. A single keyword that saves our show.

Macros can be more complex using elements like user-defined variables. That is outside the scope of this Quick Start Guide.

We are going to create another macro. It mimics the store key.

Edit a new empty macro pool object. Add a new macro line and write **Store**.

Edit the name and change it to "Store@".

So far it is all the same process as the previous macro. but now you need to change the **Yes** in the **Executor** column to a **No** by right-clicking the **Yes**.

The difference is that this macro line now does not automatically execute itself allowing you to add more information or a destination. It basically puts "Store" in the command line waiting for you to do more.

Let us do one more macro.

Edit a new empty macro pool object.

Now click **Import**.

This opens a long list of previously exported macros and factory-created macros. Scroll down the list and find "Help Context Sensitive", select it and click **Import**.

Now you have imported all the settings for this macro including a macro name. You can close the macro editor.

This macro can be used to open relevant help pages. Try it out by clicking the macro and then the macro pool title field. This opens the help page about macros.

Add more macros if you feel like it - I like having a Clear macro.

You can click the macros in the pool to run them. They can also be triggered by a command. For example, **Macro**
1.



Recap

This chapter was a quick look at the macro system.

The main manual has an entire **Macro section** about macros.

Feel free to add more macros in the next chapters if there are keys or keywords that are difficult to reach or just if you feel it makes sense.

In the **next chapter**, we are finally going to create some cues.



9. Store Cues and Use Executors

There are different terms that you need to learn.

Cue

A cue stores different values from fixture attributes. They can contain more than just the attribute values, but it is all about the output to the fixtures. Cues also have information on how to transition between different cues.

Each cue has a unique cue number.

Cues actually consist of **Cue Parts**. This means that if we store values in cue 5. Then the values are actually stored in cue 5 part 0. We often just talk about this as cue 5 and only mentions the parts when they are relevant.

Sequence

The Cues are stored in a Sequence. The sequences have a list of cues in a numbered order. This means that cue number 4 cannot be before cue number 3.

The grandMA3 can handle an almost unlimited number of sequences and many cues for each sequence.

The sequences are stored in a sequence pool. When we playback (or "run") a cue, then it is played back from the sequence pool.

There is always a selected sequence. The default color for indicating a selected pool object is a thick yellow frame.

If we do not specify a sequence then the grandMA3 assumes that a sequence command is for the selected sequence.

Executors

Executors are used to controlling different objects. One of the objects is the sequences.

Executors can also be called **Playbacks**. There are different executor hardware: Executor Buttons, Executor Faders, and Executor Knobs.

All faders and knobs have a button attached.

On the grandMA3 onPC, you can open an on-screen version of the executor hardware by pressing **F5**.

It is important to know that the sequences are not playing back from the executors. The executor sends control commands to the sequences running from the sequence pool.

This also means that if several executors control the same sequence, then they share the sequence status.



Create Some Cues

We are going to create some cues, but first of all, we need a window where we can see the sequence. Click the default view called "Sequence Sheet". It is a starting point and you can modify it if you feel like it.

The window you need is called **Sequence** and if you want to create one from scratch, then it is found in the "Common" tab in the **Add Window** pop-up.

The sequence sheet shows the selected sequence. We have not created a sequence yet, but the first sequence pool object is already selected.

Select group 1 and give the fixtures a value of 100%.

Press **Store** and then **Please**.

Now we have stored the programmer values into cue 1 in sequence 1. When we did not specify a location then the selected sequence was used, and it stores the values in the first available cue.

You can see the cue in the sequence sheet.

A sequence always contains two default cues: CueZero and OffCue. The OffCue is used to control different timings when the sequence is turned Off.

Cues are rows in the sheet. The different columns represent different settings for the cue.

There are many columns in the sequence sheet - let us have a look at some of the most important.

"No" is the cue number.

"Part" is the cue part number.

"Name" is the cue name.

"Trig Type" describes what triggers the cue. If you look at Cue 1, the type is "Go". This means that to execute the cue, you need to press a 'Go' key.

"Cue Fade" and "Cue Delay" show you the respective times for the values to change.

To trigger the cue we can write **Go** in the command line and tap the sequence in the pool.

Now the sequence is outputting the stored values in cue 1.

An easier way to control the sequence is the executors and Master Area. On the grandMA3 hardware, the master



area is the two faders and the three dedicated buttons for 'Go+', 'Go-' and 'Pause'. Some hardware also has some extra buttons and knobs above the faders. On the grandMA3 onPC, we can open an on-screen version of the master area by pressing **F7** on a keyboard.

The master area always controls the selected sequence. The default function for the left fader is an output master. Moving it up and down adjust the output level of the fixtures.

We can also assign controls to the other executors. The on-screen version of the executors can be opened by pressing **F5** on a keyboard. On the grandMA3 hardware, these executor buttons are not numbered as they are in the software. They have small horizontal lines on the buttons indicating the hundreds number and then the leftmost column of executors are the first. This means that the bottom executor in the lower-left corner is executor 101. It got one horizontal line. The button above this is 201 and it is connected to the fader. The button above the fader is 301 and it got a rotating knob. The top button is 401 and it also got a rotating knob. The next column is the second's executors for each hundred: 102, 202, 302, and 402.

Each executor is their own and can be sending control commands to different objects. But they can also be grouped together.

We want the left fader executor to control our sequence.

Press **Assign** **Sequ** **1** and press the executor button 201.

Now we can move the left executor fader and it also controls the master intensity for the sequence. Notice that the master in the Master Area also moves. Both faders do the same thing for sequence 1.

Now we are going to create more sequences.

Clear your programmer and select group 2.

Give them 100% intensity.

Press the **Store** macro and then executor button 202.

Now we have two faders each controlling their own fixtures.

When we pressed the executor button, the grandMA3 software automatically created a new cue 1 in a new sequence and assigned the sequence to executor 202.

Clear the programmer and repeat the steps above for group 4 (Even Blinders) and store them to executor 203. And finally, store group 5 at 100% on executor 204.

We should name the four sequences in the sequence pool to match the group names.

Now you have four faders that each control some of the fixtures.

Let us try to modify the controls to give us some more buttons. We would like to use the 101, 102, 103, and 104 as flash buttons for the sequences above.

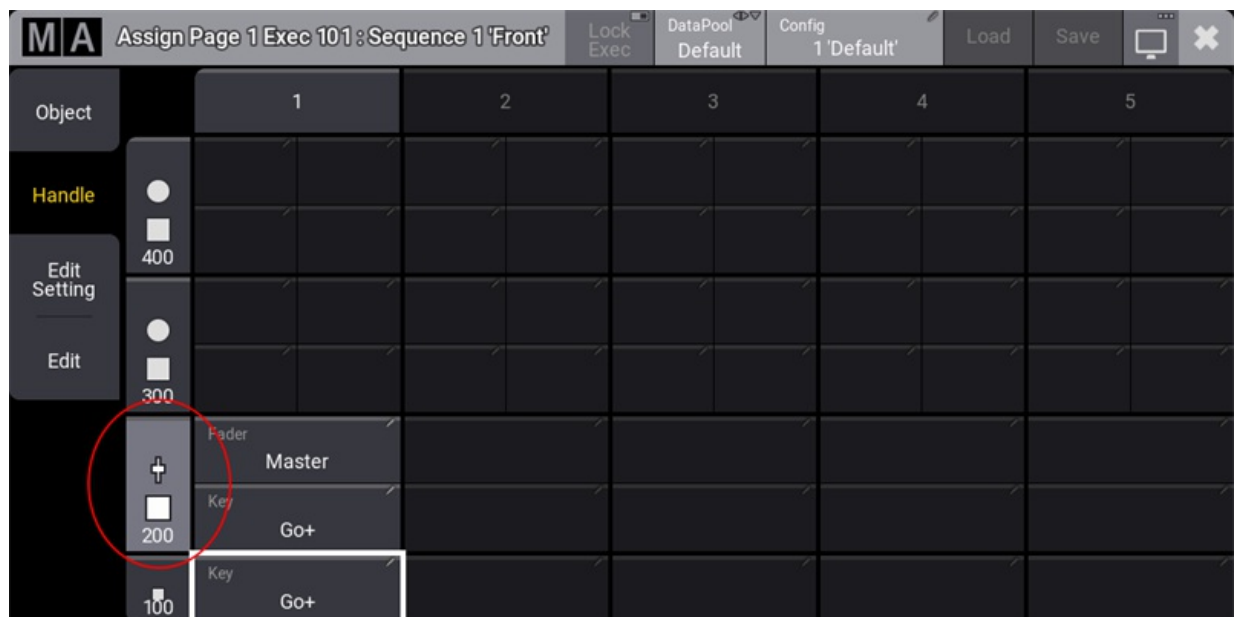
We could make these buttons also control the sequences and just have a flash button on them, but we could also expand the executor and group the executors for each sequence.

Press **Move** and press executor 201 and then 101. Now we have moved the executor from 201 to 101 and we now only have a single executor button to control the sequence.

We need to configure the assignment of the executor buttons. Press **Assign** and then executor button 101.

Now the **Assign Menu** opens on one of the screens. In this menu, we need to expand the executor to include the 200th row.

Tap the **200** button:



This expands the executor in height so it now includes the two executor buttons and the fader.

Now we need to change the assignment on the lower button. Tap the button in the assign menu.

This gives us a small select pop-up that gives us the valid options for the button. Tap **Flash** in the small pop-up.

This has now changed the function (or command) assigned to the button. It got a cyan line at the top to indicate that this is different than the default assignment for this executor configuration. We can save this as a new default. Tap **Save** in the title bar of the Assign Menu. Close the Assign Menu by tapping the **X** in the upper right corner.



Let us try the new function. Turn down all the faders and press executor button 101. You should see the fixture flash in the 3D window and in the fixture sheet.

Ok, let us do the same for the other executors.

Press **Assign** and then executor 202. In the Assign Menu we can see that the 100 button is grayed out. This means that we cannot expand the executor down. Executors can only be expanded up and to the right and only if the space is not occupied. A final expansion rule is that we cannot expand outside the grouping of 5 columns. This means that executor 105 cannot expand to the right to executor 106 even if it is empty.

To continue with our task, we need to move the executors down first before we can expand them up. Press **Move** and then executor button 202 and then executor button 102. If you still have the Assign Menu open then you will see that it updated the view and now the executor 102 can be expanded to 202. Doing so automatically changed the button function to the new default we just stored for 101.

Now also expand executor 203 and 204, by first moving them and then expanding them.

Try out the new flash buttons.

Flash can be combined with having the faders up. If the fader is at 100%, then the flash does not have a function, but having the faders at 25% and flashing is a visible combination.

