



Version 3.20

User Manual

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Introduction

Welcome to the Martin M-Series!

Thank you very much for choosing the Martin M-Series control platform.

This is a system designed with and by real users with extensive experience in lighting control systems. Martin Professional strives to provide a stable and efficient programming platform that is fast to program and fun to operate.

We sincerely hope you enjoy working with the software and hardware we have designed for you!



Who reads this manual?

If you've used other top-level professional lighting desks, then you know that the reference manual is not something you sit down and **read**; it is simply too dense and technical to absorb. By its nature, a reference manual is intended to be **referenced** rather than read. If you work professionally in the lighting business, the chances are high that you've used a lighting desk before and that you have a general understanding of the related concepts. So all you really need to do is **ask the manual questions** like, "How do I record a cue?" or "How do I fan timing values?" or "How do I store a custom highlight preset?" or "Where is the suck knob? I need to turn it down."

The problem is that the manual assumes prior knowledge of lighting desks and their associated **language**. If you are a beginner, you are lost. Where do you start? Why doesn't it just **work**? What is swing? What is marking? What is my name?

During every stage of development, the creators of the M-Series platform have endeavored (and continue) to present the user with a **simple** and **clean** control environment. While staggeringly complex programming is possible, even **easy** to achieve on the desk, the beginning user is not encumbered with endless options and confusing language.

Help and Support

Martin Professional operates a complete network of support services around the world. Experts in programming and operating of Martin Professional's control system can be found in any timezone and every continent.

Contact by email

The best way to get questions answered or to report a problem is to email us at controllersupport@martin.dk

Contact by phone

For controller related emergencies call the dedicated 24h support hotline **+45 8740 0015**
For all other generic Martin product emergencies call the general 24h support hotline **+45 8740 0000**

Fixture Type Requests

The M-Series contains a extensive fixture library. However new fixtures are introduced to the market at a rapid pace and a specific fixture may not be available in the fixture library yet. Fixture requests can be made on the support page www.martin.com/controllersupport. A fixture may already have been created and included in the library update package. An index of all fixture types can be found on the support page and it is recommended to check it before filling out the request form. Once a fixture update is received follow the [instructions](#) how to install it on the system.
Please note that not all fixture request can be accepted. We reserve the right refuse certain request base on IP infringement of Martin products.

Controller Support website

Up to date software, manuals and training documentation is available at www.martin.com/controllersupport

User Forums

The forums are a helpful resource to communicate with other users around the world. Many questions may already be answered in the forums and it is a great way to interact with other programmers and users.
www.martin.com/forum

Text Conventions

The following styles are used throughout this manual:

Menu Text	Software menu text
Button or Number	Physical button located on the console front panel
<Button or Number>	Optional button press.
[Soft Button...]	Touch screen soft button

Credits

The manual is based on contributions by several authors over the years.

- Bruce Lehnus
- Michael Nevitt
- Matthias Hinrichs
- Martin Jack
- Allan Toft
- Paul Pelletier
- Seth Robinson
- Joe Bleasdale

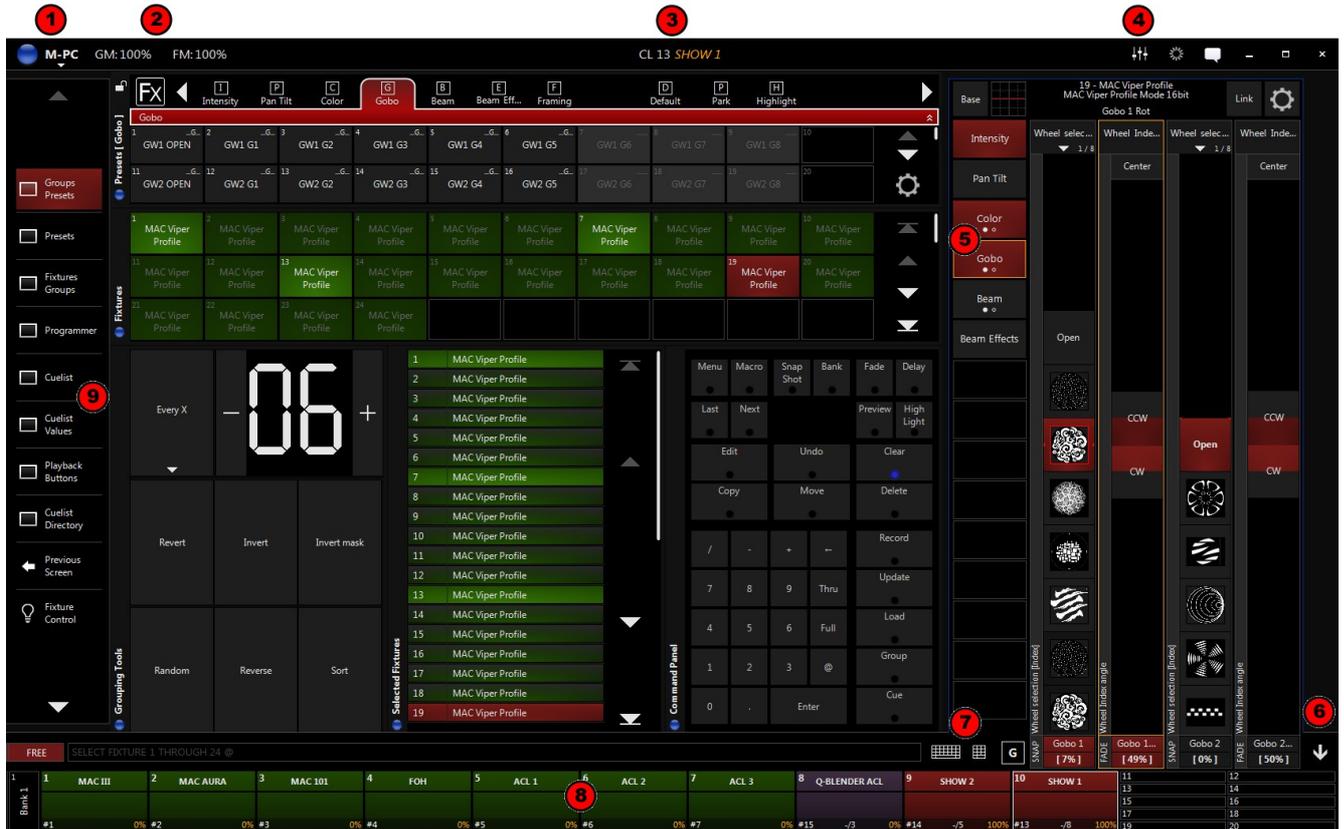
The M-Series software, this instruction manual and all included images are the copyright of Martin Professional A/S.

Getting Started

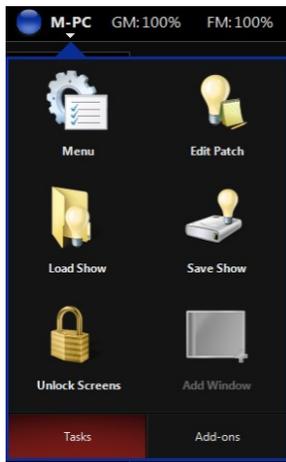
The User Interface & General Concepts

Navigating the Interface

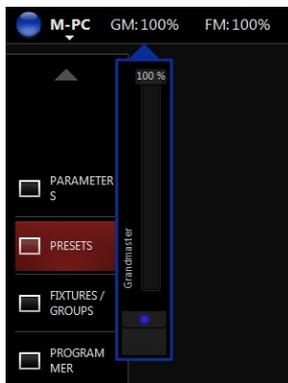
The user-interface has been optimized for touch and gesture technology, which allows the user to work in an environment where everything is accessible from a single finger touch. Users can simply swipe to move from view to view, access other playback banks quickly or change parameter selection. This makes console operation even smoother, and in the case of MPC, it is no longer an offline editor, but a console in its own right.



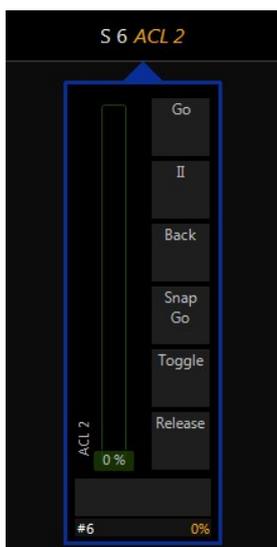
1 The "M-PC" Button allows access to the "Quick Menu".



2 Touching either the "GM" or "FM" button will display the Grand Master or Flash Master Faders.



- 3** The currently selected cuelist will be displayed here. Touching it will show its controls for quick access.



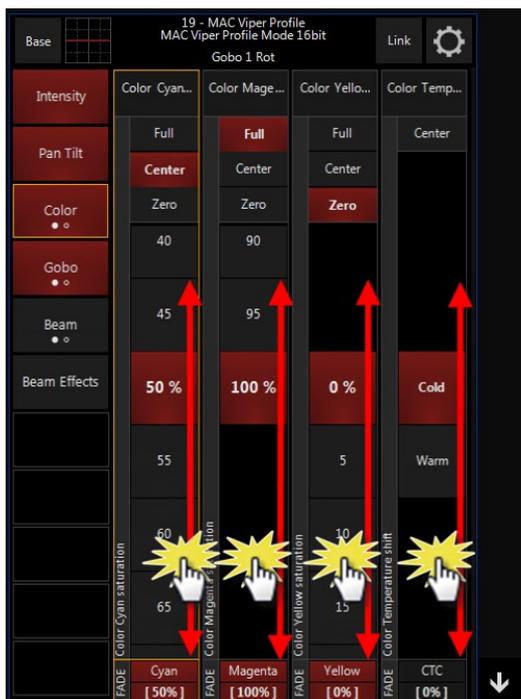
- 4** Touching the Faders button will open the playback faders popup over the current screen view. It can be moved by touching and dragging it. If you are using a multi-touch screen, multiple faders can be moved with multiple fingers. Right clicking on this button will provide some quick shortcuts to playback faders that can be embedded in the current screenview.



- 5** The Parameter Buttons next to the belts act in the same way that the LCD keys on the M1 and legacy consoles act, as well as the buttons on the mini touchscreen on the M2PC, M2GO and M6 console.



- 6** Touching or Clicking anywhere on the belt, and moving your finger or mouse will control the parameter you touched. The belts can open as a popup over the interface by pressing the white arrow.

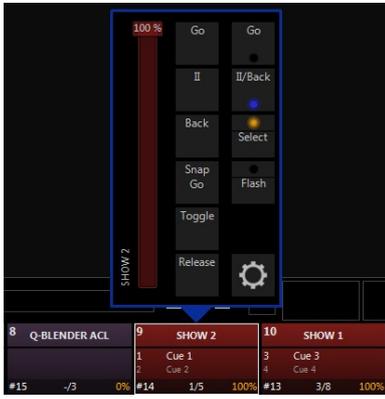


- 7** Touch the Keyboard or Keypad icon to have them opened over the top of the current screen view. They can be moved/dragged around the screen as needed.

- 8** Swiping your finger (or clicking and dragging with the mouse) on the Main Playback indicators will advance through playback banks (pages). Swiping from right to left will go forward one bank, and left to right will go back one bank.



Double tapping on playback status accesses its functions and options.



9

Swiping your finger (or clicking and dragging with the mouse) on the Screenview Tabs will allow you to access the second page of screen views.



If you are an experienced programmer this chapter will give a quick overview of how the M-Series "thinks". If you are a beginner, this chapter will give a useful overview of general terminology and concepts used throughout the manual. Don't get intimidated by all the new terms and names, they will all make perfect once you start using the software.

Fixtures and Dimmers

The M-Series does not separate fixtures and dimmers. A dimmer is simply a single parameter fixture. A show file can only contain a unique fixture ID once. There is only one fixture "25" in the show. The lack of distinction between dimmers and fixtures and not having to switch between fixture types with identical ID numbers makes fixture selection a breeze and eliminates many button presses found on other lighting consoles.

The Command Line

The software utilizes a logically structured command line syntax that orientates itself along established industry standards. Once the general idea of the command structure is understood many commands will come easily to the user as they are modeled along the communication between a lighting designer and a programmer.

"Bring fixture 25 at 80%" is exactly that in the M-Series command line: 25 @ 80 [Enter].

This system is based on a Source @ Target "Enter" based command structure that feels natural and is easily learned.

To get an immediate overview jump directly to the [Commandline Reference](#)

Programmer and Fixture Parameters

Like other lighting consoles the M-Series uses a programmer window that functions as a toolbox to create and edit fixture parameters.

The programmer has the highest priority over fixture parameter values, unless it is set into the available Preview mode. Values can be brought into the programmer utilizing the LOAD command and removed from the programmer using the CLEAR command. Many smart shortcut exists to manage the programmer contents fast and efficiently.

By using the Live Time functionality the programmer window can be used as an extension of the playback system allowing elegant modifications of programmed cues on the fly.

Fixtures are modified using an advanced graphical representation of its parameters using the CV or "Channel View" window. Any functionality supported by a specific fixture type is laid out logically in front of the user and all parameters and options are right at the touch of a button.

Presets

Presets (also known as palettes or focus groups) are the essential building block for fast programming as well as efficient editing of cues. Presets are divided into functional parameter groups like "Color" or "Gobo" to break fixtures into their logical parts.

Presets can contain fixture values, timing values and effects values. All of these are referenced into a cue so that updating the preset will change the resulting playback wherever it was used, making adjustments easy to accomplish. Presets are either specific to a parameter group or contain as many parameters as desired by the user.

Many experienced programmers spend almost the same amount of time creating their presets as programming actual cues. Think of Presets as the many different colors and shapes of Lego blocks that allow fast assembly once all the parts are in place.

Cues and Cue Lists

The desired "look" created in the Programmer window is stored in a cue. Cues can contain as many or as little amount of parameter, timing and effect values as desired.

Multiple cues from various cue lists all can be running at the same time, allowing creative control for unstructured shows as easily as complex and intricately timed playback of structured cue lists like the ones found in a theatrical play.

This software by default operates a cue list with tracked values, meaning only changes are programmed in cues and the output of a cue is the summary of all values combined from previous cues in the same cue list.

Cues can be stored and recalled in various modes, for example submasters, inhibitive faders, chases and a dedicated timecode option.

Effects

The M-Series handles effects as an extension of the fixture parameters. Every parameter has its own individual FX section to modulate its values.

Effects values can be stored without an associated parameter value which allows flexible on the fly adjustment and mixing of effects as well as complex effects speed and size control when working inside a cue list. Effects can be stored and recalled from a dedicated FX directory.

Playback

A large amount of options and buttons as well as fader functions are available in the playback system. Playbacks are available on physical buttons as well as an onscreen button directory to provide fast access to hundreds of cue lists at the same time.

The M-Series allows flexible playback and is adaptable for many styles of shows. With the available modular hardware system the surface of the console can be customized unlike another lighting controller in the market.

Tracking

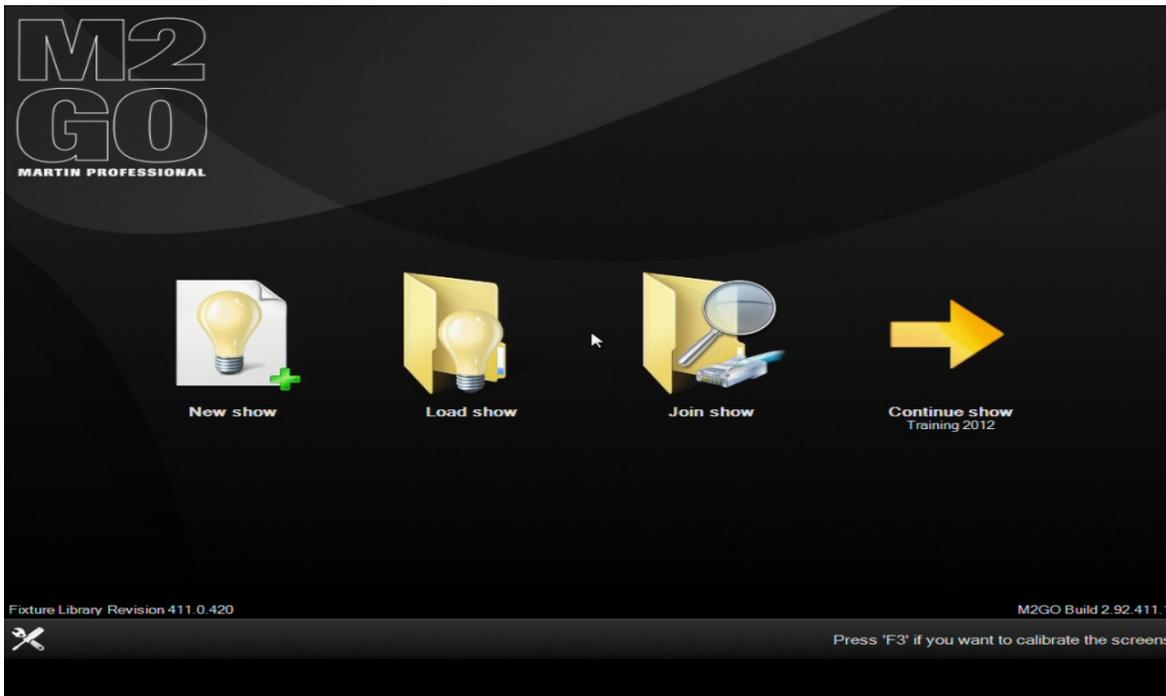
Tracking is a console programming feature which means that only the changes are recorded into a Cue. This is particularly useful where a Cue contains just small adjustments whilst the main "look" remains the same. If a change is made to the main "look", each individual cue will not require updating as the changes will track through the cue list. M-Series by default only records the changes (Active Values). Sometimes you will want to record both Active and Inactive values into a cue - for example at the start of a new song, you can choose what values you record into a cue in the Record Options window which appears when you hit the RECORD button.

Turn it on!

Start the system either by powering on the console or starting the M-PC software.



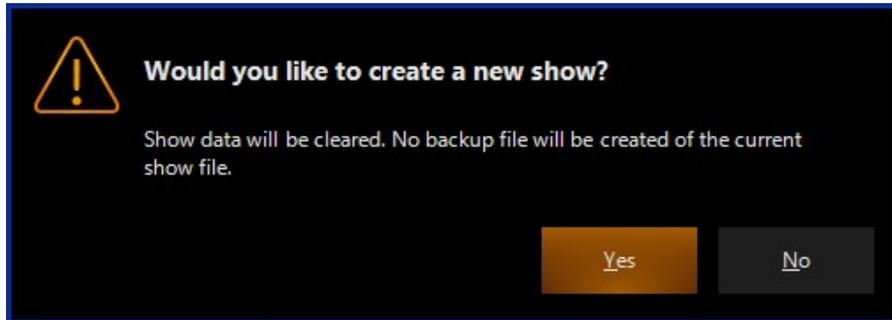
A logo screen shows the boot process until the Load Show screen is displayed:



Create new show

This will create a new empty show file. Enter the desired name into the field and confirm. Use the icon to the right of the entry field to launch the onscreen keyboard.

Once the system is started up it will present itself with the default set of screen views and view #1 selected.



Load a show

Use this option to load an existing show from the hard drive or a USB memory stick. Browse to the desired file and open it.

Join a show

Use this option to join an existing show on the Max-Net network.

Continue with current show

The show that was loaded into the system before it was shut down can simply be restarted. Any changes up to the shutting down are included in this option.

Normally this is the option used most, as it is also the fastest way to start the console.

You also have the option of having the console skip this screen and start the last show automatically.

To have the console skip the startup screen and load the last show:

1. Press the "Menu" button
2. In the "Show" tab, navigate to the "General" page
3. Under the "Startup" section, enable "Start Automatically"

Quick Start

1. Connect the Console mains cable to the power supply. Turn on the main power switch of the console. Or start M-PC on a computer.
2. The console will launch the software and a start window will appear - Select "New Show"
3. A new show will be loaded with the default screen views.
4. Press the blue M-Series shortcut button in the top of the screen.
5. Press the "Edit Patch" button
6. In the bottom left hand side of the patch window, press "Commands" and choose "New Fixture"
7. Choose your first fixture type and then press the blue "Auto Patch" arrow button located in the bottom right hand section of the screen - Here you may choose the desired amount, address and universe of the fixtures. Hit "Apply to patch" once you have entered the desired values. Repeat Step 7 & 8 until you have your rig patched.
8. Close the Patch view.
9. Select your fixtures by entering a numerical command on the command line such as [1] [THRU] [1][0] [ENTER] to select those fixtures.
10. Assign values to the selected fixtures by using the parameter wheels & belts to change values. Use the LCD keys or mini touchscreen to change parameter banks.
11. Once you are happy with the look you created. Hit the Record Button, press the select key of a playback fader and choose "Cuelist" as the desired type on the screen.
12. Double hit the [CLEAR] button to clear the programmer.
13. Raise the fader of your newly created cuelist, and hit the button at the top to trigger the 'GO' command. The fixtures will fade to their set values in the cue.

Patch

In the ancient days of early stage lighting it was often necessary to physically connect cables from the control system to the dimmers and then from the dimmers to the circuits. These "patch" cables are the physical representation of what we call "patching" in a modern computerized lighting console. For more info on the history of patching, see <http://en.wikipedia.org/wiki/Dimmer#Patching> .

When you add a fixture to the show, you must tell the console what DMX line it is plugged into and what digital address it will respond to. Otherwise, the console has no way of knowing where to send the data.

Every fixture requires a unique ID and DMX address to be controllable. The following chapters explain how to set up the patch.

Adding Fixtures to the Patch

When starting a new show, the first thing you need to do is enter the patch. The M-Series provides both commandline and convenient onscreen tools to accomplish this. For the tutorial, we'll only be using the onscreen tools on the touch screen.

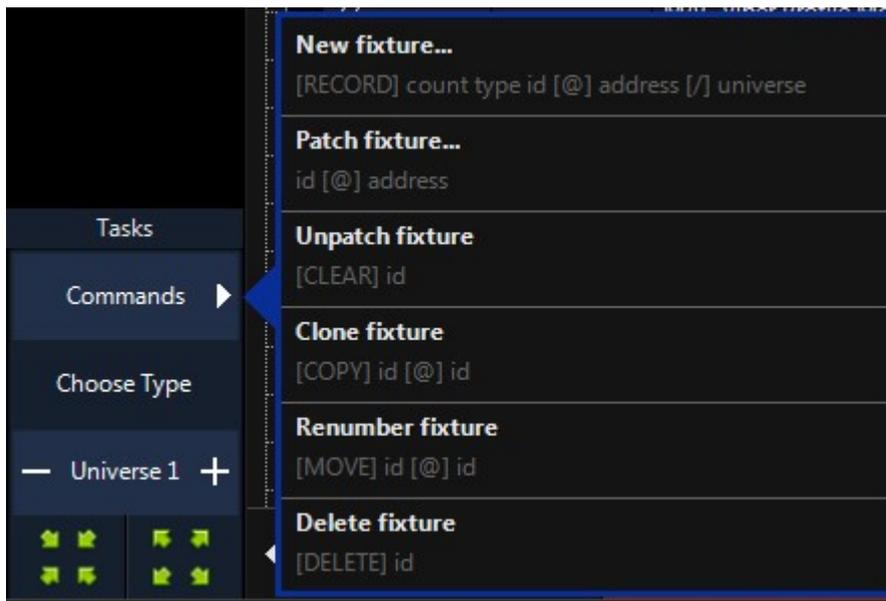
Accessing the Patch Screen

There are a number of ways to access the patch area of the console, but the main way is to hit the drop down menu shortcut. From here, select the "Edit patch..." soft button using either the trackball or by pressing the touch screen.



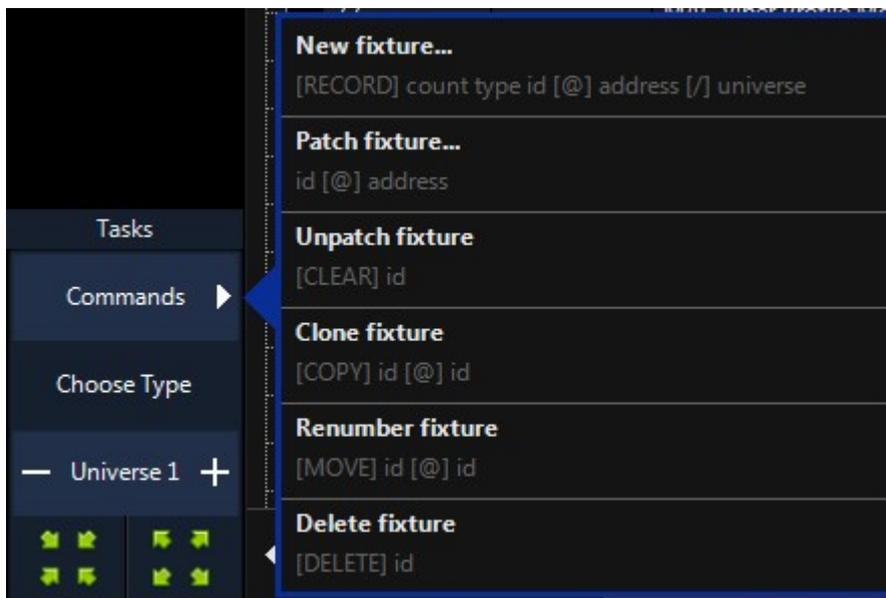
Patching Fixtures Using the Tasks Menu

The Tasks menu provides several of the most common patching tasks in a convenient menu format. It can be found near the bottom and to the far left side of the patch screen.

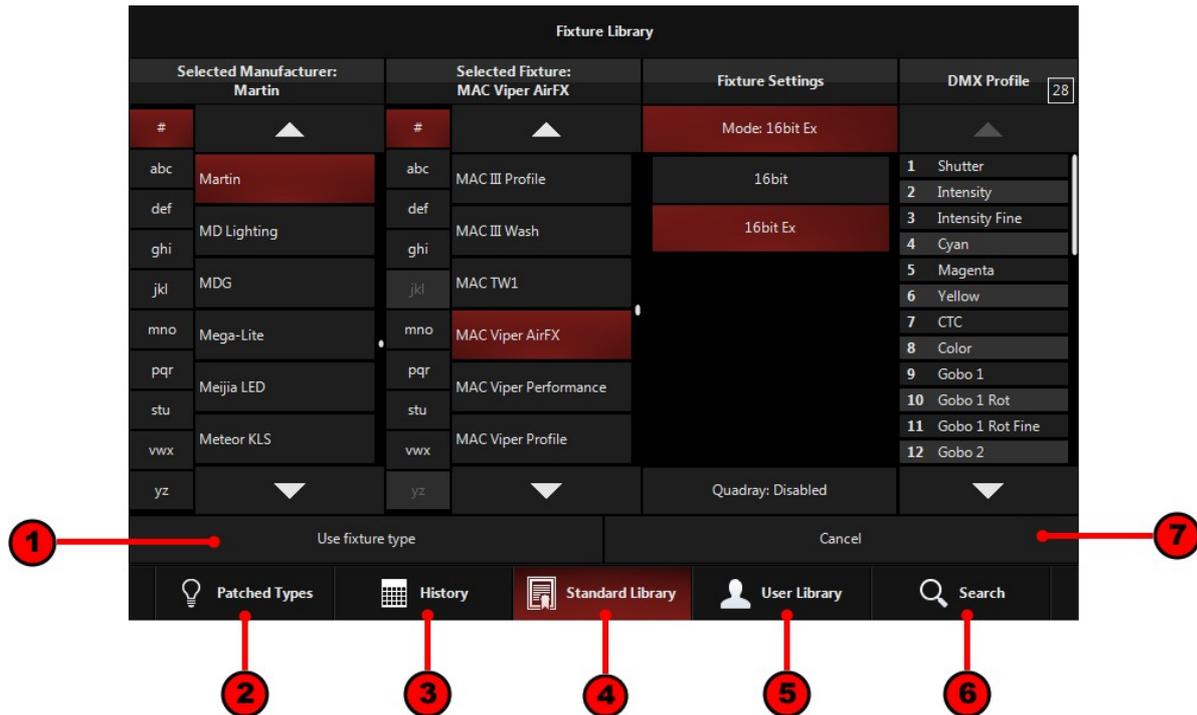


The Fixture Library

To add fixtures to a show, access the library and choose the desired fixture type...



Near the bottom and to the far left side of the patch screen is a soft button labeled "Commands". When pressed, a menu will pop up listing the tasks available to you in the patch window. Select "New fixture...". This will bring up the "Fixture Library" window where you will select the type of fixture to be patched:



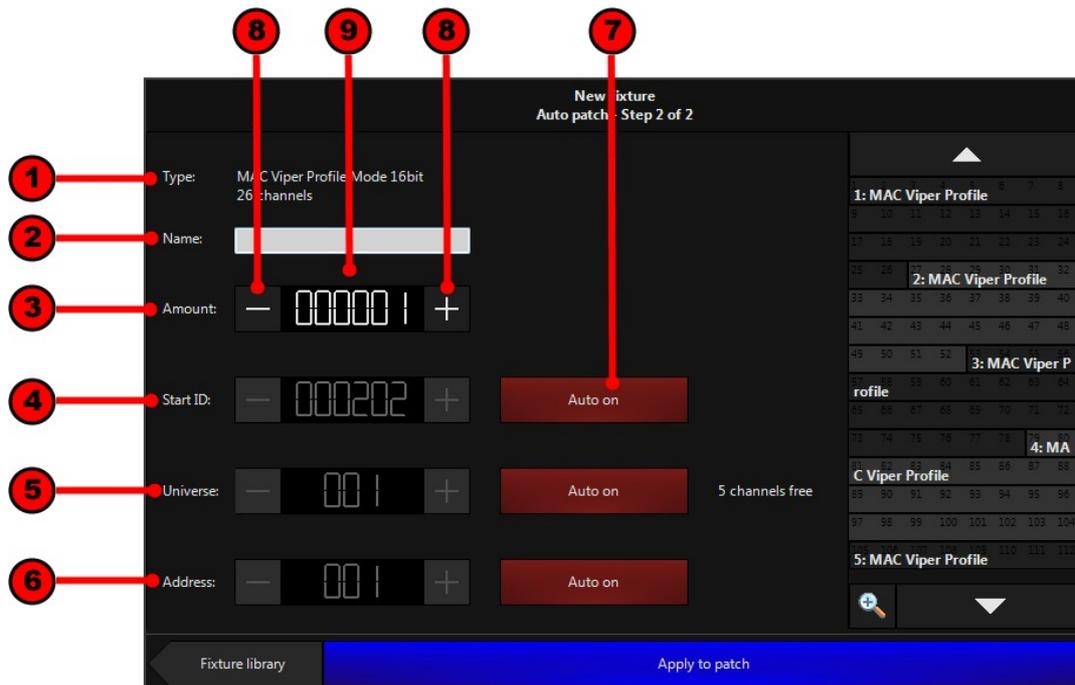
At the bottom of the Fixture Library Window are eight buttons

1	Use Fixture Type	Once you have selected the fixture from the Library, hitting this button will close the Library window and enter the fixture type into the command line so you can perform a patch command.
2	Patched Types	This button will show you the fixture types already patched in the show in alphabetical order, this makes patching more of the same fixture type quicker. If there are no fixtures patched into the show, this list appears blank.
3	History	This Button is similar to the "Patched Types" button but it shows the history of fixtures patched on the console since the last software install.
4	Standard Library	Here you access the Library that is installed on the console.
5	User Library	This tab shows you the fixtures you have made using the fixture editor on the console.
6	Search	Here you can search the whole console for a specific fixture. This feature is useful if you can remember the name of a fixture, but not the manufacturer.
7	Auto Patch	If you wish to have the console patch your desired fixtures without you entering data on the command line you can use the Graphical Interface in "Auto Patch" to perform the task instead.

Manufacturers may be selected by using the up and down arrows found above and below the manufacturers name and then pressing or clicking on the desired name. When a manufacturer has been selected, the list to the right will become populated with the names of the fixtures from that manufacturer that are supported by the console.

Auto Patch

The Auto Patch window is accessed as part of the "Commands >> New fixture..." menu command.

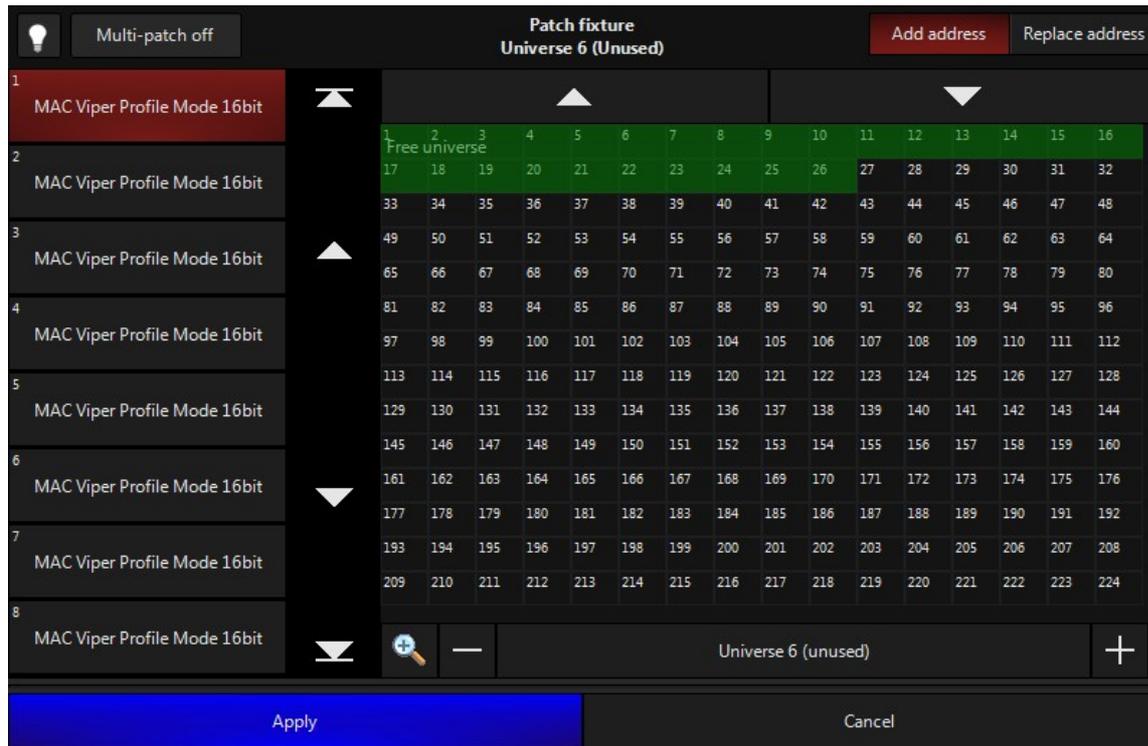


The left side of the window is where new fixtures can be configured before they are added. On the right side is the "Universe View." This view is populated as fixtures are added and can be used to identify any open/available DMX channels in the specified universe. The Auto patch window explained:

1	Type:	This is the type of fixture that will be patched
2	Name:	Here you can give the fixture(s) a name such as "Floor Mac III" or "Upstage Truss Profile." If multiple instruments are patched, the fixture name will also be enumerated automatically ("Upstage Truss Profile 1, Upstage Truss Profile 2, Upstage Truss Profile 3, etc."). To set the name, touch or click in the provided space and type a name using the keyboard.
3	Amount:	Use the "+" and "-" soft buttons to choose the number of fixtures to be added to the patch. You may also assign an amount directly by touching the number and entering the desired quantity using the keypad.
4	Start ID:	<p>This is the fixture ID that will be used for the first fixture added. If "Auto" is "On" (red), the console will choose the first available start ID.</p> <p>To enter your own start ID, press the "Auto" soft button 7 to disable it (it will turn blue and read "Auto off"), then use the "+" or "-" soft buttons 8 to adjust the ID of the first fixture. You may also assign an ID directly by touching the number 9 and entering the desired ID using the keypad.</p>
5	Universe:	Here you can choose what universe to patch the fixtures into. If "Auto" is "On" (red), the console will patch the fixtures into the first universe with an appropriate number of available channels.
6	Address:	Here you can choose the DMX address for the first fixture. If [Auto on] is "On" (red), the console will patch the fixtures into the first available DMX address.
	To Cancel:	At any time, the New Fixture command can be canceled by pressing the Close [X] button the the top right-hand corner of the New Fixture window. You can also cancel the command by pressing the "Clear" button on the keypad.

Patch Wizard

You can easily patch or re-patch an existing fixture using the patch wizard. To access the patch wizard, press the "Command" soft button at the bottom far left side of the screen and select "Patch fixture..." from the popup menu. This will bring up the Patch fixture window, also known as the patch wizard.



The left hand side of the Patch fixture window contains a list of the fixtures currently patched into the show. You can navigate this list using the up/down arrow buttons visible to the right of the list. On the right hand side of the window is the "Universe View." This view is populated as fixtures are added and can be used to identify any open/available DMX channels in the specified universe.

To patch a single fixture using the Patch Wizard:

1. Navigate to the desired fixture using the up and down arrows to the right of the fixture list.
2. Touch the fixture button to select it, to select multiple fixtures, simply touch them.
3. Choose a universe using the left and right arrows below the universe view.
4. If you do not see your desired start address in the window, use the up and down arrows above the universe view to scroll to the desired range.
5. Touch the DMX start address.
6. Choose either Add new address or Replace existing address.
7. Press "Apply."

Quick Tip - You can drag your finger or mouse across the addresses in the patch wizard to choose where to patch the fixture.

Quick Tip - Multiple fixtures can be patched at the same time in the patch wizard.

Patching Fixtures Using the Command Line

The M-Series provides a patch commandline that allows many different combinations. For a list of all possible patch commandline combinations, [see the the commandline reference](#).

The full commandline syntax for adding fixtures to the patch is as follows:

```
<Record> <Quantity> [ Choose type... ] <Fixture ID> @ <DMX Address> < / > <Universe>  
<Text Label> [Enter]
```

Where [Choose type...] indicates that a fixture type must be selected using the Fixture Library.

Example - Adding Fixtures to the Patch Using the Commandline

To add 24 Mac Viper's using the Auto Fixture Number feature:

Access the patch screen and, using the keypad, press:

Record 24



Press or click on the [Choose type...] button at the lower center part of the patch screen. This will bring up the fixture library. Navigate to and select Mac Viper Profile using the Manufacturer and Fixture lists [as described in the previous section](#). Then press:

Enter

The commandline will read as follows:

```
ADD FIXTURE 24 "MAC Viper Profile Mode 16bit" ID >AUTO Fixture number<
```

To add Mac Viper's 1 through 24 without setting a DMX address:

[Choose type...] 1 Thru 24 Enter

The commandline will read as follows:

```
ADD FIXTURE "MAC Viper Profile Mode 16bit" ID 1 THROUGH 24
```

To add Mac Viper's 1 through 24 at DMX address 256 in universe 5:

[Choose type...] 1 Thru 24 @ 256 / 5

Enter

The commandline will read as follows:

```
ADD FIXTURE "MAC Viper Profile Mode 16bit" ID 1 THROUGH 24 @ 256 UNIVERSE 5
```

For more examples, see the [Commandline Reference](#).

Note: The fixture library window invoked by the "Choose type..." soft button is slightly different from the fixture library window invoked by the "Tasks > New Fixture..." command. The window displayed by the "Choose type..." button does not include an "Auto patch" option.

Tip: You can add a label to a fixture at creation by typing a name on the keyboard before pressing Enter. For example, to create fixtures 1 through 24 at DMX address 1 in universe 1 with a label of "Blue Truss" you would type:

```
[ Choose type... ] 1 Thru 24 @ 1 / 1 Blue Truss Enter
```

See more examples of fixture labeling.

Fixture Numbering

If you do not specify fixture IDs when you add fixtures to the patch, the fixtures will automatically be assigned fixture IDs beginning with the next highest available fixture ID.

You can easily change the fixture IDs of existing fixtures with the following syntax:

```
Move [Current Fixture ID or Range of IDs] @ [New Starting Fixture ID] Enter
```

Example - Fixture Numbering

Say you added 24 Mac Viper's to the patch without specifying a fixture ID. If fixtures 1 through 24 and 31 through 44 were already patched, the MAC Viper's would be assigned fixture ID's of 45 through 68.

Perhaps you would like to change the fixture ID's of those Mac Viper's to 101 through 124 to make them easier to remember. You would do this by typing the following into the keypad:

```
Move 45 Thru 68 @ 101 Enter
```

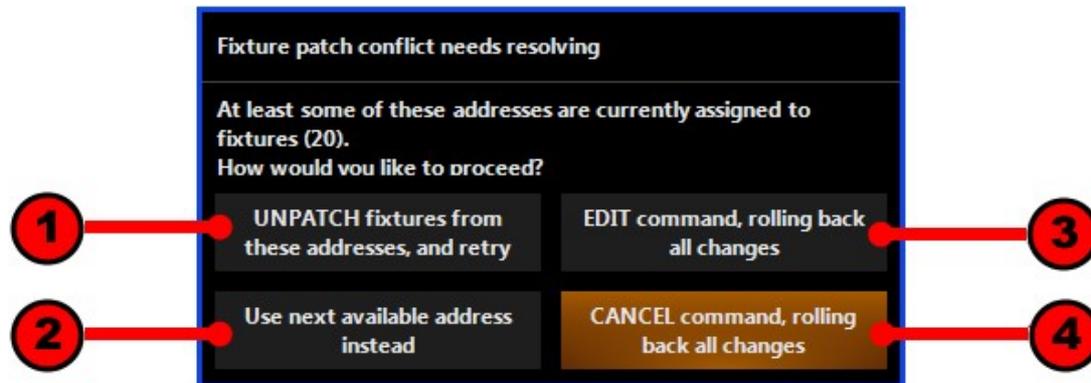
The Mac Viper's now have fixture ID's 101 through 124.

Assigning DMX Addresses

Assigning the DMX address(es) to an existing fixture or a range of fixtures can be very rapidly accomplished. This is done via the keypad using this syntax:

`[Fixture number(s)] @ [DMX Address(es)]`

Note that it is not possible to patch the same DMX address to more than one fixture. That is to say that DMX 1 of universe 1 can only belong to one fixture in the patch. If the console notes that the patch is "overlapped," the following window will pop-up:



Here, you are presented with four options:

1	UNPATCH	When this option is selected, any fixtures that are currently patched to the DMX range specified in the command line will be unpatched and the fixtures in the command line will be patched as specified.
2	Use next available. ..	Instead of using the DMX addresses entered on the command line, the console will use the next available address. Note that the console will not look for "holes" in the DMX universe that are large enough to put the fixture(s) in, it will however append the fixture(s) DMX addresses to the highest currently used DMX address in that universe.
3	EDIT	Does not execute the command, but leaves it on the command line so that changes can be made. To edit the current command, use the backspace arrow on the keypad to step back through the command line and make the necessary corrections.
4	CANCEL	Does not execute the command and clears the command line.

Patching an Individual Fixture

By using the keypad to select the fixture number or fixture range and then pressing:

@ **Enter**

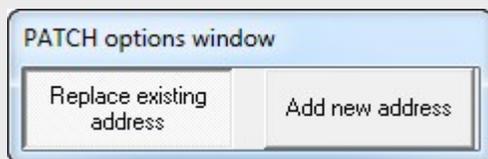
the console will automatically patch the selected fixture(s) to the first available DMX addresses. Note that this does not mean that the addresses will necessarily be sequential. The console will look for a range of addresses beginning at address 1 of the default universe that is large enough to accommodate the individual fixture(s) and will place it at the first available range.

Example - Patching an Individual Fixture

To patch fixture 1 at DMX 1 of universe 1, make sure the default universe is set to 1. (The default universe can be incremented or decremented using the left and right facing arrows on either side of the universe indicator button found in the lower right hand corner of the patch screen.) Press:

[1] [@] [**Enter**]

Note: you will see a small pop-up window labeled "PATCH options window" during this operation:



This will be discussed later in this chapter, but can be safely ignored for the time being. For more info, see [the section on adding DMX addresses to a previously patched fixture](#).

To patch an individual fixture to a specific DMX address in the default universe, press the fixture number followed by the DMX address; for example:

[2] @ [15] **Enter**

This will patch fixture 2 to DMX address 15 of the default universe.

Patching a Range of Fixtures

Patching a range of fixtures can be done in exactly the same way as patching an individual fixture except that the range of fixtures must be identified. The following syntaxes are supported:

- [1] Thru [24] @ Enter - this will patch the fixtures at the first available addresses in the default universe.
- [1] Thru [24] @ [101] Enter - this will patch the fixtures to the default universe beginning with address 101.
- [1] Thru [24] @ [101] / [3] Enter - this will patch the fixtures to universe 3 beginning with address 101.

Note that you can also use the "And" + or "Except" [-] buttons to create non-sequential ranges of fixtures such as:

[1] Thru [5] + [11] Thru [15]

or:

[1] Thru [24] - [5]

Note: The M-Series will automatically overflow into the next universe should the range of fixtures selected exceed the number of DMX addresses available in the specified universe.

Patching Conventional Dimmers

The M-Series is as adept at patching conventional dimmers and fixtures as it is at moving lights. Where a conventional console will traditionally use the concepts of channels and dimmers, the console retains the concept of fixture ID for channel, and allows for the creation of a fixture type called "channels" which can be assigned to the desired ID(s). Adding control for conventional dimmers is very similar to adding control for a moving light. The dimmer "Channel" fixture can be found in the "Generic" manufacturer list in the Fixture Library.

Example - Patching Conventional Dimmers

1. While in Patch, press "Choose type..."
2. Press Fixture Library and then go to the "Generic" manufacturer.
3. From the top of the list, select "Channel" and then press "Use fixture type."
4. Enter the range of channel numbers, DMX start address and universe then press **Enter**. For this example, enter [101] Thru [124] @ [401] / [2] **Enter**.

This will assign dimmers 101 through 124 to DMX 401 through 424 of universe 2.

Patching Multiple DMX Addresses to One Fixture

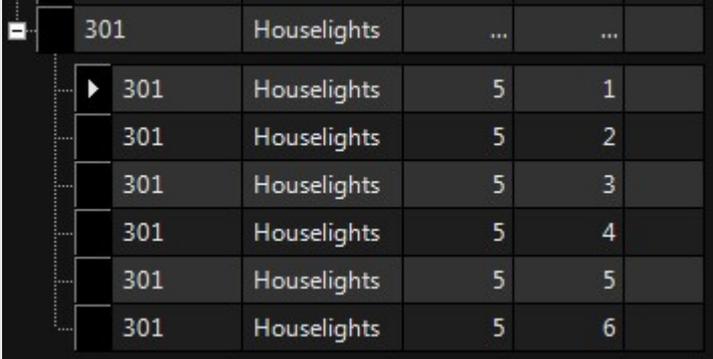
While of limited use to moving lights, the ability to patch multiple DMX addresses to a single fixture is quite useful when that fixture type is "channel." This can be equated to patching multiple dimmers to a single channel on a conventional console. As most dimmer racks (by default) will assign a unique DMX address to every dimmer, by selecting which DMX addresses are controlled by which fixture IDs, we can determine which channels control which dimmers. The same syntax described above regarding universe specification can be used.

Example - Multiple Addresses to One Fixture

If you have dimmers 1 through 6 in DMX universe 5 and assigned to DMX 1-6 and wish to control them with channel (fixture ID) 301, you would use the following syntax:

```
[301] @ [1] Thru [6] / [5] Enter
```

When you have completed this, your patch screen will show the patched dimmers as follows:



Fixture ID	Fixture Name	Universe	DMX Address
301	Houselights	5	1
301	Houselights	5	2
301	Houselights	5	3
301	Houselights	5	4
301	Houselights	5	5
301	Houselights	5	6

DMX Addresses 1 thru 6 patched to channel 301

The console has now patched control of DMX universe 5, addresses 1 through 6 to fixture ID (channel) 301. As with assigning DMX addresses to a range of fixtures, you can assign a range of addresses to a single fixture ID by using the "And" + and "Except" - buttons as in:

```
[301] @ [1] Thru [6] - [4] Enter
```

This would patch DMX addresses 1, 2, 3, 5 and 6 to fixture 301.

To unpatch all of the addresses, you would use the following syntax:

```
[CLEAR] [301] [ENTER]
```

To unpatch a single address, you would use the following syntax:

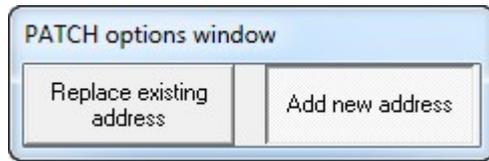
```
[CLEAR] @ [4] [ENTER]
```

This will unpatch only address 4 of a fixture in the current Universe

Press CONFIRM to execute the command.

Adding DMX Addresses to a Previously Patched Fixture or Channel

As with patching multiple DMX addresses to a single fixture, this is of limited use with moving lights, but quite useful with conventional dimming. If you have a channel that is already patched and wish to add additional DMX addresses to it, select the channel using the keypad. You will be presented with the "Patch options window" again, but this time, select "Add new address."



You can now enter the DMX addresses and they will be added to any previously patched DMX addresses in that fixture/channel.

Patching Multi-Part Fixtures

Certain moving lights do not use an internal dimming system and instead rely on an external dimmer for intensity control. Fixtures such as this, which can use two different DMX universes or different incongruous sections of the same DMX universe are called "multi-part" fixtures. Patching such a fixture where the intensity control may be in a different universe can present a challenge, but is actually quite simple when using an M-Series.

The command line syntax for patching a multi-part fixture is as follows:

```
[Fixture ID] @ [Fixture DMX Channel] Enter  
[Fixture ID].[1] @ [Dimmer DMX Channel] Enter
```

By adding ".1" to the fixture ID you are telling the console to patch the dimmer attribute only. Note that this only works for multipart fixtures like the Vari*Lite VL5.

Example - Patching Multi-Part Fixtures

To examine multi-part fixture patching on the M-Series, add 4 Vari*lite VL5s in default mode to your show and set the fixture IDs to 601 through 604.

Each of the multi-part fixtures now has not only the main fixture ID number, but also a "part" that contains the associated dimmer information. As the fixture has been broken into two different parts, it is now possible to address each part separately. For example, to patch the fixtures to DMX universe 8, starting address 1, press:

```
[601] Thru [604] @ [1] / [8] Enter
```

The fixtures will then be addressed sequentially beginning with address 1 and ending with address 78 in universe 8. However, if the dimmers controlling the intensity channels of the fixtures are in a rack that is serviced by DMX universe 10, we will not be able to properly control the intensity attributes. To properly address the dimmer channels, press:

```
[601.1] Thru [604.1] @ [1] / [10] Enter
```

When completed, your patch should resemble the one here:

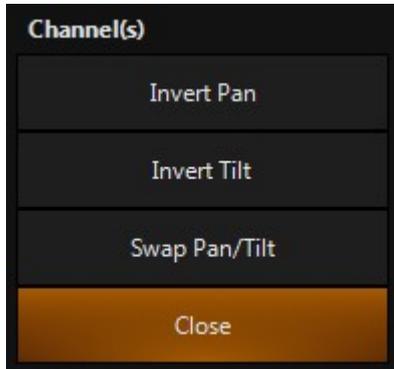
ID	Name	Universe	Address	Invert
601		8	1	
601.1	Dimmer	10	1	
602		8	14	
602.1	Dimmer	10	2	
603		8	27	
603.1	Dimmer	10	3	
604		8	40	
604.1	Dimmer	10	4	

Other Patch Functions

Pan/Tilt Swap and Invert

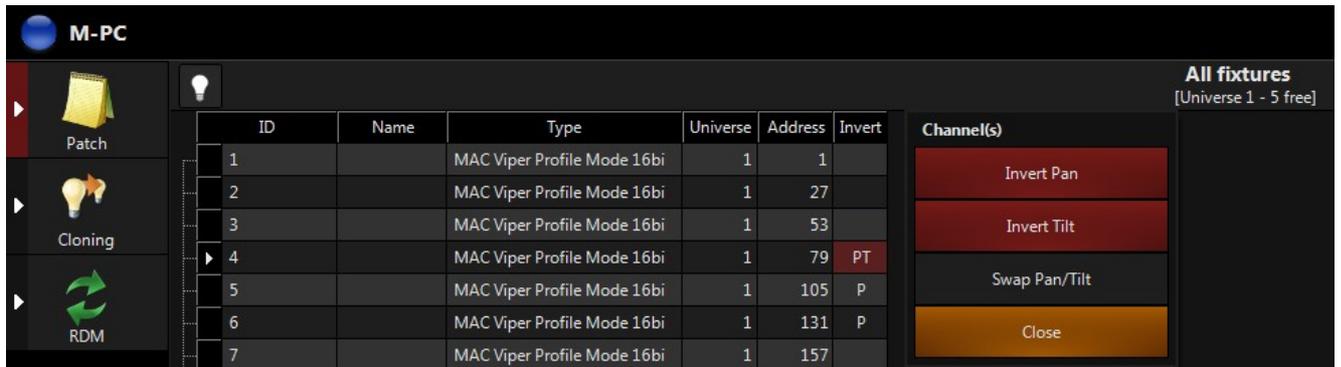
A fixture or a group of fixtures may require the pan and/or tilt to be swapped or inverted. This can be accomplished in the patch by touching or clicking in the "Inv" field of the desired fixtures. A range of fixtures can be selected by clicking and dragging through the "Inv" column.

When the "Inv" field is selected for the desired fixture(s), the following pop-up window will appear:



By default, when patching, all inversions and swaps are set to "off." To invert or swap the pan/tilt on a given fixture, press the corresponding soft button(s). Press the "Close" soft button to execute the command.

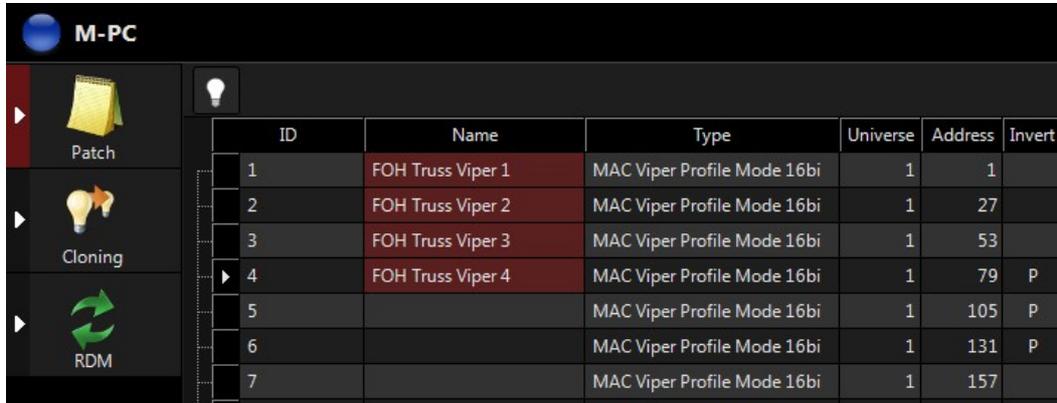
Fixtures that have the pan or tilt swapped or inverted are designated with a "P" for pan inverted, a "T" for tilt inverted or an "S" for pan and tilt swapped or any combination of the three as illustrated below:



Labeling Fixtures

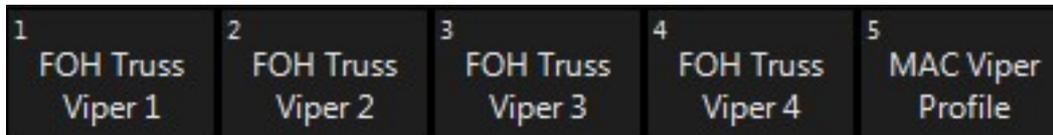
The console has a "Fixture" screen that by default, shows the fixture type. This can be altered in the patch however to show a label assigned by the user. To assign a label, click or touch in the "Name" field of the desired fixture or click and drag to select a range of fixtures. Once selected, use the console's keyboard to enter the text. When complete, the text will be reflected not only in the patch display but also the "Fixture" screen:

To clear a name from a fixture, click or touch in the "Name" field and then press `Enter`.



ID	Name	Type	Universe	Address	Invert
1	FOH Truss Viper 1	MAC Viper Profile Mode 16bi	1	1	
2	FOH Truss Viper 2	MAC Viper Profile Mode 16bi	1	27	
3	FOH Truss Viper 3	MAC Viper Profile Mode 16bi	1	53	
4	FOH Truss Viper 4	MAC Viper Profile Mode 16bi	1	79	P
5		MAC Viper Profile Mode 16bi	1	105	P
6		MAC Viper Profile Mode 16bi	1	131	P
7		MAC Viper Profile Mode 16bi	1	157	

Naming Fixtures - Patch Window.



1 FOH Truss Viper 1	2 FOH Truss Viper 2	3 FOH Truss Viper 3	4 FOH Truss Viper 4	5 MAC Viper Profile
---------------------------	---------------------------	---------------------------	---------------------------	---------------------------

Note: When setting the Name attribute for a range of fixtures, the console will automatically enumerate the names. For instance, "FOH Mac Viper," when applied to three fixtures, will become "FOH Mac Viper 1" "FOH Mac Viper 2" and "FOH Mac Viper 3." The console will take into account selection order when generating these numbers. This can be very useful when separating groups of fixtures by name.

Cloning Fixtures

Sometimes it is necessary to add fixtures to a show after programming is completed. The M-Series allows you to clone and duplicate fixtures in the patch easily using natural language. This results in the new fixtures being added into all cues, presets and groups.

Cloning allows also to duplicate programming to a different fixture type. It will try to emulate the original fixture as close as possible during the command.

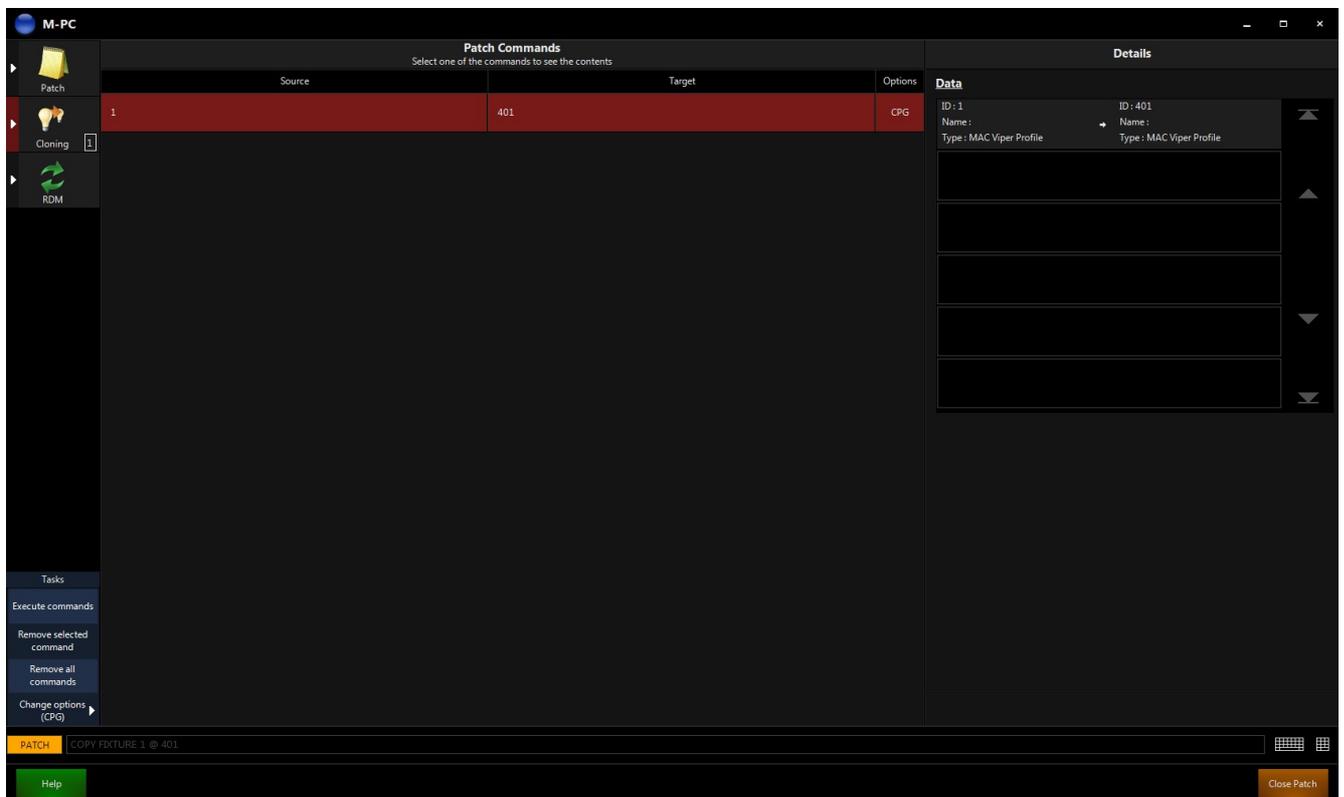
To clone one entire fixture onto a new fixture you must first enter the Patch screen by pressing **Menu** and selecting [Edit Patch...]

Cloning example

For example, let's say that we have a Mac Viper Profile with the unit number 1 that we would like to clone to a new Mac Viper with the unit number 401...

We would press **Copy 1 @ 401**

The Console would then automatically switch to the Cloning tab in Patch. This window allows you to batch clone multiple fixtures with one "Execute" Command.



The Change Options section under the "Tasks" in the bottom left corner of the screen has the following options.

Change Options (CPG)	
CUES	All cues will be copied from the source fixture to the new fixture. Note that when selecting CUES, PRESETS will be automatically selected, as the cues may rely on presets for their data.
PRESETS	All preset data will be copied from the source fixture to the new fixture. It is possible to copy only preset data. For instance, you might only want the preset focuses and various color and beam palettes copied to the new fixture, but not the group and cue data.
GROUPS	The new fixture will be added to all groups currently containing the source fixture.

Press the "Execute Commands" Button under "Tasks" to execute cloning for all the fixtures you added to the Clone window. When the console finishes calculating, we will have 2 essentially identical fixtures in your show. We can now update the preset focuses in the new instrument to reflect its position.

Note: A cloned fixture is not tied to the source fixture. You can manipulate it just like any other fixture in the rig.

Commandline examples

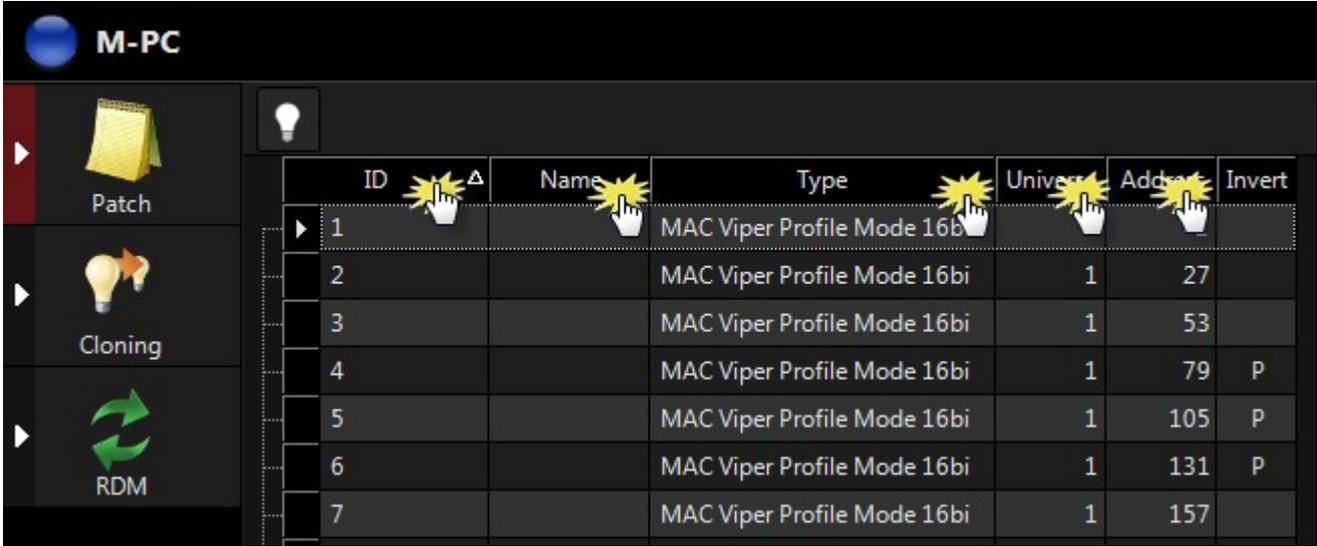
Command	Description
COPY 1 @ 301	copies all cue values, preset values and group memberships from fixture 1 to fixture 301
COPY 1 @ 301 + 305	copies all cue values, preset values and group memberships from fixture 1 to fixture 301 and 305
COPY 1 THRU 10 @ 310 THRU 301	copies all cue values, preset values and group memberships from fixture 1 > 10 to fixture 310 > 301
COPY 1 + 8 @ 301 + 305	copies all cue values, preset values and group memberships from fixture 1 to 301 and fixture 8 to 305

Quick Tip: Cloning clones linear values only. Any parameter that has steps in it, ie - Gobo, Shutter etc MUST be programmed into presets. Once you have completed the Clone commands in patch, simply updating the presets with new information will update the rest of the showfile. It is highly advised that presets are used in a showfile that will require cloning later in the show run. This process must be used from the outset for cloning to work desirably.

Other Patch Screen Controls

Sorting the Patch

By default, the patch is sorted by the fixture ID number in ascending order. However, by clicking on any column header (such as "Type") the order of the fixtures will be resorted by that category. Similarly you can reverse the sort order by touching the same column header again.



The screenshot shows the M-PC software interface. On the left is a sidebar with icons for Patch, Cloning, and RDM. The main area displays a table of patch data. The table has columns for ID, Name, Type, Universe, Address, and Invert. Hand icons with yellow starburst effects are placed over the ID, Name, Type, Universe, and Address headers, indicating that these columns are currently selected for sorting.

ID	Name	Type	Universe	Address	Invert
1		MAC Viper Profile Mode 16bi			
2		MAC Viper Profile Mode 16bi	1	27	
3		MAC Viper Profile Mode 16bi	1	53	
4		MAC Viper Profile Mode 16bi	1	79	P
5		MAC Viper Profile Mode 16bi	1	105	P
6		MAC Viper Profile Mode 16bi	1	131	P
7		MAC Viper Profile Mode 16bi	1	157	

Patching Summary

What follows is a step-by-step explanation of patching a group of fixtures in a new show.

1. Turn on the console
2. Select "Create New Show"
3. Once the console has completed booting up, press the quick menu button in the top left corner of the main screen.
4. Press **Edit Patch...**
5. Press **Tasks**
6. Select **New fixture...**
7. Select the Manufacturer
8. Select the Fixture Type
9. Select any options from the Fixture Settings menu
10. Press **Auto patch**
11. Use the [+] and [-] buttons to set "Amount:" to the number of fixtures to be patched
12. Press **Apply** to patch
13. Press **Close**

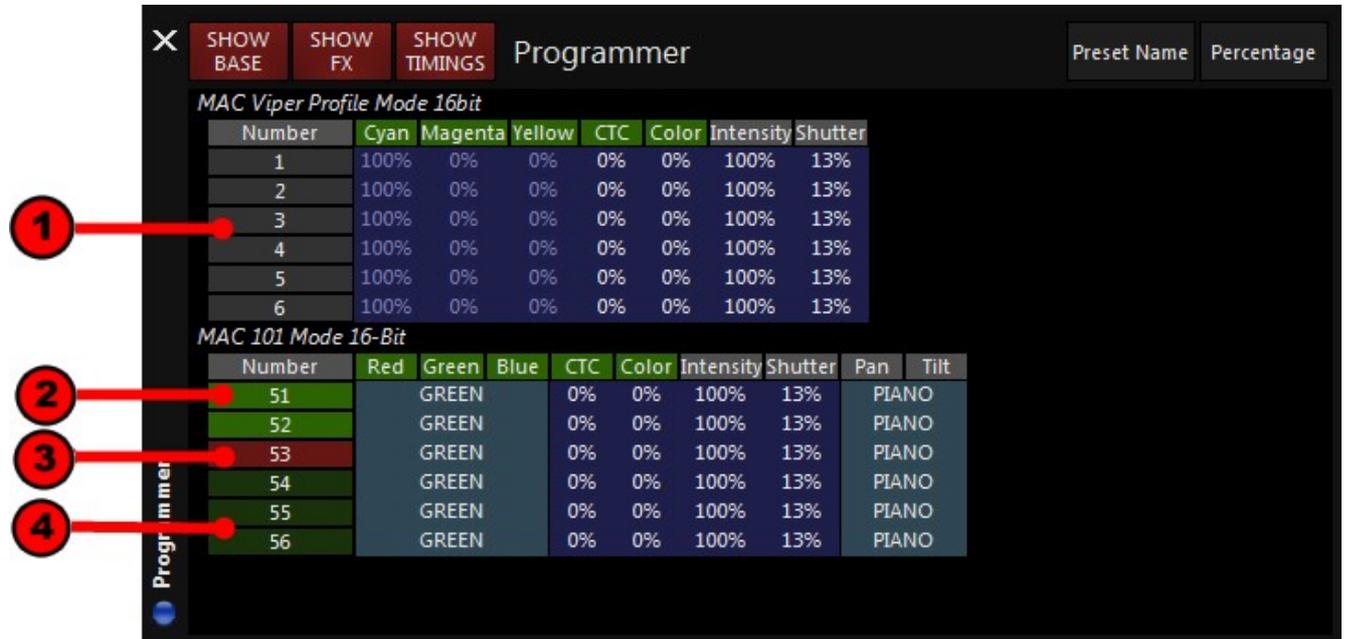
Selecting Fixtures

This section describes how to select fixtures using the keypad, the Fixture Selection screen, and the Fixtures screen. Fixture groups will be discussed later. See [Groups](#) for more info.

Before getting to actual selection, however it is important to understand the following definitions:

- A **selected** fixture is one that is currently editable using the trackbelts and other attribute controls.
- A **deselected** fixture is one that is loaded in the Programmer but is not affected by the programming tools.

The console uses color coding to indicate the various states of fixtures loaded in the Programmer. The color codes are as follows:



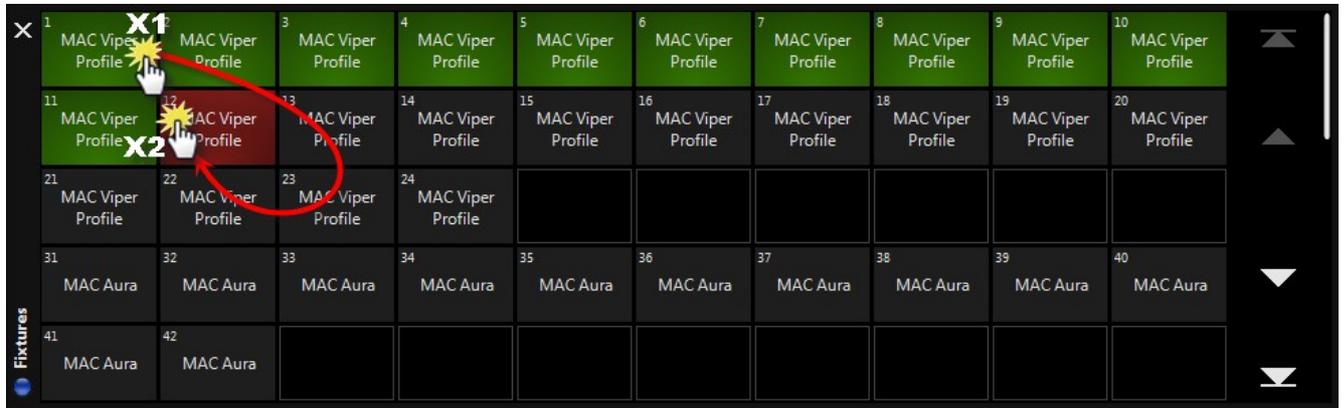
Programmer Color Coding

1	Gray	Deselected fixture. It is in Programmer but will be unaffected by changes.
2	Bright Green	Selected fixture. When multiple fixtures are selected, all but the latest selected fixture (shown in red) have this color.
3	Red	Latest selected fixture. Only one fixture displays in red: this is the specific fixture represented in the channel visualizer.
4	Dark Green	Deselected fixture. This color indicates a fixture that was selected but has been overridden by the "Next/Last" commands or the Fixture Selection Mask (described below). Pressing "revert to selected" in the Fixture Groups window will return it to selected (green).

The Fixtures Screen

This screen is automatically populated with the fixtures used in your show. The fixtures are sorted by the fixture number as assigned in the patch. Numbers that are skipped are not displayed. (Note that fixture 24, a MAC Viper is followed on the next row by fixture 31, a MAC Aura.) The label of the fixture defaults to the fixture type. For information on changing these labels, please see "Other Patch Functions."

To select an individual fixture, simply tap or click on the desired fixture. You can select a range of fixtures by "double tapping" on the first fixture of the range and then "single tapping" the last fixture of the range as shown below.



Quick Tip: On the M6 console, or any system with multi touch screens, you may also select ranges of fixtures by holding your finger down on the first one then touching the last fixture in the range.

Using The Keypad

If you know the number(s) of the fixture(s) you wish to select, you can use the 0-9 buttons to specify the fixture numbers and the "+" (and), "-" (except) and "Thru" (through) buttons to modify your selection. The M-Series allows simple as well as complex fixture selection. Some examples are:

Basic Fixture Selection	
1 Enter	Selects fixture 1.
1 + 2 Enter	Selects fixture 1 and 2.
1 Thru 5 Enter	Selects fixture 1 through 5.
1 Thru 5 + 21 Thru 25 Enter	Selects fixtures 1 through 5 and 21 through 25.
1 Thru 5 - 4 Enter	Selects fixtures 1, 2, 3 and 5.

Using the above buttons in conjunction with the "@" (at) or Full buttons allows you to set specified fixtures to specified intensity values. For example:

Selecting Fixtures and Specifying Intensity	
1 Full	Brings the intensity of fixture one to 100%
1 + 2 Full	Brings the intensity of fixtures 1 and 2 to 100%.
1 Thru 5 @ 50 Enter	Brings the intensity of fixtures 1 through 5 to 50%.

Note that when bringing fixtures to Full you are not required to use the @ or Enter buttons. When entering any other value, these buttons are required.

When To Use "@"	
1 Thru 5 + 21 Thru 25 @ 75 Enter	Brings the intensity of fixtures 1 through 5 and 21 through 25 to 75 percent.
1 Thru 5 - 4 @ 95 Enter	Brings the intensity of fixtures 1, 2, 3 and 5 to 95%

The console allows you to rapidly assign a range of intensities to a range of fixtures as follows:

Intensity Fanning	
1 Thru 5 @ 50 Thru 100 Enter ^A	Brings the intensity of fixture 1 to 50%, fixture 2 to 62%, fixture 3 to 75%, etc.
1 Thru 5 @ 50 Thru 10 Enter	Puts fixture 1 at 50% and each of the following fixtures 10% lower.

^AYou can not use the "FULL" button here as this would drive all fixtures to 100%

The M-Series provides four keypad shortcuts to rapidly select fixtures in the Programmer:

Selection Shortcuts - Selecting/Deselecting All Fixtures in the Programmer	
. Enter	Selects every fixture in the Programmer
0 Enter	Deselects every fixture in the Programmer
. 0 Enter	Selects all fixtures that are patched in your show
/ Enter	Inverts the current fixture selection. Those that are selected will become deselected and vice versa. Note that this only applies to fixtures in the Programmer.

Deselecting Specific Fixtures

Once you have finished adjusting the desired attributes of the selected fixtures, you can deselect those fixtures in a number of different ways. Note that deselected fixtures and their attribute values (whether active or inactive) remain in the Programmer until cleared.

- To deselect a specific fixture or fixtures using the keypad, press the - (minus) button followed by the desired fixture number(s) and the "+" (and), "-" (except) and "Thru" (through) buttons to modify your selection, for example:

- 6 Thru 10 Enter

- You can use the "Next" and "Last" buttons to scroll through the fixtures or, if a mask is enabled (see ["Manipulating Fixtures"](#)), scroll through sets of the fixtures.
- You can click on or touch active fixtures in the Fixtures screen to deselect them, or press "Deselect All" at the bottom of that screen.

Clearing Selected Fixtures

To clear all channel attributes for a selected fixture or fixtures, press **Clear** once followed by the fixture number (s), for example:

Clear 31 Thru 35 Enter

Clearing All Fixtures

To completely clear the Programmer of all fixtures, press Clear twice. The first time you press Clear, the "Clear Options" window will appear. The second time you press Clear, all fixtures will be cleared and the Programmer will be emptied.

It is also possible to clear only selected attributes of specified fixtures.

The "Clear" command is discussed in more detail under ["Clearing the Programmer"](#).

Using the Selected Fixtures Screen

The Selected Fixtures screen is shown below. You can find this screen by selecting the "Fixtures" view button (view 11) over the Playback Controls touch screen among other places.



This screen is automatically populated with fixtures as you select them; either by the means described above, or by selecting Groups (see ["Groups"](#)). In this screen you are provided with the fixture number and model or the fixture's label if one was entered in the patch.

The M-Series goes beyond recalling simply what fixtures have been selected, it also recalls the order in which they were selected. This is particularly useful in the creation of "fanning" effects or when stepping through the fixtures using the **"Next/Last"** buttons.

The selected fixture order is also stored with a fixture group.

Conditional Fixture Selection

In order to communicate in a more human-like language, the M-Series allows you to select fixtures based on their current state in the playback on stage. For example, you could select all RED fixtures that are pointing to the DRUMS preset, or all fixtures that are currently 100% Intensity.

This known as Conditional Fixture Selection or "Ad Hoc Grouping."

The command can be executed with an empty programmer to query the entire patch. Or, if fixtures are already selected in the programmer, the query will only consider those fixtures. This allows you to select a Group first, e. g. all Washlights, then to drill down further to all BLUE fixtures within that group.

Conditional Fixture Selection by Preset is executed as **Group xx**, where **xx** is a preset soft button.

Conditional Fixture Selection by Intensity value is executed as **Group @ xx Enter** where **xx** is an intensity value. In the case of **Group @ Full**, the **Enter** is implied.

You can also select all fixtures above or below an intensity value, such as:

Group @ +50 Enter

which selects all fixtures with an intensity value above 50%.

If you'd like to select fixtures sharing several preset values, you can hold down the Group button while you press multiple preset soft buttons. Releasing the Group button will execute the query. Note that this command will only select fixtures that have values from ALL of the presets you specify. In other words, **Group (HOLD) [Blue] [Drums]** will only select fixtures that are both blue AND pointing at the drummer.

Example - Conditional Fixture Selection

Let's say that you have a cue on the stage with fixtures in red and green. The artist yells over the PA that he hates green. Instead of looking in the cuelist values, trying to figure out which fixtures are green, selecting them and changing them to blue, you can quickly do the following...

1. **Clear Clear** (to ensure that the programmer is empty)
2. **Group [Green]** (preset soft button) Selects the Green fixtures.
3. **[Blue]** (preset soft button) Sets the Green fixtures to Blue.

As long as you used a preset color when you recorded the cue, the console will find all fixtures with the color preset "Green" and select them for you. You can now update the cue, making the artist very happy (as long as he likes blue).

Conditional Fixture Capture

As with Conditional Fixture Selection, you can query the console to find fixtures based on their current state in the playback on stage. With Conditional Fixture Capture, however, you can also select the fixtures and capture their values at the same time

Conditional Fixture Selection is executed as **Load xx** (select Load Options) **Enter**, where **xx** is a preset. When you press Load, the Load Options Window will appear, allowing you to filter what attributes you want to capture.

You can capture by intensity value with the following syntax:

Load Group @ xx Enter where xx is an intensity value.
Load Group @ Full

Note: Unlike Conditional Fixture Selection, you must press Enter to complete a Conditional Fixture Capture.

Manipulating Fixtures

When you select a fixture or a number of fixtures you will notice several changes on the console. These changes are primarily found in the Programmer screen and attribute controls, but a number of the screens are also affected. We'll start by selecting fixture 24 and viewing some of the affected screens.

Programmer Control

The attribute controls determine what attributes are displayed in the touch screen and provide a way to control those attributes.



Attribute Controls M2GO/M2PC



Attribute Controls M1



Attribute Controls M6



Attribute Controls (Maxxyz Compact, MaxModule Programmer)

On the Maxxyz Compact and the Maxxyz Programmer Module, the four track belts, jog wheel and LCD buttons are used to control fixture attributes, effects, fans and control the speed of effects, cues and Programmer fades. (These features are covered later in this manual). On the M2GO & M2PC consoles, rather than LCD keys, there is a mini touchscreen integrated into the console surface, the information displayed here mimics the LCD keys of the other consoles.

On the M1, M2GO and M2PC Consoles, instead of trackbelts, you will find 4 encoder wheels across the top-right corner of the console.

On the M6 console, the four track belts control fixture attributes, effects, fans and control the speed of effects, cues and programmer fades. There is a single black encoder wheel with push functionality for dedicated dimmer controls. On the M6 Console, rather than LCD keys, there is a mini touchscreen integrated into the console surface, the information displayed here mimics the LCD keys of the other consoles.

Using fixture 24, a MAC Viper Profile, we can see that attribute groups have loaded into the left LCD buttons. From top to bottom, the attribute groups are:

Intensity	This contains the Intensity and Shutter attributes.
Pan/Tilt	This contains the Pan and Tilt attributes.
Color	This contains the Cyan , Magenta , Yellow and Color attributes.
Gobo	This contains the Gobo 1 , Gobo 1 Rot , Gobo 2 , Gobo 2 Rot , Anim , Anim Rot attributes.
Beam	This contains the Zoom , Focus , Iris , Frost and Prism attributes.

Turning the jog wheel directly below the LCD buttons will load the next page of attribute groups, if any exist. For the MAC Viper Profile, turning the jog wheel will load the **Beam Effects** attribute group. Turning to the first page of attributes and pressing the "**Intensity**" LCD button, you will notice that it turns red. This indicates that the Intensity attributes have been loaded on the corresponding track belts. The color coding for the LCD buttons is as follows:

Red	The currently selected attribute group. Attributes belonging to this group will be active on the corresponding track belts.
Orange	An attribute group that has previously been selected and where changes, visible in the Programmer screen, have been made.
Green	An attribute group that is available but is not selected and no changes have been made.

More Than 4 Attributes

If a fixture has more than 4 attributes available for an attribute group, the attributes will be revealed with successive presses of the LCD button. For example, the MAC Viper Profile has 6 attributes in the Gobo group; **Gobo 1**, **Gobo 1 Rot**, **Gobo 2**, **Gobo 2 Macro**, **Anim** and **Anim Rot**. When first selected, only **Gobo 1**, **Gobo 1 Rot**, **Gobo 2**, and **Gobo 2 Macro** are visible. To reveal the **Anim** and **Anim Rot** attributes, press the LCD button a second time. In this fashion, many sets of parameters may be grouped under one heading. Pressing the LCD button repeatedly will step through each set, looping to the first set when reaching the end. This becomes very handy with attribute-heavy fixtures such as media servers.

Quick Tip: On the mini touchscreens (M2PC/M2GO/M6), you may page between parameter bank pages by swiping along the top of the screen where the parameter feedback is.

Quick Tip: Swipe your finger up from the bottom left of the mini touchscreen to the top left of the mini touchscreen to access extra parameter banks such as "Beam Effects" or "Framing"

The "CV" Button

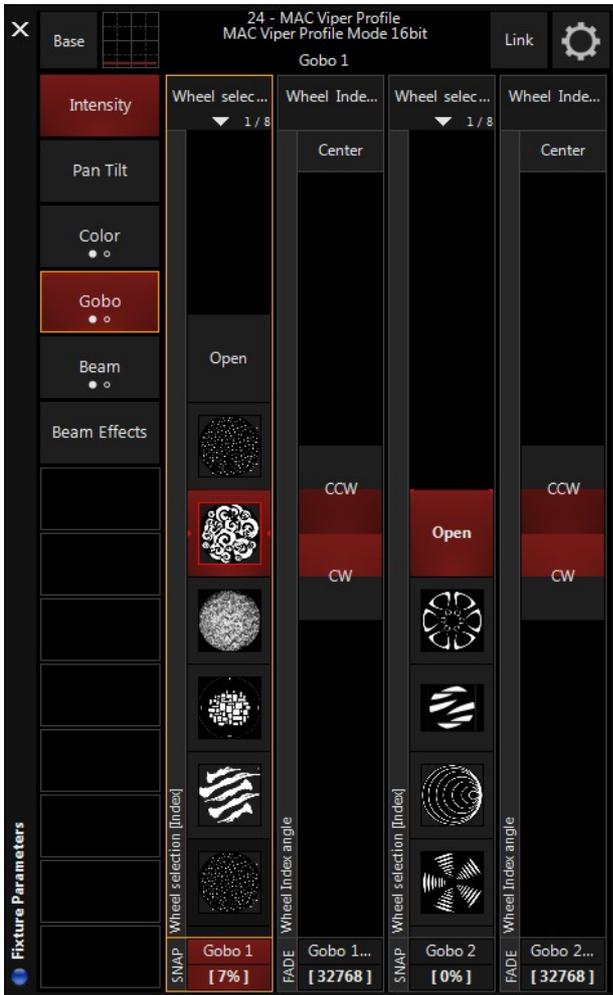
After console startup the "CV" (Channel View) button is unlit and the attribute controls are used to control fixture attributes. When the "CV" button is lit, the controls are primarily used to program effects, fans and control the speed of effects, cues and Programmer fades. (These features are covered later in this manual). You can toggle between these two modes by pressing the "CV" button.

Directly above the LCD buttons you will find a button labeled "CV." When pressed, this button swaps the LCD buttons and trackbelts (or wheels) from attribute control to effects, fixture fanning and timing control. The right side of the Programmer touch screen contains information regarding the creation of effects, fixture fanning and

various timing overrides for cuelists and the Programmer. Effects creation is covered in "[Effects](#)" and fixture fanning is covered in "[Fixture Fanning](#)". Timing overrides are covered in "[Changing Global Cue timing](#)".

Fixture Parameter Screen

When a fixture or fixtures are selected, the Fixture Parameters screen is loaded with information concerning the selected fixture. The information that is loaded is dependent on the attributes of the selected fixtures. When multiple fixture types are selected, all the various attributes will be displayed in the Programmer. In the view below we have selected fixture 24, a MAC Viper Profile and are displaying the Gobo information:



There's a lot of information on this screen so we'll look at it in smaller sections.

Attribute Control

The left side of the Fixture Parameters screen contains information regarding the specified attributes of the selected fixture(s) and a means to control them.

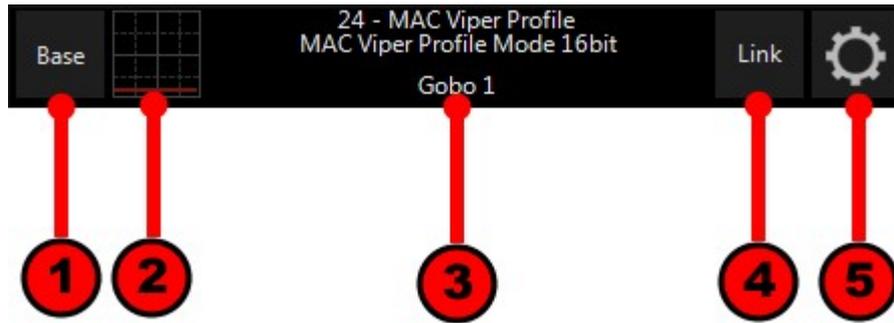


Four columns are displayed for any attribute group selected (such as "Gobo" displayed above). Each column pertains to a specific attribute of the last selected (red) fixture and displays the current level of that attribute. The attribute assigned to each column is identified by a box near the bottom of the screen; in this case "**Gobo 1**", "**Gobo 1 Rot**", "**Gobo 2**", "**Gobo 2 Macro**." The values of these attributes can be changed in two different ways: you can touch or click on the touch screen to select the desired setting or you can use the corresponding track belt or wheel to scroll through the values. The text along the left side of the box identifies whether the values will fade smoothly or snap to specific values. The text at the bottom of the box displays the percent or digital (DMX) value currently assigned to the attribute. If this text is enclosed in brackets like so: **[7%]**, this indicates that Range Lock is active.

The visualiser belts have gradients or steps in to provide quick shortcuts to gobo slots, colour slots or even a particular percentage of a linear parameter - E.G. 50% Dimmer.

Attribute Info

Directly below the attribute control section you will find the attribute info bar.

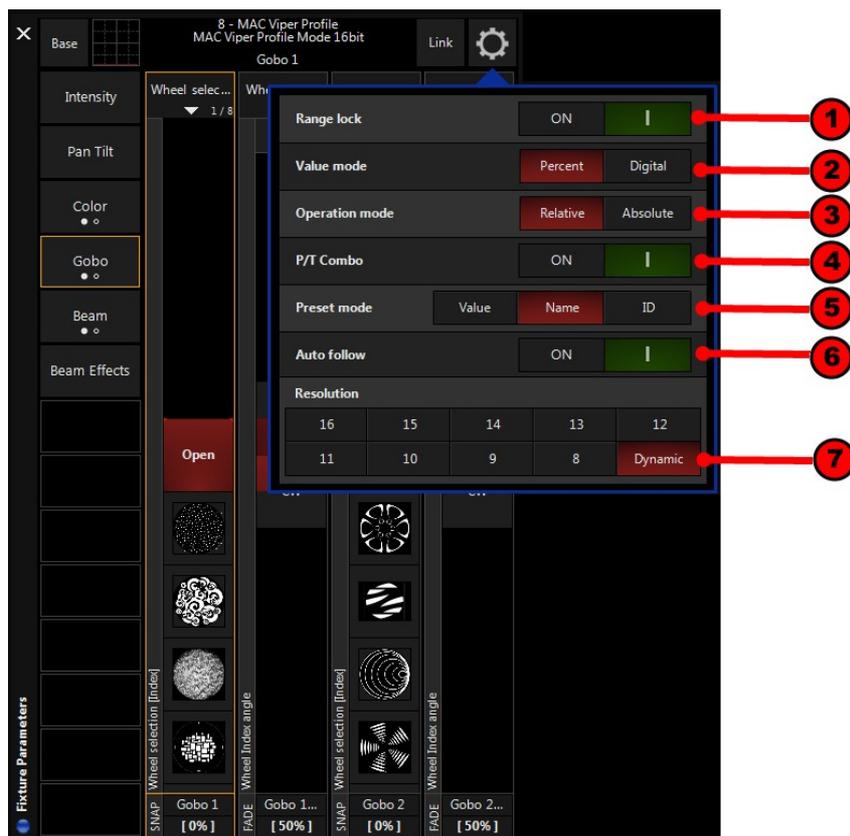


The first line of text indicates the fixture type of last selected fixture. The second line indicates the current attribute.

1	This button will either say "Base" or "FX". It is essentially a softkey replication of the CV Button.
2	A small graph that shows what percentage the selected parameter is at.
3	The last selected fixture, and its type. The lower line shows the selected parameter.
4	A softkey shortcut to the LINK key.
5	CV Options. This will be covered in the next section.

Attribute Options

Located at the bottom center of the Fixture Parameters screen are five Options controls. These controls can be shown or hidden by clicking or touching the disclosure arrows to the right of the Options panel.

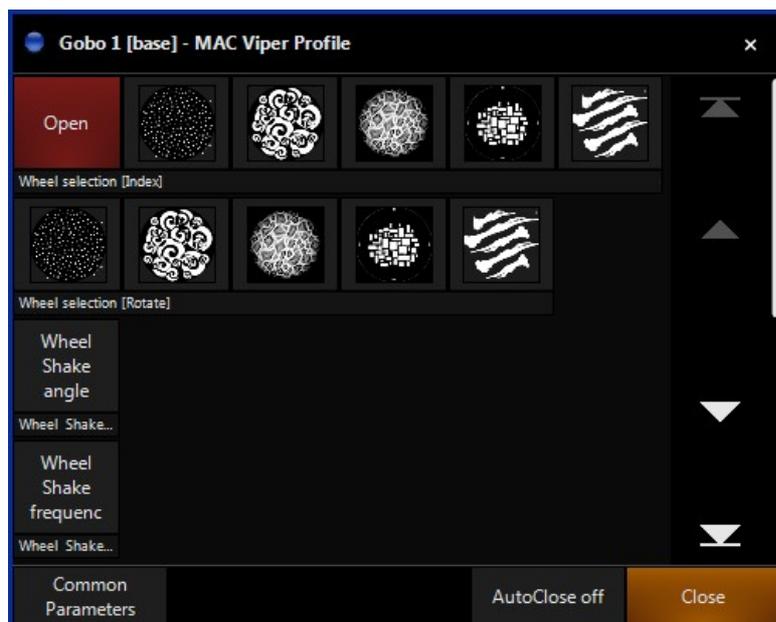


1	Range lock toggle	Enables/Disables Range Lock for parameters. For more information on this useful feature, see Range Lock.
2	Percent/Digital toggle	Toggles the display of raw DMX values between Percent and Digital. This option is also available in the Programmer Screen and will affect DMX value displays in the Programmer and the Fixture Parameter Screen.
3	Relative/Absolute toggle	This toggle determines how fixtures with different values for the same attribute will react with each other. If, for example, we select fixtures 1 thru 5 and 1,2,4, and 5 are set at an intensity of 10% and fixture 3 is set at an intensity of 50%, when "relative" is selected, rolling up the intensity track belt will increase the intensity of the selected fixtures relative to one another. If the toggle is set to "absolute" then all fixtures will jump to the level of the highest numbered fixture when the track belt is moved. This feature is particularly useful with the pan/tilt attributes however, please note that while it works well with the track belts, it does not function with the trackball
4	Pan/Tilt Combo toggle	This is an abbreviation for "Pan/Tilt Combine" and will be discussed later in the Effects section of the manual ("Effects").
5	Preset Mode toggle	This toggle determines whether presets will show their value, name or ID on the belts when a fixture has a preset applied.

	Auto Follow toggle	By default, the belts follow whatever LCD key or parameter group is selected on the mini touchscreen.
	Resolution	<p>Located in the lower left-hand corner of the menu is the control resolution box. Pressing or clicking on this box will cycle the setting between 16 and 8 bits in one step increments with 16 bit providing the highest degree of resolution and 8 bit providing coarser, but faster control of selected attributes.</p> <p>With the "Resolution Dynamic" option enabled, the console will change the resolution of the belts/wheels depending on the type of parameter selected for the best control of the parameter.</p>

Attribute PopUp

On the M6, Maxxyz Compact and Programmer Module, below each attribute column is an associated hard button (directly above the track belt). On the M1, M2GO, M2PC Consoles, the Encoder wheels can be pressed down which functions as the button would do normally. By double clicking on this hard button, or pressing the blue box with the attribute name found on the touch screen, you can bring up a pop-up window that contains all the preset values for that attribute. Below is the pop up screen for "Gobo 1" selected from the Gobo attribute group of a Martin MAC Viper Profile:



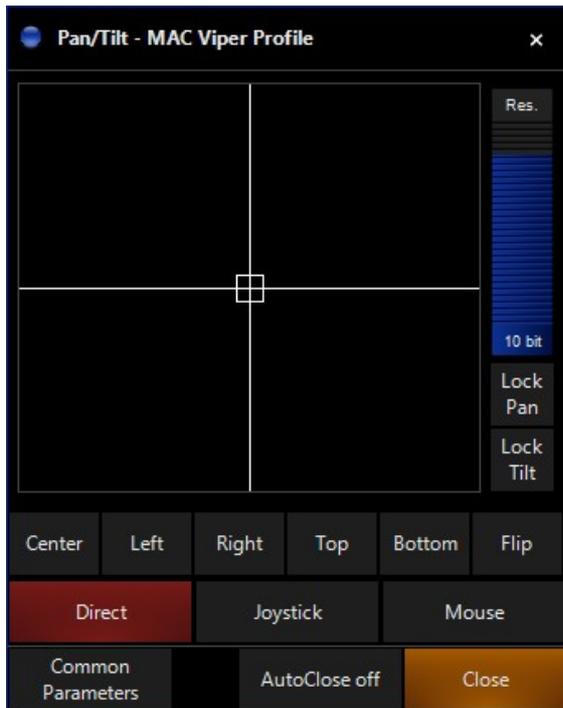
With the pop-up window open, you can rapidly select the desired value by touching it and then closing the window.

The Direct Access window will display different information relative to a fixtures profile.

Linear Parameters such as Dimmer will display a window with increasing gradients.



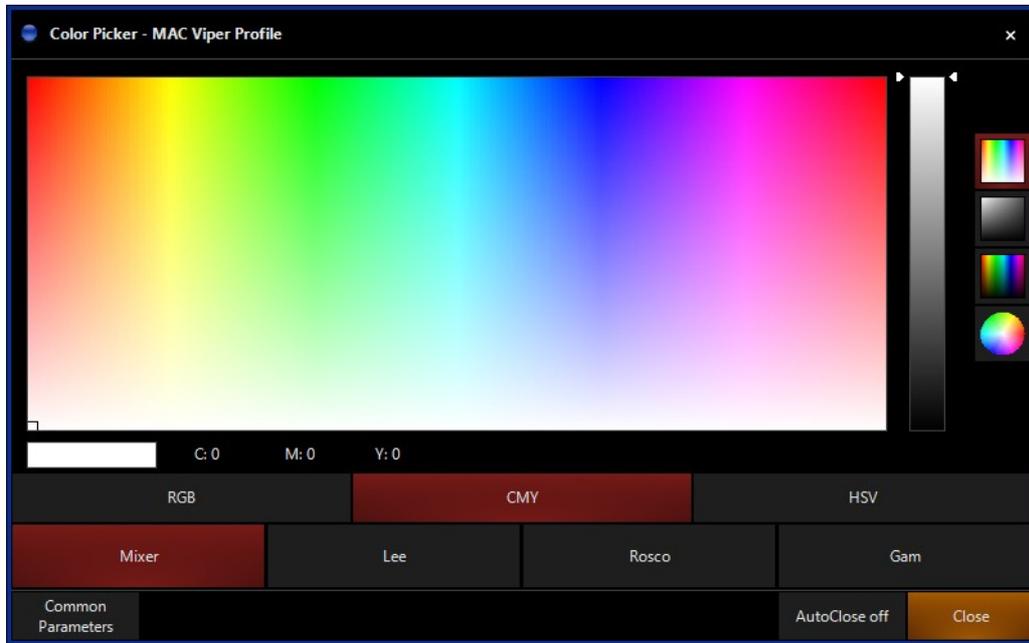
Double clicking the Pan or Tilt parameter buttons will open the following window - Pan & Tilt on screen controls. This is useful in place of the trackball on consoles that don't have a trackball or attached mouse.



The flip feature reverses the pan and tilt axes 180 degrees, returning to the fixture's current position. This is useful for yokes and fixtures whose heads have 360 degree movement. For example, in its current position, a yoke is at the limit of its pan movement. To continue moving the yoke on its pan axis, apply the flip feature. The yoke returns to its current position without the movement limit.

Centre, Left, Right, Top and Bottom are quick shortcuts to fixture positions.

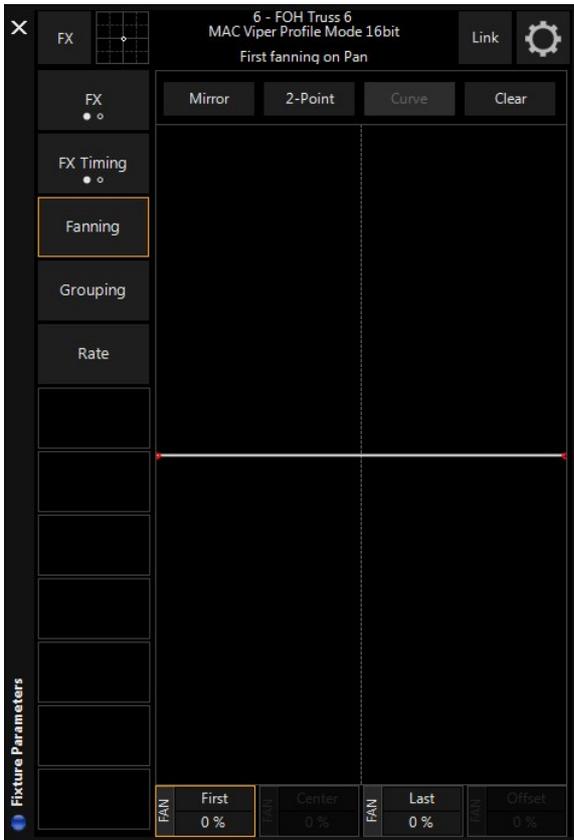
"Joystick" is a mode of control when you place your finger on a point then pan tilt slowly travels in that direction. "Direct" is the opposite to "Joystick", that is to say placing your finger on a point in the window will have the fixture move to those coordinates as fast as it can.



Double clicking a color mix parameter such as Cyan, Magenta or Yellow will temporarily open the color picker. The consoles fixture library profiles also auto detect whether to use CMY, RGB or HSV in the color picker window. No user intervention is needed, although it can be selected and used as desired.

Fixture Fanning

The Fan tools provide a powerful means to manipulate a group of fixtures by spreading their attribute values over a range. To bring up the fan tools, select some fixtures, toggle the "CV" button above the attribute group LCD buttons and then press the attribute group LCD button labeled "Fan". The Channel Visualizer will now look something like the screen shot below.



The encoders/belts of the console will be mapped as follows:



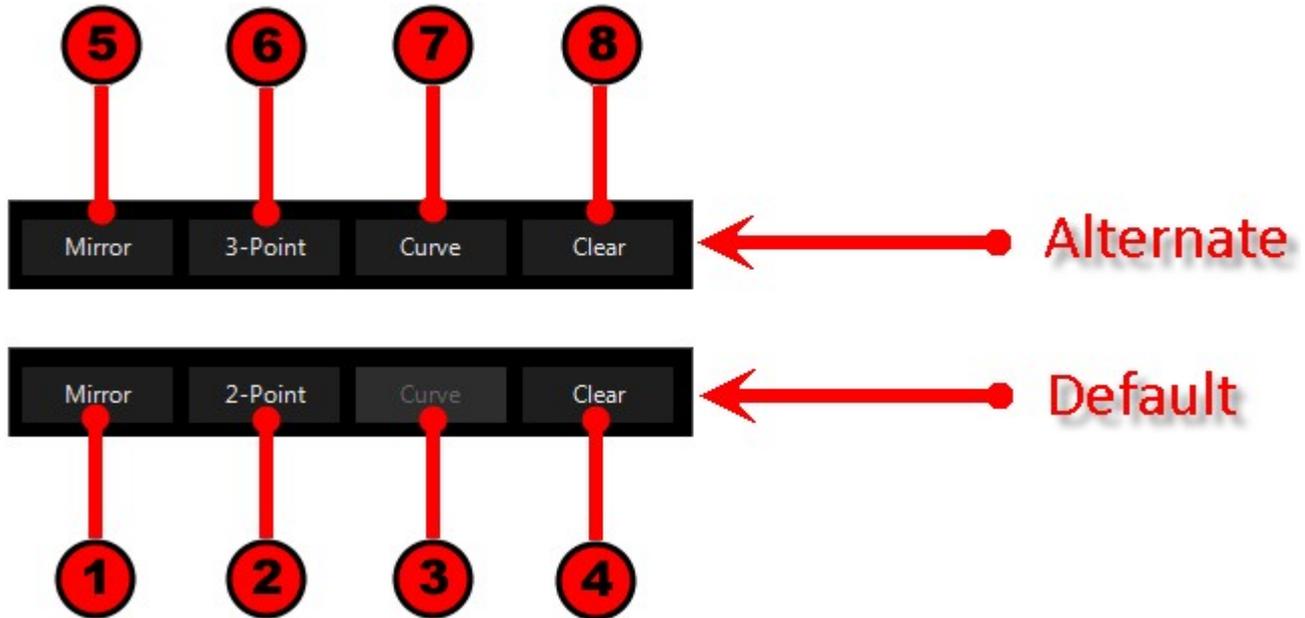
Near the bottom of the screen are 4 labels that identify the function of the track belts.

First	This label corresponds to the left point (as indicated by the small red dot in the fan display) and controls the position of the first fixture selected in the fan.
Center	Center designates the center point of the fan.
Last	Last is the right red point on the fan display and controls the position of the last fixture selected in the fan
Offset	Offset is used to control how far toward "First" or "Last" the center point is considered to be.

Each of these settings can be adjusted between -100% and + 100%. In the display above they are all shown at zero percent as indicated in the light blue box below each label.

Note that the attribute that will be affected by the fan position control elements is pan ("Fan on Pan"). This is determined by first selecting the attribute type "Pan Tilt" and then pressing the hard button in the column labeled "Pan". Note that the active attribute hard button has a blue LED. That LED will be lit on the active attribute. To change to a different attribute, such as tilt, press the hard button above the tilt track belt.

Above this are 4 soft button toggles. Pressing or clicking on them will cause them to change from one type of effect on the fan to another. The default soft buttons and their alternate are both shown below:



The functions of the fan soft buttons are as follows:

Default		Alternate	
1	Mirror - When Mirror is selected, the first and right points will mirror each other. For example, if the first point is used to pan left, the last point will automatically move right and equal, but opposite amount.	5	Separate - When selected, Separate allows the first and last points to move independently. That is to say, if the first point is used to pan left, that first fixture and all other fixtures except for the last will move left proportionately to one another.
2	2-Point - When active, 2-Point allows for the manipulation of first and last fixtures to determine the fan and the center point is used to determine the fan's overall position	6	3-Point - When 3-Point is visible, the first and last points are left unaffected by changes to the center point. Instead, an arc is formed.
3	Curve - Curve will cause the fixtures in the fan to follow a curvilinear path. The degree of the curve is determined by the center point when in 3-Point mode	7	Linear - Similar to curve, except that instead of a curved path, a linear one is followed.
4	Clear - Pressing this button will clear all fan effects.	8	Clear - Pressing this button will clear all fan effects.

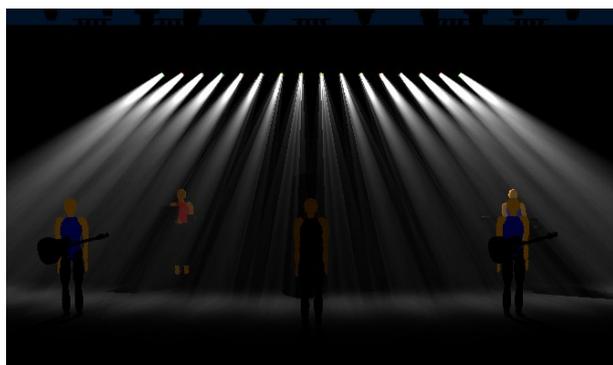
Examples of Fixture Fanning

The Mac 101 Group of fixtures will be used for this example. Build a crowd blinder position preset and a center stage preset as shown below to use as starting points.



MIRROR VS. SEPARATE FANNING

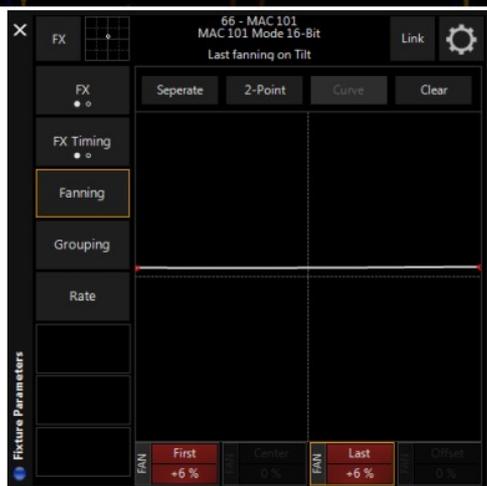
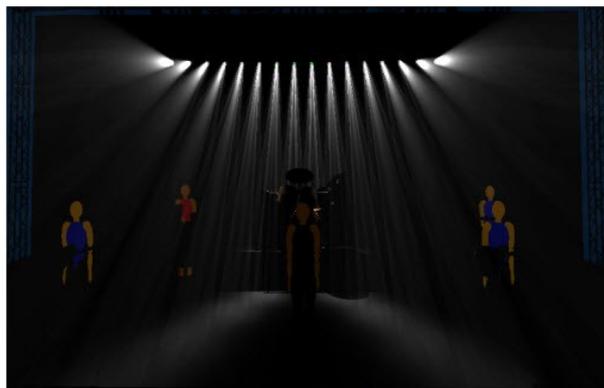
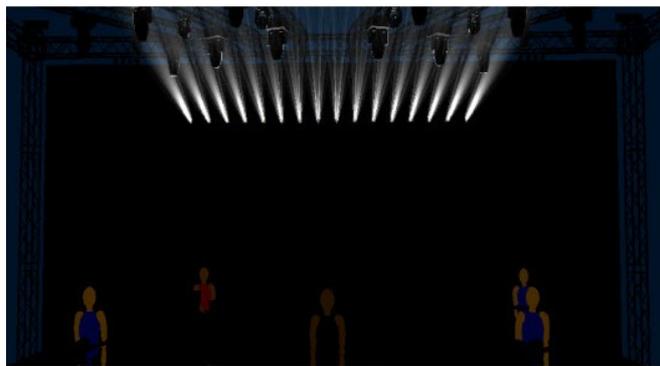
Starting at the "Center Stage" preset, with "Fan on Pan" in 3-Point linear mode the following shows the difference between Mirror and Separate modes when moving only the First fan attribute track belt.



As you can see, in the Mirror example, the First and Last attributes are at +/-13% even though only the First fan attribute was adjusted. This is because as the First fan attribute was altered to -13%, the Last fan attribute mirrored it and moved to +13%. In the Separate example the First fan attribute is at -13% but the Last fan attribute has remained at 0%.

2-POINT VS. 3-POINT FANNING

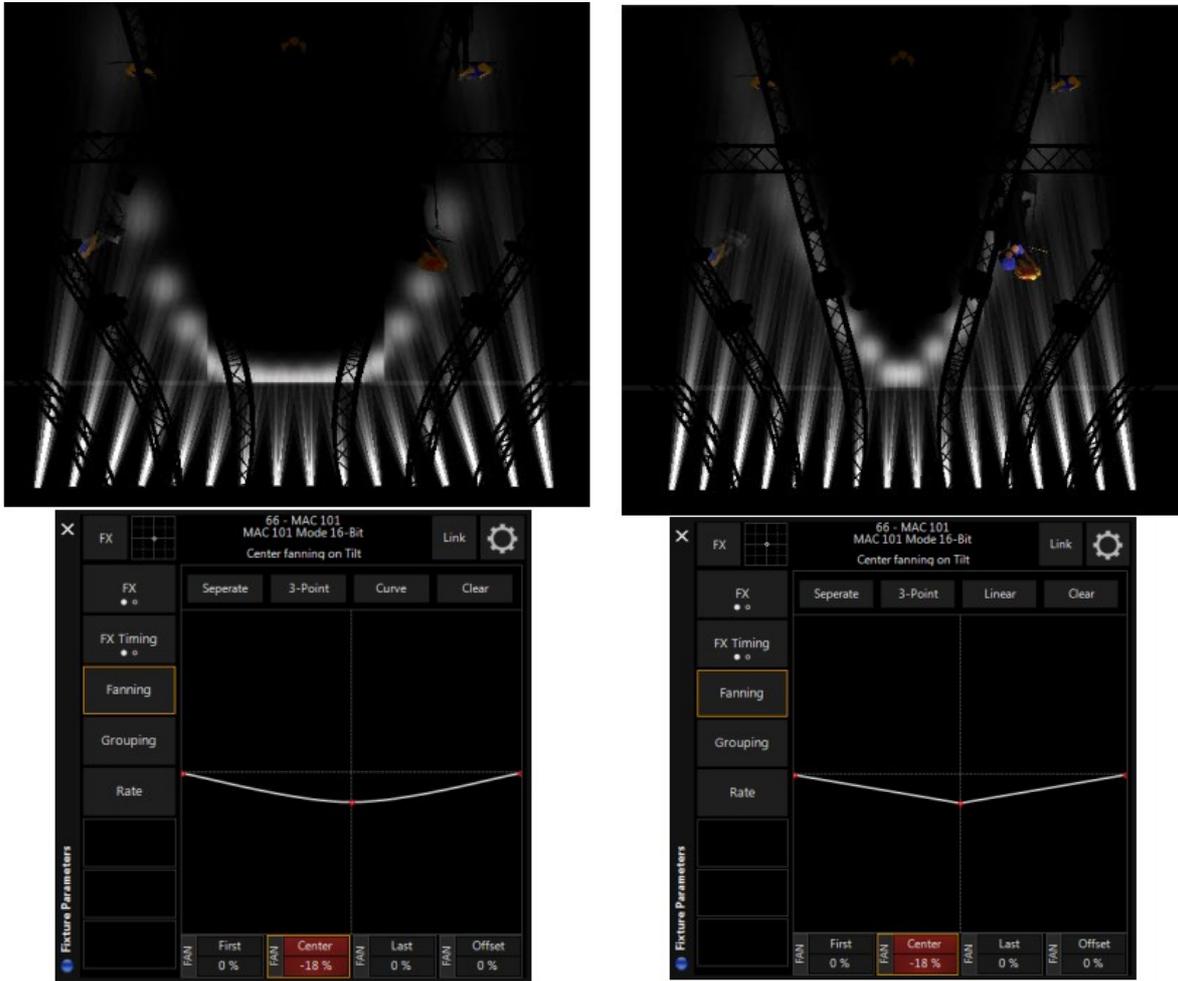
Starting at the “blinder” preset, with “Fan on Tilt” in sperate and linear mode the following shows the difference between 2-Point and 3-Point modes.



In the 2-Point example, moving the Center fan attribute only to +6% resulted in both the First and Last fan attributes also moving to +6%. In other words, it acted much like the traditional tilt attribute. In the 3-Point example, moving the Center attribute to -16% left the First and Last attributes unchanged (0%) and distributed a percentage of change to all fixtures between the first and last fixtures selected.

CURVE VS. LINEAR FANS

Select the Mac 101s and tilt them forward to 68%, with "Fan on Tilt" in mirror and 3-Point modes, the following shows the difference between Linear and Curve options within the Fan window.



Moving only the Center fan attribute to +12% in Curve mode results, as you can see in a rounded shape whereas moving the Center pan attribute the same amount in Linear mode provides for a straight sided distribution of the beams.

OFFSETTING THE FAN

Using the mirror 3-point linear fan with the Center fan attribute at -5% created above, the effects of the Offset function become clear.



These two examples illustrate how the Offset fan attribute can be used to change the apparent “center” of the fan.

OTHER FAN TYPES

The examples above have used the pan and tilt attributes to demonstrate the fanning functions. However, it should be noted that any attribute can take advantage of the fanning function. In the above example, the linear 3-point fan is used on the tilt attribute. The color is achieved by bringing magenta to full and, with cyan at 0%, using a mirrored 3-point linear fan with the Center fan attribute at +100%.



6 - FOH Truss 6
MAC Viper Profile Mode 16bit
Center fanning on Cyan

Mirror 3-Point Linear Clear

FAN	First	Center	Last	Offset
	0 %	+100 %	0 %	0 %

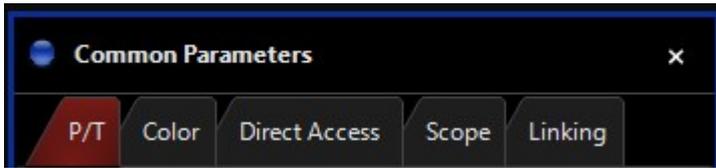
Undo

The M-Series provides a programmer undo function as a convenience to the user. If you, for instance, accidentally clear the programmer before storing a cue, you can press **Undo** and the values will be restored to the programmer.

Note: Currently, Undo will only affect changes in the programmer; it will not revert a record operation.

Common Parameters

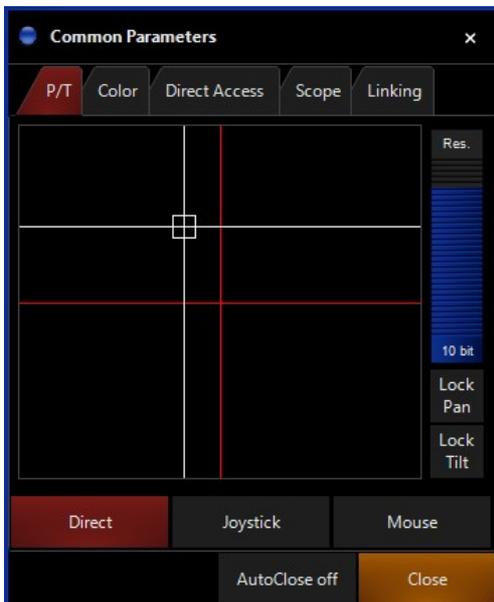
The Common Parameters Screen provides several useful tools into a series of tabbed-panels. They are similar to that of the [Attribute PopUp window](#), but the common parameters window can be merged into a screenview rather than opening over the top of it.



The 5 tabs of the Common Parameters panel are:

P/T	P/T (Pan/Tilt) panel provides a unique method for controlling the Pan and Tilt attributes of a fixture.
Color	Using the Color panel, you can choose colors from several different types of palettes. You can also choose color based on Lee, Gam or Rosco gel numbers.
Direct Access	Direct Access replicates the popup window that appears when you double-click an attribute button. Here you can easily select gobos, colors, strobe rates, etc. from a convenient graphical list.
Scope	The scope shows a graphical representation of the current state of a selected fixture attribute. When Pan or Tilt is selected and "PT Combine" is enabled, the Pan and Tilt attributes will appear here as X and Y values. This can be helpful when programming effects.
Linking	The Linking panel provides convenient access to attributes' FX Link states. FX Linking is discussed here .

P/T

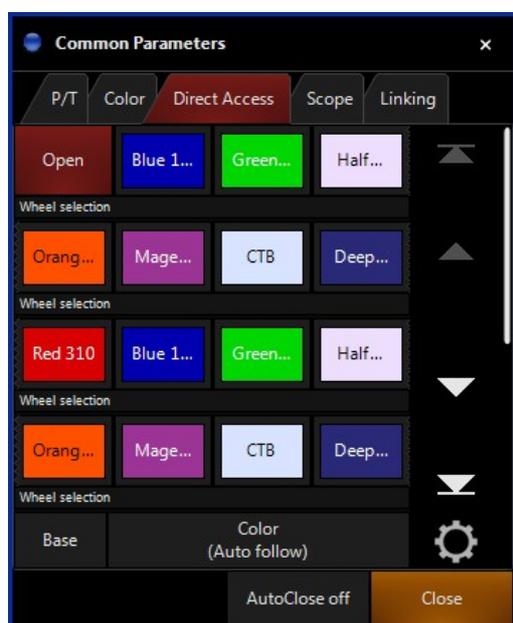


Color

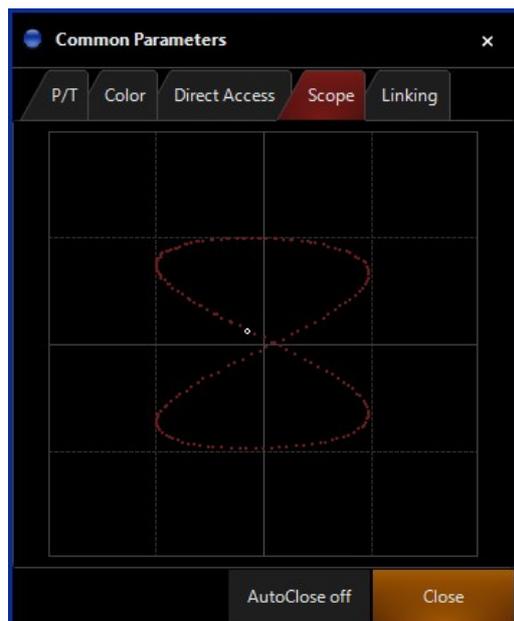


Direct Access

Direct access shows the gradients or slots of whatever parameter is currently under wheel selection. So in the example below, it is displaying the gradients for Cyan. To display all the information for a specific parameter, simply push the key above the trackbelt or on the M1/M2GO/M2PC consoles press down the encoder wheel.



Scope



Linking

See [FX Linking Section](#)



Fixture Control Commands

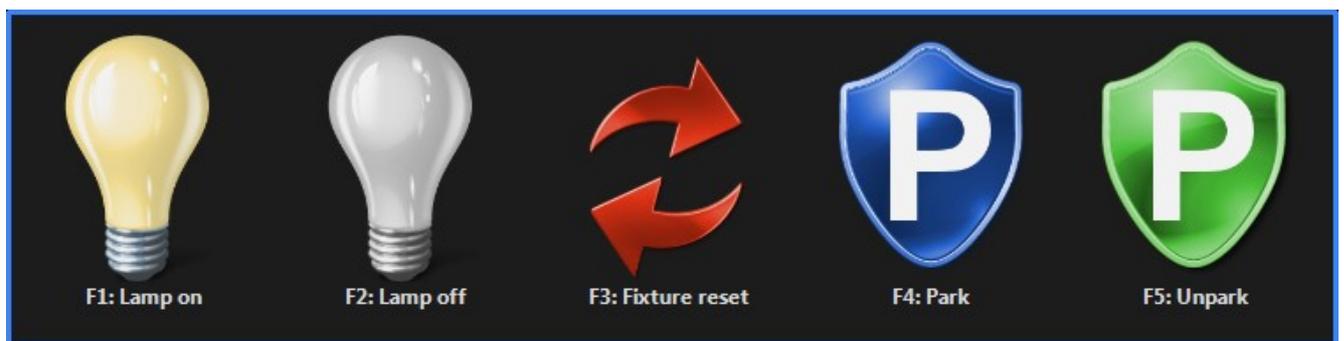
Fixture commands such as Lamp ON, Lamp OFF, Reset, Park and Unpark can be accessed quickly by holding down the "Menu" key on the console front panel.

To access available fixture commands:

1. Select the desired fixtures.
2. Hold down the **Menu** key for a few seconds.
3. Select "Control Commands" from the popup box.



4. Select the desired command from the options displayed.



Note: When using the Lamp ON and OFF commands, the console will "stagger" DMX output randomly so that the command is not received by all the fixtures simultaneously.

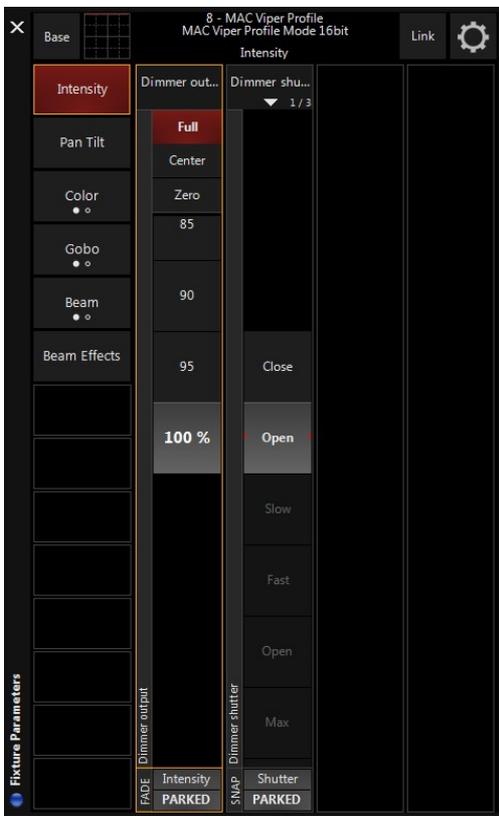
Park

Fixtures can be "Parked" at their current output via the fixture commands window.

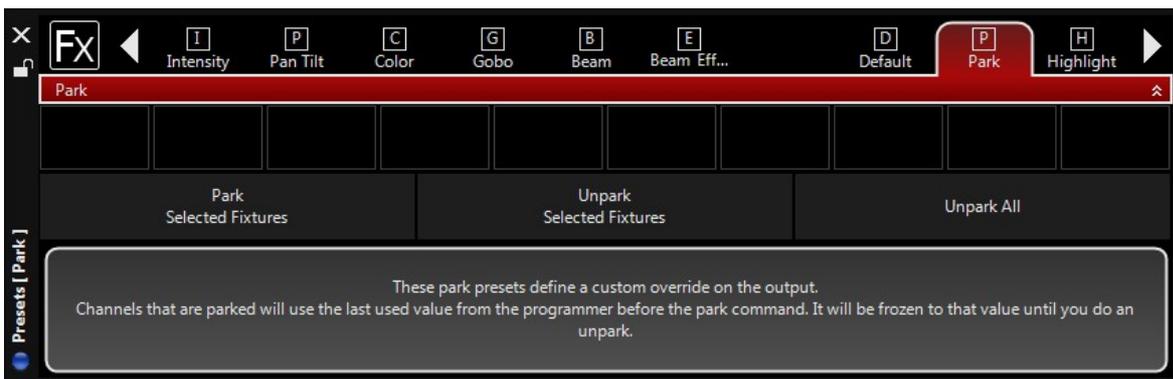
To access available Park commands:

1. Select the fixtures you wish to Park.
2. Assign values.
3. Hold the MENU key
4. Select F1: Control Commands
5. Hit F4: Park.

The fixture(s) are now parked at the values you assigned. Fixture parameters can still be recorded into cues as normal but the values will not be output. Parked fixtures will display in Orange in the parameters window as shown below.



Park Commands can also be accessed through a special Park Preset window shown below.



Groups

Groups allow you to select multiple fixtures with a single button or keypad entry. The fixtures needn't be of the same type or within any specific numeric range.

The order in which the fixtures are entered is stored with the group. In other words, you can store one group with your MAC Vipers sorted 1-24 and a second group that has them sorted as 24-1.

You can also define a selection mask when recording a group. This allows for the rapid selection of subsets of the group, for example, every 3rd fixture, fixtures in blocks of 4, etc., using the Last / Next hard buttons. For more information on storing selection masks, see [Storing Fixture Selection Masks](#).

The M-Series is capable of managing thousands of groups. To scroll through Group pages, use the arrow buttons or, if available, the track belt to the right of the touch screen.

Recording Groups

Groups are recorded and stored on the Fixture Groups screen.

1	MAC VIPER	2	MAC AURA BEAM	3	MAC 101	4	FOH	5	ACL
6	SCREEN	7	ALL MOVING	8	VIPER MIRROR ORDER	9	AURA MIRROR ORDER	10	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	

To record a group, select fixtures as described earlier. Once selected, press **Record** and then press the desired group button on the Fixture Groups screen. Pull out the keyboard, type in a label, press **Enter**, and it's done. Another way to do it is, select some fixtures and then using the keypad enter **Record Group XX** [group label] **Enter**.

To label or re-label a group after it's been created, just select it, give it a name and press **Enter**. **Note:** The name will appear in the command line as part of any of these commands.

Using the Grouping Tools Screen

The Grouping Tools screen is a powerful tool that allows for the easy division of selected fixtures into various subsets. It is very useful when creating fixture groups. When combined with the "Next/Last" buttons, rapid manipulation of selected fixtures becomes possible. The Grouping Tools screen is shown below. You can find this screen by selecting the "Groups Presets" view button (view 1) over the touch screen among other places.



The Grouping Tools Screen

Off	Pressing this button will display a drop down menu with the available mask options (see "Mask Options" below).
Revert To Selection	If you have made changes in the fixture order, pressing this button on the Selected Fixtures screen will revert the selected fixtures to their original selection order. Note that this does not necessarily mean that they will be in numerical order. If you selected fixtures 24 through 1 and then made changes to that order, pressing "Revert to selection" will return them to 24 through 1 again.
Invert Selection	This soft button is the equivalent to the "/" (slash) Enter command. When pressed, those fixtures in the Programmer that are selected will become deselected and vice versa.
Invert Mask	This feature works in much the same way "Invert selection" works. When pressed, all masked fixtures become unmasked and vice versa. For details see "Mask Options" below .
Random	The order of the selected fixtures in the Programmer can be randomized by pressing the "R a n d o m" soft button on the Selected Fixture list.
Reverse	Similar to randomizing the order of the fixture selection, you can reverse the order by pressing the "R e v e r s e" soft button. This will flip the current selection order regardless of whether fixtures are selected or deselected. "Reverse" can be used in conjunction with "R a n d o m."
Sort	The "Sort" soft button will sort any selected fixtures by their fixture number from lowest to highest.

Mask Options

At the top of the Grouping Tools screen is a button labeled "Off." By pressing this button, you can choose the type of selection mask you would like to apply to the current selection. To the right of this button is the number counter and the decrement / increment buttons. The second mask is not available.

Clicking the "Off" button in the Grouping Tools Screen will display the following menu:



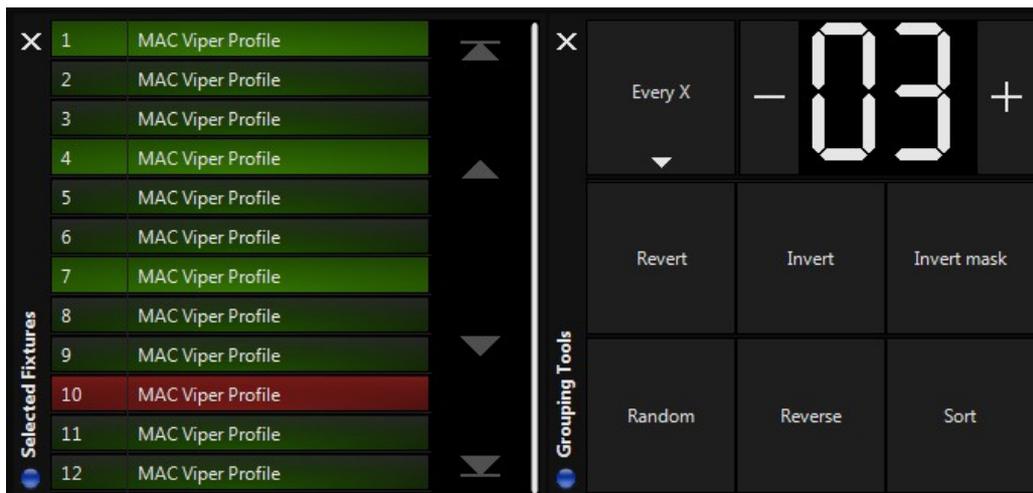
The Mask Options Menu

Off

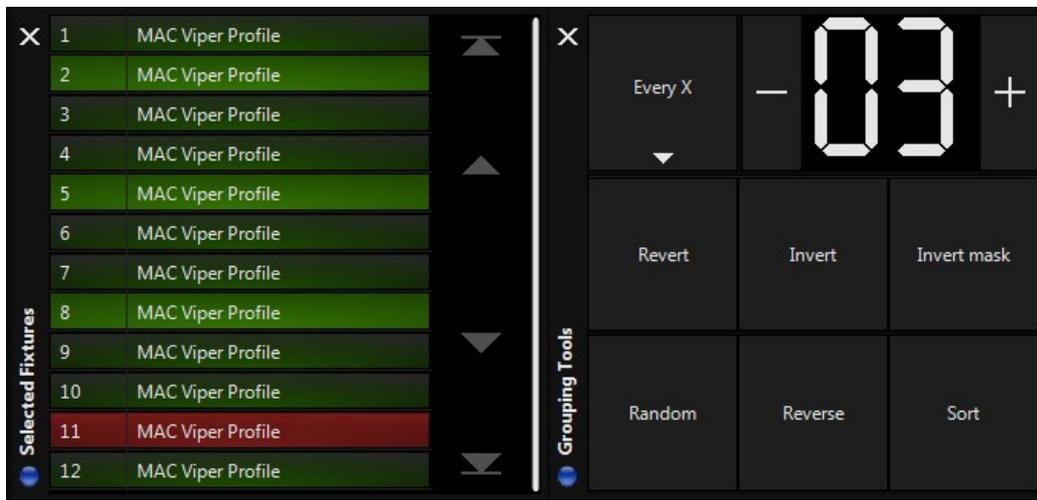
This option removes all masks.

Every X

The "Every X" option selects every "xth" fixture, where "x" is the number in the counter. For example, if the number is 3, then every third fixture will be selected.

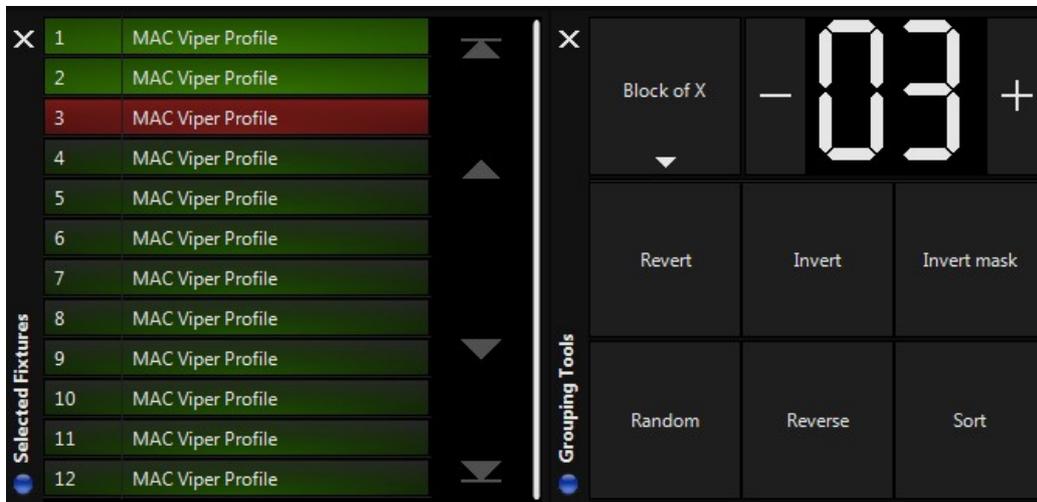


Pressing the "Next" button (near the trackball) advances to the next set of 3 fixtures.



Block of X

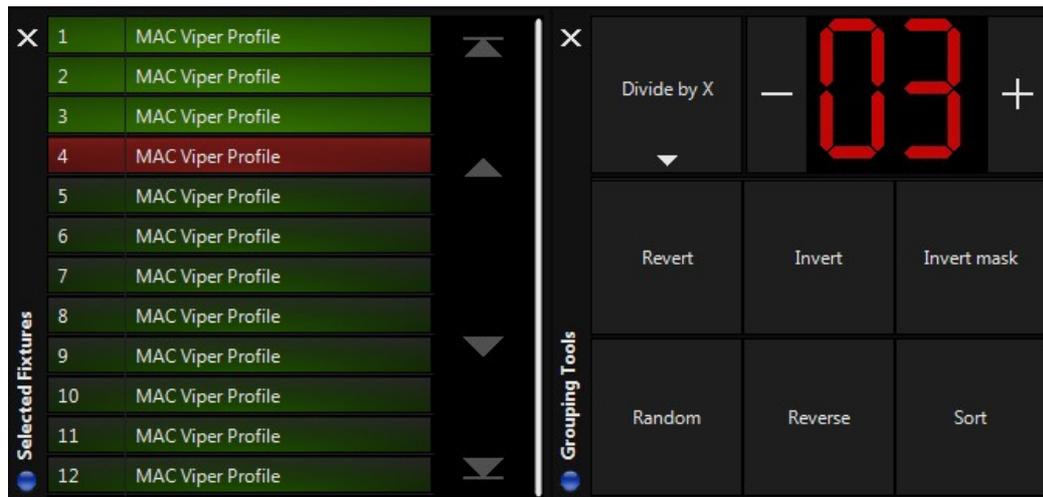
The "Block of X" option selects the first "x" fixtures, where "x" is the number in the counter. For example, if the number is 3 then the first 3 fixtures will be selected.



Pressing "Next" will advance to the next 3 fixtures and pressing "Last" will move to the previous 3 fixtures.

Divide by X

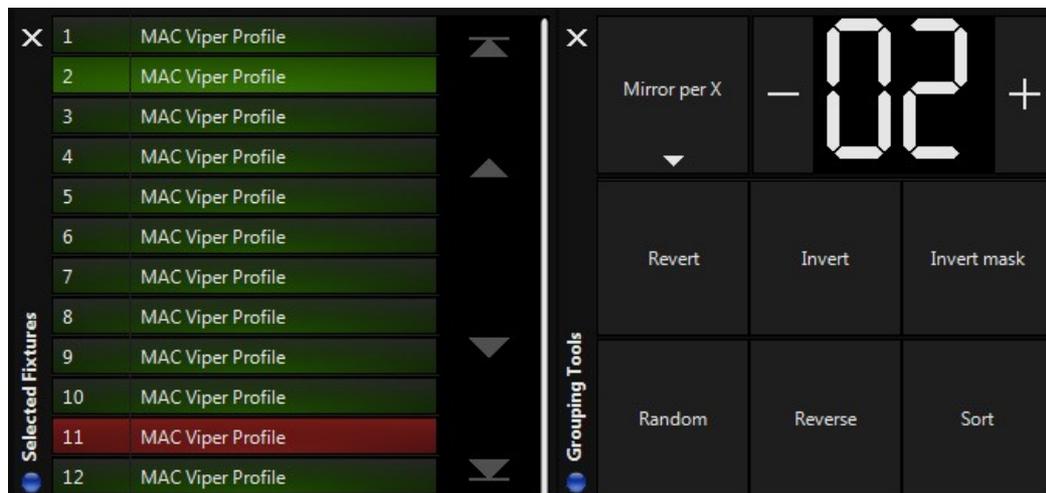
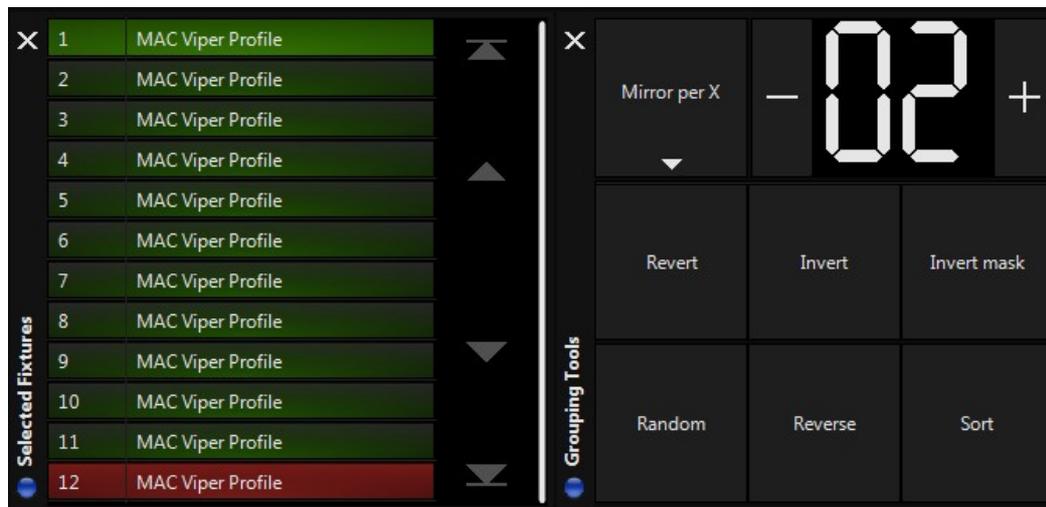
The "Divide by X" option divides the fixtures into "x" equal blocks. For example, if the counter is set to 3, then there will be 3 blocks of 4 and the first 4 fixtures will be selected as illustrated below.



Pressing "Next" will advance to the next block; pressing "Last" will move to the previous one.

Mirror per X

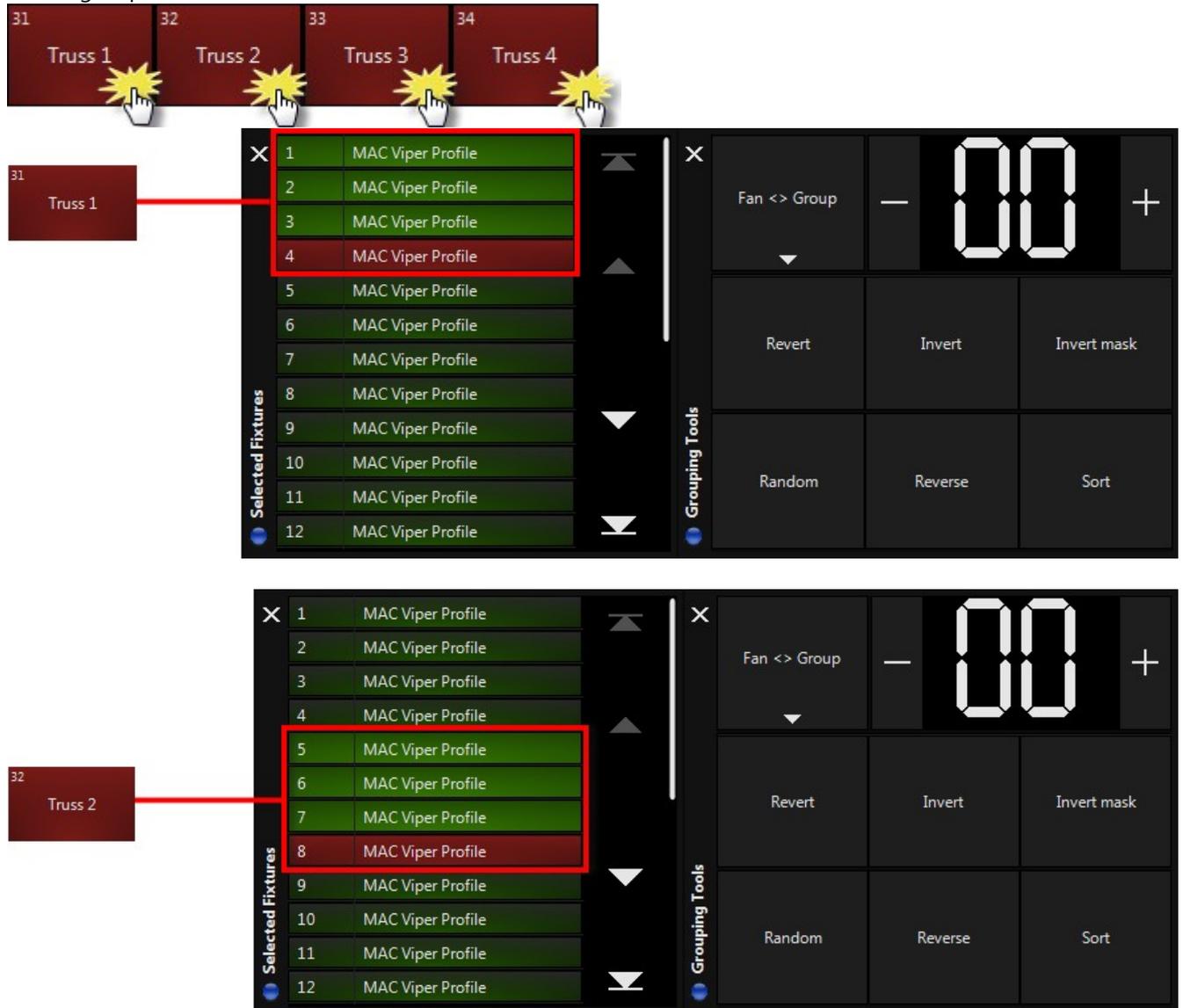
The "Mirror per X" option selects X number of fixtures, half from the top of the selection and half from the bottom of the selection. For example, if the counter is set to 2, the first selected fixture and the last selected fixture will be selected. When pressing "Next" the second selected fixture and the second from last fixture will be selected. Subsequent next commands will select further inward.



TIP: Note that the Mirror per X option works best when the number of fixtures in the selection is divisible by the number that the counter is set to. For instance, 12 fixtures work best with a counter setting of 2, 3, 4 and 6.

Group

The "Group" option divides the fixtures into the fixture groups as they were selected originally. For instance, if you choose groups 1, 2, 3 and 4 and set the fixture selection mask to "Group," pressing "Next" will cycle through the fixtures as whole groups. The first press will select group 1; the second, group 2; and the third, group 3; and the fourth, group 4.



Use the "Next" and "Last" keys to advance through the groups selected.

Invert Active Mask

This feature works in much the same way "Invert selection" works in the Selected Fixture window. When pressed, all masked fixtures become unmasked and vice versa.

As with the other masking tools, pressing "Next" and "Last" will advance through the selected fixtures.

Fan Masks

Deceptively powerful, fan masks act like normal masks with one important difference: they are intended to be used with the fanning tools. Because of this, they can be used to rapidly develop pleasing focuses. For instance, given a group of 12 fixtures and a setting of Fan <> Divide by 4, when the fanning tools are used, the fixtures will fan like 4 single fixtures rather than 12. Illustrated below:



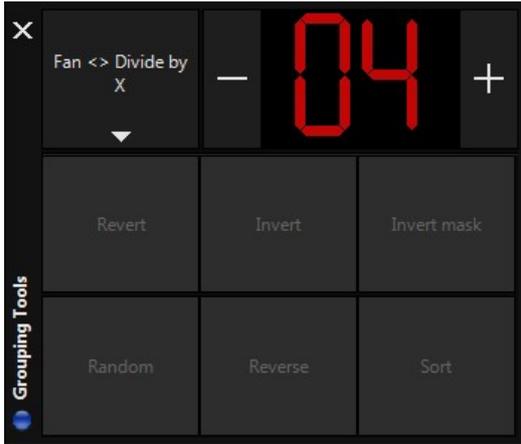
Mac 101s with no fanning applied



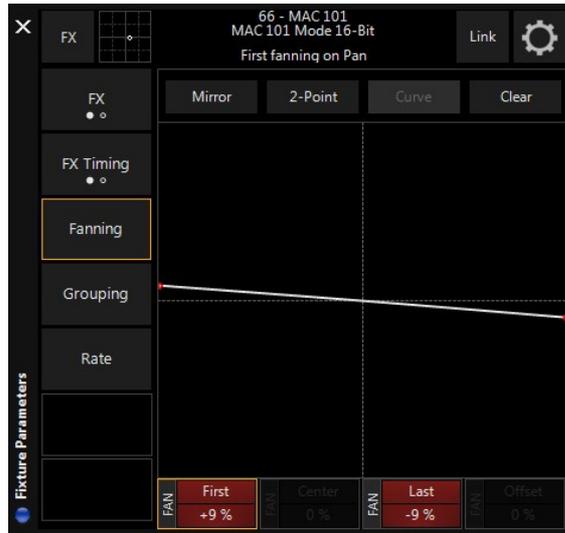
Mac 101s Fan on Pan with no Fan Mask



Mac 101s Fanned using the Fan <> Divide by 4 Mask



Fan <> Divide by 4



Fan <> Every X

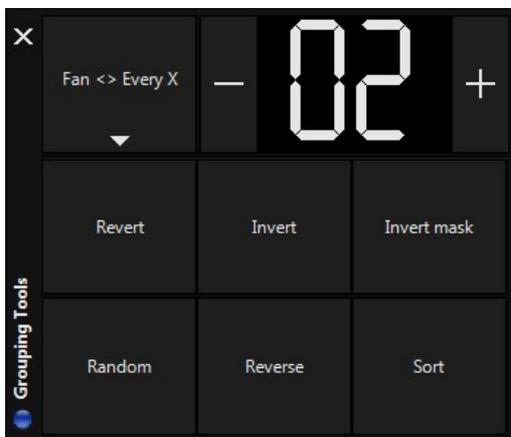
As described earlier, the “Every X” option selects every “Xth” fixture, where “X” is the number in the counter. For example, if the number is 4, then every fourth fixture will be selected. However, since this is a fan mask, it is intended to be used with the attribute fanning tools.



Mac 101s with no fanning applied



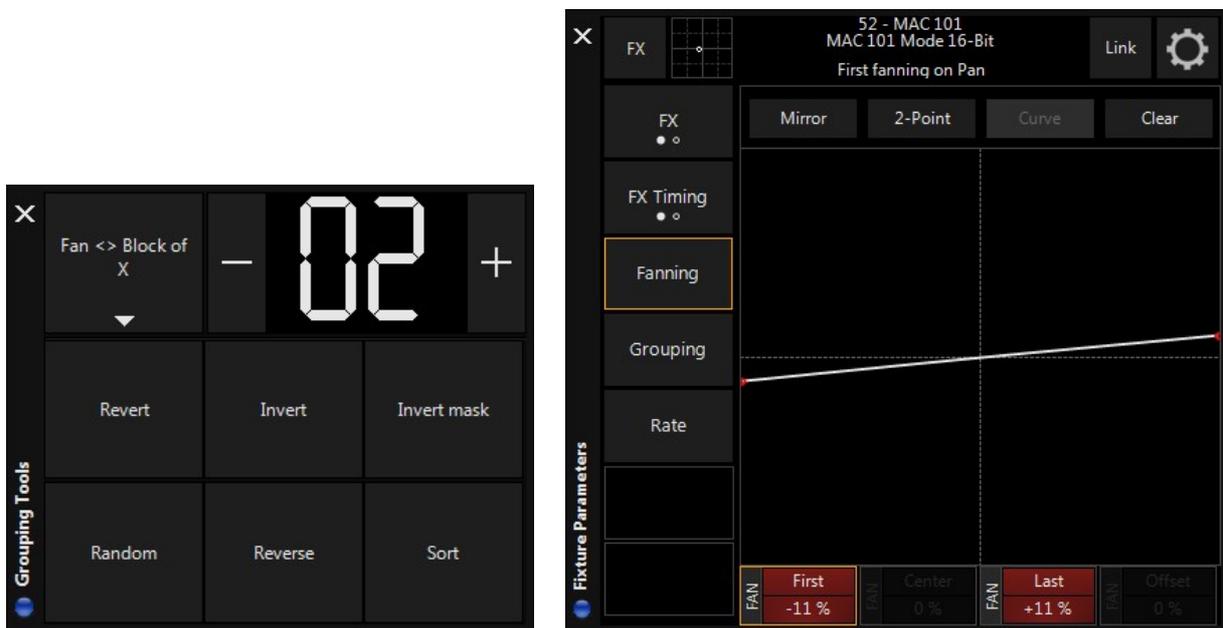
Mac 101s Fan <> Every 2



Fan <> Block of X



Mac 101s Fan <> Block of 2



The screenshot shows the software interface for the 'Fan <> Block of X' mask. On the left, a 'Grouping Tools' panel includes buttons for 'Revert', 'Invert', 'Invert mask', 'Random', 'Reverse', and 'Sort'. The main display shows a digital readout of '02' with minus and plus buttons. On the right, the 'Fixture Parameters' panel is visible, showing a graph for 'Fanning' and a table of parameters:

Parameter	Value
FAN First	-11 %
FAN Center	0 %
FAN Last	+11 %
FAN Offset	0 %

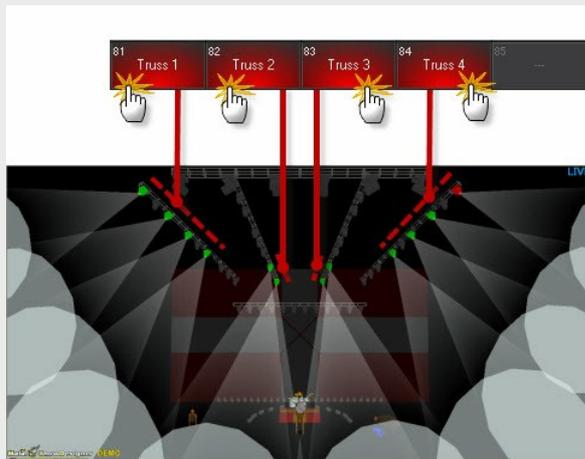
Note that it is not necessary to use the next/last buttons when using the fan masks; though the first group is highlighted and appears to be selected, all fixtures in the original selection will respond to manual control.

An especially useful feature is the **Fan <> by Group** mask. Perhaps you have several trusses with different amounts of fixtures and would like them to fan as trusses rather than individual fixtures...

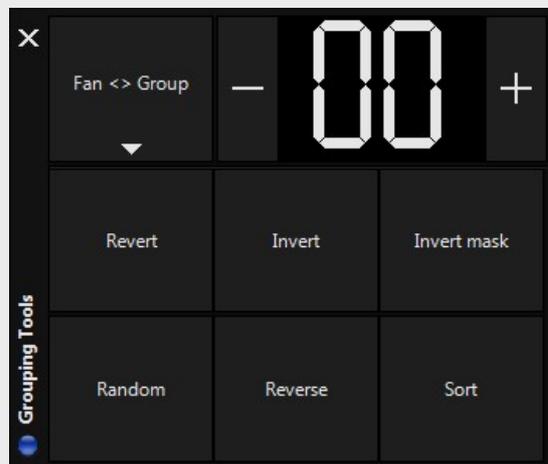
Example - Fan <> by Group

Assume for a moment that you have 4 trusses. The fixtures from each truss are stored in corresponding groups as follows:

Group	Number of Fixtures
Truss 1	4 Fixtures
Truss 2	2 Fixtures
Truss 3	2 Fixtures
Truss 4	4 Fixtures



Select the groups in order from left to right: 1, 2, 3, 4...



Now select the Fan <> Group option

Example (continued) - Fan <> by Group

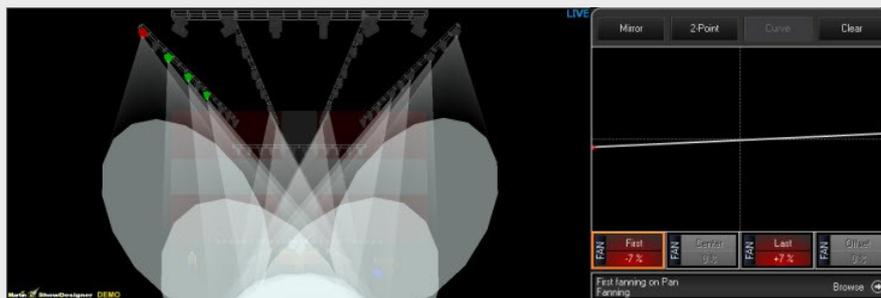
Using the fanning tools, fan the pan attribute and observe the results:



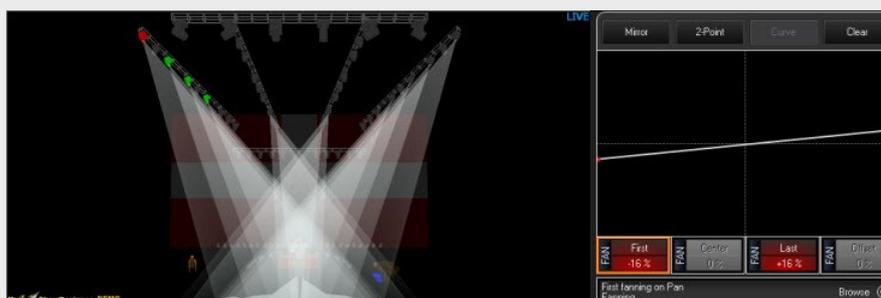
No fan applied



Here we see +11% fan applied to the pan attribute.



-7% fan applied to the pan attribute



-16% fan applied to the pan attribute

As you can see, each truss group acts as one fixture; all fixtures in the group are adjusted in unison.

Storing Fixture Selection Masks

The real power of fixture selection masks becomes evident when you combine them with the ability to record as groups. There are 2 types of stored selection masks, FastGroup and FastSelect. The FastGroups can be *applied to the existing fixture selection* and the FastSelect is *stored along with a selection*. Let's examine them both in more detail.

FastGroup

When starting a new showfile a the groups screen is automatically populated with a series of special groups called FastGroups. Note that the soft button for this special group is colored differently from a standard group; it is blue. This indicates that it is a FastGroup fixture selection mask.

FastGroups are essentially shortcuts to apply pre-defined fixture selection masks to the current selection.

To apply a FastGroup:

1. Select some fixtures using any of the fixture selection methods described in this manual. For our example we will select fixtures 25 Thru 36.
2. Click or touch the desired FastGroup fixture selection mask on the Fixture Groups screen.
3. Interact with the masked selection as you would normally, using the Next/Last buttons or the attribute fanning controls. (For more info on fixture selection masks, [see the chapter on "Using the Grouping Tools Screen"](#))

To record a custom FastGroup:

1. Ensure that no fixtures are selected by clearing the programmer or pressing **0 Enter**.
2. In the Grouping Tools screen, chose a grouping type and a value (if applicable).
3. Press **Record** and touch or click on an empty group on the Fixture Groups screen.
4. As with a standard group, type a name for the new group and press **Enter**.

FastSelect

A FastSelect is simply a FastGroup which has already been applied to a selection.

For instance, you could record a FastSelect of every other wash fixture. Once you have this stored, you can instantly recall this selection and interact with it using the Next/Last buttons.

To record a FastSelect:

1. Select some fixtures using any of the fixture selection methods described in this manual.
2. On the Grouping Tools Screen, choose a grouping type and value.
3. Press Record and touch or click on an empty group on the Fixture Groups screen.
4. As with a standard group, type a name for the new group and press **Enter**.

When recalled, the fixtures will be selected with the fixture selection mask applied. You can now interact with the fixtures using the Next/Last buttons or the attribute fanning controls.

Moving and Copying Groups

To Move or Copy an Individual Group

To move an individual group, you can use the "Move" button using the following syntax:

- **Move Group xx @ yy**

Alternatively, you can press the Move button, then press the desired group on the touch screen and then press its new location. This allows you to arrange the groups in a manner that is logical

Similarly, if you wish to copy a group, use the "Copy" button and the following command line syntax:

- **Copy Group xx @ yy**

Or you can press the Copy button, then press the desired group on the touch screen and then press the location for the copy. By default, the copy will have the same name as the original.

To Move or Copy a Range of Groups

It is also possible to move or copy a number of different groups simultaneously. You can not use the touch screen for this operation; you must use the keypad. The following is an example of the syntax utilized in this command:

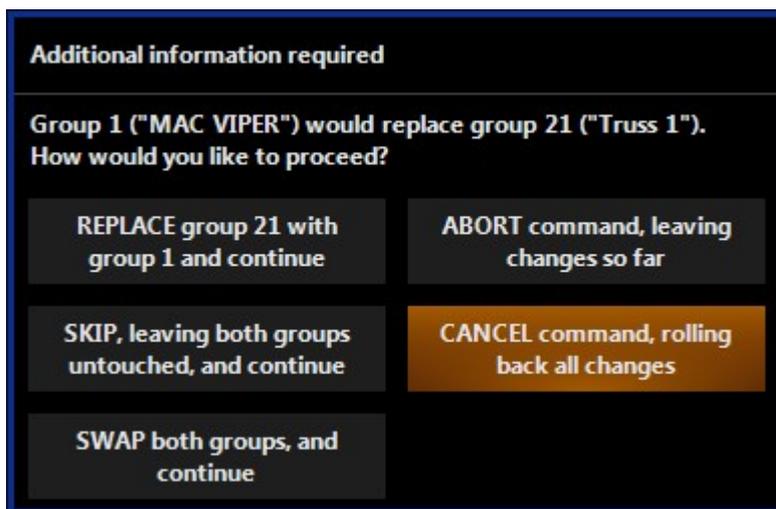
- **Move Group 5 Thru 7 @ 26 Enter**

The following screen is the result of that move:

1	MAC VIPER	2	MAC AURA BEAM	3	MAC 101	4	FOH	5		6		7		8	VIPER MIRROR ORDER	9	AURA MIRROR ORDER	10	
11		12		13		14		15		16		17		18		19		20	
21	Truss 1	22	Truss 2	23	Truss 3	24	Truss 4	25		26	ACL	27	SCREEN	28	ALL MOVING	29		30	
31		32		33		34		35		36		37		38		39		40	

Note that the ACL Group, formerly group 5 has moved to group 26 and the next two groups (Screen & All Moving Lights) have moved in relation to the ACL group.

In the event that one or more of the groups to be moved lands on an already recorded group, a pop up window will appear offering five options. For this example, we will be using group 26 thru 28 again with the following syntax - MOVE GROUP 26 THRU 28 @ 22 ENTER. This will present the following popup.



We are presented with 5 options:

- Replace - Choosing "Replace", the console will ask three times (for each individual group) with the same options, if "Replace" is chosen every time, groups 22 THRU 24 will be completely Replaced with Groups 26 THRU 28.

1	MAC VIPER	2	MAC AURA BEAM	3	MAC 101	4	FOH	5		6		7		8	VIPER MIRROR ORDER	9	AURA MIRROR ORDER	10	
11		12		13		14		15		16		17		18		19		20	
21	Truss 1	22	ACL	23	SCREEN	24	ALL MOVING	25		26		27		28		29		30	
31		32		33		34		35		36		37		38		39		40	

- Skip - Choosing "Skip" will have the console skip groups that conflict with each other. In this example the following syntax was used - MOVE GROUP 26 THRU 28 @ 4 ENTER. Selecting "Skip" told the console to not move Group 26, but Group 27 & 28 were moved to Group 5 & 6 respectively.

1	MAC VIPER	2	MAC AURA BEAM	3	MAC 101	4	FOH	5	SCREEN	6	ALL MOVING	7		8	VIPER MIRROR ORDER	9	AURA MIRROR ORDER	10	
11		12		13		14		15		16		17		18		19		20	
21	Truss 1	22	Truss 2	23	Truss 3	24	Truss 4	25		26	ACL	27		28		29		30	
31		32		33		34		35		36		37		38		39		40	

- Swap - Choosing "Swap" will simply tell the console to swap the groups around. In this example the following syntax was used - MOVE GROUP 1 @ 4 ENTER. Not that Group 1 (Mac Vipers is now on Group 4 and former Group 4 (FOH) is now at Group 1.

1	MAC VIPER	2	MAC AURA BEAM	3	MAC 101	4	FOH	5		6		7		8	VIPER MIRROR ORDER	9	AURA MIRROR ORDER	10	
11		12		13		14		15		16		17		18		19		20	
21	Truss 1	22	Truss 2	23	Truss 3	24	Truss 4	25		26	ACL	27	SCREEN	28	ALL MOVING	29		30	
31		32		33		34		35		36		37		38		39		40	

- Abort - Choosing "Abort" will allow the console to cancel some of the Move command but not all of it. In this example the following syntax was used - MOVE GROUP 26 THRU 28 @ 7 ENTER. Group 26 has Moved to Group 7 and the popup reappeared asking how to proceed with Group 27 & 28. Selecting "Abort" left them in their original places.

1	MAC VIPER	2	MAC AURA BEAM	3	MAC 101	4	FOH	5		6		7	ACL	8	VIPER MIRROR ORDER	9	AURA MIRROR ORDER	10	
11		12		13		14		15		16		17		18		19		20	
21	Truss 1	22	Truss 2	23	Truss 3	24	Truss 4	25		26		27	SCREEN	28	ALL MOVING	29		30	
31		32		33		34		35		36		37		38		39		40	

- Cancel - Cancel is similar to abort, except the entire command would be ignored. The entire action, whether or not there is an empty group in the target range is canceled. Note - If all of the target groups

are empty, no options will appear. Move and Copy commands cannot be undone.

When using the "Copy" Command with a range of groups, the syntax remains the same as when using "Move". The only different is there is no "Swap" function.

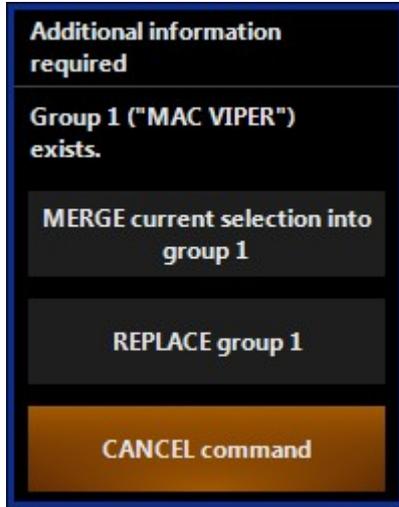
Editing Groups

The M-Series provides two ways to edit a group.

- You can add or *merge* fixtures into the group, or
- You can replace the fixtures in the group with currently selected fixtures.

To Add or Replace Fixtures in a Group

1. Select the desired fixture(s) to put in the group.
2. Press "Record" and the button of the group to change. The following pop-up window appears:



3. To **add** the selected fixtures to the group, select "**MERGE current selection...**", or
4. To **replace** the fixtures currently in the group with the selected fixtures, select "**REPLACE...**".

To Remove a Fixture from a Group

1. Select the desired group to load it into the Programmer.
2. Press "-" (minus) **xx** where "**xx**" is the fixture number(s) you wish removed from the group.
3. Press "Record" and the group number of the original group.
4. Press "**REPLACE...**"

Deleting a Group

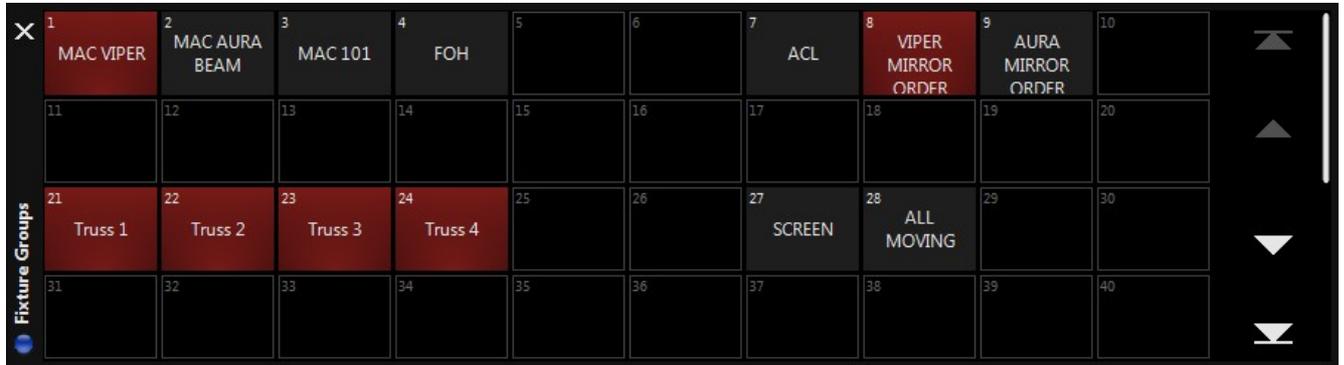
To delete a group, press the "Delete" hard button, the desired group, and then "Enter." Alternatively, you can press and hold the "Delete" button and then select a group using the touch screen.

Once all Groups to be deleted are touched, let go of "Delete" and they will be removed from the grid.

Selecting groups

When a group is selected, it is highlighted in red in the group screen. Further, any group that is a subset of that group is also highlighted in red. For example, if you were to select the group "Mac Viper" the groups "Truss 1", "Truss 2", "Truss 3" and "Truss 4" would also be highlighted.

The selection of groups is a toggle based process. That is to say that if a group is not selected, pressing its button will select it but if it is already selected, pressing the button will deselect it. Again, if you were to press "All Moving," all of the moving light group buttons would highlight. If you were to then press "Mac 101," then the "Mac Aura Beam," "Mac Viper" (and its subsets) would still be highlighted, but the MAC 101s and Mac Aura Beams would no longer be selected.

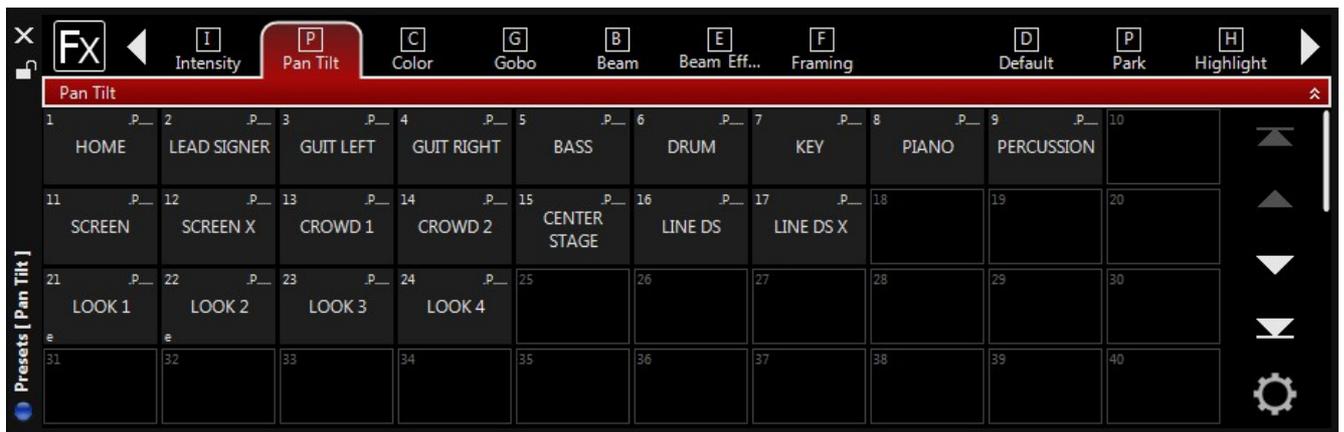


Presets

Presets provide a method for rapidly recalling fixture attribute settings and are the building blocks for cues because they simplify cue maintenance tremendously. If a preset is recorded into a cue or several cues and the preset is later edited, all cues using that preset will instantly be updated with the new information.

If a fixture is not recorded into a preset, it will not be affected by that preset. If, for example, you create color preset 1 using fixtures 1-11, only fixtures 1-11 would be modified by that preset. The color of any other fixtures would remain unchanged.

The Preset Screen



Activate the preset screen by pressing the view button directly over the “Programmer Preset” label on the playback touch screen. At the top of the preset screen are 10 buttons with the following functions.

- FX** Page for effect macros. See "[Effect Macros.](#)"
- Intensity** Page for intensity, shutter, focus, etc. presets
- Pan Tilt** Page for pan/tilt presets
- Color** Page for color related presets^A
- Gobo** Page for gobo related presets
- Beam** Page for presets iris, zoom, and prism presets
- Beam Effects** Page for speed channel presets
- Default** Page for custom default values.
- Highlight** Page for custom highlight/lowlight schemes
- Auto Follow** Toggle button. When enabled (red), the preset pages automatically change to match the attribute group selected by the attribute LCD buttons.
- Apply on Empty** Toggle button. When enabled (red), selecting a preset loads all its attributes into the Programmer.

Preset Content Coding

A preset uses a combination of colors and letters to indicate its contents. The type of information is indicated by displaying the first letter of each attribute group recorded in the preset (“D” for DimFocus, “P” for Pan Tilt, etc.). Take a closer look at the following example.



The letters “P” and “B” indicate that there is both Pan Tilt and Beam information in the preset. You’ll also note that the field is red. This indicates that this is the last selected/played preset on the page. The different shades of gray indicate whether or not a selected fixture is contained within a preset. Presets displayed in dark gray contain at least one of the currently selected fixtures, light gray presets contain none.

Selecting Presets

The usual method of selecting a preset is touching it on the preset screen after selecting fixtures. If no fixtures are selected, the Programmer is empty, and "Apply on Empty" is enabled, selecting a preset will load the preset into the Programmer.

So for example, if "Apply on Empty" is enabled and there are no fixtures selected, touching the "Red" Color preset will put all fixtures used in the palette to red in the programmer.

You can also just enter the preset number on the command line after you have selected your fixtures. This can be done with the following syntax:

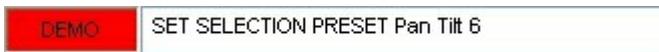
```
(Select fixtures) @ [Attribute LCD Button] [Preset Number] Enter
```

For example:

```
1 Thru 24 @ [Pan Tilt] 6 Enter
```

would send fixtures 1 through 24 to pan tilt preset 6.

When you have done this, the command line will display the following:



```
DEMO SET SELECTION PRESET Pan Tilt 6
```

Quick Tip: Entering 0 as the preset number loads the default values for that attribute group.

Recording Presets

The basic procedure for recording a preset is to clear the Programmer, select fixtures, set their levels, bring up the presets page *that matches the desired preset attribute* (more about this in a moment), press **Record**, and select a position on the presets page.

For example, select fixture 31 Mac Aura from the tutorial, and focus it on Center Stage. Repeat this process with the other Mac Aura, fixtures 32 through 42. With fixtures 31 through 42 focussed at Center Stage, selected in the Programmer, and "Pan Tilt" as the selected attribute group in the preset window press "Record" and the desired preset on the touch screen.

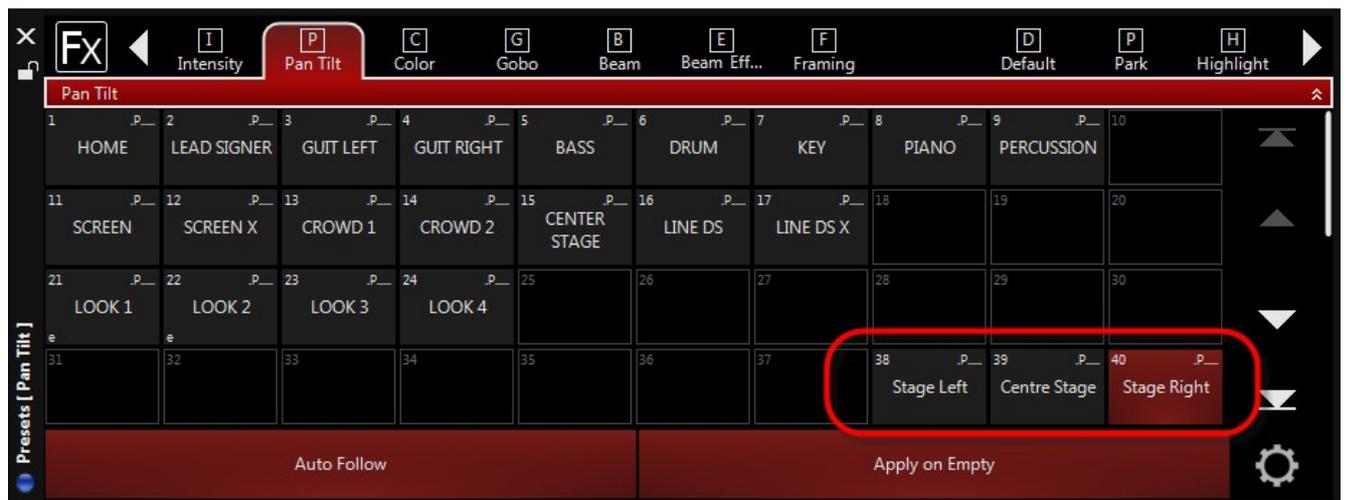
As with groups, if you wish to label the preset, press **Record**, the desired preset button and then enter text using the keyboard and press **Enter**. You can also label a preset after it's been created by simply pressing the desired preset and entering the text with the keyboard.

Now this is important: presets usually only contain levels from a single attribute group!

By default, when you record, say, a preset on the color presets page, only color attributes are recorded; all other attributes types are filtered out. Lets say you take your Mac Viper Profiles and focus them on the drum riser, bring in the Dots gobo and a blue color filter, set intensity to full, get everything sharply focused, throw in a random strobe, and then save all this as a preset on the gobo preset page. Guess what? The only thing saved in the preset is the gobo level!

Don't dismay. You can override the default recording behavior using the "Record Cue Options" window to select multiple attribute types when recording presets. So yes, it can be done! To find out how, see ["The Record Options Window"](#).

Select the "Pan Tilt" attribute group again and record presets for the guitar and the drummer. When you're done, the "Pan Tilt" page should look something like this:



Presets and Timing

Aside from attribute level information, it is also possible to record attribute timing information into a preset. This is done in the same manner as recording level information. That is to say, if the information is in the Programmer, it can be recorded into the preset. For information on setting attribute timing values, please refer to ["Setting an Individual Attribute Fade Time"](#) and the sections following it for setting other timing values.

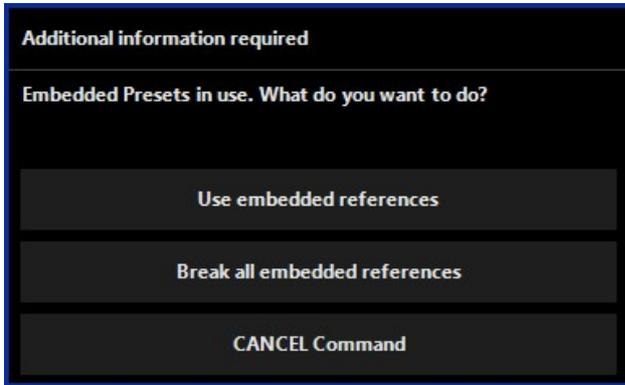
Expert Tip! Don't overlook this extremely powerful feature of the M-Series! Even the most complex fanned timings can be stored as presets and recalled instantly during programming sessions.

Presets and Effects

As with presets and timing, effect information can also be recorded into a preset. For information on working with effects, [please see the chapter on effects](#). Note that when recording the effect into the preset, you will need to be certain that the effects filter is selected in the "Record Options" pop-up window.

Embedded Presets

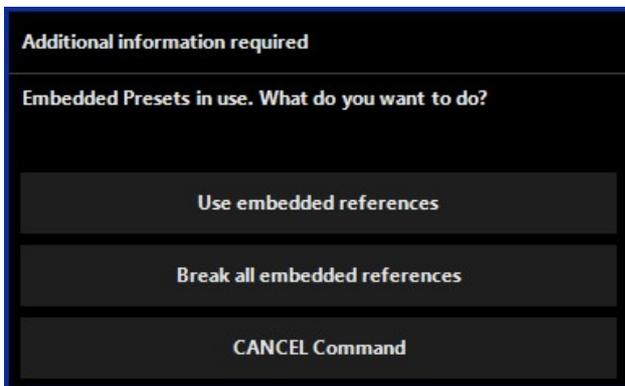
It is possible to make a preset that is composed of other presets. These are called "embedded presets" as one or more presets are embedded in another. For example, you could have four fixtures, each with its own pan/tilt preset focused on the drum riser. You could then create a fifth preset that contains each of the other four presets. When you go to record this fifth preset, you will see the following window:



You are presented with three options:

Use embedded references	If this is selected, a relationship is set up between the first four presets and the fifth which contains them.
Break all embedded references	If this is selected, no relationship is set up and any that were previously created are removed.
Cancel command	The record command is ignored.

Using our example of four pan/tilt presets on the drum riser being combined into an embedded fifth preset, let us assume that the drum riser is moved after we have created our fifth preset. We can update all five of the presets, while recording only the fifth. To do this, bring up your fifth preset then make the required pan/tilt adjustments. When finished press "Record" "Preset 5" and "Merge." (Note that a "Record" "Replace" command will always break all embedded references.) When you have done this, you will be presented with the following choices



Update Source Presets	If this option is selected, not only will preset five be updated, but the presets embedded within it (1 through 4) will also be updated.
Break modified embedded references	Using this option will record the changes to preset 5, but presets one through four will remain at their original positions.
Cancel Command	The record command is ignored.

Similarly, if you were to make a change to preset one, you would be asked if you wanted to continue to use the embedded reference or if you wanted to break the embedded reference.

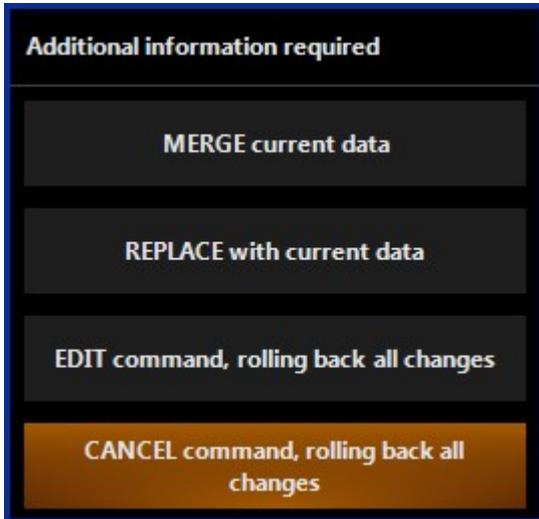
Editing Presets

As with editing groups, the M-Series provides two ways to edit a preset: merging and replacing.

To Add Fixtures to a Preset

1. Select and focus the desired fixtures.
2. Press "Record" and the button of the preset to which you wish to add fixtures.

The following pop-up menu will appear:

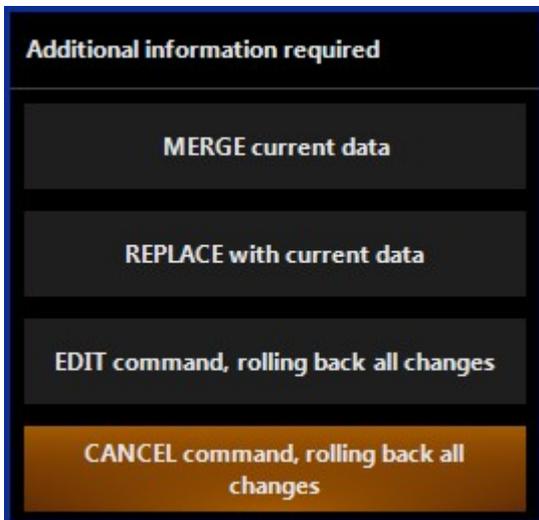


3. Select "Merge current data" and the appropriate fixture attributes will be added to the preset.

To Replace the Fixtures in an Existing Preset

1. Select and focus the desired fixtures.
2. Press "Record" and the button of the preset you wish to replace.

The following pop-up menu will appear:



3. Select "REPLACE with current data" and the appropriate fixture attributes will be recorded in the preset. The "CANCEL current command" button will abort the command and clear the command line. The "EDIT current command" button will abort the command but will leave the command line active so that you can edit it and then record.

Editing the Contents of a Preset

Aside from adding and deleting fixtures in an existing preset, you can also change, for example, the position of a pan/tilt preset by updating the contents of a preset. To edit the contents of a preset:

1. Press the **Edit** button
2. Press the soft button on the touch screen that corresponds to the preset you wish to edit
3. Press **Enter**. This will load the contents of that preset into the Programmer
4. Make the desired changes
5. Press **Update**. The changes will be recorded and the Programmer will be cleared.

When using the edit function to change the contents of a preset, it is important to realize that only those attributes originally recorded into that preset can be altered. It is not possible to add new attributes into a preset with this function.

Presets and the Update Function

By default, the Update function modifies the contents of a preset if you update a cue that uses that preset. To prevent this, the preset must be deselected before executing the update command. For more information, see ["Update and Presets"](#).

Deleting a Preset

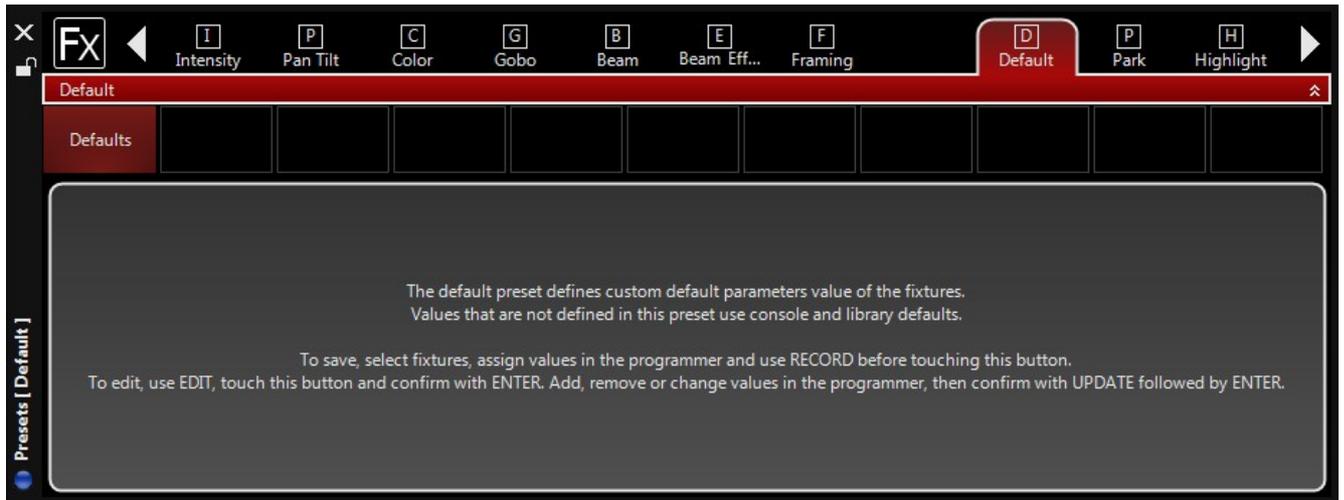
To delete a preset, press the "Delete" hard button, the desired preset, and then **Enter**. Alternatively, you can press and hold the "Delete" button and then select a preset using the touch screen.

Moving and Copying Presets

To move a preset from one location to the another, press **Move**, then press the desired preset and then press its new location.

Similarly, to copy a preset, press **Copy**, then press the desired preset and then press the location for the copy. By default, the copy will be named "Copy of (original preset name)."

Default Preset



Modifying Default Values

You can customize the default values for any fixture attribute by recording the desired levels to the “Defaults” preset on the Default preset page. (Changes to default values cannot be deleted or reset, but they can be re-recorded.)

Say, for example, that you would like to change the default value for the Mac Viper Profile CTC wheel to 100 percent because you simply can't live another day without its CTC filter. You could accomplish that as follows.

1. Clear the Programmer.
2. Select all Mac Viper Profile fixtures.
3. Press the “Color” attribute group LCD button.
4. Set the CTC filter to 100%.
5. Open the Presets screen.
6. Navigate to the Default preset page.
7. Press “Record”.
8. Press the “Defaults” preset button.
9. Press the “Merge” or “Replace” soft button when asked.

Editing Default Values

You can edit the Defaults preset just as you edit a normal preset.

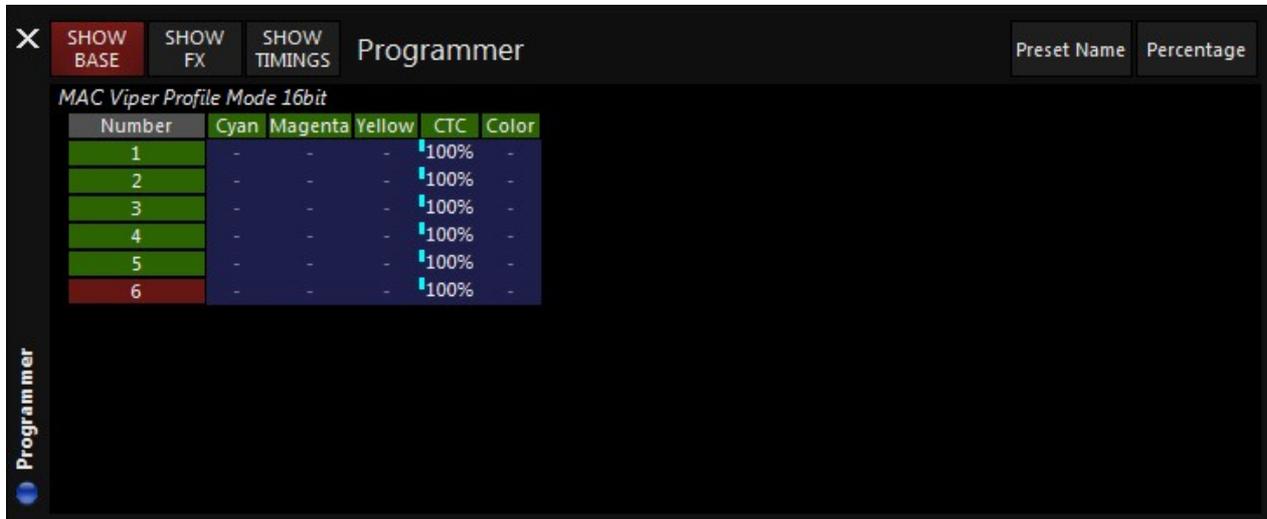
1. Clear the Programmer.
2. Open the Presets screen.
3. Navigate to the Default preset page.
4. Press “Edit”.
5. Press the “Defaults” preset button.
6. Add, remove or change values in the programmer.
7. Press “Update.”

Loading Default Values

TO LOAD THE DEFAULT VALUE FOR A SINGLE ATTRIBUTE

1. Clear the Programmer.
2. Select the fixtures or group to load.
3. Press the LCD button for the desired attribute group.
4. Press and hold the “Load” button.
5. Press the hard button over the track belt or press down the encoder wheel (M1, M2GO, M2PC) for the desired attribute, for example, CTC.
6. Release the “Load” button.

If you had actually changed the default value for the Mac Viper Profile CTC wheel to 100% as described above and used this procedure to load the default value into the Programmer, the screen would look as shown below.