Now the executors looks like this in a **Playback** window:



Notice that the sequence called Front has a yellow color in the executor label. This indicates that this is the selected sequence.

Recap

In this chapter, we stored some cues in different sequences and we made some executors control the sequences. We also adjusted the executors to match our needs.

If you want to learn details about the Sequence Sheet window then read the [Look at Cues and Sequences topic](#).

The Assign menu is described in detail in the [Assign Object to an Executor topic](#).



The **next chapter** is about adding moving lights.

10. Add Moving Lights

In this chapter, we are going to return to the patch and add some moving lights.

We are going to add a variety of fixtures and we are going to hang them on our fixture pods.

You should know how to add the fixtures. If not then please have look at [chapter 2](#) before continuing.

This is a table with the needed fixtures and the information you have to add. Be careful not to add them inside the Blinder grouping fixture.

If the fixture exists in the "grandMA3" library then you should use that fixture. Otherwise, you can use a fixture from the grandMA2 library.

Remember that you have to change the patch menu to show **Full** columns to see the position columns.

FID:	Name:	Type:	Patch:	X-Pos:	Y-Pos:	Z-Pos:
101	X4 Bar 1	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	2.1	-1.5	0.5	4.5
102	X4 Bar 2	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	2.90	1.5	0.5	4.5
103	X4 Bar 3	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	2.179	-3.0	2.1	4.0
104	X4 Bar 4	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	2.268	0.0	2.1	4.0
105	X4 Bar 5	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	2.357	3.0	2.1	4.0
106	X4 Bar 6	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	3.1	-1.5	3.6	3.5
107	X4 Bar 7	Impression X4 BAR 20 - Single Pixel High Resolution Mode (89 Ch)	3.90	1.5	3.6	3.5
201	Mythos 1	Mythos - Standard	4.1	-1.5	0.8	4.5
202	Mythos 2	Mythos - Standard	4.31	1.5	0.8	4.5
203	Mythos 3	Mythos - Standard	4.61	-3.0	2.4	4.0
204	Mythos 4	Mythos - Standard	4.91	0.0	2.4	4.0
205	Mythos 5	Mythos - Standard	4.121	3.0	2.4	4.0



FID:	Name:	Type:	Patch:	X-Pos:	Y-Pos:	Z-Pos:
206	Mythos 6	Mythos - Standard	4.151	-1.5	3.9	3.5
207	Mythos 7	Mythos - Standard	4.181	1.5	3.9	3.5
301	AuraXB 1	Mac Aura XB - Standard (14 ch)	5.1	-1.0	0.8	4.5
302	AuraXB 2	Mac Aura XB - Standard (14 ch)	5.15	2.0	0.8	4.5
303	AuraXB 3	Mac Aura XB - Standard (14 ch)	5.29	-2.5	2.4	4.0
304	AuraXB 4	Mac Aura XB - Standard (14 ch)	5.43	0.5	2.4	4.0
305	AuraXB 5	Mac Aura XB - Standard (14 ch)	5.57	3.5	2.4	4.0
306	AuraXB 6	Mac Aura XB - Standard (14 ch)	5.71	-1.0	3.9	3.5
307	AuraXB 7	Mac Aura XB - Standard (14 ch)	5.85	2.0	3.9	3.5
401	Sharpy 1	Sharpy - Standard Lamp On	6.1	-2.0	0.8	4.5
402	Sharpy 2	Sharpy - Standard Lamp On	6.17	1.0	0.8	4.5
403	Sharpy 3	Sharpy - Standard Lamp On	6.33	-3.5	2.4	4.0
404	Sharpy 4	Sharpy - Standard Lamp On	6.49	-0.5	2.4	4.0
405	Sharpy 5	Sharpy - Standard Lamp On	6.65	2.5	2.4	4.0
406	Sharpy 6	Sharpy - Standard Lamp On	6.81	-2.0	3.9	3.5
407	Sharpy 7	Sharpy - Standard Lamp On	6.97	1.0	3.9	3.5

Exit the patch and save the new setup.

Create new Groups

Create the following groups:

Group No.:	Group Name:	Fixtures:
6	All X4 Bar	101 Thru 107
7	All Mythos	201 Thru 207
8	All Aura	301 Thru 307
9	All Sharpy	401 Thru 407
10	Pod 1	21 + 22 + 101 + 201 + 301 + 401
11	Pod 2	23 + 24 + 102 + 202 + 302 + 402
12	Pod 3	25 + 26 + 103 + 203 + 303 + 403
13	Pod 4	27 + 28 + 104 + 204 + 304 + 404
14	Pod 5	29 + 30 + 105 + 205 + 306 + 406
15	Pod 6	31 + 32 + 106 + 206 + 306 + 406
16	Pod 7	33 + 34 + 107 + 207 + 307 + 407

You can create and assign appearances to the groups if you like.

Fixture Sheet Version 2

We are going to need another version of the fixture sheet.

The first we made shows the intensity attributes.

We need a new one where we can see all the other attributes.

Create a new fixture sheet.

Let us adjust some of the sheet settings. Tap the **MA** icon in the upper left corner of the sheet.

Make sure both 'Fixture Sort' and 'Feature Sort' is On and that the 'Sheet Mode' is set to Fixture.

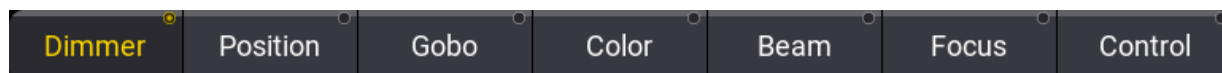
That is it for now. Please close the settings.

Store this as a new view.

Controlling Moving Lights

In the previous chapters, we have looked at controlling the dimmer attribute. But now we have many more attributes.

The key to controlling these attributes is the **Feature Group Control Bar**.



With this, you can control what feature group you are controlling with the encoders.

All fixtures are separated into different sections. These are called feature groups.

The bar will display the feature groups you have access to.

If you select fixture 101 (or group 6), then the bar above each button might change (from gray to red). This indicates the feature groups you can use for the selected fixture. If you clear your programmer and try to select fixture 1, then you can see that it is only the 'Dimmer' button that got a red bar.

Selecting a feature group also selects the feature and the encoders give access to the first attributes in the feature.

Fixtures are structured in a hierarchy. The attributes are organized inside features and features are organized inside feature groups.

The image below shows the dimmer feature group is selected. Below this is a button showing the feature (the button says "Dimmer 1 of 1"). Below the feature, there is the first encoder controlling the first attribute (Dim) in the dimmer feature.



There can be several encoder pages for a feature. That is why the feature button says "1 of 1", it is page one of one page. We need a second page if a feature has more attributes than we have encoders.

To get a better feeling for controlling fixtures we should try the different elements of the Mythos. Clear your programmer and select group 7.

Dimmer

You can assign a dimmer value using the methods you learned in the previous chapters or you can select the Dimmer feature group by touching the bar and turn the left encoder to turn up the lights. Please turn the fixture at full.

Position

Select **Position** by tapping it in the bar. Notice how your encoder changes function according to what feature group 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.

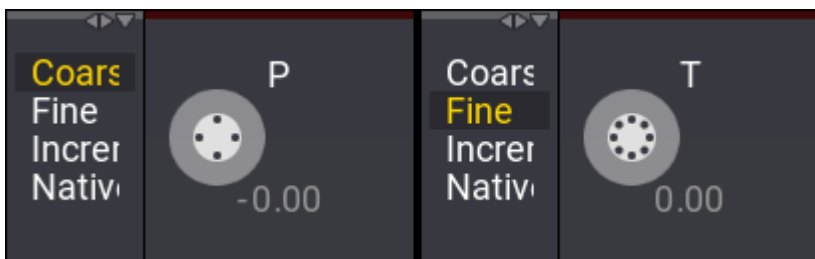


Hint:

The outer ring on the dual encoders cannot be pressed. Pressing the small key next to the outer ring is equal to pressing the ring.

If you want to make smaller movements with a turn (increasing the resolution) you can press and hold the **MA** button and select a different resolution. On the grandMA3 onPC, you need to open the command section (**F3**) and click and hold the **MA** button and slide the mouse out of the button and then release the mouse button to latch the MA button.

This changes the small area next to the encoder readout.



Tapping this area changes between four different resolutions for the encoder. The icon inside the encoder changes to show the selected resolution.

Try to change the resolution and move the fixture using the encoder.

Notice that the Dimmer and Position buttons in the feature group control bar have a red marker. This indicates that you have active programmer values in that feature group.

Gobo

Gobos can be added if the fixtures contain the attributes.

The fixture is designed by the manufacturer to control the gobo in different ways. Some manufacturers have a lot

of functions on the same DMX channels and others spread the functions out on different DMX channels. The Mythos has two gobo wheels with different gobos. The first wheel is physically a single metal plate with different cutouts. We can choose what cutout to have in front of the light. And the wheel can spin continually.

The second gobo wheel is a wheel with replaceable gobos that can be indexed and rotated.

Let us give the second wheel a try.

Tap **Gobo** in the feature group control bar.

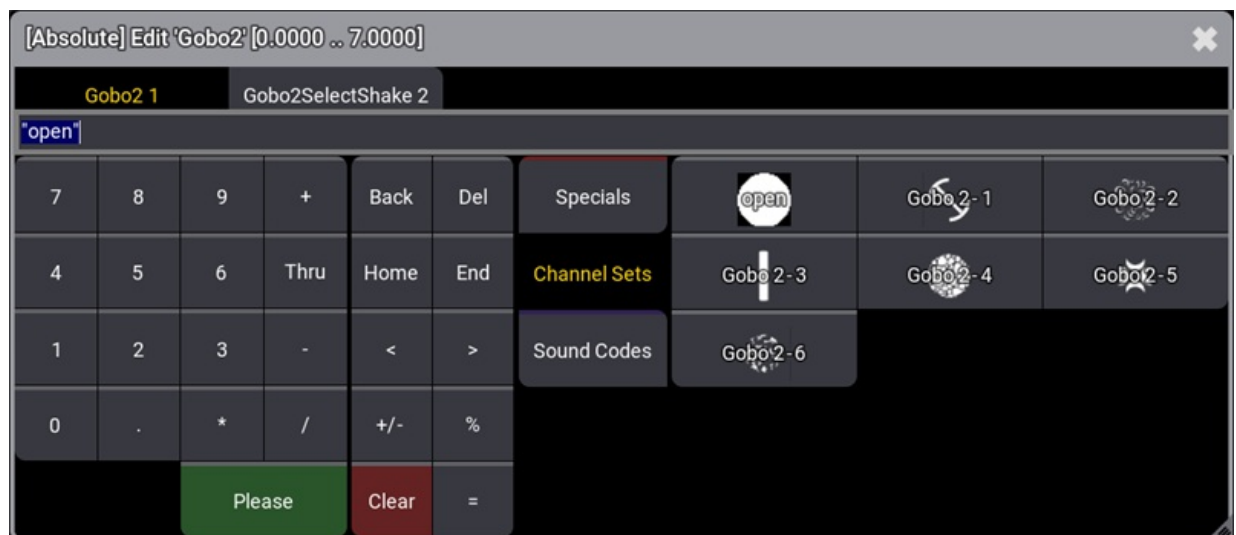
Now we have the gobo controls on the encoders. The first encoder is "G1" - this is gobo wheel one.