TO LOAD THE DEFAULT VALUES FOR AN ATTRIBUTE GROUP

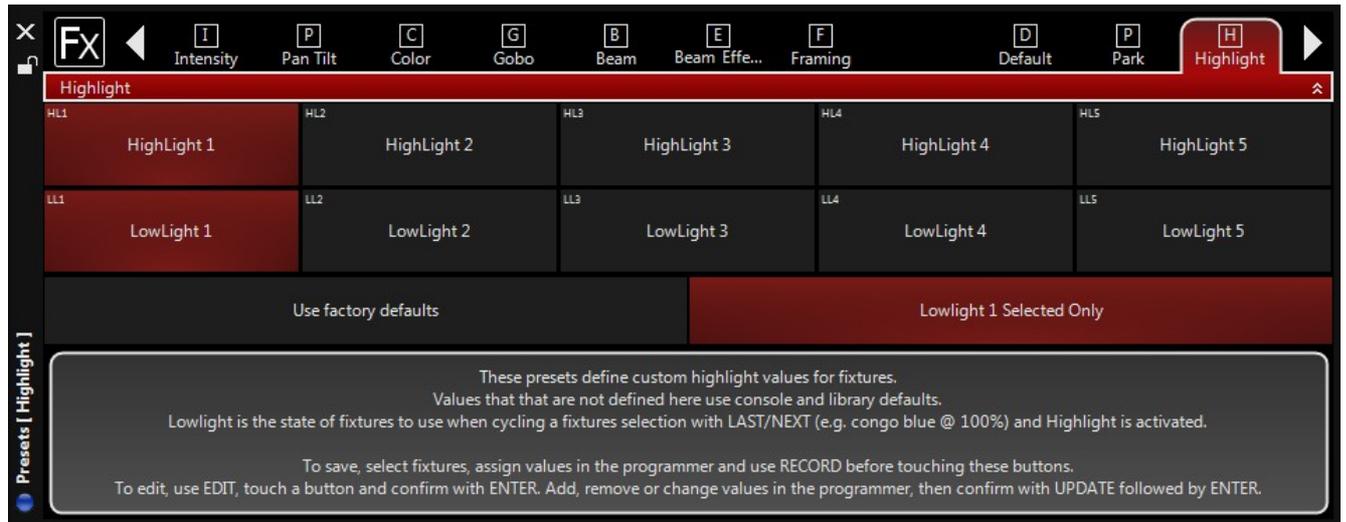
1. Clear the Programmer.
2. Select the fixtures or group to load.
3. Press and hold the "Load" button.
4. Press the LCD button for the desired attribute group.
5. Release the "Load" button.

Default values for an attribute type (pan/tilt, color, etc.) can also be loaded into the Programmer - without clearing it first - through the command line as described below, using "0" as the preset number. For example, the command @ **COLOR 0 ENTER** loads the default color attributes for the selected fixtures.

TO LOAD ALL DEFAULT VALUES FOR SELECTED FIXTURES

Selected fixtures (that are not under the control of a playback) can be loaded into the Programmer with all of their default attribute values by pressing **Load Load** or **Load Enter**.

Highlight Presets



Highlight/Lowlight Scheme

The default behavior of the highlight function is to force the selected fixture to open white at full intensity. If you have other fixtures at full, however, this may not be terribly helpful, and for pinpoint focusing, it helps to close the iris. The custom highlight/lowlight scheme allows you to define and select five sets of special presets that make the highlight function more powerful.

Both a highlight and a lowlight preset can be recorded to each Custom button. Then, when using the highlight function, the currently selected fixture is forced to the custom highlight preset. If the "Lowlight Selected Only" toggle button is enabled (red), selected fixtures are forced to the lowlight preset. Otherwise, all other fixtures (that were included when recording the preset) are forced to the lowlight preset values. If no lowlight preset is recorded, the default lowlight behavior is expressed.

RECORDING CUSTOM HIGHLIGHTS AND LOWLIGHTS

For example, lets create a custom highlight that closes the iris on your Mac Viper Profiles to aid in focusing. You would proceed as follows:

1. Select the group of all Mac Viper Profiles.
2. Use the attribute controls to close the iris to minimum..
3. Open the Presets screen.
4. Navigate to the Highlight preset page.
5. Press "Record".
6. Press one of the the "Highlight" soft buttons.

If you wanted to create a lowlight preset that sets intensity to 10%, the procedure would be similar.

SELECTING A CUSTOM HIGHLIGHT SCHEME

Custom highlight/lowlight schemes (or the default) are selected by pressing the desired soft button in the Presets > Highlight screen.

SELECTING THE DEFAULT HIGHLIGHT SCHEME

The default highlight scheme may be selected by pressing the "Use factory defaults" button so that it is enabled (red).

The Programmer

The Programmer screen displays information on the fixtures that are currently under your direct control. That is to say, it displays those fixtures that have been selected and manipulated, but not yet recorded into a group, preset or cue and then cleared. When a fixture is selected, it is automatically loaded into the Programmer. It is also possible to load portions of or entire cues, groups, and presets into the Programmer for editing. When you record or update a cue, group or preset, *only that information contained in the Programmer will be recorded or updated.*

The Programmer Screen



Fixture and Attribute States and Color Codes

Within the Programmer, fixtures can be selected or deselected and their attribute values can be active, inactive, or null.

Selected Fixtures

A selected fixture is one that *is under the control* of the programming tools (trackbelts, encoder wheels, Channel Visualizer, etc.). Multiple fixtures of different types may be selected at any time. All but the *last selected fixture* are displayed on a light green field like fixtures 31 and 32.

31	-	0%	0%	100%	0%	100%	9%	CROWD 1
32	-	0%	0%	100%	0%	100%	9%	CROWD 1

The programming tools and displays are configured for the *last selected fixture*, which is displayed on a red field like fixture 33.

33	-	0%	0%	100%	0%	100%	9%	CROWD 1
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Deselected Fixture

Within the Programmer, a deselected fixture is one that is in the programmer but *is not under the control* of the programming tools. It may be selected using any of the fixture selection techniques. Deselected fixtures are shown on a gray or dark green field. The difference is that you can select fixtures on the dark green fields - in blocks if a mask has been applied - using the Next/Last buttons.

1	-	0%	50%	0%	0%	0%	100%	13%	DRUM
2	-	0%	50%	0%	0%	0%	100%	13%	DRUM
3	-	0%	50%	0%	0%	0%	100%	13%	DRUM

31	-	0%	0%	100%	0%	100%	9%	CROWD 1
32	-	0%	0%	100%	0%	100%	9%	CROWD 1
33	-	0%	0%	100%	0%	100%	9%	CROWD 1
34	-	0%	0%	100%	0%	100%	9%	CROWD 1

Active Channel

Iris	Prism
0%	19%
0%	19%
0%	19%

In the Programmer, an active channel is a channel at any level from 0 to 100% that has been loaded in the active state (most cases) or set to a level using the programming controls, and that has not yet been recorded into a cue. Active channels are displayed in white and are recorded into cues and presets unless filtered out.

Inactive Channel

Intensity
100%
100%
100%

An inactive channel is a channel that has been loaded in the inactive state (using edit cue), or was active but has either been recorded into a cue (most likely) or forced to inactive using Clear. Inactive channels are displayed in light blue and *are not recorded into cues and presets unless specifically included*.

Null Channel

Color
-
-
-

When talking about the Programmer, a null channel is a channel for a fixture attribute that has neither been loaded or adjusted. The attribute may be at a level in presets and cues, but it is not in the Programmer. If the attribute column appears, null channels are represented by a "-".

When talking about cues and cuelists, a null channel is one that is not at a level.

Presets

Pan	Tilt
DRUM	

Values in the Programmer that are linked to a preset are shown on a blue-green background. In this case, the values are active.

Programmer Screen Buttons

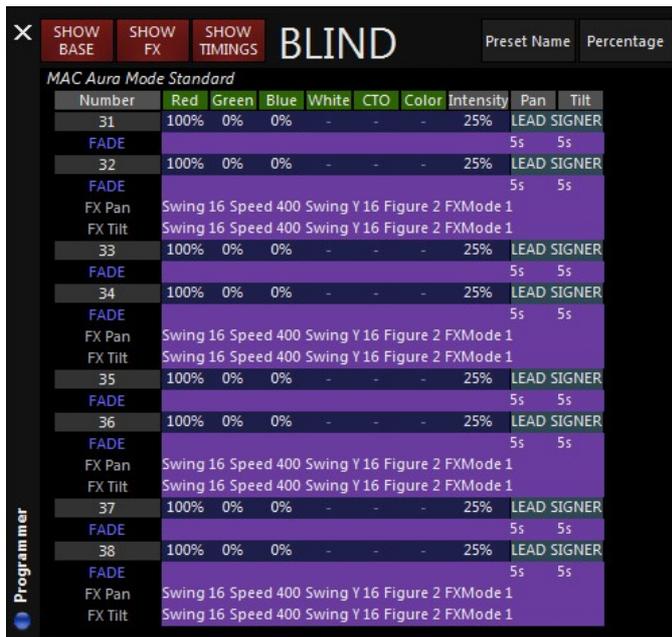
The top of the Programmer screen is shown below.



The first three buttons determine what data is displayed, the next 2 determine how data is displayed.

Show Base	This button can not be deselected. It indicates that base attributes are displayed.
Show FX	When active, this button allows for the display of effects channel information such as "Swing Value," "Mode," and "Figure." Deselecting this button will hide those values resulting in a less "busy" screen.
Show Timings	When active, this button allows for the display of Fade and Delay values entered for any of the attributes.
Preset Name	This button will toggle between "Preset Name," where the label taken from a preset is displayed; "Preset Number," where the page and number of the preset are displayed; and "Preset Value" where the numeric value of the preset is displayed. The numeric value will be either percentage or decimal as determined by the Percentage Toggle. If the selected fixtures are at a value that is not determined by a preset, the Preset Name Toggle will have no effect.
Percentage	This button will toggle the values displayed between a decimal percentage (0-100%) and digital (DMX) values (0-255 for 8-bit attributes and 0-65,535 for 16-bit attributes).

The screen shot below shows all of these features in use.



This Programmer screen shot shows you that Every 2nd other Mac Aura fixture is running a position effect. The "Odd" Mac Auras have a position fade in time of 5 seconds. All Fixtures are pointing at the "Lead Singer", are at 25% intensity and Red.

Timing and effects are covered in other sections.

Programmer Modes

There are two Programmer modes: "live" and "blind". In live mode, all levels in the Programmer are sent to the DMX output and have the highest priority. (You can see levels coming from the Programmer in the Live Output screen, they're the ones highlighted in red.)

Note! Nothing, with the exception of the Grand Master or a sub/group master specifically set to ignore the Programmer, overrides the Programmer in live mode.

In blind mode, levels in the Programmer are *not* output; however, they can still be recorded into cues, groups, presets, etc. They simply won't be seen on stage or in the 3D Visualizer. When in blind mode, "BLIND" appears in the header of the Programmer screen.

To toggle between live and blind modes, press the "Preview" hard button.

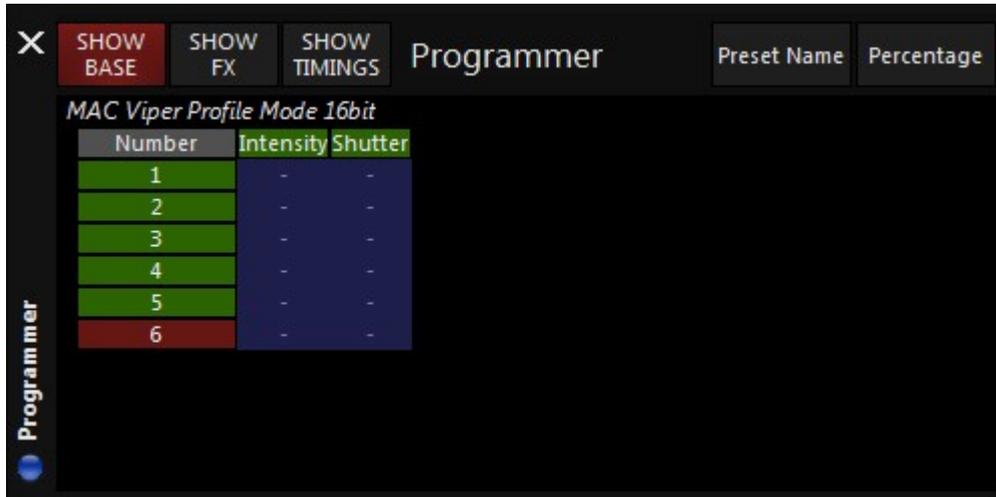
Activating Parameters

There are four ways to load information into the Programmer:

1. Selecting a fixture or fixtures.
2. Using the "Edit" button to edit cues.
3. Using the "Load" button to load groups, attribute groups or individual attributes.
4. Selecting a preset with the "Apply on Empty" option enabled. See ["Selecting Presets"](#).

Activating Using Fixture Selection

Selecting fixtures or groups, for example with the command `1 Thru 6 Enter`, loads them into the Programmer in a selected state with null values.



Activating Parameters in the Programmer Using Edit

Another way to activate parameters in the Programmer is to use the Edit Cue command. To do so, you must first make the cuelist that you want to edit the *selected cuelist*. (See ["Selecting a Cuelist"](#).) You can then press **Edit Cue [X] Enter** to load the values of cue number X of that cuelist. If you don't enter a cue number, the current cue will be loaded.

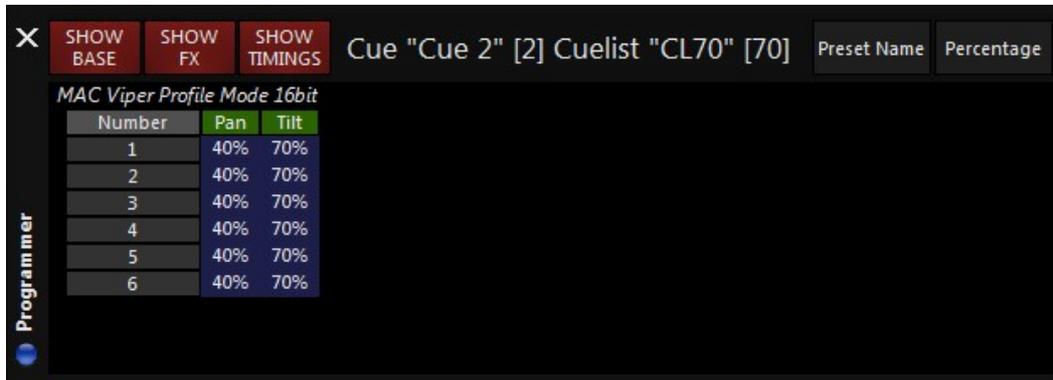
When you press **Edit**, the Edit Options window pops up that allows you to filter out inactive (tracked) values.



For example, if a cue has the values shown below:



Then selecting "Active" would filter out the inactive (tracked) values and result in the following parameters being pulled into the programmer.



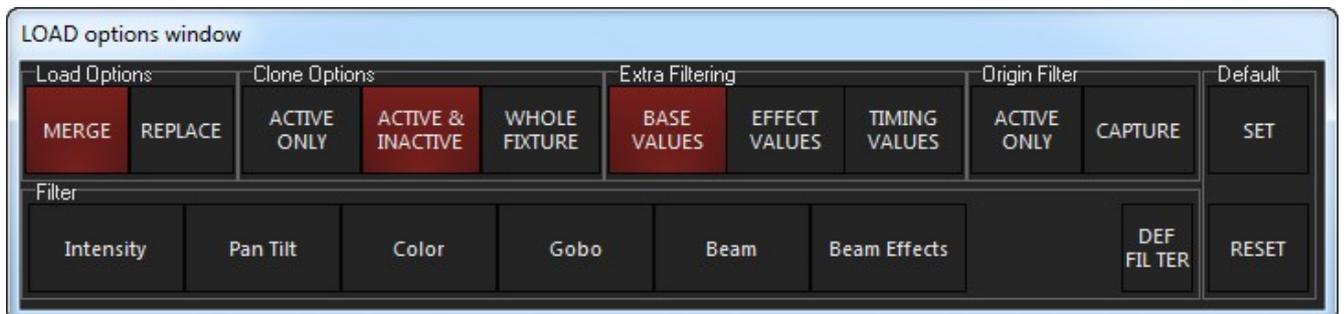
Note that fixtures are not selected when loading parameters from a cue into the Programmer using “Edit.” We can now select any or all of these fixtures and make the desired changes. We can also add fixtures to the Programmer using either conventional fixture selection methods or by using the “Load” function described below. For information about saving changes made to a cue, please see [“Editing a Cue”](#).

Activating Parameters in the Programmer using Load

The “Load” command is extremely powerful and can be used to load complete groups and cues or attribute groups or individual attributes of selected fixtures. Furthermore, “Load” allows you to clone the attribute values from one fixture to another fixture. Understanding how the “Load” function performs is necessary in order to get the most out of the M-Series.

“Load” differs from “Edit” in that where “Edit” will read information on attributes in a *cue* that have been recorded with values in them, by default “Load” reads *all* of the specified base attribute values of the selected *fixtures*, whether they are at a value or not. If one or more of the attributes that is read by a “Load” function is at a level (for example the attribute is in an active cue), then that value will be loaded into the Programmer.

THE LOAD OPTIONS WINDOW



To use the Load Options window and filters, employ the following steps:

1. Press **Load**.
2. Set your filters as desired.
3. Press **Enter**.

The Load Options window contains the following categories:

Load Options	“Merge” and “Replace” are identical functions when loading the Programmer. That is to say, attribute values will always be merged into the Programmer.
Clone Options	These options determine which attributes are used in a cloning operation.
Extra Filtering	In conjunction with the other filters, these filters determine what types of attributes will be added
Origin Filter	Contains one button, “Active Only”, that filters out inactive values.
Filter	Filters out specific attribute groups.
Default	These two buttons allow you to change the “default” behavior of Load options window.

CLONE OPTIONS CATEGORY

This category of options determines which attributes will be loaded when you clone one fixture to another. For more information on cloning fixtures, please see “Using Load to Clone Fixtures”.

ACTIVE ONLY	When “Active Only” is selected, only the active values of the source fixture will be loaded to the target fixture(s). Inactive and null values will
-------------	---

	be ignored.
ACTIVE AND INACTIVE (default)	With "Active and Inactive" selected, all non-null (i.e. 0 to 100) attribute values will be cloned from the source fixture to the target fixture.
WHOLE FIXTURE	With "Whole Fixture" highlighted, every attribute value (dependant on the state of the other "Load Options" filters) will be cloned from the source fixture to the target. Null values will be cloned as zeros.

EXTRA FILTERING CATEGORY

This category of filter is used to determine what information is loaded based not on attribute type, but on the *value* type.

BASE VALUE (default on)	These values encompass the traditional attributes: pan, tilt, color, gobo, etc.
EFFECT VALUE (default off)	These values are those that are associated specifically with effects: pan swing, pan speed, pan mode, etc. For more information, please refer to "Using Macros" .
TIMING VALUE (default off)	These values are those that are associated with the "Delay" and "Fade" overrides used to control when and how long a particular attribute will move. For more information, please see "Setting an Individual Attribute Fade Time" and "Setting an Attribute Delay Time" .

ORIGIN FILTER

ACTIVE ONLY	Filters out inactive values when loading. When deselected, inactive values are loaded as active values.
CAPTURE	Captures raw DMX values from the console's DMX input port(s) and loads them into the programmer as active values. For more details on DMX capture, please see "DMX Input."

FILTER CATEGORY

Using these filters, you can determine which attribute groups will be loaded into the Programmer. By default, all of these filters are "on".

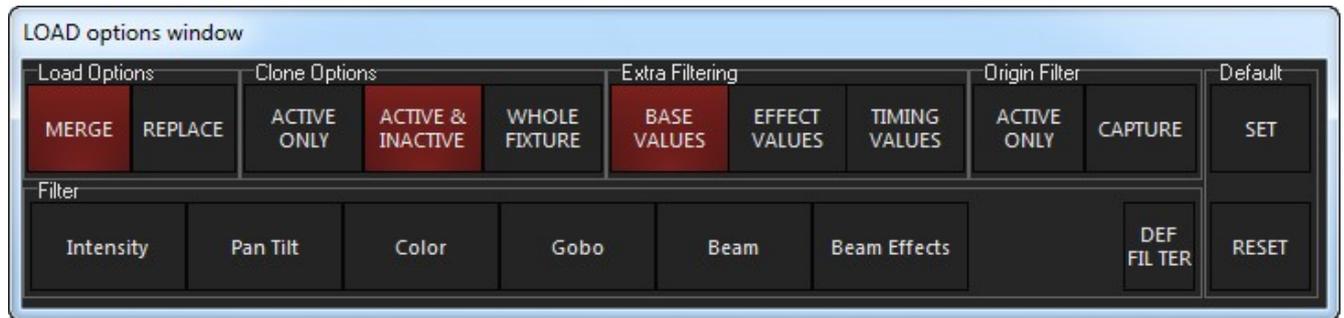
Intensity	Attributes in the Intensity attribute group will be loaded.
Pan Tilt	Attributes in the Pan Tilt attribute group will be loaded.
Color	Attributes in the Color attribute group will be loaded.
Gobo	Attributes in the Gobo attribute group will be loaded.
Beam	Attributes in the Beam attribute group will be loaded.
Beam Effects	Attributes in the Beam Effects attribute group will be loaded.
DEF FILTER	Clears all selected filters from the Filter Category.

DEFAULT CATEGORY

This is a rather unique category in that it doesn't do any filtering *per se*, but it does allow you to change the default filters used in the Load Options window.

SET	Causes the console to "remember" any of the filters you have applied so that the next time you press Load, those same filters will be selected. Note: there is no feedback when you press this button (it doesn't change color).
RESET	Causes all settings in the the Load Options window to return to their default state.

It is of course possible to use several different filters simultaneously. For example:



In this case, we will be activating the pan/tilt and gobo effect values, whether they have a non-null value or not (Whole Fixture) and we will be merging them into the Programmer.

Activating Groups

To activate a group and put all of its parameters into the Programmer, you can either

- press **Load**, select the desired group on the touch screen, and then press **Enter**,
- press and hold **Load** and then touch the desired Group. When you release the Load button, the group will be activated, or
- from the keypad, press **Group (number) Load Load**.

All parameters of the group (based on the filters you have selected) will be loaded into the Programmer. If any of those attributes are driven to a level by a cue or submaster, that level information will be loaded into the Programmer, otherwise the default value levels are loaded. Note that it is quite possible that more than one cue or submaster may be affecting different parameters of an individual fixture. If this is the case, then the level information from all the different cues and submasters will be loaded into the Programmer. You can then make changes as desired and save them to a new group, cue or preset or merge them into an existing group, cue or preset.

USING LOAD LOAD

Double-pressing **Load** (or pressing **Load Enter**) is a very rapid means of capturing a "snapshot" of the output and loading it into the Programmer. You'll probably want to clear the Programmer first.

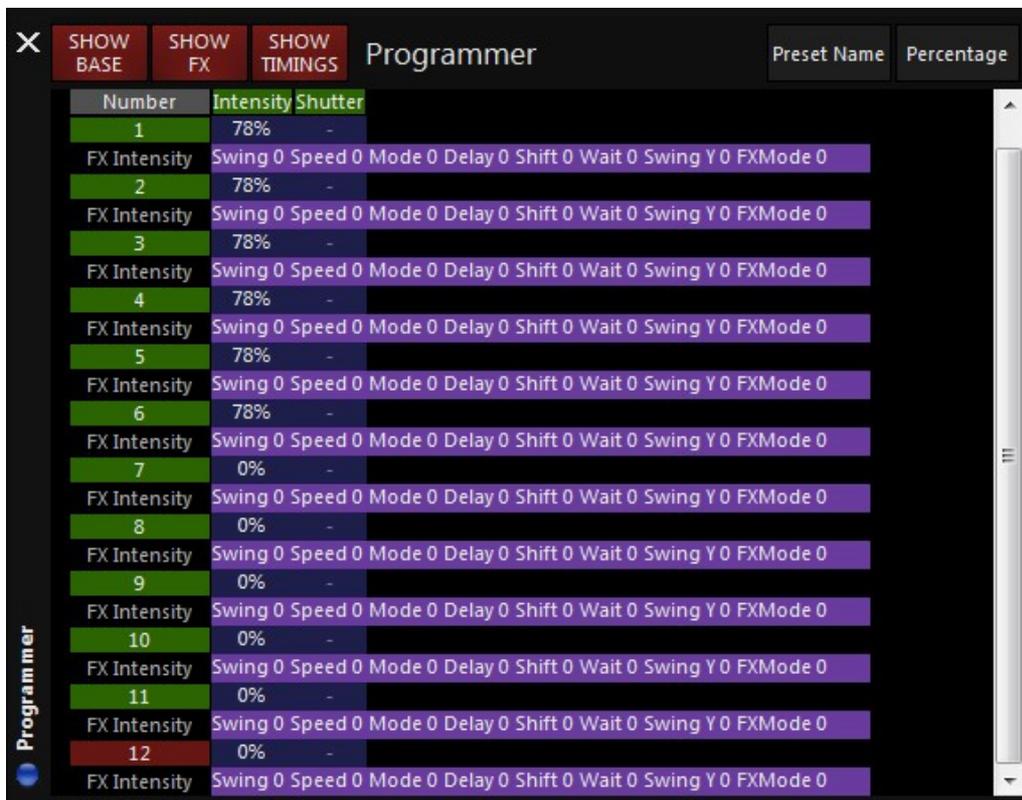
- With no fixtures or groups selected, pressing **Load Load** or **Load Enter** activates the current output of all playbacks into the Programmer.
- With fixtures or groups selected, pressing **Load Load** or **Load Enter** activates all current playback levels for the fixtures selected into the Programmer.
- Pressing ".0 **Load Load**" or ".0 **Load Enter**" activates all current levels for all patched fixtures into the Programmer.

Activating An Individual Parameter

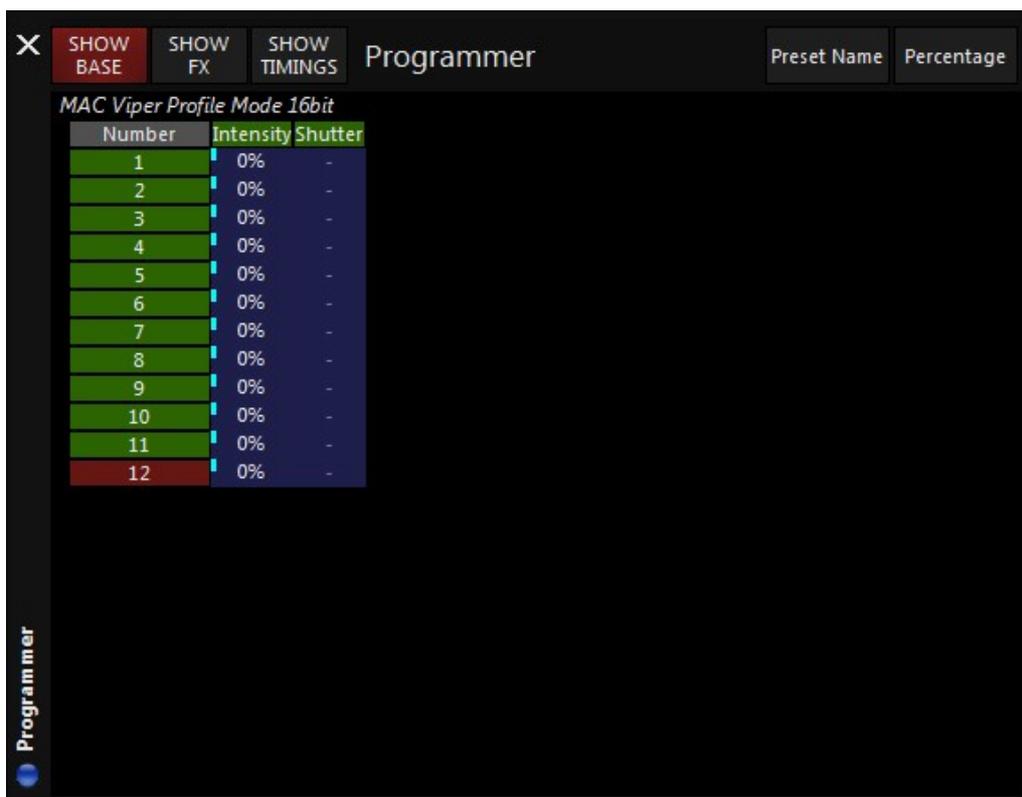
While the Load Options window is useful in loading the contents of a specific attribute group into the Programmer, it is possible to load in a single attribute as well. Follow the steps below to load a single attribute:

1. With a cue running, select the group "MAC VIPER" on the Fixture Groups screen.
2. Press the "Intensity" LCD button in the Attribute Controls button section (if not already selected). Note that it is important to select the appropriate group *before* proceeding with the next step otherwise, the entire attribute group will be loaded, not the individual attribute.
3. Press and **hold** the Load button.
4. Press the hard button corresponding to the "Intensity" attribute on the screen, on the M1/M2GO/M2PC consoles the Encoder have push button functionality.
5. Release the Load button.

The Programmer screen will then look similar to this:



You'll note that while the shutter attribute of the Intensity attribute group is still blank, the intensity attribute has been loaded. Also loaded are the intensity FX values. These can either be cleared (see ["Clearing the Programmer"](#)) or hidden. To hide these values, press the "Show FX" soft button at the top of the Programmer as shown below.



While this hides the FX values, they are still in the Programmer and will still be recorded (unless filtered out in the options window of the relevant command). Note the small turquoise rectangle next to the fixture number indicating that there are hidden values in the Programmer.

USING LOAD TO CLONE FIXTURES

Aside from its usefulness in loading information into the Programmer, the Load function can also be used to copy information from one (or more) fixture(s) to one or more other fixtures. This process is known as "cloning." When cloning, there are two types of fixtures: source and target.

- Source Fixture - This is a fixture loaded in the Programmer that contains the information you wish to clone to another fixture.
- Target Fixture - This is the fixture that you wish to have mimic the source fixture.

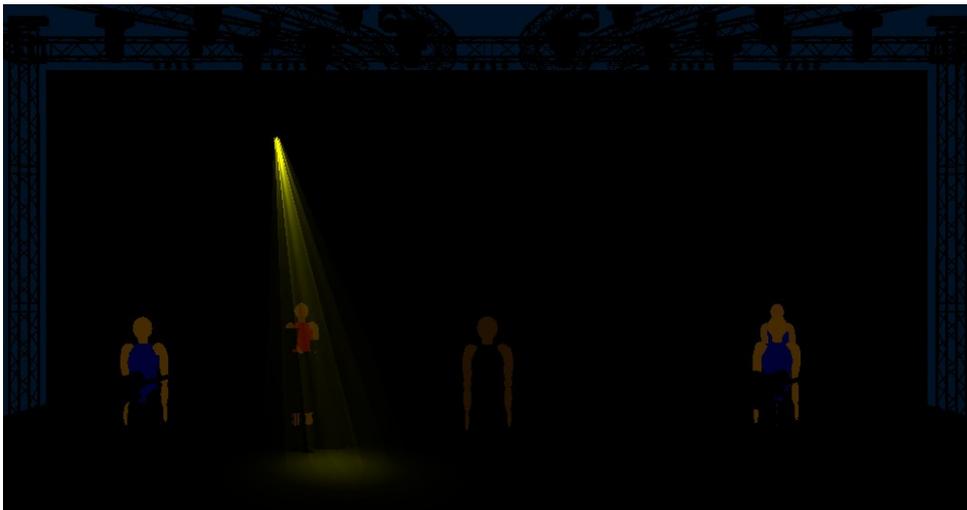
Please note that the source fixture(s) **must** be loaded into the Programmer in order for it to be cloned.

TO CLONE A FIXTURE

When cloning a fixture the syntax is **Load xx @ yy** where "xx" is the target and "yy" is the source. For our example, we will use the MAC 700 Profiles, fixtures 25 through 36.

1. Select fixture 51 at full and set the pan, tilt and color attributes to non-null values

Number	Red	Green	Blue	CTC	Color	Pan	Tilt	Intensity
51	100%	100%	0%	0%	0%	54%	66%	100%



2. Press the Mac 101 Group Button **LOAD @ 51 ENTER**.

×

SHOW BASE
SHOW FX
SHOW TIMINGS

Programmer

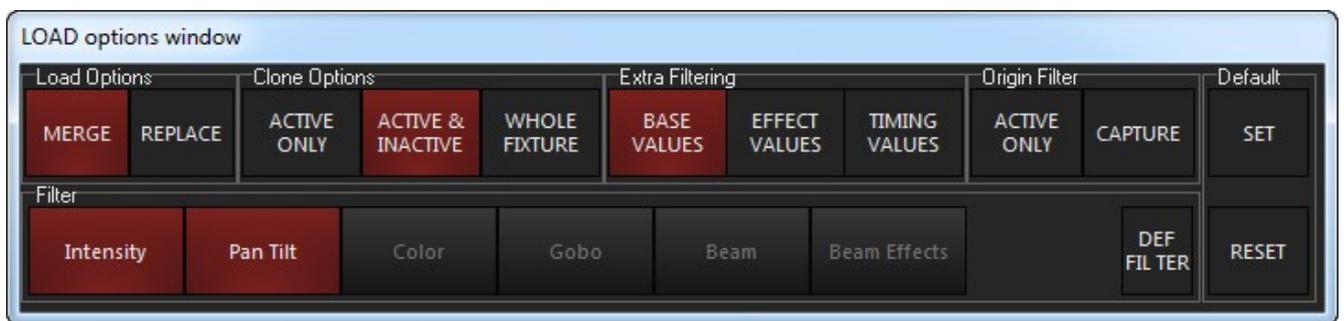
MAC 101 Mode 16-Bit

Number	Red	Green	Blue	CTC	Color	Pan	Tilt	Intensity
51	100%	100%	0%	0%	0%	54%	66%	100%
52	100%	100%	0%	0%	0%	54%	66%	100%
53	100%	100%	0%	0%	0%	54%	66%	100%
54	100%	100%	0%	0%	0%	54%	66%	100%
55	100%	100%	0%	0%	0%	54%	66%	100%
56	100%	100%	0%	0%	0%	54%	66%	100%
57	100%	100%	0%	0%	0%	54%	66%	100%
58	100%	100%	0%	0%	0%	54%	66%	100%
59	100%	100%	0%	0%	0%	54%	66%	100%
60	100%	100%	0%	0%	0%	54%	66%	100%
61	100%	100%	0%	0%	0%	54%	66%	100%
62	100%	100%	0%	0%	0%	54%	66%	100%
63	100%	100%	0%	0%	0%	54%	66%	100%
64	100%	100%	0%	0%	0%	54%	66%	100%
65	100%	100%	0%	0%	0%	54%	66%	100%
66	100%	100%	0%	0%	0%	54%	66%	100%

Programmer
●



Using the filtering in the Load Options window, it is possible to select which specific attributes you wish to have the target fixtures clone from the source fixture. If you wished to have the targets clone only the position and the intensity of the source, you would set your filter accordingly.



You can also clone more than one fixture to a number of other fixtures.

1. Select fixture 51, bring it to full and set the pan, tilt and color attributes of that fixture to a "non-null" value. Select fixture 52 and do the same.

Number	Pan	Tilt	Red	Green	Blue	CTC	Color	Intensity
51	53%	61%	100%	100%	0%	0%	0%	100%
52	47%	61%	100%	0%	100%	0%	0%	100%



2. Press Mac 101 Group button LOAD @ 51 + 52 ENTER

Programmer

Number	Fan	Tilt	Red	Green	Blue	CTC	Color	Intensity
51	53%	61%	100%	100%	0%	0%	0%	100%
52	47%	61%	100%	0%	100%	0%	0%	100%
53	53%	61%	100%	100%	0%	0%	0%	100%
54	47%	61%	100%	0%	100%	0%	0%	100%
55	53%	61%	100%	100%	0%	0%	0%	100%
56	47%	61%	100%	0%	100%	0%	0%	100%
57	53%	61%	100%	100%	0%	0%	0%	100%
58	47%	61%	100%	0%	100%	0%	0%	100%
59	53%	61%	100%	100%	0%	0%	0%	100%
60	47%	61%	100%	0%	100%	0%	0%	100%
61	53%	61%	100%	100%	0%	0%	0%	100%
62	47%	61%	100%	0%	100%	0%	0%	100%
63	53%	61%	100%	100%	0%	0%	0%	100%
64	47%	61%	100%	0%	100%	0%	0%	100%
65	53%	61%	100%	100%	0%	0%	0%	100%
66	47%	61%	100%	0%	100%	0%	0%	100%



OTHER CLONING COMMANDS

It is possible to clone across groups. For example **Load Group xx @ yy**.

You can also clone fixtures of different types. There are some obvious limitations. For example, you will not be able to clone your gobo information from your MAC 700 Washes to your MAC 700 Profiles. Nor can you clone color information between CMY and fixed color wheel fixtures. However, all common information between fixture types will be cloned.

LOADING A FIXTURE WITH CUE INFORMATION

It is also possible to extract information from a previously recorded cue in a *selected cuelist*. As with the earlier examples, you may apply filters to determine the specific information that will be brought into the Programmer. To extract cue information first select a cuelist (see ["Selecting a Cuelist"](#) for more information), and then use the syntax (selected Fixtures or Groups) **Load @ Cue xx Enter** where "xx" is a previously recorded cue number from which you wish to extract information.

Clearing Parameters

Fixture and attribute information entered into the Programmer will remain there until it is cleared. The “Clear” button serves three different functions within the Programmer: it can be used to deselect active fixtures; it can be used to clear the Programmer entirely; or it can be used to clear specific attributes or attribute groups.

The Clear Options Window

The Clear Options window is used not merely to clear fixtures, but also to make attributes inactive. When you first press the Clear button, the Clear Options window pops up.



FAST CLEAR COMMAND CATEGORY

These buttons are not technically used for clearing fixture attributes, but are used in making attributes inactive. It is worth noting that none of these buttons require an “Enter” command to execute. These commands ignore all other filters.

ALL INACTIVE	Every attribute of every fixture in the Programmer will be made inactive
SELECTED INACTIVE	Only the attributes of selected fixtures will be made inactive
NON SELECTED INACTIVE	Attributes of fixtures that are not currently selected in the Programmer will be made inactive

None of these options are set as default.

CLEAR OPTIONS CATEGORY

MAKE INACTIVE	Selecting this will cause the current command to make the selected attributes inactive based upon the filtering applied elsewhere
FULL CLEAR (default)	This button causes the current command to clear the selected attributes based upon the filtering applied elsewhere

EXTRA FILTERING CATEGORY

This category of filter is used to determine what information is affected based not on attribute type, but on the *value* type. It also allows you to determine whether you will affect selected or non-selected fixtures.

SELECTED (default)	When highlighted, only selected fixtures will be affected
NON SELECTED	When highlighted, only non-selected fixtures will be affected
BaseBASE VALUES (default on)	These values encompass the traditional attributes: pan, tilt, color, gobo, etc.
EFFECT VALUES (default on)	These values are those that are associated specifically with effects: pan swing, pan speed, pan mode, etc. For more information, please refer to “Using Macros” .
TIMING VALUES (default on)	These values are those that are associated with the “Delay” and “Fade” overrides used to control when and how long a particular attribute will move. For more information, please see “Setting an Individual Attribute Fade Time” and “Setting an Attribute Delay Time” .

FILTER CATEGORY

Using these filters, you can determine which attribute groups will be acted on in the Programmer. By default, all of these filters are “on.”

Intensity	Attributes in the Dim/Focus attribute group will be cleared.
Pan Tilt	Attributes in the Pan Tilt attribute group will be cleared.

Color	Attributes in the Color attribute group will be cleared.
Gobo	Attributes in the Gobo attribute group will be cleared.
Beam	Attributes in the Zoom/Prism attribute group will be cleared.
Beam Effects	Attributes in the Effects/Speed attribute group will be cleared.
DEF FILTER	Clears all selected filters from the Filter Category

DEFAULT CATEGORY

This is a rather unique category in that it doesn't do any filtering *per se*, but it does allow you to change the default filters used in the Clear Options window.

SET	Causes the console to "remember" any of the filters you have applied so that the next time you press Clear, those same filters will be selected. There is no feedback when you press this button.
RESET	Causes the Clear Options window to return to its default filter setting.

Clearing Individual Attributes

While the Clear Options window is quite useful and effective in clearing out attribute groups, it is also possible to clear individual attributes using the Clear button. Please refer to the screen below:

The screenshot shows the Programmer screen with a table of MAC Viper Profile Mode 16bit attributes. The table has columns for Number, Pan, Tilt, Cyan, Magenta, Yellow, CTC, Color, Intensity, and Shutter. The first 6 rows (Number 1-6) are highlighted in green, indicating they are selected. The last row (Number 12) is highlighted in red. The Color attribute is currently set to 0% for all profiles.

Number	Pan	Tilt	Cyan	Magenta	Yellow	CTC	Color	Intensity	Shutter
1	LOOK 2		60%	100%	0%	0%	0%	100%	13%
2	LOOK 2		60%	100%	0%	0%	0%	100%	13%
3	LOOK 2		60%	100%	0%	0%	0%	100%	13%
4	LOOK 2		60%	100%	0%	0%	0%	100%	13%
5	LOOK 2		60%	100%	0%	0%	0%	100%	13%
6	LOOK 2		60%	100%	0%	0%	0%	100%	13%
7	LOOK 2		60%	100%	0%	0%	0%	100%	13%
8	LOOK 2		60%	100%	0%	0%	0%	100%	13%
9	LOOK 2		60%	100%	0%	0%	0%	100%	13%
10	LOOK 2		60%	100%	0%	0%	0%	100%	13%
11	LOOK 2		60%	100%	0%	0%	0%	100%	13%
12	LOOK 2		60%	100%	0%	0%	0%	100%	13%

To clear the "Cyan" attribute from only the first 6 Mac Viper Profiles, we would use the following button strokes:

1. Select fixtures - 1 THRU 6 ENTER
2. Press the "Color" attribute group LCD button.
3. Press and **hold** the "Clear" button.
4. Press the cyan attribute hard button.

The Programmer screen will then look like this:

Number	Cyan	Magenta	Yellow	CTC	Color	Pan	Tilt	Intensity	Shutter
1	-	100%	0%	0%	0%	LOOK 2		100%	13%
2	-	100%	0%	0%	0%	LOOK 2		100%	13%
3	-	100%	0%	0%	0%	LOOK 2		100%	13%
4	-	100%	0%	0%	0%	LOOK 2		100%	13%
5	-	100%	0%	0%	0%	LOOK 2		100%	13%
6	-	100%	0%	0%	0%	LOOK 2		100%	13%
7	60%	100%	0%	0%	0%	LOOK 2		100%	13%
8	60%	100%	0%	0%	0%	LOOK 2		100%	13%
9	60%	100%	0%	0%	0%	LOOK 2		100%	13%
10	60%	100%	0%	0%	0%	LOOK 2		100%	13%
11	60%	100%	0%	0%	0%	LOOK 2		100%	13%
12	60%	100%	0%	0%	0%	LOOK 2		100%	13%

You can see that the cyan attribute on the first 6 Mac Viper Profiles is now set to null. This is sometimes referred to as “knocking out.”

Removing Entire Fixtures from the Programmer

To remove (“knock out”) unwanted fixtures from the Programmer, use the following process:

- If the fixture has no attribute information - Press “-” (minus) (fixture number) **Enter**.
- If there is attribute information in the Programmer - Press **Clear** (fixture number) **Enter** and then “-” (minus) (same fixture number) **Enter**. The Clear command deletes the attribute information and the Minus command removes the fixture from the Programmer. For more information on the Clear command, see [“Clearing Individual Attributes”](#).

Base attributes refer to things like intensity, pan and tilt, and color that can be manipulated using the attribute track belts, attribute pickles, etc.

Quick Tip: You can quickly knock out currently selected fixtures by pressing **Clear Enter and then 0 Enter**.

Recording Cues

Recording a Simple Cue

Now that you can manipulate the fixtures, let's explore ways of storing those beautiful cues to be played back later...

There are three primary ways of recording the contents of the Programmer into a cue. The first is to press "Record" and then the Selection Button of the desired cuelist playback. When you do this, the cue will be added to the end of the cuelist as the next "whole" number. If you select an empty playback, you will first be prompted to select the cuelist type (Cuelist, Chase, Override, etc.) and then the information in the Programmer will be saved as cue 1.

The second way to save the information as a cue is to specify the cue number using the keypad. The information will then be saved as the specified cue number in the *selected cuelist*. For example:

Record Cue 21 Enter

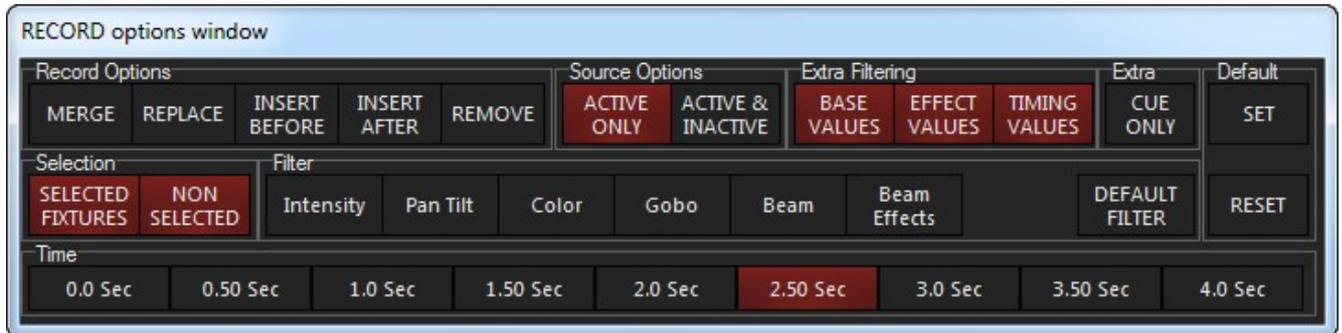
will save the information as cue 21.

The third way to save information as a cue is to simply press **Record Enter**. This will save the information as the next "whole" numbered cue in the *selected cuelist*.

Using any of these methods to record a cue will result in the Record Options window popping up. For simple cues, this can be ignored but as you will read below, this is quite a useful device.

The Record Options Window

The Record Options window is a powerful tool in the creation of groups and presets, but is especially well suited to manipulating cue data. The Record Options window can be used to filter exactly which attributes from the Programmer are recorded into a cue, group or preset and, in the case of cues, where it is recorded. It pops up whenever the "Record" button is pressed. Lets look at each category of recording options.



Record Options Category

There options in this category relate primarily to cues.

- MERGE** The merge command will add all selected attributes to the target cue, group or preset. Attributes that were previously in the cue, group or preset will not be overwritten unless they are included in the information to be added.
- REPLACE** Where Merge adds information, the Replace function will overwrite *all* existing attributes. Any previously existing attribute values will be erased and the contents of the Programmer will be inserted. This can be used with cues, groups and presets.
- INSERT BEFORE** Used exclusively with cues, this command will insert the specified Programmer data as a "point cue" immediately before the target cue.
- INSERT AFTER** Same as "Insert Before" except information is added after the target cue.
- REMOVE** This function is similar to the Clear command and requires additional discussion. Please see below.

RECORD REMOVE

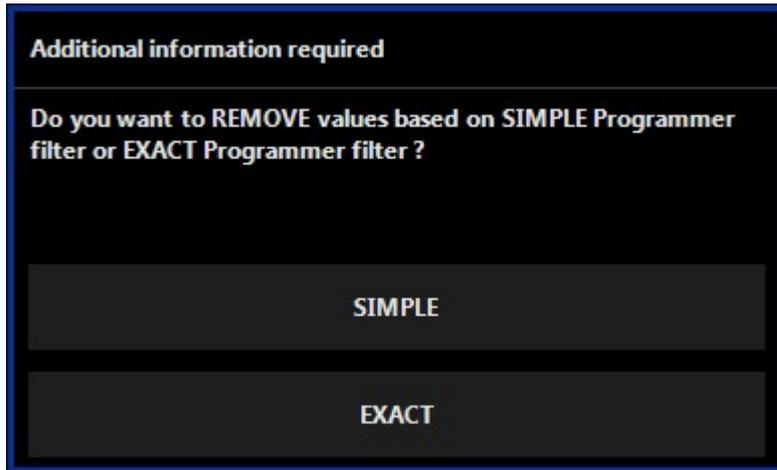
The Record Remove function is similar to a clear function except that where the Clear function will remove an attribute from the programmer, the Record Remove function will remove the attribute from a cue. To see how Record Remove works, follow these steps:

1. Using the Mac Viper Profiles from the M-Series training file, record a cue 1 using intensity, pan, tilt, and gobo.
2. Clear the Programmer and playback the cue.
3. Select the first 12 Mac Viper Profiles - 1 THRU 12 ENTER.
4. Place a value in the Programmer for the "Gobo 1" wheel. It can be *any* non-null value. (This will work for any other attribute as well).

Number	Gobo 1	Gobo 1 Rot	Gobo 2	Gobo 2 Rot	Gobo 3	Gobo 3 Speed
1	15%	-	-	-	-	-
2	15%	-	-	-	-	-
3	15%	-	-	-	-	-
4	15%	-	-	-	-	-
5	15%	-	-	-	-	-
6	15%	-	-	-	-	-
7	15%	-	-	-	-	-
8	15%	-	-	-	-	-
9	15%	-	-	-	-	-
10	15%	-	-	-	-	-
11	15%	-	-	-	-	-
12	15%	-	-	-	-	-

5. Press **Record** to bring up the Record Options window

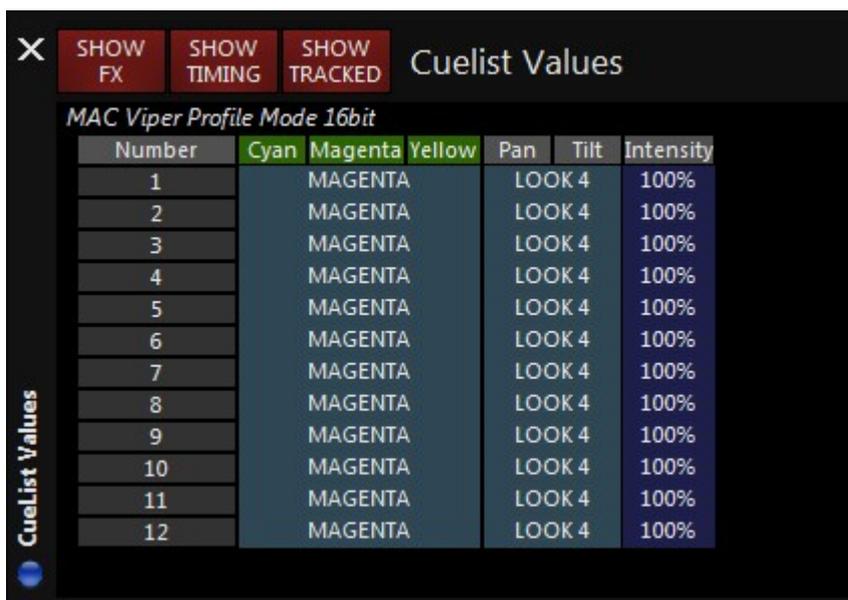
6. Select Remove
7. Press **Cue 1 Enter**
8. The Record Remove pop up window will open.



You have the following options.

- o Simple Record Remove: Any value for the specified attribute will be removed from the cue. All fixtures with that attribute in the Programmer will be set to null, regardless of their current level.
- o Exact Record Remove: Only values *at the same precise level* will be removed. Example: If a cue has some fixtures at 50% cyan and others at 100% cyan, then bringing the fixtures to 100% cyan and executing an Exact Record Remove will only remove the values from the fixtures at that level. The cyan levels of the other fixtures will remain at 50%.

9. Select "Simple". The gobo attribute levels are removed from the cue.



10. Press **Clear Clear** to clear the Programmer.

Note: Record Remove can also be used with a range of cues as in Record (Remove) 1 Thru 3 + 9 Enter. This would remove values from cues 1, 2, 3 and 9.

Source Options Category

This category allows you to include or filter out inactive attributes. For a definition of inactive attributes, see "[The Programmer Screen](#)"

ACTIVE ONLY	Only active attributes will be recorded.
ACTIVE & INACTIVE	Both active and inactive attributes will be recorded.

Extra Filtering Category

These three filters determine which attribute types will be recorded.

BASE VALUES	When deselected the "base channels," (those selected with the attribute group LCD buttons) will <u>not</u> be recorded.
EFFECT VALUES	When deselected, the "Effects Channels," those defined in the Regular Effect and Time Effect attribute groups found on the attribute group LCD buttons will <u>not</u> be recorded.
TIMING VALUES	These values are those that are associated with the "Delay" and "Fade" overrides used to control when and how long a particular attribute will move. For more information, please see " Setting an Individual Attribute Fade Time " and " Setting an Attribute Delay Time ".

Extra Options Category

The "CUE ONLY" button breaks the normal recording method. The M-Series is a tracking console. That is to say that when a change is made, it tracks that information forward though the cuelist. However, there are occasions when you may wish to record information into only one specific cue without it tracking. The "Cue Only" button will allow that. *When selected, information that is recorded into that cue will not track forward.* It will be contained only within that cue. The one exception to this is when "Cue Only" is selected and you record a new cue at the end of a cuelist. In that case, the information will track forward.

Selection Category

The filters in this category allow you to select the fixtures to record into cues and presets. It does not apply when recording groups. The filters may be combined to record both selected and non-selected fixtures.

Selected Fixtures	Selected fixtures (on red or bright green fields) are recorded in cues and presets.
Non Selected	Non-selected fixtures (on blue or dark green fields) are recorded in cues and presets.

Filter Category

These filters determine which attribute groups will be recorded into a cue, group or preset.

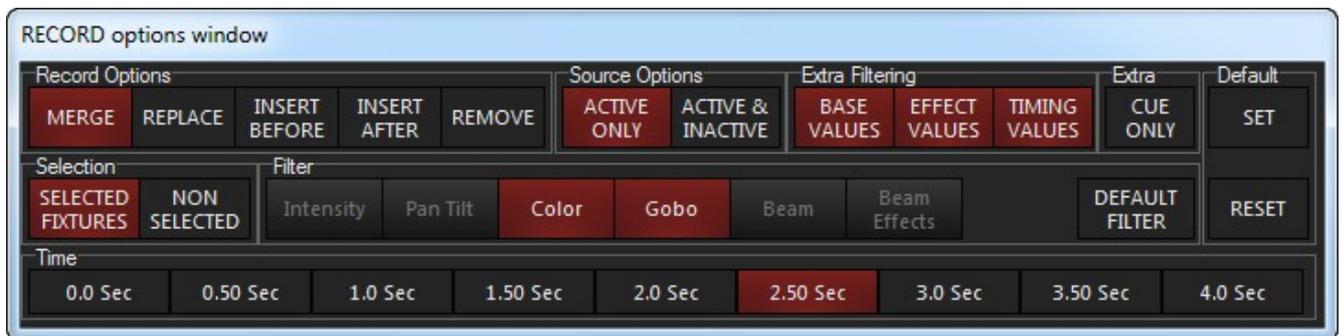
Intensity	Attributes in the Intensity attribute group will be recorded.
Pan Tilt	Attributes in the Pan Tilt attribute group will be recorded.
Color	Attributes in the Color attribute group will be recorded.
Gobo	Attributes in the Gobo attribute group will be recorded.
Beam	Attributes in the Beam attribute group will be recorded.
Beam Effects	Attributes in the Beam Effects attribute group will be recorded.
DEFAULT FILTER	Clears all selected filters from the Filter Category

Default Category

This is a rather unique category in that it doesn't do any filtering *per se*, but it does allow you to change the default filters in the Record Options window.

SET	Causes the console to "remember" any of the filters you have applied so that the next time you press Record, those same filters will be selected. Note: there is no feedback when you press this button (it doesn't change color).
RESET	Causes the Record Options window to return to its default filter setting.

Filters can be combined in many ways so that, for example, you could merge only active values for gobo and color into one cue without tracking as shown below.



Time Category

The Time category buttons are not filters; they simply provide a convenient way to select the fade time when recording cues. The values that populate the buttons are determined in the menu under Show > Settings > Cue Fade Times. See "[Cue Fade Times Tab](#)".

Recording a Range of Cues

The console allows multiple cues to be recorded simultaneously. This is referred to as “range recording.” An example of range recording is **Record Cue 3 + 4 + 5 Enter**, which will record the contents of the Programmer into cues 3, 4, and 5.

Important Note: When recording a range of cues, the values are recorded into each cue as active values. Using the example above, if after recording your range of cues you then make a change in cue 3, it will not track through to the following cues. This is similar to recording each of the cues as Cue Only. However, to restore tracking to the cuelist, you can use the Unblock Cuelist button in the Cuelist Options window. See [Unblock Cuelist](#) .

Creating Cuelists

Cues are the primary means of programming looks on the M-Series. Your cues are saved in various types of cuelists that are assigned to - and executed by - the playback controls.

When creating and playing your cues, it's important to realize that the M-Series is a "Latest Takes Precedence" (LTP) console and what that means. There are two basic things you need to know about LTP consoles.

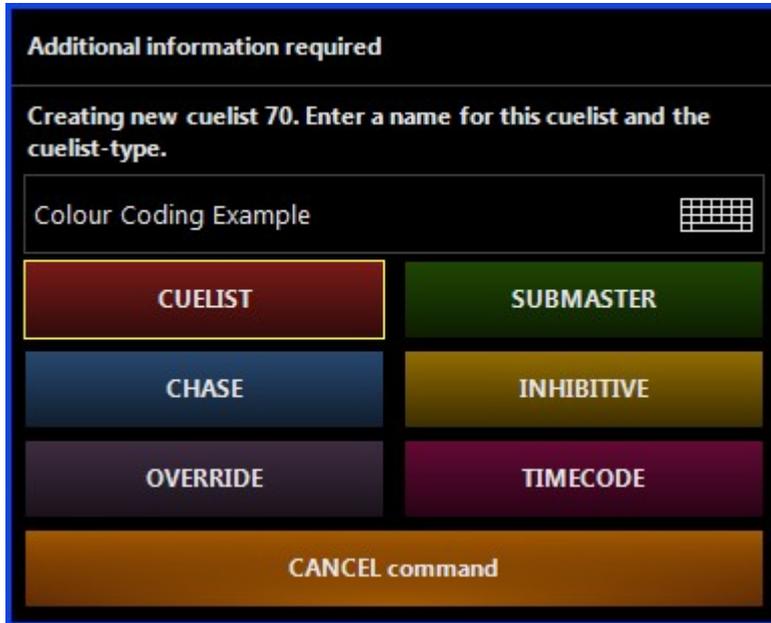
First, as the term implies, the latest instructions generally have precedence over earlier instructions. If you execute two or more cues with different values for the same fixture attribute, say the first cue calls the Dots gobo in all Mac Viper Profiles and the second cue calls the Blocks gobo, then the value that gets expressed will be the latest one called.

If a cue has no value (also known as a null) for a specific fixture attribute, then it has no control of that attribute. *A cue will not override earlier values for an attribute if it doesn't have a value of its own to replace it with.* If you knocked out the second cue's gobo values for the Mac Vipers on stage right, then executing it would call the Blocks in the other Mac Viper's, but those on stage right would stay with the Dots because the second cue has no control of the gobo attribute in these fixtures. That's the second thing you need to know.

Example: Creating a Cuelist

It will be helpful to create a cuelist with 5 cues as described below before taking a good look at the Selected Cuelist screen.

1. Select a group or groups of fixtures and focus them.
2. Press **Record**. The "Record Cue Options" window will open.
3. Press the Selection Button on an empty playback control. The following pop-up window will appear when you record the first cue into a new cuelist:



4. At this point you may provide the cuelist with a label using the built-in keyboard. If left blank, the cuelist name will default to the cuelist number. For now, leave this field blank.
5. Select a cuelist type of "Cuelist".
The cue will automatically be assigned to the playback control and become the *selected cuelist*. By default, the motorized fader will raise to full, the Selection Button will turn black with reversed text, and cue 1 will be recorded.
6. Without clearing the Programmer, change the attributes on the selected fixtures and repeat steps 1-4 until you have a total of 5 cues.

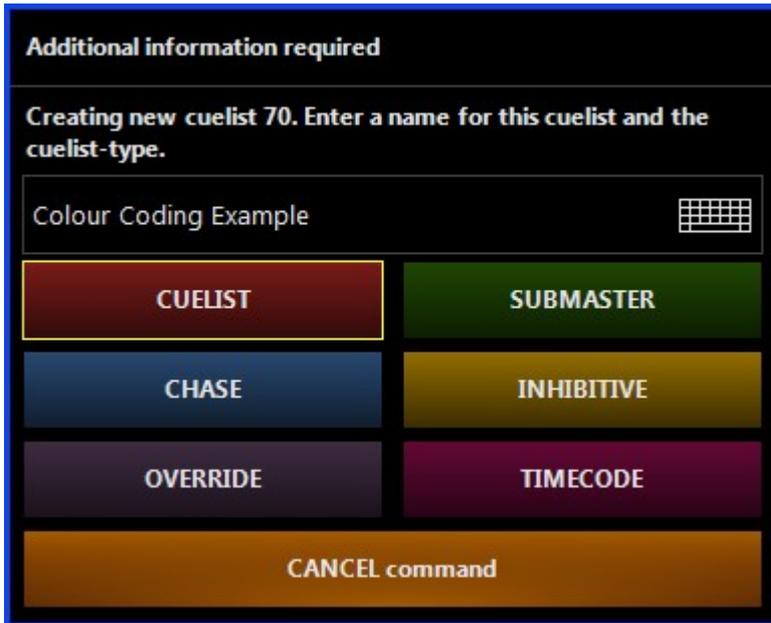
The yellow bar around "Cuelist" indicates that this was the last chosen Cuelist type. The last chosen Cuelist type is remembered. When recording a new Cuelist the last chosen cuelist type can be chosen by using "Enter" as a shortcut.

Cuelist Modes

M-Series offers various ways to operate cuelists. Different cuelist types behave differently and have different default function assignments and behaviour. This section outlines the different cuelist modes and subsequent options.

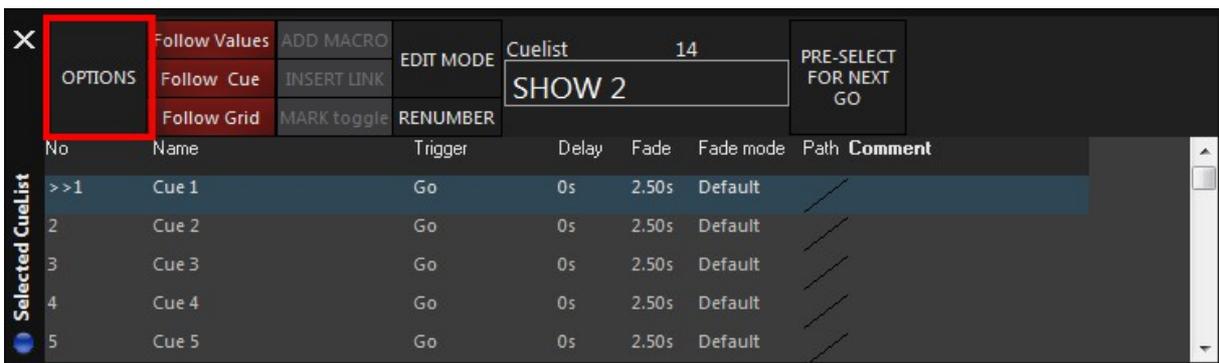
Cuelists are colour coded for ease of identification. See examples below.

Bank 5	1	Cuelist Example	2	Chase Example	3	Override Example	4	Submaster Example	5	Inhibitive Example	10	TC Example
	3	Cue 3			1	Cue 1					1	Timecode Trigger 1
	4	Cue 4			2	Cue 2					2	Timecode Trigger 2
	#75	3/10 100%	#76	-/2 100%	#13	1/8 100%	#77	100%	#78	100%	#13	1/8 100%

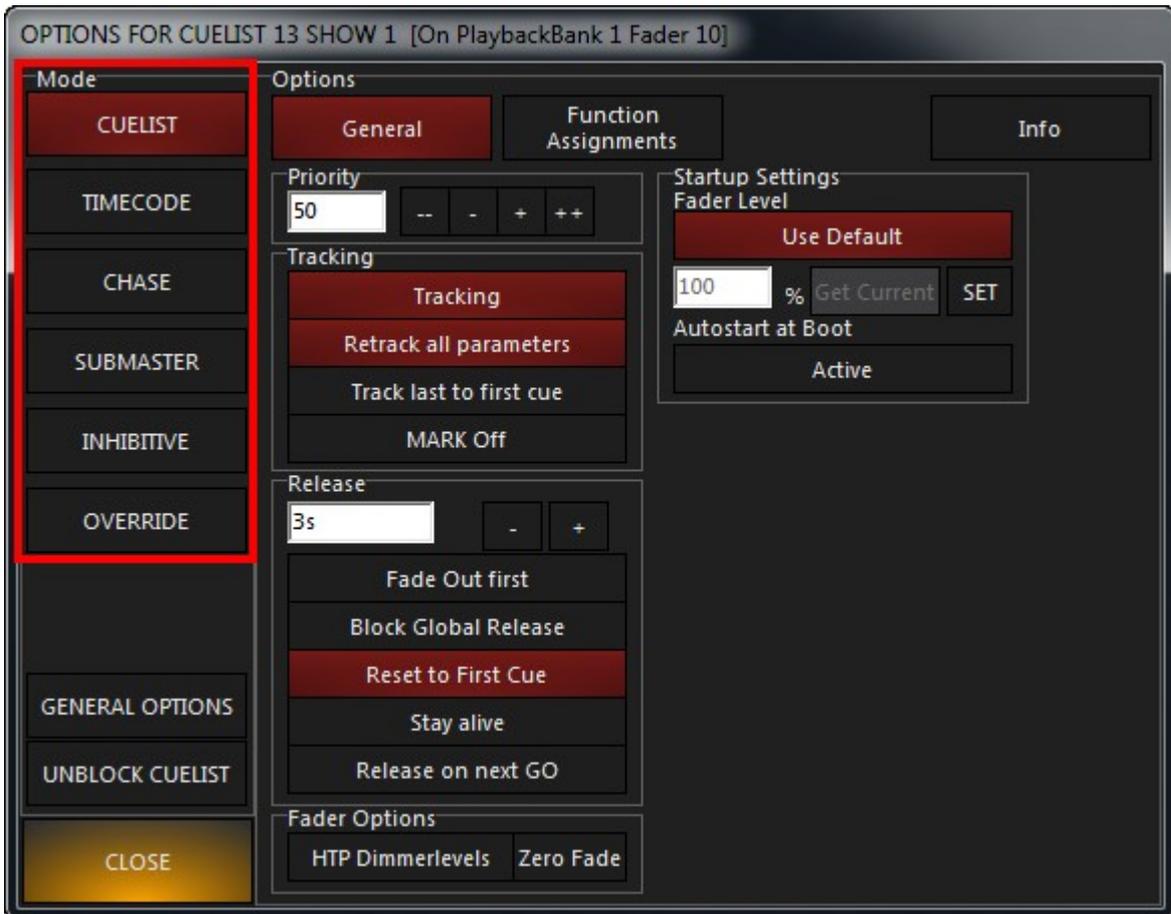
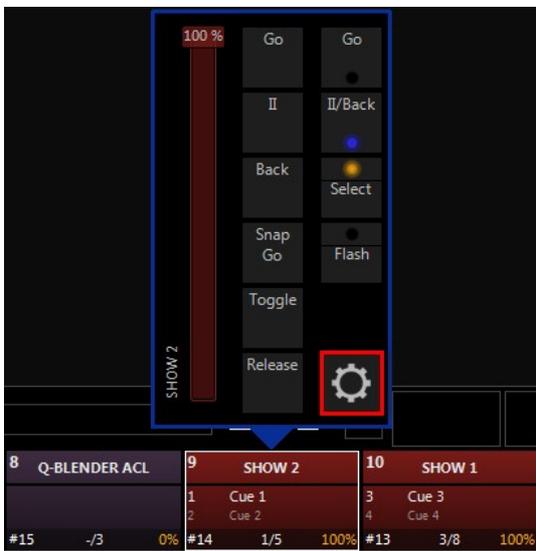


Cuelist

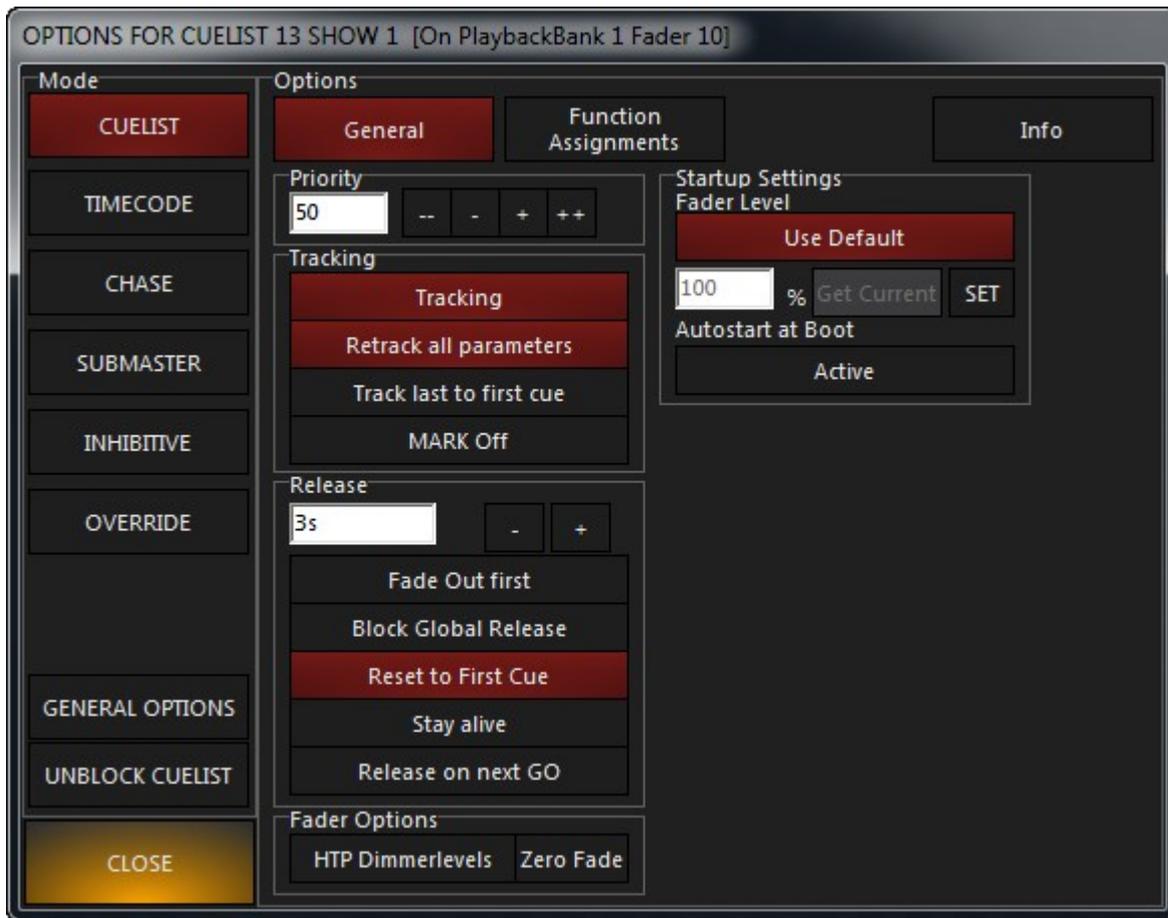
The M-Series supports several cuelist types: CUELIST, TIMECODE, CHASE, SUBMASTER, INHIBITIVE and OVERRIDE. The type selection is made in the Cuelist Options window, which you access by pressing the "Options" button in the Selected Cuelist screen.



You may also right click on a cuelist in the Main Playback Bank Indicator, then the Options will open. You may also double tap on the cuelist in the Main Playback Bank Indicator and use the wheel icon to open the options. The options can be accessed in this manner for any cuelist type.



Cuelist Options



The Cuelist Options window is split into two distinct parts, **Mode** and **Options**. For now, we will focus on the Cuelist Options. To learn more about Cuelist Modes, see "[Cuelist Modes.](#)" To the right of the cuelist modes are several other settings that may be applied to the cuelist. These options are dynamic; they change depending on the cuelist mode that is selected.

Common Cuelist Options

There are five Cuelist Option groups that are common to each type of cuelist. These groups are explained below. The groups that are specific to a certain cuelist type will be discussed later.

Priority	Aside from setting the priority level of a cuelist, this group contains selections that determine the behavior of a cuelist when its contents are overridden by another cuelist.
Tracking	This determines how the cuelist deals with tracked values. It also includes a control for the console's Auto Mark feature. For more information, see " Auto Mark. "
Release	This section determines behavior when a cuelist is released or restarted.
Fader Options	This determines the behavior of fixture intensity in relation to the positioning of the cuelist fader.
Startup Settings	Here you can set a default fader level or cause the cuelist to run automatically on console power up.

Priority

The console assigns a priority to every cuelist. The priority setting can range from 1 to 100 with 100 being the highest priority and 50 being the default. A higher priority cuelist will take precedence over a lower priority cuelist. The priority setting can be incremented or decremented by one (+ and -) or ten (++ and --). The behavior of fixtures in the cuelist depends on the order in which the cuelists are activated and the contents of the cuelist.

Tracking Cuelist Options

The Tracking section of the Cuelist Options screen contains settings that can have a very significant impact on the behavior of cues in your show.

Tracking (DEFAULT ON)

As mentioned earlier, the console is, by default a tracking console. That is to say that when a change is made, it tracks that information forward through the cuelist. When tracking is off for a cuelist the only information that is recorded into that cue *or played back* is the information that is in the Programmer when the cue is recorded. If, for example, cue one contained intensity information only and cue 2 contained pan/tilt information only when it was recorded, with tracking turned off, the fixtures will move when cue 2 is executed, but, as there was no intensity information in the Programmer at the time cue 2 was recorded, the fixtures will fade to zero intensity.

Retrack all parameters (DEFAULT ON)

As mentioned earlier, the console is a "Last Takes Precedence" console. This means that a recorded cue contains only those values that have *changed* from the previous cue. When going through the cuelist sequentially from the top, this wouldn't necessarily be noticed. However, if you were to start in the *middle* of the cuelist you might see, for example, only a color change if that was all that was recorded in that cue. The Backtrack function will read the *state* of the cue rather than just the attribute information recorded in that cue. In other words, it will look back to the previous cues and apply all attribute changes that have been made up to that point. By doing this, if you start in the middle of the cuelist, the look on stage will be the same as if you had stepped through the cuelist from the beginning.

Track last to first cue (DEFAULT ON)

When stepping forward from the last cue, the cuelist will cycle back to the first cue. With "Track last to first cue" enabled, values that were active in the last cue, but are null in the first cue will persist as the cuelist loops back to the first cue. When this is disabled, the values will become null again when looping to the first cue.

MARK Off (DEFAULT OFF)

The MARK function is discussed in detail later. For more information, see ["Auto Mark."](#)

Release Cuelist Options

The Release Cuelist Options determine behavior when a cuelist is released or restarted.

Default Release Time

The default release time for all cuelists is 3 seconds, with all attributes being released simultaneously. That behavior can be modified in this section.

Fade Out first

When enabled, intensity values will fade out in the specified default time first, and then all other attributes will follow once the intensity has reached zero, again in the specified default time. (default Off)

Block Global Release

When selected, global release commands are ignored. (default Off). Common uses for this include houselights, worklight, hazers, or any other element that needs to remain active unless deliberately released.

Reset to First Cue

When enabled (red), the cuelist resets to cue 1 when released. When disabled (gray), the cuelist does not reset, it will resume from the stopping point on the next go.

Stay alive (DEFAULT OFF)

Stay alive determines the actions of attributes that are common between two different cuelists. An example is the best way to describe the function of Stay alive:

Example with Stay alive ON

1. Cuelist A controls attributes x, y, and z.
2. Cuelist B controls attributes x, y, z, and any other attributes.
3. In Cuelist A, Stay alive is ON (highlighted in red.)

4. Cuelist A is running. When cuelist B starts, cuelist B takes control of attributes x, y, and z.
5. Cuelist A releases its cuelist automatically (blue LED in playback go button goes out).
6. When cuelist B is released, attributes x, y, and z go to zero.

Example with Stay alive OFF

1. Cuelist A controls attributes x, y, and z.
2. Cuelist B controls attributes x, y, z, and any other attributes.
3. In Cuelist A, Stay alive is Off (not highlighted in red.)
4. Cuelist A is running. When cuelist B starts, cuelist B takes control of attributes x, y, and z.
5. Cuelist A does not release its cuelist (blue LED in playback go button remains lit) although cuelist B is controlling attributes x, y, and z.
6. When cuelist B is released, attributes x, y, and z *return to the control of cuelist A*.

Please note that in order for Stay alive to function in the manner described above, the cue in cuelist B must contain all the attributes of the cue in cuelist A. Otherwise, when cuelist B is released, those attributes taken from A will be sent to zero.

Release on next GO (DEFAULT OFF)

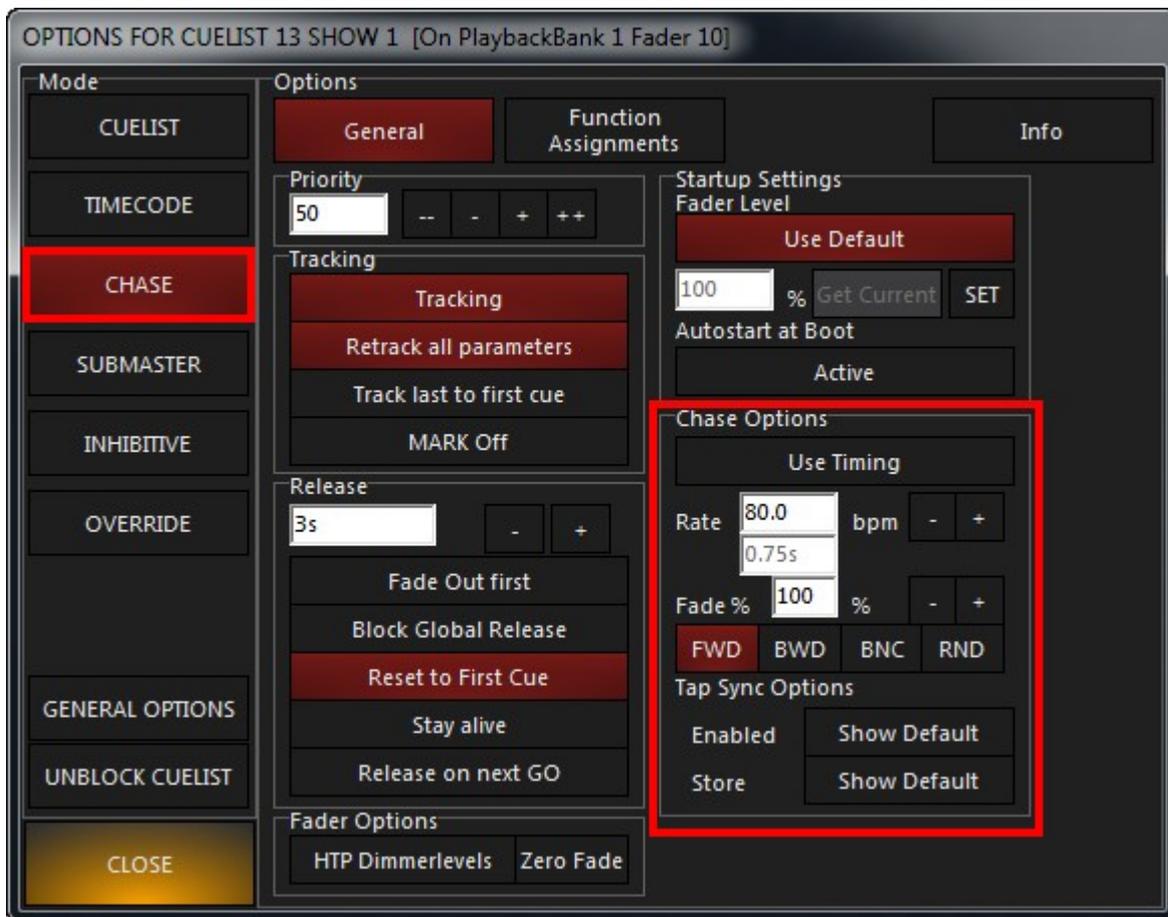
When this option is selected, the next Go command from any *other* cuelist (not the cuelist that you are modifying) will release the current cuelist.

Fader Options

HTP Dimmer levels	When enabled (red), this option changes the fader's default LTP behavior to HTP (highest takes precedence). HTP dimmer levels will neither override nor be overridden by LTP faders.
Zero Fade Dimmers	When using HTP dimmer levels, this option causes the intensity to snap to programmed levels, ignoring the cue fade time.

Chase

A chase cuelist is one that when executed will automatically go from the first cue to the last cue and then loop to the start and continue again until the cuelist is released. Any regular cuelist can be used as a chase. When a cuelist is set as a chase, each individual cue becomes one "step" in the cuelist. To set a cuelist to chase, select the cuelist and press the "Options" button in the upper-left hand corner of the Selected Cuelist screen. When the Cuelist Options screen opens, press the "Chase" button found at the left-hand side of the screen



When the Chase mode is selected a new box "Chase Options" is opened in the lower right hand corner of the options screen. From here you can set the beats-per-minute rate of cue execution and the fade percentage.

Use Timing (default Off)	When selected, the chase will step through the cues deriving their timing from any attribute times that were recorded in the cues.
Beats Per Minute (BPM)	This setting determines the length of time between the execution of each step of a chase. The default is 80 bpm or 1 step every 0.75 seconds. You can increment or decrement the bpm by using the "+" and "-" soft buttons to the right of the bpm display.
Fade%	This is the amount of time that each step will actually move. For example, if you set the bpm to 15, or 4 seconds per step, and then set the Fade% to 25, each step would execute/move in 1 second (25% of 4 seconds) and then be idle for 3 seconds before executing the next step. You can increment or decrement the Fade% by using the "+" and "-" soft buttons to the right of the Fade% display. You can also use the Playback Command track belt to alter this value.
FWD (default)	These button refers to the progression of the cues through the cue list. When selected, the cue list will progress from the first to the last cue and then loop back to the top of the cue list again and repeat.
BWD	Also known as "backward" the order that the cues are executed is reversed, starting with the last cue in the list and reversing the order to the first cue, then restarting with the last cue again.
BNC	The "bounce" function runs through the cue list first in forward and then in reverse. In a 4 cue cue list, the cues would execute in the order of 1,2,3,4,3,2,1,2.....etc.
RND	The cues will execute in a random order.
Tap Sync Options	While it is possible to set the timing for the steps by using BPM or the "Use Timing" functions, it is also possible to set the timing of the step

	speed using the “Tap sync” function. When enabled, the GO button for the chase cuelist is used to determine the speed of the chase. By “tapping” the go button repeatedly, the console will automatically determine the BPM and adjust the speed of the chase accordingly.	
	Show Default	When selected, the show's global TapSync settings are used. These can be set in the console's main menu at Show>Cue Settings>TapSync.
	Enabled (default Off)	When selected, this will allow the GO button to determine the speed of the chase.
	Update Cuelist Default (default Off)	When the Tap Sync feature is used, it is an override to the recorded timing of the cuelist and is not, by default recorded. When selected, the “Update Cuelist Default” <i>will</i> record and recall the timing that was previously set using Tap Sync.

While the Fade% and BPM settings can be changed “live” using the Playback Command track belt, in the case of the Fade%, it is suggested that the setting be changed in the Cue Options window as it is much more accurate than the track belt.

You can now run the chase by closing the “Cue Options” pop-up and pressing the go button on the appropriate playback fader.

Override

Override cuelists are an exception to the rule of latest takes precedence. They have the following characteristics:

- The levels for attributes assigned to a cue in an Override cuelist override the attribute levels in other types of cuelists. They do not override the Programmer, the Grand Master, or Group Masters.
- The fader cross fades *all* attributes in the Override cue. At 0%, the Override cue has no control; at 100% it has full control.
- Cue list priority does not apply; all Overrides have the same priority. If there are two Override cue lists playing, then latest takes precedence.
- Tracking does not work in Override cue lists.
- The update function does not work fully as it does with other cue list types. Use record or edit instead.

Note: The default fader behavior for an Override enables UP+GO and DOWN+RELEASE, so that raising and lowering the fader will activate and release the Override automatically. This can be changed in the "Function Assignments" section of the Cuelist Options window.

Training File Tutorial - Override

To demonstrate the behavior of an Override cuelist, do the following:

1. Release all playbacks (hold **Snap** and press **Release**) and clear the Programmer.
2. Select all Mac Viper Profiles and set to full intensity (**Group 1 Full**).
3. Load the Pan/Tilt default values (@ **"Pan Tilt" 0 Enter**).
4. Lets add a color and a gobo and get it rotating for good measure. Your Programmer screen should look something like this:

MAC Viper Profile Mode 16bit

Number	Intensity	Shutter	Gobo 1	Cyan	Magenta	Yellow	Pan	Tilt
1	100%	-	5%	0%	0%	100%	50%	50%
2	100%	-	5%	0%	0%	100%	50%	50%
3	100%	-	5%	0%	0%	100%	50%	50%
4	100%	-	5%	0%	0%	100%	50%	50%
5	100%	-	5%	0%	0%	100%	50%	50%
6	100%	-	5%	0%	0%	100%	50%	50%
7	100%	-	5%	0%	0%	100%	50%	50%
8	100%	-	5%	0%	0%	100%	50%	50%
9	100%	-	5%	0%	0%	100%	50%	50%
10	100%	-	5%	0%	0%	100%	50%	50%
11	100%	-	5%	0%	0%	100%	50%	50%
12	100%	-	5%	0%	0%	100%	50%	50%
13	100%	-	5%	0%	0%	100%	50%	50%
14	100%	-	5%	0%	0%	100%	50%	50%
15	100%	-	5%	0%	0%	100%	50%	50%
16	100%	-	5%	0%	0%	100%	50%	50%
17	100%	-	5%	0%	0%	100%	50%	50%
18	100%	-	5%	0%	0%	100%	50%	50%
19	100%	-	5%	0%	0%	100%	50%	50%
20	100%	-	5%	0%	0%	100%	50%	50%
21	100%	-	5%	0%	0%	100%	50%	50%
22	100%	-	5%	0%	0%	100%	50%	50%
23	100%	-	5%	0%	0%	100%	50%	50%
24	100%	-	5%	0%	0%	100%	50%	50%

5. Record this to an empty playback and set the cuelist type to Override.
6. Clear the Programmer.

You have now created an override cue. To see how it works, perform the following steps:

1. Start any cuelist that contains Mac Viper Profiles.
2. Take the Override fader to 100%.

The Override cue has taken control of the pan, tilt, intensity, color, and gobo 1 attributes. Other attributes such as focus and iris are unaffected. You can master the amount of control the override exerts by raising and lowering its fader.

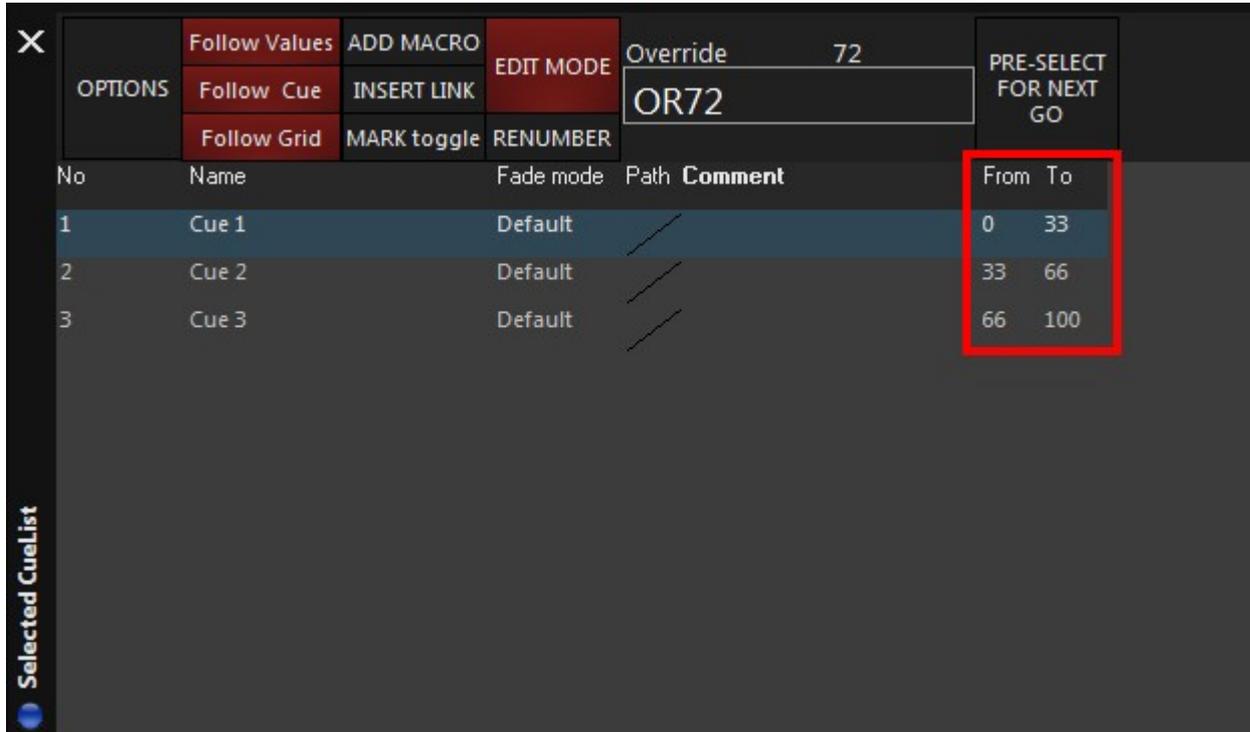
3. Release the override cue or pull fader down.

The attributes that were overridden by the cue are returned to their previous setting.

Cue Blender - Override

Using the Override Cuelist Mode, a further option of "Q-Blender" is available. Q-Blender is a unique feature available on the M-Series platform that allows you to spread multiple cues across the range of a fader. The M-Series Training file already has one Q-Blender example loaded onto playback fader 8 (Override Cuelist number 15) which controls the ACL fixtures in the file.

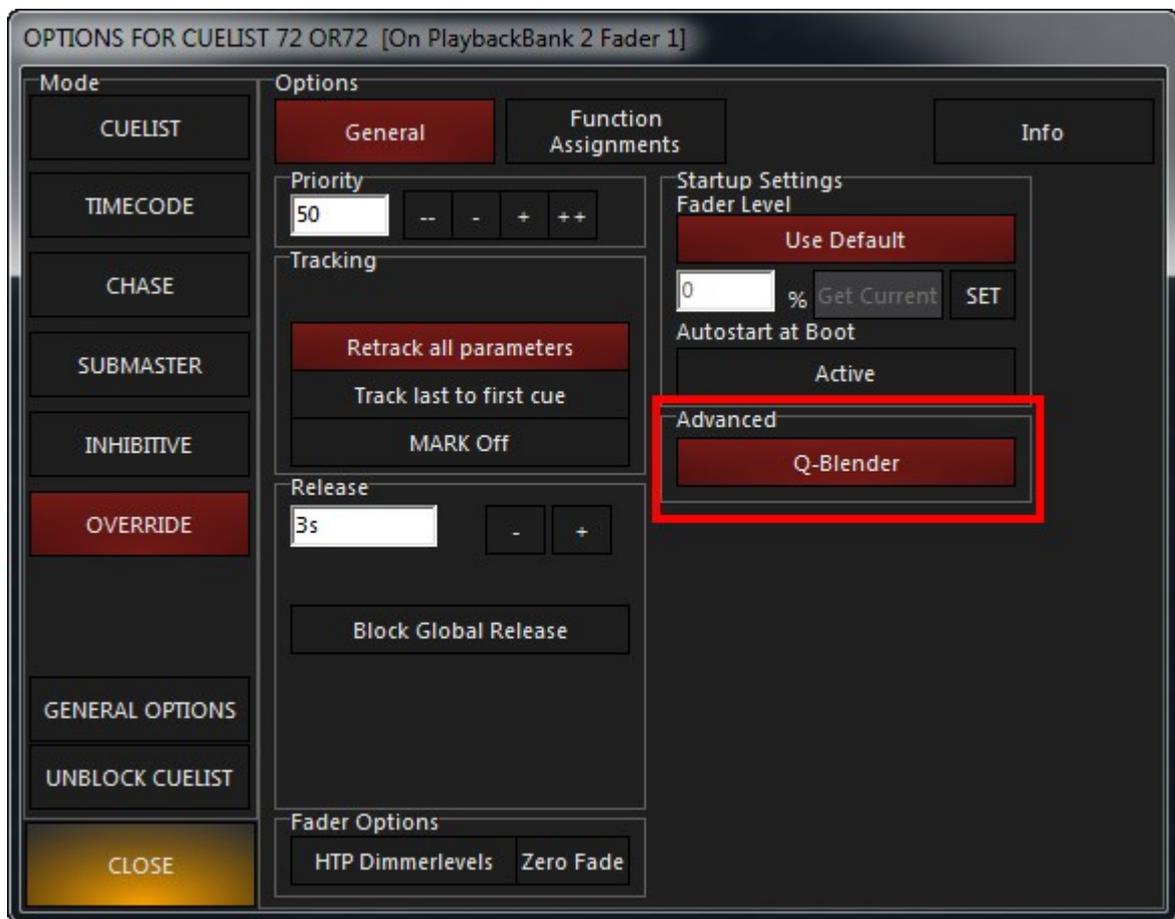
In the below image, we can see that on the right hand side we have further option columns available labeled "From" and "To". These options refer to what range of the fader that particular cue is linked to. In the example here, we see that Cue 1 will trigger at 0% and be active until 33%, Cue 2 will trigger on 33% and remain active until 66%, Cue 3 will trigger on 66% and remain active until the fader reaches 100%. The "From" and "To" fields can only be edited if the "Edit Mode" button is enabled in the Cuelist window.