The second encoder is used to select a gobo on the second gobo wheel. Gobos are often defined in the fixture type definition and the gobos in the different "wheel slots" are often defined. These definitions include small images that match the actual gobos in the fixture.

Try to shortly press the second encoder (click on the value area of the encoder label). This opens the calculator that we talked about in chapter 4.

Around the middle of the calculator, there is a button called 'Channel Sets'. Please click this.

Now the right side displays the defined gobos on the second wheel.



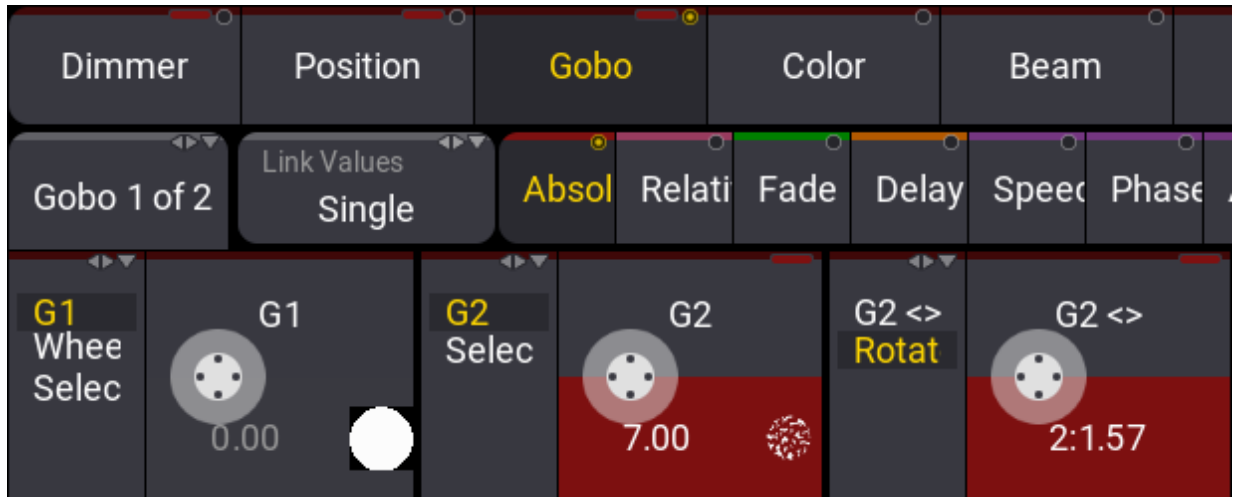
When an encoder controls different functions, then they can be separated into different groups of values. At the top of the calculator, there are two taps. The second tap can be used to select the same gobos but with a gobo shake mode.

Select one of the gobos in the non-shake mode.

The third encoder controls the rotation of the selected gobo on gobo wheel 2. This encoder also has two different modes. They are index (G2<>) and continuous rotation (Rotate). We can change the mode by clicking the area on



the left of the encoder label. We also need to give it a value after the mode selection before the fixture does what we want.



Try the different rotation and index functions. Remember you can see the result in the 3D window.

A very good tool with fixtures that have defined Channel Sets like the gobos is the **Smart View** window. This can be created on an empty user-defined area. It can be found in the **More** tab in the **Add Window** pop-up.



This gives access to the defined channel sets by a dynamic pool that changes content based on the selected feature ("Gobo" is the feature in the example above).

Notice that the gobos appear twice. Once for each mode.

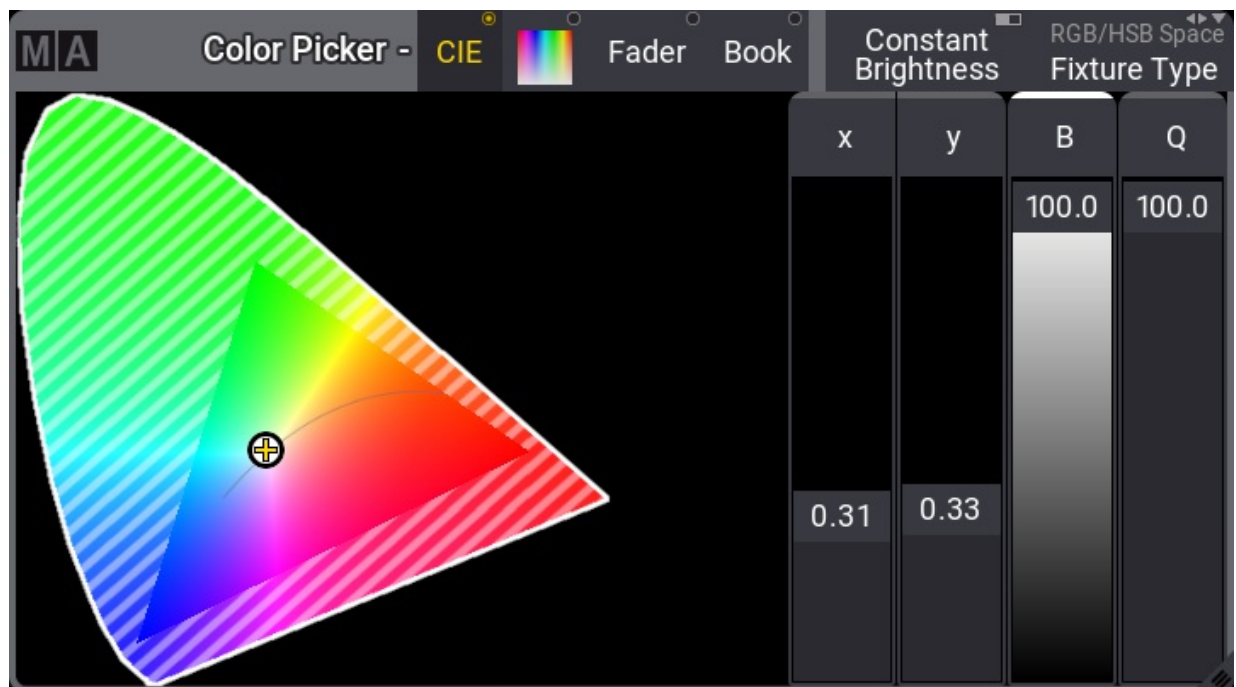
Color

Let us have a look at the colors.

The three first encoders control red, green, and blue. This does not match the physical properties of what is inside the Mythos (it has a subtractive color system).

The grandMA3 system has a color engine that gives us the same unified control no matter what color system the fixtures use. This means that we control the Mythos and the Auras using the exact same controls.

We could of course use the encoders to change the colors, but we have a better tool. It is called **Color Picker** and it is a window that can be created like any other window. It is found in the **Common** tab.



The color picker has four different modes. The first one we see is the **CIE**. The modes can be changed in the title bar.

CIE is a CIE 1931 chromaticity diagram. The crossed-out area is the area the selected fixture cannot output. The area changes if we had fixtures with more color options (for instance fixtures with LED emitters of more than the standard red, green, and blue types) or if the fixtures are measured against their real emitters.

A color can be selected by clicking in the color area.



The next mode is called **HSB** and is represented by a colored square. This can also be clicked to select a color.

The **Fader** mode gives access to different faders that can be used to select the desired color.

Finally, the **Book** mode can be used to select different defined filters sorted by manufacturers. The book can be searched by filter name or number. Selecting a filter gives a color that is as close as possible.

The color picker only affects the color mixing system in a fixture. This means that it does not change the color wheels in fixtures. We have patched some Sharpys and they only have a color wheel. If we want to change colors in a Sharpys then it works much like the gobo control and the best tool can be the **Smart View** window.

The color wheels (C1, C2, etc.) are maybe on a different feature page. So you might need to change the page by clicking the feature button to have access to these functions on the encoders.

Try the different color modes of the color picker and play around with the on-screen faders in the color picker. The "Q" fader is about the color quality and it becomes relevant in RGB+ LED fixtures, where there are different ways to reach the same colors using different sets of LEDs.

Beam

The beam feature group has controls for shutters, iris, prism, and other beam effects. The mythos has some prisms and the 3D can visualize these. On feature page 2 there is a "Prism 1 Pos" attribute. This can be used to rotate the prisms. The combination of a rotating gobo and a rotating prism can give some very interesting looks.

Focus

The focus feature group obviously has controls for the focus. But it also has the zoom attribute.

Zoom is visualized in the 3D window.

Control

The final feature group we have with the patched fixtures is the Control. This is where we find attributes that are used to reset and set different modes in the fixtures. These are often attributes that we do not store in cues. The exception is possibly a sequence that can be used to turn the lamp on and off in the fixtures.

Recap

In this chapter, we have added moving light fixtures to our stage and we have looked at controlling these fixtures.

There is an entire section in the manual about **operating fixtures**. It gives more details of the different elements we discussed in this chapter.

The **next chapter** is about **Presets**.



11. Presets

We have looked at storing values in cues.

There is another option - storing the values in presets.

Presets are pool objects that can contain values and a selection of fixtures that can use the values.

These are often created as building blocks in cues but can also be used for busking shows.

One of the advantages of using presets as building blocks in cues is that the cue stores a **reference** to the preset and not the value stored in the preset. Should the preset values change, then the cue will still look in the preset for the values. There is no need to update the cue.

A preset pool looks a lot like the other pools we have looked at. There are several preset pools, so they have their own tab in the Add Window pop-up. The preset pools are created as windows in the user-defined area.

Each feature group has its own preset pool. The default setting is that you can only store values from a feature group in its respective pool. There are also five All preset pools. They can store values from all feature groups.

Let us have a look at color presets.

Clear your programmer if you still have values there.

Create a color preset pool on your screen.

Press **Group 6 Please**.

Press **Full** to turn them On.

Tilt them forward a little.

Finally, give them a nice color.

Now we have active programmer values in dimmer, tilt, and colors.