Enabling the Q-Blender option

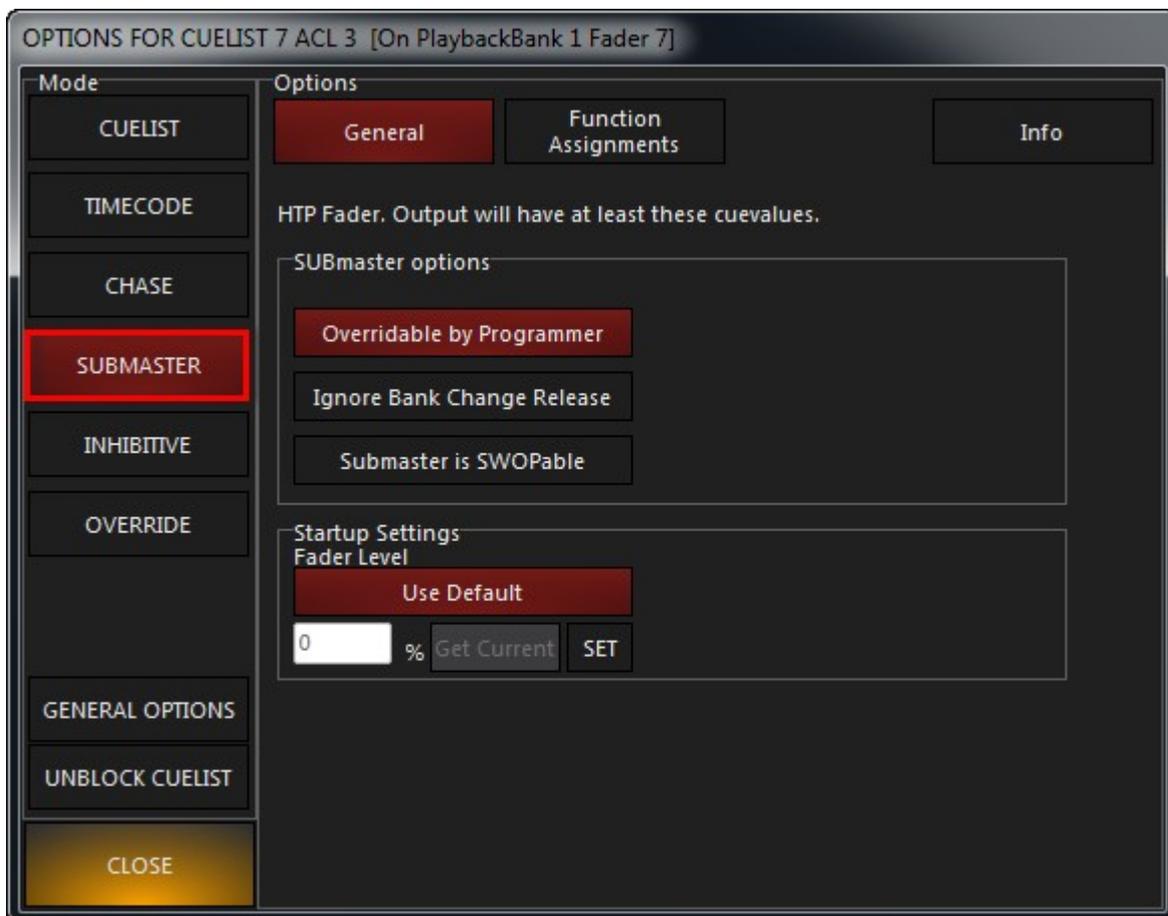
To activate the Q-Blender option on an Override Cuelist:

1. Select the Cuelist.
2. Access the Cuelist options.
3. Press the Q-Blender button to activate the feature as shown below.



Submaster

When the cue list type is set to Submaster, the intensity information of cue 1 in that cue list will be controlled by the associated fader. As the fader is raised, the intensity will raise to the values recorded in the submaster. Other cue lists can drive the fixtures contained in that submaster to a higher level in a "highest takes precedence" manner.



SUBMASTER OPTIONS

There are 3 separate options that can be set for a submaster.

Overrideable by Programmer (default ON)	When selected, the Programmer can be used to drive the intensity channels in the submaster to a <i>higher</i> level, but can not be used to reduce the intensity level. When deselected, the Programmer will have no effect on the levels of the submaster.
Ignore Bank Change Release (default OFF)	With this setting enabled (checked) the submaster ignores the Global Submaster Reset setting found in the menu under Show > Settings > Playback. (See "Reset submaster fader levels to default on inactive banks" .) When disabled (and appropriately configured under Show Settings), the submaster will go to zero when you change banks.
Submaster is SWOPable (default OFF)	This option allows the Go button for the selected submaster to act as a "Solo" button. That is to say, when the Go button is pressed, all intensity channels in all other cuelists, submasters AND the Programmer will be forced to a level of zero. Multiple submasters with this option set to on can be used simultaneously in a "pile-on" manner. When released, the previous levels will be restored to the stage. Note that only intensity levels are affected; pan, tilt, color, etc. will continue with whatever fade was in progress.

Inhibitive

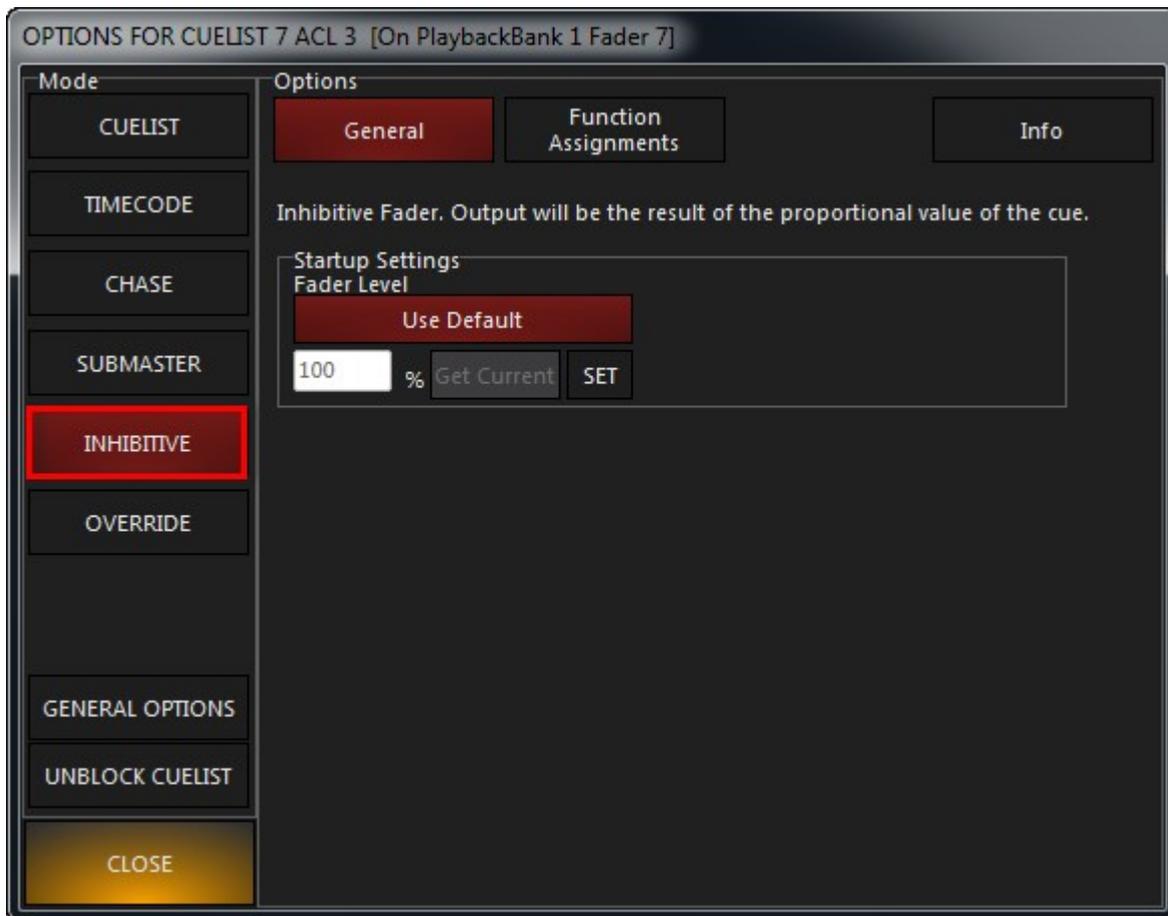
The Inhibitive can not be used to raise the level of the fixtures it contains, but the position of its associated fader will determine the output of the fixture(s) that are recorded in cue 1 of the Inhibitive cuelist. For example, if a fixture is in a cuelist at 100%, but the Inhibitive fader is set to 25%, then the output of the fixture will be 25%. The Inhibitive works on a proportional basis. This means that when set to 50%, all fixtures within the Inhibitive that are active in other cuelists will be outputting 50% of whatever their recorded value is. It is also important to note that the Inhibitive fader **WILL** override the Programmer.

The intensity level of the fixture recorded in the Inhibitive is not used in calculating the output. However only those fixtures with an intensity value of 3% or higher in cue 1 of the Inhibitive cuelist will be affected by the fader level. Note that if a fixture is contained in one or more Inhibitives, **all** of those Inhibitive faders must be up for the fixture's intensity to read on stage.

Inhibitive Fader Options

Only the standard Startup Settings are available for an Inhibitive.

Note! Neither Submasters nor Inhibitives are affected by the Release button.



Timecode

The M-Series allows for the connection to an external time clock for the synchronized triggering of cues. You can set up the Timecode preferences in the Console's Main Menu. See [Menu>System>Timecode](#).

TIMECODE CUELIST HEADER



You will note several additions to the header information in a Timecode cuelist.

00:00:00:00	This is where the received timecode is displayed. The format is HH:MM:SS:FF. HH is hours, MM is minutes, SS is seconds and FF is frames.
	The Play button is used to start SMPTE when using the internal timecode generator.
	The Pause button is used to stop the internal timecode generator without resetting it to zero. To resume, press the Play button.
	The stop button is used to stop the internal timecode generator. Pressing this button will cause the clock to reset to 00:00:00:00
TC Follow (default on)	When set to on, the cuelist will “listen” to the selected timecode generator and the cuelist will follow the timecode. When turned off, incoming timecode will be ignored. If turned on while timecode is running, the cuelist will advance to the last executed cue as determined by the timecode value.
LEARN TIMING [MAIN GO]	When selected and a timecode source is present, pressing the console's Main Go button will automatically capture the timecode time that the cue was executed and save it with the cue for later playback. Pressing Go on the cuelist's Go button will simply advance the cuelist without capturing the timecode time. This is useful if you want some cues to follow timecode, but some cues to be triggered manually.

WORKING WITH THE TIMECODE CUELIST

SETTING A “MARK” CUE

In order for timecode to trigger a cuelist, that cuelist must be active. In other words, you must already be running a cue in the cuelist for timecode to trigger later cues. This is accomplished by recording a “mark” cue. In this usage, a mark cue is a cue that contains no information, it simply starts the cuelist. An example would be to record a “.5” cue before the first cue in your cuelist. This would be a manual cue with no information in it. Any cues that follow that have a timecode trigger would then be executed.

CHANGING CUE TRIGGER TIMES MANUALLY

When you first set the cuelist to the type Timecode, all of the times will be listed as “Manual Trigger.” This means that timecode will *not* execute the cue. The console allows you to change the trigger time by manually entering the values for hours, minutes, seconds and frames in much the same way you would change the time of a standard cue. Recalling that the format for SMPTE timecode is HH:MM:SS:FF, use the following steps to set the trigger time:

- With “Edit Mode” on, press or click the legend “Manual Trigger [–]” on the cue you wish change. The command line will read “Set Cue xx TC Time”
- To set the trigger time to 1 second and 15 frames press **1 1 5 Enter**.
- To set the time to 11 hours, press **1 1 0 0 0 0 0 0**.

The screenshot shows a lighting console interface with a cue list. The top panel includes buttons for 'Follow Values', 'ADD MACRO', 'EDIT MODE', 'PRE-SELECT FOR NEXT GO', and 'LEARN TIMING [MAIN GO]'. The 'EDIT MODE' button is highlighted in red. The 'Timecode' field shows '13' and 'TC Example'. The 'TC FOLLOW' button is also highlighted in red. The main display shows a table of cues with columns for No, Name, Trigger, TimeCode, Delay, Fade, Fade mode, Path, and Comment.

No	Name	Trigger	TimeCode	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	Manual Trigger [–0s	2.50s	Default	/		
2	Cue 2	Go	Manual Trigger [–0s	2.50s	Default	/		
3	Cue 3	Go	Manual Trigger [–0s	2.50s	Default	/		
4	Cue 4	Go	00:00:01:15	0s	2.50s	Default	/	
5	Cue 5	Go	11:00:00:00	0s	2.50s	Default	/	
6	Cue 6	Go	Manual Trigger [–0s	2.50s	Default	/		
7	Cue 7	Go	Manual Trigger [–0s	2.50s	Default	/		
8	Cue 8	Go	Manual Trigger [–0s	2.50s	Default	/		

You can increment or decrement an individual or selected range of cues by using the “+” and “–” buttons.

- To add 5 minutes to an individual or range of cues select the cue timing(s) and press **+ 5 0 0 0 0**.
- To delete 5 minutes from an individual or range of cues select the cue timing(s) and press **– 5 0 0 0 0**.

If you wish, you can reset a trigger time to manual by selecting the desired cue timing(s) and pressing **– – (minus minus) Enter**.

TIMECODE AND OTHER TRIGGERS

A timecoded cue list will still take advantage of other trigger types such as Follow and Wait. Note that if a Follow or Wait trigger has been set for a cue, it will override any timecode trigger time that has been set for that cue. You can also use the Go and Pause/Back buttons for a timecoded cue list. Pressing Go will manually advance the cue list. When the timecode then "catches up" to your position in the cue list, it will begin to trigger cues based on their trigger time again. Note that the cues that have already been executed manually will **not** be re-executed via the timecode signal. Pressing the Pause/Back button will pause your advancement in the cue list. To resume, press Go and the cue list will jump to the last completed timecode triggered cue.

COPYING TIMECODE CUES

There are two different ways of copying timecode (or any other type) cues. If selected individually and copied to a new cue list (ex: **Copy Cue x Thru y @ "Selection Button"**) the specified cues will be copied to the designated cue list but *without* the attached SMPTE timings. To keep the timings with the cues, go to the cue list directory and in that window copy the entire cue list as a new cue list.

Preparing LTC TIMECODE tracks

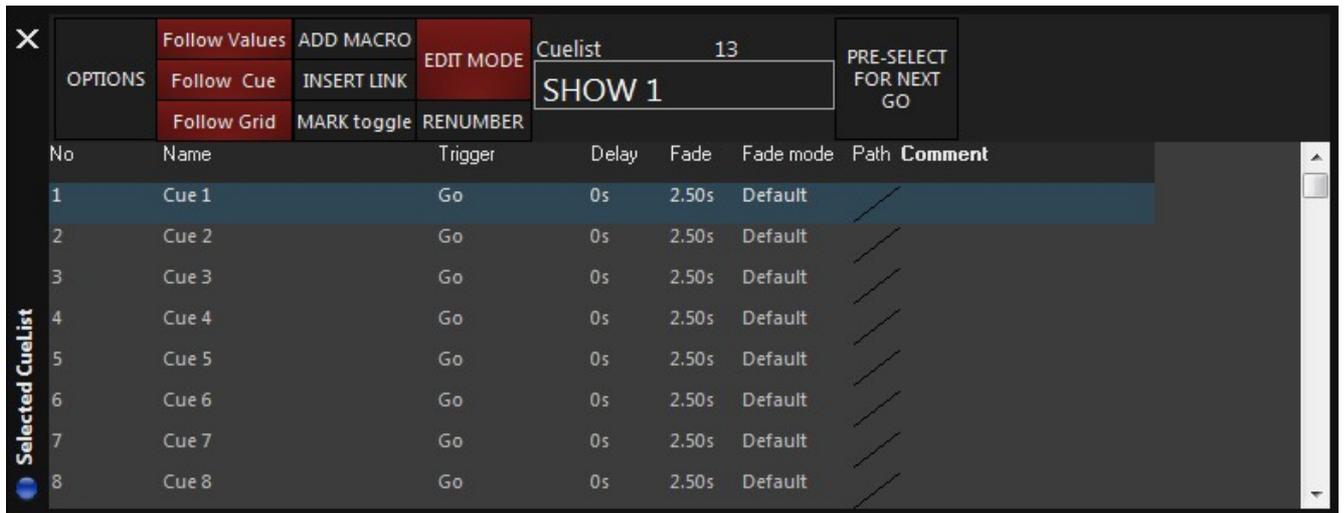
To create Linear TimeCode (LTC) tracks compatible with the M-Series please consider the following criteria:

-
- The SMPTE signal must have a minimum level of 0.116Vpp (Volts peak to peak)
- The maximum level allowed is 2.12Vpp
- When mastering LTC tracks, use a level of -18db

Problems with SMPTE can occur due to:

- hum/noise on the line
- over-talk when the signal was recorded

The Selected Cuelist Screen



The Selected Cuelist screen is the primary display for manipulating cuelists. You access the screen by pressing the “Cuelist” view hard or soft button.

Button Description

The Selected Cuelist screen contains a number of buttons with varying levels of functionality in the header of the cuelist

OPTIONS

This button will be discussed in detail later in the manual (see [“Cuelist Options”](#))

Follow Values (default on)

When this button is highlighted (red), the carat, the “>>” next to Cue 1 that indicates the current cue will advance as each cue is executed, but the cuelist will *not* automatically scroll down following the carat. The highlight bar (the bright blue bar shown over Cue 1) will remain on the last selected cue.

Follow Cue (default on)

With only Follow Cue selected, the carat *and* the highlight bar advance together as cues are executed, but the screen will not automatically scroll if the cuelist is longer than the number of cues that can be displayed on the screen (a maximum of 14 cues).

Follow Grid (default on)

Again, the carat will advance as cues are executed and the highlight bar remains at the last selected cue, but when Follow Grid is selected, the cuelist *will* automatically scroll down following the carat.

ADD MACRO

This button is discussed in [“Moving, Copying, and Deleting Cuelists on Playback Controls”](#).

INSERT LINK

This button is discussed in detail in [“Executing Cuelists”](#)

MARK Toggle

This button enables and disables the auto-marking feature for the selected cue. [Read about auto marking here.](#)

RENUMBER

When selected (highlighted in red) this button allows for the renumbering of cues as described on [“Renumbering Cues”](#). When deselected, pressing or clicking on the cue numbers will load the information for the selected cue into the “Cuelist Values” screen.

EDIT MODE

This button toggles access the Add Macro, Insert Link, Name, Trigger, Delay, Fade, Fade Mode, Path, and Comment cue modifiers thereby preventing accidental changes. By default, Edit Mode is disabled (blue). Please note that “Edit Mode” does *not* prevent the recording, deselecting or editing of cue contents; it pertains only to the cue modifiers listed above. Also, the “Edit Mode” button will maintain its state (locked or unlocked) regardless of the cuelist or view displayed.

PRE-SELECT FOR NEXT GO

When enabled (red), you can jump to any cue in the cuelist by selecting it in the number (No) column. The cue will execute on the next Go.

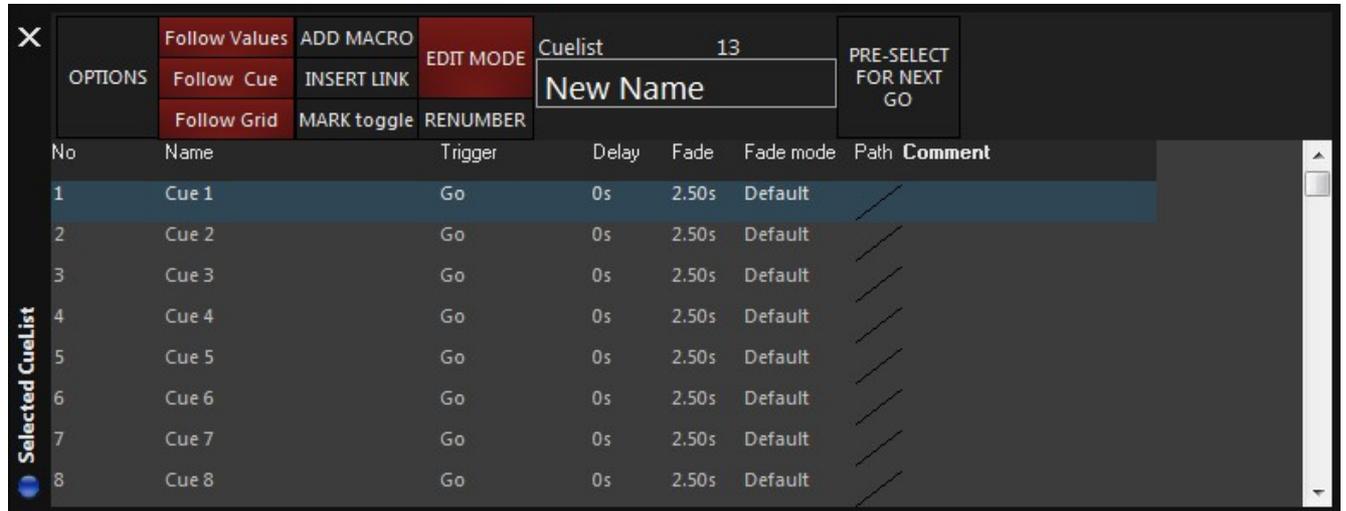
In addition to these buttons, you will find text that tells you the cue type (Cuelist, Chase, Override. etc.) and the cuelist number (in this case Cuelist 73). Directly below this is the cuelist label. By default, the cuelist label is the

same as the cuelist number. To edit this label:

LABELING A CUELIST

1. Ensure that "Edit Mode" is active (red)
2. Select the default text (Cuelist xx) by touching or clicking on the text on the touch screen.
3. The text will highlight in red.
4. Using the keyboard, enter the desired text.
5. Press **Enter** and the cuelist will be relabeled.

Note that the new label is also displayed in the appropriate cuelist selection Selection Button and that the cuelist number, found above the label on the touch screen remains unchanged.



Cuelist Table Description

Just below the Selected Cuelist screen buttons are eight columns, each of which provide specific information about the cues in the list.

No	This is the cue number. The cue number can range from .0001 to 99999.9999
Name	The default cue name is the same as the cue number. The process to change the cue name is similar to changing the Cuelist name and is detailed below.
Trigger	The three trigger types (Go, Wait, Follow) and any associated timings are listed here. Information on triggers can be found in " Setting Cue Triggers ".
Delay	Any delay time is displayed here. An "Override" column will be added to the right of the Delay column if a Delay Override is recorded. Cue timing is discussed in the next section.
Fade	The fade time of the cue is displayed here. An "Override" column will be added to the right of the Fade column if a Fade Override is recorded. Cue timing is discussed in the next section.
Fade Mode	There are three fade modes. <ul style="list-style-type: none"> Default Fade All attributes in the cue will snap or fade as denoted in the Channel Visualizer. Snap All Channels All attributes in the cue snap. Fade times recorded into the cue will be overridden. Fade All Channels All attributes fade using recorded cue timing, including those that snap by default.
Path	This is the fade style, or "path". The path is selected by clicking the graphic in the path column (with Edit Mode enabled) and selecting the desired style in the pop-up window. The five path styles are: <ul style="list-style-type: none"> Linear (default) The fade is even over the fade time. Accelerate The fade starts slowly and speeds up. Brake The fade starts fast and slows down. Accelerate and Break The fade starts slow, speeds up, then slows again.

	Shake	The fade oscillates progressively towards the level.
Comment		This column allows you to insert notes or comments about the cue. Up to 21 characters can be entered. The process to enter a comment is similar to other labeling functions and is detailed below.

LABELING A CUE

1. Ensure that "Edit Mode" is active.
2. Select the default text (Cue xx) by touching or clicking on the text on the touch screen.
3. The text will be highlighted in red.
4. Using the keyboard, type in the desired text.
5. Press **Enter** and the cue will be relabeled.

LABELING A COMMENT

1. Ensure that "Edit Mode" is active
2. Select the comment to be edited by touching or clicking on the text on the touch screen.
3. The column will highlight in red.
4. Using the keyboard, enter the desired text.
5. Press **Enter** and the comment will be applied.

Setting Cue Timing

The M-Series allows for very flexible timing parameters. These can be set by the individual or group of cues or by the individual or group of fixture attributes. The minimum cue time is zero and the maximum is one hour. These times can be set in increments of thousandths (i.e. 1.234 seconds) and all times are set in seconds.

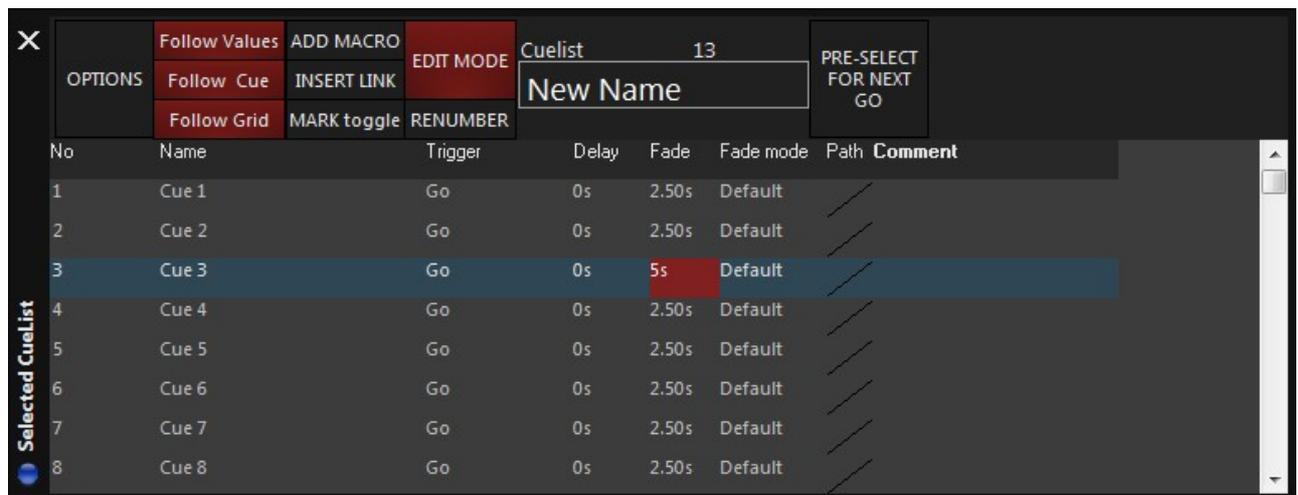
Setting a Cue's Base Fade Time

The console allows the use of "base" times for its cues. This is the default time for that specific cue. It is the time that all attributes will use unless overridden and provided with a different time. (See "[Setting an Individual Attribute Fade Time](#)".)

The default base time can be selected in the "Time" section of the Record Options window. We'll change the base cue time on cue 2 to 5 seconds using the following steps:

1. Ensure that "Edit Mode" is active.
2. Press or click on the cell that contains the Fade time for Cue 2. The cell will highlight in red and the command line will read "SET CUE 2 FADE".
3. On the keypad, type **5 Enter**.

The cell will now show a time of 5 seconds.

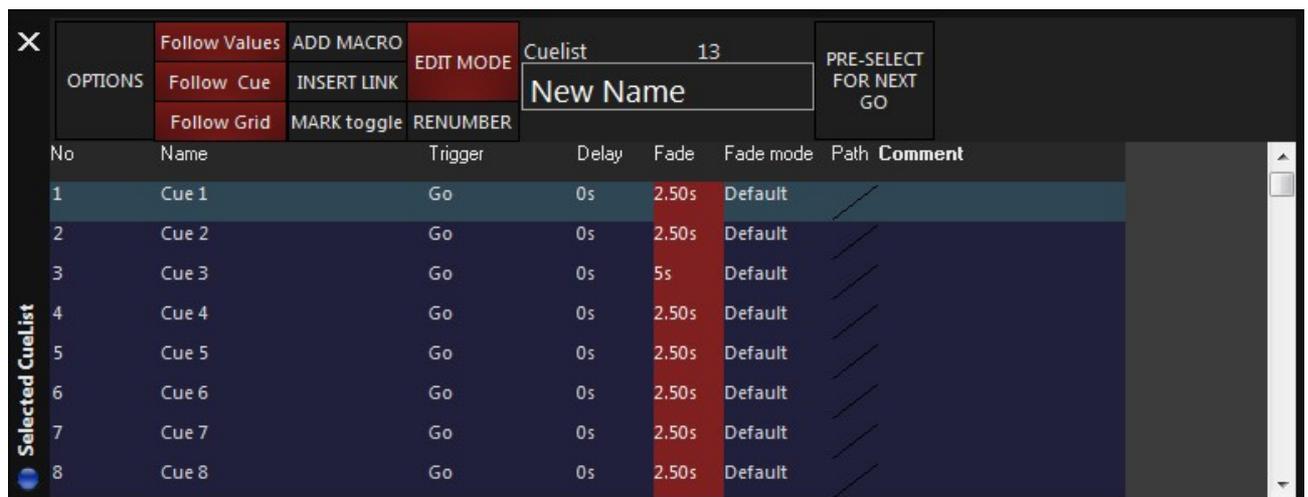


No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default	/	
2	Cue 2	Go	0s	2.50s	Default	/	
3	Cue 3	Go	0s	5s	Default	/	
4	Cue 4	Go	0s	2.50s	Default	/	
5	Cue 5	Go	0s	2.50s	Default	/	
6	Cue 6	Go	0s	2.50s	Default	/	
7	Cue 7	Go	0s	2.50s	Default	/	
8	Cue 8	Go	0s	2.50s	Default	/	

You can also select a range of cues by using the trackball to click-and-drag or you can touch-and-drag using your finger.

To change the base time to 5 seconds for all cues:

1. Ensure that "Edit Mode" is active.
2. Select the Fade time for all the cues by touch-dragging or click-dragging on them. The cells will highlight in red and the command line will read "Set Cue 1+2+3+4+5 Fade".



No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default	/	
2	Cue 2	Go	0s	2.50s	Default	/	
3	Cue 3	Go	0s	5s	Default	/	
4	Cue 4	Go	0s	2.50s	Default	/	
5	Cue 5	Go	0s	2.50s	Default	/	
6	Cue 6	Go	0s	2.50s	Default	/	
7	Cue 7	Go	0s	2.50s	Default	/	
8	Cue 8	Go	0s	2.50s	Default	/	

3. Press **5 Enter**.

Setting a Cue's Base Delay Time

The Base Delay time of a cue is the amount of time after the go trigger for that cue has executed and the time that the cue actually begins. By default, this time is zero. The process for changing the Base Delay time is identical

to that of changing the Base Fade time, both for individual cues and for cue ranges.

Split Cue Timing

The console allows for the “splitting” of both fade and delay timing. When a cue is split, fixtures whose intensity is increasing (up moves), can be set at a different time than those fixtures that are decreasing in intensity (down moves.) Note that the time set for the up move will also act as the base time for the cue. That is to say that if a cue has an “uptime” of 10 seconds, all attributes of all fixtures will move at ten seconds except where overrides are entered. The downtime will affect only the intensity attribute of any fixtures that are decreasing in that cue; all other attributes will take their timing from the uptime.

To set a split time for a cue:

1. Select the Fade or Delay times of the desired cue(s) as described above
2. Enter the uptime remembering that this will also serve as the base time for the fade or delay
3. Press the “/” (slash) button
4. Enter the downtime
5. Press **Enter**

To remove a split time

1. Select the Fade or Delay times of the desired cue(s)
2. Enter the base time desired
3. Press **Enter**

Setting an Individual Attribute Fade Time

Aside from setting base times for cues, you can set specific times for any attribute or attribute group of any fixture or group of fixtures. These times override the base cue timing and range from 0 seconds to one hour. For our example, we’ll use cue 1 with a base time of 5 seconds but we’re going to change the intensity timing to zero as follows:

1. Select the desired cuelist.
2. Select the fixtures who’s fade time you wish to change.
3. Select the attribute group with the desired attribute with the attribute group LCD buttons. Use **Intensity** for this example.
4. Press the **Fade** button.
5. Press the Intensity attribute hard button.
6. Press “0” on the keypad.

Once you have done this, you will see the following in the command line:

```
DEMO SET FADE CHANNEL Intensity @ 0
```

This indicates that the selected fixtures will be set to an intensity fade time of zero.

7. Press **Enter** to record the change into the Programmer:

Number	Intensity	Shutter
1	100%	-
FADE	0s	0s
2	100%	-
FADE	0s	0s
3	100%	-
FADE	0s	0s
4	100%	-
FADE	0s	0s
5	100%	-
FADE	0s	0s
6	100%	-
FADE	0s	0s
7	100%	-
FADE	0s	0s
8	100%	-
FADE	0s	0s

Here we can see that fixtures 1-8 have fade times of 0 seconds (0s) associated with them. By following the column of zeros up, we can see that they are in the Intensity column. So, all the fixtures will now “Snap” on in 0 seconds regardless of the cue fade time. To finish the process:

8. Press **Record Cue 1 Merge Enter**.

Cue 1 has now been updated with the new cue override times as is reflected in the cuelist view:

No	Name	Trigger	Delay	Fade	Override	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	0s	Default		
2	Cue 2	Go	0s	2.50s		Default		
3	Cue 3	Go	0s	5s		Default		

Looking at cue 1, you can see that under the header "Override" to the right of "Fade" a value of "0s" is displayed. This indicates that at least one attribute on at least one fixture has overridden the default fade time and that it/they have a time of 0 seconds. Had we programmed it so that half of the fixtures faded-in in time zero while the other half faded-in in 10 seconds, the display would read "0s>>10s."

Setting the Fade Time for an Attribute Group

In the example above, we examined how to set a fade time for an individual attribute (intensity). It is also possible to set the fade time for an entire attribute group, such as color. To do so:

1. Select the desired cuelist.
2. Select the fixtures you wish to change.
3. Press the **Fade** LCD button in the Playback Command.
4. Press the **Color** attribute LCD button.
5. Press **0 Enter** (or the time of your choice) on the keypad.

We can see that all the color attributes have been set to a fade time of 0 seconds by looking at the Programmer screen:

Number	Cyan	Magenta	Yellow	CTC	Color
1	0s	0s	0s	0s	0s
2	0s	0s	0s	0s	0s
3	0s	0s	0s	0s	0s
4	0s	0s	0s	0s	0s
5	0s	0s	0s	0s	0s
6	0s	0s	0s	0s	0s
7	0s	0s	0s	0s	0s
8	0s	0s	0s	0s	0s

6. Press **Record Cue xx Merge Enter** to complete.

Setting an Attribute Delay Time

An attribute's delay time is the amount of time between when the cue starts, and when the attribute begins its fade. The attribute delay time is set in much the same way as the attribute or attribute group fade time. We will program a cue such that the Mac Viper's will move 2.5 seconds using the following procedure:

1. Select the desired cuelist.
2. Press the "**Mac Viper**" group button to select the fixtures
3. Press the "**Pan Tilt**" attribute group LCD button.
4. Press the **Delay** button.
5. Press **2.5 Enter** to set the pan and tilt delay to 2.5 seconds

MAC Viper Profile Mode 16bit		
Number	Pan	Tilt
1	-	-
DELAY	2.50s	2.50s
2	-	-
DELAY	2.50s	2.50s
3	-	-
DELAY	2.50s	2.50s
4	-	-
DELAY	2.50s	2.50s
5	-	-
DELAY	2.50s	2.50s
6	-	-
DELAY	2.50s	2.50s
7	-	-
DELAY	2.50s	2.50s
8	-	-
DELAY	2.50s	2.50s

We can now see that the Pan and Tilt attributes of the Mac Viper's all have a delay time of 2.5 seconds.

To complete this process:

6. Press **Record Cue xx Merge Enter**.

Note that a single attribute can have its delay time set by pressing the hard button for that specific attribute in the same way that one would set a fade time for a specific attribute.

Setting a Staggered Delay Time (Delay Fanning)

The M-Series makes it very quick and simple to fan the attributes of a group of fixtures. Fanning can be defined as taking a delay time range (such as 0 to 11 seconds) and applying that delay evenly across a group of fixtures. For example, if you did specify a delay of 0 to 11 seconds and then applied that delay evenly across 12 fixtures, fixture one would begin its move as soon as the cue began, fixture 2 would delay one second, fixture 3 would delay 2 seconds, etc.

To examine how this works, create a new cuelist using the training file.

1. Select group [Mac 101] **Full**
2. Press **Record** and the Selection Button on an empty playback control to create cue 1 in a new cuelist.
3. Press the "Pan Tilt" attribute group LCD button.
4. Using the tilt track belts/wheels, set tilt to 72%.
5. Press the **Delay** button.
6. Press the **Pan Tilt** attribute group LCD button.
7. On the keypad, press **0 Thru 10**.

At this point if you look at the command line, you'll see the following:

DEMO	SET DELAY Pan Tilt @ 0>10
------	---------------------------

8. Press **Enter**.

MAC 101 Mode 16-Bit			
Number	Pan	Tilt	Intensity
51	50%	72%	100%
DELAY	0s	0s	
52	50%	72%	100%
DELAY	0.66s	0.66s	
53	50%	72%	100%
DELAY	1.33s	1.33s	
54	50%	72%	100%
DELAY	2s	2s	
55	50%	72%	100%
DELAY	2.66s	2.66s	
56	50%	72%	100%
DELAY	3.33s	3.33s	
57	50%	72%	100%
DELAY	4s	4s	
58	50%	72%	100%
DELAY	4.66s	4.66s	
59	50%	72%	100%
DELAY	5.33s	5.33s	
60	50%	72%	100%
DELAY	6s	6s	
61	50%	72%	100%
DELAY	6.66s	6.66s	
62	50%	72%	100%
DELAY	7.33s	7.33s	
63	50%	72%	100%
DELAY	8s	8s	
64	50%	72%	100%
DELAY	8.66s	8.66s	
65	50%	72%	100%
DELAY	9.33s	9.33s	
66	50%	72%	100%
DELAY	10s	10s	

By looking at the Programmer, you can see that the delay time of zero to 10 seconds has been evenly distributed across the 16 fixtures.

To complete this operation,

9. Press **Record** and the cue list selection Selection Button used to create cue 1
10. Clear the Programmer.

DELAY FANNING FROM MULTIPLE POINTS

In much the same way that a standard fan is created, you can change the delay time so that the fade will begin at multiple points throughout the selected fixtures. For example:

1. Press **Edit Cue 2 Enter**.
2. Select the desired fixtures.
3. Press the **Delay** button.
4. Press the **Pan Tilt** attribute group LCD button.
5. On the keypad, press **0 Thru 5 Thru 0 Enter**.
6. Press **Update**.

Now, when cue 2 is executed, you will see that the fan begins from the beginning and end of the selected fixtures and works its way towards the middle. Conversely, had we wished to start in the middle and work out, we would set the delay time to **10 Thru 0 Thru 10**. It is possible to use multiple "Thru" commands to construct your fan effect.

Setting a Staggered Fade Time (Fade Fanning)

Fade timing may also be fanned using the same procedures described above for fanning the delay timings.

Changing Cue Overrides

When setting either a standard or staggered fade or delay time, a new field is added in the Selected Cuelist screen showing the override time(s) for the affected cue(s).

No	Name	Trigger	Delay	Override	Fade	Override Fade mode	Path	Comment
1	Cue 1	Go	0s		2.50s	0s	Default	
2	Cue 2	Go	0s	0s >> 10s	2.50s		Default	

Here we can see that Cue 1 has a fade override of one second and Cue 2 has a delay override ranging from zero to ten seconds. While you can not see here which fixtures are affected - go to the Cuelist Values screen - at least one attribute of one fixture will be affected whenever the override column is displayed. Changing these times is done in much the same way that a base fade or delay time is changed.

To change "standard" override

1. Select the fade or delay override time of the desired cue by pressing or clicking on it. You can also click and drag to select a number of cues simultaneously.
2. Enter the new fade/delay time
3. Press **Enter**

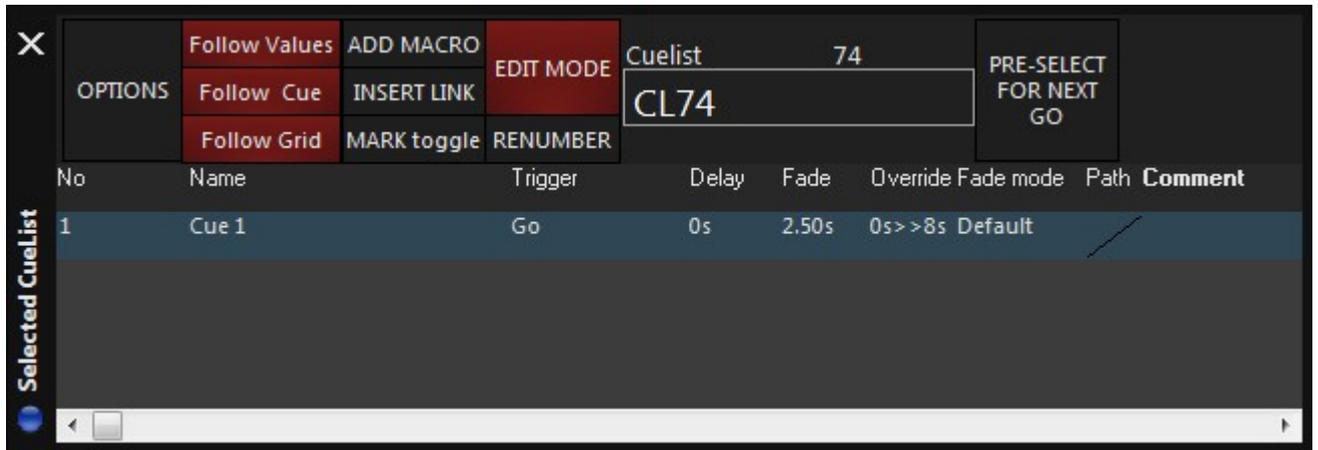
To change "ranged" overrides

1. Select the fade or delay ranged time (such as 0s >> 10s in the example above) by pressing or clicking on it
2. Enter the new lower range
3. Press **Thru**
4. Enter the new upper range
5. Press **Enter**

Note that when an override time is changed in this manner, any and all fixtures with override times in them will be affected, regardless of attribute category. If the color and pan/tilt attributes are both set with an override of 5 seconds and the override is then changed to 10 seconds, both color and pan/tilt will be affected. However, when attributes within a cue are set at different values and the range is changed as described above, those attributes will move in proportion to one another.

For example: select five fixtures and assign their color attributes to a fade of zero to eight and their pan/tilt attributes to a fade of zero to four and record this as a cue. When we press **Edit Cue 1 Enter** we will see Programmer and Selected Cuelist screens similar to this:

Number	Pan	Tilt	Cyan	Magenta	Yellow	CTC	Color
1	-	-	-	-	-	-	-
FADE	0s	0s	0s	0s	0s	0s	0s
2	-	-	-	-	-	-	-
FADE	1s	1s	2s	2s	2s	2s	2s
3	-	-	-	-	-	-	-
FADE	2s	2s	4s	4s	4s	4s	4s
4	-	-	-	-	-	-	-
FADE	3s	3s	6s	6s	6s	6s	6s
5	-	-	-	-	-	-	-
FADE	4s	4s	8s	8s	8s	8s	8s



We can see that the override timings have been evenly distributed as specified. Now, clear the Programmer (**Clear Clear**) and, by selecting the fade override cell in the cuelist, change the timing to zero through 16 and re-record as cue 1. Again press **Edit Cue 1 Enter** and the following should appear on the Programmer screen:

MAC Viper Profile Mode 16bit							
Number	Pan	Tilt	Cyan	Magenta	Yellow	CTC	Color
1	-	-	-	-	-	-	-
FADE	0s	0s	0s	0s	0s	0s	0s
2	-	-	-	-	-	-	-
FADE	2s	2s	4s	4s	4s	4s	4s
3	-	-	-	-	-	-	-
FADE	4s	4s	8s	8s	8s	8s	8s
4	-	-	-	-	-	-	-
FADE	6s	6s	12s	12s	12s	12s	12s
5	-	-	-	-	-	-	-
FADE	8s	8s	16s	16s	16s	16s	16s

By taking the original override time from "0s > 8s" to "0s > 16s", we doubled the fade overrides and they have been increased proportionately and relatively to one another.

To remove an override from an entire cue

1. Select the cell(s) containing the override time to be removed
2. Press the "-" (minus) button
3. Press **Enter**

It is also possible to remove only *some* of the overrides in a cue using the Clear Options pop-up window (see ["The Clear Options Window"](#)).

To remove overrides from some fixtures in a cue:

1. Press the **Load** button
2. Selected the desired fixtures
3. Press @ **Cue xx** where "xx" is the cue number to be altered
4. Press the **Clear** button
5. Select the **TIMING VALUES** option from the Clear Options pop-up window. Also deselect **BASE VALUES** and **EFFECTS VALUES** and apply any other filters desired.
6. Press **Enter**
7. Press **Update** to record

Setting Cue Triggers

The trigger for a cue determines what event is required for that trigger to execute. The most basic is the "Go" trigger which merely requires pressing the appropriate "Go" button. The M-Series supports two other trigger types, "Wait" and "Follow" both of which will automatically advance cues down the cuelist.

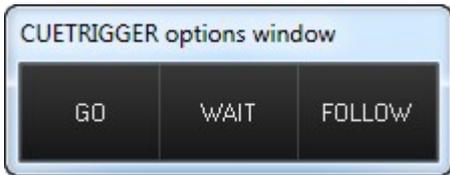
SETTING A WAIT TRIGGER

A cue with a wait time will automatically execute x seconds after the previous cue is executed, it is important to note that the cue will be triggered *regardless* of whether or not the previous cue has finished its fades. That is to say that if a cue is created with a wait time of 7 seconds, it will automatically begin 7 seconds after the previous cue *starts*.

”

To set a Wait trigger, use the following procedure:

1. Confirm that EDIT MODE is unlocked.
2. Select the desired cuelist by pressing the appropriate cuelist selection Selection Button.
3. Press the current trigger value (Go, Follow, or Wait) of the desired cue.
4. The following pop-up window will appear:



5. Press the **Wait** button.
6. The command line will now read "CUE TRIGGER CUE 1 Wait @"
7. Enter the desired Wait time (in seconds)
8. Press **Enter** to complete the command

SETTING A FOLLOW TRIGGER

A cue with a follow time will automatically execute x seconds after the previous cue has completed its parameter moves. That is to say that if a cue is created with a follow time of 7 seconds, it will automatically begin 7 seconds after the previous cue *finishes*.

The procedure to set a follow trigger is the same as that used in setting a wait trigger except that in step 5, press the **Follow** button.

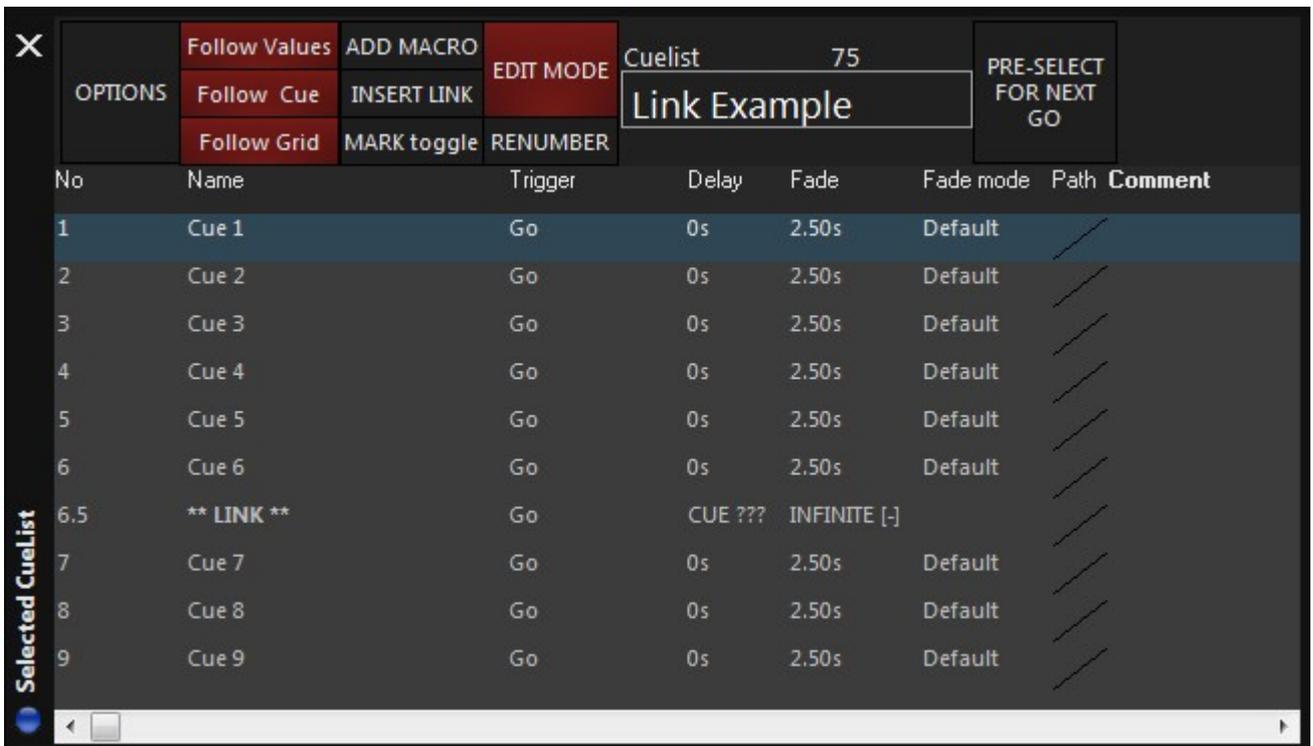
Linking Cues

The console allows you to insert a special type of cue that will link one cue to another in the same cuelist. In this way, you can go forward or backward through the list in a non-sequential order.

Note: When selecting a specific cue for functions such as linking and macros, press or click the cue number, not the cue name. Clicking in the Name column is how you edit the cue s name.

To link one cue to another:

9. Select the desired cuelist and ensure the Edit Mode is on.
10. Highlight the cue you wish to link from and press the "Insert Link" button at the top of the cuelist.



By selecting cue 6 as the cue to link from, cue 6.5 has been created.

11. Under the Delay column, press "CUE???" The command line will read "SET CUE 6.5 LINK TO CUE @."

12. Press **xx** (cue number to link to) and **Enter**.

13. By default, the number of times the link will be repeated (the "Count") is infinite [-]. To edit this, under the Fade column, press "INFINITE [-]." The command line will read "SET CUE 6.5 LOOP COUNT @."

14. Press **xx** (number of times the link is to loop back) **Enter**.

No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default	/	/
2	Cue 2	Go	0s	2.50s	Default	/	/
3	Cue 3	Go	0s	2.50s	Default	/	/
4	Cue 4	Go	0s	2.50s	Default	/	/
5	Cue 5	Go	0s	2.50s	Default	/	/
6	Cue 6	Go	0s	2.50s	Default	/	/
6.5	** LINK **	Go	CUE 3	COUNT 4		/	/
7	Cue 7	Go	0s	2.50s	Default	/	/
8	Cue 8	Go	0s	2.50s	Default	/	/
9	Cue 9	Go	0s	2.50s	Default	/	/

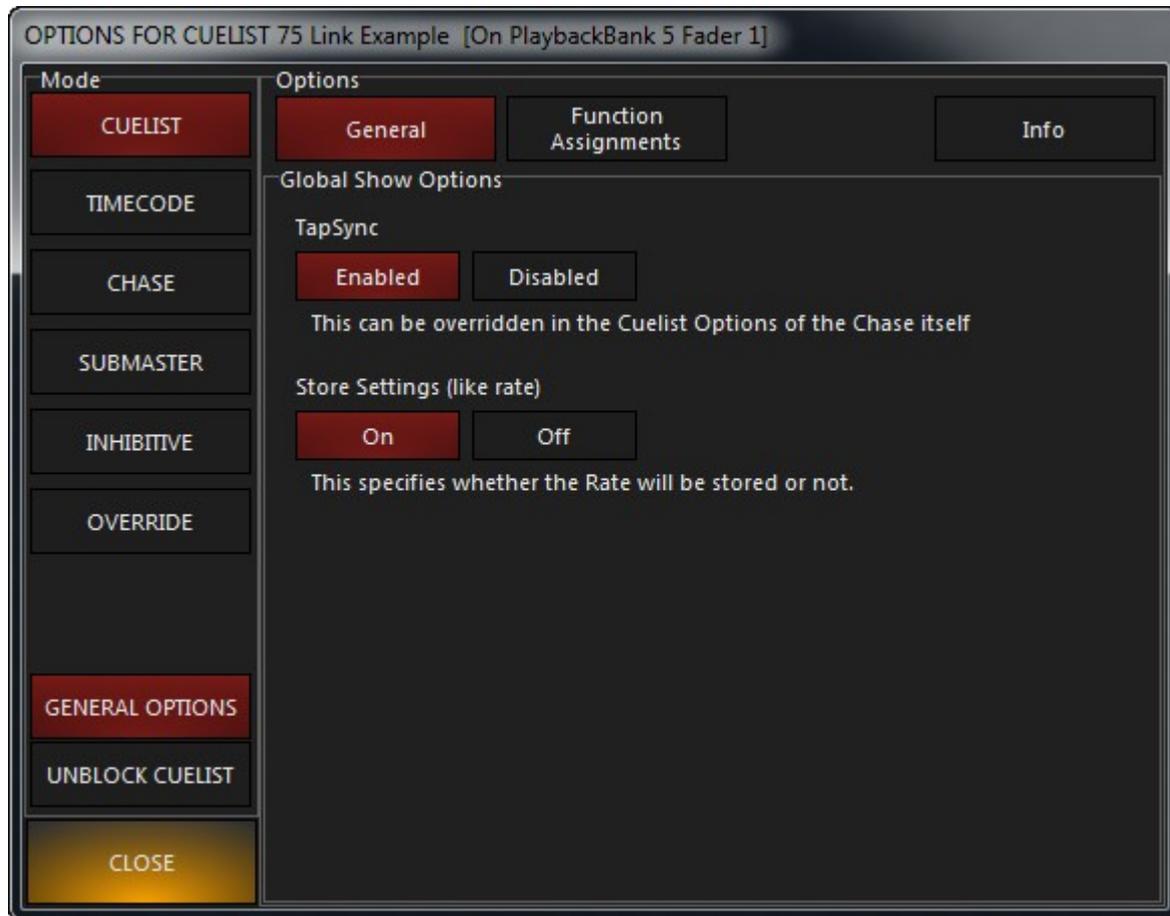
In the above example, you can see that cue 6 will link back to cue 3 four times and then advance to cue 7. If cue 7 were set as a Wait or a Follow, it would automatically advance after the fourth loop back to cue 3.

Note: When linking cues forward (i.e. linking cue 3 to cue 6), the Count will not apply. Every time you go through cue 3, you will link forward to cue 6.

General Options

To access the General Options, press the "GENERAL OPTIONS" button, found in the lower-left corner of the Cuelist Options window. The General Options window contains some Global Show Options which are also available in the console's Cue Settings menu. They are placed here for convenience.

Global Show Options



TapSync

This is the console global setting for chase TapSync. See "[TapSync](#)" for more information.

Store Settings (like rate)

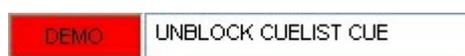
This is the console global setting that determines whether changes to a chase's settings will be stored. For more information on chase settings, see "[Chase](#)."

Unblock Cuelist

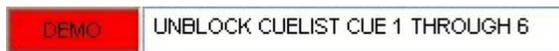
As mentioned earlier, the M-Series is an LTP console. It is expected that an attributes value will track from cue to cue until it is specifically given a new value. However, it is possible to inadvertently "block" that tracking action. For example, if in cue 1 you have fixture 1 at full and you then copy a cue from a different cuelist that also has fixture 1 at full and you then record that as cue 2, fixture 1 will have a "hard" (non-tracked) value of full in both cue 1 and 2. This means that a change to the intensity of fixture 1 in cue 1 would not track through cue 2. Pressing the "UNBLOCK CUELIST" button removes those blocks and allows for normal tracking.

Using the UNBLOCK CUELIST Command

To unblock a cuelist, open the Cuelist Options window and press the UNBLOCK CUELIST button located in the lower-left portion of the window. The commandline will display "UNBLOCK CUELIST CUE." Shown below:



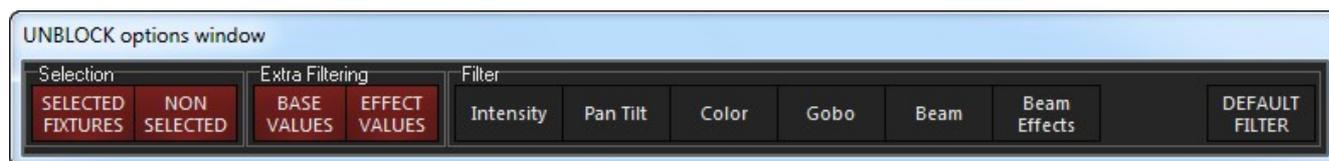
At this point you can either press **Enter** to unblock the entire cuelist or you can enter a range of cues and press **Enter**. When entering a range of cues, only the cues contained in the range will be unblocked.



Note: When unblocking a range of cues, only a simple range will be accepted. For instance, "UNBLOCK CUELIST CUE 1 THROUGH 6" will do just that, but "UNBLOCK CUELIST CUE 1 THROUGH 2 + 4 THROUGH 5" will fail silently.

UNBLOCK Options Window

When you press the UNBLOCK CUELIST button, the "UNBLOCK options window" pops up to allow you to filter what values are unblocked. These filters work in exactly the same way as the record options described earlier in this manual. See "[The Record Options Window](#)" for more details.



A powerful feature of the UNBLOCK options window is the Selection filter. By deselecting the "NON SELECTED" filter, you can unblock only the fixtures you have selected in the programmer.

Example: UNBLOCK CUELIST

Suppose that you have 3 cues. In the first cue, fixture 1 and fixture 2 have a hard intensity value of 100%. In the second cue, only fixture 1 has a hard value of 100% while fixture 2's intensity value has *tracked* from cue 1.

Fixture Number:	1	2
Cue 1	100%	100%
Cue 2	100%	100%
Cue 3	100%	100%

Let's say you have decided to reduce the intensity of both fixtures to 81% and have recorded that value into cue 1. All is well in cue 1, but, uh oh, fixture 1 fades back to 100% in cue 2 because its intensity has a hard value in cue 2. It is, as we say, *blocked* and does not track from cue 1.

Fixture Number:	1	2
Cue 1	81%	81%
Cue 2	100%	81%
Cue 3	100%	81%

Let's go back to our original cues...

Fixture Number:	1	2
Cue 1	100%	100%
Cue 2	100%	100%
Cue 3	100%	100%

Now, in order to prevent fixture 1's intensity from being blocked in cue 2, we could edit cue 2 and deactivate the intensity value. We could also record >Remove the value from cue 2. But what if there are 100 fixtures with blocked values across 50 cues?

The UNBLOCK CUELIST command searched through the cues looking redundant hard values. It then gets rid of the redundant hard values. The following chart shows the result of the UNBLOCK CUELIST command...

Fixture Number:	1	2
Cue 1	100%	100%
Cue 2	100%	100%
Cue 3	100%	100%

Viola! It found the duplicate value and got rid of it, clearing the way for nice, clean tracking.

Function Assignments

Default Button Behavior

For versatility, the M-Series allows playback buttons and faders to be configured any way you want.



1	Playback Button 1	This button defaults to "GO" and executes cues in ascending order when pressed.
2	Playback Button 2	This button defaults to "PAUSE/BACK" and will pause a cue during execution or execute cues in reverse order when pressed.
3	FADER	In a normal cue list, the fader controls the intensity value of the cue list. It defaults to LTP (Latest Takes Precedence). The FADER can also be configured as HTP (Highest Takes Precedence). In this setting, the cue list with the highest intensity value will persist whereas, in LTP, the intensity of the last executed cue list will override all others.
4	Selection Button	The Selection Button defaults to "SELECT" and is used to select a cue list for editing, viewing, main GO, etc.
5	Flash Button	The flash button defaults to "FLASH" and will temporarily set an active cue list's intensity level to full.

On the M1 controller, the Selection Button is replaced by another flash-type button. It still defaults to "SELECT" and operates just like the Selection Button.

Button Down Action Options

When a button is pressed, the Button Down Action is activated. Following is a list of available options...

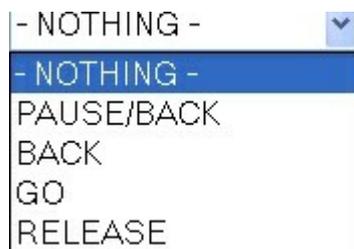


-NOTHING-	This function deactivates the Button Down Action.
SELECT	This function is used to select the cuelist for editing, viewing, main GO, etc.
ACTIVATE	The ACTIVATE function will "reassert" an active cuelist while remaining in the current active cue. It effectively brings the cuelist to the "top."
PAUSE	When pressed while a cue is running, the cuelist will pause any fade in progress. To resume the fade from where it left off, press Go again.
PAUSE/BACK	When pressed while a cue is running, the cuelist will pause any fade in progress. To resume the fade from where it left off, press Go again. <i>When pressed while paused or when a cue is not running, it will execute the previous cue.</i> The time used to return to that cue is the timing set for the cue you are returning to.
BACK	When pressed while paused or when a cue is not running, it will execute the previous cue. The time used to return to that cue is the timing set for the cue you are returning to.
GO	When pressed, the cuelist will activate and advance to the next cue. If the cuelist is paused, pressing this button will resume the fade from where it left off.
SNAP+GO	When "SNAP+GO" is selected and pressed, the cuelist will activate and advance to the next cue with zero timing. The values in the cuelist "SNAP" into place.
SNAP+BACK	When "SNAP+GO" is selected and pressed, the cuelist will activate and advance to the previous cue with zero timing. The values in the cuelist "SNAP" into place.
RELEASE	When selected, the button will act as an additional means of releasing the cuelist.

FLASH	When configured as a Flash button, pressing this button will drive the current cue in the associated cuelist to full, regardless of the position of the fader (also known as "Bump button).
FLASH+GO	When "FLASH+GO" is selected, pressing the button down will advance to the next cue in the cuelist and drive that cue to full, regardless of the position of the fader.
FLASH+ACTIVATE	When "FLASH+GO" is selected, pressing the button down will activate the current cue in the cuelist without moving forward and drive that cue to full, regardless of the position of the fader.
TOGGLE	When "TOGGLE" is selected, pressing the button once will activate the current cue in the cuelist and pressing the button again will release the cuelist.

Button Up Action Options

After pressing a button, when you let up on the button, the Up Action is activated. Following is a list of available Button Up Actions...



-NOTHING-	This function deactivates the Button Down Action.
PAUSE/BACK	When the button is released while a cue is running, the cuelist will pause any fade in progress. To resume the fade from where it left off, press Go again. <i>When the button is released while paused or when a cue is not running, it will execute the previous cue.</i> The time used to return to that cue is the timing set for the cue you are returning to.
BACK	When the button is released while paused or when a cue is not running, it will execute the previous cue. The time used to return to that cue is the timing set for the cue you are returning to.
GO	When the button is released, the cuelist will activate and advance to the next cue. If the cuelist is paused, pressing this button will resume the fade from where it left off.
RELEASE	When selected, releasing the button will also release the cuelist

FADER Options

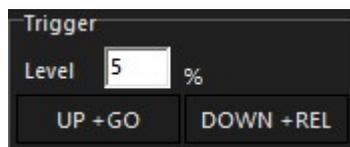
A fader can be configured to behave in different ways.

Fader Action Options



-NOTHING-	When selected, moving the fader will have no effect on the intensity of the cuelist.
HTP	This sets the fader to HTP mode. In this setting, the cuelist with the highest intensity value will persist
LTP	This sets the fader to LTP mode. In this setting the intensity of the last executed cuelist will override all other cuelists with an equal or lesser priority.

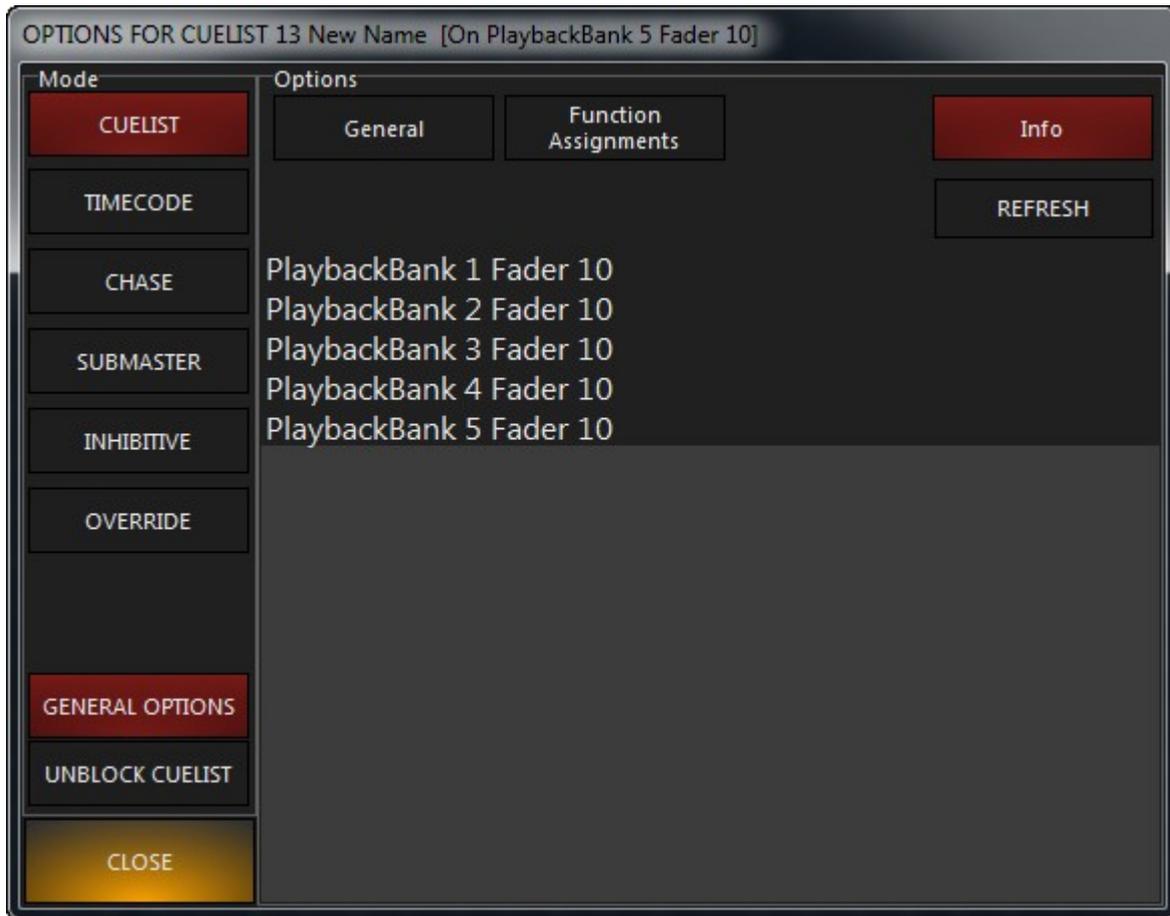
Fader Trigger Options



Level	When UP+GO is selected, the Trigger Level determines what value the fader must exceed before those functions are executed. The default is 5%.
UP+GO	When enabled, once the fader exceeds the Trigger Level, the cuelist will activate and advance to the next cue. If the cuelist is paused, pressing this button will resume the fade from where it left off.
DOWN+REL	When enabled, once the fader is set back to zero, the cuelist will be released.

Cuelist Info

The Cuelist Info window is accessed by pressing the "Info" button at the top right corner of the Cuelist Options window. This window shows where the currently selected cuelist is placed on the console payback faders. This can be helpful when determining where a cuelist is used in a show.



Auto Mark

Sometimes it is desirable to have fixtures preset in a position before a cue is run. Rather than sweeping from their last position or scrolling through various attributes, the fixtures are simply "there" when they fade in. A fixture that is preset with a position or other attributes prior to fading in is said to be **"Marked."** While it is entirely possible to achieve this manually during programming, the process can be simplified with a little automation. The M-Series conveniently provides a MARK function just for this purpose...

MARK

The MARK function looks for fixtures with 0% intensity (tracked or active) and reads ahead, giving them attribute values for the upcoming cue. It is activated in the Cuelist Options window [under the "Tracking" heading](#).

Note: Fixtures with a null intensity value will not be marked; they must have an intensity value of 0%. A tracked value of 0% is valid.

MARK per Cuelist

To demonstrate the MARK function, we'll begin by selecting Mac Viper number 1 and giving it 0% intensity. Record this in a new cuelist as cue 1.

MAC Viper Profile Mode 16bit		
Number	Intensity	Shutter
1	0%	-

Cue 1

Now select fixtures 1 and 2 and give them some Pan Tilt and Color values. Store this as cue 2.

MAC Viper Profile Mode 16bit								
Number	Cyan	Magenta	Yellow	CTC	Color	Pan	Tilt	Intensity
1	0%	100%	0%	-	-	50%	75%	100%
2	0%	100%	0%	-	-	50%	75%	100%

Cue 2

X		Follow Values	ADD MACRO	EDIT MODE	Cuelist	76	PRE-SELECT FOR NEXT GO
OPTIONS		Follow Cue	INSERT LINK	RENUMBER	Mark Example		
		Follow Grid	MARK toggle				
No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default		
2	Cue 2	Go	0s	2.50s	Default		

Press GO and observe that the Color and Pan Tilt values remain unchanged in cue 1. For the sake of illustration, we will use the Output Screen to view the fixture attribute values:

MAC Viper Profile Mode 16bit																						
ID	Shutter	Intensity	Cyan	Magenta	Yellow	CTC	Color	Gobo 1	Gobo 1 Rot	Gobo 2	Gobo 2 Rot	Gobo 3	Gobo 3 Speed	Frost	Prism	Prism Rot	Iris	Zoom	Focus	Pan	Tilt	Chl
1	13%	0%	0%	0%	0%	100%	0%	0%	50%	0%	50%	0%	0%	0%	0%	50%	0%	73%	46%	50%	50%	0%
2	13%	0%	0%	0%	0%	100%	0%	0%	50%	0%	50%	0%	0%	0%	0%	50%	0%	73%	46%	50%	50%	0%

Press GO to execute cue 2 and observe that fixtures 1 and 2 fade to the values you recorded.

ID	Shutter	Intensity	Cyan	Magenta	Yellow	CTC	Color	Gobo 1	Gobo 1 Rot	Gobo 2	Gobo 2 Rot	Gobo 3	Gobo 3 Speed	Frost	Prism	Prism Rot	Iris	Zoom	Focus	Pan	Tilt	Ctrl
1	13%	100%	0%	100%	0%	100%	0%	0%	50%	0%	50%	0%	0%	0%	0%	50%	0%	73%	46%	50%	75%	0%
2	13%	100%	0%	100%	0%	100%	0%	0%	50%	0%	50%	0%	0%	0%	0%	50%	0%	73%	46%	50%	75%	0%

In the [Cuelist Options window](#), enable "MARK per Cuelist." The Selected Cuelist screen will display "MARK per Cuelist" just below the cuelist name.



Now make sure the cuelist is inactive by holding REL and pressing the cuelist GO button (for more information, see ["Releasing Cuelists"](#)).

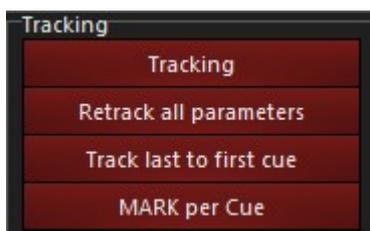
Note: Changes to the MARK settings will not take effect until the cuelist has been released.

Execute cue 1 again by pressing the GO button and observe that fixture 1 has *magically* faded to its cue 2 values, but has no intensity. Also note that fixture 2 is unchanged since it has no intensity value (active or tracked) in cue 1. Fixture 1 is **Marked** and ready for cue 2.

ID	Shutter	Intensity	Cyan	Magenta	Yellow	CTC	Color	Gobo 1	Gobo 1 Rot	Gobo 2	Gobo 2 Rot	Gobo 3	Gobo 3 Speed	Frost	Prism	Prism Rot	Iris	Zoom	Focus	Pan	Tilt	Ctrl
1	13%	0%	0%	100%	0%	100%	0%	0%	50%	0%	50%	0%	0%	0%	0%	50%	0%	73%	46%	50%	75%	0%
2	13%	0%	0%	0%	0%	100%	0%	0%	50%	0%	50%	0%	0%	0%	0%	50%	0%	73%	46%	50%	50%	0%

MARK per Cue

If you only want fixtures to mark automatically for certain cues, you can use MARK per cue... In the Cuelist OPTIONS window, enable "MARK per Cue."



Select the cue that you want fixtures to MARK *in preparation for* and click or press "MARK toggle." A red "M" will appear to the left of the cue name to indicate that **fixtures with 0% intensity in the preceding cue will mark automatically**.

The screenshot shows a software interface for managing a cue list. At the top, there is a menu with several options: 'Follow Values', 'ADD MACRO', 'EDIT MODE', 'Follow Cue', 'INSERT LINK', 'Follow Grid', 'MARK toggle', and 'RENUMBER'. The 'MARK toggle' option is highlighted with a yellow starburst icon. Below the menu, there is a table with the following columns: 'No', 'Name', 'Trigger', 'Delay', 'Fade', 'Fade mode', 'Path', and 'Comment'. The table contains two rows of data:

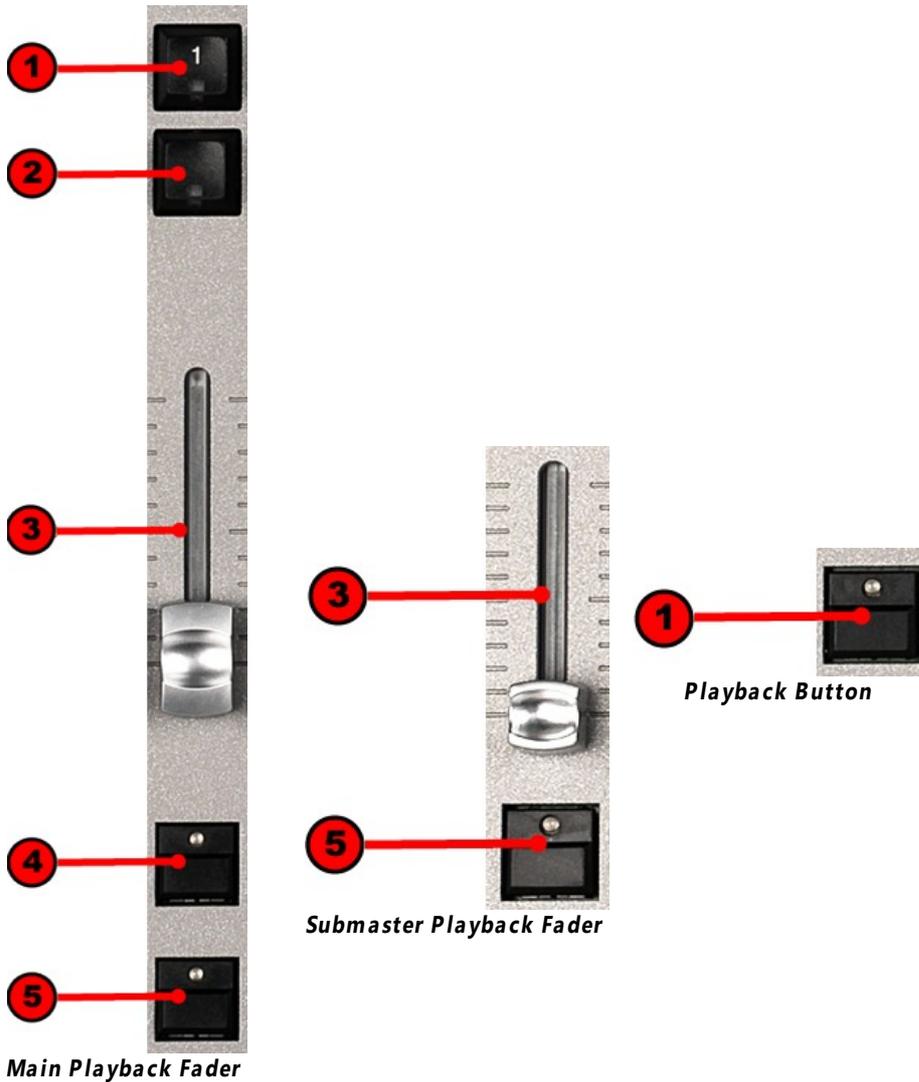
No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default	/	
2	M Cue 2	Go	0s	2.50s	Default	/	

The 'MARK per Cue' option in the menu and the 'M' in the name of Cue 2 are highlighted with red boxes. The interface also shows 'Cue list 76' and 'Mark Example' at the top right, and 'PRE-SELECT FOR NEXT GO' in a button.

Note: The Auto Mark feature is non-destructive; the cue list is not changed in any way and disabling the function will revert the behavior of the cue list.

Executing Cuelists

Playback Controls



1	GO
2	Pause/Back
3	Fader
4	Select
5	Flash

On the main playback section there are 10 sets of Playback Controls. Each of these controls pertains to an individual cue list. The Buttons and Faders are configurable via the [Cue List Options](#) - Function Assignments section.

The “Main Go” Control

This area consists of five buttons.



The Main Go and Main II/Back (pause/back) buttons are convenient, fast-access buttons for fading the next cue and pausing/fading the previous cue in the cue list designated as the *main* cue list. If no cue list is designated “as main”, then the Main II/Back and Go buttons control the *selected cue list*.

A cue list is set “as main” in the Cue List Directory screen. See [“As Main”](#). The *selected cue list* is discussed under [“Selecting a Cue List”](#).

The Snap and Rel buttons are used in conjunction with other buttons. In the table below, (button a) + (button b) means press-and-hold button a and press button b.

The Select Button will function as a normal Selection Button if the “Main GO” section is assigned to a cue list “As Main”. If not it can be held down so you can touch the “GO” button of a playback that doesn't have a “Select” function assigned to one of its playback keys. This is useful functionality for Playback Buttons and Submasters.

Note: if no cue list is designated “as main”, the applicable snap and release functions control the *selected cue list* instead.

Combination	Function
Snap + Main Go	Snaps the next cue in the selected cue list.
Snap + any Go	Snaps the next cue in the cue list assigned to the playback.
Snap + Cue XX Enter	Snaps cue XX in the selected cue list.
Snap + Main II/Back	Snaps the previous cue in the assigned cue list.
Snap + any Pause	Snaps the previous cue in the cue list assigned to the playback.
Snap + Rel	Global release: All active cue lists (except those set to “Ignore Global Release” (“ Default Release Time ”) release by <i>fading intensity to zero first</i> and then returning all other attributes to their default.
Rel + Snap	Global release: All active cue lists (except those set to “Ignore Global Release” (“ Default Release Time ”) release by <i>simultaneously fading all attributes</i> to their default.
Rel + Main Go	Releases the selected cue list.
Rel + any Go	Releases the cue list assigned to the playback.

Playback Pages (Banks)

The M-Series supports 500 playback pages called “banks”. Each bank contains 10 cuelists that correspond to the 10 playback controls.

Bank Display

5 Bank 5	1	Cue 1 Example	2	Chase Example	3	Override Example	4	Submaster Example	5	Inhibitive Example	10	TC Example				
	3	Cue 3			1	Cue 1					1	Timecode Trigger 1				
	4	Cue 4			2	Cue 2					2	Timecode Trigger 2				
	#75	3/10	100%	#76	-/2	100%	#13	1/8	100%	#77	100%	#78	100%	#13	1/8	100%

The bank list is displayed at the bottom of the Playback screen. The active bank is shown on the left. Touching the active bank icon will show a popup allowing you to jump to other banks.

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

5 Bank 5	1	Cue 1 Example	2	Chase Example	3	Override Example	4	Submaster Example	5	Inhibitive Example	10	TC Example				
	3	Cue 3			1	Cue 1					1	Timecode Trigger 1				
	4	Cue 4			2	Cue 2					2	Timecode Trigger 2				
	#75	3/10	100%	#76	-/2	100%	#13	1/8	100%	#77	100%	#78	100%	#13	1/8	100%

In the example shown above, the console is currently in bank Five. Taking a look at the cuelists, we can see the following from left to right, top to bottom:

- the playback control number, the cuelist priority, and fader level
- a dynamic progress indicator (if currently fading a cue)
- the cuelist type, cuelist number, current cue/total cues
- the number and name of the current cue
- the number and name of the next cue in the cuelist

Cuelists are also color coded by type as shown in the above example. The selected cuelist will have a white box drawn around it.

Note: You can select a cuelist by touching or clicking it on this screen.

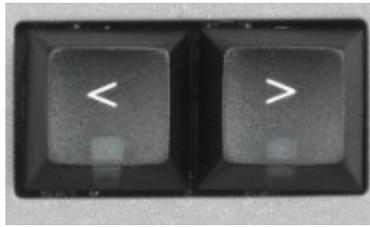
Changing Banks

There are several ways to change banks. You can

- scroll through bank pages using the jog wheel to the left of the playback controls, press the “Next Bank” and “Prev Bank” Playback Command buttons,
- press **Bank XX Enter** to select bank xx.
- press a bank label on the touch screen.



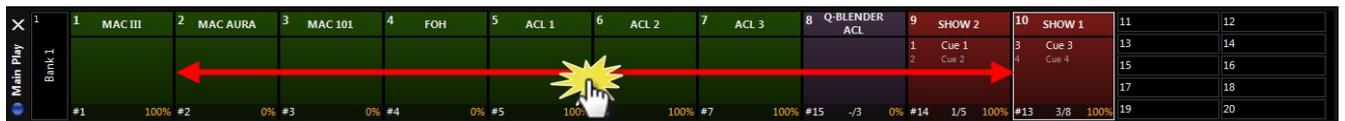
Bank Jog Wheel



**Bank + 1
Bank - 1**

Changing banks using swipe gestures

Swiping your finger across the Main Playback Bank Status or the Sub Bank Status will advance through banks. Swiping right to left will go forward one bank, and left to right will go back one bank.



Labeling a Bank

Banks can be named. To change the bank label:

1. Go to the bank whose label you wish to change.
2. Press **Edit**
3. Press the **Bank** button.
4. Type the label text.
5. Press **Enter**.

Selecting a Cuelist

There can be any number of *active* cuelists, but there can only be one *selected* cuelist at any time.

What is the *selected* *cuelist*? The M-Series has several functions, commands, and screens that only work with one - and only one - cuelist at a time such as the Playback Command functions, the cue edit function, the "Selected Cuelist" and "Cuelist Values" screens, and the "Selected Cuelist" playback timing control. The *selected* *cuelist* is the one that is acted upon or displayed by these functions, commands, and screens.

You can select a cuelist to be the *selected* *cuelist* by

- pressing the Selection Button of a playback control,
- selecting it from the Cuelist Directory screen,
- selecting it from the Playback screen,
- pressing "Select" or "+Select" and then pressing its button in the Playback Buttons screen, or
- selecting it from the Active Cuelists screen.
- touching its status area usually found above the playback fader section

When a Cuelist is running on a Playback with no select key assigned to it, you must use the Select key located above the Main Playback Controls (Pictured below). Hold down the Select key, this shows which playbacks have Cuelists assigned to them, then press one of the buttons pertaining to the Playback/Cuelist you wish to select.



You may also double click the Select key to activate "Select Lock". In this mode, all playback buttons become select keys temporarily until "Select Lock" is disabled. To Disable Select Lock, hit the Select key again.

Releasing Cuelists

Releasing (or *clearing*) a cuelist will cause the selected playback control to cease outputting instructions to its associated fixtures and cancels any cues, chases, overrides, or timecode cues. You can release a specific cuelist or you can release all cuelists.

Releasing an Individual Cuelist

To release an individual cuelist:

1. Press and hold the "Rel" hard button.
2. Press the "Go" button of the playback control for the desired cuelist.
3. Release both buttons.

Releasing All Cuelists

There are two ways to release all cuelists.

Hold REL, hit SNAP

All attributes in all faders on all banks will return to their "home" position in the default fade time.

1. Press and hold the "Rel" and then press the "Snap" hard buttons (above the Main Go).
2. Release both buttons

Hold SNAP, hit REL

All intensity values of all fixtures on all pages will fade to zero and then all other attributes in all faders on all banks will return to their "home" position.

1. Press and hold the "Snap" and then the "Rel" hard buttons in the Main Go area
2. Release both buttons

Automatically Releasing Cuelists

You can also release all or specified cuelists using macros. Please see "[Using Macros](#)" for complete information.

Changing Global Cue Timing

The M-Series allows you to change the timing of cuelists during playback with the Global Cue Timing controls. The functions found here are "Global," "Global FX," "Selected Cuelist," and "Live Time." To access these features, select a cuelist and then press the "Rate" LCD button found on the extreme right bank of 5 LCD buttons. Each of the four Global Cue Timing functions shown above correspond to the track belts directly below them in much the same way that attribute control works when a fixture is selected for manipulation. The default speed of 100% can also be rapidly selected by pressing the area of the touch screen labeled "Default" for the first three functions.

Note that when a change is made to the default settings, a red background appears behind the appropriate function to indicate it has been changed as shown with "Live Time" below:

No fixture selected		Global Fade...	Global FX S...	Selected Cu...	Live Time S...
	Maximum	Maximum	Maximum	Maximum	Maximum
	Default	Default	Default	Default	Minimum
	Minimum	Minimum	Minimum	Minimum	
Grouping	50 %	50 %	50 %	50 %	
Rate	75 %	75 %	75 %	75 %	
	100 %	100 %	100 %	100 %	0.00 s
	125 %	125 %	125 %	125 %	0.25 s
	150 %	150 %	150 %	150 %	0.50 s
	175 %	175 %	175 %	175 %	0.75 s
RATE	Global F... 100 %	Global FX 100 %	Selected... 100 %	Live Time 0.00 s	

Note: The Selected Cuelist Speed control will not be visible if there is no cuelist selected.

Global

The "Global" function allows you to incrementally change the times on all cuelists. The range available is from 1% to 1000% of their recorded speed. Again, this will affect all cuelists. The "Global" function acts as a multiplier on all recorded cuelists. For example, if there is a cue that is recorded with a time of 20 seconds in one cuelist, and another recorded at 10 seconds in a different cuelist, and the Global time is set to 200% (i.e. twice as fast as the recorded speed), then the first cue will execute in 10 seconds and the second will execute in 5 seconds. As with attribute functions, you can use a direct access window or the track belt to adjust the timing.



Global FX

Similar to the Global function discussed above, the "Global FX" adjusts the speed of all effects that are running on any recorded cuelist. Note that this affects the effect speed only, not overall cue timing.

Selected Cuelist

This is also quite similar to the Global function, but only the timing of the *selected* cuelist will be affected; all other cuelists will continue to run with their previously recorded times. It is important to realize that the Selected Cuelist function and the "Global" function work cumulatively. In other words, if both Global and Selected are set to 200%, a cue recorded to execute in 4 seconds will execute in 1 second.

Live Time

Live Time does not affect the timing of cues, but rather affects the speed at which changes in the Programmer happen on stage. The range can be set from 0 to 60 seconds. This can be particularly useful when transitioning from Blind to Live. Also note that when clearing the Programmer, this time will be applied.

Moving, Copying, and Deleting Cuelists on Playback Controls

Moving a Cuelist to a Playback Fader on the Same Bank

To move a cuelist from one playback fader to another on the same bank, use the following procedure:

1. Press **Move**.
2. Press the cuelist selection Selection Button of the cuelist you wish to move.
3. Press the target cuelist selection Selection Button (where you wish to move the cuelist).

Moving a Cuelist to a Playback Fader on a Different Bank

To move a cuelist from one playback fader to another on a different bank, use the following procedure:

1. Press **Move**.
2. Press the cuelist selection Selection Button of the cuelist you wish to move.
3. Using the using the jog wheel to the left of the playback controls, scroll to the desired destination bank.
4. Press the target cuelist selection Selection Button (where you wish to move the cuelist).
5. The cuelist will be moved to the specified bank and fader.

Moving a Cuelist to a Playback Fader on a Different Bank Using the Command Line

1. Press **Move**.
2. Press the cuelist selection Selection Button of the cuelist you wish to move.
3. The command line will read "Move Cuelist Playback Fader BB.nn" "BB" corresponds to the bank number of the source cuelist and "nn" corresponds to the fader number of the source cuelist.
4. Press **@ BB.nn Enter**,
5. The cuelist will be moved to the specified bank and fader.

Copying a Cuelist to a Playback Fader on the Same Bank

Copying a cue from one playback fader to another is quite similar to moving a cue.

1. Press **Copy**.
2. Press the cuelist selection Selection Button of the cuelist you wish to copy.
3. Press the target cuelist selection Selection Button (where you wish to copy the cuelist).

Just as you can move cuelists across banks, you can copy across banks as well. And you are also prohibited from copying to a playback that already has a cuelist.

There is however, one very important thing to note: when you copy a cuelist from one playback fader to another, you are not creating a copy *per se*, as much as you are creating a clone. That is to say that any changes made in one cuelist, be it the original or the copy, will be reflected in the other. It is essentially the same cuelist, but in two locations.

Copying a cuelist to a fader on a different bank is accomplished in the same manner as moving a cuelist to a different bank.

Note: If you wish to create a separate, unique copy of a cuelist, [you can do so in the Cuelist Directory](#).

Removing Cuelists from Playback Controls

To remove a cuelist from a playback fader:

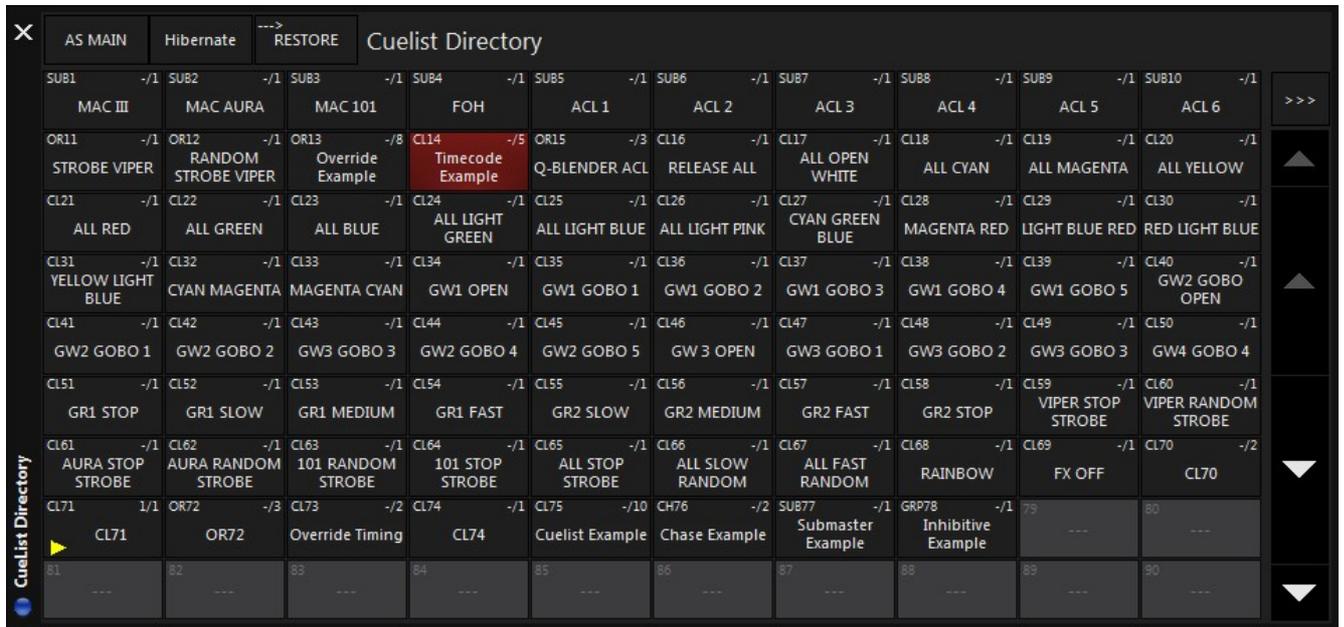
1. Press **Delete**.
2. Press the cuelist selection Selection Button of the cuelist you wish to delete.
3. Press **Enter**. (You can skip this step by pressing and holding Delete instead.)

You just accidentally removed a cuelist? Don't worry. See "[Cuelist Directory](#)".

Cuelist Directory

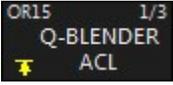
Playback controls are not where cuelists are actually stored. Whenever you record a cue, you're actually recording it into the cuelist directory. The playback faders and buttons simply contain a link to the cuelist in the cuelist directory, much the same way a Windows shortcut contains a link to a file or folder.

Cuelist Directory Screen



The cuelist buttons are dynamic and contain a great deal of information. Some examples of cuelist buttons are shown below.

	<p>This is the basic cuelist display. "CL14" tells you it is cuelist number 14 and the type is "cuelist". "-" indicates the cuelist is reset to the beginning. "5" indicates there are 5 cues in the list.</p>
	<p>The yellow icon in this display indicates that the cuelist is controlling fixtures. "2/5" indicates that the cuelist is at cue number 2.</p>
	<p>The dynamic vertical red bar indicates the cuelist is fading a cue. The "2" tells you which cue is currently running. The red background indicates that this is the <i>selected</i> <i>cuelist</i>.</p>
	<p>The pause icon in this display indicates that this cuelist is paused. The vertical red bar indicates that the cuelist is in the middle of a cue, in this case cue number 5.</p>
	<p>Here we have a chase (CH) cuelist called "Chase Example" (how original) currently controlling fixtures (icon) and fading (dynamic red bar) cue 2 of 3.</p>
	<p>This is how a submaster (SUB) appears in the cuelist directory. It is not controlling fixtures.</p>
	<p>This is how an inhibitive (GRP) appears in the cuelist directory. It is not controlling fixtures. Inhibitive masters were previously known as "Group" masters, thus the "GRP" designation.</p>

	<p>This is an example of an override cue list (OR). The icon tells you it is controlling fixtures. The yellow icon indicates that it is controlling fixtures.</p>
	<p>The yellow border indicates the cue list has been designated as the "main" cue list. See ""As Main"".</p>

Moving and Copying from the Cue List Directory

In the case of the cue list directory, moving and copying to playback controls or playback buttons (see ["Playback Buttons"](#)) are identical functions.

TO COPY FROM THE CUE LIST DIRECTORY TO A PLAYBACK FADER

1. Press **Copy**
2. Select the desired cue list from the cue list directory.
3. Press the target cue list selection Selection Button (where you wish to copy the cue list).

You can copy the same cue list to as many different playback controls on as many banks as you wish. However, as with copying a cue list from one playback fader to another, any changes made in one cue list, will be reflected in all others. Also, changes made to a cue list on a playback fader will affect the same cue list if it is found on a playback button page as well.

TO COPY FROM THE CUE LIST DIRECTORY TO A PLAYBACK BUTTON

1. Press **Copy**
2. Select the desired cue list from the cue list directory.
3. Bring up the playback buttons screen.
4. Press the target playback button (where you wish to copy the cue list).

Again, you can make as many copies as you wish, but they are all still the same cue list so changes made in any one, will affect all copies. This includes copies found on playback controls.

Moving a cue list from the cue list directory to a playback fader or playback button is exactly the same as copying it. The same rules apply.

Moving and Copying Within the Cue List Directory

Moving or copying a cue list from one location in the cue list directory to another is simple to do, but it is important to understand what is happening.

TO COPY TO ANOTHER DIRECTORY LOCATION (Creating a Duplicate, Unique Cue List)

1. Press **Copy**
2. Select the desired cue list from the cue list directory.
3. Press the target location in the cue list directory.

When you perform this function, you have made an actual copy. There is no relationship between the two cue lists with the one exception that the copy will retain the same name. The reason for this is that when you select the original cue list, it is assigned a number (such as cue list 8); when you copy it to a new location, that location has its own cue list number. Therefore, by copying cue list 8 and "pasting" it into a new cue list button, you have in effect created a new cue list.

TO MOVE BETWEEN TWO DIRECTORY LOCATIONS

1. Press **Move**
2. Select the desired cue list from the cue list directory.
3. Press the target location (where you wish to move the cue list).

When you move a cue list from one location to another, you are destroying the old cue list and creating a new one. If you move from cue list 8 to cue list 12, cue list 8 no longer exists. However, the M-Series will automatically update all playback controls, playback buttons and Cue List Macros with the new location of the cue list. It is safe to organize your cue lists in the cue list directory without affecting your show.

Deleting a Cuelist from the Directory

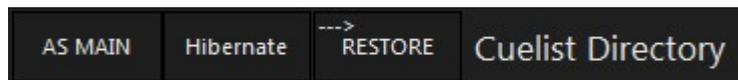
Warning! When you delete a cuelist from the cuelist directory, you delete it from the console! All instances of it on playback controls and buttons are removed as well. A cuelist deleted from the cuelist directory is completely and irrevocably removed from the show file. Gone. See ya . Bye. Once deleted, your only recourse is to load a backup show file.

To delete a cuelist from the directory:

1. Press **Delete**.
2. Select the cuelist to delete from the cuelist directory.
3. You sure now? Okay, you were warned, press **Enter**.

Cuelist Directory Special Functions

The soft buttons at the top of the cuelist directory screen allow for a significant amount of control in how cuelists are accessed and controlled.



Each of these functions is described below.

“AS MAIN”

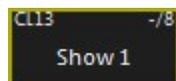
It is possible to set any cuelist as the *main* cuelist. The main cuelist is controlled by the “Main Go” buttons. Only one cuelist may be designated as the main cuelist at any time.

If no cuelist is designated as the main cuelist, the *selected* cuelist is controlled by the Main Go buttons. See [“Selecting a Cuelist”](#).

Setting a Cuelist as the Main Cuelist

1. In the cuelist directory, press the cuelist to be set as the Main cuelist.
2. Press AS MAIN at the top of the cuelist directory.

The cuelist will now be displayed with a yellow border to denote its special “as Main” status.



To remove the Main cuelist designation, select the cuelist in the cuelist directory and press “AS MAIN” again, or select another cuelist to be your main cuelist.

Navigating the Cuelist Directory Screen

On the right hand side of the Cuelist Directory Screen you will find a series of navigation controls. While the up and down arrows should be familiar to you by now, the disclosure button at the top may not. Pressing the disclosure button “>>>” will reveal a second set of navigation controls labeled “-5000”, “-1000”, “-500”, “+500”, “+1000”, and “+5000.” These buttons allow you to jump quickly to the far reaches of the cuelist directory.

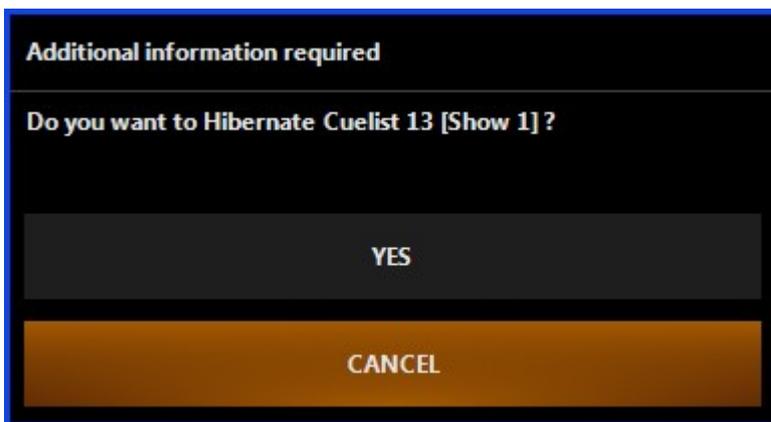


HIBERNATE

There may be times that it is desirable to remove a specific cuelist from a show without deleting it. For this purpose, the M-Series console has a Hibernate function. A cue that has been "Hibernated," will be removed from all playback controls and the cuelist directory, but will *not* be deleted. It is instead placed into "storage," where it can not be inadvertently accessed easily.

To Hibernate a Cuelist:

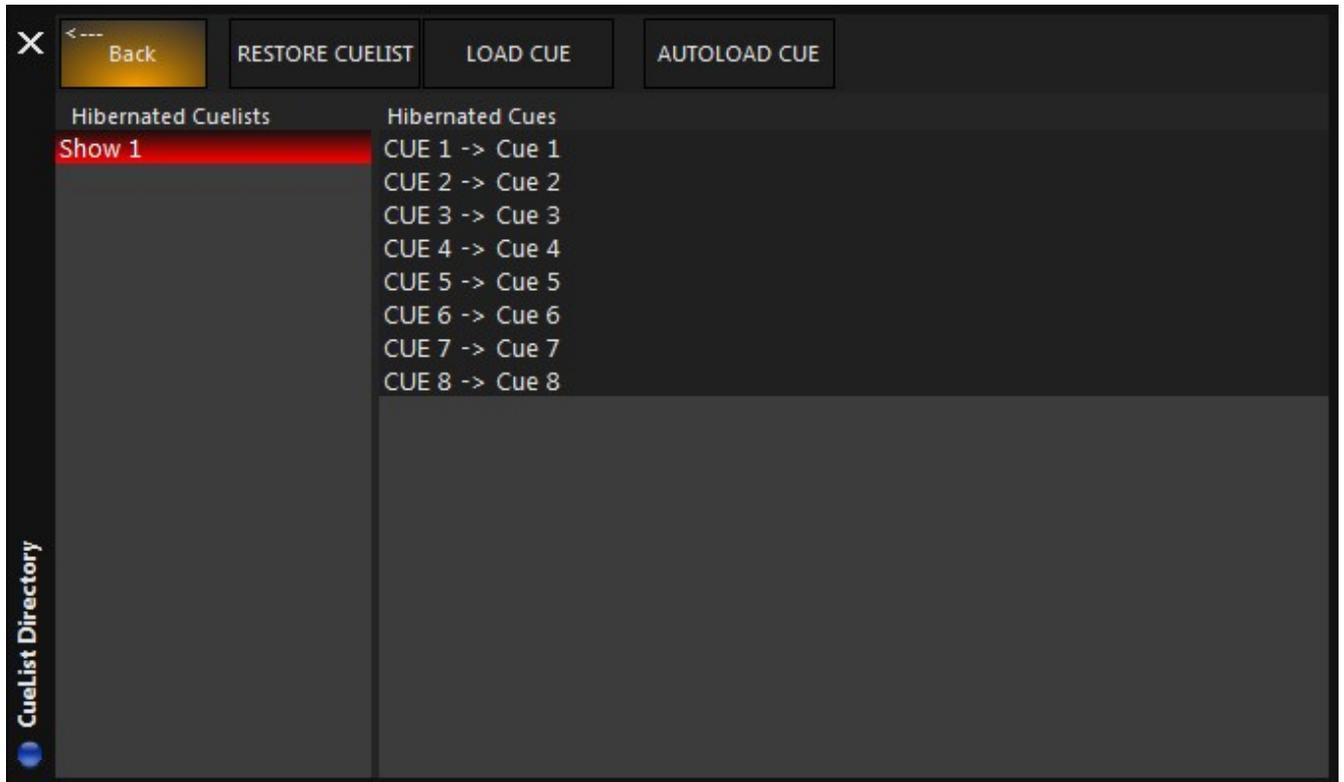
1. Select the cuelist to be "hibernated" in the cuelist directory.
2. Press the "Hibernate" soft button.
3. A pop-up window will appear. Select "Yes" to hibernate the cuelist or "Cancel" to leave the cuelist in its current position.



RESTORE

The Restore button is used to bring back cuelists that have been hibernated. Note that while restored cuelists will be put back in the cuelist directory display, they will *not* be returned to playback controls or the playback buttons page. When the "Restore" button at the top of the cuelist directory screen is pressed, the Restore window will open:

Here you can see "hibernated" cuelists and the four buttons across the top of the screen that allow you to take action on those cuelists. The "Back" button returns you to the cuelist directory. The other three buttons require you to first select a cuelist by touching it. When a cuelist is selected, its contents are displayed in the right hand portion of the screen:



There are now three actions that can be taken:

RESTORE CUELIST	After selecting a cuelist, pressing this button will place the cuelist back into the cuelist directory. Note that when your cuelist is restored, it will not necessarily be returned to its original position. It will be placed in the next highest position of any of your currently recorded cuelists regardless of any open cuelist that might be available. Example: if you have cuelists 1-4 and 6-10 in the cuelist directory and you restore a cuelist from hibernation, it will not be placed in cuelist 5; it will be placed in cuelist 11.
LOAD CUE	With a cuelist selected, you can then select a specific cue and by pressing this button, load it into the Programmer. Note that only non-tracked values are loaded with this command (i.e. tracking is <i>not</i> employed). To load a different cue, select the cue and then press "Load Cue" again. This does not return the cuelist to the directory, but does allow access to its contents.
AUTOLOAD CUE	When highlighted, the Programmer will be automatically loaded with the contents of that cue. To load a different cue, simply press the desired cue; there is no need to press "Load Cue" each time. As with the "Load Cue" function, only non-tracked values are loaded.

Expert Tip - Cuelist Organization

Got a big show? How are you going to keep track of the hundreds of cuelists that may accumulate during programming? Every programmer has a different method for organizing the cuelists in a showfile. The most popular method seems to be the "Rows and Columns" method. The main cuelist for each song is placed in the first column (1, 21, 31, etc.) and related cuelists (chases, overrides, etc.) are placed in the row with the main cuelist (22-30, 32-40, etc.). In this fashion, all of the cuelists associated with a song can be found quickly and easily, even by someone unfamiliar with the show. Plus, if the operator accidentally deletes a cuelist from a bank, they won't have such a hard time finding it to put it back!

Remember that new cuelists are always created next to the highest-numbered existing cuelist. If your highest-numbered cuelist is 1001, then a newly created cuelist will appear at 1002. To maintain the "Rows and Columns" organization, you'll need to be vigilant as you create a show and make sure that you move your new cuelists to their appropriate positions.

Playback Buttons

The playback buttons screen presents an alternative way of displaying information to be used instead of or in conjunction with the playback controls. While the detailed level of information that is readily accessible in a playback fader is missing, the rapid access to a large number of cuelists presents you with the ability to make very quick changes. There are 99 pages of buttons, each (by default) containing 100 buttons in a 10 by 10 arrangement.

Playback Buttons Screen



At the top of the screen you can see the controls for the playback buttons. The up and down arrows at the right side increment and decrement through the 99 available Playback Button pages. Pressing the “>>>” directly above the “Up” button, opens a direct select option for rapidly jumping to the desired page.

The “Go,” “Pause,” and “Release” buttons have the same function as described elsewhere but the order you press them in is reversed. Whereas with a playback fader you select the cuelist and then the function, in the Playback Buttons page, you select the function *and then* the cuelist.

The other buttons on this page are described below.

SELECT	Select makes the specified cuelist the <i>selected cuelist</i> , the one that is controlled by the Playback Command and loaded into the Selected Cuelist screen.
MULTISELECT	Multiselect allows you to specify multiple cuelists so you can execute a Go, Pause or Release on all of them at the same time. With this function, the order is press Multiselect, select the desired cuelists, and then press Go, Pause, or Release.
DIRECT CUE	When selected and a Go command is given for a specific cuelist, a pop-up window opens next to that cue displaying the cues in that cuelist. You can then jump to any cue in the cuelist.
+ SELECT	+ Select makes the specified cuelist the <i>selected cuelist</i> in conjunction with a Go, Pause, or Release command.
CHASES ONLY (Visible when +SELECT is activated)	This limits the +SELECT function to chases only. When a non-chase cuelist is pressed, it will perform the required action (Go, Pause, Release) but it will not be selected.

Moving and Copying Playback Buttons

Moving and copying cuelists in the Playback Button Screen works just like moving and copying in the Playback Banks. Be aware that the same rules apply when copying a cuelist: you're not creating a new cuelist, merely copying one. What's done in or to the copy will be done in and to the original.

Deleting Playback Buttons

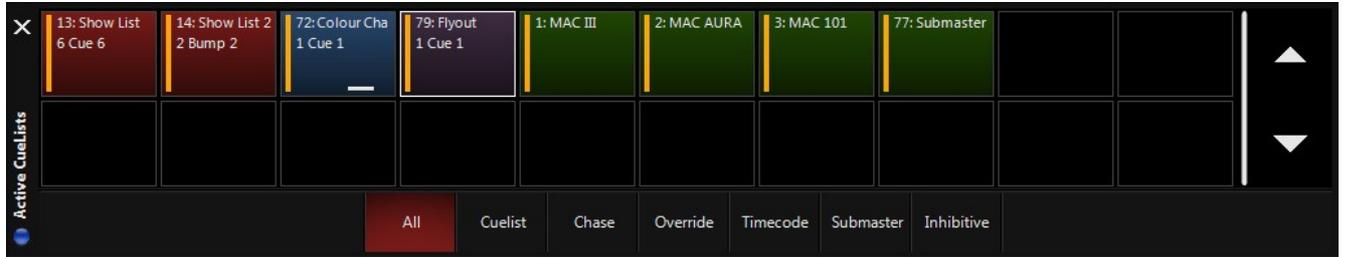
To delete a cuelist from the playback buttons screen

1. Press **Delete**.
2. Select the cuelist to delete on the touch screen.
3. Press **Enter**.

Active Cuelists Screen

The Active Cuelists Screen automatically populates with active cuelists.

Highlighting a cuelist on this screen will make it the *selected cuelist*. If no *main cuelist* is designated, you can then use the Main Go area buttons to control the cuelist. Note: if you designate the selected cuelist by a different method, this list will not update to reflect the change. The window has tabs to filter down to specific cuelist types.



Cuelist Status

The images below indicate the meaning of the color coding for the Selection Buttons on M-Series Consoles.

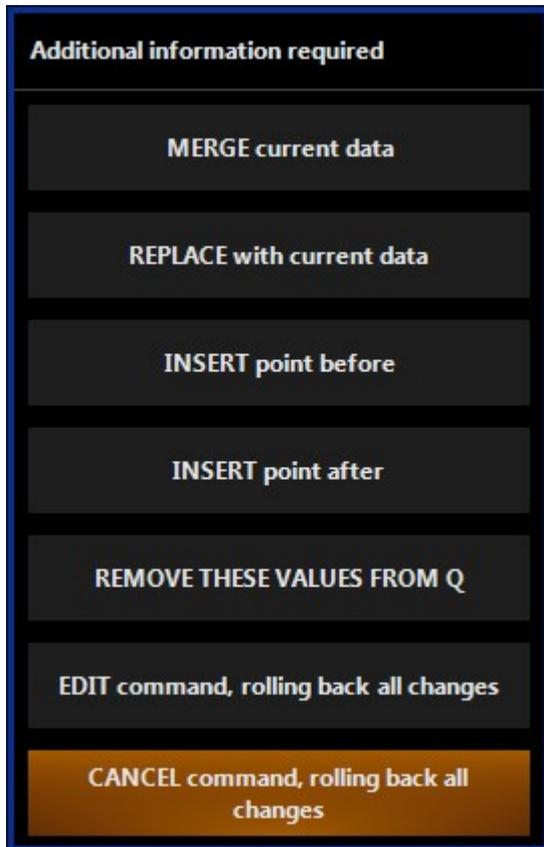
 <p>Unlit LED</p>	<p>An unlit LED Selection Button indicates that the playback is empty.</p>	 <p>Solid Green LED</p>	<p>A solid Green LED Selection Button indicates that the Cuelist is crossfading or the Submaster is Active.</p>
 <p>Solid Red LED</p>	<p>A solid Red LED Selection Button indicates that the Cuelist is active but not selected.</p>	 <p>Flashing Red LED</p>	<p>A flashing Red LED Selection Button indicates that the Cuelist crossfading is paused.</p>
 <p>Solid Yellow LED</p>	<p>A solid Yellow LED Selection Button indicates that the Cuelist is the selected Cuelist.</p>	 <p>Rapidly Flashing Yellow LED</p>	<p>A rapidly flashing LED Selection Button means the physical fader is at a different level than that of the Cuelist attached to it.</p>
<p>Holding down the select key in the "Main Playback Control" Section of the console will turn all Selection Button LEDs red on Playbacks that are occupied by a cuelist. Any Playbacks that are empty will have unlit LED Select keys.</p>			

Modifying Cues

Once a cue has been recorded, there are a number of ways that it can be modified including copying, deleting and re-recording. In this chapter we will also examine the use of the Update and Edit features in altering the contents of existing cues and how to move, copy and renumber both individual cues and cue ranges.

Re-Recording a Cue

When re-recording an existing cue, you can use the Record Options window to determine if it should merge, replace, etc. If none of the record options are selected, a second pop-up window appears: you're going to have to make up your mind at some point. You are given a variety of choices that are detailed in "[Record Options Category](#)".



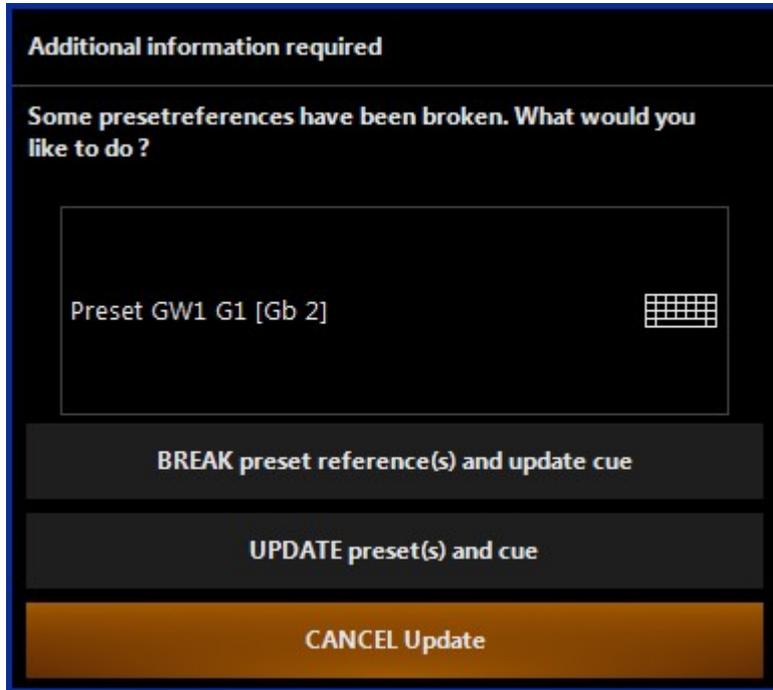
A range of cues may be re-recorded as well, in which case you will likely want to select the merge option.

Editing a Cue

The Edit command can be used to load a cue into the Programmer. Once you have made your changes, you can press **Update** to save them back to the original cue.

Note that the update function works differently when editing a cue than it does when using it as described in ["Updating Cues"](#). When editing cues, the update will not effect any other active cues. All attribute values, whether assigned or unassigned, are saved in the cue being edited.

If the changes effect one or more of the presets, the following window pops up:



This window tells us that at least one of the fixtures referenced the Pan/Tilt Preset "Drums". We are then given three options.

BREAK preset reference(s)	This will record the information into the cue, but the preset reference will be broken. This means that if changes were later made to the "Drums" pan/tilt preset, this cue would not be updated.
UPDATE presets(s) and cue	This option will record the changes made into the source presets and the selected cue. Note that by selecting this option, you will also be changing any other cues that use the "Drums" pan/tilt preset.
CANCEL Update	Selecting this will cancel the update and clear the Programmer.

Deleting a Cue

If, once a cue has been recorded, it is determined that it is no longer adding to the aesthetic quality of your production, it can be deleted. You can only delete a cue from the *selected cuelist*. To delete a cue, press **Delete Cue xx Enter**. The specified cue will be removed from the cuelist. You can also delete a range of cues using the same syntax used to record a range of cues.

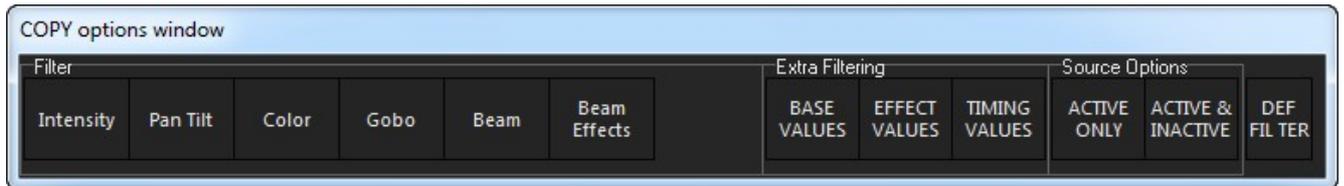
Copying a Cue

A cue can be copied from one location in a cuelist to a new location or can be copied to a different cuelist. To copy a cue within the same cuelist press **Copy Cue xx @ yy**. The copy will be created with all the information of the previous cue (including the cue label). Note that you can not copy a cue into an already existing cue.

To copy a cue to a different cuelist, press **Copy Cue xx @** (Playback Fader LCD or Select button). The cue will be recorded into the target cuelist and will maintain its original cue number. Again, if the cue already exists, the copy will not record into the target cuelist. To copy a cue to a specific cue number in a different cuelist, press **Copy Cue xx @ yy** (Playback Fader LCD or Select button). This will copy the specified cue to the target cuelist at the specified cue number.

Filtering Copied Cues

Whenever the command line reads COPY CUE, the following pop-up box appears:



The Copy Cue Options screen allows you to filter which attribute groups and values are recorded in much the same way Record Options window works (for a complete description, please see [“The Record Options Window”](#)). Again, note that you can not copy information into an already existing cue; this window will only filter the contents of new cues that are created from existing cues.

Copying a Range of Cues

Copying a range of cues works in much the same way that copying an individual cue does. Specifically, you may not copy a cue range into any cue that already exists. When attempted, the copy function will fail. However, with 99 “insert cues” allowed between each cue, the console allows for several cues to be placed between the existing cues. For example, create 10 cues in a cuelist as shown below:

No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default	/	
2	Cue 2	Go	0s	2.50s	Default	/	
3	Cue 3	Go	0s	2.50s	Default	/	
4	Cue 4	Go	0s	2.50s	Default	/	
5	Cue 5	Go	0s	2.50s	Default	/	
6	Cue 6	Go	0s	2.50s	Default	/	
7	Cue 7	Go	0s	2.50s	Default	/	
8	Cue 8	Go	0s	2.50s	Default	/	
9	Cue 9	Go	0s	2.50s	Default	/	
10	Cue 10	Go	0s	2.50s	Default	/	

If we wished to copy cues 2 through 10 so that they immediately followed cue 1, the command **Copy Cue 2 Thru 10 @ 1 Enter** would be invalid as cue 1 already exists. However, using the command **Copy Cue 2 Thru 10 @ 1.1 Enter** is a valid command and would result in the following:

The screenshot shows a software interface with a 'Copy Cue Range' dialog box overlaid on a 'CueList' table. The dialog box has a title bar with 'CueList 80' and a 'Copy Cue Range' title. It contains several options: 'Follow Values', 'Follow Cue', and 'Follow Grid' (all in red boxes); 'ADD MACRO', 'INSERT LINK', and 'MARK toggle' (all in white boxes); and 'EDIT MODE' and 'RENUMBER' (both in red boxes). There is also a 'PRE-SELECT FOR NEXT GO' button. The 'CueList' table has the following columns: No, Name, Trigger, Delay, Fade, Fade mode, Path, and Comment. The table contains 19 rows of data. Row 1 is highlighted in blue. The 'Name' column shows 'Cue 1' for row 1, and 'Cue 2' through 'Cue 5' for rows 1.1 through 1.5. The 'Trigger' column is 'Go' for all rows. The 'Delay' column is '0s' and the 'Fade' column is '2.50s' for all rows. The 'Fade mode' column is 'Default' for all rows. The 'Path' column contains diagonal slashes for all rows. The 'Comment' column is empty for all rows. A vertical scrollbar is visible on the right side of the table.

No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
1	Cue 1	Go	0s	2.50s	Default	/	
1.1	Cue 2	Go	0s	2.50s	Default	/	
1.2	Cue 3	Go	0s	2.50s	Default	/	
1.3	Cue 4	Go	0s	2.50s	Default	/	
1.4	Cue 5	Go	0s	2.50s	Default	/	
1.5	Cue 6	Go	0s	2.50s	Default	/	
1.6	Cue 7	Go	0s	2.50s	Default	/	
1.7	Cue 8	Go	0s	2.50s	Default	/	
1.8	Cue 9	Go	0s	2.50s	Default	/	
1.9	Cue 10	Go	0s	2.50s	Default	/	
2	Cue 2	Go	0s	2.50s	Default	/	
3	Cue 3	Go	0s	2.50s	Default	/	
4	Cue 4	Go	0s	2.50s	Default	/	
5	Cue 5	Go	0s	2.50s	Default	/	

Here you can see that cue 2 has been copied to cue 1.1, cue 3 has been copied to cue 1.2, etc. Also note that the original cue names (Cue 2, Cue 3, etc.) remain the same.

While copying cues between existing cue numbers will cause "point cues" to be created, the inverse is not true. For example, the command line syntax **Copy Cue 1.1 Thru 1.5 @ 11 Enter** will result in the following:

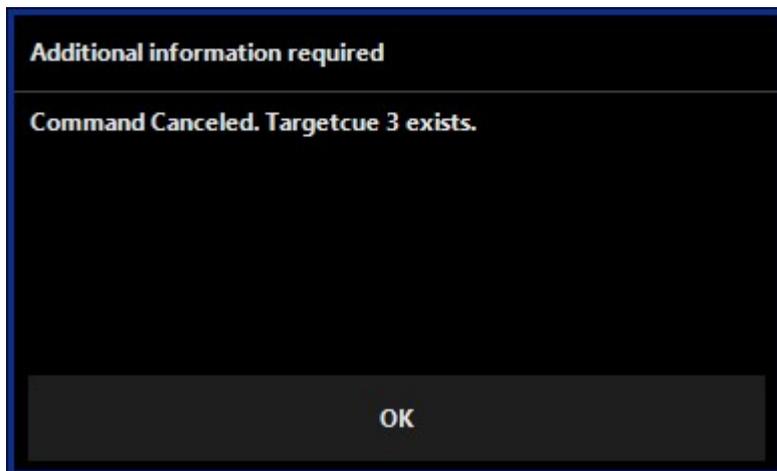
No	Name	Trigger	Delay	Fade	Fade mode	Path	Comment
2	Cue 2	Go	0s	2.50s	Default	/	
3	Cue 3	Go	0s	2.50s	Default	/	
4	Cue 4	Go	0s	2.50s	Default	/	
5	Cue 5	Go	0s	2.50s	Default	/	
6	Cue 6	Go	0s	2.50s	Default	/	
7	Cue 7	Go	0s	2.50s	Default	/	
8	Cue 8	Go	0s	2.50s	Default	/	
9	Cue 9	Go	0s	2.50s	Default	/	
10	Cue 10	Go	0s	2.50s	Default	/	
11	Cue 2	Go	0s	2.50s	Default	/	
11.1	Cue 3	Go	0s	2.50s	Default	/	
11.2	Cue 4	Go	0s	2.50s	Default	/	
11.3	Cue 5	Go	0s	2.50s	Default	/	
11.4	Cue 6	Go	0s	2.50s	Default	/	

In the previous example, the "point cues" were created but this time, as the cues were copied to the bottom of the cue list, you can see that the first cue was copied as a whole number cue (as specified) and the remainder were copied as "point cues."

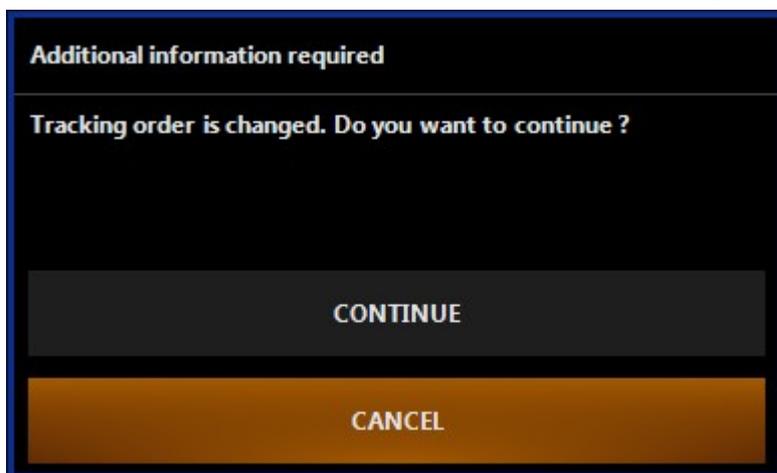
Copying a range of cues into another playback works as described above in "Copying a Cue."

Moving a Cue

It is possible to move a cue from one position in a cuelist to a different position in the same cuelist. It is **not** possible to move a cue from one cuelist to another. Moving is similar to copying a cue except that the cue is “cut” from its original position and “pasted” to the new one. To move a cue, press **Move Cue xx @ yy** where “xx” is the original cue number/position and cue “yy” is the new cue number/position. As with copying a cue, it is not possible to move a cue to an already existing cue. If you attempt to do so, you will see the following warning:



If however it is a valid command you will receive the following notification:



Pressing “Cancel” will abort the command and the cue will remain in its original position. Pressing “Continue” will complete the command and the cue will move to the new position.

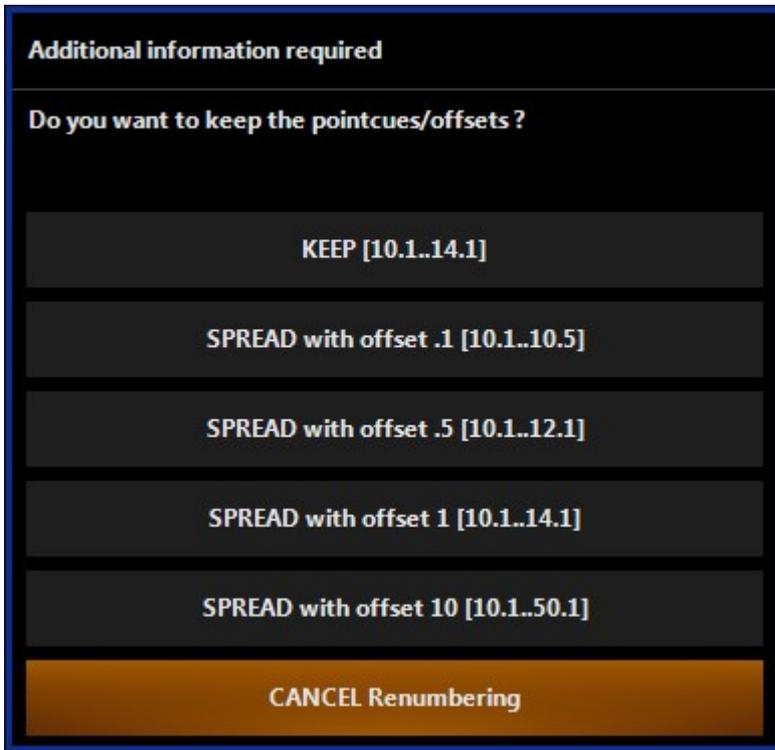
When a cue that has been linked to by another cue is moved, the link will automatically update so that the link remains intact. That is to say, if cue 10 has a link to cue 4 and then cue 4 is moved to cue 6.1, cue 10 will now link to cue 6.1.

Warning: Moving a cue can result in a change in the tracking order! If the first cue in a cuelist is moved to the last cue in the cuelist, the second cue will likely look different than it did before the move. Use this command with caution.

Moving a Range of Cues

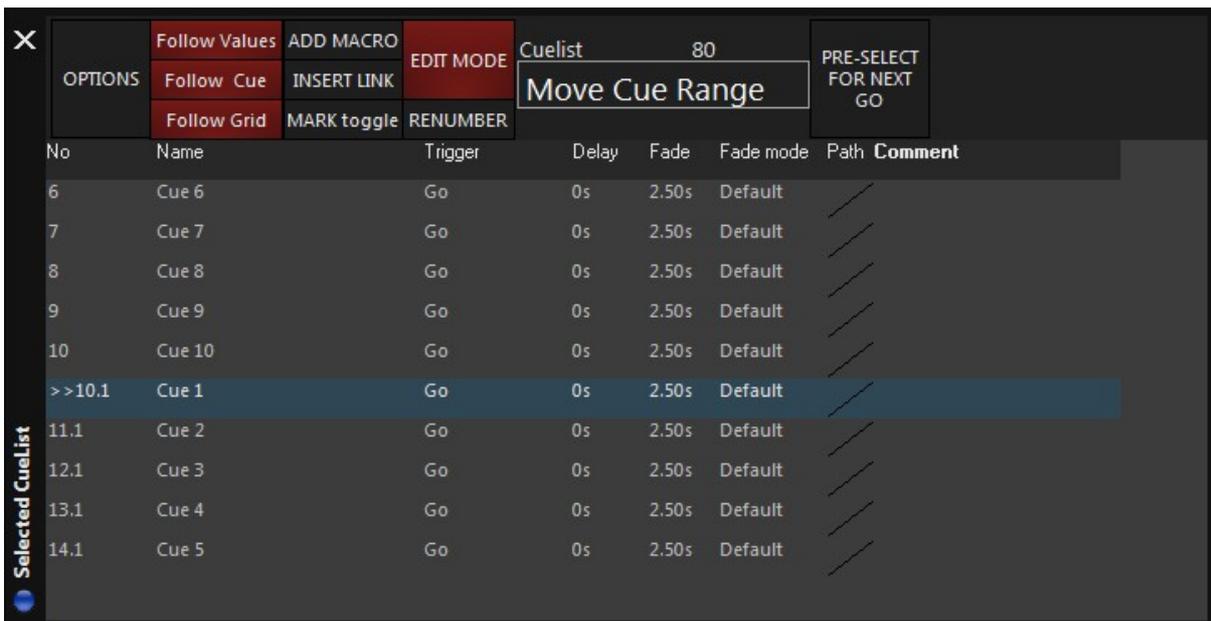
As with copying cues, it is possible to move a range of cues. And, as with moving a single cue, it is not possible to move a range of cues to a position that would cause an overlapping of an existing cue or cues. Again, similar to copying cues, “insert cues” can be created, but there are certain options.

To understand how moving a range of cues works, for each of the examples below, again create a cue list with 10 cues in it **and** also create a cue 1.1 (see “Selecting a Cuelist” for detailed information). When complete, press **Move Cue 1 Thru 5 @ 10.1 Enter**. The following pop-up window will appear:



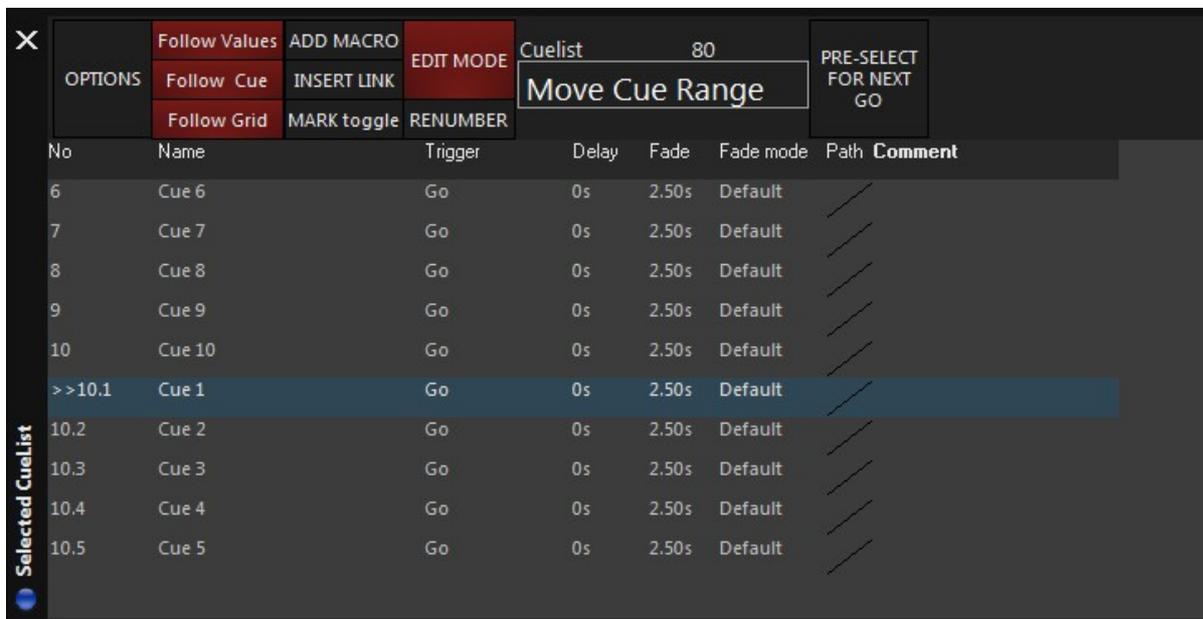
A number of different options as to the number of the moved cues is now presented.

- Keep - This option will keep the original series separated by the same numeric value specified before.



You can see that cues 1 through 5 are no longer in the cuelist, but have been moved to the bottom of the cuelist. The "Keep" option also maintained their previous numeric relationship to each other. For example, cue 1 is now cue 10.1, cue 1.1 is now cue 10.2, and cue 2 is now cue 11.1, etc. As with copying a cue, the original cue names have not changed.

- Spread with offset.1 - All cues, regardless of their original numbering (i.e. whole numbers or insert cues) will be forced to increment by ".1" with each cue as shown:



You can see again that cues 1 through 5 are no longer in the cuelist but have been moved to cues 10.1 through 10.6 with each cue being incremented by .1.

- Spread with offset .5 - Similar to "Spread with offset.1" except that each cue to be moved will be incremented by .5. For example, if the first cue is set to 11.3, the next will be at 11.8 and so on.
- Spread with offset 1 - Each cue to be moved will be separated by 1 full step. Again, if the first cue is set to 11.3, the next will be at 12.3 and so on, regardless of their current offset/separation.
- Spread with offset 10 - Each cue moved will be incremented by 10 from the first cue. If the first cue is 11.3, the next will be 21.3, etc.
- Cancel - This command will cancel the move and leave the cues in their original position within the cuelist.

Move options that are not viable will not be highlighted. If for example you were to move cues 7 through 9 to cue 6.1, the "Separate with offset 10" would not be available as an option.

It should be noted that it **is** possible to move a range of cues into any range where it will fit, even if some of those cue numbers overlap. For example, again create a cuelist with 10 cues numbered 1 through 10 and then delete cue 4. You can now move the remaining cues to fill the void left by cue 4 by pressing **Move Cue 5 Thru 10 @ 4 Enter**. The cuelist will now be numbered sequentially from cue 1 to cue 9.

If a cue range is moved that contains a cue or cues that have been linked to by other cues, the link(s) will automatically update so that the link(s) remain intact. That is to say, if cue 10 has a link to cue 4 and then cue 4 is moved to cue 6.1, cue 10 will now link to cue 6.1.

Warning: As with moving a single cue, moving a range of cues can result in a very different cuelist!

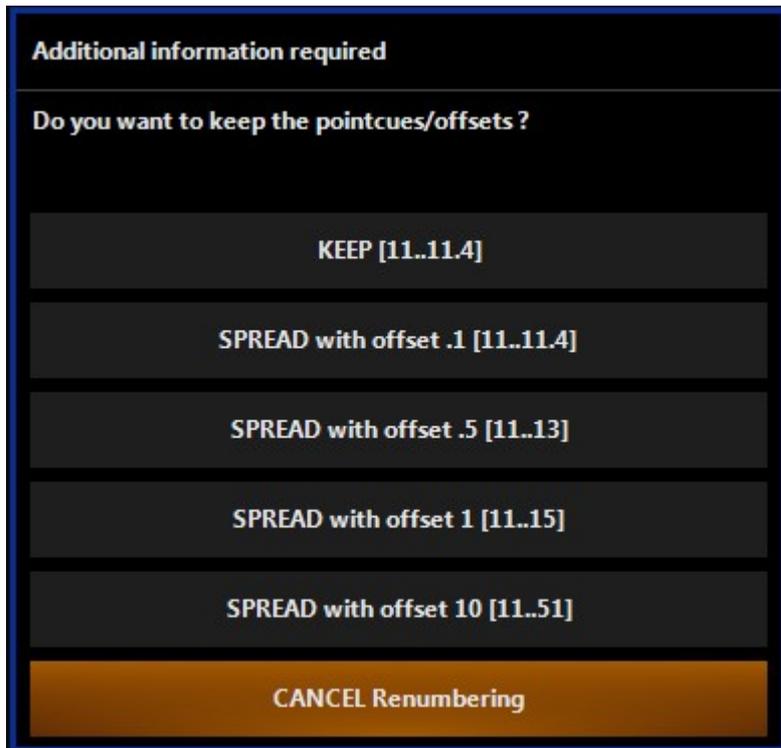
Renumbering Cues

Renumbering a cuelist allows you to change the cue number without copying or moving the contents of the actual cue. To renumber a cue or cues:

1. Activate cuelist renumbering by pressing or clicking on the “Renumber” button in the Selected Cuelist screen.



2. Select the cue or cues to be renumbered by pressing or clicking on the desired cues. Multiple sequential cues can be selected by “dragging” down the list.
3. Enter the new cue number for the first cue in the list and press **Enter**.
4. The Move Options window, described above in “Moving a Range of Cues” will appear. Select the desired option.



As with moving a cue or range of cues, if a cue range is moved that contains a cue or cues that have been linked to by other cues, the link(s) will automatically update so that the link(s) remain intact.

Updating Cues

The Update function is a powerful tool for applying values in the Programmer to cues and presets. If you don't know what you're doing, though, a quick **Update Update** can have some unexpected consequences and make a mess of your cuelists and presets in a jiffy!

How the Update Function Works

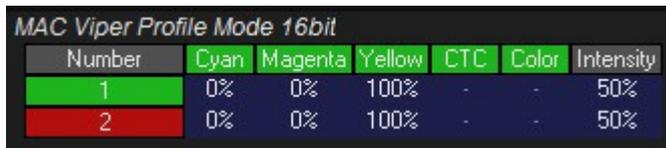
ASSIGNED VS. UNASSIGNED VALUES

In order to understand how Update works, we need to introduce two more terms: assigned values and unassigned values.

An *assigned value* is a non-null (0-100%) value for any fixture attribute that is *under the control of an active cuelist*. An *unassigned value* is a non-null value (0-100%) for any attribute that is *not* under the control of an active cuelist. It will all be much clearer if you follow this example.

1. Select 2 Mac Viper Profiles.
2. Bring them up to full intensity and record a cuelist called "Full".
3. Bring up a color and record the color attributes to a second cuelist called "Color".
4. Clear the Programmer and release the cuelists.
5. Press the Go button on your "Full" playback to make the cuelist active.
6. Select the two 2k's, bring them to 50% intensity, and give them a really cool color in the Programmer.

At this point, "Full" is active and outputting dimmer levels, "Color" is inactive, and the Programmer look something this: .



Number	Cyan	Magenta	Yellow	CTC	Color	Intensity
1	0%	0%	100%	-	-	50%
2	0%	0%	100%	-	-	50%

The intensity attribute values for the two fixtures are assigned values because the dimmer levels are under the control of "Full". The CMY values are unassigned values because nothing else is controlling the color channels. The Color cuelist is inactive.

If you now started the Color cuelist, the CMY values would go from being unassigned to being assigned. Hold on to those cues, we'll use them again in a moment.

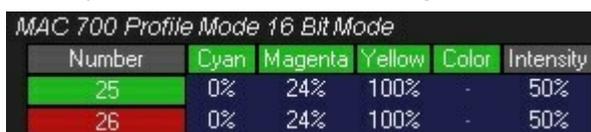
DEFAULT UPDATE BEHAVIOR

By default, the Update function does three things:

- It overwrites the existing fixture attribute values in an active cue with the values in the Programmer that are assigned to it.
- If the attribute values in the cue are linked to presets, it modifies the presets as well.
- It merges *unassigned* values into the current cue of the *selected* cuelist. The selected cuelist must be active. If it is not active, Update leaves unassigned values in the Programmer.

So the result of an Update depends on which cues and cuelists are active, which cuelist is selected, and even whether or not the selected cuelist is active. And, by the way, if more than one active cuelist controls the attributes, latest takes precedence. It's a bit complicated, but the M-Series tells you exactly what's getting updated in a window that pops up when you press **Update**. It's one you shouldn't ignore.

Lets get back to our two Viper's and try a few simple examples to see how Update works. Start again with intensity and color values in the Programmer.

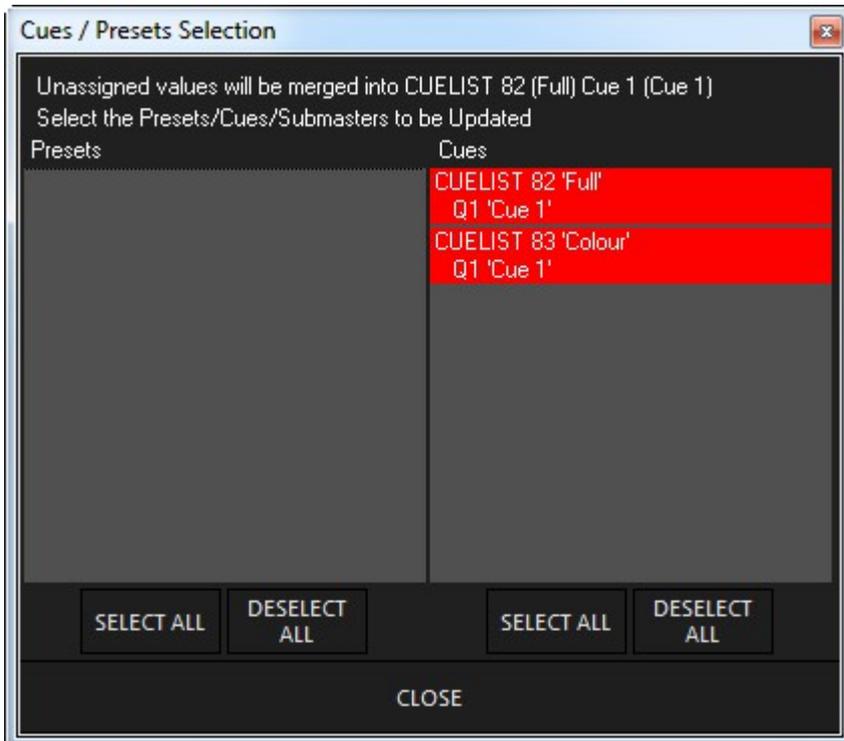


Number	Cyan	Magenta	Yellow	Color	Intensity
25	0%	24%	100%	-	50%
26	0%	24%	100%	-	50%

Example A: "Full" and "Color" are active. No cuelist is the *selected cuelist*

Start the "Full" and "Color" cuelists and press the Selection Button on an empty playback so there is no selected cuelist.

Pressing Update once will pop up the Cues / Presets Selection window.



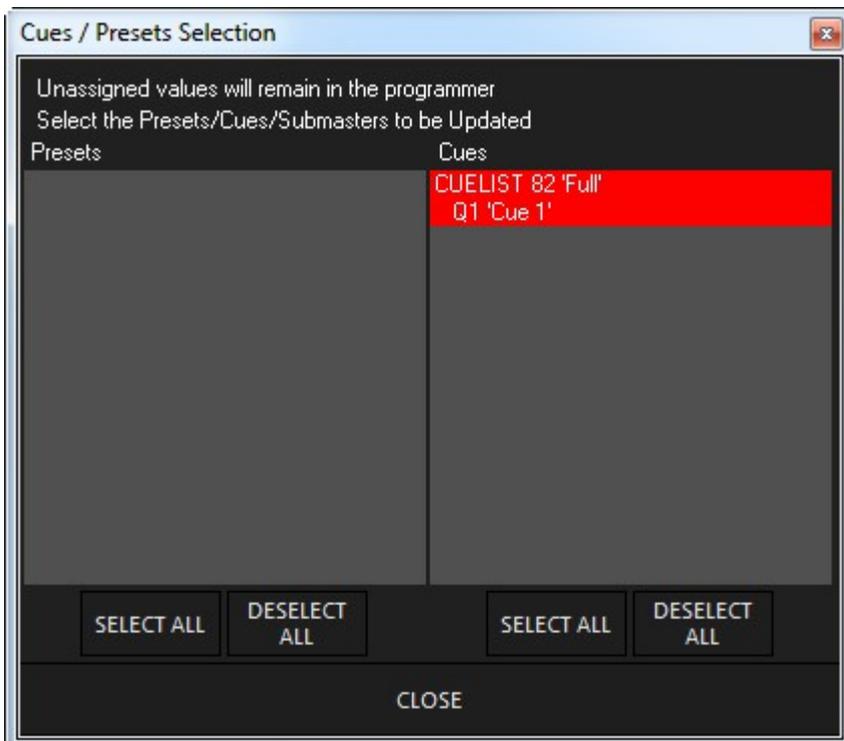
In this case, because both cuelists are active, all values are assigned. The field on the right informs us that cue 1 in "Full" and cue 1 in "Color" will be updated.

You can deselect either or both of the cuelists at this point. If you do, the assigned values will remain in the Programmer. Otherwise, pressing **Update** or **Enter** will replace the intensity level in "Full" and the color levels in "Color".

Example 2: "Full" is active, "Color" is inactive, no cuelist is the selected cuelist

Set up the same situation but this time release the "Color" cuelist.

Pressing **Update** brings up this window:

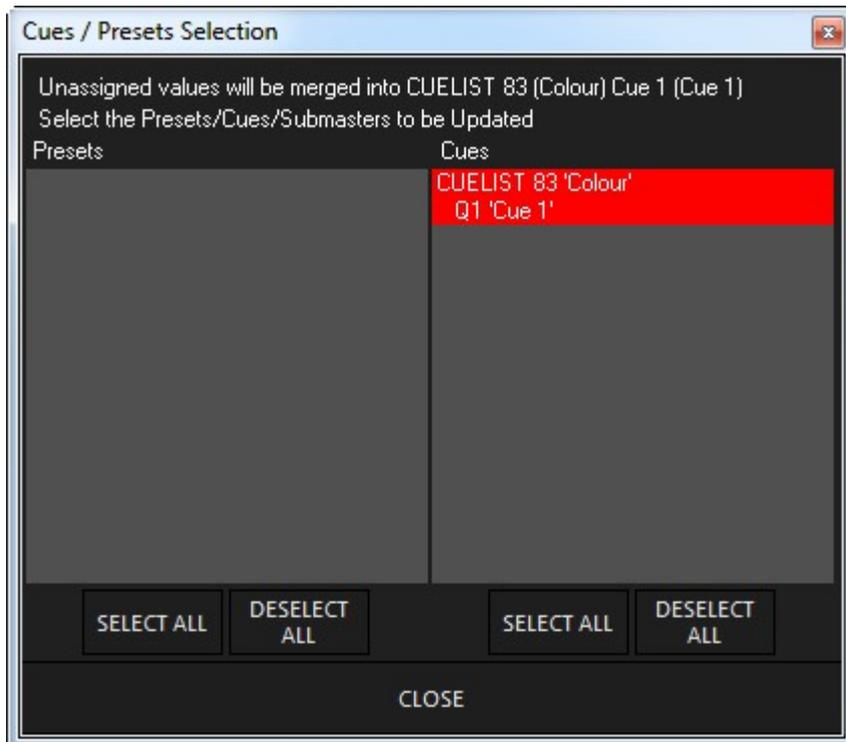


The pop-up tells us only "Full" will be updated. The color levels are unassigned and looking for the selected cuelist, but there is none so they remain in the Programmer. A look in the Programmer after pressing **Update** will confirm this.

Example III: "Full" is inactive, "Color" is both active and the selected cuelist

This time release "Full" and press the select button for "Color" to make it the *selected cuelist*. Now press a Go button at the top of the playback control.

What happens when we press **Update**?



Because "Full" is inactive, the intensity levels are unassigned. The fine print at the top says that unassigned values will be merged into cue 1 of the "Color" cuelist.

Press **Update** and then take a look at cue 1 of "Color".



There are our intensity values in the "Color" cuelist. Think about this for a moment. *Update merges all unassigned values in the Programmer into the current cue of the selected cuelist (if it's active).* Now that's an easy way to edit a cue, whether you intend to or not! This behavior, though, can be disabled by deselecting the Merge Active Cue option in the Update Options window.

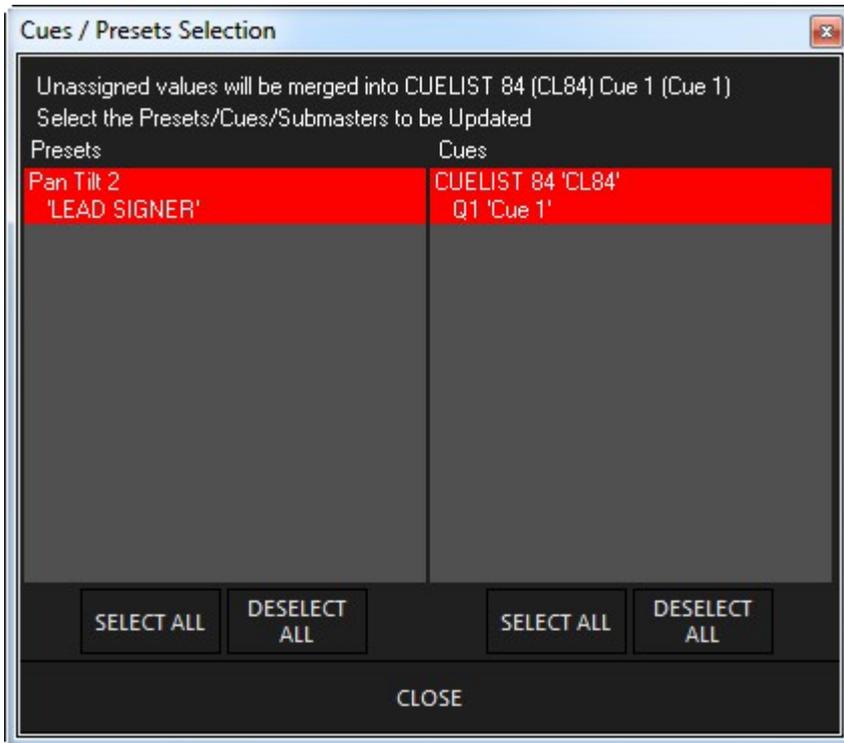
Example 0100: Neither "Full" or "Color" are active, a third cuelist is the *selected cuelist*.

In this case, both the intensity and color values are unassigned and the update will merge them into whatever cuelist is currently selected.

UPDATE AND PRESETS

If attribute values are linked to a preset, *Update will also replace the values in that preset.* You can prevent this, however, by deselecting the presets in the pop-up window.

Say you have a cue that uses a pan / tilt preset for the drum riser in an active cuelist and then you load the cue's fixtures into the Programmer, change the pan and tilt values, and update the cue. The Cues / Presets Selection window might look something like this:

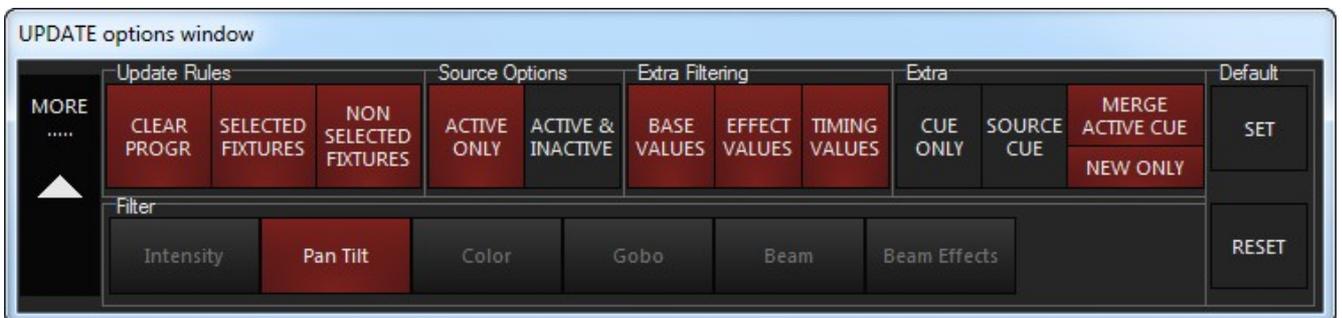


As you can see in the “Presets” field on the left, Update will update the “Lead Singer” preset as well as the cuelist 13.

We can deselect any presets or cuelists we wish and they will not be altered. Note that if we were to deselect only the cuelist in the example above, it would still be altered as it contains the “Lead Singer” preset. However, if we were to deselect the preset, only the cue would be updated.

Update Options

Except when editing a cue (where Update performs a little differently), the “Update Options” window appears when you press **Update**.



Lets look at the different categories.

UPDATE RULES CATEGORY

This category allows you to determine which fixtures in the Programmer are used in an Update function and what happens to those attributes in the Programmer when the function is executed.

CLEAR PROGR (default ON)	By default, when you complete an Update command, the Programmer will be cleared. Deselecting this option will leave all attributes in the Programmer.
SELECTED FIXTURES (default ON)	When enabled, attributes for all fixtures selected in the Programmer will be updated.
NON SELECTED FIXTURES (default ON)	When enabled, attributes for all fixtures that are not selected in the Programmer will be updated.

SOURCE OPTIONS CATEGORY

This is similar to the Update Rules category except, instead of determining which *fixtures* will be used, here we select which *attributes*.

ACTIVE ONLY (default ON)	Attributes that are active (i.e. displayed in the Programmer in white) will be updated.
ACTIVE & INACTIVE (default OFF)	Both active and inactive attributes will be updated.

EXTRA FILTERING CATEGORY

These three filters determine which attribute types will be updated.

BASE VALUES (default ON)	When selected the “Base Values,” those defined in the Intensity, Pan Tilt, Color, Gobo, Beam, and Beam Effects attribute groups found on the attribute group LCD buttons will be updated.
EFFECT VALUES (default OFF)	When deselected, the “Effects Channels,” those defined in the Regular Effect and Time Effect attribute groups found on the attribute group LCD buttons will be updated.
TIMING VALUES (default OFF)	These values are associated with the “Delay” and “Fade” overrides used to control when and how long a particular attribute will move. For more information, see “Setting an Individual Attribute Fade Time” and “Setting an Attribute Delay Time” .

EXTRA OPTIONS CATEGORY

This category contains options that don't fit into the other categories.

CUE ONLY (default OFF)	When selected, this option breaks the standard tracking operation. Please refer to “Extra Options Category” . IMPORTANT NOTE! Cue Only does <u>not</u> prevent presets from being updated. Also known as “backtrack”, this option tracks back through the cuelist from the current position to locate and update the cue with the active value for the attribute.
SOURCE CUE (default OFF)	Say you have an 8-cue Chase with gobos levels recorded in cue 1 and you then update cue 7 with new gobo levels. If “Source Cue” is enabled, cue 1 will be updated. This function will <i>not</i> track forward or through null values. In other words, the update must be made after the source cue.
MERGE ACTIVE CUE (default ON)	By default, unassigned values in the Programmer will be merged into the current (active) cue of the selected cuelist. If this option is turned off, only assigned values will be updated and any unassigned values will remain in the Programmer.
NEW ONLY (default ON)	When you deselect a cuelist in the Cues / Presets Selection window, its assigned values normally have nowhere to go and remain in the Programmer after an update. When “New Only” is turned off, though, these unloved values will merged into the current cue of the <i>selected</i> <i>cuelist</i> .

FILTER CATEGORY

These filters determine which attribute groups will be updated.

Intensity	Attributes in the Intensity attribute group will be updated.
Pan Tilt	Attributes in the Pan Tilt attribute group will be updated.
Color	Attributes in the Color attribute group will be updated.
Gobo	Attributes in the Gobo attribute group will be updated.
Beam	Attributes in the Beam attribute group will be updated.
Beam Effects	Attributes in the Beam Effects attribute group will be updated.

DEFAULT CATEGORY

Again, this category is consistent in behavior with the Record Options window.

SET	Causes the console to “remember” any of the filters you have applied so that the next time you press Update, those same filters will be selected. Note: there is no feedback when you press this button (it doesn’t change color).
RESET	Causes the Update Options window to return to its default filter setting.

Updating Submasters

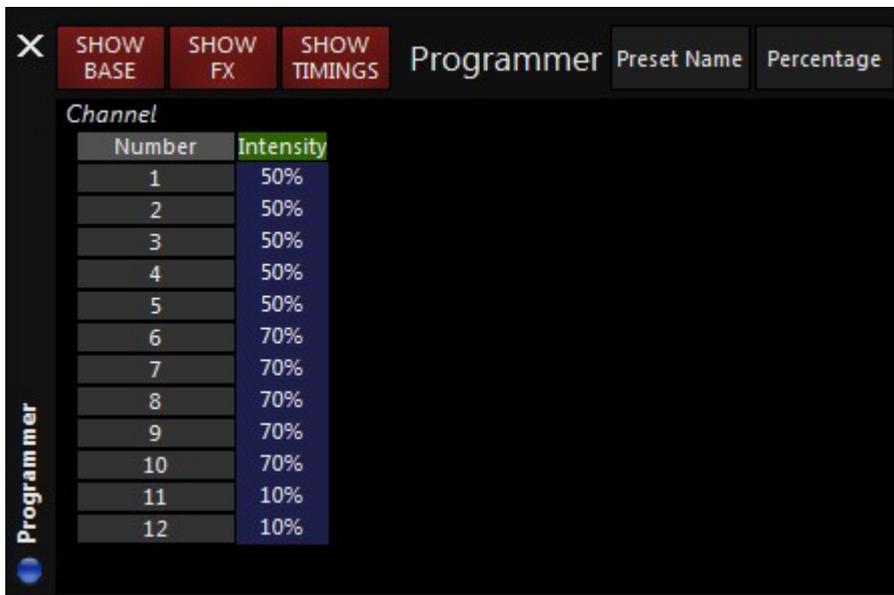
Whilst updating submasters - all the methods discussed earlier will still apply - but submasters can also be updated in a more direct manner.

For example, lets say we have two submasters, Submaster 1 has Fixture 1, 2, 3, 4 and 5 @ FULL. Submaster 2 has Fixture 6, 7, 8, 9 and 10 @ 70. We want to change Submaster 1 so it has its fixtures at 50% and we want to change submaster 2 so it has its fixtures at 100%. We also have some other channels in the programmer, but we don't want them as part of either submaster.

To update these submasters:

1. Select fixture 1 THRU 5 and assign them an intensity value of 50%.
2. Select fixture 6 THRU 10 and assign them an intensity value of 70%

The programmer should look a little like this.



3. Hold UPDATE and hit the Flash or Select Key of **Submaster 1**. Note that fixture 1 thru 5 are cleared from the programmer and Submaster 1 now has the fixtures at 50%.

Programmer		
Channel	Number	Intensity
	6	70%
	7	70%
	8	70%
	9	70%
	10	70%
	11	10%
	12	10%

Cuelist Values		
Channel	Number	Intensity
	1	50%
	2	50%
	3	50%
	4	50%
	5	50%

4. Hold UPDATE and hit the Flash or Select Key of **Submaster 2**. Note that fixture 6 thru 10 are cleared from the programmer and Submaster 2 now has the fixtures at 70%.

Programmer		
Channel	Number	Intensity
	11	10%
	12	10%

Cuelist Values		
Channel	Number	Intensity
	6	70%
	7	70%
	8	70%
	9	70%
	10	70%

The console will only update fixtures that are already in the submaster of the select button you choose. This stops unwanted values being merged into submaster where they don't belong. In some circumstances, you will want to merge a second fixture into an existing submaster. This can be achieved using the RECORD & MERGE options in the [Record Options window](#).

Cue Macros

Macros are a device used to trigger a cuelist or event from a standard or timecode cuelist, they are not available in the other cuelist types. The Macro is inserted into the cuelist and will automatically trigger when the cue directly above it is executed. Multiple macros may be inserted per cue.

Macro Types

The M-Series currently supports 10 different Macro types.

Macro Type	Action
TRIGGER	Same as pressing Go button on specified cuelist
RELEASE	Will release the specified cuelist
PAUSE	Will pause any cue running in the specified cuelist
SELECT	Selects the specified cuelist
SELECTMAIN	Changes the cuelist assigned to the Main Go area.
GO TO BANK	Loads the specified bank onto the playback controls. When selected, the option of changing the bank on the main console (default) or an attached Playback Wing module is presented in a pull down window. Playback Wing modules are identified as "Wing ID 0" through "Wing ID 36." Wing ID's are determined by setting a DIP switch found on the wing module. For details on setting these IDs, please refer to your M-Series Playback Wing Manual.
SCRIPTEXECUTE	This option is for executing scripts for use with Mx Manager
REL ALL	This will release all standard, chase, timecode, and override cuelists. You can also specify a single cuelist that is not to be released.
REL ALL CL	This will release all standard, chase, and timecode cuelists, but not overrides. You can also specify a single cuelist that is not to be released.
REL ALL OR	This will release all override cuelists, but not chases, timecode, or standard cuelists. You can also specify a single cuelist that is not to be released.
SET CL VALUE	This macro will allow you to proportionately adjust the intensity values of a specified cuelist.
MIDIMACRO	A MIDImacro allows you to use MIDI to trigger cuelists and accomplish other functions. For more information, refer to " Deleting or Editing Macros ".
REL CUELISTS	This macro will allow you to release a specific cuelist or range of cues. Note that if releasing a range of cuelists, they must be contiguous. You can also set the release time of the cuelist using either the default or 0 to 10 seconds in 1/2 second increments.
REL BANKS	Release Banks allows you to release a specific bank or, by selecting "Inactive" you can release any banks that are not currently loaded on the console or any M-Series Playback Wings that may be attached.
REL THIS CUELIST	Releases the cuelist to which the macro is attached.

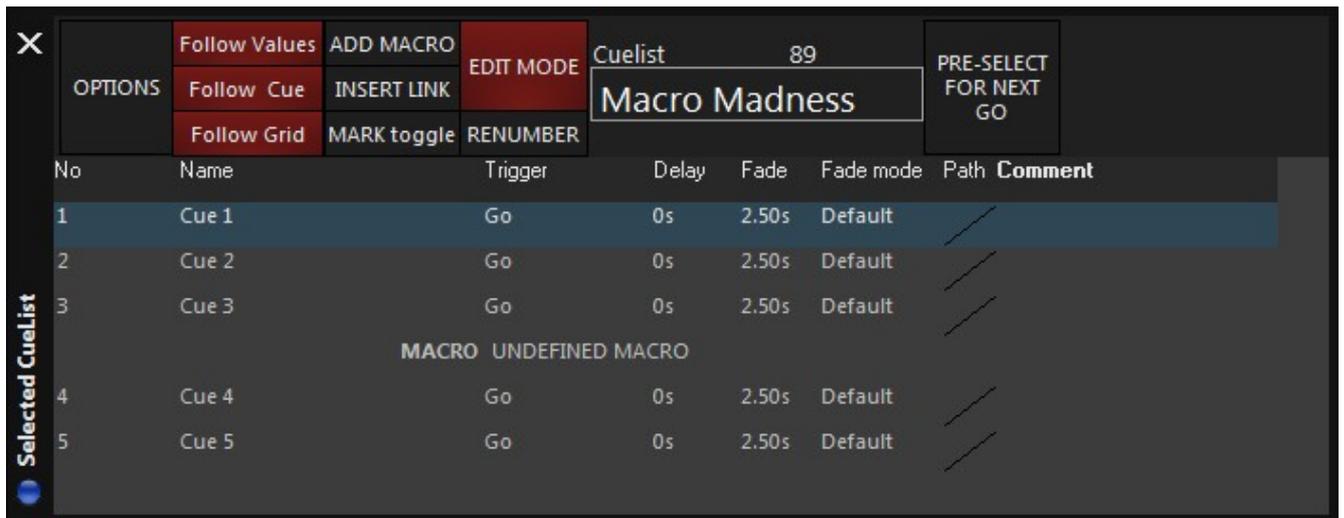
Creating a Macro

To use a macro in a cuelist, follow this procedure:

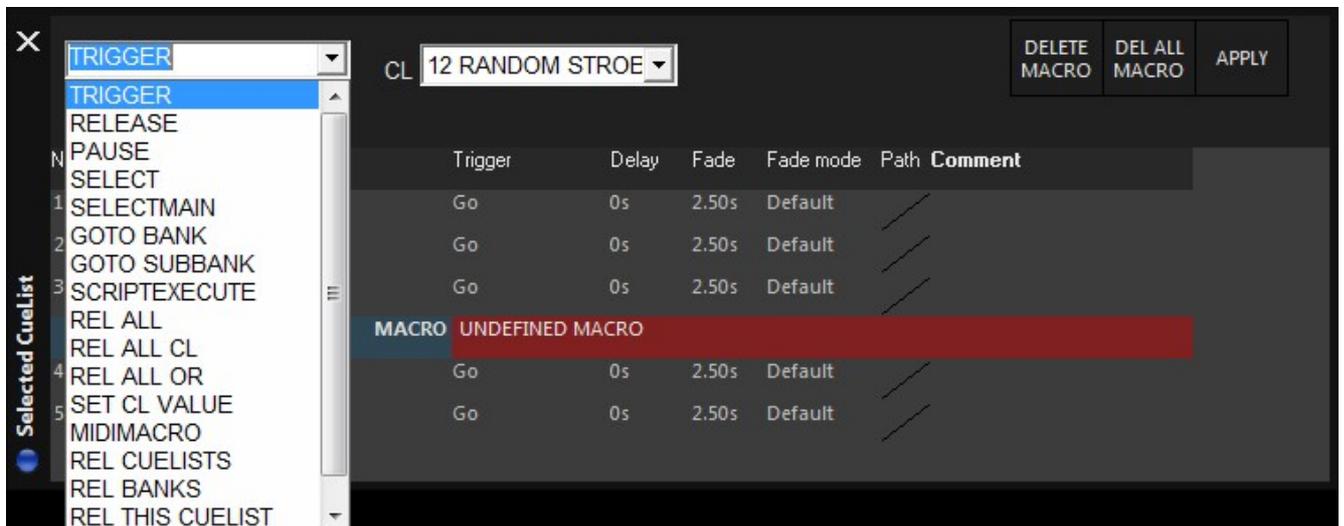
1. Select the desired cuelist and view it in the Selected Cuelist screen.
2. Highlight the cue that you wish to have trigger the macro. Note that the macro will execute as soon as the

cue starts.

3. Enable edit mode and press "Add Macro". A line for the macro is added below the cue.
4. To select the effect of the macro, touch "Undefined Macro".



When selected, the Macro Editing screen will appear at the top of the cuelist:



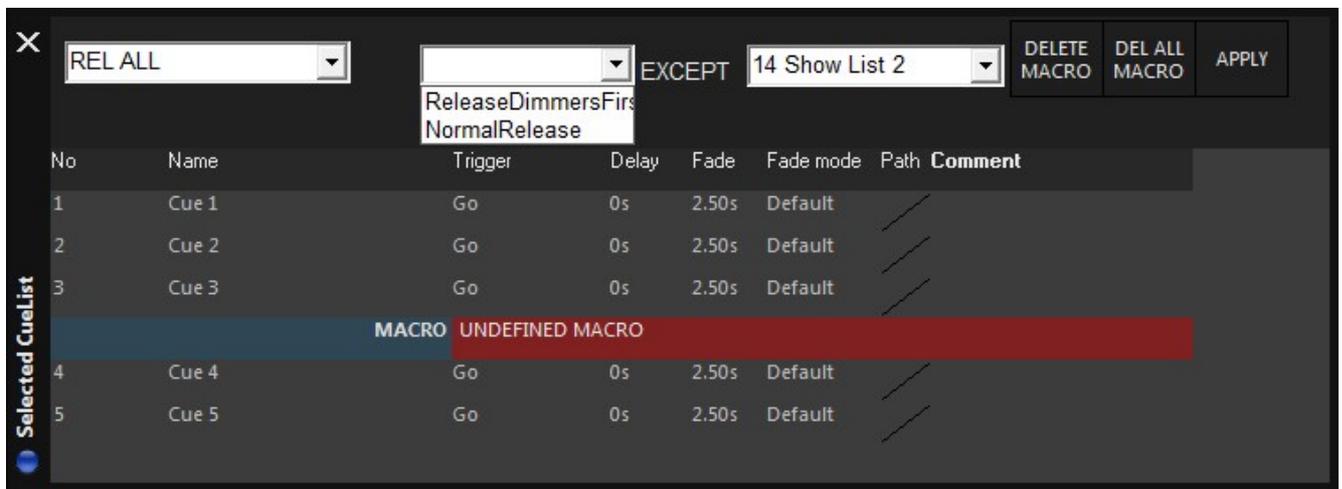
5. From the left pull down menu, select the macro type.
6. From the right pull down menu select any cuelist.

Note that this cuelist needn't necessarily be loaded into a playback fader. A macro can be used to trigger any cuelist in the cuelist directory.

7. Select "Apply" to save your changes.

Macro Modifiers

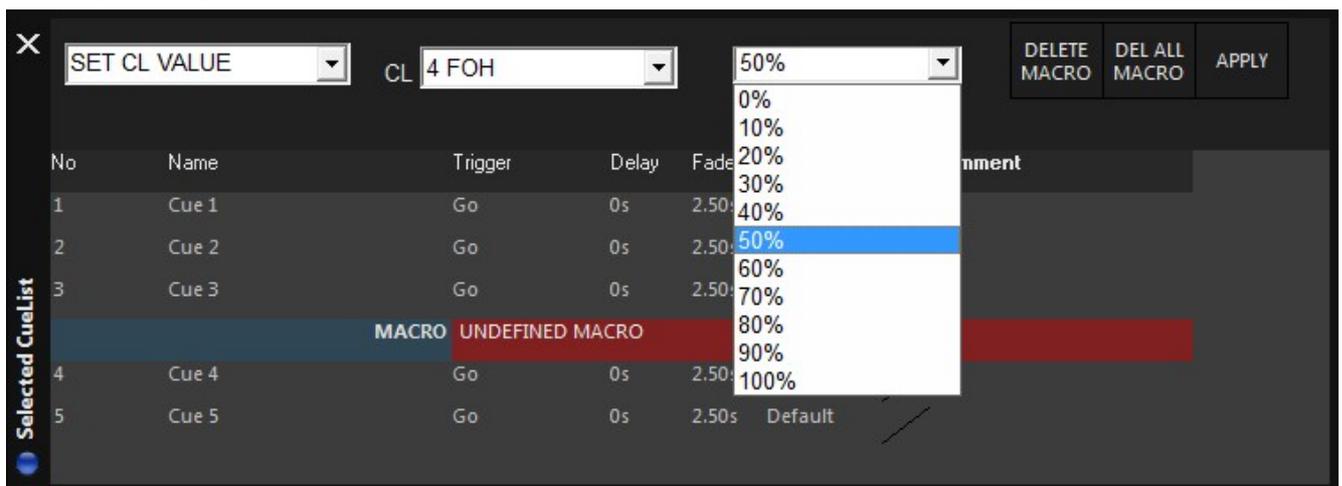
Certain macro types, specifically "Rel All," "Rel All Cl," and "Rel All Or" have slightly different modifiers. In these macros, you can specify how you wish to have the cuelists released and if there are to be any exceptions.



In the above example, you can see that all cuelists will be released (Rel All). The next drop down box allows you to select whether you will have intensity fade out first and then other attributes, or if all attributes will fade simultaneously. Note that the release time for all cuelists released will be as specified for each cuelist in the cuelist options selection (see ["Default Release Time"](#)). The final drop-down allows you to specify a single cuelist that will not be affected by the macro.

Mastering the Level of a Cuelist Using a Macro

Using the "Set CL Value" macro allows you to change the intensity levels of another cuelist. This is a proportional change in much the same way that pulling down the playback fader would affect that cuelist. In fact, if the cuelist is on a physical playback, the fader will move to the specified level.



In the example above, you can see that when cue 3 is reached, the intensities of all fixtures in all cues of cuelist 42 will be reduced by 50% of their recorded value.

Deleting or Editing Macros

Once inserted into a cuelist, a macro can later be edited or deleted. Use the following procedure:

1. Select the desired cuelist and view it in the Selected Cuelist screen.
2. Enable edit mode.
3. Press the macro action (the cell that contains the macro type).
4. To edit the macro, enter any changes in the trigger or cuelist selection then press apply.
5. To delete the macro, press "Delete Macro." If the cue has multiple macros, pressing "Del All Macro" will delete all macros recorded with the cue (not all macros in the cuelist).
6. The edits to the macro will be applied.

MIDI Macro

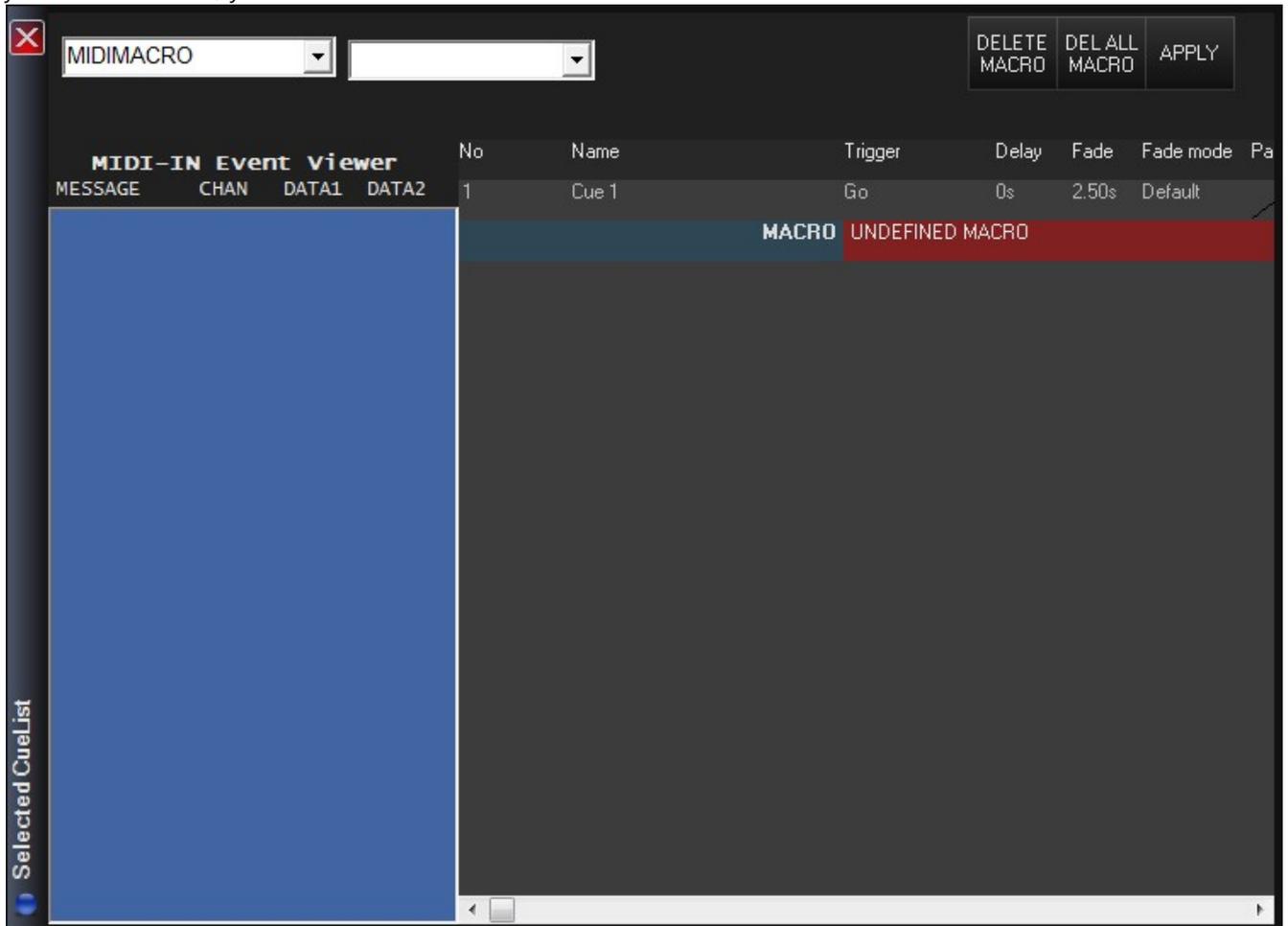
The M-Series implements MIDI commands through the use of macros. A basic understanding of MIDI and MIDI equipment is strongly advised and is beyond the scope of this document, although enough information will be given for basic MIDI operation.

MIDI Macro Physical Connection

On the back of the M-Series console there is a MIDI in and out port. The in ports connect to the output from the MIDI generating device (synthesizer, PC, etc.) The M-Series does not generate MIDI messages, but does pass them along for processing by other MIDI equipment in the system.

MIDI Macro Programming

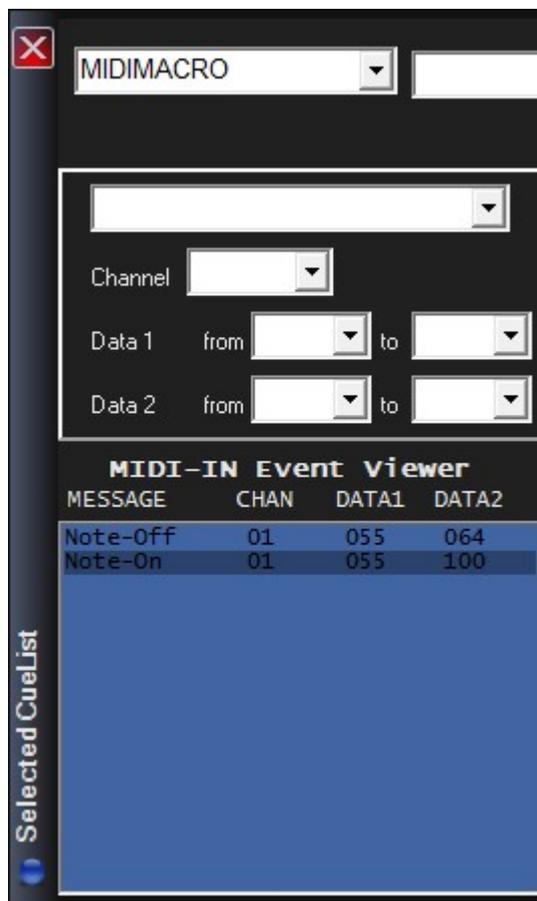
While MIDIMacros can easily be put into existing cuelists and can be very useful there, you may find it easier to manipulate MIDI control by using a separate cuelist or cuelists. This is how the examples in this manual will be displayed. This can easily be done by recording a “blank” cue (a cue when no information is in the Programmer) to an unused bank. Once done, add a macro to the cue and from the pull down list select “MIDIMacro.” When you have done this, you will see the “MIDI In Event Viewer.”



The MIDI-In Event Viewer consists of four columns.

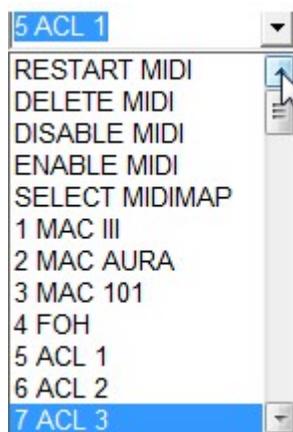
Message	Under this column, you will find what type of MIDI message has been received by the console such as “Note On,” “Note Off,” etc.
Channel	MIDI employs 16 discreet channels. This column identifies which channel the message came from.
Data 1	Every MIDI message consists of a minimum of two data bytes. The meaning of these data messages changes depending upon the message type. As an example, if the message is “Note On” or “Note” off, Data 1 will display the value assigned to a specific note (such as C#). Each note in the MIDI protocol has a specific value assigned to it. Note that the M-Series display is numeric from 0-127 while MIDI protocol is frequently shown as hexadecimal (00-FF).
Data 2	Similar to “Data 1” except that where Data 1 will often identify a object (such as a note in the harmonic scale), Data 2 will define an action for that note such as on or off.

Once you have your MIDI In Event Window open, you can then test your physical connection by playing a note on your keyboard. If your connection is good, the note played will be displayed in the Event Window.

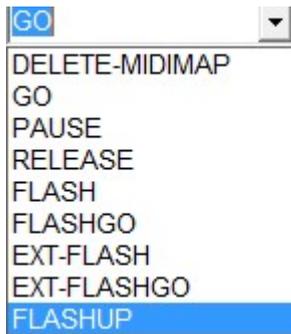


The last message received is displayed at the top of the list. In the example above you can see that the first message was a Note-On from Channel 1 where Data 1 was 055 (C#) and Data 2 was 100 (on). The second message was the same except for Data 2 which was 064 (off).

The drop-down menu to the right of the macro type drop-down window contains the various cuelists that the MIDI macro can be assigned to as well as 5 "global" MIDI macros.



The five global MIDI macros will be discussed later in this manual (see [“Global MIDI macros”](#)). Once you select the cuelist you wish to manipulate with the specific MIDI macro you are programming, the screen will change and present you with more options:



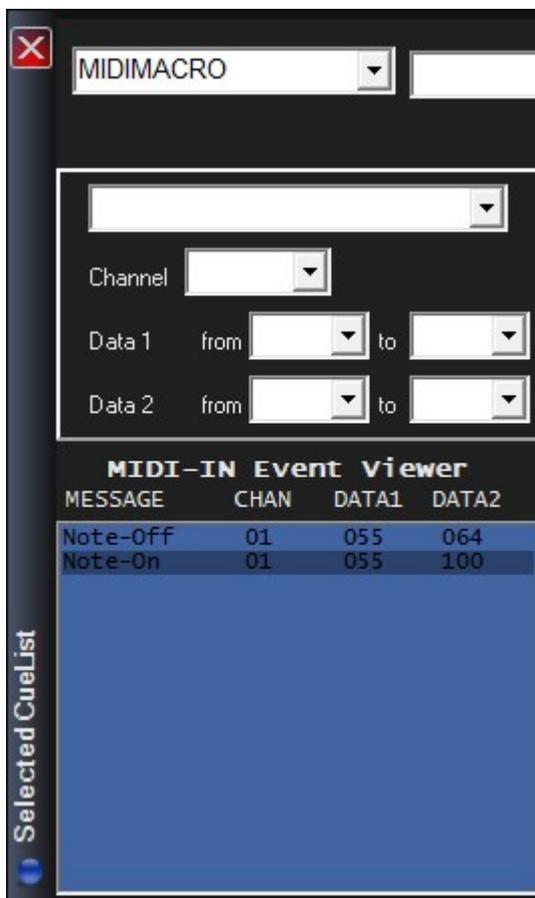
To the right of the cuelist selection drop-down menu is the MIDI macro action drop-down menu. This menu contains 9 different actions.

Delete MIDImap	The MIDImap feature is not yet implemented. Therefore, the Delete MIDImap feature is also not yet implemented.
Go (default)	This will act as a normal Go command on the cuelist.
Pause	This will pause and fade or effect in progress.
Release	This will release the specified cuelist.
Flash	This will press and hold the flash (bump) button on the specified cuelist.
FlashGo	This will press and hold the flash button and then rapidly execute a go command.
Ext Flash	This is similar to a Flash command, except that the level of the flash is determined by the information in the Data 2 field. For example, if you wanted a cue to flash to 50%, you would use a command with Data 2 at 64 such as a Note Off command.
Ext FlashGo	Similar to the FlashGo listed above except that as with Ext Flash, Data 2 is used to set the level of the flash.
FlashUp	The FlashUp command is the equivalent of taking your finger off the flash button. By having a separate command for Flash and Flash up, you can maintain the flash without having to continuously hold down a button.

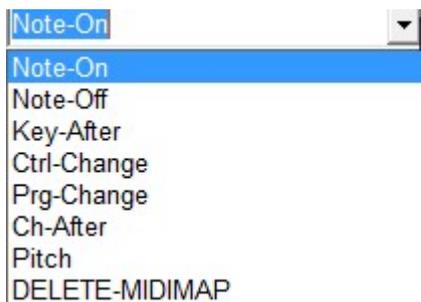
Remember that MIDI is hexadecimal protocol and as such, has values of 0-127. Fifty percent of 127 is 63.5 which rounds to 64.

Please be aware that all “Flash” commands and “Pause/Release” commands will work with MIDI macros regardless of the setting of the “default button” in Cuelist Options.

You will also notice that below the Cuelist and Command drop down menus that there are some extra options. This section determines what type of MIDI command will act as the trigger for the macro.



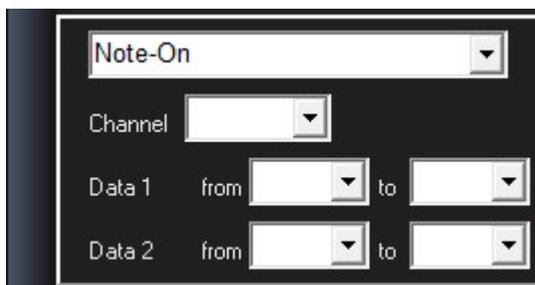
At the top of this section is a drop-down menu with eight MIDI commands.



As discussed earlier, it is beyond the scope of this manual to provide the full specification for all available MIDI commands. However, there are many resources available both in printed media and via the internet. That being said, for the purposes of demonstration, it is important to understand the following two MIDI commands:

- Note On This is a MIDI command that signifies the beginning of when a specific note is played.
- Note Off This MIDI command signifies that a specific note is no longer being played.

You can select any of the commands listed except "DELETE-MIDIMAP". For our purposes, we'll use "Note On."



Below the MIDI command selection drop-down menu are five smaller drop-down menus:

- Channel As mentioned earlier, MIDI supports 16 discreet channels. You can use this pull down menu to determine which channel the console will "listen" to for its MIDI message for this macro.
- Data 1 "from" and "to" These two fields are used to determine the range of Data 1

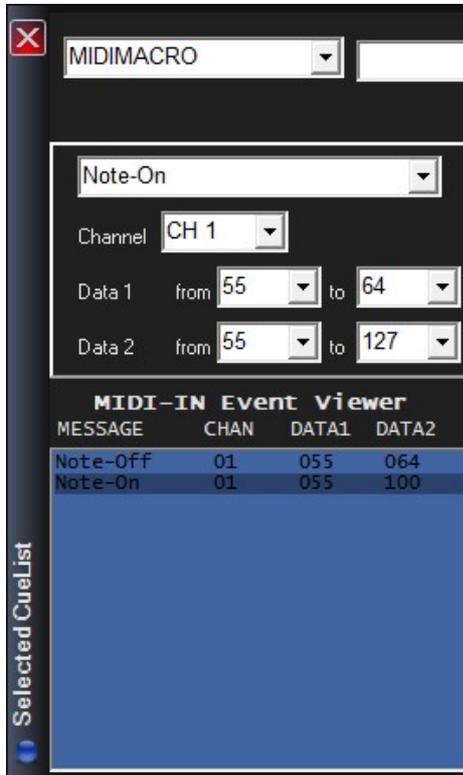
messages to be acted upon. MIDI ranges from 0-127. You can enter either a very specific MIDI command (from 45 to 45) or accept any MIDI Data 1 command (from 0 to 127).

Data 2 “from” and “to”

These fields are used as above, except they pertain to Data 2.

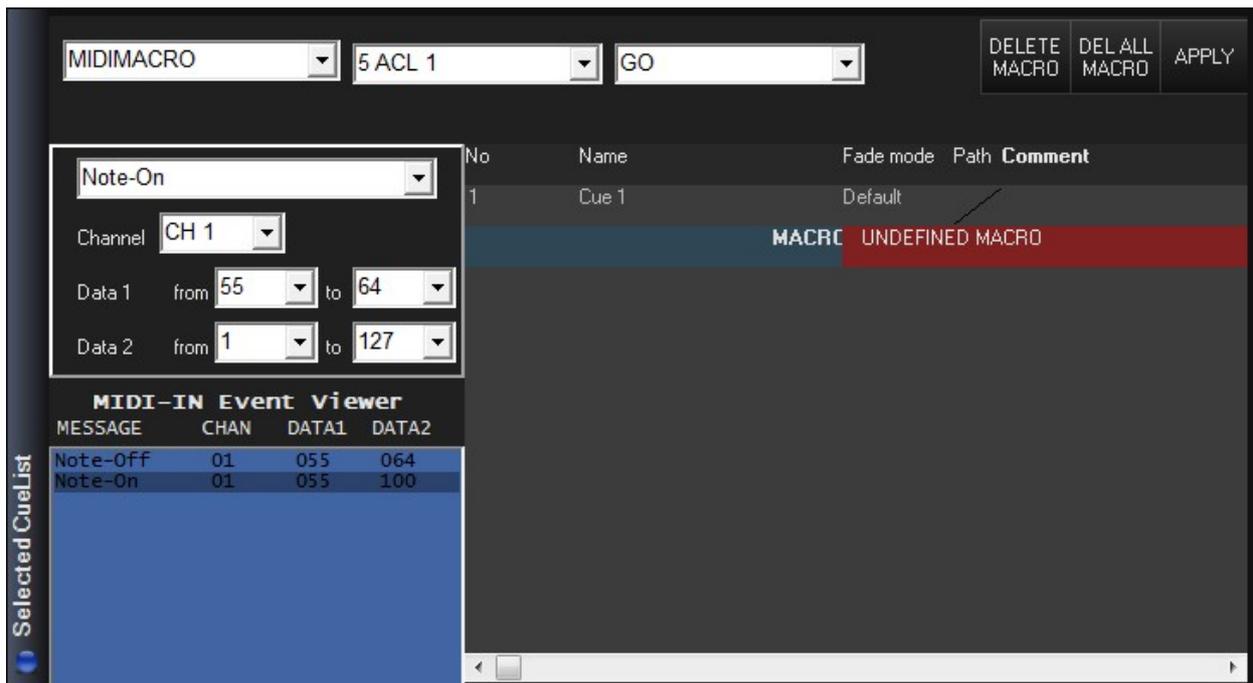
If we were to select the MIDI command “Note On,” set our Channel to 1, Data 1 from 55 to 64 and Data 2 from 1 to 127, we would execute a Go command on cue 5 every time the keyboard played C#. This is a lot of data to enter, but there is a shortcut.