M A Fixture Sheet											
▶	Name	FID	IDType	CID	Dimmer	PanTilt		RGB			
					Dim	P	T	R	G	B	W
▼	X4 Bar 1	101	Fixture		100		-28.00	0	43	100	18
	SubFixtu	101.1	Fixture		100			0	43	100	18
	SubFixtu	101.2	Fixture		100			0	43	100	18
	SubFixtu	101.3	Fixture		100			0	43	100	18
	SubFixtu	101.4	Fixture		100			0	43	100	18
	SubFixtu	101.5	Fixture		100			0	43	100	18



Notice that we have selected the "main" part of the X4 fixtures. The dimmer and tilt are part of this main part. The main part does not have any color attributes. The values shown for the row with the main part are slightly darker. This indicates that the value shown is actually from the child or sub-fixture. The colors are actually in the sub-fixtures. We do not need to select the sub-fixtures explicitly to apply the color. Since the main fixture does not have this attribute it is passed on to the sub-fixtures when applied to the main fixture. Have a look at the dimmer attribute. The main fixture and sub-fixtures all have dimmer attributes. The value is only applied to the actually selected (main) fixture. The sub-fixtures default dimmer value is at 100%, so the result is colored light is output.

Ok, back to presets.

Press **Store** and click the first preset pool object in the color preset pool - not the title field, but the one with a small "1" in the upper left corner.

Two things happened.

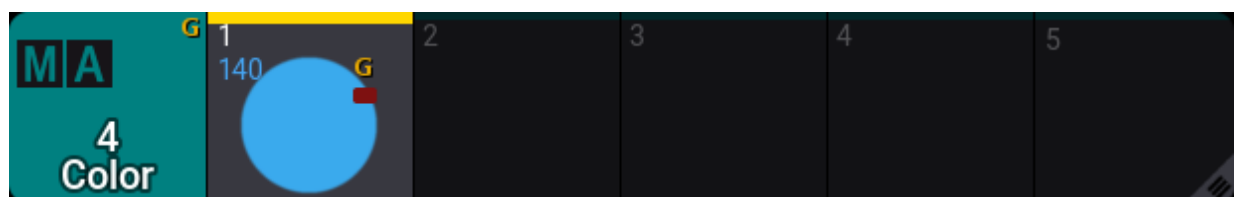
First, our fixture sheet changed.

M A Fixture Sheet											
▶	Name	FID	IDType	CID	Dimmer	PanTilt		RGB			
					Dim	P	T	R	G	B	W
▼	X4 Bar 1	101	Fixture		100		-28.00	4.1	4.1	4.1	4.1
	SubFixtu	101.1	Fixture		100			4.1	4.1	4.1	4.1
	SubFixtu	101.2	Fixture		100			4.1	4.1	4.1	4.1
	SubFixtu	101.3	Fixture		100			4.1	4.1	4.1	4.1
	SubFixtu	101.4	Fixture		100			4.1	4.1	4.1	4.1
	SubFixtu	101.5	Fixture		100			4.1	4.1	4.1	4.1

The color values are now inactive values in the programmer. The dimmer and tilt attributes are still active values. This indicates that the color values have gone somewhere and the dimmer and tilt have not.

Also, the color values have gone and are replaced with "4.1". This is the number of the preset where the color values have gone.

The first number is the feature group / preset pool number. The second number is the pool object.



So we got this new color preset.



Notice the small yellow "G" in the upper right corner of the preset. This indicates that the preset is a **Global** preset.

Let us have a look at what is actually stored in the preset.

Clear the programmer.

Press **Edit** and then click the preset.

Now the fixture sheet changes and look like this:

▼	Name	FID	IDType	CID	RGB			
					R	G	B	W
▼	X4 Bar 1	101	Fixture		0..100	43..100	100	0..18
	SubFixtu	101.1	Fixture		0	43	100	18

These are now values in our programmer and it is actually output.

What we see here is that the value is only stored for the first sub-fixture of the first X4 fixture and there is a small yellow marker above each value.

The marker indicates that a value is a global value.

Global values can be used by all fixtures of the same type. This means that all the sub-fixtures of the X4 bars can use this color.

Clear your programmer and press **Esc**.

Click the color preset.

This first preset "call" selects all the fixtures that can use a preset - when we do not already have a selection of fixtures. Notice that we select all the sub-fixtures.

Click the preset again.

Now we have called the preset reference into our programmer for the selected fixtures. This is also what happens if we had used a group or manual selection to select some of the sub-fixtures.

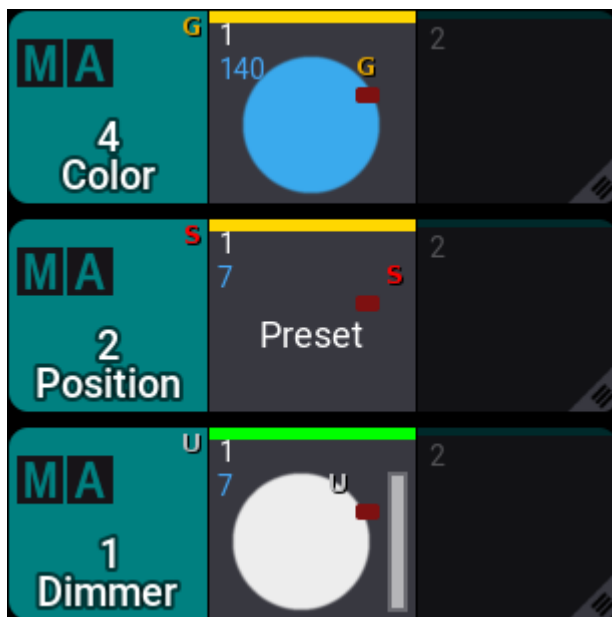
Notice that the preset number is showing in the value cells in the fixture sheet.

If we want to turn On and tilt the X4 bars again then we need to select the parent / main fixtures. We can do this easily by pressing the **Up** key. Now we have selected the main fixtures and we can press **Full** to turn them On and use the tilt encoder to tilt them forward.

Now we are going to store a couple of other presets. Please make a **Position** preset pool and a **Dimmer** preset pool.

Now press **Store** and click the first preset in the position pool. And we are immediately going to store the first dimmer preset as well.

Now you should have presets that looks like this (The color might not be the same):



The position preset got a small red "S". this tells us that it is a **Selective** preset. These presets only store active values that can be used by the fixtures that had the values when they were stored.

Try to clear your programmer and click the position preset once. Now you have selected all the X4 main fixtures. Clicking it again assigns the reference to the preset.

If you edit the preset you can see in the fixture sheet that the tilt value is stored for all the X4 fixtures.

Clear the programmer again and exit the edit mode by pressing **Esc**.

Let us have a look at the dimmer preset. Notice that this got a gray "U". Which tells us that it is a **Universal** preset. Press **Edit** and click the preset.

Notice that it has only stored values for the first X4 and the value is marked as global. So it looks a lot like a global preset. But it is not global - it is universal. This is important when we call the preset.

Clear the programmer and exit the edit mode.

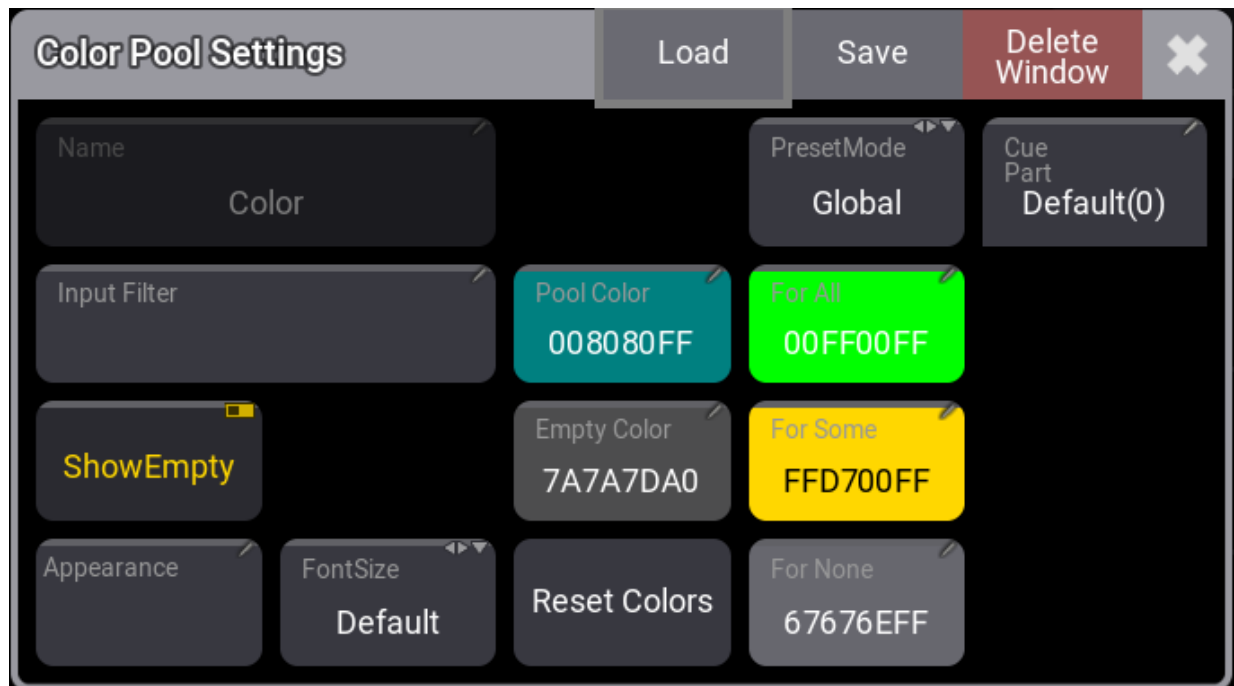
Now click the dimmer preset once.

This selects all the fixtures. That is because all the fixtures we have patched have a dimmer attribute and the preset can be applied to all dimmer attributes.

Clicking it again. Now all the fixtures are at full. Clear the programmer.

Why did the presets got stored with these different preset modes? It is because we did not change the default store settings. These say that the preset should be stored using the "Auto" option for the preset mode. Auto means that the preset pools mode is used.

Each preset pools title field also has one of the mode letters showing the mode for the entire pool. This can be changed by clicking the MA logo in the title field for the pool. This opens the pool settings.



I am not going to explain all the different settings. But there is the **PresetMode** for the entire pool. Clicking the button toggles between the three different modes. Please leave it in the mode it was.

Close the settings pop-up by clicking the 'X' in the upper right corner of the pop-up.

Let us move on.

Create an All preset pool. There are five different All preset pools. They do the same and it does not matter which one you choose to create. There are several so you can organize the pools and store different content in different pools - should you choose to.

If we want to recreate the first look with the X4 bar, then we need to select the X4 fixtures and then apply the three presets. You could do this by clicking group 6, but we can also click the position preset first to select the X4 bars.

After you have made the selection, then you can click the three presets.

Now we have the references to the three presets in our programmer.

We want to store this in an all preset, but we would like to keep the references to presets - just like if we stored a cue.

To do this we need to make a small change to the store settings.

Press and hold the **Store** key until the store options open.

The store options are separated into different areas. One of them is about the preset. In this area, there is a button called "Embedded". Click it to activate it. Now click the first preset in the all preset pool.

We are going to do this again - almost and create a second All preset and then we can have a look at what happened.

Clear the programmer. Click the position preset twice and then the dimmer and color preset.

Now store the second All preset without changing the store settings.

The result should look something like this:





The first all preset got an icon with a vertical line and arrow pointing right. This means that the preset is referencing other objects. The three presets we started with have a different icon with a horizontal line and an arrow pointing down. This means that the preset is used as a reference somewhere else.

Clearing the programmer and clicking any of the two All presets gives the same output. But try to use the edit method and have a look at the two preset in the fixture sheet.

The first All preset has the references as values and the second preset has the attribute values. This means that the default when storing presets is that we extract the values from any selected preset and store these values into the new preset.

To explore this further, clear your programmer.

Select group 6 and click the color preset.

Change the color to something different.

Now the "Update" key is flashing. This means that we can update something. Click the "Update" button.

This opens the update menu. The left side shows the color preset. Click the preset.

Now we have updated the color preset and it could look something like this:





Notice that nothing in the two All preset has actually changed! But the output is obviously different. The first All preset is still just referencing the first color preset - and this color preset *has* changed. The second All preset has attribute values stored and these values have not changed.

Alright, this was all the preset knowledge we need at the moment.

Please create 5 different color presets including all the fixtures that can change color.

Also, create 5 position presets, some gobo presets and some All presets. Please create the position preset for all the fixtures that can move.

It is always a good idea to have presets with the default values (Open white, No Gobo, Home position, etc).

When you have created the desired preset, please clear your programmer and do not forget to save the show once in a while.

Recap

In this chapter, we had a look at different presets and we made some preset for use in later chapters.

We touched different areas including the **Update Menu** and the **Store Settings**.

The manual has an entire section with details about **presets**.

In the **Next Chapter**, we are going to look at Phasers.

12. Phasers

Often we have a desire to have our fixtures move around and possibly change colors or any combination of values changing in a dynamic way. This is often achieved using some kind of effect engine.

The effect engine in grandMA3 is called **Phaser**.

Phasers can be complex and we are not going into a lot of details, but we are going to look at the basics of Phasers.

A phaser uses **Steps**. The cues and presets we have stored until now have one step. If we do not specify anything else we store the values in step 1. A step contains a set of values.

Normally you would need two or more steps to have a Phaser. Each step contains a set of values. We sometimes refer to objects with a Phaser as a "multi-step" object. Phasers can be stored just like cues and presets.

The Phaser plays each step one at a time and loops through the steps during playback.

A **Speed** value defines how fast this loop runs. If all the fixtures are going the same steps at the same time, then we say that they have the same **Phase** value. But often we want to spread the fixtures out so they are in different places in the loop. This is done by giving the fixtures different phase values. Do not confuse the **Phase** value with the concept of **Phasers**.

Let us create a simple dimmer chaser that fades between two values with the Even Blinders to try some of these concepts.

Clear the programmer.

Select Group 4.

Give them a value of 0%.

Notice this small area on the encoder toolbar:



It is called the "Step Bar". It currently says "1/1". This shows us that we are working with values for step number 1 out of 1 step. Everything we have been doing so far in all the previous chapters has been happening in step one.

We need to add another step with a new value.

Click the right-pointing arrow in the step bar.

Now it should say "2/1".



Since we have not given the fixtures any value yet, we still only have 1 step but we have selected step 2 and are ready to add some values.


Give the fixtures 100%.


Now the fixtures are looping between the two steps in the output.

Have a look at the fixture sheet. You can probably not see the value changes, this is because we are looking at a layer called "Absolute". This shows you the values you have requested in the programmer. But the output can be affected by different elements, for instance, a phaser. We can change the fixture sheet so we are looking at the actual output.

Open the settings for the Fixture sheet by clicking the  logo in the upper right corner of the sheet window.

Toggle the setting called "Layer Toolbar" On (yellow text).

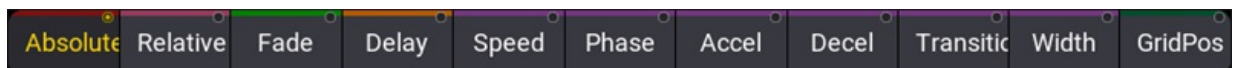
Close the settings by clicking the  in the upper right corner of the settings pop-up.

Now there is a layer toolbar at the bottom of the fixture sheet. This can be used to select different layers. We are not going into details about the layer toolbar. But if you click , then you can see what the fixtures are actually outputting.

M A Fixture Sheet					
▼	Name	FID	IDType	CID	Dimmer Dim
▼	Blinders	20	Fixture		0..63
	Blinder 1	21	Fixture		63
	Blinder 4	24	Fixture		63
	Blinder 5	25	Fixture		63
	Blinder 7	27	Fixture		63
	Blinder 8	28	Fixture		63
	Blinder 1	30	Fixture		63
	Blinder 1	31	Fixture		63
	Blinder 1	34	Fixture		63
	Blinder 2	22	Fixture		0

Auto Output DMX CueAbs

There is a version of the Layer Toolbar included in the Encoder Toolbar:



The buttons in this toolbar with a purple bar at the top are Phaser layers. The same colored marker is also showing in the fixture sheet on the values that are affected by a Phaser.

Click **Speed** in the layer toolbar in the encoder toolbar. Now the first encoder controls the speed. The default readout for the speed is BPM - Beats Per Minute. This could also be called SPM - Steps Per Minute. Each beat is a single step. So if we had a Phaser with 60 steps running at 60 BPM then it would take one minute to run through all steps.

At the moment we can see in the fixture sheet that the blinders are all moving together. We can change this by giving them different values in the Phase layer.

Click **Phase** in the toolbar. Click or do a short press on the encoder to open the calculator.

In the "Specials" section click **0 thru 360**.

Now the fixtures are spread out equally over the entire loop.

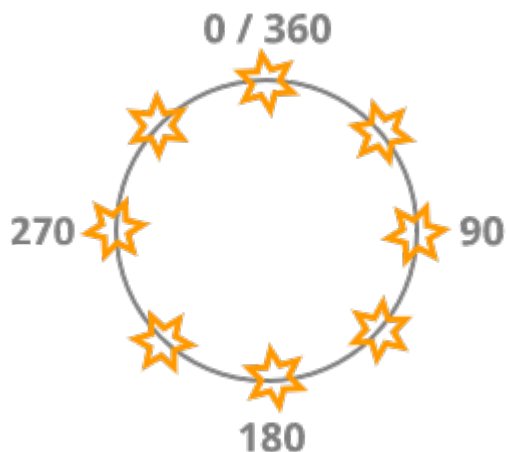
You can see this if you select the "Phase" layer in the fixture sheet.

FID	IDType	CID	Dimmer Dim
20	Fixture		0.00° .. 3
21	Fixture		0.00°
24	Fixture		45.00°
25	Fixture		90.00°
27	Fixture		135.00°
28	Fixture		180.00°
30	Fixture		225.00°
31	Fixture		270.00°
34	Fixture		315.00°

Notice that the values assigned are not actually from 0 to 360. This is because the phase value is defined as a degree on a circle.

Imagine all the steps looping as a circle. On a circle, the value of 0 degrees and 360 degrees are actually the same location. So if the console actually did 0 to 360, then the first and last fixture would be the same.

The phase values we have now look like this on a circle:

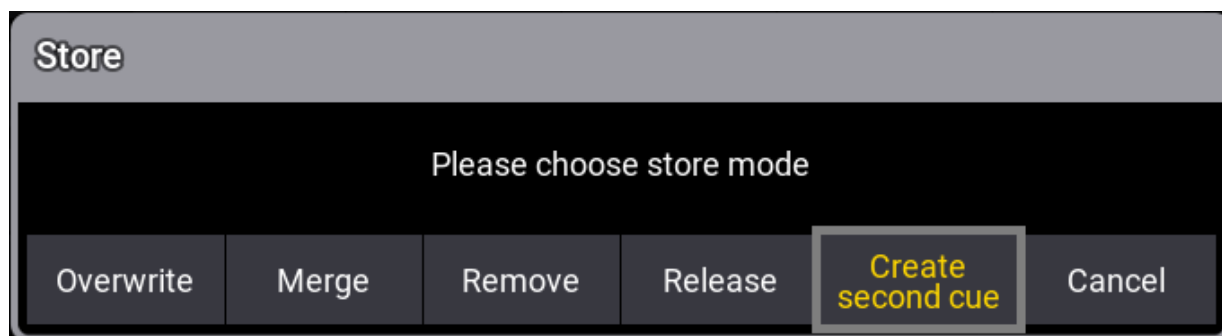


Store this in a new All Preset.

Click the preset to have the reference to it active in your programmer.

Press/Click **Store** and then click executor 103.

Now we get a new pop-up:



We want to store the Phaser as cue number 2. We could have been precise with our store command, but then you would not have seen this pop-up.

It asks this question because we can store the values in the existing cue or we can create a second cue. The default store settings have an option called "If not empty", the default action when storing is set to "Ask".

Click **Create second cue**.

Now you can use the "Go+" button on executor 203 to toggle between the two cues. We are going to make a third cue with a similar phaser but where the snap from one step to the other.

Turn off the executor if it is active (**Off** and then executor 103) and clear the programmer.



We can reuse many of the values we stored in the All Preset. Click it twice to call it into the programmer.

We did not do anything to make the blinders fade from one step to the other. The default values make this happen.

There are two Phaser layers called **Accel** (accelerate) and **Decel** (deceleration). These control if there is a curve to the fade to and from a step.

The **Transition** layer defines how much of the time available between different steps should be used on the transition.

These three sets of values define how the value gets from one step to the next.

The default values give us a linear fade using all of the available time.

If we want the values to jump or snap from one step to the other then we need to turn down the Transition value. The closer to 0% the more it snaps.