Instead of entering all the MIDI data manually, once the MIDImacro has been set up with its cue list selection (cue list 9) and action (Go), you can *play* the desired key on the keyboard. It will show up in the MIDI In Event Viewer and you can then *click* on it and the data will be loaded into the appropriate windows.



By clicking on the “Note On” command in the MIDI In Event Viewer, the command “Note On”, the channel number and the Data 1 and 2 information are automatically pasted into their respective fields.

When all information for your MIDImacro has been entered, the screen will be similar to this:



You can see that the macro is a MIDImacro that will send cue list 5 a Go command when it sees a Note On command on MIDI channel 1 with Data 1 at 55 (C#) and any value in Data 2. Pressing “Apply” will complete the

macro.

Playing MIDI macros

As with any other type of macro, in order for a MIDImacro to become active, the cue that it is attached to must have been executed. Also, be aware that if you are using any of the “flash” MIDImacros, the target cuelist (such as cuelist 5 in the example above) must be active for the flash to work.

Global MIDI macros

As mentioned earlier, there are five global MIDImacros. A global MIDImacro is one which affects all other MIDImacros that the console is processing.

Restart MIDI	This function is not currently implemented.
Delete MIDI	This MIDImacro will stop (release) all MIDImacros from acting on received MIDI commands. In order for MIDImacros to once again act on incoming MIDI messages, the cues that the MIDImacros are attached to must be executed again.
Disable MIDI	Disable MIDI will ignore all incoming MIDI messages without actually stopping other MIDImacro cues from playing.
Enable MIDI	If MIDI has been disabled, the Enable MIDI macro will allow the console to once again act on incoming MIDI messages.
Select MIDImap	This function is not currently implemented.

When working with MIDImacros, you may find it useful to create one cuelist that has Disable Midi and Enable MIDI macro cues in it and a second cuelist that has a Delete MIDI macro in it. In this way, you can easily pause and then resume and MIDImacros or cancel all running MIDImacros.

A NOTE ABOUT DELETING MIDIMACRO CUES AND CUELISTS:

Once a MIDImacro has been executed, it will continue to accept incoming MIDI commands even after the cue containing the MIDImacro or the cuelist containing the MIDImacro has been deleted. The only way to stop the MIDImacro from accepting MIDI commands short of rebooting the console is to use the Global MIDI command of Delete MIDI.

MIDI macro Summary

Below is a step-by-step example of how to create a MIDImacro.

1. Create a new cue (either a blank cue or not)
2. Press “Add Macro”
3. Touch “Undefined Macro” on the cue
4. Select “MIDImacro” from the drop-down list
5. Select the target cuelist that the MIDImacro is to effect from the drop-down list (or select desired Global MIDImacro)
6. Select the action to be taken on the target cuelist (such as Go)
7. On your MIDI generating device, send the MIDI command you wish to have activate the MIDImacro (Alternatively, you may manually enter the MIDI command values)
8. From the MIDI In Event Viewer, select the MIDI event and click on it
9. Press “Apply” to record the macro

MIDI Timecode (MTC)

MIDI Timecode is also supported. For more information, please see [“Timecode”](#).

Effects

The M-Series utilizes a very powerful effects package. You can use either pre-programmed shapes or work on an attribute-by-attribute level to design your own. Effects are created using the attribute controls. While going through this section of the manual, it will be quite useful to be at the console. Some terms and concepts that might not be familiar to you will be much easier to grasp if you can follow along and try programming a few effects of your own.

Please note: M-Series handles all attributes the same with the exception of pan and tilt. Pan and tilt receive a special treatment when "PT Comb" (pan/tilt combine) is enabled

Effects Controls

Making an Effect on an M-Series console is very simple. The last parameter you altered in the attribute bank will be highlighted in orange as indicated in the image below. It is this parameter that will be affected by an effect once you enter the FX section of the console. If you don't want to use the parameter you last altered, you can choose another parameter by pressing its associated parameter button to select it or if you are on an M2PC/M2GO/M1 console the Encoder Wheels also act as parameter buttons, simply push them down. Once you have selected the parameter you wish to apply an effect to, you will need to enter the FX section of the wheels, on a Maxxyz Compact or M1 console, hit the "CV" button on the front panel which will toggle the LCDs into Effects Control along with some other options. The FX engine has two sections "FX" - which consists of the Swing, Speed, Mode and Multiplier controls which form the basis of any effect. The LCD key below that is "FX Timing" which hosts the Wave Per X, Step Per X, Effect Grouping Tools, Delay, Shift and Wait controls.



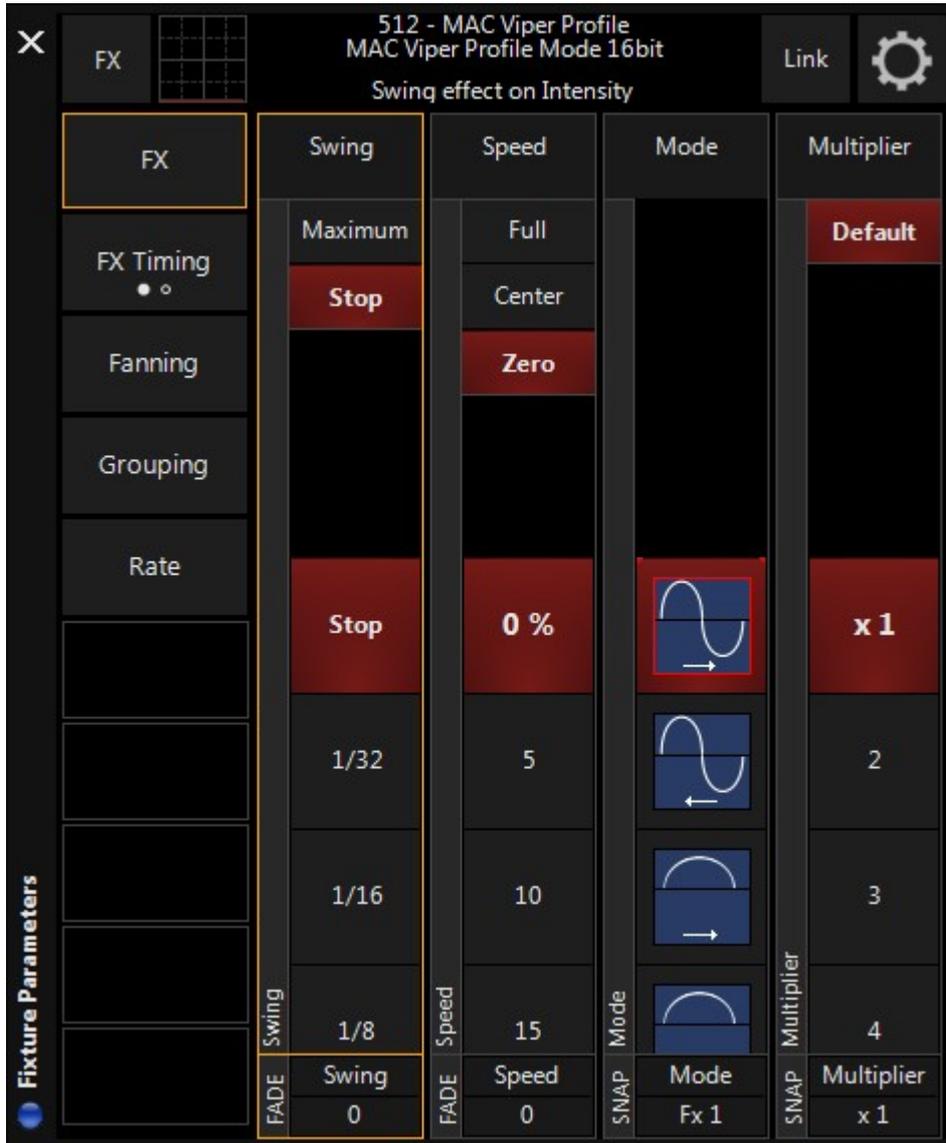
**M1 LCD
Keys**



M6/M2GO/M2PC "LCD Keys"

Regular Effect

Load a group of fixtures into the Programmer and press the "FX" button or LCD key. This loads the control elements for the *motion* of the attribute being controlled by the effect. The elements are: Swing, Speed, Mode and Multiplier. The Channel Visualizer will look similar to this with PT Comb disabled.



Note that the attribute that will be affected by the Effect control elements is intensity. This is determined by the base attribute selected using the other set of attribute controls. To select the intensity attribute, press the "Intensity" LCD button and then press the hard button in the intensity column or push down the encoder wheel. Note that the hard button for the active attribute has a blue LED. On the M2PC/M2GO/M1 controller, switch to Fixture Attribute Control and press down on the corresponding Encoder wheel until you feel it "click." The blue LED below the wheel will light up to indicate that attribute is active.

Note: If your controller only has 1 set of attribute buttons, you will access the Effects Controls by pressing the "CV" button. When Effect Control is active, the blue LED in the "CV" button will be lit. When the button is unlit, this indicates that you are in Fixture Attribute Control mode.

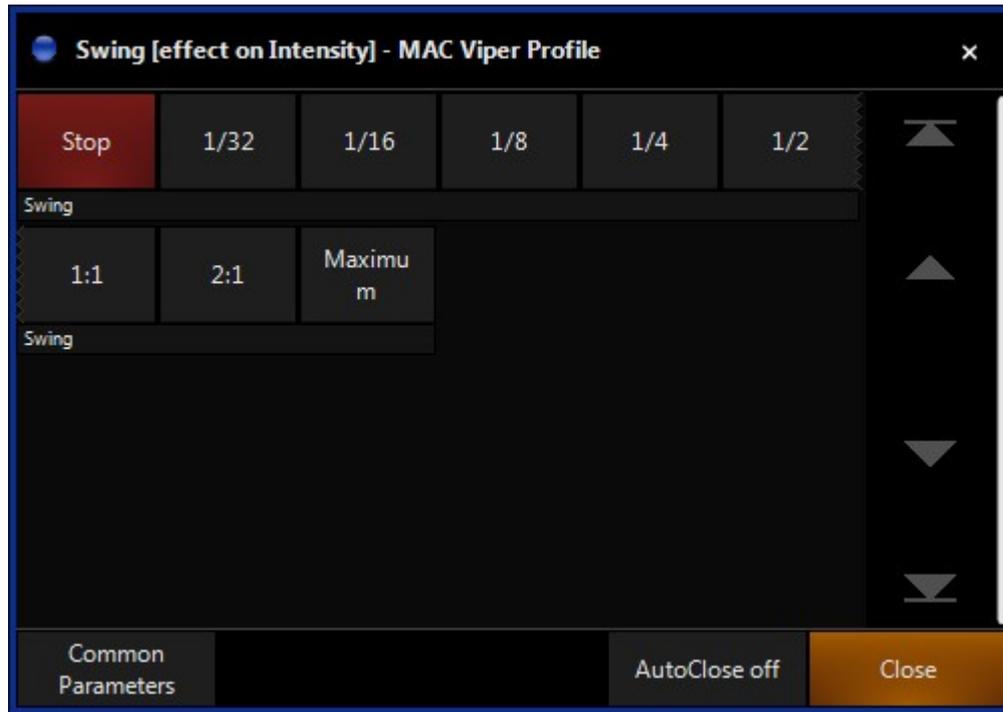
BASELINE - A QUICK CONCEPT

All effects elements in the M-Series works off the premise of the baseline of the selected attribute. The baseline can be described as the level of the attribute *before* the effect element is applied. So for intensity, the base line can be anywhere between zero and full. When we apply an effect element to the intensity, it varies the intensity in relation to the base line. Therefore, if we use an effect that takes the selected attribute from its baseline to 100%

but that attribute's baseline is already 100%, the effect element won't have any affect on the attribute. To put it another way, if fixture one is at full and we apply an effect element that goes from zero to 100% and back to zero, we won't see any change in the fixtures intensity. If however, the fixture were at zero, we would see the intensity rise and fall with the effect.

!

SWING (Size)

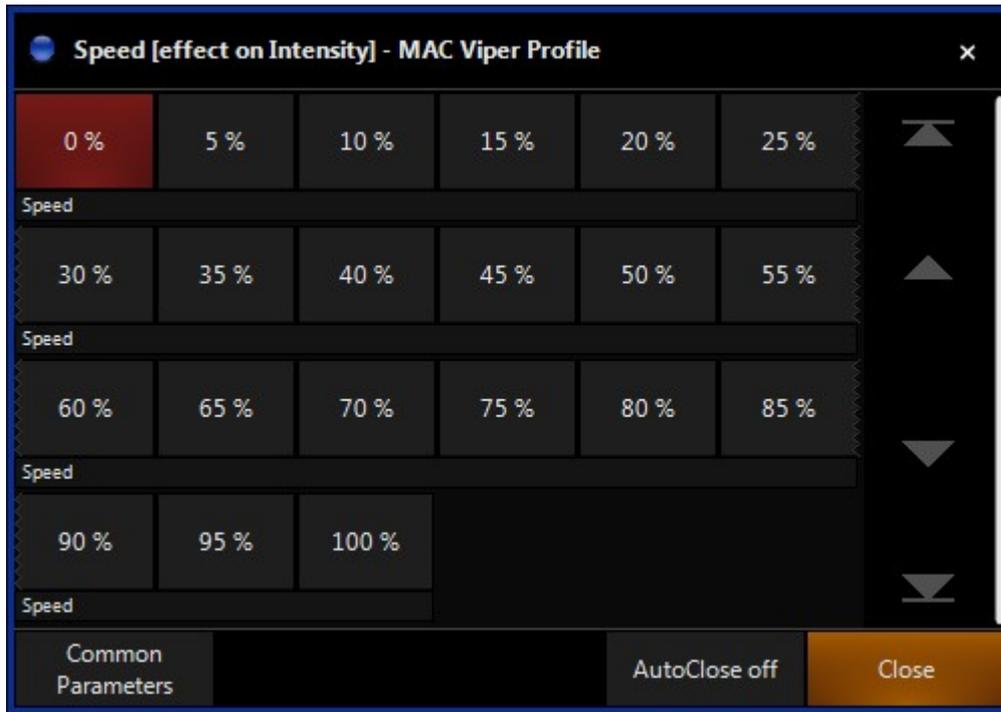


Swing can be described as the amount of the effect to be applied to the attribute. In audio terms, it would be described as the amplitude. As stated earlier, it affects the selected attribute based on that attributes baseline value. Swing has a nominal value range of 0-170. Note however that all fixture attributes except for pan and tilt have a nominal range of 0-128 (pan and tilt have a nominal range of 0 - 64). In other words, a fixture at 50% would have a baseline of 64 (50% of 128). The swing range between an attributes maximum of 128 and the swing maximum of 170 can be used to "overdrive" the attribute. This doesn't mean that you'll be able to get more than 100% intensity from your fixture, but the fixture will "sit" at the top of its range (128) until the swing value drops below 128.

Don t Panic!

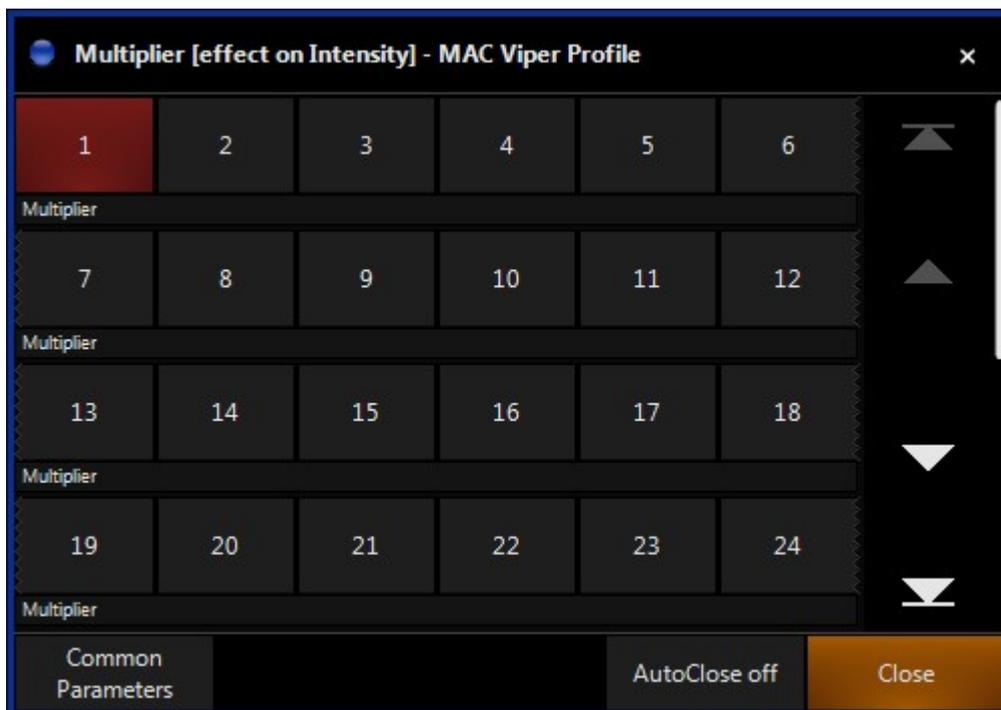
Don t be intimidated or frustrated if this doesn t make sense yet. It will all become clear when you try it.

SPEED



Speed determines how fast the selected attribute will execute its swing value. Again in audio terms, it would be best described as frequency. While the baseline of an attribute does not have a great impact on how speed affects the attribute, physics and the mechanics of the fixture certainly do. If you set a moving head to execute 540 degrees of rotation in 1/4 of a second, it's not going to happen. Instead, the fixture will move back and forth off its baseline position a very small amount as the swing value cycles back and forth past it faster than the servos can move. The Speed element has a completely arbitrary range of 0-1000. Note that values other than those shown in the direct access window shown above can be accessed using the track belt or encoder.

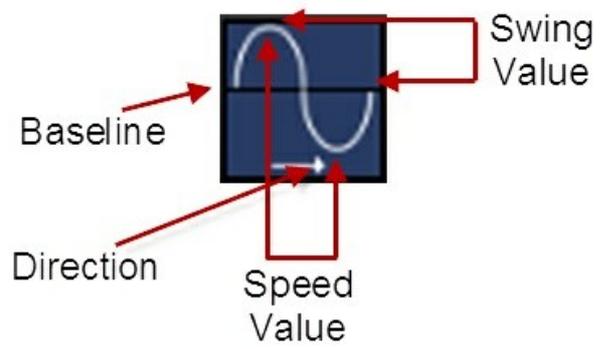
MULTIPLIER



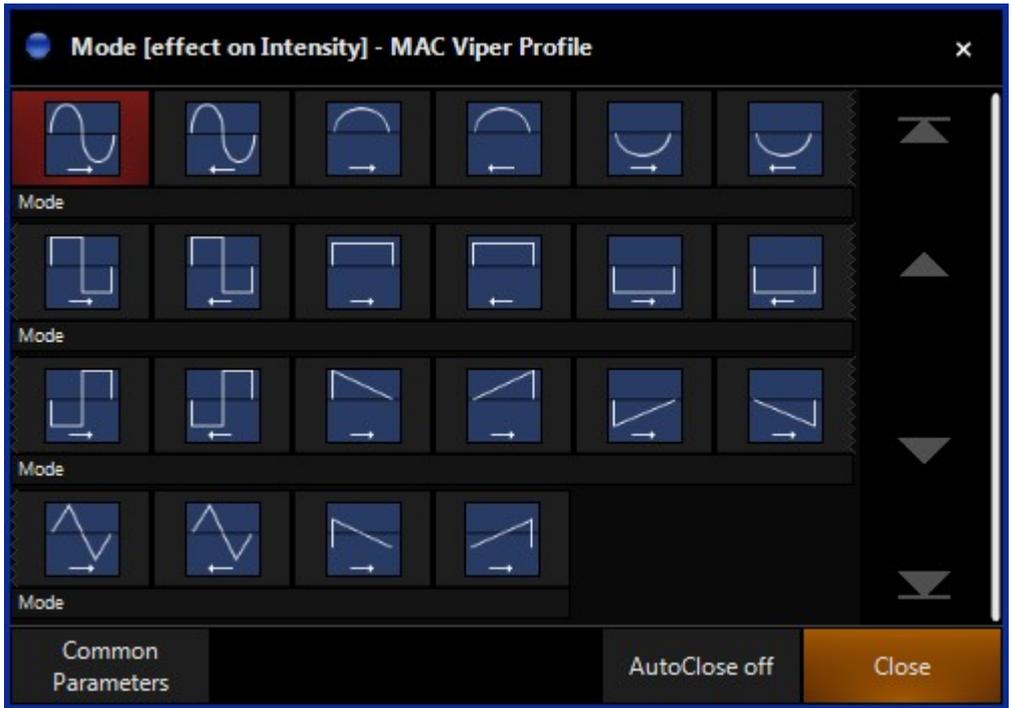
Multiplier is a further speed parameter. Multiplier simply multiplies the speed of the effect by the number in the counter. Multiplier is useful for obtaining extremely fast speed values for effects on LED fixtures.

MODE

The Mode element determines the relationship between the baseline of the attribute and the swing element. These Modes are presented graphically. Below is an example of a Mode with notes to help in interpreting it.



Double clicking the hard button below the Mode parameter will open up the Mode window so that all of its contents can be easily viewed. On M-PC you may double click the parameter on screen to open the popup. It is presented in a graphic format:



Note: The numbers 1-22 were added for identification in this manual and do not appear in the actual Mode screen on the console. There are 22 modes available on the M-Series.

	Start at the baseline, fade up the amount specified by the swing element, return to the baseline and then fade below the baseline the same amount before returning to the baseline and starting again.
	Identical to mode one except that we fade below the baseline first and the direction of travel is right to left.
	Start at the baseline, fade up the amount specified by the swing element and fade back to the baseline.
	Identical to mode three except the direction of travel is right to left.
	Start at the baseline, fade down the amount specified by the swing element and fade back to the baseline.
	Identical to mode five except the direction of travel is right to left.
	Start at the baseline, snap (time zero) up the amount specified by the swing element, and then snap below the baseline the same amount before snapping above the baseline again.
	Identical to mode seven except that we snap below the baseline first and the direction of travel is right to left.

Effects 9 through 12 require the use of the "Step per X" or "Shift" element to function correctly.

	<p>Start at the baseline, snap up the amount specified by the swing element, and then snap back to the baseline. Changes in the modified attribute are applied from first to last selected fixture.</p>
	<p>Similar to above, except changes are applied from last to first selected fixture.</p>
	<p>Starts at the baseline and then snaps down the amount specified by the swing element and then returns to the baseline. Changes in the modified attribute are applied from first to last selected fixture.</p>
	<p>Similar to above, except changes are applied from last to first selected fixture.</p>

Modes 13 and 14 are effectively the inverse of modes 7 and 8

	<p>The inverse of mode 7... Start at the baseline, step <i>down</i> the amount specified by the swing element, return to the baseline and then step <i>above</i> the baseline the same amount before returning to the baseline and starting again.</p>
	<p>Identical to mode 13 except the travel is right to left.</p>
	<p>Starts at the baseline then snaps up to the amount specified by the swing value then fades back down to the baseline.</p>
	<p>The inverse of mode 15, we fade up to the amount specified by the swing value then snap back down to the baseline.</p>
	<p>Starts at the baseline then snaps down to the amount specified by the swing value then fades back up the the baseline.</p>
	<p>The inverse of mode 17, we fade down to the amount specified by the swing value then snap back to the baseline.</p>
	<p>Linear based saw mode. Start at the baseline, fade up the amount specified by the swing element, return to the baseline and then fade below the baseline the same amount before returning to the baseline and starting again.</p>
	<p>Identical to mode 19 except that we fade below the baseline first and the direction of travel is right to left.</p>
	<p>Ramp mode. Starts at a value below the baseline specified by the swing value, snaps through the baseline to the upper value specified by the swing value then fades back to the baseline.</p>

EFFECTS EXAMPLES

Example #1

1. Select any moving light and bring it to 50%.
2. Making sure that "intensity" is the selected attribute, set the Swing level to 64.
3. Set the speed to 200.

You'll note that the fixture is now fading from zero to full. We set intensity attribute to 50% or a baseline of 64. (Remember that single attributes have a range of 0 to 128 on the M-Series.) We're in mode 1 which swings above and below the baseline. Since our baseline is 64 and our swing is 64, when the intensity attribute is at the top of the wave, we're at full intensity (baseline 64 + swing value 64 = 128 = full). When we reach the bottom of the wave, we're at zero (baseline 64 - swing value 64 = 0).

Example #2

4. Continuing with the first example, double press the mode attribute hard button to open the mode picker.
5. Select mode #3 from the drawing above and close the mode window.

You can now see that our fixture is cycling between 50 - 100%

6. Take the fixture's intensity to full.

While it appears the effect has stopped running, it hasn't. Mode #3 never goes below the baseline and our baseline is now 128 (full), so there's no effect on the intensity attribute.

7. Open the mode window and select mode #5.

Predictably, the fixture is now cycling between 50 - 100% again.

8. Change the swing value to 128.

And again, the intensity is changing between zero and full.

Example #3

9. Please confirm that "PT Comb" is not enabled for now.
10. Select the "Tilt" attribute. Directly above the "Swing" label, it should say "Effects on Tilt."
11. Set Swing to 11 and Speed to 200.

The fixture should now be swinging back and forth.

12. When the fixture next reaches the end of a swing, change the speed to zero.

You'll note that the fixture has stopped, but it's not at its baseline. The effect is still "running" but it has, in a manner of speaking, "frozen in time."

13. Return the speed to 200.

At this point you may wish to experiment with the pan/tilt attributes and the effect controls.

Of course on the M-Series you can have different attributes on the same fixture running different effects at different speeds. All attributes of every fixture can run an effect.

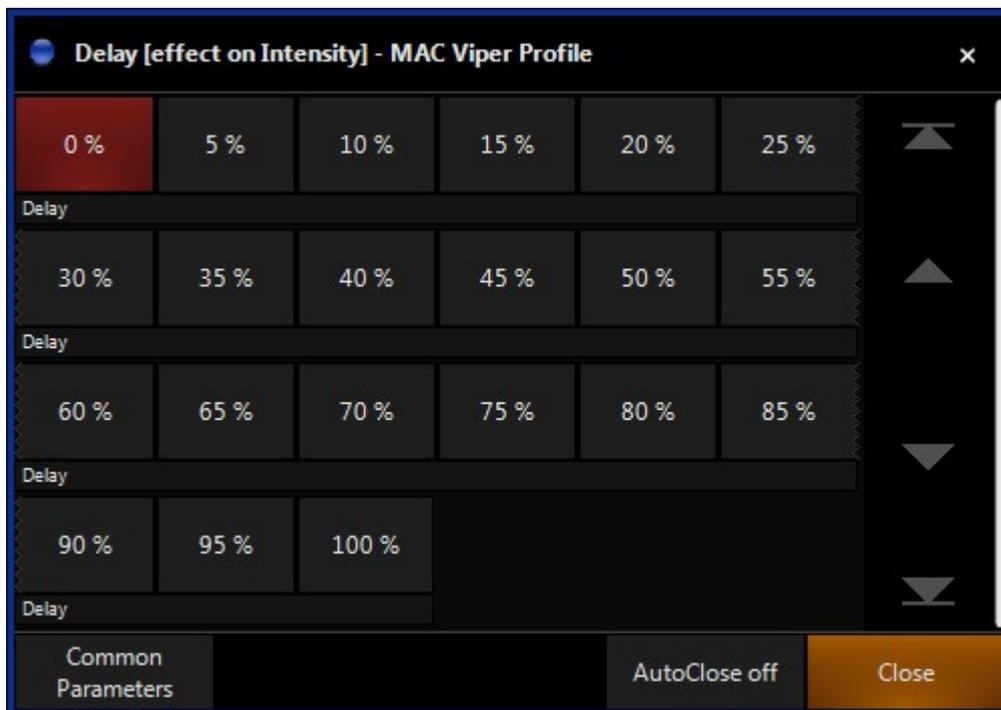
Offsetting an Effect

Where Effects can be used with a single fixture and deal with movement, you have the option to "offset" an Effect across a groups of fixtures. With no offset assigned to an Effect, there will be no discernable difference between the fixtures as they will all be running the effect at the same time.

The FX Timing LCD section consist of Delay (or Wave), Shift (or Step), and Wait.

DELAY/WAVE

The Delay element creates the image of a wave of effects. With the same regular effect running on a group of fixtures, utilizing Delay will cause the fixtures to be at a different points in that effect. The number of points along the duration of the effect that the group of fixtures is divided into is set using Delay. While Delay *can* be set using the track belt or encoder wheel, it is highly recommended that you use the touch screen; either the pop-up window or by touching the values listed in the Delay column.



The Delay pop-up window will automatically populate with x number of "Wave per x" selections where "x" is the number of fixtures selected. With 12 fixtures selected, the box above will be available. The first selection, "Wave per 1" is essentially no wave. "Wave per 1" puts all 12 fixtures at the same point on the wave. "Wave per 2" creates two points for the fixtures to be at in the effect. The even fixtures will be 180 degrees off of where the odd fixtures are. This increases, in this example to "Wave per 12" where each fixture has its own, evenly distributed point along the curve of the effect. To examine how Delay works, try the following:

1. Select any group of fixtures. Leave the intensity at 0.
2. Select the intensity attribute.
3. In FX, set Swing to 128, Speed to 200 and select Mode #3 as described earlier.

The fixtures should be fading from zero to full.

4. Press the "FX Timing" LCD button.
5. Double click the "Delay" hard button to open the Delay picker.
6. Select the highest option available to you and note what happens.

You can set the fixtures to the other "Wave per x" settings, then return to the highest one.

7. Confirm that intensity is the selected attribute and then press the "FX" LCD.
8. Select Mode #4 as described above.

You can now see the difference between a "forward" mode and a "reverse" mode.

SHIFT/STEP

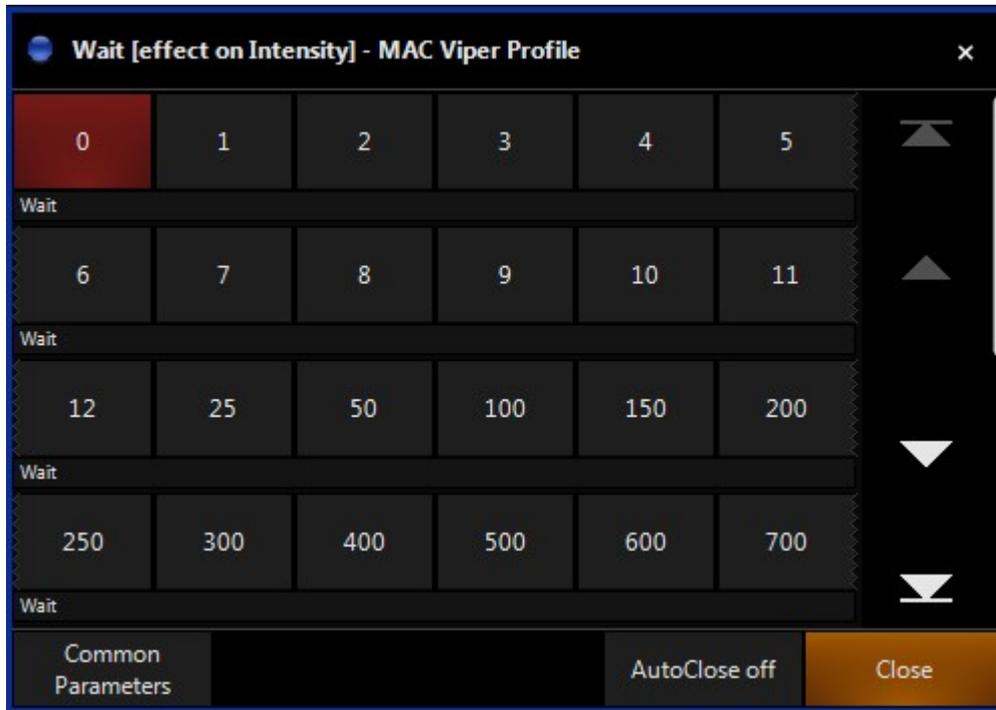
Shift is similar to delay except where delay divides the effect and distributes the fixtures evenly along its curve, Shift divides the number of fixtures evenly and distributes the effect to them. The pop-up window for Shift is essentially identical to the wave pop-up with the exception that "step" is used instead of "wave." To view the effects of step:

1. Select any group of fixtures. Leave the intensity at 0.
2. Select the intensity attribute.
3. In FX, set Swing to 128, Speed to 400 and select Mode #3 as described earlier.

The fixtures should be fading from zero to full.

4. Press the "FX Timing" LCD button.
5. Double click the "Shift" hard button or encoder wheel.
6. Experiment with the different options and note what happens.

WAIT



The Wait element, unlike some of the other elements found in the effects section, is not expressed as an arbitrary value, but is instead expressed in seconds from 1 to 1000. The wait is the amount of time between the completion of an effect, and when the effect restarts. If, for example, you're using an effect that takes 10 seconds to go through all of its steps and you have a wait time of 5, all the fixtures will go through the effect once and will then sit at their baseline for 5 seconds before running the effect again.

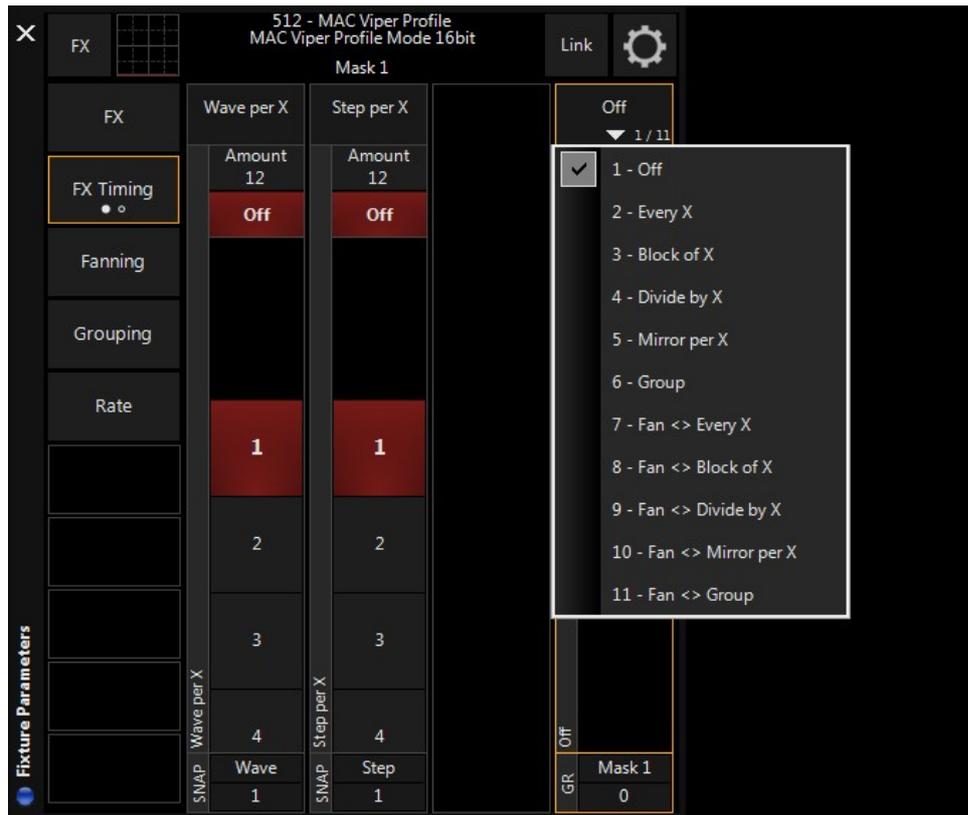
THE "AMOUNT X" BELT



The "Amount X" (where X equals the number of fixtures selected) button is used in combination with the "wave" and "step" functions. This allows you to quickly set the Wave or Step elements to the number of fixtures selected. This effectively "spreads" the effect evenly through the selected fixtures so that no two fixtures are performing the same step at the same time.

Note: When the Wave Per X Counter or the Step Per X Counter is set to the same number as the amount of fixtures select, the effect will be evenly distributed among them. When it is half the amount you will see the effect being performed twice within the selected fixtures and when the counter is double the amount, you will see a sweep type offset for Wave and for Step there will be a period of inactivity (Similar to using Wait).

Effect Grouping



The "GR" panel allows you to leverage group mask functions within your effect. With this you can create previously difficult patterns very quickly. To enable effect grouping, click or press the tab with the down arrow at the top of the "GR" parameter display (in the above image, it reads "Mirror per X," but the title will change depending on the grouping selected). A drop down menu will appear with the available grouping options listed. Select a grouping option by touching or clicking it. If the grouping requires a mask amount, you can set that by touching in the panel or moving the trackbelt or encoder. For more information, [see the chapter on "Using the Grouping Tools Screen."](#)

Examples of effect grouping

Mirror Intensity Sweep

1. Select **Group 3** (Mac 101s)
2. Select the Intensity parameter and set it to **0%**
3. Press the FX LCD Key
4. Set Swing to **2:1**
5. Set Speed to **40%**
6. Set the Mode to **Mode 8**
7. Under the FX Timing LCD key, set the Grouping Tools to "**Fan <> Mirror per 2**" (Belt 4)
8. Set the "**Wave Per X**" Counter to **16**.

Every Intensity Sweep

1. Select **Group 3** (Mac 101s)
2. Select the Intensity parameter and set it to **0%**
3. Press the FX LCD Key
4. Set Swing to **2:1**
5. Set Speed to **40%**
6. Set the Mode to **Mode 7**
7. Under the FX Timing LCD Key, set the Grouping Tools to "**Fan <> Every 4**" (Belt 4)
8. Set the "**Wave Per X**" Counter to **8**.

Block Intensity Effect

1. Select **Group 3** (Mac 101s)
2. Select the Intensity parameter and set it to **0%**
3. Press the FX LCD Key
4. Set Swing to **2:1**
5. Set Speed to **40%**
6. Set the Mode to **Mode 7**
7. Under the FX Timing LCD Key, set the Grouping Tools to "**Fan <> Block of 2**" (Belt 4)
8. Set the "**Step Per X**" Counter to **8**.

Divided Intensity Effect

1. Select **Group 3** (Mac 101s)
2. Select the Intensity parameter and set it to **0%**
3. Press the FX LCD Key
4. Set Swing to **2:1**
5. Set the speed to **40%**
6. Set the Mode to **Mode 7**
7. Under the FX Timing LCD Key, Set the Grouping Tools to "**Fan <> Divide by 4**" (Belt 4)
8. Set the "**Wave Per X**" Counter to **6**.

Group Intensity Effect

1. Select **Group 1** (Mac Viper), **Group 2** (Mac Aura Beam) and **Group 3** (Mac 101)
2. Select the Intensity parameter and set it to **0%**
3. Press the FX LCD Key
4. Set Swing to **2:1**
5. Set the Speed to **40%**
6. Set the Mode to **Mode 7**
7. Under the FX Timing LCD Key set the Grouping Tools to "**Fan <> Group**"
8. Set the "**Step Per X**" Counter to **3**.

Pan/Tilt and "P/T Comb"

By selecting the "P/T Comb" button, a new option for the regular effects is available. As is apparent from the name, this option is only available to the pan and tilt attributes. To use the "P/T Comb" feature:

1. Select a group of fixtures and bring them to full.
2. With the Pan/Tilt attribute group selected, press "FX" (if necessary).
3. Select "P/T Comb." It will be red when selected.

You'll see that the effects window now has four panes: Swing Pan, Swing Tilt, Speed, and Figure. The first 3 panes have been described above. The new window, "Figures" contains a variety of geometric shapes that the fixtures can be programmed to approximate. Altering the swings and speed as well as the baseline will determine the actual movement of the fixture(s).

Working with Effects

It is important to realize that while effects attributes do not pertain to an actual physical device (such as an iris or pan/tilt motor), the M-Series treats it the same as any other attribute. This is particularly apparent and useful when discussing LTP.

Effect Values are the same as any other value, they track through the cuelist. The base value and effect value both track independently of the other. That is to say, if you have a step effect running on Cyan, with a base value of 0% then you record another cue with Cyan at 100%, the effect will still be running in the second cue. This may be desirable, but in the case of you wanting to remove the effect, it will need to be "stomped". Furthermore, each Effect channel will also track independently of the other effect channels and the associated base value. This is to say that you could change the mode of an effect and the rest of the data will track through to the next cue.

Stomping, or removing, an effect is essentially just assigning its swing value to 0%. For example, make a Cyan

effect on the Mac Vipers and record this as Cue 1. Now for Cue 2, we want the Cyan base value to stay the same but we want to remove the effect.

1. Select the Mac Vipers.
2. Set the swing value to 0%
3. Record Cue 2.

Note that in Cue 1 the Cyan effect runs as expected, Cue 2 will stop the effect.

We can examine some more of this behaviour with these examples.

“SPEED” AS ITS OWN CUELIST

1. Select a moving light and bring it to full.
2. Select the “Tilt” attribute.
3. In FX, set the Swing to 32. Do Not Change The Speed. Leave Speed at zero.
4. Record this in a new cuelist of type Cuelist.
5. Without clearing the Programmer, set the Speed to 300. Do Not Change The Swing.
6. Record this in a new cuelist of type “Override”.
7. Execute both cuelists and take both faders to full.

You can now see the moving light tilting up and down. When you pull down the Override cuelist fader, you have manual control over the speed of the effect. What’s more, the other fader will control the intensity of the fixture giving you full control of the look. Had a speed been entered in the first cue created, the override cue would still have taken control of the fixture. Once the override cue had been released, the fixture would have returned to the original speed.

SPEED IN THE SAME CUELIST

1. Select any group of fixtures. Leave the intensity at 0.
2. Select the intensity attribute.
3. In FX, set Swing to 128, Speed to 250 and select Mode 3.

The fixtures should be fading from zero to full.

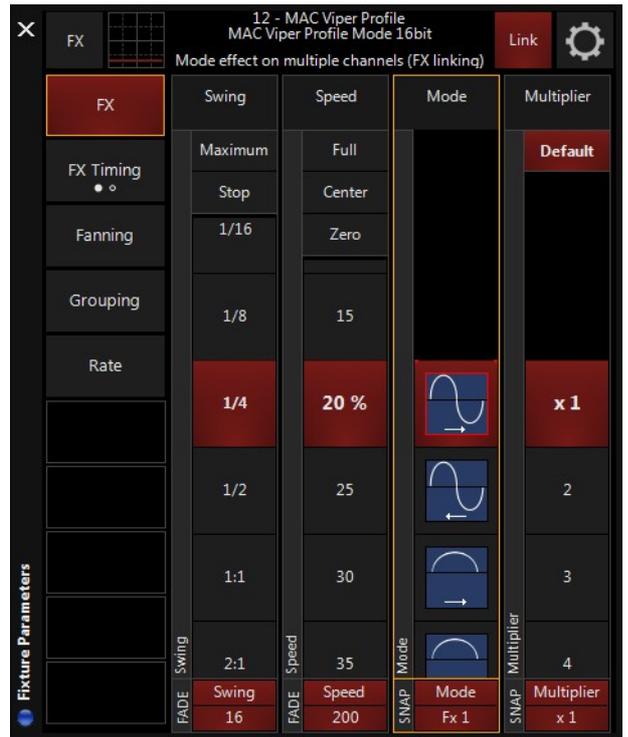
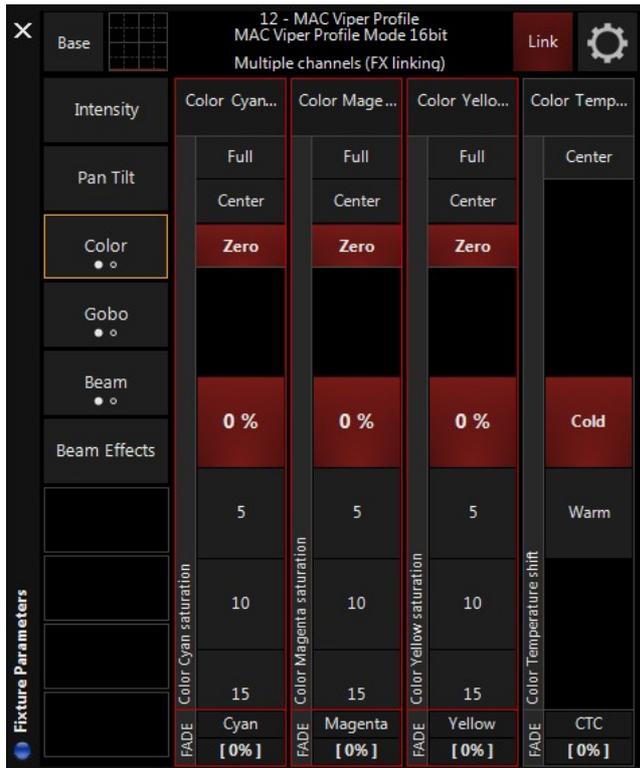
4. Press the “FX Timing” LCD button and set a shift or delay value.
5. Record as cue 1 in a new cuelist.
6. Without clearing the Programmer, press “FX” and increase the speed to 500.
7. Record as cue 2 in the same cuelist and clear the Programmer.

When we play these cues, we can see that the speed increases when cue 2 is executed. If we make changes in cue 1, we’ll see those changes track through and again, all cue 2 will do is increase the speed.

FX Link

By linking several attributes, effect parameters may be adjusted for those attributes simultaneously. For instance, if you wanted to create a color effect where Cyan, Magenta and Yellow were all moving at the same speed, you could link those parameters and set the speed for all three at once. FX Linking is enabled by pressing the "FX Link" button found in the center of the full parameters screen see "[Fixture Parameters Screen](#)" or under the "Linking" tab in the [Common Parameters Screen](#), it is also available as a hardkey on the M2PC, M2GO and M6 Consoles. Furthermore it can be assigned to an F-Key on any M-Series console. See "[Programmable Buttons](#)"

In FX Linking mode, the attribute hard-buttons or encoder wheels' click functions act as "Link Toggles" rather than attribute selectors. To toggle an attributes link state, simply press the corresponding attribute button on the console. On MPC, select "Link" and right click on the label at the bottom of the parameter you wish to link and select "Link Channel". Use the same process to unlink the channels. Linked attributes will be surrounded with a red box in the Fixture Parameters Screen as shown below:

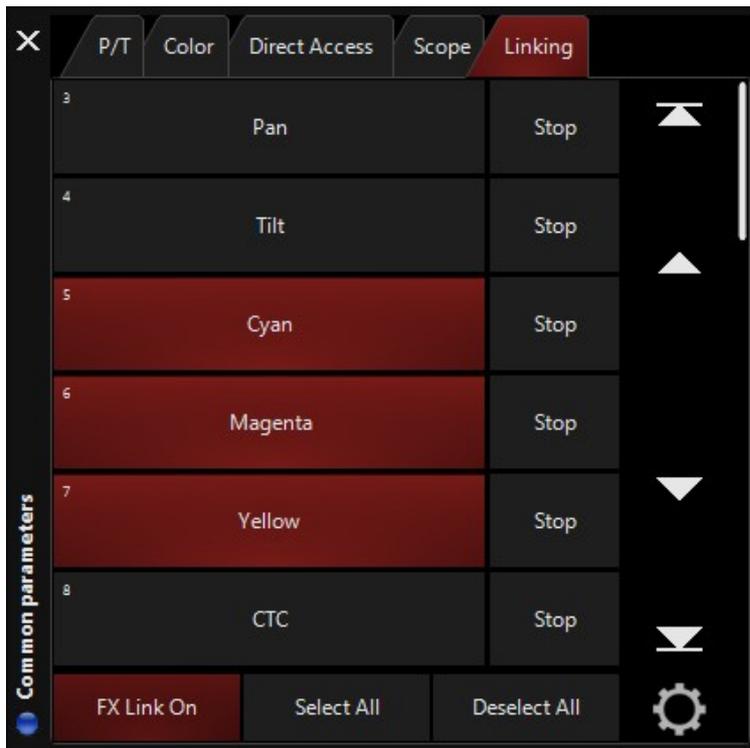


You can see in this screen that we have linked the Cyan, Magenta & Yellow and assigned a Swing value of 16, a Speed value of 200 and used the default mode 0 (sine wave). The parameters have no baseline in the programmer. Looking at the programmer screen below confirms that the effect values have been assigned to all three color attributes at once:



FX Linking in the Common Parameters Screen

You can find the FX Linking functions in the Common Parameters Screen under the "Linking" heading. Parameter linking is enabled or disabled for each parameter by pressing the parameter's corresponding button.



In addition to FX Linking functions, you can also set the Swing value of each parameter to zero by pressing the "Stop" button. Pressing the "Stop" button on any linked parameter will also set the other linked parameters to a Swing value of zero.

Synchronized Effects

Using the FX Linking covered in the previous section, it's possible to create synchronized effects. For example an effect that goes from a soft red beam to a hard white, narrow beam. This example would require an effect running on Magenta, Yellow, Focus and Iris all simultaneously. The logic with synchronized effects is the same as normal effects covered in the previous section, however because we want the effects to run at the same speed and offset (FX Timing) they must share the same speed and FX Timing values. Each Effect will have its own unique base value, swing and possibly mode - but all effects will eventually share the same timing and speed information.

Examples of Synchronized Effects

Tilt & Color Can Can

1. Select **Group 3** (Mac 101s) @ **FULL**.
2. Starting from their **HOME** position, tilt them forward to **65%**
3. Set the Green & Blue color channels to **0%**, leaving Red at **100%**.
4. Press the Tilt Parameter wheel/button and hit the FX LCD Key (**FX on Tilt**)
5. Set Swing on Tilt to **1/4**
6. Bring the speed up to **40%** to check the effect is running correctly then **revert speed to 0%**
7. Press the Color LCD and Press the Green parameter button/wheel to select it
8. Press the FX LCD Key (**FX on Green**)
9. Set Swing to **2:1**
10. Set the Mode to **Mode 1**
11. Bring the speed up to **40%** to check the effect is running correctly then **revert speed to 0%**
12. Press the **LINK** button on the console front panel (or on the M1 Console Press the **FX Link** Button in the **Common Parameters Linking section**).
13. Press the **Green** and **Tilt Parameter buttons** (OR wheels on the M1/M2GO/M2PC consoles). The parameters should be highlighted in Red to show they are linked.
14. Press the FX LCD Key and bring the Speed up to **40%**

The Mac 101s should be tilting up and down, as they rise they turn to yellow and as they fall they revert back to red.

15. Press the FX Timing LCD Key. Set the "**Wave Per X**" Counter to **3**.

The Mac 101s should be performing a "Can Can" Type color & position effect.

Cyan/Magenta Effect

1. Select **Group 1** (Mac Vipers) @ **FULL**.
2. Set **Cyan** to **100%**
3. Set **Magenta** to **0%**
4. Press the **Cyan** Parameter wheel/button and hit the FX LCD Key (FX on Cyan)
5. Set **Swing** to **2:1**
6. Set the mode to **mode 13**
7. Set speed to **40%** to check if the effect is running correctly then revert speed to 0%
8. Press the Color LCD key and press the Magenta button/wheel to select it
9. Press the FX LCD Key (**FX on Magenta**)
10. Set **swing** to **2:1**
11. Set the mode to **mode 7**
12. Set the speed to **40%** to check the effect is running correctly then **revert speed to 0%**.
13. Press the **LINK** button on the console front panel (or on the M1 Console Press the **FX Link** Button in the **Common Parameters Linking section**).
14. Press the **CYAN** and **MAGENTA Parameter buttons** (OR wheels on the M1/M2GO/M2PC consoles). The parameters should be highlighted in Red to show they are linked.
15. Press the FX LCD Key and bring the Speed up to **40%**

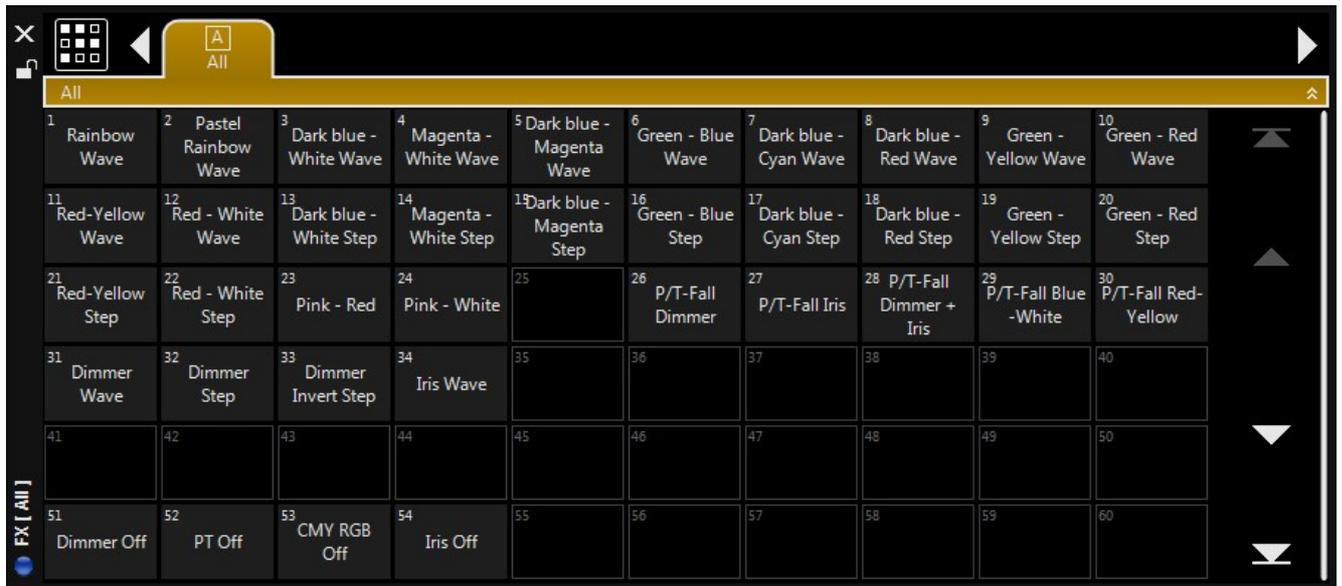
The Mac Vipers should be stepping between full cyan and full magenta.

The Cyan/Magenta effect example is the basis of making any color mix effect. For example Red/Blue. Magenta/Yellow etc as the logic is identical.

Note: The easiest way to create synchronized effects is to build each effect individually, revert the speed to zero, link all the desired parameters together then set the speed and FX Timing at the same time.

Effect Macros

On creating a new showfile, the M-Series creates a set of "FX Macros" that can be found in the "FX" portion of the Presets Screen. To access the FX Macros Screen, navigate to the Presets screen and press the "FX" button in the top left corner. The screen will look like this:



To use an FX Macro, select some lights and press the desired FX Macro button. The fixtures will begin performing the effect in unison. You can now adjust the effect values to suit, adding effects timing values and utilizing effects grouping.

Storing an FX Macro

FX Macros are stored in the same fashion as Presets, with one exception: the values stored into the FX Macro will be derived from the **last selected fixture**. Once you've built an effect that you like in the Programmer, press Record and press any empty button in the FX Macros screen. All fixture attributes and effect values of the last selected fixture will be stored into the macro. Fixture timing (Fade/Delay) will **not** be stored.

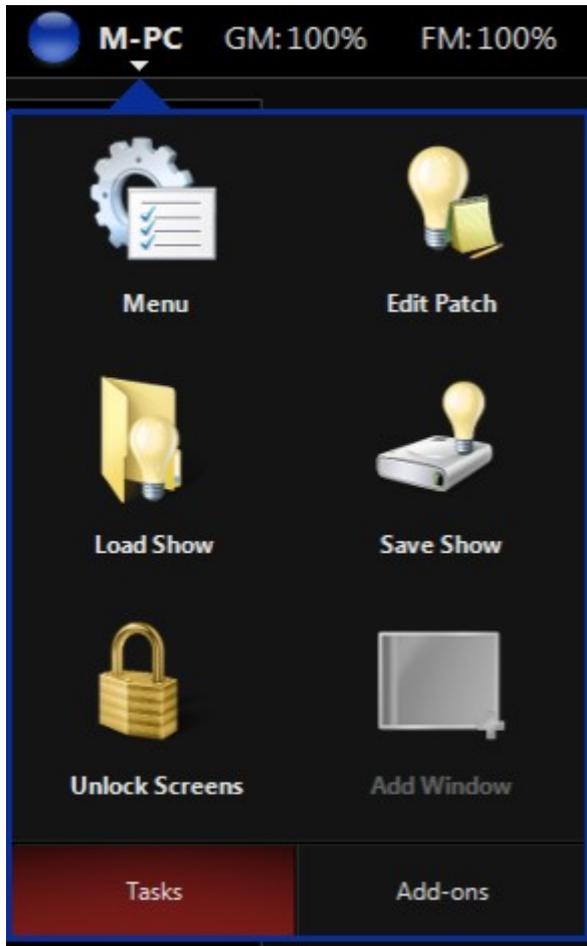
FX Macros are stored as hard values and are NOT referenced. That is to say, updating an FX Macro will NOT update wherever it was used in the showfile, whereas a preset would.

It is important to note that, unlike Presets, FX Macros are global, that is, an FX Macro stored for a Mac Viper can be applied to a Mac 700 Profile or any other fixture with attributes contained within the macro. Identical values will be applied to all fixtures.

Displays and Views

View Menu

The View Menu is located in the top left corner of the primary screen on the console or in MPC. Some quick shortcuts can be accessed from here.



Unlock

To edit the current screen view, you must first unlock the screen.

Menu...

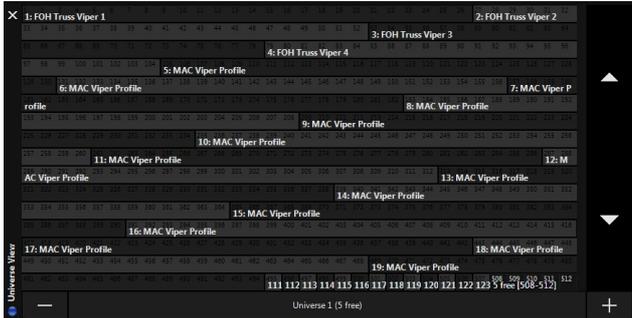
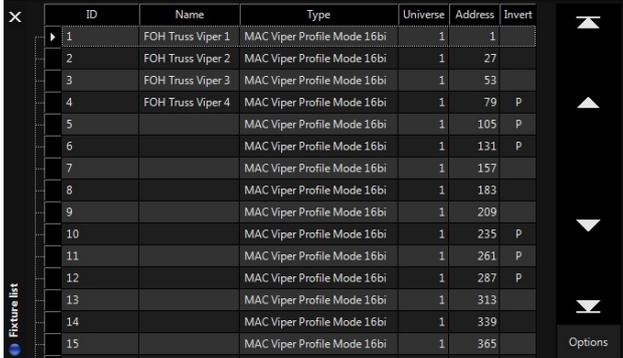
This brings up the console's settings menu. This performs the same function as the "Menu" hard button on the front panel of the console.

Save show

This is a shortcut to the "Save current show..." function available in the settings menu. For more information see [Show>Load/Save](#).

Edit Patch

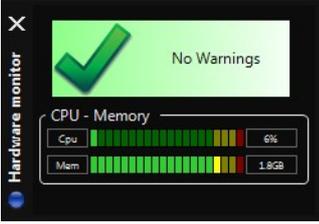
This is a shortcut to the "Edit Patch: function available in the settings menu. For more information see [Patch](#)

Item	Description																																																																																																
Patch Fixtures...	This shortcut brings up the Patch window. See Patch .																																																																																																
Universe View	<p>Allows you to place a patch Universe View window on your screen. Can be stored as part of a screenview.</p> 																																																																																																
Fixture List	<p>Allows you to place a patch Fixture List window on your screen. Can be stored as part of a screenview.</p>  <thead> <tr> <th>ID</th> <th>Name</th> <th>Type</th> <th>Universe</th> <th>Address</th> <th>Invert</th> </tr> </thead> <tbody> <tr><td>1</td><td>FOH Truss Viper 1</td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>1</td><td></td></tr> <tr><td>2</td><td>FOH Truss Viper 2</td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>27</td><td></td></tr> <tr><td>3</td><td>FOH Truss Viper 3</td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>53</td><td></td></tr> <tr><td>4</td><td>FOH Truss Viper 4</td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>79</td><td>P</td></tr> <tr><td>5</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>105</td><td>P</td></tr> <tr><td>6</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>131</td><td>P</td></tr> <tr><td>7</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>157</td><td></td></tr> <tr><td>8</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>183</td><td></td></tr> <tr><td>9</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>209</td><td></td></tr> <tr><td>10</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>235</td><td>P</td></tr> <tr><td>11</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>261</td><td>P</td></tr> <tr><td>12</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>287</td><td>P</td></tr> <tr><td>13</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>313</td><td></td></tr> <tr><td>14</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>339</td><td></td></tr> <tr><td>15</td><td></td><td>MAC Viper Profile Mode 16bi</td><td>1</td><td>365</td><td></td></tr> </tbody>	ID	Name	Type	Universe	Address	Invert	1	FOH Truss Viper 1	MAC Viper Profile Mode 16bi	1	1		2	FOH Truss Viper 2	MAC Viper Profile Mode 16bi	1	27		3	FOH Truss Viper 3	MAC Viper Profile Mode 16bi	1	53		4	FOH Truss Viper 4	MAC Viper Profile Mode 16bi	1	79	P	5		MAC Viper Profile Mode 16bi	1	105	P	6		MAC Viper Profile Mode 16bi	1	131	P	7		MAC Viper Profile Mode 16bi	1	157		8		MAC Viper Profile Mode 16bi	1	183		9		MAC Viper Profile Mode 16bi	1	209		10		MAC Viper Profile Mode 16bi	1	235	P	11		MAC Viper Profile Mode 16bi	1	261	P	12		MAC Viper Profile Mode 16bi	1	287	P	13		MAC Viper Profile Mode 16bi	1	313		14		MAC Viper Profile Mode 16bi	1	339		15		MAC Viper Profile Mode 16bi	1	365	
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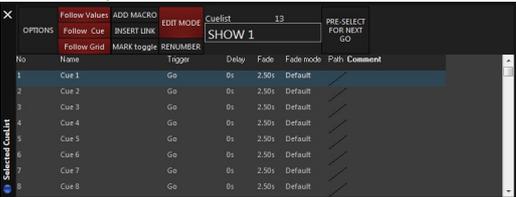
 An 'Options' button is visible at the bottom right of the table." data-bbox="288 321 678 481"/>

| **RDM View** | Allows you to place a patch RDM View window on your screen. Can be stored as part of a screenview. |

Widgets

Item	Description
Analog Clock	<p>The Analog Clock widget is an old-school clock that you can place on your screen. Can be stored as part of a screenview.</p> 
Digital Clock	<p>The retro-styled Digital Clock can be stored as part of a screenview.</p> 
Hardware Monitor	<p>The Hardware monitor gives you detailed information about processor load and memory usage. Can be stored as part of a screenview.</p> 
Programmable Buttons	<p>The Programmable Buttons screen is a graphical representation of the "F-Keys" on the console hardware. Can be stored as part of a screenview.</p> 
On-Screen Keyboard...	<p>Should you need an onscreen keyboard, you can access it here. This is a floating window and cannot be stored as part of a screenview.</p>
Media Player...	<p>On supported hardware you may launch the Media Player for playing back audio files on the console. This is a floating window and will not be stored as part of a screenview.</p>
Add Virtual Keypad	<p>The Virtual Keypad can be added to a screenview to aid in the use of a console/M-PC which doesn't have a programmer module. The screenview can be stored with the keypad.</p>
Add virtual Playback Wing	<p>Adds a virtual playback module to the screenview. The screenview can be stored with the module.</p> 
Add Virtual Sub Playback Wing	<p>Adds a virtual sub playback module to the screenview. The screenview can be stored with the module.</p>

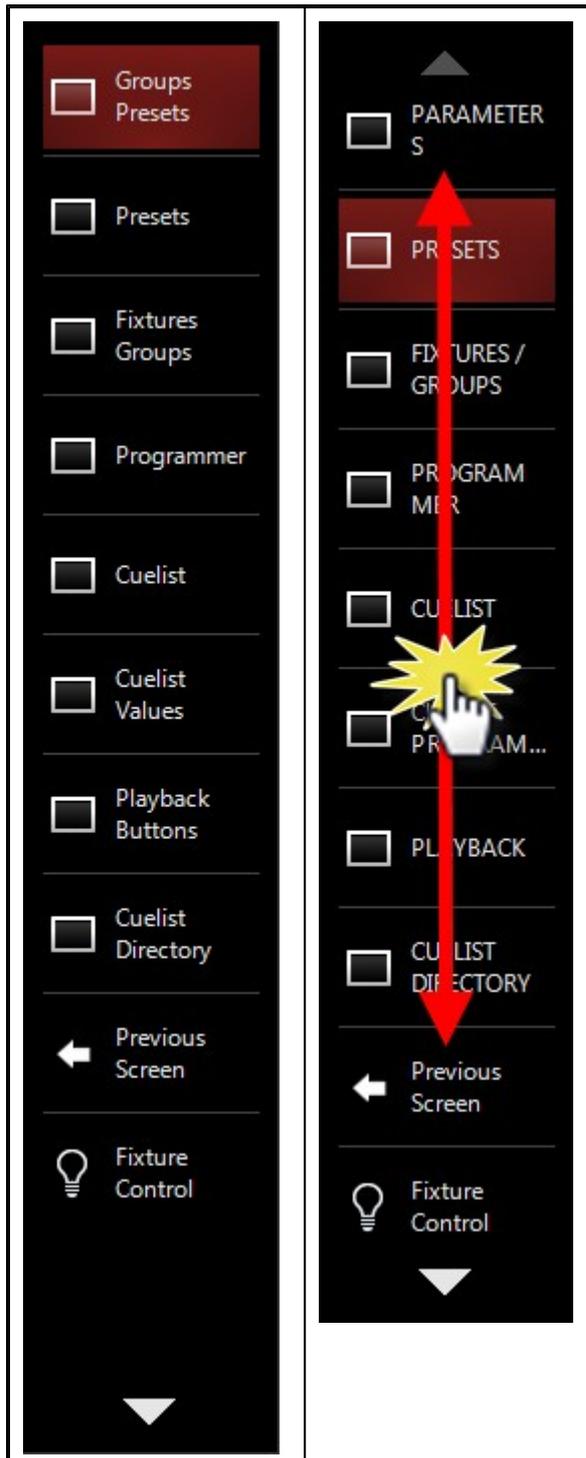
Available Windows

Item	Description
<p>Playback Buttons</p>	<p>The playback buttons screen presents an alternative way of displaying information to be used instead of or in conjunction with the playback controls.</p> 
<p>Playback Banks</p>	<p>The Playback Banks screen gives direct access to the 100 available playback banks.</p> 
<p>Selected CueList Cues</p>	<p>The Selected CueList Cues screen displays a spreadsheet of the cues available in the currently selected cue list. This is the screen that is most commonly known as the "CueList."</p> 
<p>Selected CueList Values</p>	<p>Using the Selected CueList Values screen, you can view fixture data which is present in the currently selected cue in the currently selected cue list.</p> 
<p>Active CueLists</p>	<p>The Active CueLists Screen automatically populates with active cue lists of the types CueList, Timecode, Chase, and Override. Sub and Inhibitive Masters do not appear.</p> 
<p>CueList Directory</p>	<p>Playback controls are not where cue lists are actually stored. Whenever you record a cue, you're actually recording it into the cue list directory. The playback faders and buttons simply contain a link to the cue list in the cue list directory, much the same way a Windows shortcut contains a link to a file or folder.</p> 
<p>Fixtures</p>	<p>This screen is automatically populated with the fixtures used in your show. The fixtures are sorted by the fixture number as assigned in the patch.</p>

	
<p>Fixture Groups</p>	<p>Groups allow you to select multiple fixtures with a single button or keypad entry. The fixtures needn't be of the same type or within any specific numeric range.</p> 
<p>Grouping Tools</p>	<p>The Grouping Tools screen is a powerful tool that allows for the easy division of selected fixtures into various subsets.</p> 
<p>Selected Fixtures</p>	<p>The Selected Fixtures screen shows the currently selected fixtures in the order that they were selected.</p> 
<p>Fixture Parameters</p>	<p>When a fixture or fixtures are selected, the Fixture Parameters screen is loaded with information concerning the selected fixture.</p> 
<p>LIVE output</p>	<p>The Live Output screen gives you an intensive view of the actual values being output to the fixtures.</p>

Creating Custom Screenviews

The M-Series software allows users to create up to 16 customized screenviews which can be accessed using the buttons along the side of the screen.



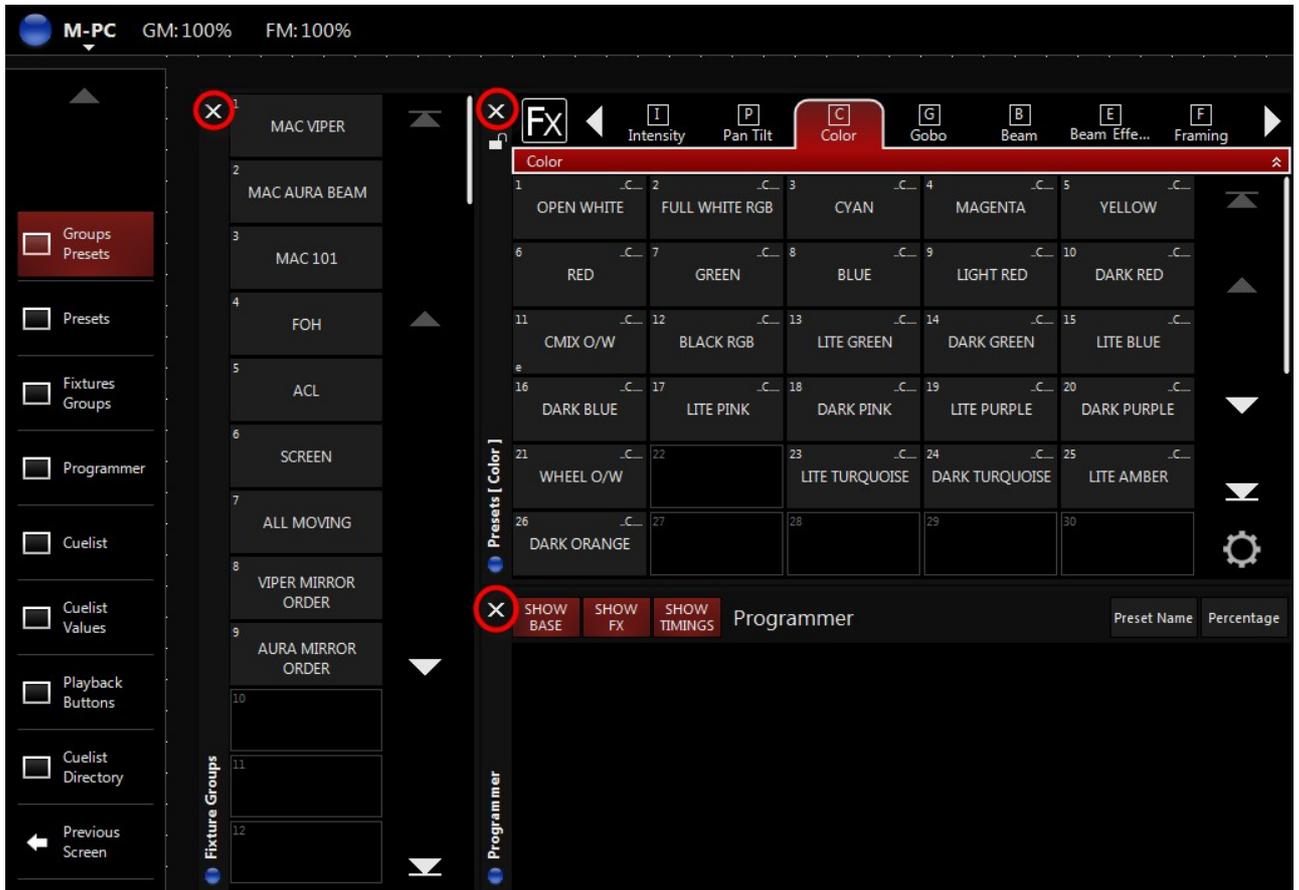
As shown by the second image above, you can swipe between screen view pages with your finger or mouse.

The console comes pre-loaded with screenviews as a starting point but these can be changed to your liking.

Creating a customized screenview

To create a screenview of your own:

1. Press one of the pre-loaded screenviews along the top of the screen.
2. From the dropdown view menu, select "Unlock Screens".
3. The elements used in the current screenview will display red X box in the top left corner allowing you to remove them from the view.

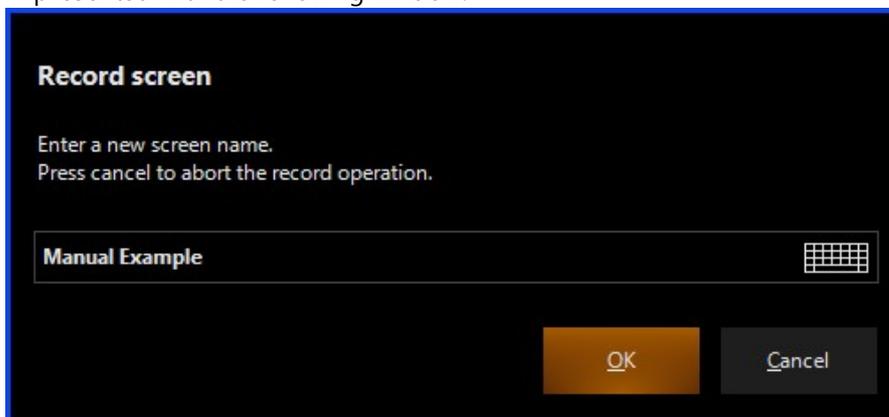


4. Close all the unwanted elements currently on display.
5. To move an element around the screen, use the trackball, an external mouse or your finger to click and hold down the grey bar running down its left side which will allow you to drag it around the screen.
6. To add a new element to the screen, choose "Add Window" from the drop down menu, you will be presented with a window showing all the available elements you can add to a screenview arranged by category.

For a full explanation of the available windows that can be embedded into a screenview, see "View Menu"



7. Choose one of the elements you wish to add to your screenview.
8. Click a location on the screen for your chosen element. It will display in the area below and to the right of wherever you clicked.
9. Resize the element by dragging the edges with your finger, trackball or mouse.
10. Repeat the above steps until you have the screen arranged to your liking.
11. To Record and name the screenview, hold down **RECORD** and touch a screenview button. You will be presented with the following window.

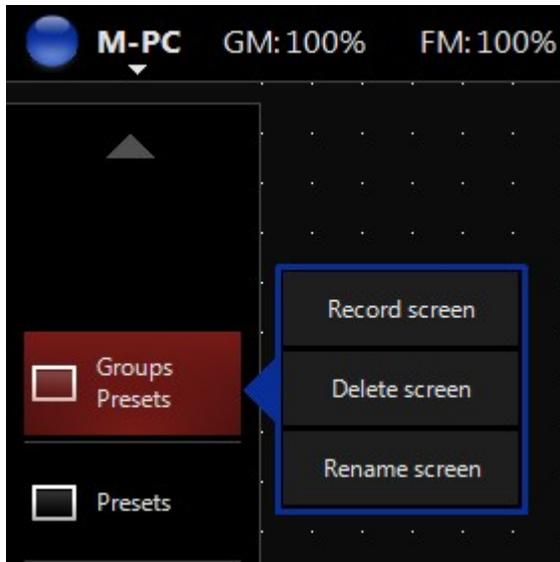


12. Hit OK to confirm the name and record operation.

Editing a screenviews name

To change the name of a current screenview:

1. Unlock the screenview by pressing "Unlock Screens" in the drop down menu.
2. Using a mouse or trackball, right click on the screenview and choose "Rename" from the box shown below.
3. Enter a name and hit "OK".



Note: M-PC users will find it easier to record a custom screenview by unlocking the screens and right clicking on the desired screenview to present the Record, Delete and Rename options as shown above.

Saving & Loading Screenviews

The M-Series allows users to create custom screen layouts, as covered in the previous chapter. These can be used in the current showfile, and exported for use on other M-Series consoles. Screen layouts can be saved to the console hard drive for use in other showfiles, and saved to external devices such as USB drives.

To save screen layouts:

1. Access the Menu by hitting the MENU hardkey
2. Navigate to the "Show" Tab
3. Navigate to the "Load/Save" section
4. Navigate to the "Screen Layouts" page
5. Hit the "Save..." button and browse to the location you wish to save the screen layouts
6. Enter a name and hit Enter to finish.

To Load screen layouts from the hard drive or a USB drive:

1. Access the Menu by hitting the MENU hardkey
2. Navigate to the "Show" Tab
3. Navigate to the "Load/Save" section
4. Navigate to the "Screen Layouts" page
5. Hit the "Load..." button and browse to the location you wish to load the screen layouts from
6. Press the "Open" button to load your selected screen layouts.

Advanced Controls

Programmable Buttons

The buttons labeled "F1 - F12" are known as Programmable Buttons because their function can be determined by the user. You can use these buttons to gather your most needed functions into one convenient place.

Configuring a Programmable Button

To change the function of a Programmable Button, do the following:

1. Press and hold the "Edit" button.
2. Press the Programmable Button you wish to change.
3. Release the "Edit" button.
4. In the Programmable Buttons screen, choose a Command, Fixture, Group or Preset to associate with the button.
5. Press "Apply" on the screen.

Deleting a Programmable Button

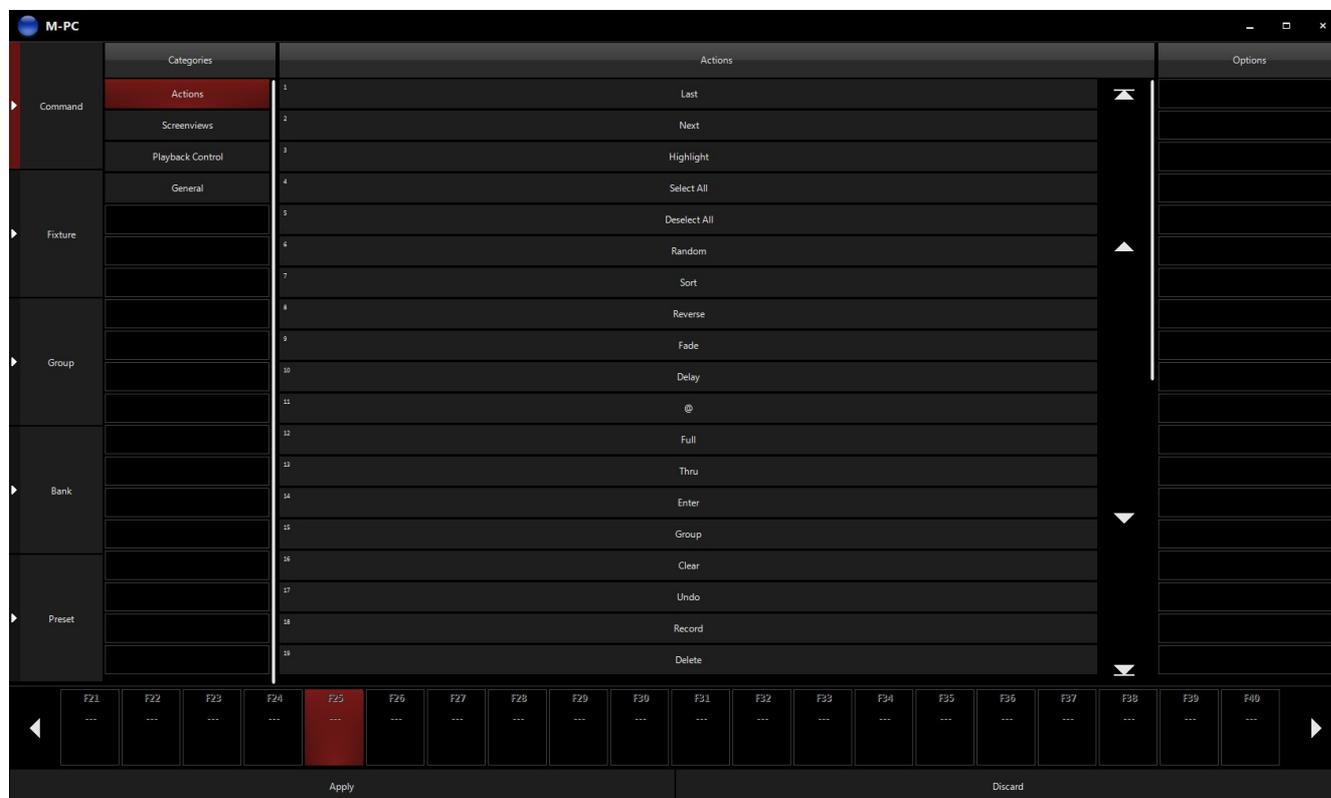
To delete 1 or more Programmable Buttons:

1. Press and hold "Delete."
2. Press the Programmable Button(s) you wish to delete.
3. Release "Delete."
4. Select "Apply" on the Programmable Buttons Screen.

You can perform this action with the Programmable Buttons screen open or closed.

The Programmable Buttons Screen

The Programmable Buttons screen is accessed by holding "Edit" while pressing a programmable button.



This screen provides an overview of all of your programmable buttons along with controls to select their functions. Along the bottom of the screen are the "Apply" and "Discard" buttons, which allow you to either accept the setup and exit or discard the setup and exit. Just above the "Apply" and "Discard" buttons you will find a listing of the Programmable Buttons ("F-Keys") and their associated functions. The currently selected

Programmable Button will be highlighted in red.

While the Programmable Buttons Screen is open, you can select buttons to configure by pressing their correlating softbuttons on the screen or by pressing the correlating hard button on the console.

Available Functions

The available functions are split into four sections:

Command	The Command panel contains many of the most useful commands available on the console.
Fixture	In the fixture panel you can choose a single fixture to associate with the button. Pressing the button will select or deselect the fixture.
Group	Using the Group panel, you can assign a group with the button. The button will function identically to its associated button in the Fixture Groups window.
Preset	You can also assign a preset to the button. With this, you might make a commonly used intensity or color or even an effect preset available for instant access.

Function Panels

To the right of the function buttons is a panel that will change based on the type of function selected.

Command Panel	The Command panel breaks down into three sections:	
	Categories	This is a listing of the types of commands available to you.
	General	This is a listing of the commands that you may choose. Click or touch one of these to assign it to the selected button.
	Options	If a command has options, they will be listed here. Currently only the Lock Desk command and Screenviews have options available.
Fixture Panel	In the fixture panel you can choose a single fixture to associate with the button. Pressing the button will select or deselect the fixture.	
Group Panel	Using the Group panel, you can assign a group with the button. The button will function identically to its associated button in the Fixture Groups window.	
Preset Panel	You can also assign a preset to the button. With this, you might make a commonly used intensity or color or even an effect preset available for instant access.	

RDM

The M-Series supports full RDM Integration with compatible fixtures. RDM scans can be run on a calendar schedule to coincide with regular fixture maintenance checks or manually from the console patch. Currently the M-Series can perform the following tasks with RDM:

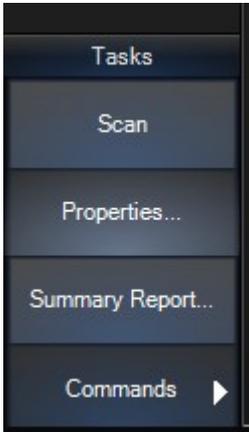
- Identify/Highlight Connected fixtures
- Re-address connected fixtures
- Change the operating mode of connected fixtures
- Read data regarding the devices sensors, lamp and power.

RDM Management

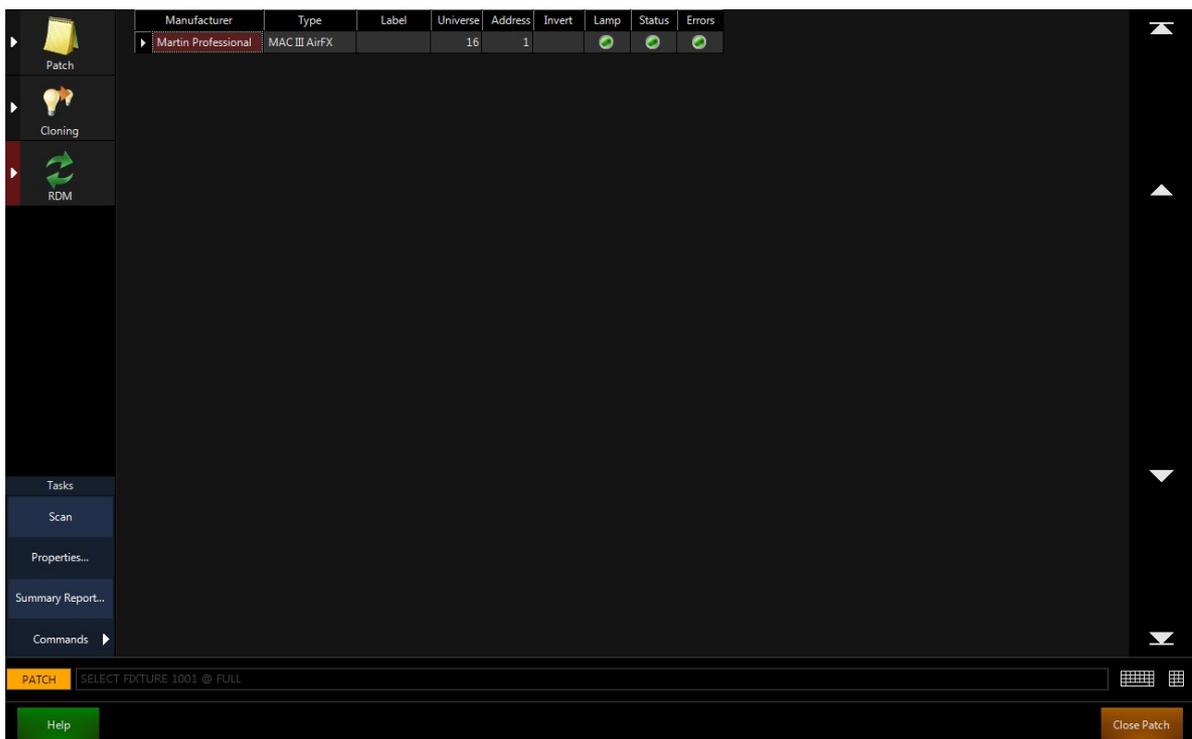
M-Series has a dedicated RDM tab in the patch to facilitate RDM data retrieval and commands at any time.

To view information for attached fixtures:

1. Access the Patch by hitting the drop down shortcut and "Edit patch"
2. In Patch, navigate to the RDM tab
3. In the "Tasks" Section, at the bottom left of the screen hit "Scan"

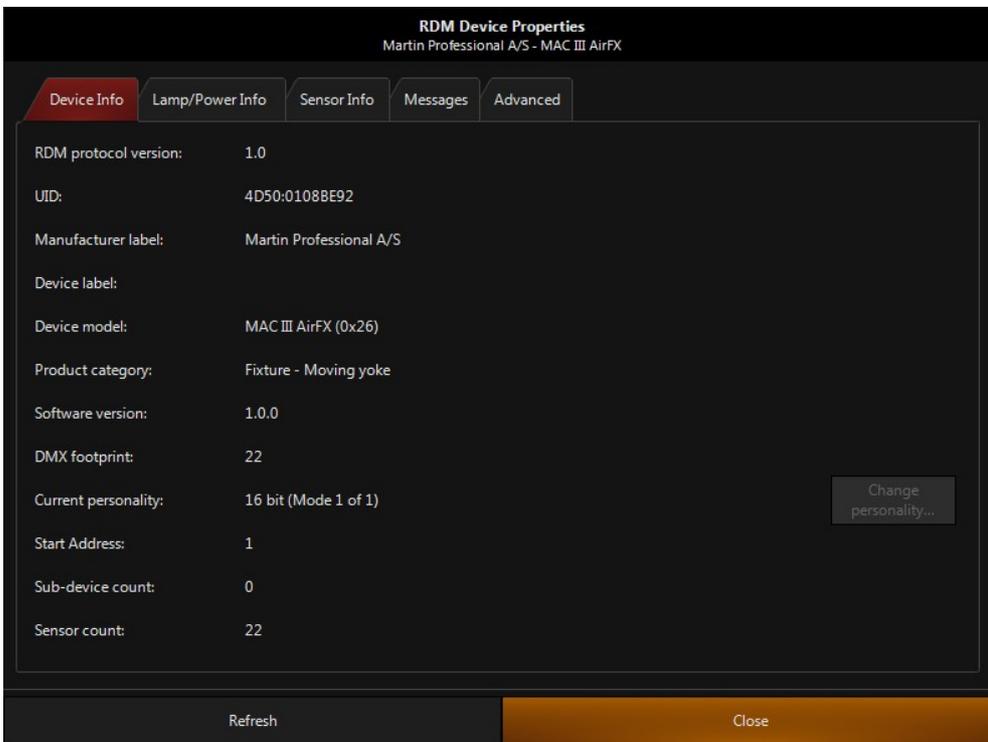


The DMX outputs will be scanned to find any connected fixtures supporting RDM. The Screen will be populated with any fixtures the console found, as shown below.



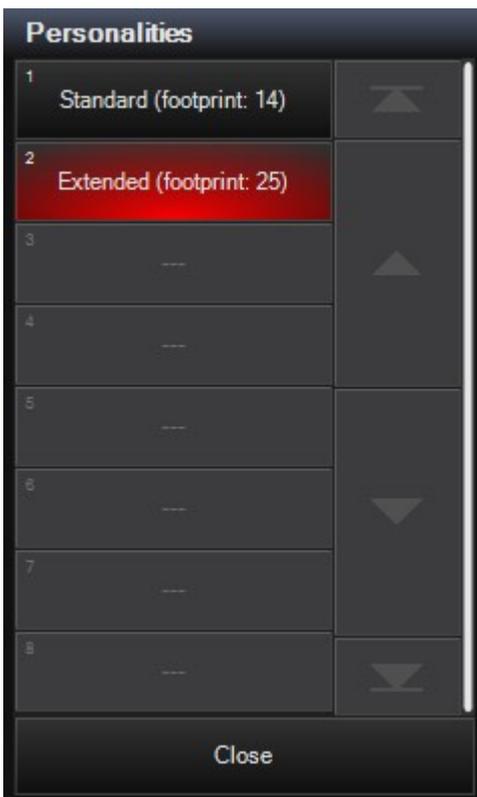
To View and change properties of a fixture found on the RDM scan:

1. Select the fixture by touching in the manufacturer row to turn it red
2. Press "Properties" in the Tasks section and the following screen will appear showing all available data for the selected fixture(s).



To remotely change the Fixture Personality:

1. Press the "Change Personality" button
2. The following popup will appear, choose an option a new personality from the list and press "close".

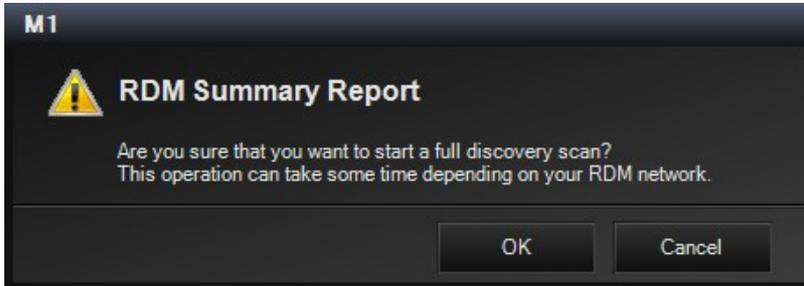


RDM Summery Report

From the RDM Tab, you can generate a full summery report of all connected fixtures capable of transmitting data back to the console. Summery report should not be performed during a show as it interupts DMX output temporarily.

To generate a summery report:

1. Hit the "Summery Report..." Button in the "Tasks" section.
2. A popup will appear asking you to confirm the command. Hit OK.



Once the scan has completed, the following window will appear. It shows all the connected RDM fixtures and their associated data. The links on the left hand side can be used to quickly skip to a particular fixture.



Data can be saved to a file for exporting onto an external USB Storage device. Simply press the "Save..." button and choose a file location to save the data to.