The values can be different for each step to make very creative Phasers. For our chaser, we need to make sure we select all steps. This is done by clicking the button to the right in the **Step Bar**. When both steps are selected then the Step Bar should say "1*/2".

Click **Transition** in the Layer Toolbar in the Encoder Toolbar and turn the left encoder down until the value is 0%.

Store this as a new All Preset. You should label the two preset with useful names. I have called them "Even Blind Soft" and "Even Blind Snap".

Click the second preset so it is active in your programmer and press/click **Store** and then executor 103.

This time it does not ask us what we want to do. When there are at least two cues in a sequence and we store to the sequence, then the system assumes we want to store a new cue using the next whole number as the cue number. If we want something else then we need to specify it.

Great, clear the programmer and try out the three different cues on the executor.

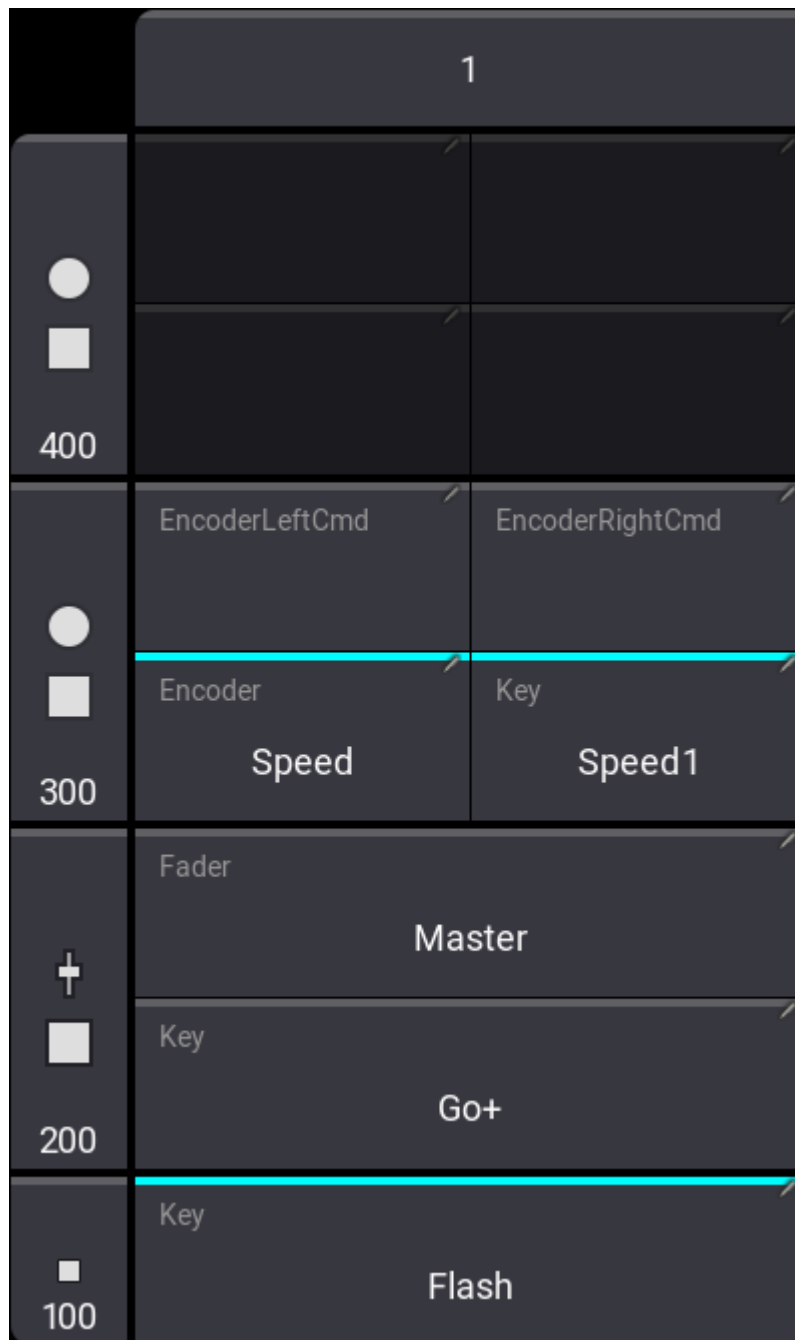
There is one thing we should adjust for this to be better. Right now the sequence reset when we turn the master all the way down. It would maybe be better if it stayed at the last cue we selected. And maybe we would like to be able to control the speed dynamically. Let us make these two changes.

We need to open the **Assign Menu**. Click **Assign** and then one of the executor buttons.

In the menu, we need to be on the Handle page. Click **Handle** on the left side if it is not already active.

We want to expand the executor even further up. Click the button that says **300**.

Now the key assignment has changed (because we changed the size). Again we want the lower executor button to be "Flash". We want the key for the 300 button to be "Speed1" and we want the Encoder for the 300 knob to be "Speed". The handle assignment should look like this:



Now we need to adjust the settings of the executor. Click **Edit Setting** on the left side. This opens the settings for the sequence. There are many different settings. The one we want to change is called "Restart Mode". It is near the middle of the menu. This setting has three options. Click the button until it says "Current Cue". This means



that the sequence will restart on the cue where we left it.

Finally, close the **Assign Menu**.

Play around with the new speed knob and the fader in combination with the three cues. The button below the knob resets the speed back to 60 BPM. The knobs on the onPC can be turned like the encoders.

Now do everything we just did again but this time for the Odd Blinders and set up their executor the same way. Store the Phasers in new All Presets. When you have done that, continue to the next chapter.

Recap

In this chapter, we had a look at simple dimmer Phasers. There is an entire section in the manual called **Phaser** - this gives you all the details about Phaser creation and there are some examples of more advanced Phasers. You can use this show to try the examples.

We also added a layer toolbar to the fixture sheet. This has a little bit more description - **Fixture sheet layer toolbar**.

We also briefly touched the Store Settings. We are not going to talk more about them in this quick start guide. You can learn more about the Store Setting in the **Store Settings and Store Preferences** topic.

In the **next chapter**, we are going to create a new sequence.



13. Sequence with Multiple Cues

Now we are going to create a new sequence with multiple cues.

We are going to use the moving heads and some of the presets we created in chapter 10.

Because of the differences in our preset, your result will look different than mine. That is okay. It is meant as a demonstration and we are going to use the sequence to look at different functions with sequences.

Create the Sequence

We begin by getting some values into our programmer. Select group 7 (all the mythos) and turn them to 100%. Select a position preset and color preset.

This is our first cue in a new sequence, so let us store it: Press **Store** and then executor button 206.

Now we got a new sequence (number 5) and executor 206 is controlling the sequence.

Press **Select Sequ 5 Please** to select the sequence. This makes it easier when we are going to work with the sequence.

Have a look at the sequence sheet. Notice that the cue name gets the names from the presets.

Press the **Go+** key in the master section to run the cue. The master section can be opened temporarily by pressing **F7** on a keyboard or be created as a window.

Turn off the mythos (0%) and Press **Store Cue 2 Time 3 Please**. This stores cue 2 with a fade time of 3 seconds.

Clear the programmer.

Now you are back to cue 1. Press **Go+** in the master area to run the second cue.

Select all the Auras. Turn them On, select a color and a position. Store this as cue 3 with a fade time of 4.

Give them a new position and adjust the color. Store this as cue 4 with a fade time of 3 seconds.

Clear the programmer and run the two cues in the sequence.

Select the X4 bars. Give them a dimmer value, a color, a position and adjust the zoom. Store this as cue 5 with a fade time of 2 seconds.

Clear the programmer and run cue 5.

Select the Mythos. Give them a new position, intensity, a new color, and add a gobo. Select the Auras and turn them Off. Store this as cue 6.



Run the cue and *then* clear the programmer. This allows you to go to the cue without any changes when we clear the programmer.

Now we are going to change the cue timing. Press **Time 2 / 5 Please**. This changed the current cues time. We could have specified a cue number and you can do this if you want to change a different cue than the current one. We also specified two different numbers separated by a forward slash. This means that the cue now has a fade time and an outfade time. The outfade time (5 seconds) will be used by the dimmer values going down in value (the Auras). All other attributes change their values using the normal fade time.

The final cue is going to be a blackout. Select the Mythos and the X4 Bars and give them 0% intensity. Store this as cue 7 with a fade time of 0.

This was the sequence. Try to run through it a couple of times.

Edit the Sequence

Let us make some changes to the sequence using the sequence sheet.

We would like cue 4 to automatically run shortly after cue 3 is done. This can be done by changing the trigger for cue 4. The default trigger is "Go" as we shortly saw in chapter 8. Edit the field for cue 4 and select **Time** and edit the time column and give it a value of 6 seconds. These settings mean that when we trigger cue 3 with a Go, then cue 3 runs with a fade time of 3 seconds, and a timed countdown of 6 seconds is also started for cue 4. So 6 seconds after we trigger cue 3, then cue 4 starts the fading. There are other ways to achieve the same result, but this is one way to do it.

With cue 6 we created a cue where the Mythos turn On and the Auras turn Off. We know this because we just did it. If we return to this show after some time has passed we might not remember that it is the Auras that uses the outfade time. So let us change this to a different solution that makes it more obvious what is happening. We are going to create a part cue with the Auras.

Select the Auras and give them 0%. Press **Store Cue 6 Cue 2 Time 5 Please**. This might give you a popup asking you to select a store mode. Make sure "Cue Only" is Off and then click **Ok**. This stores the Auras dimmer value to cue 6 part 2 with a cuefade of 5.

So now we can change the cue fade in cue 6 part 0 to 2. Click **Cue 6 Time 2 Please**. If we do not specify a part number then the software assumes we mean part 0. Separating the Auras in a part instead of just using the outfade time can seem like extra work. In the end, it is a matter of personal programming style. I wanted to show you two of the ways this look could be achieved. Personally, I like to separate attributes that have different timing in part cues.

Now we should name the part something that tells us what we put in the part. In fact, let us give all the cues a name. You can rename them by editing the name field for each cue and cur part.



Here are the names I use:

Cue	Part	Name
1	0	Entrance
2	0	Ready
3	0	Scene 1
4	0	-- Auto
5	0	Scene 2
6	0	Scene 3
6	2	-- Aura 0%
7	0	BO

We should also name the sequence. Click in the command line input and type **Label Sequence 5 "My Show"** and execute the command. If you for some reason have a different sequence number, then please adjust the command to reflect the correct sequence number.

Another feature I would like to introduce is the appearance of the sequence and the cues.

We can give the sequence an appearance. This can be used to give it a distinguished look on the executors and in the sequence pool.

Let us start by creating the appearances we need.

Make an **Appearance** pool somewhere.

How you use appearance is all up to you. Maybe you do not like the way I do it and that is of course completely OK. But try to follow what I do and then you can always change it afterward.

We need to create 3 new appearances. Edit an empty pool object.

In the **Background Color** fader, set the "R" fader to 0%, the "G" and "B" faders to 100%, and the "Alpha" fader to 30% (it might want to be at 30.2%). Name this appearance "30% Cyan".

The next appearance is named "40% Red". The faders are "R" = 100%, "G" = 0%, "B" = 0%, and "Alpha" = 40%.

The final appearance is named "50% Green". The faders are "R" = 0%, "G" = 100%, "B" = 0%, and "Alpha" = 50%.

Those were the appearances we need. Now we need to have a Sequence Sheet and the Appearance pool visible.

We are going to assign appearances to cues. To be able to see these we need to make an adjustment to the Sequence Sheet Settings.

These are opened by clicking the MA logo in the upper left corner of the sheet. There is a setting in the "Display" tap called **CuePart Appearance**. Set this to "Num+Name" and close the settings again.



The easiest way to assign the appearances to cues (or technically the cue parts) is by using the Swipecy menu in the Appearance pool - if you forgot about the Swipecy, then please revisit [chapter 6](#).

Use the assign option and assign the "30% Cyan" on cue 4 (part 0) and on cue 6 part 2. Assign the "40% Red" on cue 2 and cue 7.

The result should look something like this:

Lock	No	Part	Name	Use	Assert	Allow Duplicates	Type	Trig Time	Sound	Tracking Distance	Duration	Sy
			CueZero								0	
	1	0	Entrance	>			Go	0			0	
	2	0	Ready				Go	0			3	
	3	0	Scene 1				Go	0			4	
	4	0	-- Auto				Time	6			3	
	5	0	Scene 2				Go	0			2	
	6	0	▼ Scene 3				Go	0			2	
		2	-- Aura 0%								5	
	7	0	BO				Go	0			0	
			OffCue								0	

Marking the cues with colors can help you to quickly distinguish special cues from others. I like to mark "dangerous" cues like blackouts and cues that I do not need to worry about like the cues that run automatically.

Finally, let us give the sequence an appearance.

Click the **Settings** in the title bar of the sequence sheet. These are the settings for the actual sequence.

In the first column, there is a setting called "Appearance". Click this and select the "50% Green" appearance in the list.

This colors the sequence in the sequence pool and it also gives the executor the green color. This can make it fast to identify the sequence on the executors.

Below this setting, there is another setting called "Prefer Cue Appearance". Turning this On will give the executor and the sequence pool object the color from the active cue (part 0) if there is one. Otherwise, it will use the sequence appearance.

Tracking

We can see what is actually stored in the cue by changing the sequence sheet into a tracking sheet.



Do this by turning On the **Track Sheet** in the title bar of the sequence sheet.

It then looks like this (I have scrolled the sheet horizontally):

Sequence 5 'My Show'							Cue Only	Show Steps	Track Sheet	Sett					
Lock	No	Part	Name	Tracking	Duration	101	102	103	104	105	106	107	201	202	203
				tance		Dim	Dim	Dim	Dim	Dim	Dim	Dim	Dim	Dim	Dim
			CueZero		0										
	1	0	Entrance		0								100	100	100
	2	0	Ready		3								0	0	0
	3	0	Scene 1		4										
	4	0	-- Auto		3										
	5	0	Scene 2		2	20	20	20	20	20	20	20			
	6	0	Scene 3		2	20	20	20	20	20	20	20	100	100	100
		2	-- Aura 0%		5	20	20	20	20	20	20	20	100	100	100
	7	0	BO		0	0	0	0	0	0	0	0	0	0	0
			OffCue		0										

Here we can see how an attribute changes through the cues. For instance, the dimmer value of fixture 201 is at 100% in cue 1 and then at 0% in cue 2. This then tracks to cue 6 where the value is back at 100% again.

There are some colors here that are a bit interesting for us. The cyan text color shows us that there is a new value. This value will use the **Cue In Fade** time. The green color is dimmer values going to a lower value and they will use the **Cue Out Fade** to change value. The **Cue Out Fade** is the same as the **Cue In Fade** unless you specify a different time. The magenta text color indicates tracking values. This means that the value is not stored in the cue, but it is the value that the sequence will output. Another text color that can be in the tracking sheet is white color. This indicates values that are stored in the cue at the same value as it would have if it was a tracking value. So in essence it does not need to be stored in the cue.

We can edit a value directly in the tracking sheet. Let us try this. We are going to make a change for only one cue, so the first thing we want to do is to turn On the **Cue Only** button in the title bar.

If the dimmer attributes are not listed next to each other (like the example above), then open the settings for the Sequence sheet and turn On "Feature Sort".

Now use the mouse to click and drag through all the cells for fixtures 101 to 107 in cue 5 so they are all marked with a blue frame. Next, you want to right-click (Edit) the selected cells. This opens the calculator.

We can select valid presets by clicking the **Presets** button around the middle of the calculator. For now, we just want to change the dimmer value to a different value click **5 0 Please** (if they already were at 50%, then select a different new value).



Now it looks something like this:

Sequence 5 'My Show'						Cue Only	Show Steps	Track Sheet	Sett						
Lock	No	Part	Name	Tracking tance	Duration	101 Dim	102 Dim	103 Dim	104 Dim	105 Dim	106 Dim	107 Dim	201 Dim	202 Dim	203 Dim
			CueZero		0										
	1	0	Entrance		0								100	100	100
	2	0	Ready		3								0	0	0
	3	0	Scene 1		4										
	4	0	-- Auto		3										
	5	0	Scene 2		2	50	50	50	50	50	50	50			
	6	0	▼ Scene 3		2	20	20	20	20	20	20	20	100	100	100
		2	-- Aura 0%		5	20	20	20	20	20	20	20	100	100	100
	7	0	BO		0	0	0	0	0	0	0	0	0	0	0
			OffCue		0										

If we did not do this as "Cue Only" then the new value would have been tracking through cue 6.

You might have noticed when running the cues that the fixtures faded to a new position and a new color together with the dimmer values. If we want the fixtures to already be at the next position and with the color ready, then you could store the color and position values in the previous cue, but we can also make the software do this for us. It is a function called MIB (Move In Black).

To use MIB we need to turn off the Track Sheet again (toggle the button in the title bar). Scroll the sheet horizontally until you see columns called something with MIB. You can see the **MIB Mode** is set to "<None>". Values inside <> are usually values set in a setting somewhere.

We can change this value in four of the cues. These are the cues where dimmer values go from 0% and to a value above 0% while other values also change. These cues can have attributes auto pre-positioned. Change the MIB Mode to "Early" for cue 3 by editing the cell in the sheet. We might want a different default than "None". Click **Settings** in the title bar of the Sequence Sheet. On the right side, there is a setting called **MIBMode**. Change this to "Late" and close the settings. Now you can see that cue still has the mode we specifically selected but all the other cues use a different default MIB mode.



Lock	No	Part	Name	MIB Preference	MIB			MIB		Indiv Fade	Indiv Delay
					Mode	Target	MultiStep	Fade	Delay		
			CueZero	Normal						0	0
	1	0	Entrance	Normal	<Late>		Running	Default	Default	0	0
	2	0	Ready	Normal						0	0
	3	0	Scene 1	Normal	Early		Running	Default	Default	0	0
	4	0	-- Auto	Normal						0	0
	5	0	Scene 2	Normal	<Late>		Running	Default	Default	0	0
	6	0	▼ Scene 3	Normal	<Late>		Running	Default	Default	0	0
		2	-- Aura 0%							0	0
	7	0	BO	Normal						0	0
			OffCue	Normal						0	0

The result on the output is that now we do not see fixtures move while they are On except cue 4 where we have stored a new position and color while the fixtures are On.

Again there are other ways to achieve the same look. This was one to solve this.

There are more details and things to know about tracking, but it is outside the scope of this quick start.

Recap

In this chapter, we created a sequence with multiple cues. We edited two cues both using the standard programmer and we looked at the tracking information and also edited the values in the tracking sheet.

There is a whole section of the manual dedicated to the cues and sequences. I have linked to it in chapter 8, but here it is again - **Cue and Sequences section**. This also has a topic about **Tracking**.

We had a short look at MIB. There are many settings related to this, and it can be quite complex when you add Phaser steps into the mix. If you want to you can read about it in the **Move In Black topic**.

The **next and final chapter** explores how we can output DMX from the system.



14. Network and How to Output DMX

This final chapter is only information, we are not going to add anything to the show.

You can connect multiple grandMA3 hardware devices on a network.

This allows you to be multiple operators working together on the same showfile.

It also offers backup in case some hardware stops working.

There are two directions to go in a grandMA3 network.

The first direction is a grandMA3 onPC solution where the computing hardware is a Windows or Mac computer running the grandMA3 onPC software.

We are not permitted to output anything from the grandMA3 onPC software unless we have some grandMA3 hardware that unlocks parameters/attributes for us. If we have an onPC solution, then there is a limit of 4 096 parameters. We can patch these parameters in any of the 1 024 universes available to the system. We need something that can convert the DMX in the network into actual physical DMX universe outputs if we need to control the fixtures.

The other direction is using grandMA3 consoles as the primary computing hardware. This can be combined with grandMA3 onPC.


The console system gives you some parameters from the beginning. The way to expand the parameters is by adding grandMA3 processing units. Much of the grandMA3 hardware have physical DMX ports. These can (as a general rule) be used as an input or an output.