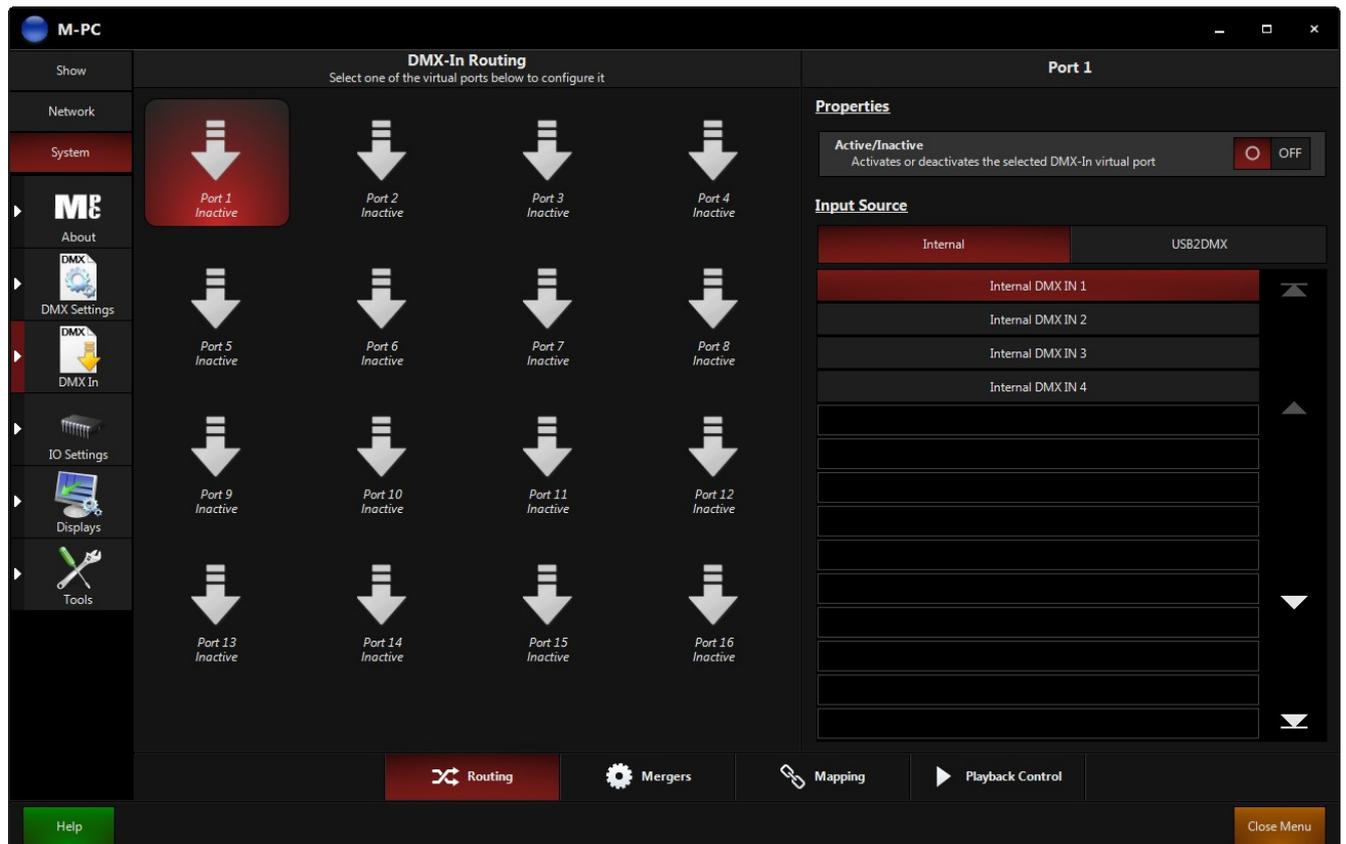
DMX Input

The M-Series consoles allow incredibly advanced DMX input capabilities. Using the DMX in capabilities of the M-Series consoles, you can...

- Add submaster faders using a conventional console
- Merge dmx data from another console
- Assign fixtures or cuelists to dmx channels and control them with an external dmx device
- Precisely control cuelists assigned to playback buttons, even sending them to specific cue numbers using only dmx values!

M-Series DMX Input

Assign a Virtual Input Port



In the DMX Routing tab, you have 16 Virtual Ports available. You can map a physical DMX Port on the back of the console or on an external USB DMX DUO Box to a virtual port. If you have any Max Modules connected to the console, the physical DMX Ports on the back will show up under "USB2DMX".

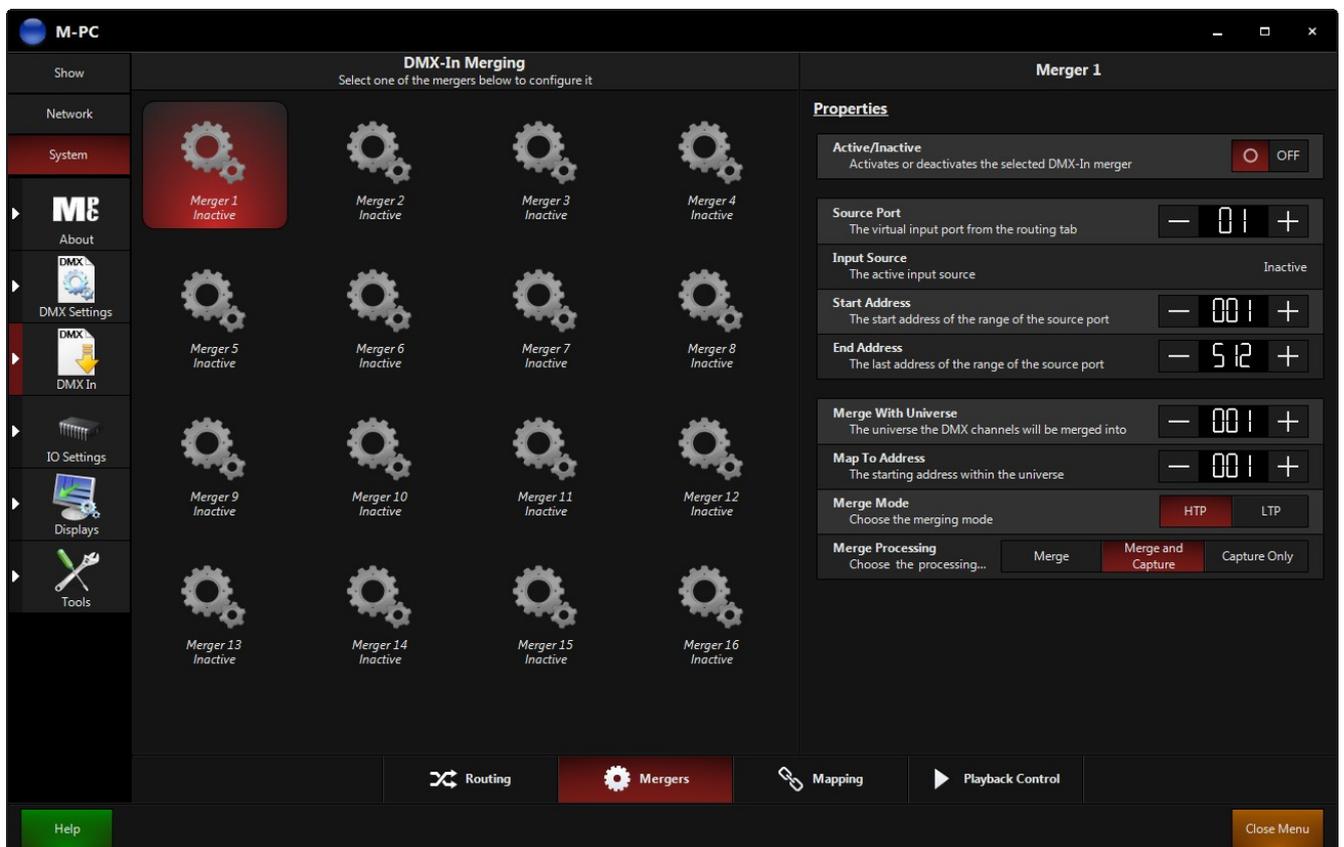
You must activate the port under the "Properties" section on the right before you can use it.

Currently, DMX Input over Art-Net is not supported. This means any connected Ether2DMX8 boxes on the network **will not** show up as an input source. This functionality will be added in the future.

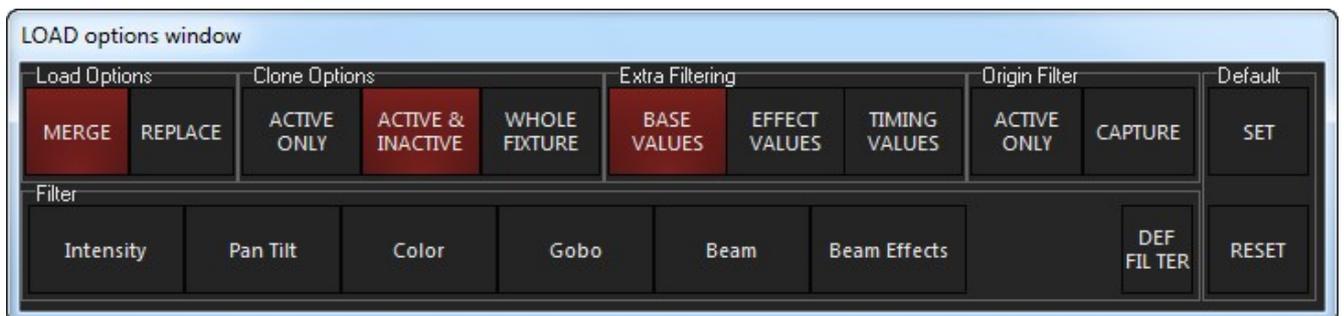
Set DMX Input Options

DMX Input values can be merged and captured, used for fixture or cuelist control or to remotely access the playback pages.

Merger



1. Activate the port
2. Select the Source Port (from the Input Routing)
3. Modify the Input channel range
4. Select the Merge Universe of the console and the start address
5. Select Merge Mode LTP or HTP (calculated per channel)
6. Select the Merge processing type:
 - Merge: The incoming value and the value on the output are combined
 - Capture: The incoming value can be captured into the programmer with the LOAD toolbar



DMX – Remote Channel Mapping

Remote Channel Mapping is useful when, on occasion, you don't have access to Max Modules. For example, you have a 24 Channel DMX Desk outputting DMX to Input Port 1 on the console, you can then map fixtures to the 24 channels so the dimmers of the 24 fixtures are available on the external console for control. This is a useful feature to control house/worklights both from a small dimmer board and from the main console.

M-PC
Port 1

Show

Network

System

M&E

About

DMX Settings

DMX In

IO Settings

Displays

Tools

DMX-In Remote Channel Mapping

Select one of the virtual ports below to configure the DMX layout



Port 1
Internal DMX IN 1



Port 2
Inactive



Port 3
Inactive



Port 4
Inactive



Port 5
Inactive



Port 6
Inactive



Port 7
Inactive



Port 8
Inactive



Port 9
Inactive



Port 10
Inactive



Port 11
Inactive



Port 12
Inactive



Port 13
Inactive



Port 14
Inactive



Port 15
Inactive



Port 16
Inactive

Properties

Active/Inactive
Activates or deactivates the DMX-In channel layout on the port

ON

Tasks

Clear Layout
Resets the mapping to its default (blank)

Clear Channel
Clear the data when you edit an individual channel

DMX Layout

1	F1:MAC Viper Profile	↻	▲
2	S5: ACL 1	↻	
3	---	↻	
4	---	↻	▲
5	---	↻	
6	---	↻	
7	---	↻	
8	---	↻	▼
9	---	↻	
10	---	↻	
11	---	↻	▼

Routing
Mergers
Mapping
Playback Control

Help
Close Menu

Fixtures:

A DMX channel can be mapped to a single fixture or multiple fixtures. It will control the intensity level of the fixture assigned. To select which fixture(s) the DMX In Channel controls, simply click fixtures to select them and click again to deselect them.

Port 1

Properties

Active/Inactive
Activates or deactivates the DMX-In channel layout on the port

ON

Tasks

Clear Layout
Resets the mapping to its default (blank)

Clear...

Clear Channel
Clear the data when you edit an individual channel

Clear...

DMX Layout

1	Fixtures	Cuelists
1	MAC Viper Profile	▲
2	MAC Viper Profile	
3	MAC Viper Profile	
4	MAC Viper Profile	▲
5	MAC Viper Profile	
6	MAC Viper Profile	
7	MAC Viper Profile	▼
8	MAC Viper Profile	
9	MAC Viper Profile	
10	MAC Viper Profile	▼

Cuelists:

A Cuelist can be assigned to a channel.

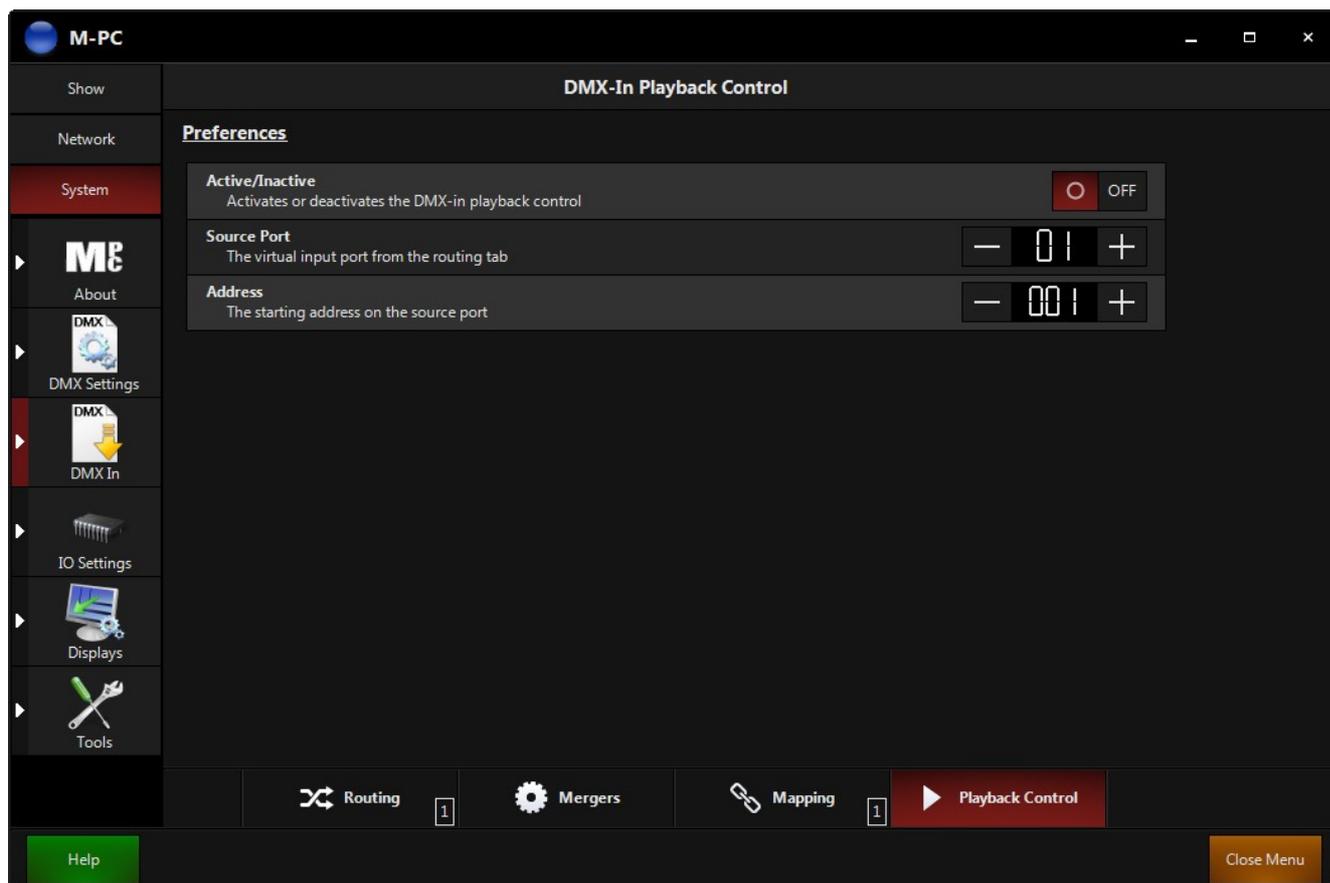
The screenshot shows the 'Port 1' control interface. It is divided into three main sections: Properties, Tasks, and DMX Layout. The Properties section includes an 'Active/Inactive' toggle switch currently set to 'ON'. The Tasks section contains two buttons: 'Clear Layout' (resets mapping to default) and 'Clear Channel' (clears data for individual channels). The DMX Layout section is a table with columns for 'Fixtures' and 'Cuelists'. The 'Fixtures' column lists MAC III, MAC AURA, MAC 101, FOH, and ACL 1-6. The 'Cuelists' column shows up and down arrow controls for each row. A vertical orange bar on the left indicates channel 1.

Value	Function
0 - 200	Fader level 0>200 (0>100%)
201-230	Safety (Buffer - No Function)
231-255	GO

Multiple Fixtures and or Cuelists may be assigned to the same Virtual Input port for control.

DMX Playback Control

The DMX IN Playback Control is used to remotely control the on screen playback buttons.



Select the input port and start address.

Channel	Value	Function
1	1 2 - 100	PlaybackPage Page 1 Page 2 - 100
2	1 2 - 100	PlaybackButton Button 1 Button 2 - 100
3	1 2-255	CueNr. Cue 1 Cue 2 - 255
4	0 - 9 10 - 19 20 - 29 30 - 39	Command Idle GO Pause Release

Networking

MaxNet

The M-Series consoles have the ability to link together on a network via their proprietary network protocol, Maxnet, in order to allow Master & Backup setup for consoles. Currently, DMX output is not switched between the Master and Slave console, if a live switch is required due to a problem with the Master console then swapping the DMX Cables and Art-Net output from the Master to the Slave is required. Both Master and Slave console need to have the same amount of licenses available at all times otherwise full DMX output will not be possible.

If the DMX output is purely via Art-Net, connect **both** Art-Net outputs to a network switch and disable Art-Net output on the slave console (otherwise there will be a conflict) and if a live switch is needed, simply turn the Art-Net output of the Master off and turn the Art-Net of the Slave console on and you can continue to run the show from where the Master console left off. Art-Net ON/OFF toggle is assignable to a Function Key. See the [Programmable Buttons section](#) for more information.

The "Master" Console is the Console that the show is running on, all other Consoles are "Slaves" that "Join" the show via the network. Currently the following data is synchronized between the Master and Slave Consoles:

- All Cue and Preset data
- All Playback operation
- MaxNet chat window

You can optionally push the following from the Master console to selected Slave Consoles:

- A remote command to "Push" the network show from the Master to a Slave console
- A remote command to "Leave" the network show. This will remotely remove a Slave console from the network show.

All Master and Slave consoles can view show data of a network show both prior to joining it and once joined.

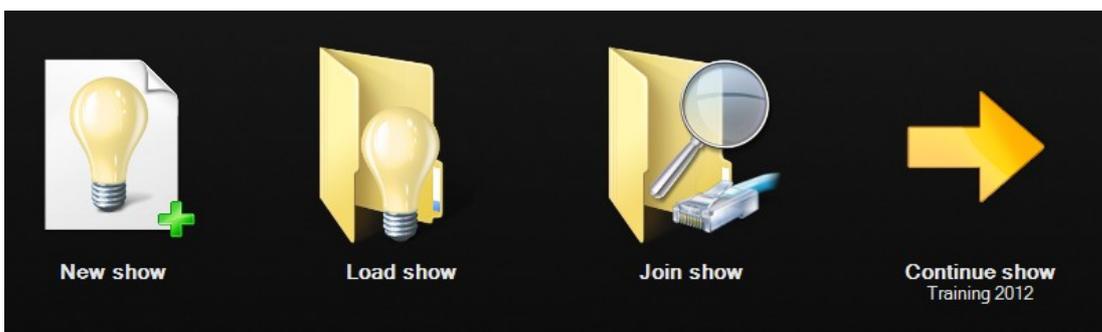
Currently, Programmer content, Groups and Patch are not synchronized over MaxNet - this functionality will come in a future release.

It is important to note that the "Show" name and the "File" name are different. The network show may be called "Main Auditorium" but the Saved show file may be called "Friday Morning". To change the name of a show:

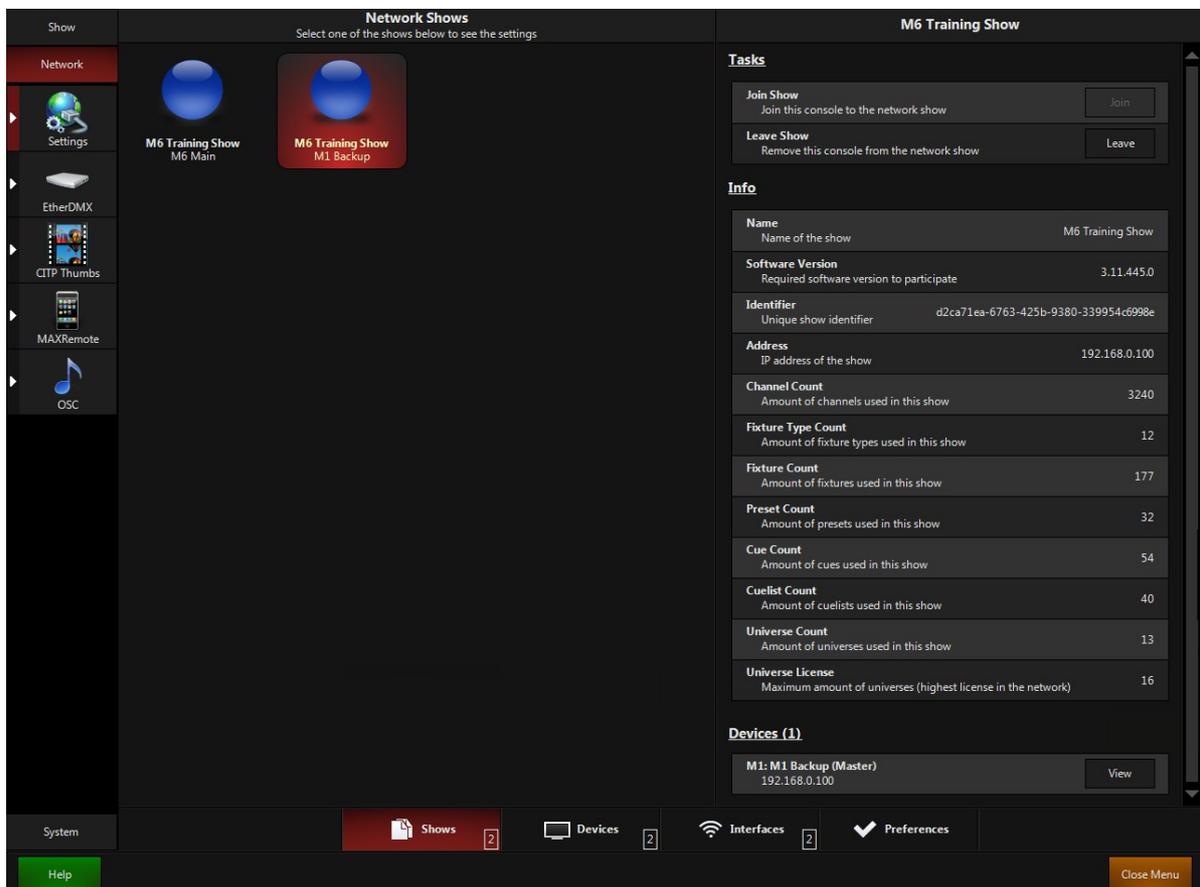
1. Access the Console Menu by hitting the MENU hardkey.
2. Navigate to the "Show" Tab.
3. Navigate to the "Info" section
4. Press the "Edit.." button next to the current show name.
5. Enter a new show name on screen.
6. Press "OK" to finish.

To Join a network show on Startup:

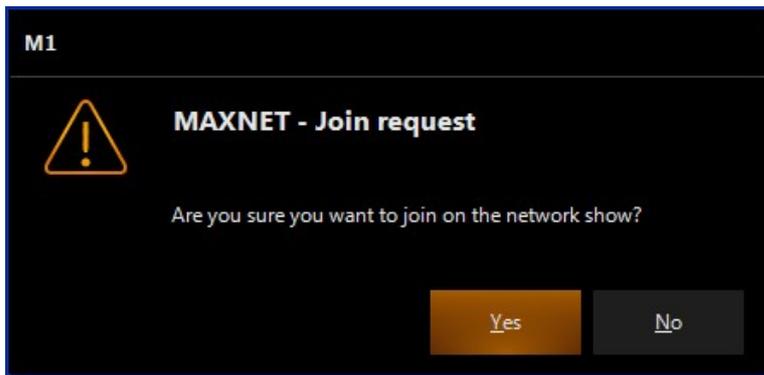
1. On startup choose the "Join Show" Option.



2. Choose the desired show from the network shows window. All online shows will display here.



3. Confirm you wish to join a network show.
- 4.



To Join a Network show once the console has fully booted:

1. Access the Menu by hitting the MENU hardkey
2. Navigate to the "Network" tab
3. Navigate to the Settings page
4. Navigate to the "Shows" section
5. Choose a network show by pressing it on the screen
6. Under "Tasks" on the right hand side, hit the "Join" softkey.
7. Press "Yes" from the popup to confirm you wish to join this network show.

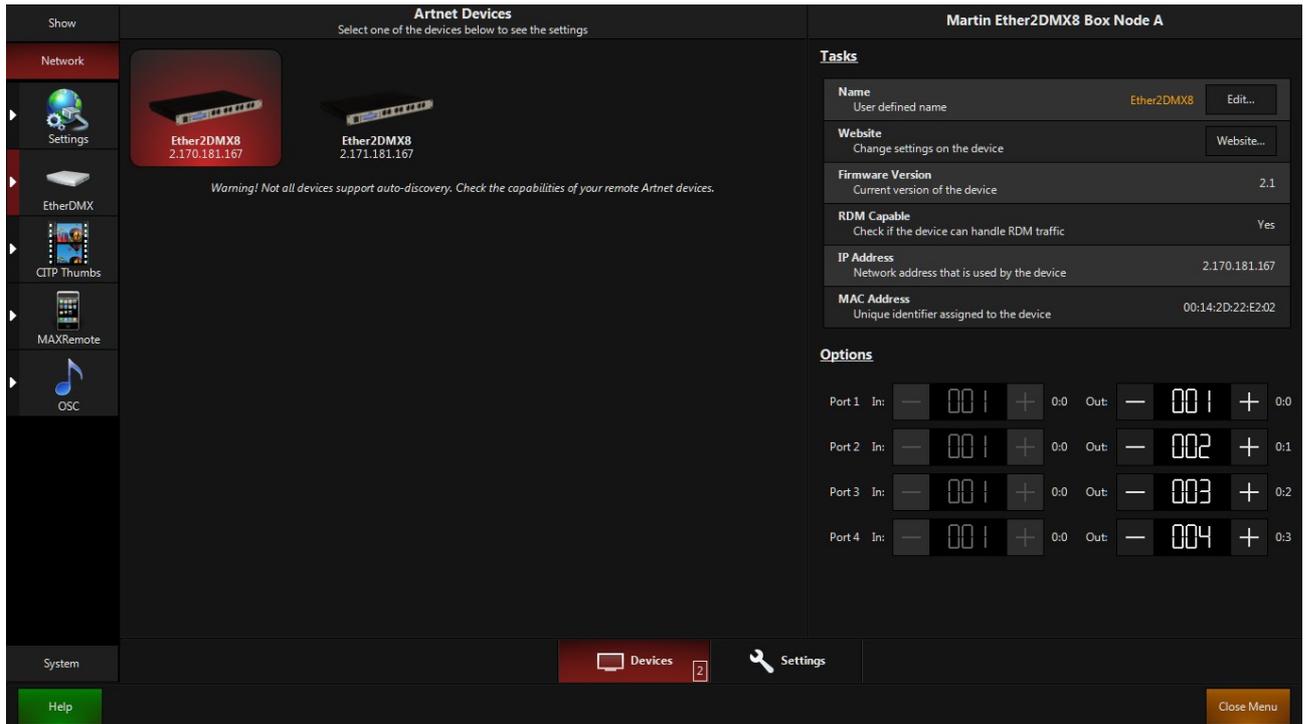
Artnet

Any of the universes available on the console can be output via Art-Net as well as the physical DMX ports on the console. More universes can be accessed on the Art-Net output labelled "EtherDMX" on the consoles rear panel. See [Additional DMX Universes](#) for more information on expansion.

Devices

This window will be blank if no artnet devices are detected. Unfortunately not every Artnet device supports this function, If the device does not show it is not a sign that the communication is not working. Please consult the documentation of the device or check with the manufacturer how to check proper operation.

Martin designed the Ether2DMX8 device which can be remotely programmed and configured from this screen.



Under the "Tasks" Section on the right, you can manage the Art-Net device. In the above example, an Ether2DMX8 node is connected. We can remotely configure the two output nodes inside the Ether2DMX8 from the console. For more advanced configuration, you can access the Ether2DMX8 Configuration browser by hitting the "Website..." button under "Tasks".

Ether2DMX8



002.170.181.167

Status

Factory Presets

User Presets

Cues

DMX Configuration

Merge Configuration

Advanced Patching

IP Configuration

Switch Input

System

Status

Info

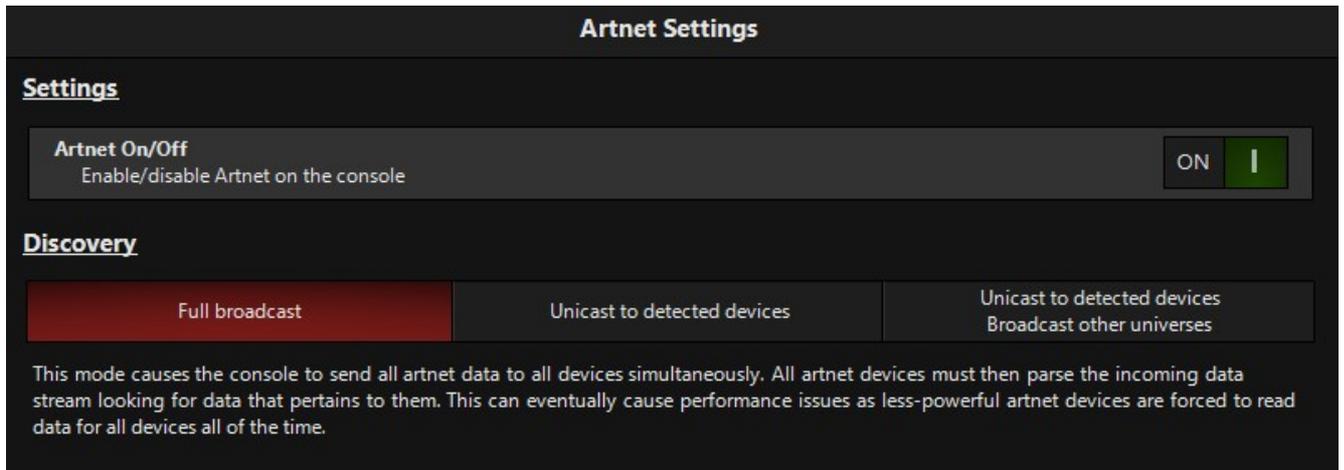
Device Name : Ether2DMX8
Firmware Version : V2.01 B2.18
Device IP : 002.170.181.167
Active Preset : Mx Series
Firmware status : Normal
In Test : No

DMX Ports

	Mode	Source Destination	Universe	Framerate	RDM
DMX 1	Output	Artnet Node A	1	33	Enabled
DMX 2	Output	Artnet Node A	2	33	Enabled
DMX 3	Output	Artnet Node A	3	33	Enabled
DMX 4	Output	Artnet Node A	4	33	Enabled

Close

Settings



Settings

By default, Art-Net output is disabled from an M-Series system. Art-Net output can be enabled by accessing the Art-Net settings in the Menu.

To access Art-Net settings:

1. Press the **Menu** hardkey on the console.
2. Navigate to the **"Network"** tab.
3. Navigate to the **"EtherDMX"** tab.
4. Navigate to the **"Settings"** page.

Discovery

Full broadcast

Full broadcast mode causes the console to send all artnet data to all devices simultaneously. All artnet devices must then parse the incoming data stream looking for data that pertains to them. As a show gets larger, so does the data stream. This can eventually cause performance issues as less-powerful artnet devices are forced to read data for all devices all of the time.

Full broadcast mode:

Artnet Device Type	Associated Universe(s)	Data Received
Ether2DMX8	1 - 8	Receives all patched universes.
Ether2DMX8	9 - 16	Receives all patched universes.
Maxedia Server	16	Receives all patched universes.
Maxedia Server	17	Receives all patched universes.

Unicast to detected devices

In this mode, the console will send artnet data only to valid devices which it has detected on the network. Additionally, it will send only relevant data to the specific device for which it is intended. Artnet devices on the network will only receive data that they need to process. For example, you have an Ether2DMX8 attached which is outputting universes 1 through 8 and another Ether2DMX8 attached which is outputting universes 9 through 16. In broadcast mode, both units would be receiving data for all patched universes. and parsing out data for their respective universe ranges. In Unicast mode, each device would only receive data for its chosen range, making it much easier for each to achieve its task.

Note that in unicast mode, artnet devices which do not talk back to the console will not receive data. To "fake" unicast more for one device, see "Override settings" below.

Unicast mode:

Artnet Device Type	Associated Universe(s)	Data Received
Ether2DMX8	1 - 8	Receives universes 1 - 8.
Ether2DMX8	9 - 16	Receives universes 9 - 16.
Maxedia Server	16	Does not receive data.
Maxedia Server	17	Does not receive data.

Unicast to detected devices - Broadcast other universes

In the case that you may have artnet devices attached to the network which are not detected by the console, you can choose this mode, which combines the performance boost of unicast with the convenience of Full broadcast. Units detected by the console will receive direct, relevant data, while undetected units will receive the remaining data.

Note that in unicast mode, artnet devices which do not talk back to the console will not receive data. To "fake" unicast more for one device, see "Override settings" below.

Unicast/Broadcast mode:

Artnet Device Type	Associated Universe(s)	Data Received
Ether2DMX8	1 - 8	Receives universes 1 - 8.
Ether2DMX8	9 - 16	Receives universes 9 - 16.
Maxedia Server	16	Does not receive data.
Maxedia Server	17	Receives universe 17.

Override settings

Artnet Settings

Settings

Artnet On/Off
Enable/disable Artnet on the console ON

Discovery

Full broadcast
Unicast to detected devices
Unicast to detected devices
Broadcast other universes

In this mode, the console will send artnet data only to valid devices which it has detected on the network. Additionally, it will send only relevant data to the specific device for which it is intended.

Override Options

Here you can choose a single device to "fake" unicast mode

Override OFF
Enable/disable the override

IP 0 . 0 . 0 . 0
Set the IP address of the desired device.

Universe From - 001 +
The first universe in the range of universes to send.

Universe To - 001 +
The last universe in the range of universes to send.

When you select either "Unicast to selected devices" or "Unicast to detected devices - Broadcast to others," the "Override settings" panel will become visible. Here you can choose a single device to "fake" unicast mode. To enable this, set the IP address of the desired device, set the range of universes to send to it and set the

"Override:" button to "On."

Maxedia

The CITP Protocol allows integration between an M-Series console and a compatible Media Server. Thumbnails of the Media available on the Media Server can be pushed across the network so they can be viewed in the parameter belts and the common parameters window - as shown below. The console automatically detects Media Servers on the network and synchronization will happen automatically on the provision CITP is enabled and the DMX patch information match up on both the Media Server and in the M-Series system.



CITP Configuration

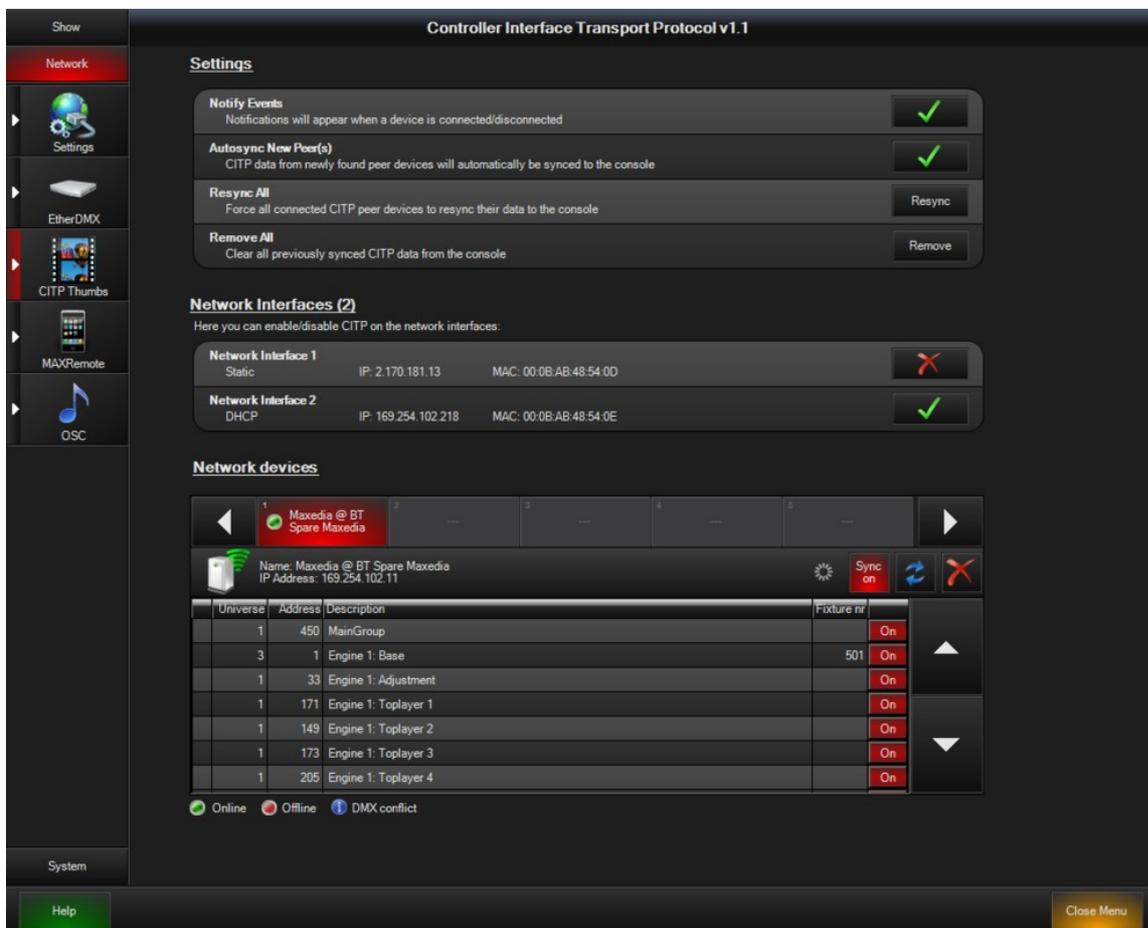
To transfer thumbnails over the network, the Maxedia must be connected to the "Remote" network port of the console. (DMX Information is still sent from the "EtherDMX" port of the console as usual). The Maxedia fixtures must be patched on the M-Series console and addressed accordingly on the Maxedia system. The Maxedia system also needs to be in the same IP range as the console.

To configure CITP on the console:

1. Access the Menu by hitting the MENU hardkey on the console front panel.
2. Navigate to the "**Network**" tab and the "**Settings**" page.
3. On the Remote Interface - Make a note of the IP Address
4. On the Remote Interface - Ensure CITP is enabled (shown below).



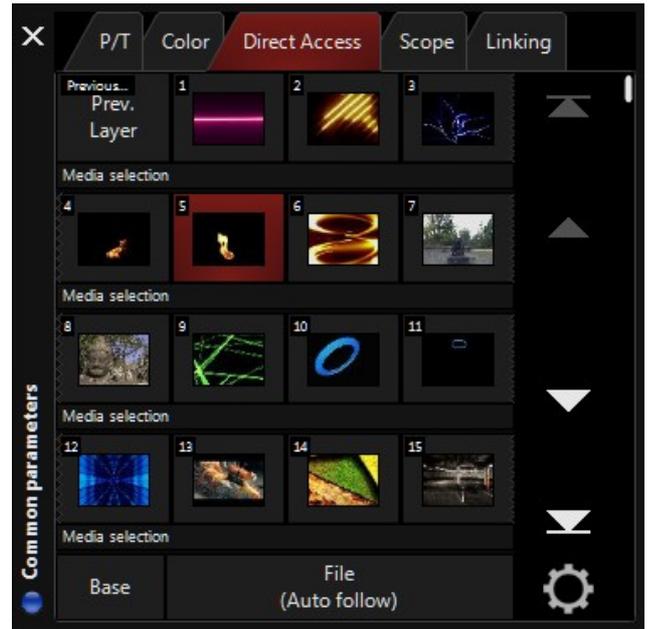
5. Navigate to the "**CITP Thumbs**" tab.
6. Here select "Remote" network interface..



The CITP Thumbs window will show all compatible Media Servers on the network

As soon as the configuration is complete, the Console should start to receive the media thumbnails. Once synchronization has finished, it's good practice to turn syncing off in the CITP Thumbs window until a re sync is required.

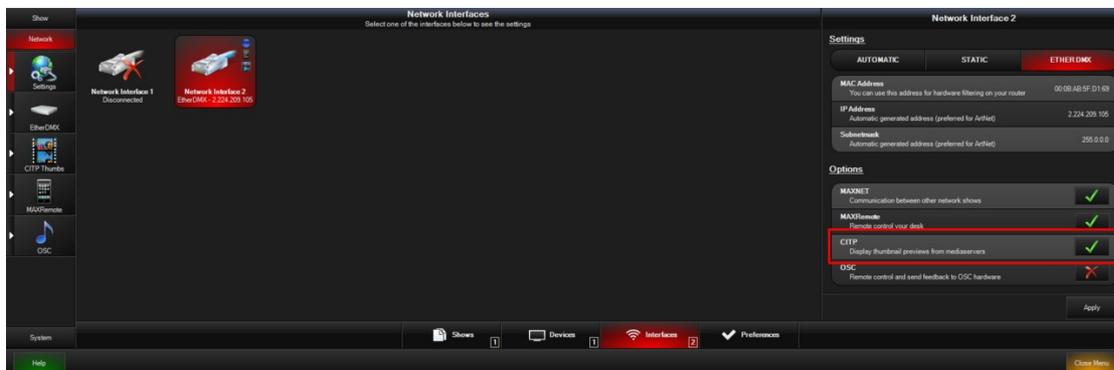
Arkaos



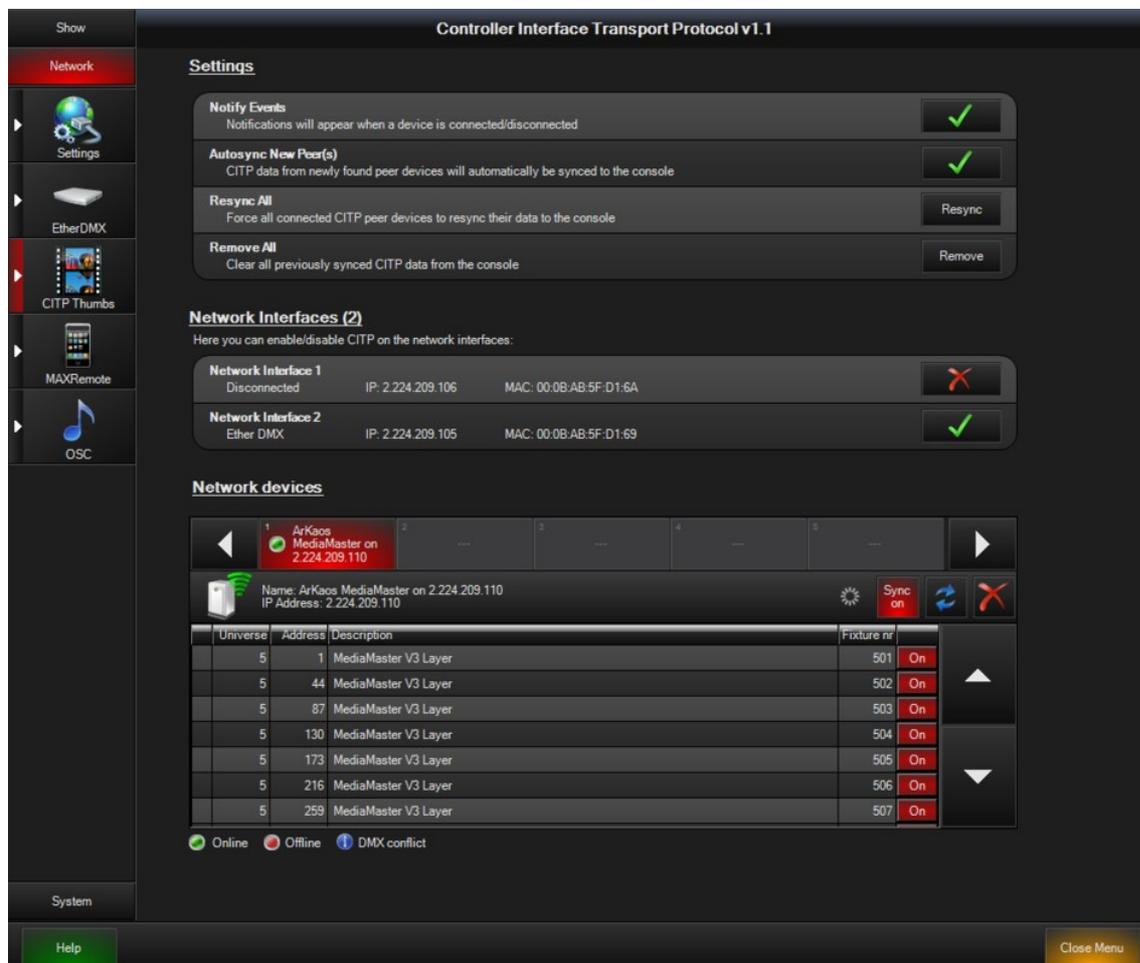
To transfer thumbnails over the network, the Arkaos must be connected to the "EtherDMX" network port of the console. With the Arkaos implementation, both CITP and Art-Net can be sent/received on the same network interface. The Arkaos fixtures must be patched on the M-Series console and addressed accordingly on the Arkaos system. The Arkaos system also needs to be in the same IP range as the console.

To configure CITP on the console:

1. Access the Menu by hitting the MENU hardkey on the console front panel.
2. Navigate to the **"Network"** tab and the **"Settings"** page, then access the **"Interfaces"** section.
3. On the EtherDMX Interface - Make a note of the IP Address.
4. On the EtherDMX Interface - Ensure CITP is enabled (shown below).



5. Navigate to the **"CITP Thumbs"** tab.
6. Here select the "EtherDMX" network interface.



The CITP Thumbs window will show all compatible Media Servers on the network

As soon as the configuration is complete, the Console should start to receive the media thumbnails. Once synchronization has finished, its good practice to turn syncing off in the CITP Thumbs window until a re sync is required.

OSC

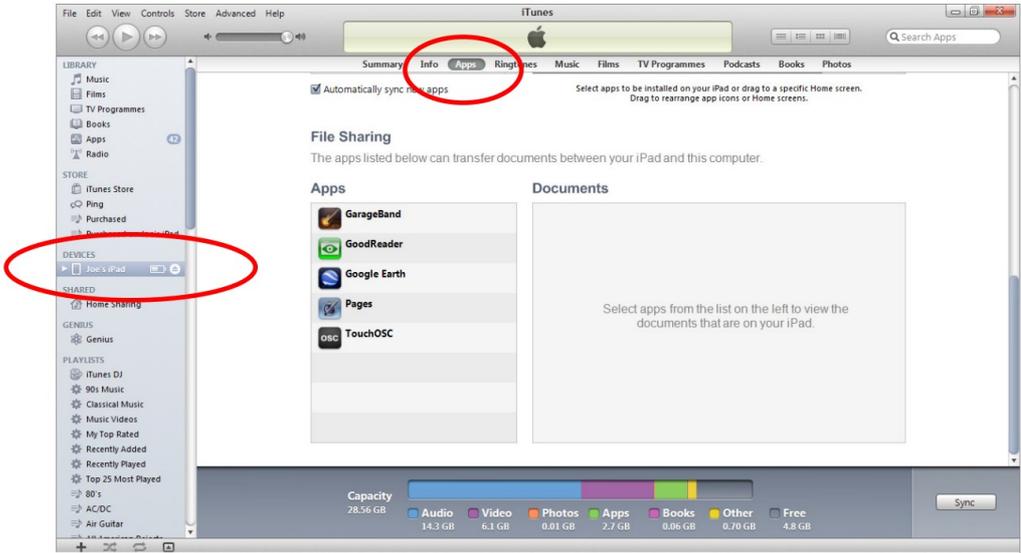
The "Touch OSC" app, available for iOS and Android devices has a specifically designed M-Series skin designed for iPhone and iPad. Using the app, you can use your device as a remote focus tool for your M-Series console. Download the OSC layout from www.martin.dk/controllersupport

iPhone layout - iPhone-Martin-Mx-Series_V1.15.touchosc

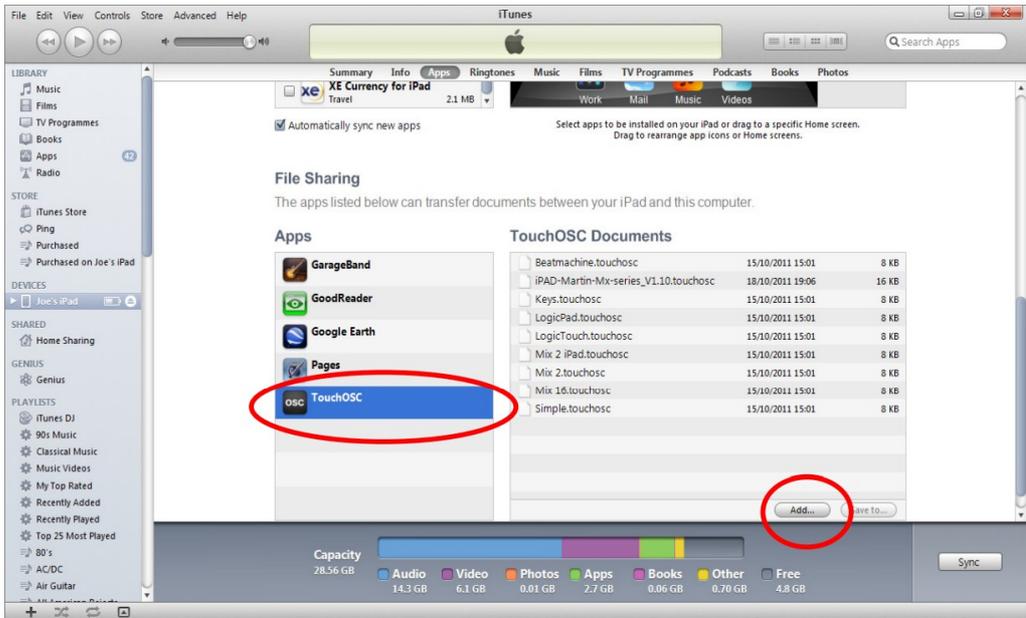
iPad Layout - iPad-Martin-Mx-Series_V1.15.touchosc

When syncing the device with iTunes, you can install the layout inside the Touch OSC app:

1. Select the Device on the left hand side in iTunes



2. Navigate to the Apps Tab
3. At the bottom of that tab is a "File Sharing" area
4. Select the OSC App
5. Hit the "Add" button



6. Browse to the layout you wish to install
7. Re-Sync the device to iTunes and the layout will be available on the device.

On the iOS device, disable Mobile Data. Connect the M-Series Console "Remote" network interface to a wireless router or access device. Connect the iOS device to the same router/access point. Both Console and iOS device

should be set to obtain an IP address automatically. For more complex network requirements, assign a static IP Address on the devices accordingly.

Configure the Console

To set up OSC on the Console:

1. Access the menu by pressing the MENU hardkey on the console front panel.
2. Navigate to the "**Network**" Tab

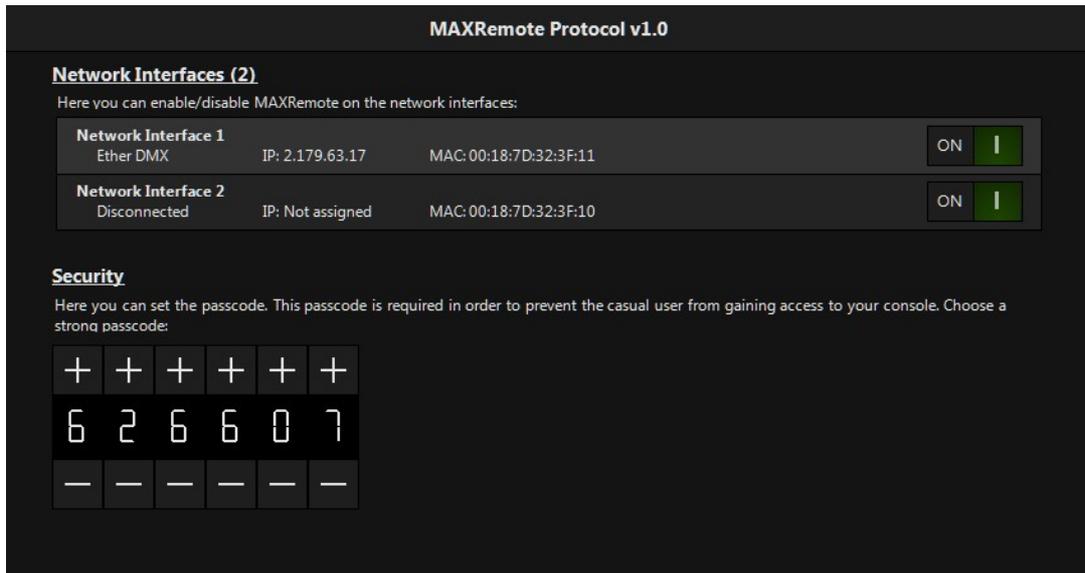


3. Under "**Network Settings**" (Interfaces) ensure that the IP Settings are set to "**AUTOMATIC**" and that OSC is enabled on the "**REMOTE**" adapter.
4. Press "Apply".
5. Navigate to the OSC page
6. Under "**Settings**" enable OSC on the "Remote" network interface
7. Under "Devices" Activate the first OSC Device using the Properties options on the right
8. Enter a name for the Device - example "iPad Remote"
9. Enter the IP Address of the OSC device (iPad)
10. Ensure the Incoming Port used by the OSC device matches the settings on the iPad.
11. Press "Update" and "Apply"
12. In the Touch OSC app, press the "Refresh" Button on tab 6 (Config).

The console and the remote should begin to communicate.

MAXRemote

The MAXRemote is an app for the iPhone or iOS which allows remote, wireless control of the console. This handy tool can be used for many applications including remote focus, remote cue execution and fixture testing. In order to use the MAXRemote app, you must have a wireless access point attached to the Remote port on the back of the desk. The device running the app must then be connected to this access point.



MAXRemote Protocol v1.0

MAXRemote on/off

Enable/Disable the MAXRemote system. By default, this is disabled.

Passcode:

Here you may choose a passcode of your liking. The passcode is required in order to prevent the casual user from gaining access to your console.

Warning: The MAXRemote protocol will be disabled (off) after each startup. This is done for security reasons so that nobody can have access to your console by default.

To setup MaxRemote a wireless router/access point will need to be connected to the "Remote" network interface. The router/access point should be set to give out IP Addresses automatically.

On the console:

1. Access the Menu but hitting the MENU hardkey
2. Navigate to the "**Network**" Tab
3. Navigate to the "**Settings**" section
4. Navigate to the "**Interfaces**" page
5. Enable the MaxRemote option on the right hand side for the "Remote" network interface.
6. Press "Apply"
7. Navigate to the "MaxRemote" Tab
8. Make a note of the security passcode.

On the iOS device:

1. Join the router/wireless access point network
2. Ensure the IP address is in the same range as the console
3. In the MaxRemote app, press the desired console name to connect to it.

Connecting to Visualisers

Connecting to Martin Show Designer

1. Connect the PC running MSD with the Martin Console.

In order for the computer running MSD to receive Art-Net network packages, it needs to be physically connected to the correct network port on the Martin Console. A Martin Console usually has a two network ports, the one labeled EtherDMX port is the Art-Net output adapter. Connect this EtherDMX port to the PC network port with an Ethernet cable. If you connect your PC directly to the Console, you might need a cross-cable (some equipment is auto-sensing and will work with a regular cable), or you can use a network hub/switch and 2 regular network cables.

2. Setup the PC Network settings to match the Console.

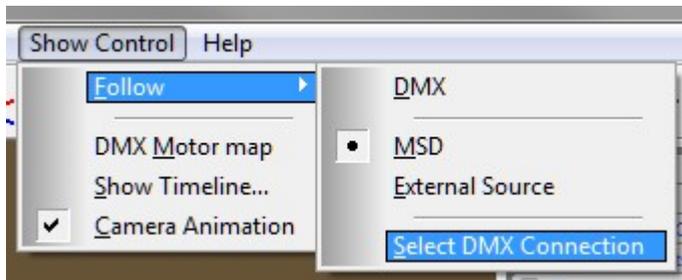
In order for the computer running MSD to receive Art-Net network packages, it also needs to be logically connected to the correct network. Martin consoles usually send their DMX values to Art-Net nodes that are in the 2.x.x.x network, meaning that the receiver needs to have an IP address that starts with 2, and a sub netmask of 255.0.0.0. The other three numbers of the IP address are less important but the combination must be unique.

3. Configure Console.

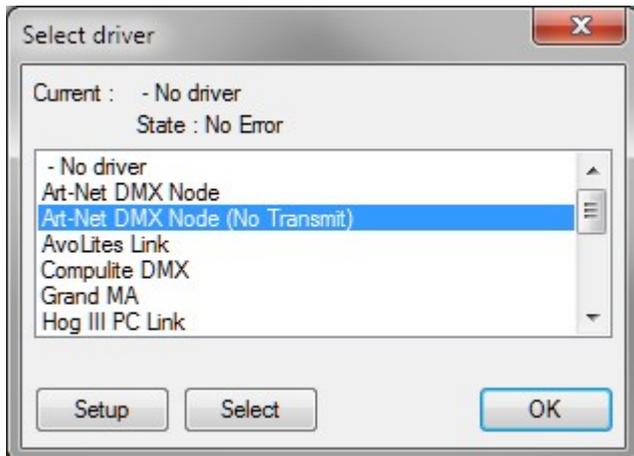
Ensure that ArtNet is enabled on the console and that the packages are broadcast (Please see [Art-Net section](#) on how to check this). If the console is set up to only transmit the ArtNet packages to detected nodes then you can run into problems, as MSD isn't recognized as ArtNet node, so it won't receive the Art-Net packages.

4. Configure MSD.

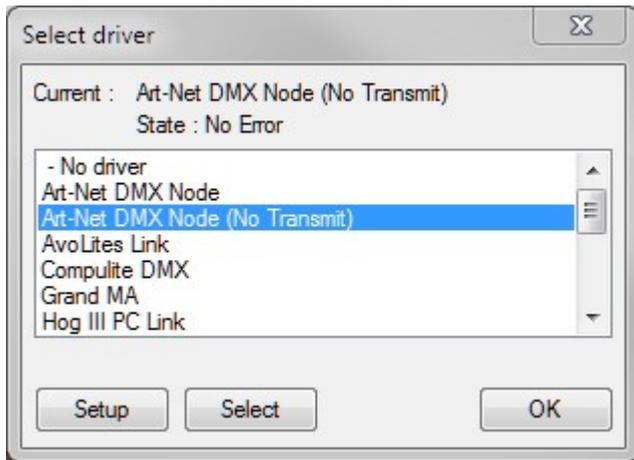
To configure MSD to use ArtNet as DMX input, you need to select the correct DMX Connection. In MSD, there are 2 connections available for ArtNet, one called 'Art-Net DMX Node' and one called 'Art-Net DMX Node (No Transmit)'. The first one enables MSD to send and receive ArtNet packages, while the second only receives ArtNet packages. If you just want to follow what the Console is sending, it is better to select the second connection, which has a better performance and does not cause any interference in the ArtNet communication, because it is not sending any ArtNet packages of its own. To select the 'Art-Net DMX Node (No Transmit)' connection, start the MSD 3D Visualizer module and select 'Select DMX Connection' from the 'Show Control – Follow' menu.



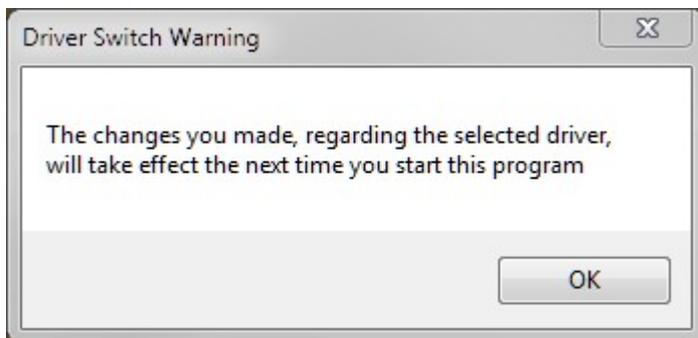
A dialog will open where you see all the available MSD Connections, which you installed during the MSD installation process. Select 'Art-Net DMX Node (No Transmit)' and press the 'Select' button.



This will change the current status at the top of the dialog.

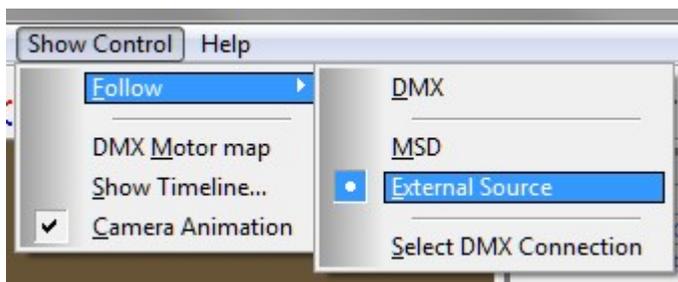


Now press the 'OK' button to finalize your selection. A dialog will pop-up with the following warning:



You will have to close down and restart the program to re-initialize the program with the correct connection.

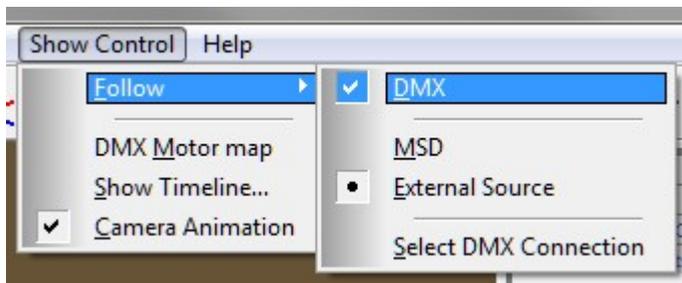
After restarting the program, make sure that the MSD 5 Visualizer is using the external connection as its input source for DMX. (The other option being 'MSD' where another MSD module is used as input.)



You can also see which of these two is selected in the status bar of the program, in the bottom right. It should state 'Ext' in the right button for 'External Source'.



In this image, you can also see (in the red button) that the 'DMX in' option is currently disabled, so to enable DMX in, you have to select it in the 'Show Control – Follow' menu, by making sure the 'DMX' option is checked.



This will change button in the status bar to 'DMX ON' and the color will change to orange, meaning DMX is ready to receive data.



When MSD is detecting changes in the incoming DMX (so not just receiving ArtNet packages, but actual changes in DMX values), the button will turn green. (If there are no changes in the DMX values it receives for a while, MSD will turn the button back to orange.)



So a good way to check if you are receiving DMX is to have the console send a continuous stream of changing values, using a macro of some sort and check if the DMX button turns green.

Connecting to Capture Polar

1. Connect the PC/Mac running Capture with the Martin Console.

In order for the computer running Capture to receive ArtNet network packages, it needs to be physically connected to the correct network port on the Martin Console. A Martin Console usually has a two network ports, the one labeled EtherDMX port is the Art-Net output adapter. Connect this EtherDMX port to the PC network port with an Ethernet cable. If you connect your PC directly to the Console, you might need a cross-cable (some equipment is auto-sensing and will work with a regular cable), or you can use a network hub/switch and 2 regular network cables.

2. Setup the PC/Mac Network settings to match the Console.

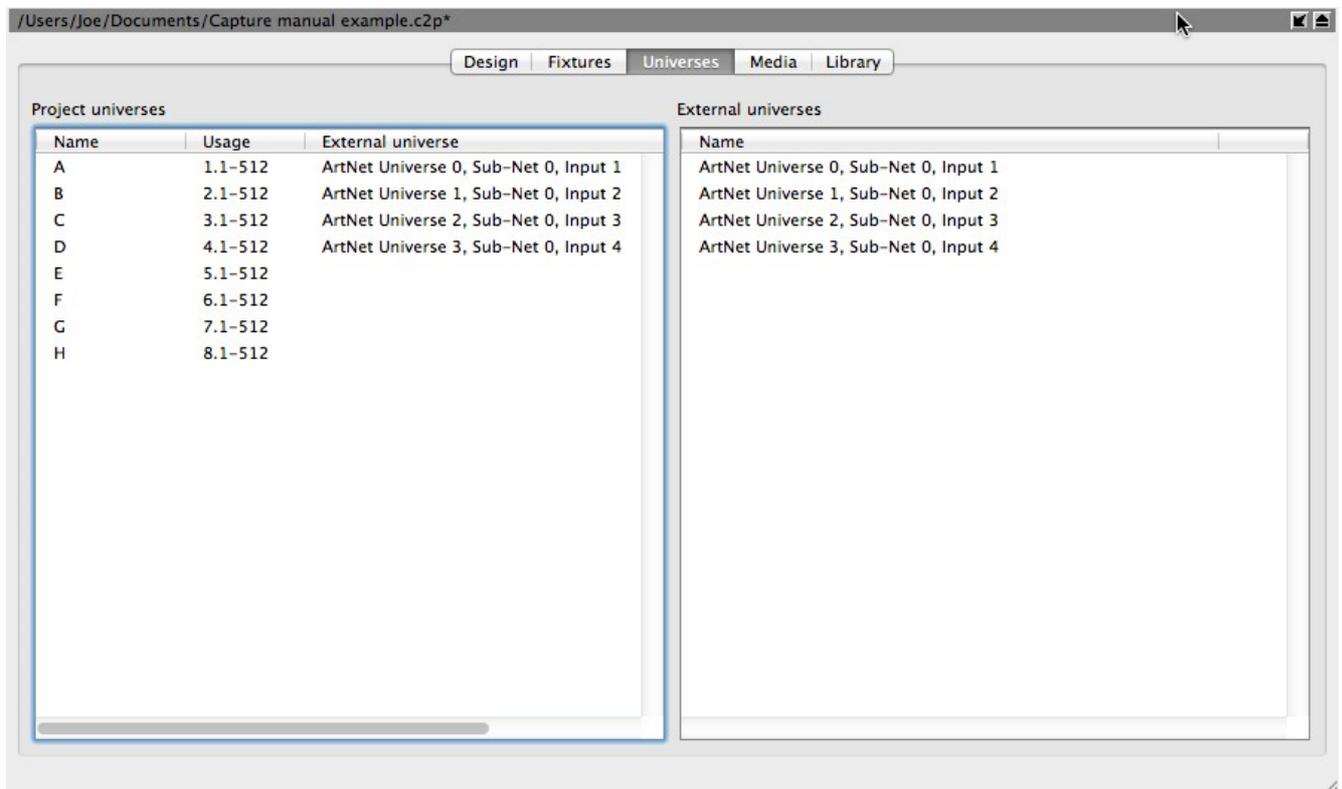
In order for the computer running Capture to receive ArtNet network packages, it also needs to be logically connected to the correct network. Martin consoles usually send their DMX values to ArtNet nodes that are in the 2.x.x.x network, meaning that the receiver needs to have an IP address that starts with 2, and a sub netmask of 255.0.0.0. The other three numbers of the IP address are less important but the combination must be unique.

3. Configure Console.

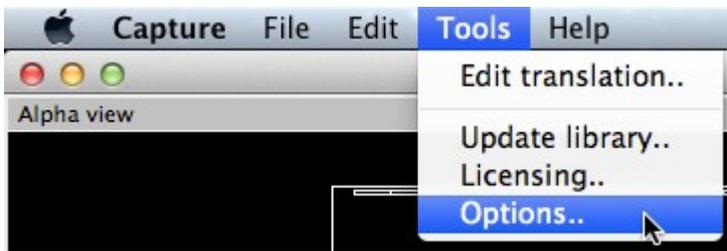
Ensure that ArtNet is enabled on the console and that the packages are broadcast (Please see [Art-Net section](#) on how to check this).

4. Configure Capture.

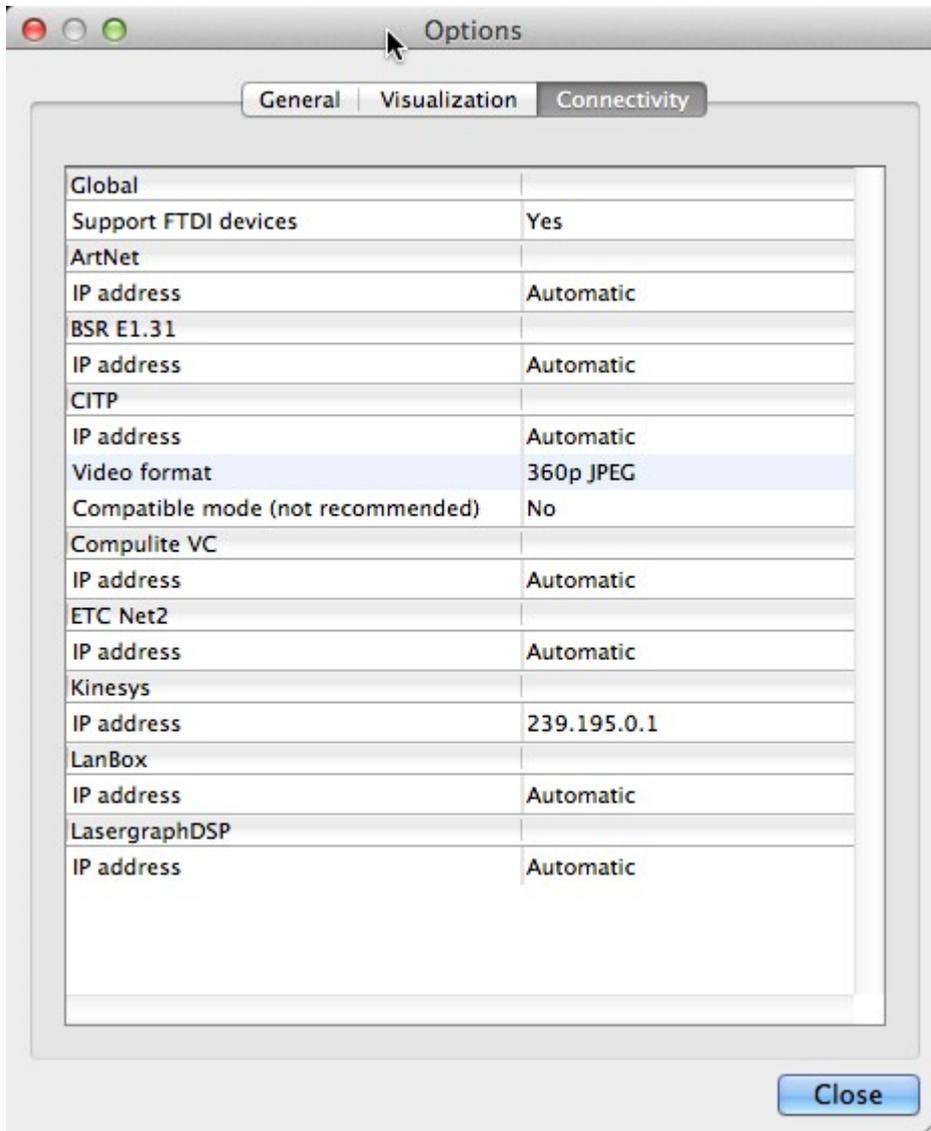
If the Capture PC/Mac is configured in the same IP range as the console, the Art-Net universes should appear straight away in the "Universes" tab of the "Project Window" as shown below.



Under some circumstances, Capture may not recognize the Art-Net straight away. If this happens, go to the Capture Options.



The choose the "Connectivity" tab.



Under the Art-Net option, change the setting from "Automatic" to the specific adapter you configured to be the 2.x.x.x IP address.

M-Series Components

External Monitors & Supported Touchscreens

Console	M2PC	M2GO	M1	M6
Amount of External Screens	PC Specific	2	1	2
Maximum External Resolution	PC Specific	1920x1080	1920x1080	1920x1080
Connection Type	PC Specific	VGA - 15 Pin Analogue Monitor Connection HDMI - Digital Monitor Connection	VGA - 15 Pin Analogue Monitor Connection DVI - Digital monitor connection	DisplayPort - Digital Monitor Connection*

*** Note: With the M6 Console, it is possible to use touchscreens with other connections. In this instance, use a DisplayPort to DVI/VGA/HDMI Adapter.**

Recommended external touch screens:

Generic Windows 7 Touch compatible screens that do not require custom drivers
ELO Touch Systems iTouch, Accutouch and IntelliTouch compatible screens

Martin recommends a 16:9 ELO touchscreen.

A recommended screen is the ELO 2201L (part number E107766) which is available worldwide through ELO retail channels.

<http://www.elotouch.com/Products/LCDs/2201L/>

Installing the Operating System

WARNING! Console software should NOT be updated on or before a show unless ABSOLUTELY necessary. Installing or updating the software on an M-Series Console will delete all users files from the console - Please make back ups before proceeding as you will not be able to recover these files.

Installing the operating system on an M-Series console requires a few different steps, all of which will be covered in this chapter.

Create a bootable USB stick

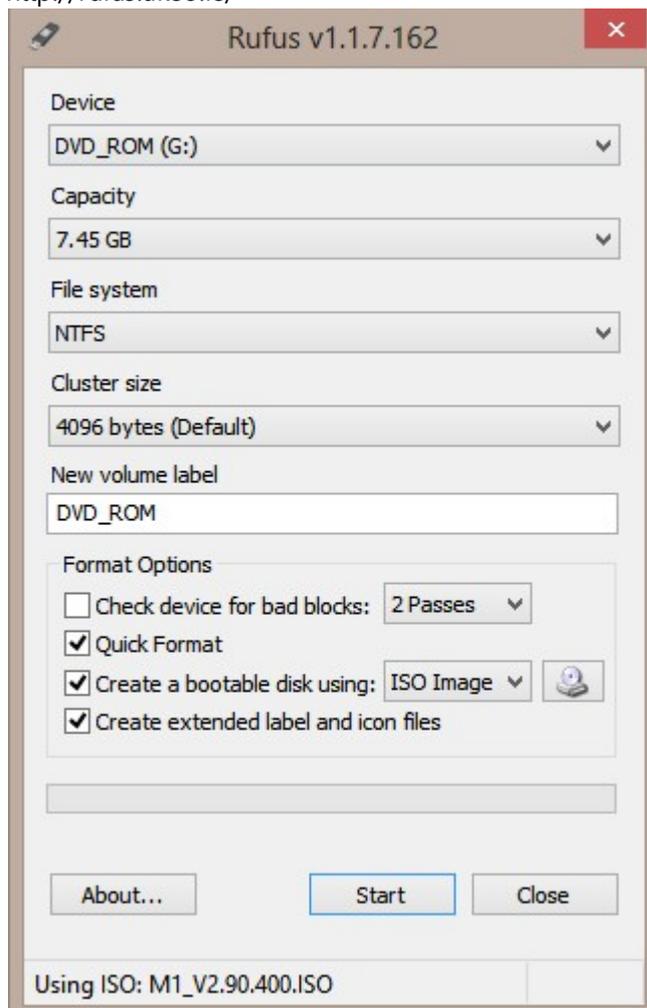
ISO files are images. It is an exact copy of the contents of a CD including all boot settings required. We recommend installing the OS from a bootable USB stick as this is much faster than installing from a CD, and you don't need to use an external CD-ROM drive.



MS WINDOWS

To ensure a reliable reproduction of the ISO files for use with our controllers we recommend the use of the RUFUS freeware tool. It can be found here:

<http://rufus.akeo.ie/>



Use Rufus v1.1.7.x

1. Insert your USB stick (min 4GB). See compatible models on our website at: <http://www.martin.com/service/showpage.asp?id=7271>

2. Select the ISO file using the button with the CD icon
3. Click "Start"
4. Click "OK" when the warning popup appears. Your USB stick will be formatted!

Getting started

Note: Please remember to make a backup of your show files before installation!

The ISO file (bootable USB stick) includes 2 installations:
The OS installation (embedded Windows 7 operating system)
MX Software installation

Disconnect all Network and USB connections from the console!

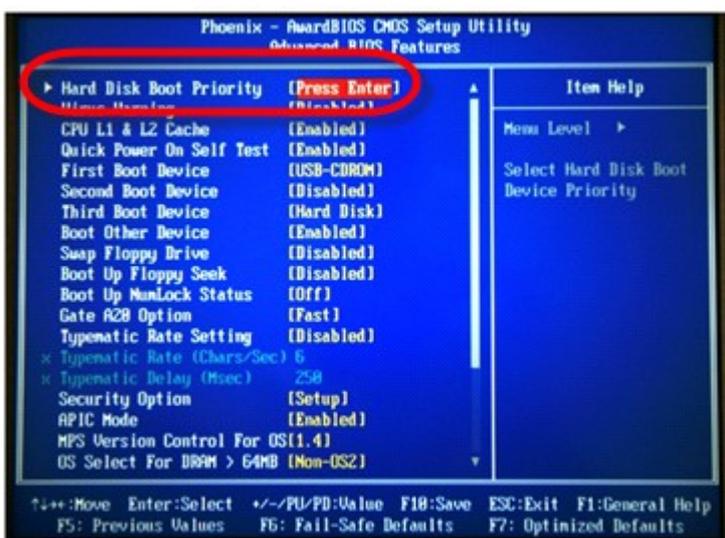
WARNING! Please be patient. Some of these steps may result in a black screen for several minutes as the Operating System is deployed internally. Do not shut down the console until the whole procedure is completed. Interrupting the process means to start over from the beginning.

Installing the OS

M1 ONLY: Connect an external USB keyboard your USB stick to the USB ports on the **BACK** M1 console
Power on the console and press “DEL” repeatedly on the keyboard to enter the BIOS



Arrow Down once to “Advanced BIOS Features” and press ENTER



Go to “Hard Drive Boot Priority” and press ENTER



Arrow Down to the USB Drive (e.g. SanDisk) and use the + key on the keyboard until the USB Drive is on the top of the list.

Press F10 and Confirm with ENTER and the desk will reboot from the USB stick

M2GO & M6: The M2GO always boots from correctly formatted USB sticks when inserted in the back port. The M6 always boots from a correctly formatted USB stick when inserted in the front USB ports.



The system will now copy all the installation files to your console, expand and install them. This can take a few minutes.

Software Installation



Please wait, this may take a while...

The Console will now ask to restart. Remove the recovery stick and press "Reboot" to continue. If on an M2GO, the screen stays black after pressing this button, power cycle the console and it will continue further with the installation.

Operating System Installation



Please remove the USB drive.
Hit ENTER to reboot.

After rebooting, the installation of the OS will continue.

Your console may reboot again automatically and finalize the installation and setup of the console's settings.

The console is now ready to use!

M2
GO
MARTIN PROFESSIONAL



Create a new show



Load a show



Join show



Continue with show

Follow Wiley version 307 0 393



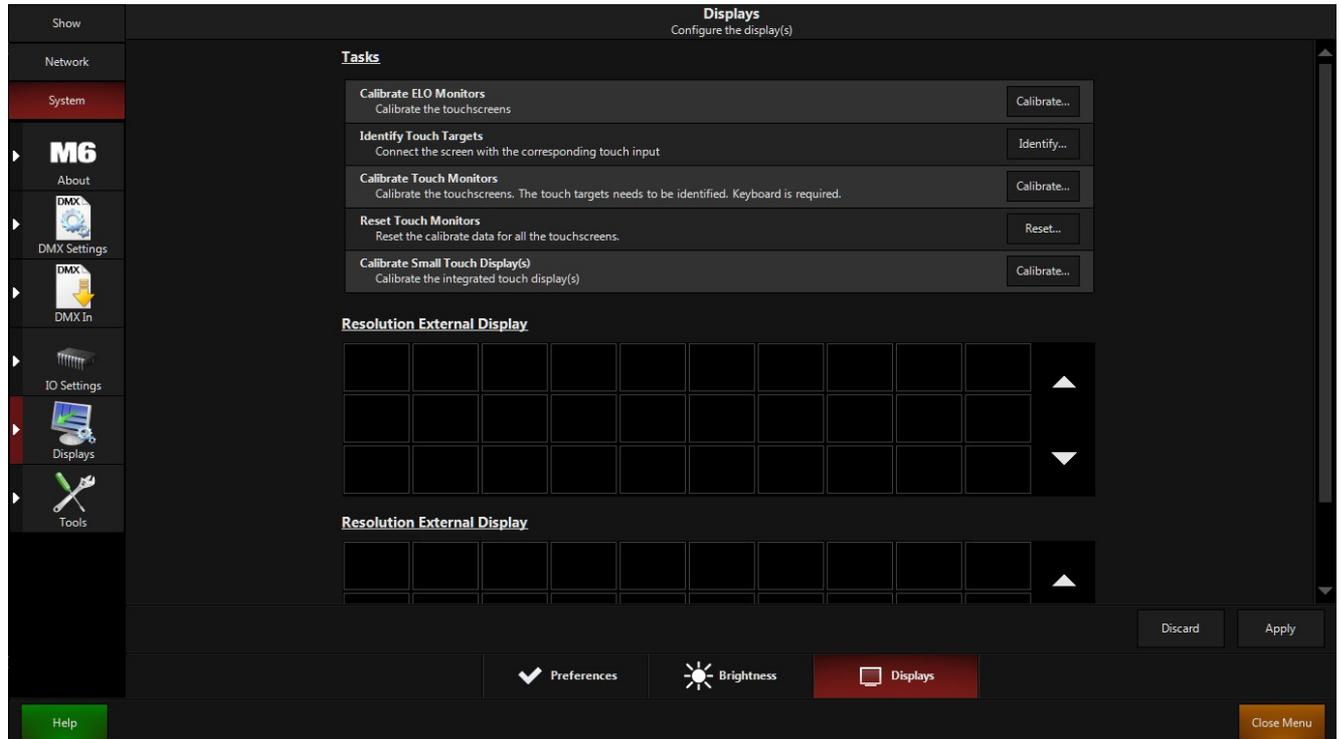
M2GO build 2.81.997.0

Please 'Ctrl+Alt+C' if you want to calibrate the screens

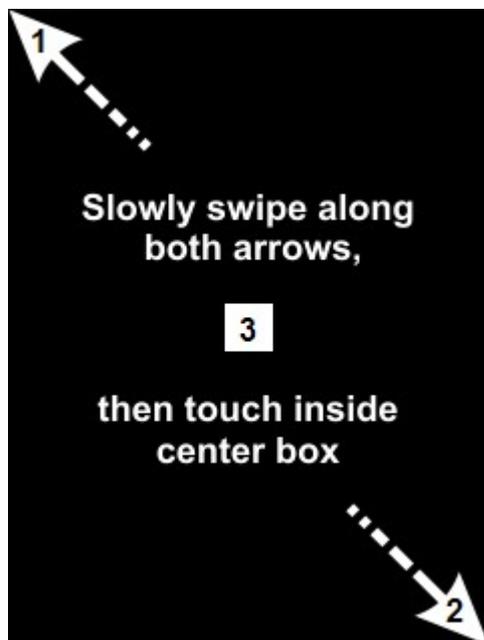
Calibrating the internal mini display

If needed, the internal display of the M2GO can be calibrated using a tool in the software. Go to **Menu – System – Displays** and select the **Screen** tab.

Press the “Calibrate...” button to continue.



Confirm the calibration by pressing “Yes” in the popup box that appears.

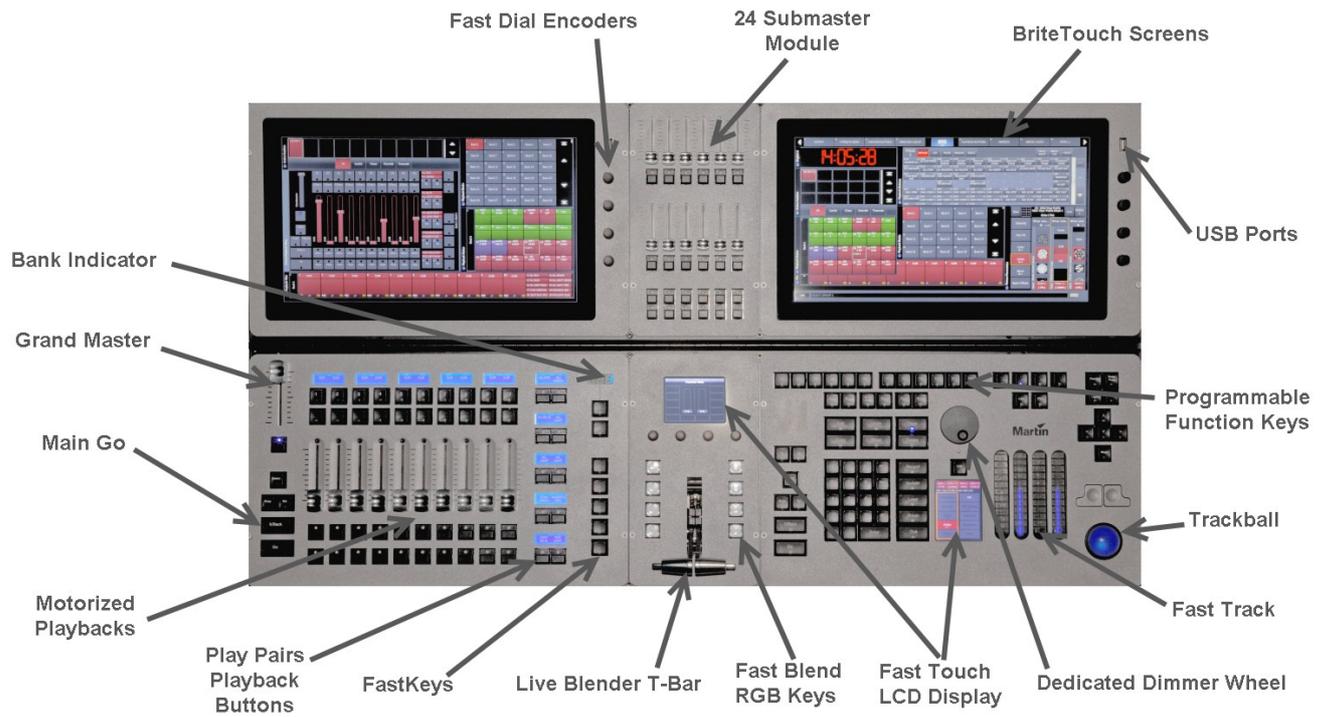


Now look at the integrated display and slowly swipe along both arrows with your index finger. Then touch inside the white center box. Calibration is now executed and you can continue using the console.

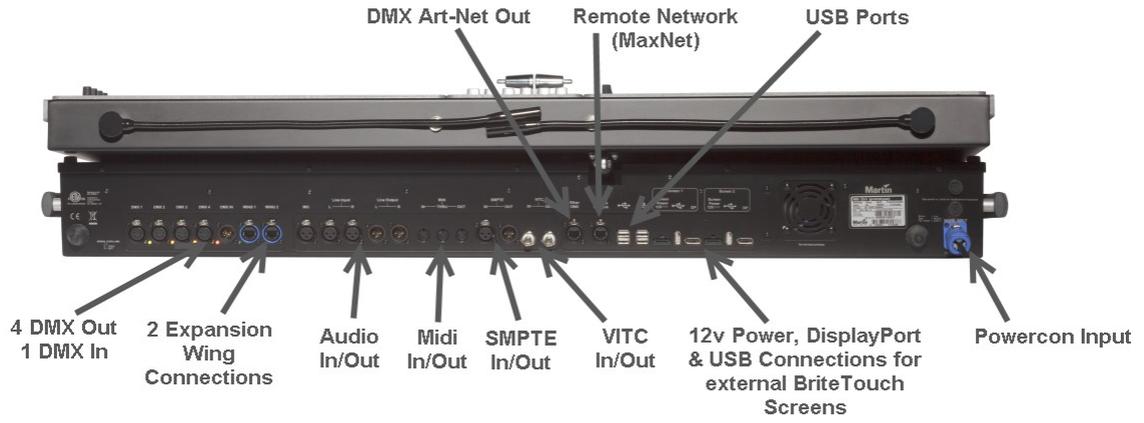
M6



Navigating the Surface



Connections



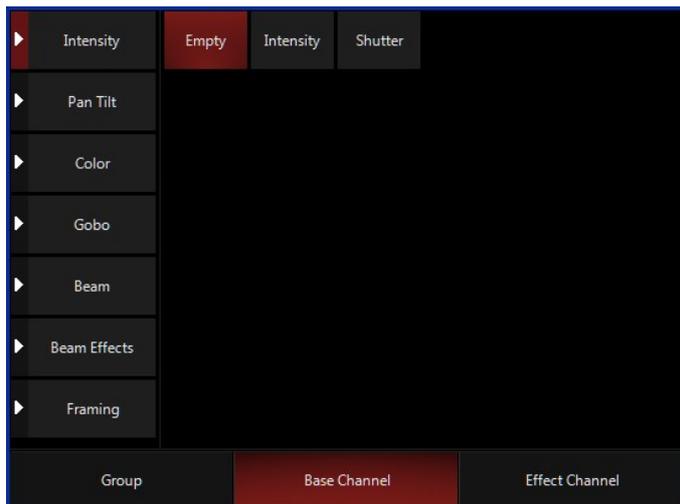
Encoder assignments



The Fast Dial encoders on the M6 console are user assignable to any parameter currently available on the belts.

To edit one of the fast dial encoders:

1. Hold the **Edit** button.
2. Press down on one of the fast dial encoders, or touch the legend next to it.
3. The following window will open on the screen nearest to the encoder touched.



4. Choose a parameter or group of parameters (I.E. Colour, Gobo, Beam etc) to map to the encoder.
5. Once the parameter is chosen, simply touch anywhere outside the box to hide it.

Note: Double clicking on a fast dial encoder will open the parameter popup just like the normal encoders.

Note: The FX, Fanning and Rate parameters can also be assigned to encoders, this enables super fast access to those parameters in a live programming or busking scenario.

Modules

Standard Layout



The M6 console standard layout is shown above. Two BriteTouch displays, One Narrow Submaster Module, One Programmer Module, One Fast Blend T-Bar Module and One Playback II Module.

The Modules can be re-arranged to suit user preference.

Customizing the Layout

Re-arranging the Modules in the M6 frame is a simple process.

Each Module is held in place by four 3mm Cap Head Allen bolts. Unscrewing these bolts will allow the Module to lift out of the frame. The Module will have 12v power and Cat 5 connected to its rear. In the case of the BriteTouch Screens, there will be a DisplayPort connection, 12v Power, USB and Cat 5.

The Modules bolt into the underlying frame. Parts of this frame can be re-arranged to suit further Module layouts. To move parts of the underlying frame, a 3mm torx screw driver is required.

Note: Moving the screen Modules to a different location in the frame requires them to be re-calibrated afterwards. This can be done from the console menu.

Note: Screen Modules CANNOT be placed in the bottom half of the console.

Note: When adding multiple Modules of the same type, use the dip switches on the rear of the second Module to change its address, failure to re-address the additional Module will result in it mimicking the first Module.

Screen Mounting Kit



M6 allows to attach VESA 100mm compatible screens to the outside of the desk, including the two screen modules.

This allows for example to replace the internal screen with an additional playback module and use the M6 screen on an external mounting arm, or add additional screens to the console as needed. The M6 supports a total of four displays.

M6 offers support for two external screen mounting kits.

To accomplish this a few items are required:

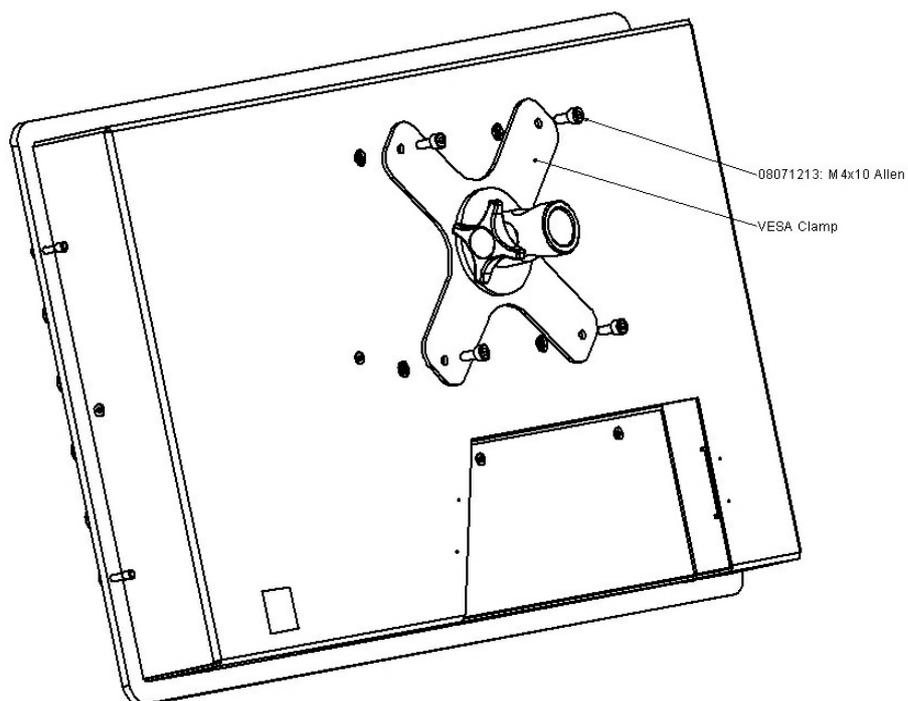
1. Martin M6 screen mount kit, PN 91613109

Included items: console bracket, screen bracket, 4 screws, cable

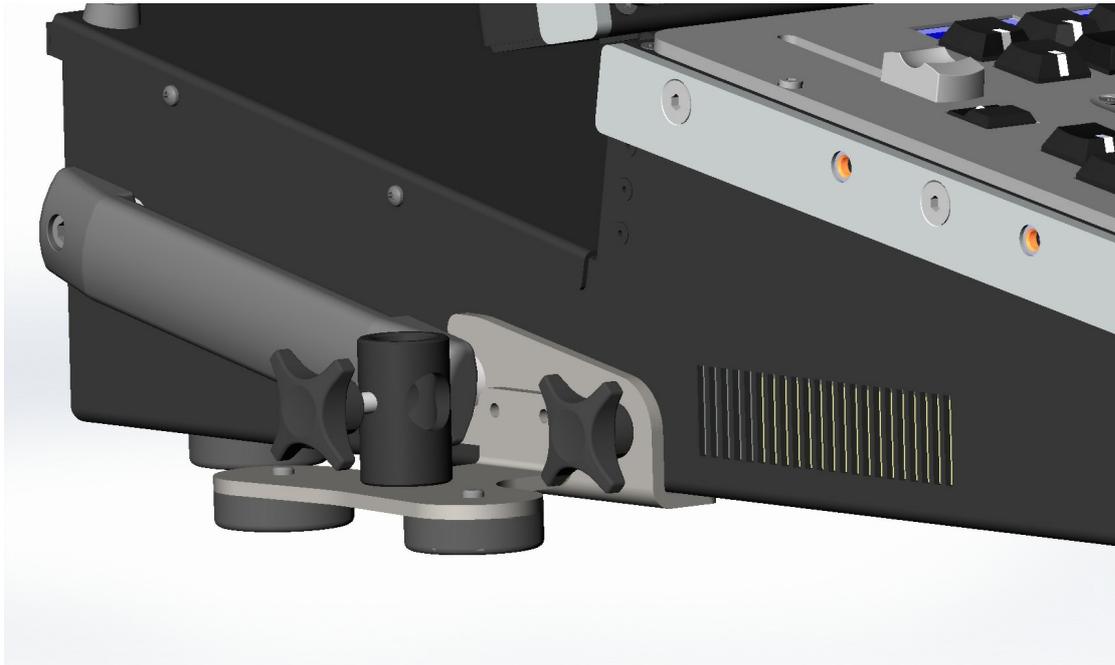
2. Manfrotto Magic Arm 244N <http://www.manfrotto.com/variable-friction-arm>

3. Martin M-Series Touch Screen Module PN 91613108 (or other VESA compatible screen)

To mount a screen place it on a flat surface. Position the thumbwheel sideways and attach the screen bracket with the supplied allen screws to the back of the screen and fasten them tightly.