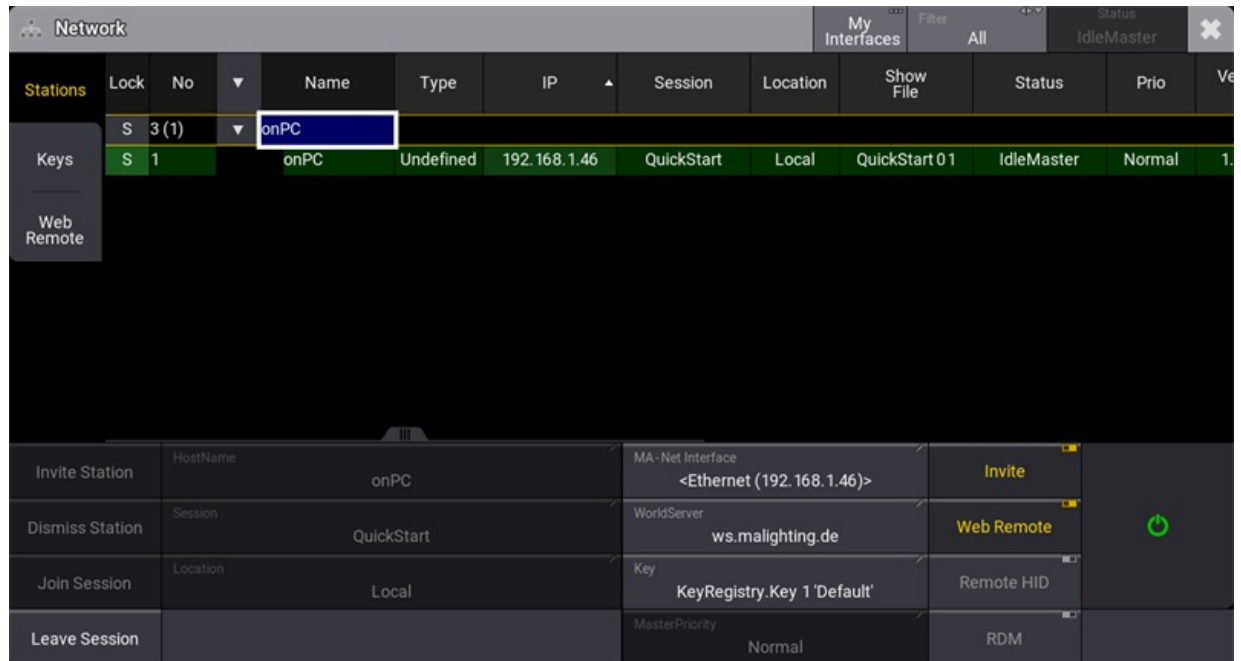
Session

To connect the grandMA3 devices with each other, they need to be connected to a network switch and have IP addresses. We are not going into details on how to do this.

Then a **Session** needs to be set up. There is always a master device in a session - this needs to be what we call a station. Any grandMA3 device that can create and run a session is called a **Station**. Other grandMA3 hardware in the network can join the session.

This is controlled from the **Network Menu**.

Click the gear icon  in the control bar or press the **Menu** key, and then click **Network**.

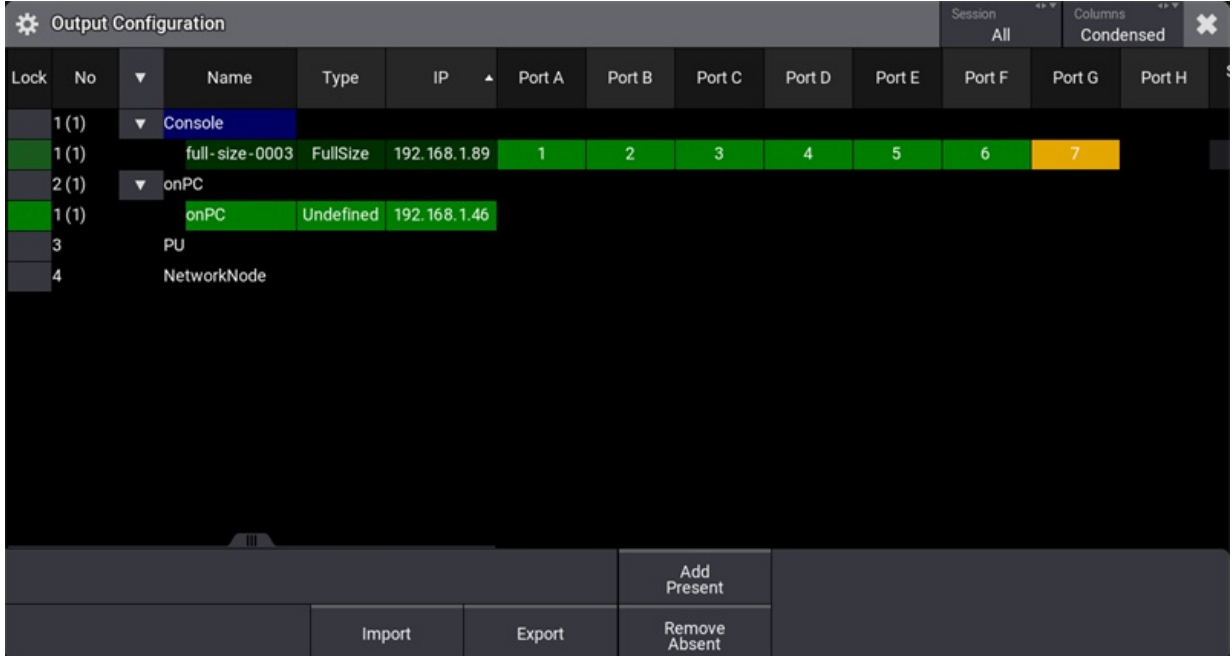


Other grandMA3 hardware on the network will appear in this menu and can be selected and invited into the session.

Configuring a DMX Port on grandMA3 Hardware

The DMX ports on any connected grandMA3 hardware can be configured from any station.

Open the menu pop-up again and this time click **Output Configuration**.



Lock	No	Name	Type	IP	Port A	Port B	Port C	Port D	Port E	Port F	Port G	Port H
	1 (1)	▼ Console										
	1 (1)	full-size-0003	FullSize	192.168.1.89	1	2	3	4	5	6	7	
	2 (1)	▼ onPC										
	1 (1)	onPC	Undefined	192.168.1.46								
	3	PU										
	4	NetworkNode										

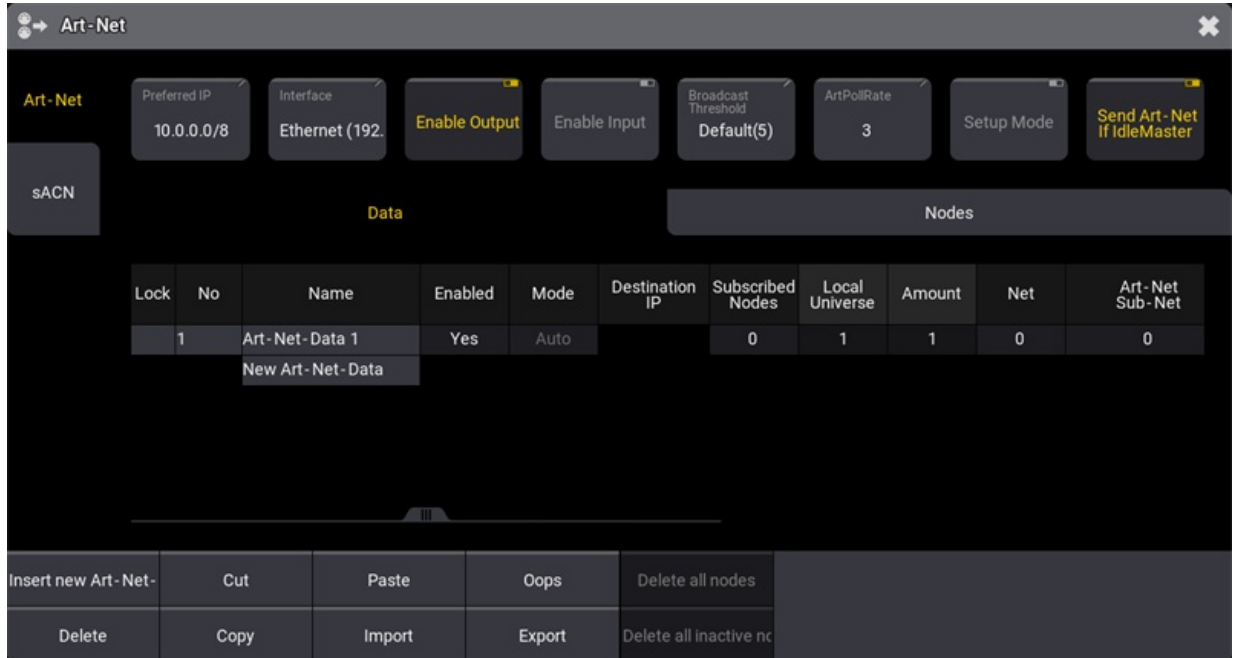
In the example image above you can see that there is a FullSize console with DMX ports. The onPC is not connected to any grandMA3 onPC command wing or fader wing that has DMX ports.

Editing the fields for any of the ports allows you to select which universe the port should output or input DMX into.

Network DMX

Another option is to output (or input) DMX using Art-Net or sACN. This is done by opening the menu pop-up again and then clicking **DMX Protocols**.

There are two options on the left side where you can select Art-Net or sACN.



It is outside the scope of this Quick Starts Guide to describe this in detail. There is a link below.

But generally, you can set up the grandMA3 system to output any combination of universes. Then you will need a DMX node from any manufacturer that can understand Art-Net or sACN.

Recap

In this chapter, we looked at what is needed to output DMX. A session, unlocked parameters, grandMA3 DMX ports, or DMX via a network.

Learn more about unlocking parameters in the [Parameters](#) topic and the sub-topics.

You can see the grandMA3 hardware lineup on [MA Lightings website](#).

The Network menu is described in detail in the [Networking](#) section.

Details about setting up output from the grandMA3 hardware can be found in the [DMX Port Configuration topic](#).

Outputting DMX via the network is described in the [Ethernet DMX](#) and its sub-topics.

Finally

This is the end of the Quick Start Guide. Thank you for reading it. I hope you have enjoyed it and learned something.



We did not create the best show ever, but that was not really the goal. The goal was to introduce you to some of the many features and functions of the software.

The manual is a great resource to get detailed information about grandMA3. There are also the release notes with each new release to keep you updated on changes.

If you want to learn more, then there is online E-learning and in-classroom learning - see more on [MA Lightings website](#).

I also want to mention the [official forum](#). It is a great resource for getting help from other users and professionals.

There are also a lot of different videos online - both official and unofficial that provide great insight and information about grandMA3.

Happy Programming



15. Index

quick start guide

quick start guide - 01 new show [2.](#)

quick start guide - 02 first patch [3.](#)

quick start guide - 03 first screen setup [4.](#)

quick start guide - 04 control simple fixtures [5.](#)

quick start guide - 05 3D fixture setup [6.](#)

quick start guide - 06 groups appearance and scribble [7.](#)

quick start guide - 07 macros [8.](#)

quick start guide - 09 Add Moving Lights [10.](#)

quick start guide - 10 presets [11.](#)

quick start guide - 11 phaser [12.](#)

quick start guide - 12 sequence with multiple cues [13.](#)

quick start guide - 13 network and how to output DMX [14.](#)

quick start guide - store cues and use executors [9.](#)

quick start guide - welcome [1.](#)