Next, attach the console bracket to the side of the console just under the carrying handle and screw down the thumbwheel for a tight fit.
The feet of the bracket have to be supported by the same flat and even surface the console is standing on.



Place the Magic Arm into the back of the screen mount and tighten the thumbscrew to it fits the ridge in the pin of the arm. Then place the screen and arm into the mounting hole on the console bracket. Use one hand to stabilize the screen and move it into a rough position, then tighten the center screw of the Magic Arm down so the screen does not move. Adjust the screen position as necessary for a comfortable working position.



Connect the provided cable to the M6. Make sure the console is turned off before connecting the cable. First, connect the USB connection to the back of the desk, then connect the USB connection to the back of the screen.

Next, connect the Display Port connection on the desk, then the screen.

Lastly, connect the 10-pin power plug to the screen, then to the desk.

Power up the console and confirm proper operation. The dimensions of the external screen may have to be adjusted using the Display Settings menu in the M6.

Accessory Mounts

The left and right edge of the M6 allow mounting of various support arms. Solutions can be found for keyboard holders, drink holders, paper clips, camera mounts and others.

Martin does not sell such accessories, they have to be provided by the user.

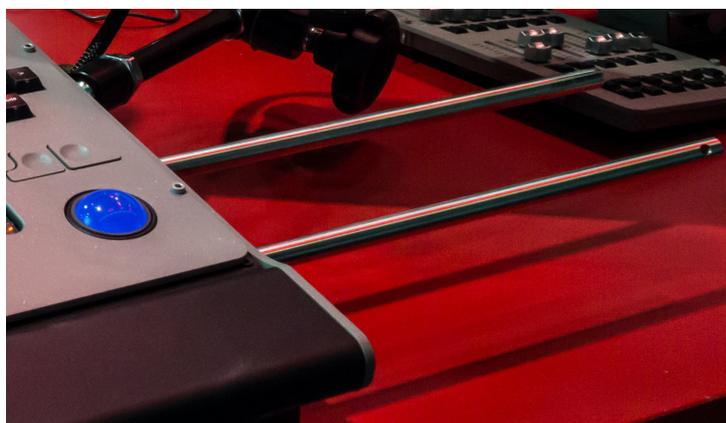
The accessory points are provided as 1/4"-20 threads, commonly found on the bottom of cameras to mount tripods.

The maximum depth of the screw is 10mm, or 3/8 of an inch. Each side has three support points

Examples

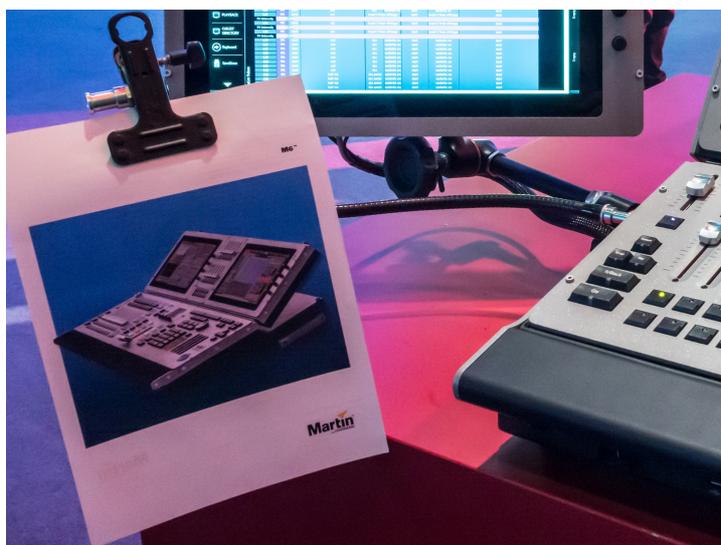
The provided links are suggestions where to find such accessories. Martin is not associated with these companies. Any arms and holders utilizing the 1/4"-20 thread will work. Some items may not be available in all countries.

Keyboard holder (fits Apple Mini keyboard)



2x [6" stainless steel rod](#)

Paperclip or Camera



RAM Mount

<http://www.rammount.com/>

RAM Mounts offers a large variety of mounting options in the "B" size series.

1" Ball with 1/4"-20 post



4" Arm



Once a 1" ball is attached to the desk, anything from RAM Mount can be used. Here are some basic examples:

Drink Holder or Ashtray



Tablets and iPad



Clipboard Case



Handling

Do not transport the M6™ without the factory-provided flightcase or another professionally designed case solution.

Only transport the flightcase laying flat with the factory label facing up and secure the M6™ safely.

The flightcase must be lifted by two people. Do not lift it alone.

Transport damage is not covered under warranty.

Place the flightcase on a flat, stable surface before opening. Open it carefully to avoid damaging the console. When lifting the console, support its weight by using the provided handle and holding it under the hand rest support.

The console must be lifted by two people. Do not lift it alone.

The controller needs to be placed onto a stable and flat surface so all four rubber feet are supported evenly.

Do not operate the screen mechanism when the console is not supported properly and never use the screen housing to lift the console.

Power Connections



The Martin M6™ accepts AC mains power at 100-240V 50/60Hz. Do not connect it to power outside this range. Damage resulting from incorrect connection is not covered under warranty.

Only use a Neutrik Powercon NAC3FCA cable connector for power input.

Install only a mains plug that meets local and national electrical codes and is suitable for the country's specific power outlet types. Refer to a certified electrician for any questions regarding a country's specific requirements. A 3-prong grounding-type (earthed type) plug must be installed following the plug manufacturer's instructions. The table below shows some possible pin identification schemes; if the pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

Wire color (standard EU code)	Pin	Symbol
brown	live	L
blue	neutral	N
yellow/green	ground	

1. Check that the power switch is set to the **OFF** position before connecting the cable.
2. Turn on the desk by toggling the power switch on the front to the ON position.\

Included Items

Each M6™ console contains the following items:

- M6™ Controller
- Dust Cover
- Road Case
- Operating System Installation Media
- Safety and Installation Manual
- 1 Year free MSD Gold On Dedicated One Key

M6 Safety Information

This product is for professional use only. It is not for household use. It presents risks of lethal or severe injury due to electric shock. Read this user manual before powering or installing the console, follow the safety precautions listed below and observe all warnings in this manual and printed on the product. If you have questions about how to operate the product safely, please contact your Martin™ supplier or call the Martin™ 24-hour service hotline on +45 8740 0000.

This product is for indoor use ONLY.

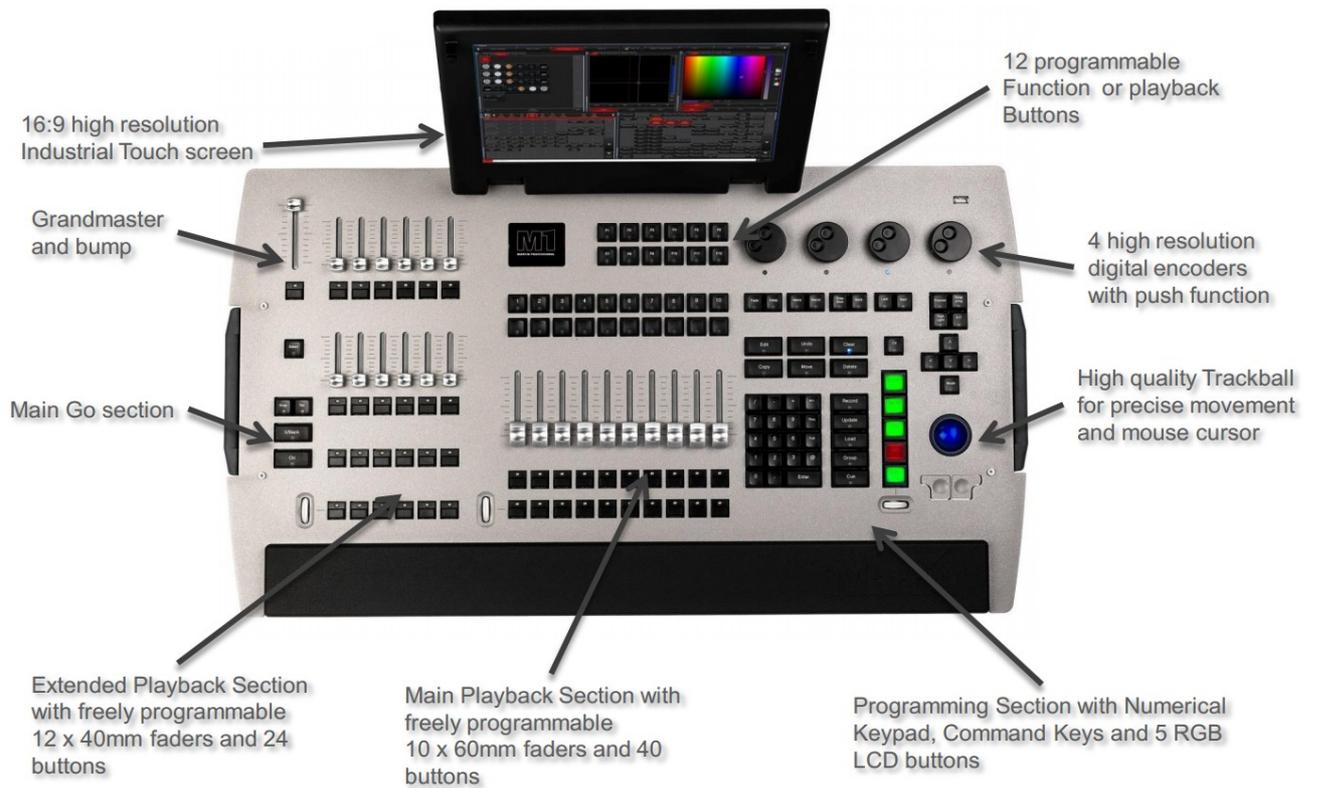
- Ensure that the power supply is electrically grounded (earthed). Do not use ground lift adapters.
In Finland: "Laitte on liitettava suojaadoituskoskettimilla varustettuun pistorasiaan"
In Norway: "Apparatet må tilkoples jordet stikkontakt"
In Sweden: "Apparaten skall anslutas till jordat uttag"
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Power input and cables must be rated 20 A minimum, have three conductors 1.5 mm² (16 AWG) minimum conductor size and an outer cable diameter of 5 - 15 mm (0.2 - 0.6 in.). Cables must be hard usage type (SJT or equivalent) and heat-resistant to 90° (194° F) minimum. In the EU the cable must be HAR approved or equivalent.
- Use only Neutrik PowerCon NAC3FCA cable connectors to connect to power input sockets.
- Isolate the fixture from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed, wet or showing signs of overheating. Do not reapply power until repairs have been completed.
- Do not expose the product to rain or moisture.
- Allow free unobstructed airflow around the product. Do not block the ventilation slots.
- Operate the console only on a stable and solid surface.
- Do not use the product if the ambient temperature exceeds 40°C (104° F)
- Refer any service operation not described in this manual to a qualified technician.
- Do not modify the product or install other than genuine Martin parts.
- Transport the product only in a custom fitted road case. Transportation damage is not covered under warranty.
- Protect the integrated touchscreens from sharp objects and operate the screens using a finger only.
- Caution: Risk of fire and electrical Shock. Use only in dry locations.
- Caution: Risk of explosion if CMOS battery is replaced with an incorrect type. Dispose of used batteries according to local environmental regulations
- Caution: Do not expose CMOS battery to excessive heat from sun or fire.

WARNING: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

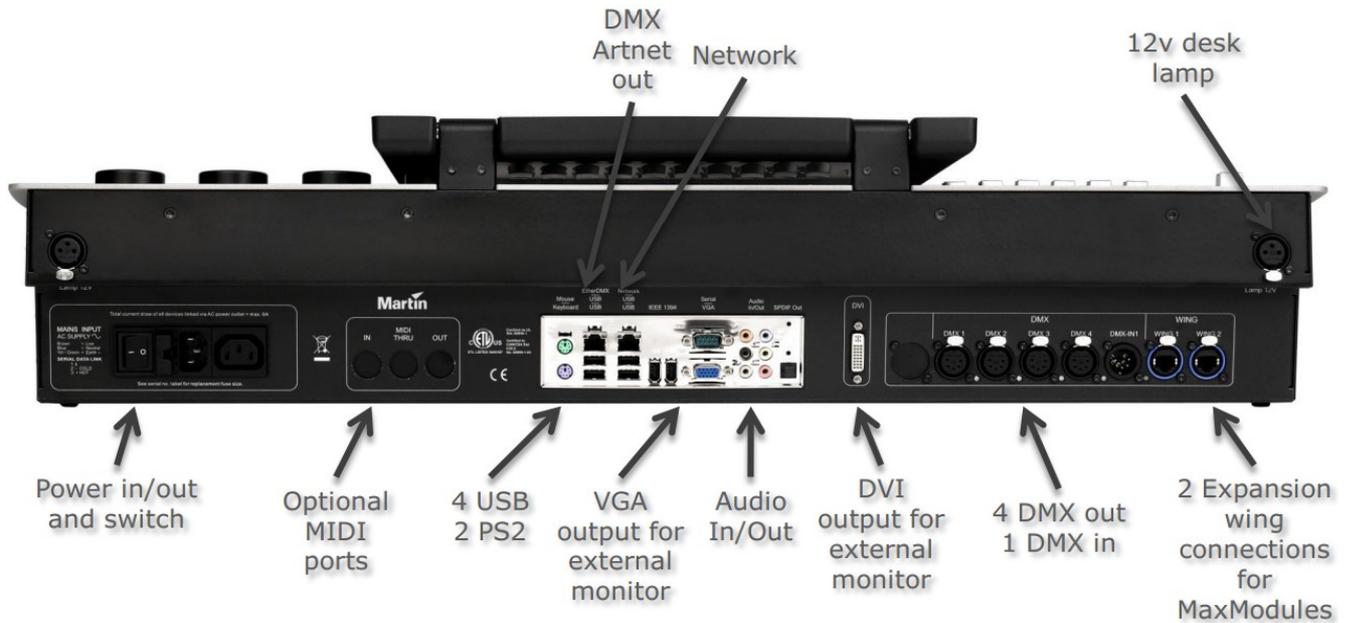
M1



Navigating the surface



Connections



Power Connections



Martin M1 is rated 100-240V 50/60Hz, operates over 90-264V 50/60Hz. Do not connect it to power outside this range.

The provided IEC cable is not fitted with a country-specific plug.

Please install a plug that meets local and national electric codes and is suitable for the country's specific power outlet types.

A 3-prong grounding-type plug must be installed following the plug manufacturer's instructions. The table below shows some possible pin identification schemes; if the pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

A cable with a NEMA 15-5P plug is provided for use of the M1 in the US and Canada. The approved cable must be used in North America.

Wire color (standard EU code)	Pin	Symbol
brown	live	L
blue	neutral	N
yellow/green	ground	

1. Check the Power Switch and ensure that is set to the OFF position.
2. Insert the provided power cable into the **MAINS IN** connector and connect the cable to a properly protected and grounded power outlet.
3. Turn on the M1 by toggling the power switch to ON.

In addition to the IEC inlet the M1 also provides a IEC outlet port to connect a monitor or a MaxModule device.



Do not exceed a current-draw of 4A on the IEC outlet port.

Included Items

Each Martin M1 contains the following items:

- M1 Controller
- 1.5 m (4.9 ft.) power cable, 3-pin IEC P/N 11501012 (for use outside the US and Canada)
- 1.5 m (4.9 ft.) power cable, 3-pin IEC P/N 11501502 (with NEMA 15-5P plug for use within the US and Canada)
- Two 2 AT fuses, installed
- User manual (Part number 35000233)

M1 Safety Information

This product is for professional use only. It is not for household use. It presents risks of lethal or severe injury due to electric shock. Read this user manual before powering or installing the M1, follow the safety precautions listed below and observe all warnings in this manual and printed on the product.

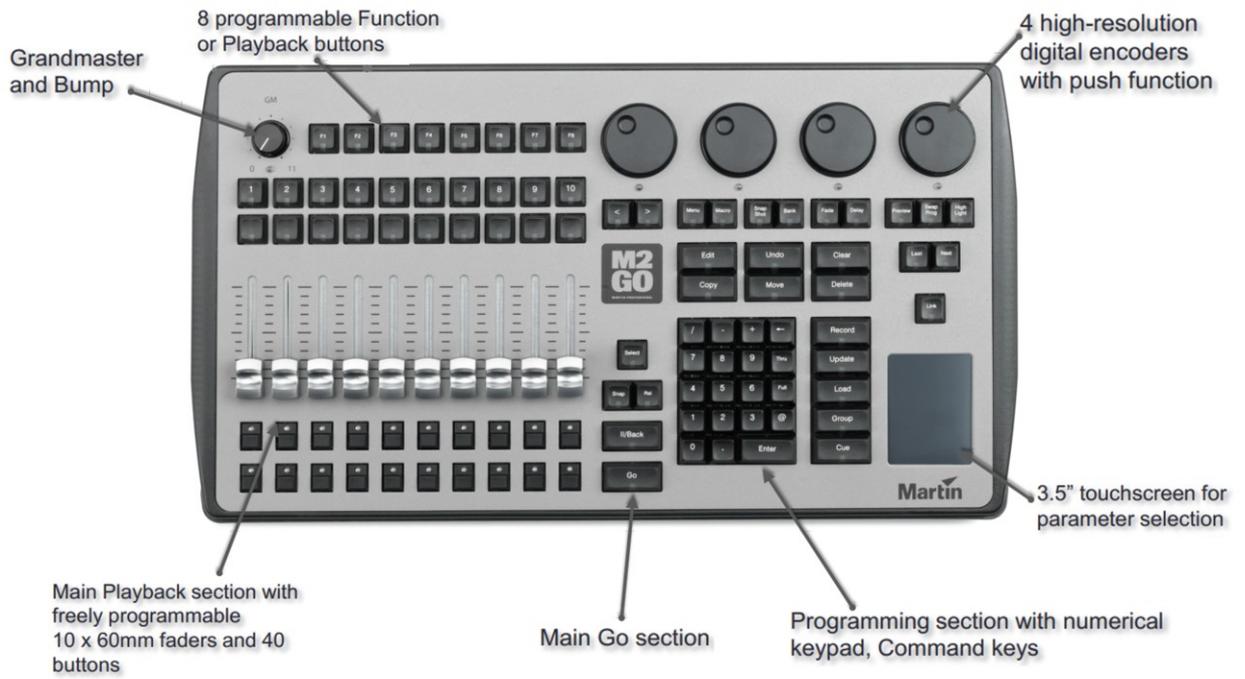
If you have questions about how to operate the product safely, please contact your Martin supplier or call the Martin 24-hour service hotline on +45 8740 0000, or in the USA on 1888-tech-180.

- Connect the product electrically to ground (earth).
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Use the supplied power cords and choose the correct one for the country of operation. Use of the factory provided power cable is mandatory for operation in the US and Canada.
- Replace fuses with ones of the same type and rating only. Never attempt to bypass a fuse.
- Disconnect the product from power immediately if the power cable or any cover or component is wet or not in perfect condition. Do not reconnect to power until the damaged item has been repaired or replaced.
- Do not expose the product to rain or moisture.
- Allow free unobstructed airflow to the sides of the product. Do not block the ventilation slots.
- Do not use the product if the ambient temperature exceeds 40°C (104° F)
- Refer any service operation not described in this manual to a qualified technician.
- Do not modify the product or install other than genuine Martin parts.
- Only transport in suitable packaging or a custom fitted road case. Transportation damage is not covered under warranty.
- Caution: Risk of Fire and Electrical Shock. Use only in dry locations.
- Caution: Risk of Explosion if Battery is replaced by an incorrect type. Dispose of used batteries according to local environmental regulations.

M2GO - M2PC



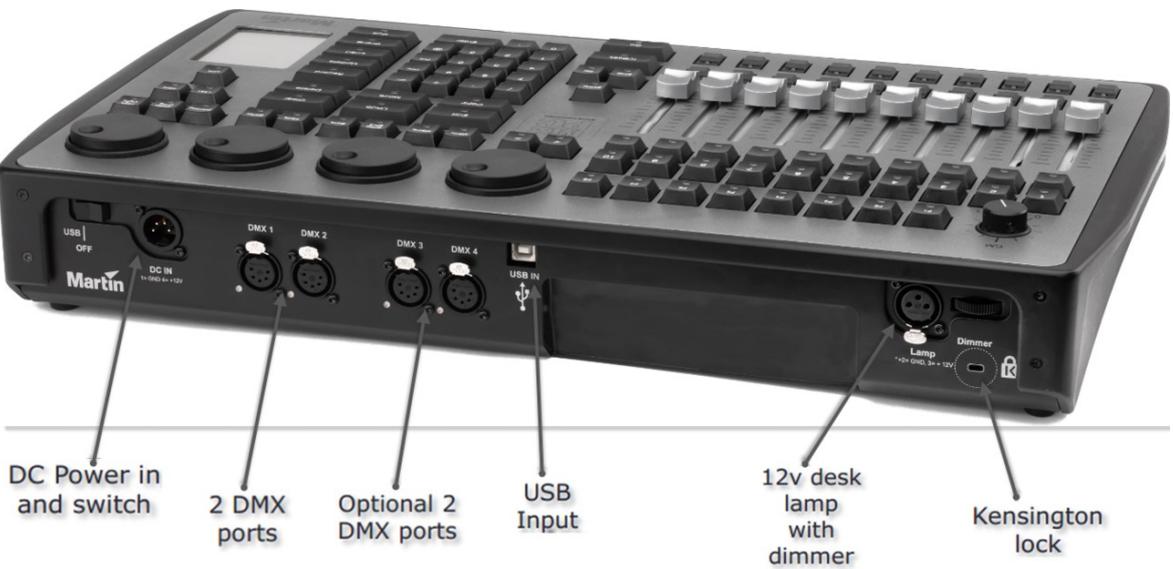
Navigating the surface



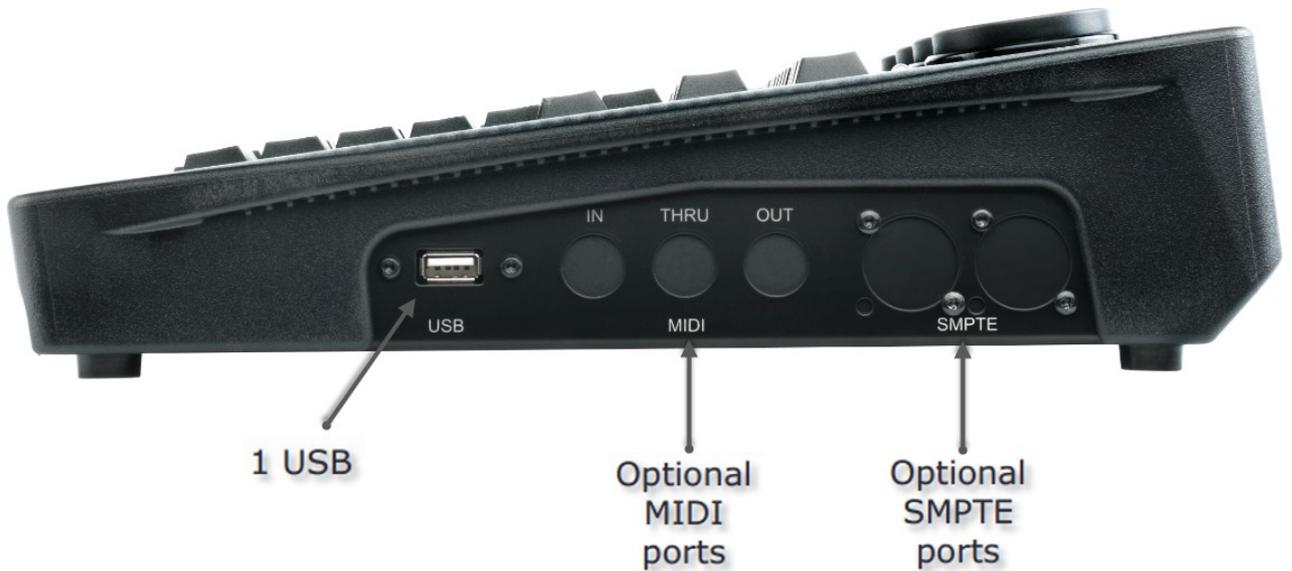
Connections



M2GO Rear Panel



M2PC Rear Panel



M2GO/M2PC Side Ports

Power Connections



Martin M2GO - M2PC accepts AC mains power at 100-240V 50/60Hz. Do not connect it to power outside this range. Damage resulting from incorrect connection is not covered under warranty.

North America: A cable with a NEMA 15-5P plug is provided for use with the M2GO - M2PC in the USA and Canada. This approved cable must be used in North America.

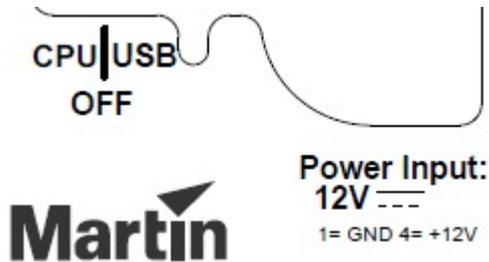
Rest of the world: The provided IEC cable is not fitted with a country-specific plug.

Install only a plug that meets local and national electrical codes and is suitable for the country's specific power outlet types. Refer to a certified electrician for any questions regarding a country's specific requirements.

A 3-prong grounding-type (earthed type) plug must be installed following the plug manufacturer's instructions. The table below shows some possible pin identification schemes; if the pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

Wire color (standard EU code)	Pin	Symbol
brown	live	L
blue	neutral	N
yellow/green	ground	

1. Check the power switch and ensure that it is set to the center **OFF** position.



2. Insert the XLR 4-pin connector from the power supply unit into the power input on the back of the desk
3. Insert the provided power cable into the IEC connector of the power supply unit and connect the cable to a properly protected and grounded power outlet.
4. M2GO: Connect an external touch-enabled monitor, e.g. ELO 2201L with both the video and USB connections.
M2PC: Connect the USB cable to the PC system
5. Turn on the desk by toggling the power switch to the **CPU** position (M2GO) or **USB** position (M2PC)

6.

Included Items

Each package contains the following items:

- M2GO or M2PC Controller
- Protective cover
- External power supply unit with locking 4pin XLR connector
- LED desk lamp
- 1.5 m (4.9 ft.) power cable, 3-pin IEC P/N 11501012 (for use outside the USA and Canada)
- 1.5 m (4.9 ft.) power cable, 3-pin IEC P/N 11501502 (with NEMA 15-5P plug for use within the USA and Canada)
- USB cable
- Safety and Installation Manual

M2GO/M2PC Safety Information

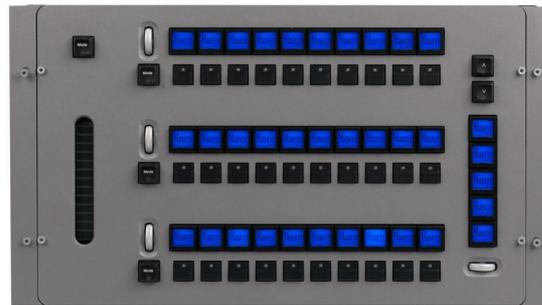
This product is for professional use only. It is not for household use. It presents risks of lethal or severe injury due to electric shock. Read this user manual before powering or installing the console, follow the safety precautions listed below and observe all warnings in this manual and printed on the product.

If you have questions about how to operate the product safely, please contact your Martin supplier or call the Martin 24-hour service hotline on +45 8740 0000, or in the USA on 1888-TECH-180.

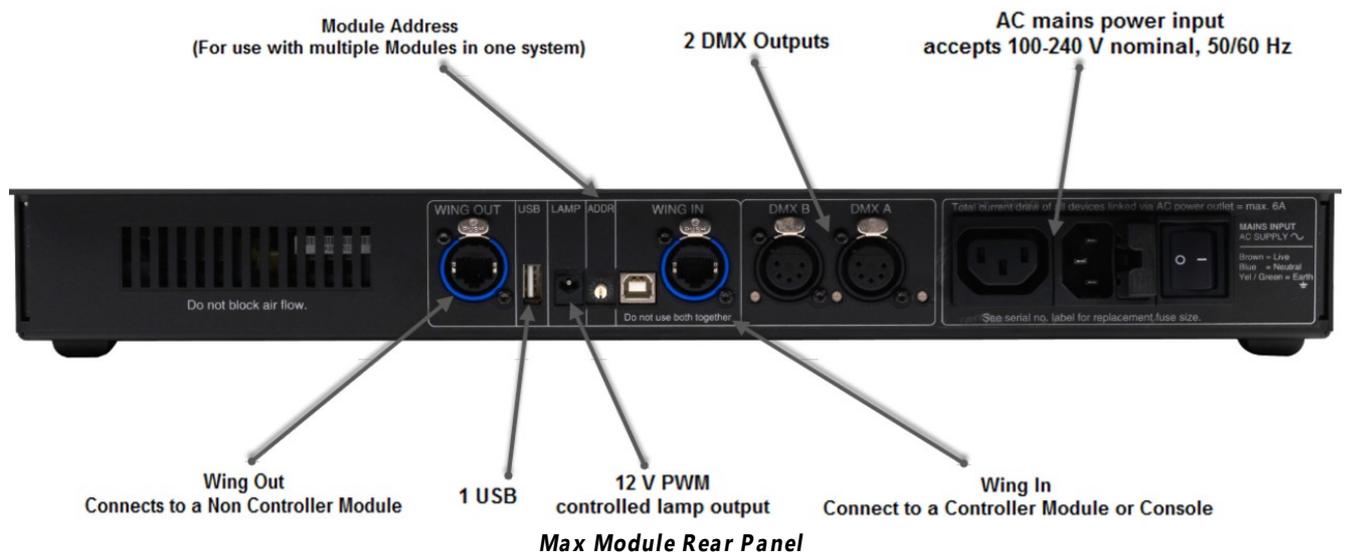
This product is for indoor use ONLY.

- Ensure that the power supply is electrically grounded (earthed) . Do not use ground lift adapters.
In Finland: "Laite on liitettava suojamaadoituskoskettimilla varustettuun pistorasiaan"
In Norway: "Apparatet må tilkoples jordet stikkontakt"
In Sweden: "Apparaten skall anslutas till jordat uttag"
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Use only the provided AC power supply and power cords and use the correct connector for the country of operation. Use of the factory provided power cable is mandatory for operation in the US and Canada.
- Disconnect the product from power immediately if the power supply or cable or any cover or component is wet or not in perfect condition. Do not reconnect to power until the damaged item has been repaired or replaced.
- Do not expose the product to rain or moisture.
- Allow free unobstructed airflow to the bottom and back of the product. Do not block the ventilation slots.
- Operate the console only on a stable and solid surface.
- Do not use the product if the ambient temperature exceeds 40°C (104° F)
- Refer any service operation not described in this manual to a qualified technician.
- Do not modify the product or install other than genuine Martin parts.
- Transport the product only in suitable packaging or a custom fitted road case. Transportation damage is not covered under warranty.
- Protect the internal touch screen from sharp objects and operate the screen using a finger only.
- Caution: Risk of fire and electrical Shock. Use only in dry locations.
- Caution: Risk of explosion if CMOS battery is replaced by an incorrect type. Dispose of used batteries according to local environmental regulations
- Caution: Do not expose CMOS battery to excessive heat such as sunshine or fire.

M-Series Modules



Connections



Note: 2 DMX Outputs are optional on Modules post April 2013.

Playback



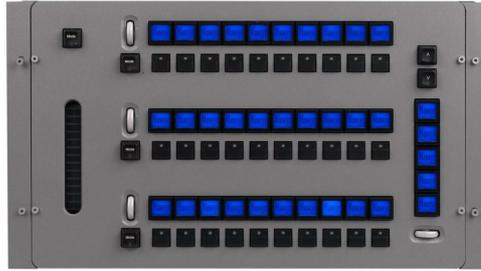
M-Series Module Playback II

Using the same high quality faders and buttons as the M6 Console, the Playback module adds 10 motorized faders with 10 PlayPairs, a Master Go section, Grand Master and 5 Programmable function keys extending the playback capabilities of any M-Series console. Up to 16 Playback modules can be added to any M-Series Module Cerebrum, Maxxyz console, M1, M6, M2GO, M2PC and M-PC. Like the other M-Series Modules, the Playback module comes optionally with 2 built-in DMX ports - the perfect playback console.

The M-Series Playback Module II can be ordered without the baseplate for installation into an M6 console. This version can only be used when installed in the M6 console frame.

- 10 x motorized playback faders, each with 4 function-assignable buttons.
- 10 x pause/back buttons
- 10 x select buttons
- 10 x go buttons
- 10 x flash buttons
- 5 x Programmable function keys
- Master Go section
- Grand Master Section

Button



M-Series Module Button

The M-Series Module Button is a dream come true for any lighting console operator. With an ever-increasing demand for more direct access on live shows, the Button module offers up to 30 customizable direct access buttons. Each row of 10 LCD buttons, 10 flash buttons is individually assignable to cuelists, groups, fixtures or presets and one scroll wheel for direct access to other banks, pages or rows. A set of 5 LCD buttons, 2 Up/Down keys and a scroll wheel provide direct access to functionalities related to each row of buttons. A convenient encoder belt gives flexible access to such features as time, speed and future options. The Button module - like the other M-Series Modules, the Button module comes optionally with 2 built-in DMX ports - the perfect busking module. The M-Series Module Button also works with the new Maxedia 4 software to recall cues, transitions and other functions. The built-in encoder belt can be assigned as manual dissolver between cues as well as setting transition time and intensity.

The M-Series Button Module can be ordered without the baseplate for installation into an M6 console. This version can only be used when installed in the M6 console frame.

- 3 rows of 10 x LCD function buttons
- 5 x LCD navigation buttons with scroll wheel
- Digital fader belt for intensity, speed and timing controls
- Mode buttons for assigning operating mode to each row
- Playback button mode and fixture, group and preset selection modes available

Submaster

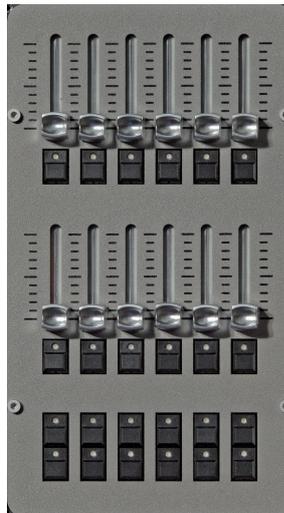


M-Series Module Submaster

The M-Series Module Submaster provides the user with an additional 24 handles of controls for cuelists, overrides, submasters or inhibitives. Combined with a M-Series Module Cerebrum, Maxxyz Console, M1, M6, M2GO, M2PC or MPC the Submaster module makes it very easy and relatively inexpensive to build a 24, 48 or even 96 fader desk with full moving light capabilities. Multiple pages of 24 faders can be recalled at any time. Like the other M-Series Modules, the Submaster module comes optionally with 2 built-in DMX ports - the perfect startup theater console.

The M-Series Module Submaster can be ordered without the baseplate for installation into an M6 console. This version can only be used when installed in the M6 console frame.

- 24 x non-motorized faders with single function button (every cuelist type supported)
- 40-character display for labeling
- 5 x LCD navigation buttons with scroll wheel



**M-Series Module
Submaster Narrow**

The Narrow Submaster Module provides the user with 24 additional playbacks inside the M6 frame for cuelists, channels, submasters or inhibitives. It can be mounted in six different positions, allowing an optimized layout for any task.

- 12 x 40 mm faders with single function button (every cuelist type supported)
- 12 x button playbacks
- Dual-color LED feedback

Transition Module



***M-Series Transition
Module***

The Transition Module has a high-quality split T-bar mechanism with interlock for precision control of parameters and cue transitions. The additional RGB buttons and fast dial encoders are customizable to a variety of console functions, increasing speed of operation and programming. This module can only be used when installed in an M6 console frame.

- Split T-Bar with interlock
- 8 RGB push buttons
- 3.5" touch display
- 4 Rotary Encoders with push functionality

M-PC



Recommended PC System for MPC

The M2PC is designed to be operated with an external PC system that utilizes a touch screen.

Without the touchscreen the system will provide a poor user experience and is difficult to use.

The PC should meet these minimum recommendations:

- Windows 7 Operating System
- Intel Core i5 processor
- USB 2.0 connection
- 4GB RAM
- 1280x800 resolution touchscreen

Martin recommend a 16:9 ELO touchscreen with iTouch technology.

A recommended screen is the ELO 2201L (part number E382790) which is available worldwide through ELO retail partners.

<http://www.elotouch.com/Products/LCDs/2201L/>

Other screens may be verified, please check www.martin.com for further recommendations.

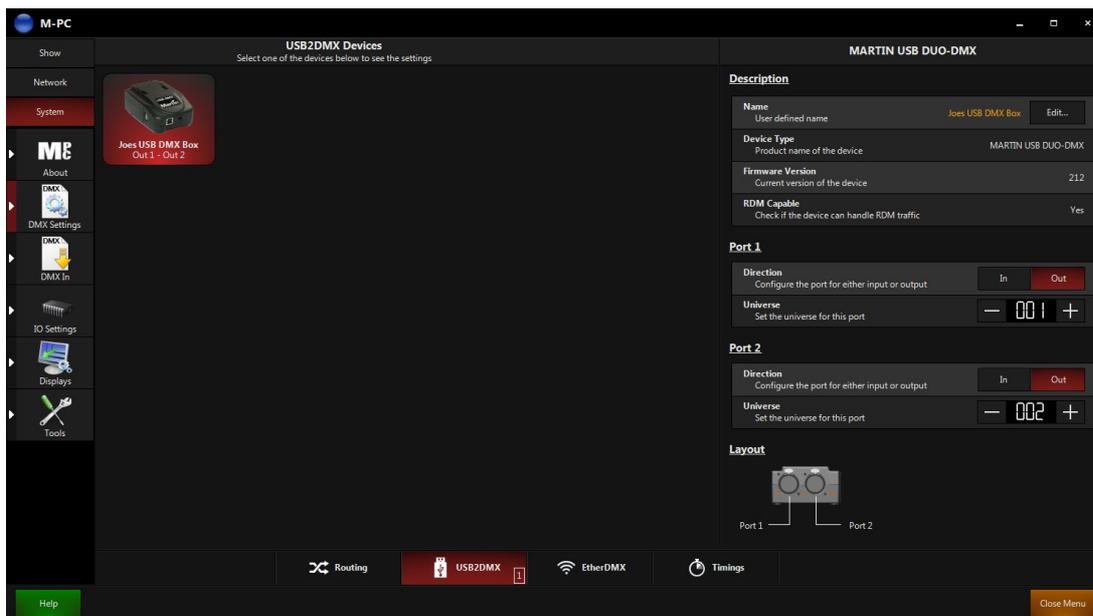
Free Edition

The Free Edition of M-PC was designed to open the M-Series platform to a wider audience and allows educational environments, or anyone with a limited budget, access to a leading professional lighting control system via a simple download.

There are 3 ways to run M-PC for free:

- Using any Art-Net compatible device, Universe 1 is accessible for free.
- Using any Martin Universal or Duo DMX device, Universes 1 and 2 are accessible for free.
- Additionally, Martin has partnered with **ENTTEC** to support their popular range of USB-DMX converters for the M-PC Free Edition, including the new ENTTEC USB-DMX Pro MK2.

Connected Martin Universal or DUO DMX devices can be configured in the USB2DMX area of the Menu as shown below.



Enttec Devices

Before any Enttec devices can be used with M-PC you must install any drivers that came with the device or update them in the Windows Device Manager. In the windows Device Manager, the Enttec device the Enttec Device will show up as "USB Serial Converter" in the "Universal Serial Bus controllers" Section. Right click on the "USB Serial Converter" and ensure "Load VCP" is selected.

To set up your Enttec device to output DMX from M-PC:

1. Access the Menu
2. Navigate to the "Show" Tab
3. Navigate to the "General" Section
4. Navigate to the "Advanced" Page
5. At the bottom of the "Advanced" Page there is a section for Enttec
6. Select the appropriate "Mode"
7. Press "Refresh"
8. Navigate to the "System" Tab
9. Navigate to the "DMX Settings" Section
10. Navigate to the "USB2DMX" Page - Your Enttec Device should be visible here.

The Enttec device will now output DMX to fixtures patched on universe 1.

Keyboard Shortcuts

Ctrl + KEY (Latched using Scroll Lock: When on, Ctrl does not need to be pressed)

A	@	Delete	Clear
B	Bank	Shift+Delete	Delete
C	Copy	Pg Up	Next
D	Delay Time	Pg Down	Last
E	Edit	Space Bar	Main GO
F	Fade Time	Backspace	β
G	Group	TAB	Main Pause/Back
H	Highlight	>.	.
I	Full	?/	/
J	Previous Bank	Home	Snap
K	Next Bank	End	Release
L	Load	Home+End	Snap+Rel
M	Move	End+Home	Rel+Snap
N	Undo	-	-
O	Macro	+	+
P	Preview (Blind)	Enter	Enter
Q	Cue		CV Mode (Future)
R	Record		Programmer Mode (Future)
S	Save Show		Arrow Mode (Future)
T	Thru		
U	Update		
V	Playback View (Future)		
W			
X	Menu		
Y	Belt Resolution (Toggle Modes)		
Z	Snapshot (Future)		

Other Shortcuts

Ctrl + F1	Select Screenview 1/9	F1	User Definable
Ctrl + F2	Select Screenview 2/10	F2	User Definable
Ctrl + F3	Select Screenview 3/11	F3	User Definable
Ctrl + F4	Select Screenview 4/12	F4	User Definable
Ctrl + F5	Select Screenview 5/13	F5	User Definable
Ctrl + F6	Select Screenview 6/14	F6	User Definable
Ctrl + F7	Select Screenview 7/15	F7	User Definable
Ctrl + F8	Select Screenview 8/16	F8	User Definable
Ctrl + F9	Toggle View Bank	F9	User Definable
		F10	User Definable
		F11	User Definable
		F12	User Definable

Playback Keys

Alt + 1	Select Fader 1 (LCD)	Ctrl + 1	Fader 1 (Top Row)	Ctrl + Shift + 1	Fader 1 (Top Row)
Alt + 2	Select Fader 2 (LCD)	Ctrl + 2	Fader 2 (Top Row)	Ctrl + Shift + 2	Fader 2 (Top Row)
Alt + 3	Select Fader 3 (LCD)	Ctrl + 3	Fader 3 (Top Row)	Ctrl + Shift + 3	Fader 3 (Top Row)
Alt + 4	Select Fader 4 (LCD)	Ctrl + 4	Fader 4 (Top Row)	Ctrl + Shift + 4	Fader 4 (Top Row)
Alt + 5	Select Fader 5 (LCD)	Ctrl + 5	Fader 5 (Top Row)	Ctrl + Shift + 5	Fader 5 (Top Row)
Alt + 6	Select Fader 6 (LCD)	Ctrl + 6	Fader 6 (Top Row)	Ctrl + Shift + 6	Fader 6 (Top Row)
Alt + 7	Select Fader 7 (LCD)	Ctrl + 7	Fader 7 (Top Row)	Ctrl + Shift + 7	Fader 7 (Top Row)
Alt + 8	Select Fader 8 (LCD)	Ctrl + 8	Fader 8 (Top Row)	Ctrl + Shift + 8	Fader 8 (Top Row)
Alt + 9	Select Fader 9 (LCD)	Ctrl + 9	Fader 9 (Top Row)	Ctrl + Shift + 9	Fader 9 (Top Row)
Alt + 0	Select Fader 10 (LCD)	Ctrl + 0	Fader 10 (Top Row)	Ctrl + Shift + 0	Fader 10 (Top Row)

Ctrl + Home + 1	Snap Forward Fader 1	Ctrl + Home + Shift + 1	Snap Back Fader 1	Ctrl + End + 1	Release Fader 1
Ctrl + Home + 2	Snap Forward Fader 2	Ctrl + Home + Shift + 2	Snap Back Fader 2	Ctrl + End + 2	Release Fader 2
Ctrl + Home + 3	Snap Forward Fader 3	Ctrl + Home + Shift + 3	Snap Back Fader 3	Ctrl + End + 3	Release Fader 3
Ctrl + Home + 4	Snap Forward Fader 4	Ctrl + Home + Shift + 4	Snap Back Fader 4	Ctrl + End + 4	Release Fader 4
Ctrl + Home + 5	Snap Forward Fader 5	Ctrl + Home + Shift + 5	Snap Back Fader 5	Ctrl + End + 5	Release Fader 5
Ctrl + Home + 6	Snap Forward Fader 6	Ctrl + Home + Shift + 6	Snap Back Fader 6	Ctrl + End + 6	Release Fader 6
Ctrl + Home + 7	Snap Forward Fader 7	Ctrl + Home + Shift + 7	Snap Back Fader 7	Ctrl + End + 7	Release Fader 7
Ctrl + Home + 8	Snap Forward Fader 8	Ctrl + Home + Shift + 8	Snap Back Fader 8	Ctrl + End + 8	Release Fader 8
Ctrl + Home + 9	Snap Forward Fader 9	Ctrl + Home + Shift + 9	Snap Back Fader 9	Ctrl + End + 9	Release Fader 9
Ctrl + Home + 0	Snap Forward Fader 10	Ctrl + Home + Shift + 0	Snap Back Fader 10	Ctrl + End + 0	Release Fader 10

USB DUO DMX



The USB DUO DMX box, allows a user to add 2 extra physical DMX outputs to any M-Series system. The box itself doesn't hold any additional licenses for extra universes, it only provides the physical 5 pin outputs. The box can be configured to provide two extra outputs or two extra inputs or any combination of Input/Output. See [USB2DMX section](#) in regards to configuring connected USB DUO DMX boxes.

M-SYNC



The M-Sync is a simple USB device that allows SMPTE timecode to be input directly into any M-Series console - M1, M2GO, M2PC, M-PC, Cerebrum. The M-Sync USB device has two 3-pin XLR connectors for timecode In/Out supporting LTC timecode @ 24, 25, 29.97 and 30 frames per second. It can be connected to any USB port on a PC or M-Series console. M-Sync allows the M-Series software to read Linear Timecode (LTC) signals for perfect cue synchronization with external devices like sound or video playback systems. M-Sync requires zero configuration, Timecode specific configuration can be accessed via the Console Menu. See [Timecode section](#).

Martin One-Key



The Martin One-Key

Martin Professional One-Key is a future-proof concept in lighting software distribution that eliminates the inconvenience of storing software licenses in DMX hardware. This simple USB dongle can store one or more licenses and protects the software from illegal copies.

Martin One-Key simplifies software distribution, improves protection and protects investments. All Martin Professional PC-based applications will eventually share this same protection method.

No longer will software licenses be stored in DMX hardware that becomes obsolete after a few years, or worse becomes defective and renders the software unusable.

With Martin One-Key, adding new software is a few click process; no need to wait for a box to be delivered. In addition, Martin One-Key allows any user to try Martin Professional software for a 45-day trial period with full features.

Martin One-Key is currently bundled with the following products:

- LightJockey 2™ Kit
- M-PC-Basic 8™ universes Kit
- M-PC Pro 64™ universes Kit
- MSD5 Gold™
- MSD5 Live™
- MSD5 Live-4™
- P3-PC System Controller

Furthermore, owners of Martin One-Key can order additional software applications by purchasing a software-only license.

- LightJockey 2 (4 universe license code only)
- M-PC Basic (8 universe max license code only)
- M-PC Pro (64 universe max license code only)
- MSD5 licenses through www.martinshowdesigner.com

Ether2DMX8



Ether2DMX8 is a highly capable DMX router and much more! As a DMX router, it translates Art-Net protocol into DMX in/out universes but can also be used as a DMX merger, DMX splitter hub, fail safe device, cue playback, and DMX viewer monitor. As an extension for the M1 and M2GO console it provides 8 additional DMX ports and includes the required DMX license. When connected to a standalone PC, the Ether2DMX8 also becomes the license key for M-PC and provides 8 DMX Universes.

Please note that the Ether2DMX8 does NOT unlock Universes on the M6 console.

Setting the Ether2DMX8 unit into Art-Net output mode for use with a Console:

Mx Series - The preset is used for DMX output on all 8 ports from any Artnet source using the 2.x.x.x address range. This includes all M-Series Consoles and many other lighting controllers in the market.

The Factory Presets are accessed in Menu #1. Use the MENU key to start the navigation, then press ENTER to enter Menu #1.

Use the arrow keys to navigate to the "Factory Presets" section
 Use the arrow keys to navigate to the "Mx Series" preset option
 Press Enter.

Use the up and down arrows to set the desired Universe range. Confirm with OK (Enter button)

DMX 1	DMX 2	DMX 3	DMX 4	DMX 5	DMX 6	DMX 7	DMX 8
DMX Out							

IP Address 2.x.x.x
 Subnet: 255.0.0.0

Note: Connected Ether2DMX8 units can be configured remotely on an M-Series console via the Network menu. See the **Art-Net Devices** section.

Additional DMX Universes

Adding more universes to an M-Series system can be achieved in a number of ways. Each console is capable of a maximum amount of universes based on its internal processor power. The table below shows the limit of available universes for the M-Series Consoles.

Console	Amount of standard universes	Available with additional licenses
M6	4 Universes	64 Universes
M1	4 Universes	32 Universes
M2GO	4 Universes	8 Universes
M2PC	4 (2 physical DMX ports)	64 Universes
M-PC	2 (Free Edition)	64 Universes
Ether2DMX8	8	up to 64 with additional Ether2DMX8 or Martin One-Key with M-PC

License expansions can be added to an M-Series system at any time.

The table below shows the various options.

License are additive, adding 8+4 Universes will add a total of 12 etc.

The system architecture of the M-Series does not require additional processors or hardware. All calculations are done inside the desk itself and made available to DMX ports and over Artnet.

Item	Part Number
4 Universe License pack (M1 and M2GO)	39808013
8 Universe pack (M6)	39808034
16 Universe pack (M6)	39808035
32 Universe pack (M6)	39808036
64 Universe pack (M6)	39808037

License packs are programmed into the hardware itself and do not reset on software or Operating System installs.

For adding licenses follow the instructions for the [System Menu](#).

Note: additional Universes made available from an Martin One-Key or other M-Series device must remain connected to the system otherwise the extra universes will be removed.

Fixture Library Editor

The Fixture Library Editor is installed as part of MPC for offline use or can be accessed on the console via the menu.

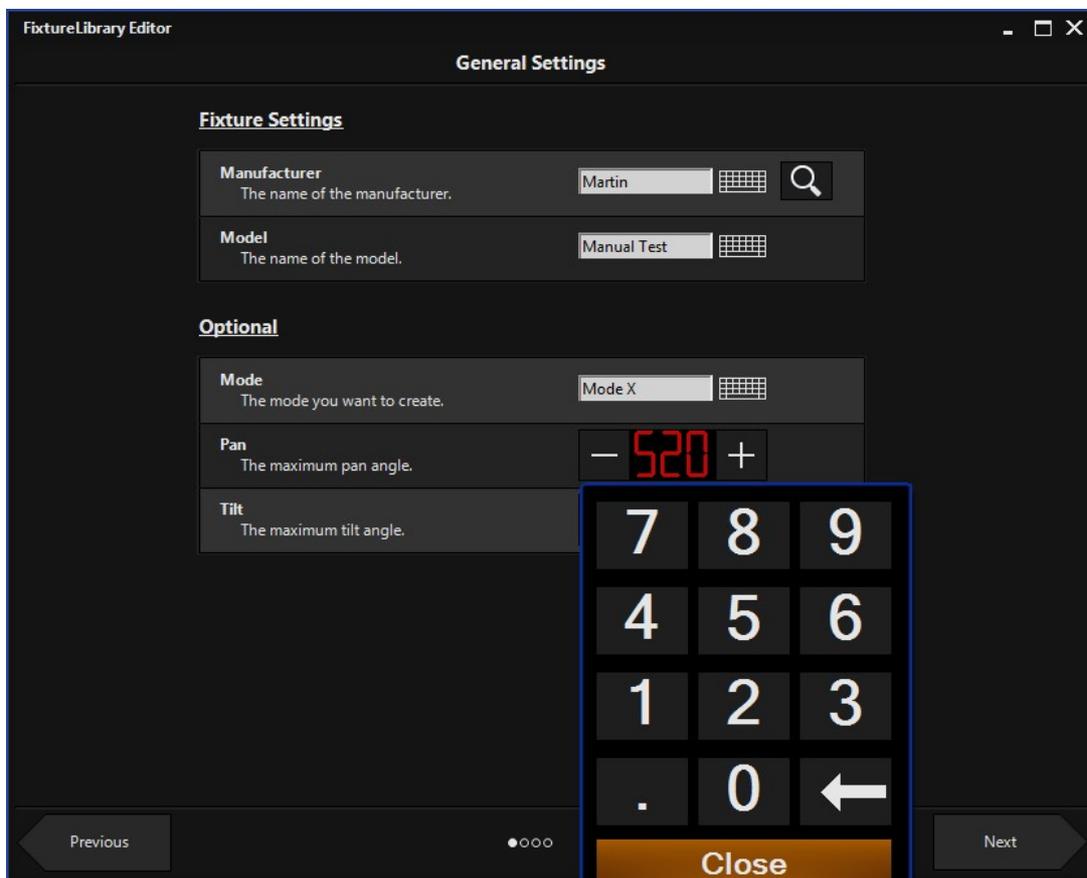
Accessing the Fixture Library Editor on the console

1. Access the Menu by pressing the "Menu" hard key, or by using the shortcut in the view menu in the top left corner of the screen.
2. Navigate to the "Show" tab.
3. Navigate to the "Info" tab.
4. Launch the Fixture Library Editor from the options.



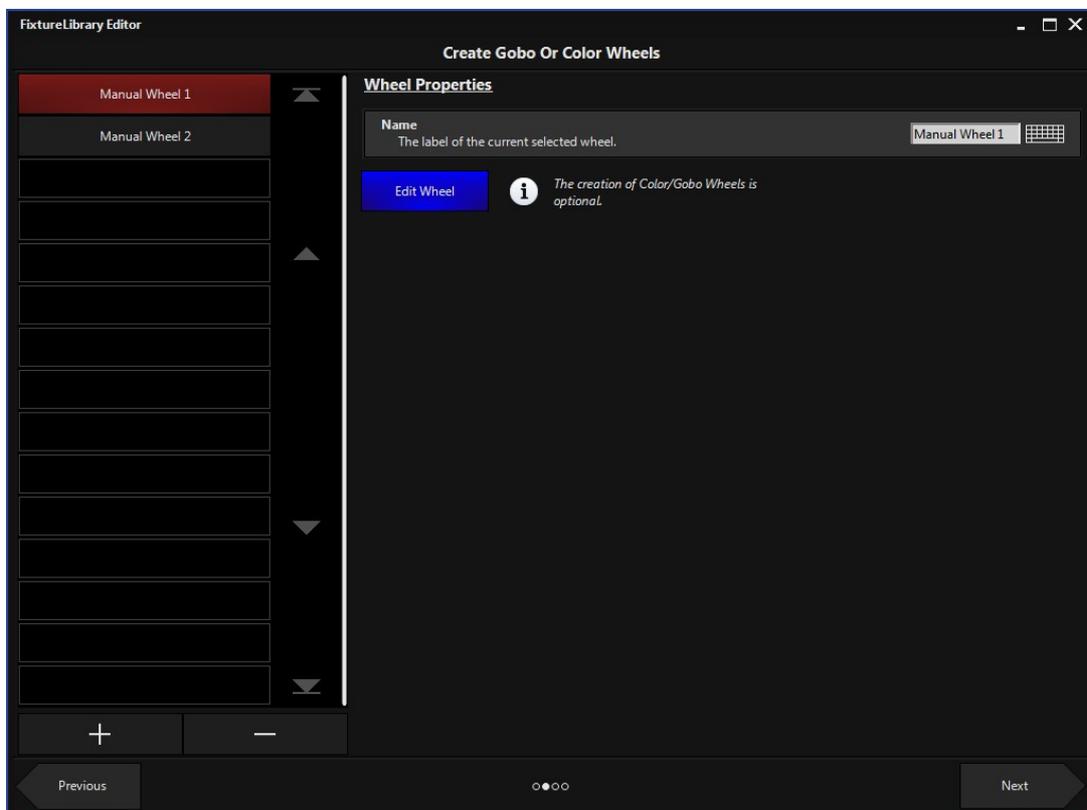
Creating a new Fixture

1. Select the "Create fixture" option from the startup screen.
2. On the first page of the builder are some options to fill in - name, manufacturer, model, mode maximum pan/tilt angles. Once these have been filled in, press the "Next" button in the bottom right of the screen.



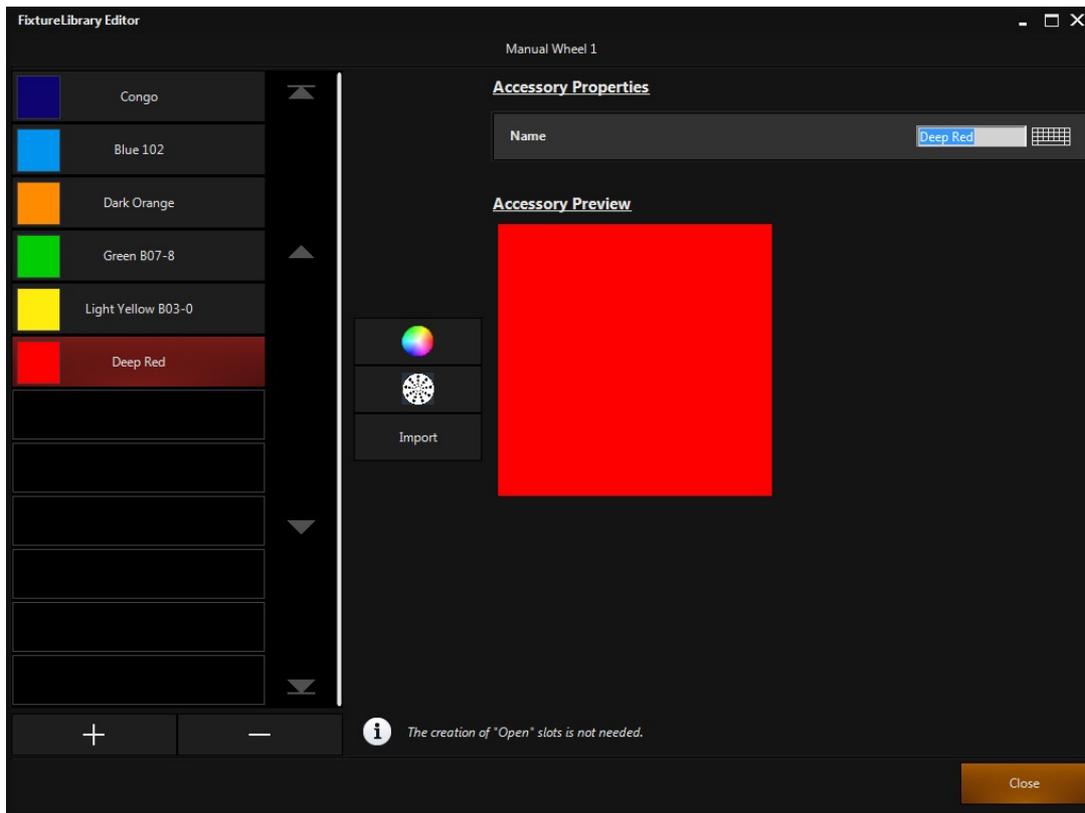
Note - double clicking on the Pan or Tilt angle number will allow you to type in a number on the keypad rather than use the + - buttons if you prefer.

3. The next page allows users to create the colour/gobo wheels used in the fixture. Use the + & - Buttons in the bottom left corner of the screen to add the desired amount of wheels. Select the first wheel by clicking on it and press the blue "Edit Wheel Button".

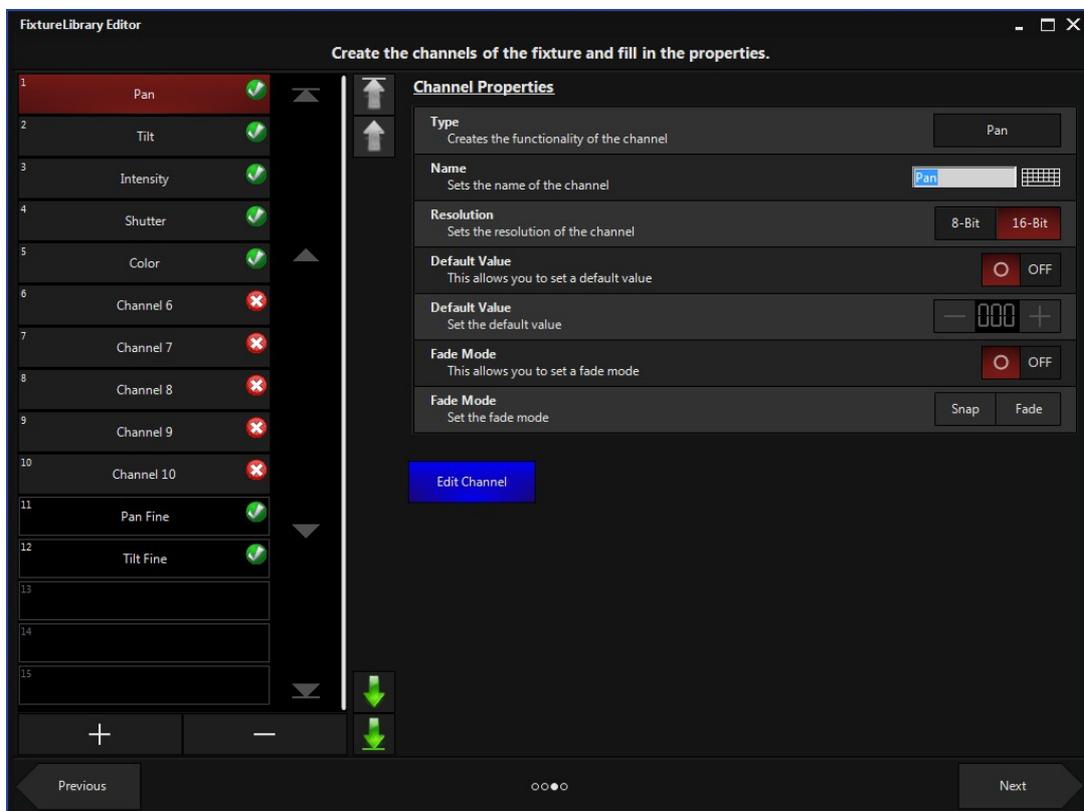


4. Once in the "Edit Wheel" window, again use the + & - buttons in the bottom left corner of the screen to add slots to the wheel. In this case, it is a colour wheel. Note that it is not needed to add an "Open" slot. In this window, you may rename the slots, choose a colour from the colour picker for each slot icon,

choose a colour or gobo image from a predefined library or import your own images for the slot.



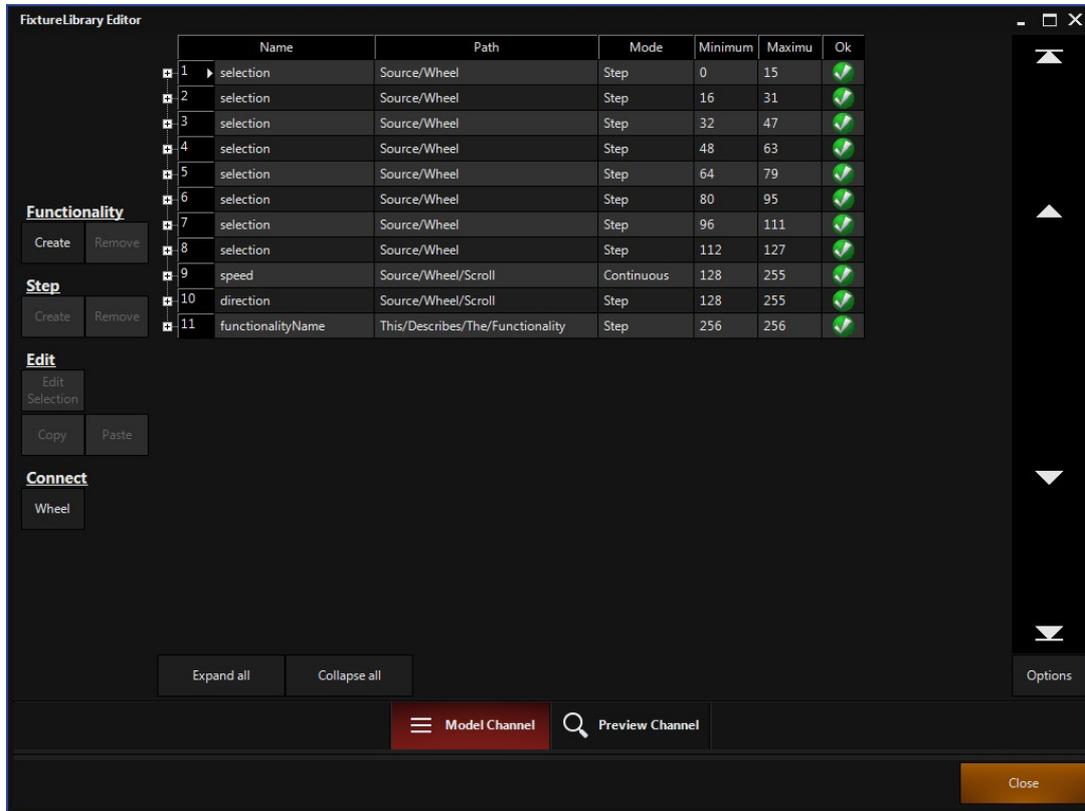
5. Once you have completed the first wheel, press the "Close" button which will return you to the "Create Colour/Gobo Wheels" Window. Repeat the process until all of the wheels are made.
6. Once all wheels are completed, press the "Next" button.



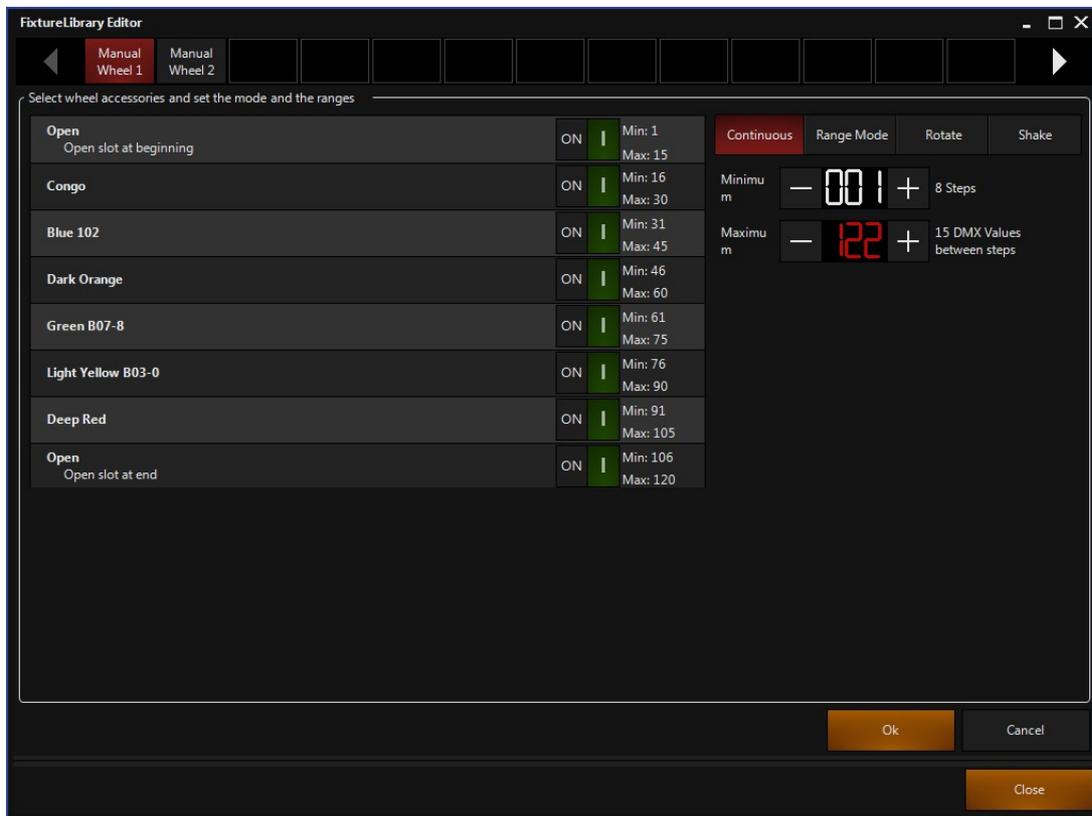
7. In the next window, we create the channels of the fixture, assign them properties and link them to wheels we made earlier if necessary. Press the + & - buttons on the bottom left to add channels. Click a channel to select it, fill in the properties on the right hand side. It is important to name parameters in this section

too, especially when the fixture has multiples of the same parameter. For example, Gobo 1, Gobo 2. For unknown channels, use the Reserved channel type.

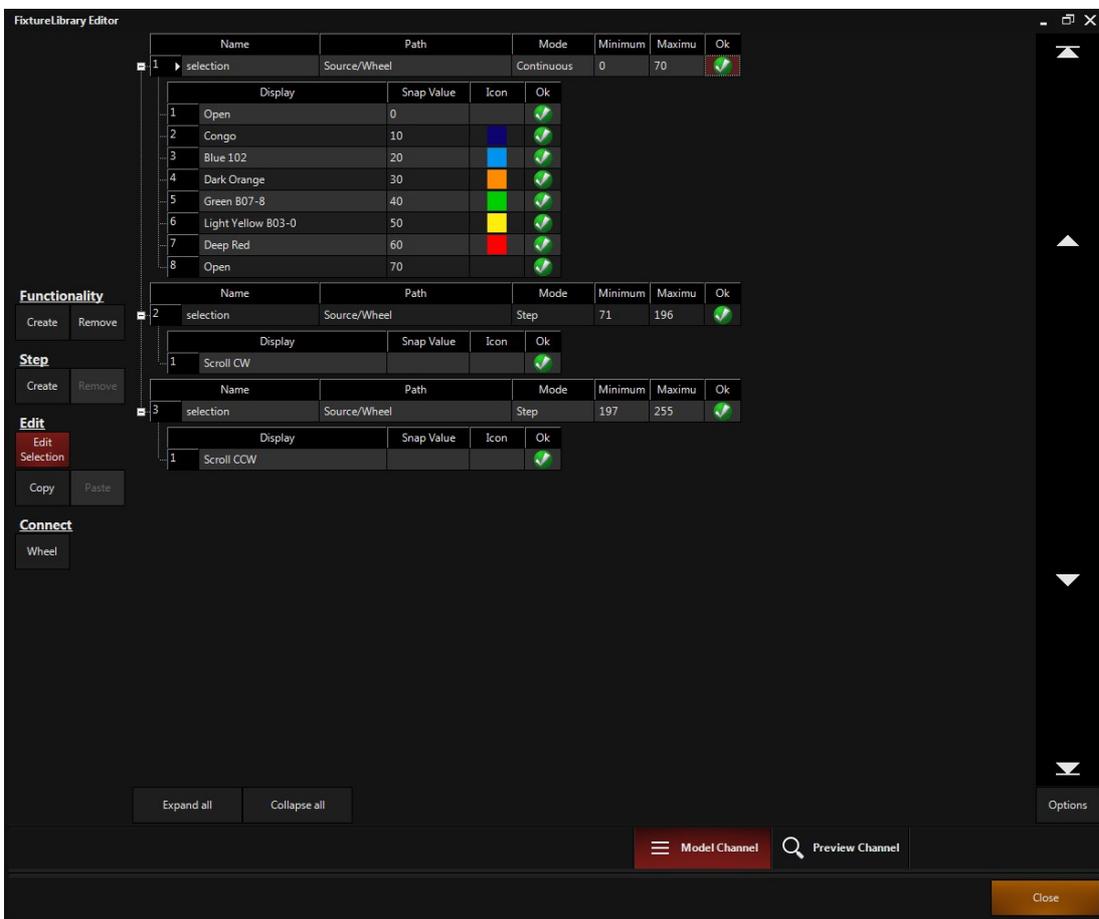
8. It is important to set the "Default" value, this is also known as the "Home" value and will be the value the channel is at when there are no playbacks active, or any data in the programmer.
9. For channels with slots, like the colour, gobo wheel or shutter, press the blue "Edit Channel" button, this will present you with the following window to configure the slots within the parameter.



10. In the "Edit Channel" window, each slot is assigned a minimum and maximum value. For example, Open is 0-15, Gobo 1 is 16-31, Gobo 2 is 32-47 etc. At the end of the channel, functionalities such as continuous spin & scroll can be added if necessary. Scrolle/Rotate ranges are built of 2 different functions. A step to define the direction, (CW/CCW/Stop) and Continuous range to define the speed (Slow/Fast). Both should have the exact same DMX value range.
11. Also, this window is where we link the colour and gobo wheels we made earlier, to the channel. First, remove all of the default lines, leaving only the Scroll Functions. Then, press the "Wheel" button under the "Connect" option on the left hand side of the screen.

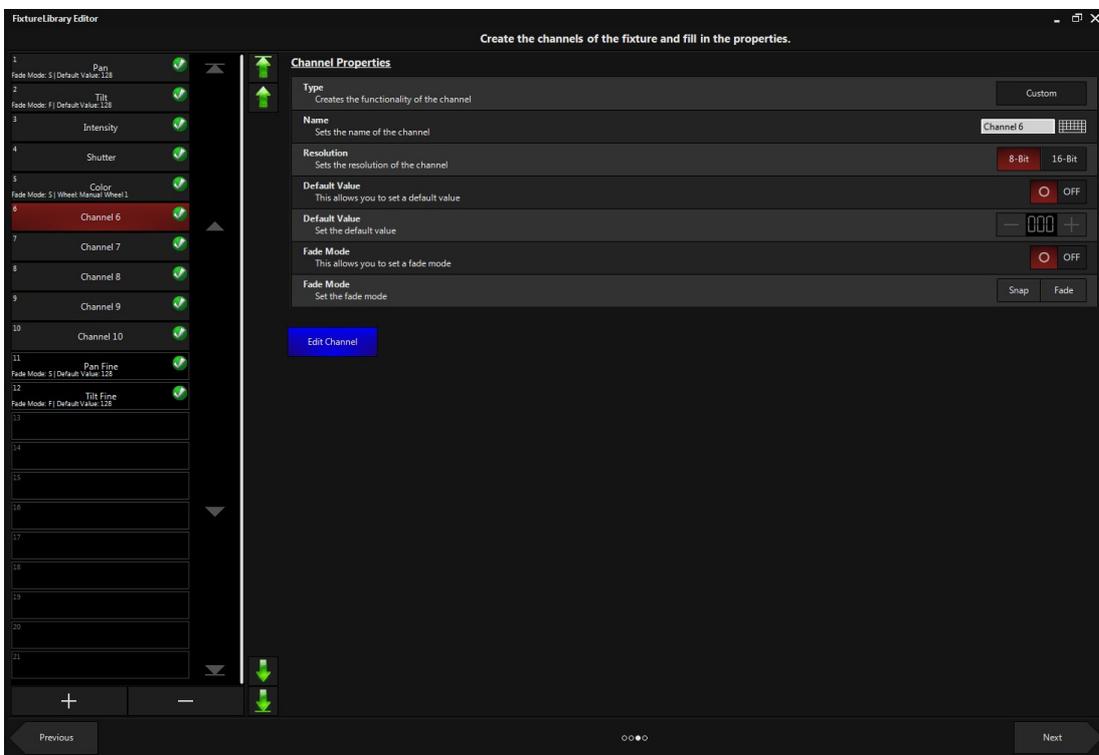


12. Click on the first wheel at the top of the screen, then turn each slot to "On". Set the minimum and maximum values to match the values required by the fixtures DMX protocol. In the top right hand corner of this window, for wheel slots, it is necessary to select "Range Mode". The Continuous, Rotate and Shake modes are for other functionalities. Once you have completed this process for all wheels, click OK.
13. The colour slots will be added to the first "Selection" functionality. Delete the un-needed functionalities by clicking on them and pressing "Remove". In this case, we are left with three. The colour slot selection, the scroll clockwise and the scroll counter clockwise.
14. Enter minimum and maximum values for the scroll functionalities in the same manner as the colour slots earlier. Press "preview channel" to see how the channel will look on the console.



15. Press close once the channel is built.

16. Complete the building of the other channels using the same process.



Note: Before saving the fixture, it may be necessary to re-order some of the channels. For example, the 16bit channels are added to the end of the channel list by default and this may not match the DMX protocol of the fixture. Use the green arrows to the right of the channel list to move channels up and down.

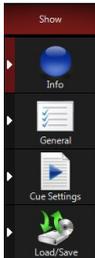
17. Press "Save Fixture" and the fixture will be added to the "User Library". Fixtures built on M-PC can be exported for use on a console by using the "Export" option at the Fixture Builder start screen.

Menu Reference

The Menu (accessed by pressing the "Menu" hard button on the front panel of the console or by selecting "Menu..." [from the "Views" drop down menu](#)) provides access to showfile management, fixture patching, many user settings, show reports, console diagnostics, and other useful information and tools.

When you press the menu hard button, the menu opens in the Show > Patch menu.

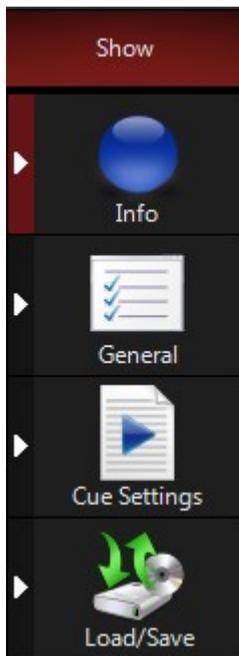
Along the left edge of the screen, you can see the sections that the menu is broken into: Show, Network, and System.

Show (default)		Enter and edit your patch, name shows, load and save files to a variety of media, and view statistics on your show such as number of fixtures, cues, showfile size, etc.
Network		Edit options for the Max-Net Network, Art-Net devices & Configuration, Configure MAX Remote, OSC and CTP connectivity options.
System		See which software version you're running, set the date and time, adjust DMX timings and access a variety of file management and diagnostic tools.

At the bottom of the screen you can see the listings for the Show name and the Current file as well as the command line. Below the command line are the "Help" and "Close" buttons. Pressing "Close" will close the menu window and return you to your previous screen view.

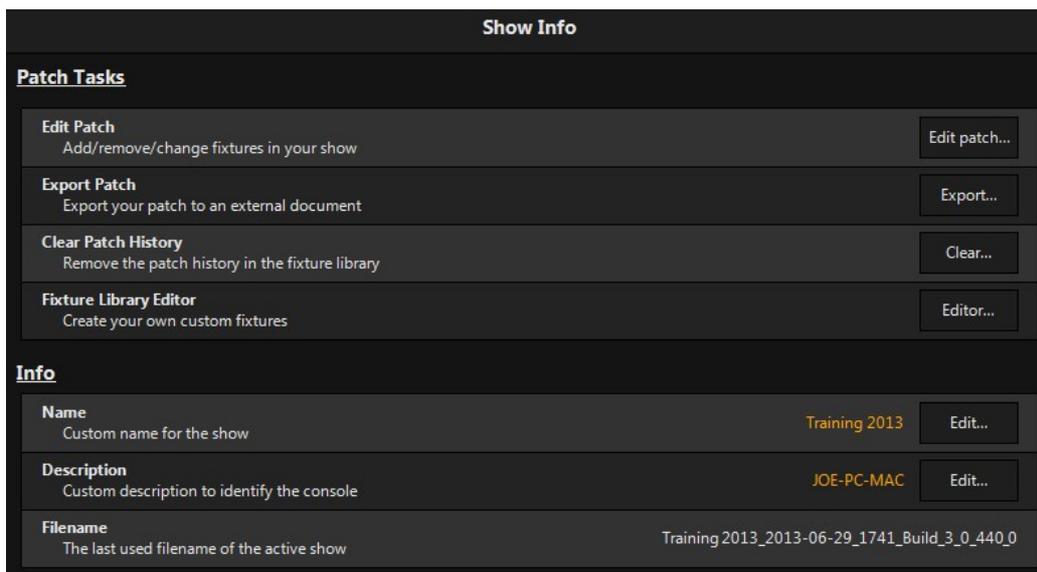
Note to M-PC users: Some menu items may not appear in M-PC because they are specific to the hardware console.

Show



The Show tab gives you access to many settings specific to your showfile. You can also access patching and file save here.

Patch



General settings for show 'xxxxxx'

Edit patch...

Use "Edit Patch..." to add fixtures to the show. For more information on patching fixtures, see [Adding Fixtures to the Patch](#).

Export the patch...

Creates a report of the fixture patch in the current showfile. This can be convenient for printing or referencing during pre-production.

When you export the patch, three files are saved to disk: the xml file with the name you choose, MaxxyzPatch.xslt and MaxxyzPatch.css. To view the report, make sure all three files live in the same folder, then use your favorite web browser to open the xml file. If you will be sharing the report, be sure to send the xslt and css files along

with it.

The file can also be opened from inside Microsoft Excel. Select the XSLT "schema" file when asked by Excel to ensure proper formatting and layout.

Show settings

Rename the show...

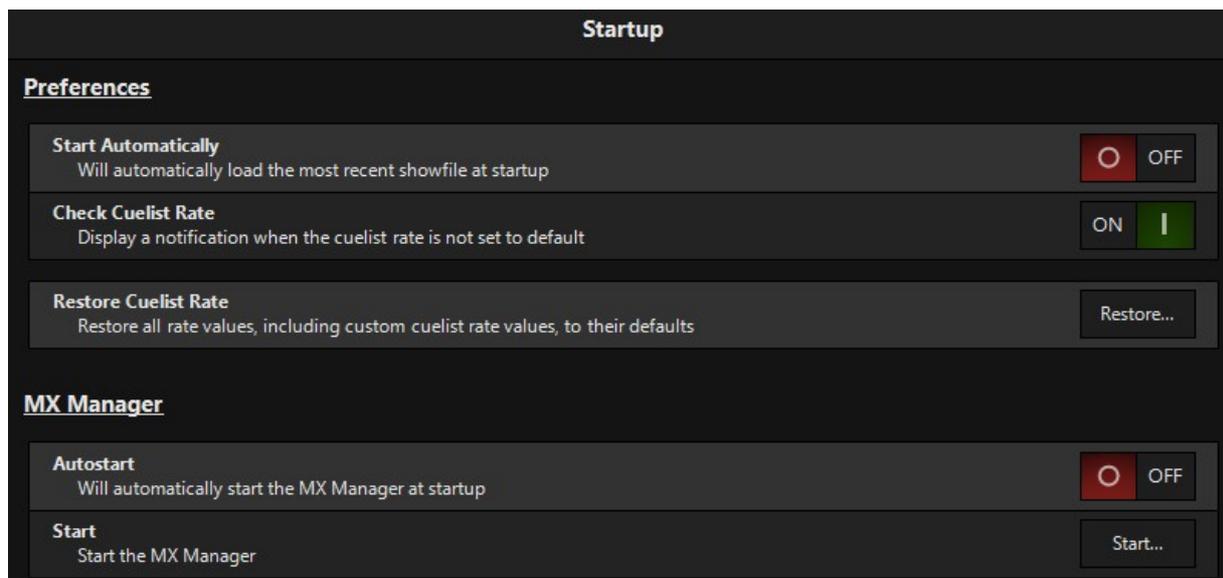
The show "Name" is used when automatically creating filenames for saving. To change the show name, click this button, type a new name and press Enter.

*The showname and the filename are very different things. The show name identifies the show e.g. "The Rolling Rocks" can be the showname, as the filename could be "London" "New York" "Paris" but the show is still named "The Rolling Rocks".
The show name is used to identify the show on the network, which is currently used by the MaxRemote and MaxNET.*

General Settings

The General Settings submenu allows you to manipulate show data such as settings, patch, and file management, and view statistics on the currently loaded show.

Startup



Show startup

Start Automatically

By default, the console will wait for you to select a showfile to load before starting up. You can set the console to automatically load the most recent showfile by pressing this button.

Cuelist rate

A cuelist can be given a custom playback rate using the "Rate" tools. For more information on the Rate tools, see [Changing Global Cue Timing](#)

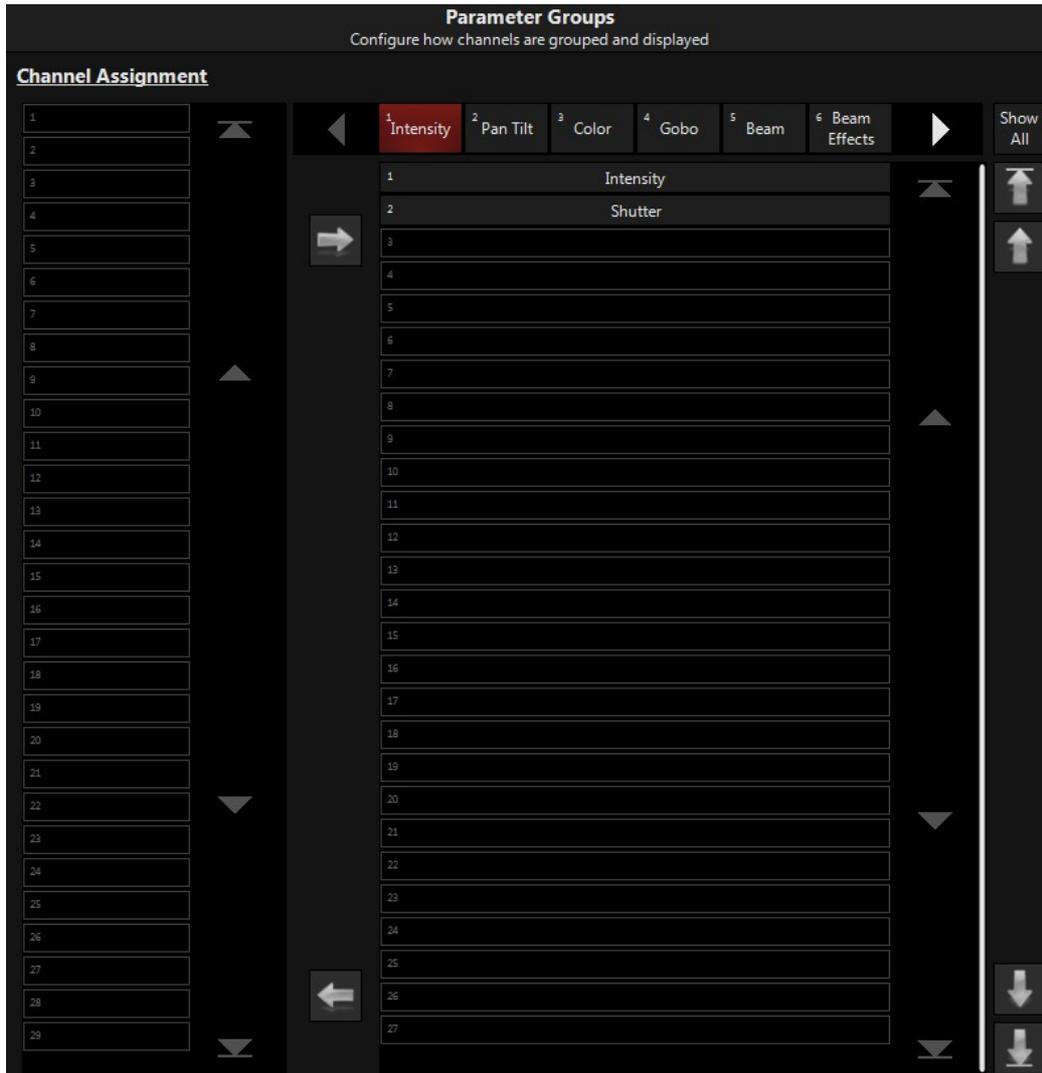
Check on startup

When the console loads the showfile, a dialog box will pop up asking if you would like to set all cuelist rates to their default state (100%). You can suppress this window by disabling this button.

Restore rate values

Press this button to restore all rate values, including custom cuelist rate values, to their defaults.

Parameter Groups



Channel assignment

The channel assignments panel is used to configure how fixture parameters are grouped and displayed for manual control. You can move any parameter to any parameter group and you can adjust the display order of parameters inside a parameter group. There is a special group called "Hidden" for fixture parameters that you don't want available for manual control.

Auto popup when unassigned channel(s) detected

If you open a showfile that contains fixtures which are not included in your installed fixture library, a window may pop up to ask you to assign fixture parameters to fixture parameter groups. It is not necessary to do so, but you will need to if you wish to control those parameters manually. You can disable the auto-popup with this button.

To assign a parameter to a parameter group

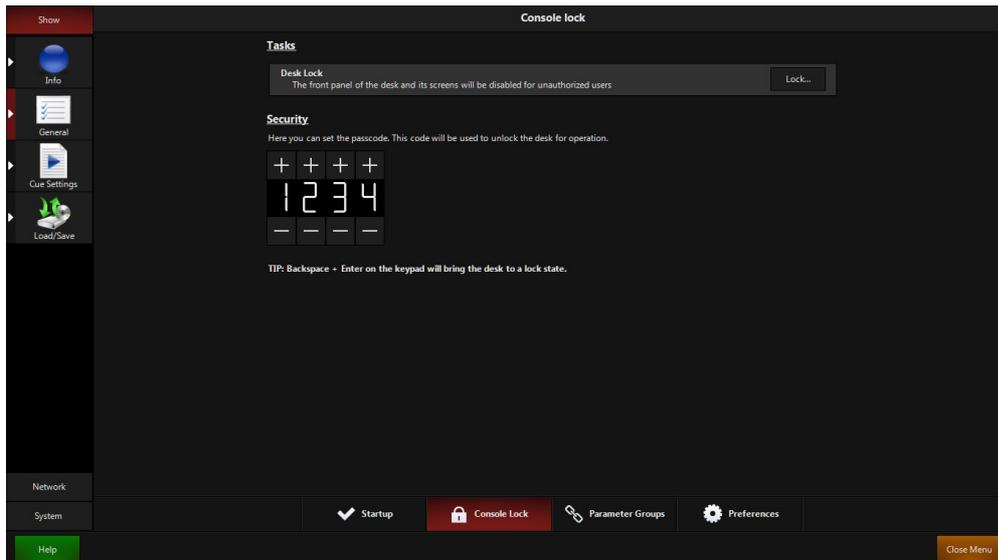
1. Press the parameter in the left hand column.
2. Press the Beam Effects group in the top right of the screen.
3. Press the green right arrow key on the screen to add the parameter to the Beam Effects group.

Parameters can be re-arranged to suit your personal preferences using this window too. For example, we want to have Zoom and Focus available in the Intensity group.

1. Press the Beam group button in the top right of the screen. The column on the right will show all the parameters currently in the Beam group.
2. Select Zoom and press the left arrow key to move it into the left hand column.
3. Select Focus and press the left arrow key to move it into the left hand column.
4. Press the Intensity group button in the top right of the screen.
5. Press Zoom and press the right arrow key to move it into the left hand column (Intensity group)
6. Press Focus and press the right arrow key to move it into the left hand column (Intensity group)

Now when you select any fixture with a Zoom or Focus attribute, those attributes will display under the Intensity parameter group.

Console Lock



Locking

It may be useful to lock the desk so that an unauthorized user cannot access it. When locked, the front panel of the desk is disabled as well as the screens. Changes made to faders and buttons will not affect the look on the stage.

Desk lock on/off

Press this button to lock the desk. A window will pop up asking to confirm that you want to lock the console. Press "Yes" to lock the console or "No" to abort.

Passcode

Set this to a four digit code of your choice. This code will be used to unlock the desk for operation.

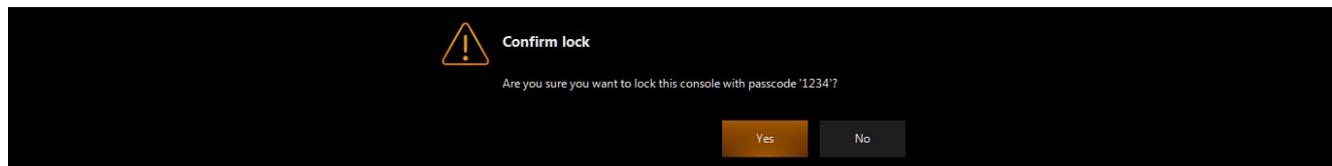
Master unlock code

In the event that the unlock code is not known, a master unlock code can be used to unlock any M-Series console. To use the master unlock code, press the blank button in the bottom left corner of the keypad on the lock screen then press 1 7 9 3 and the console will be unlocked.

Desk lock shortcut

You can lock the desk quickly using the numeric keypad. Press Backspace + Enter to bring the desk to a lock state. You will be asked to confirm locking...

You can also assign Console Lock to an F-Key. The F-Key will require a double press to confirm the LOCK command. See [Programmable Buttons](#).

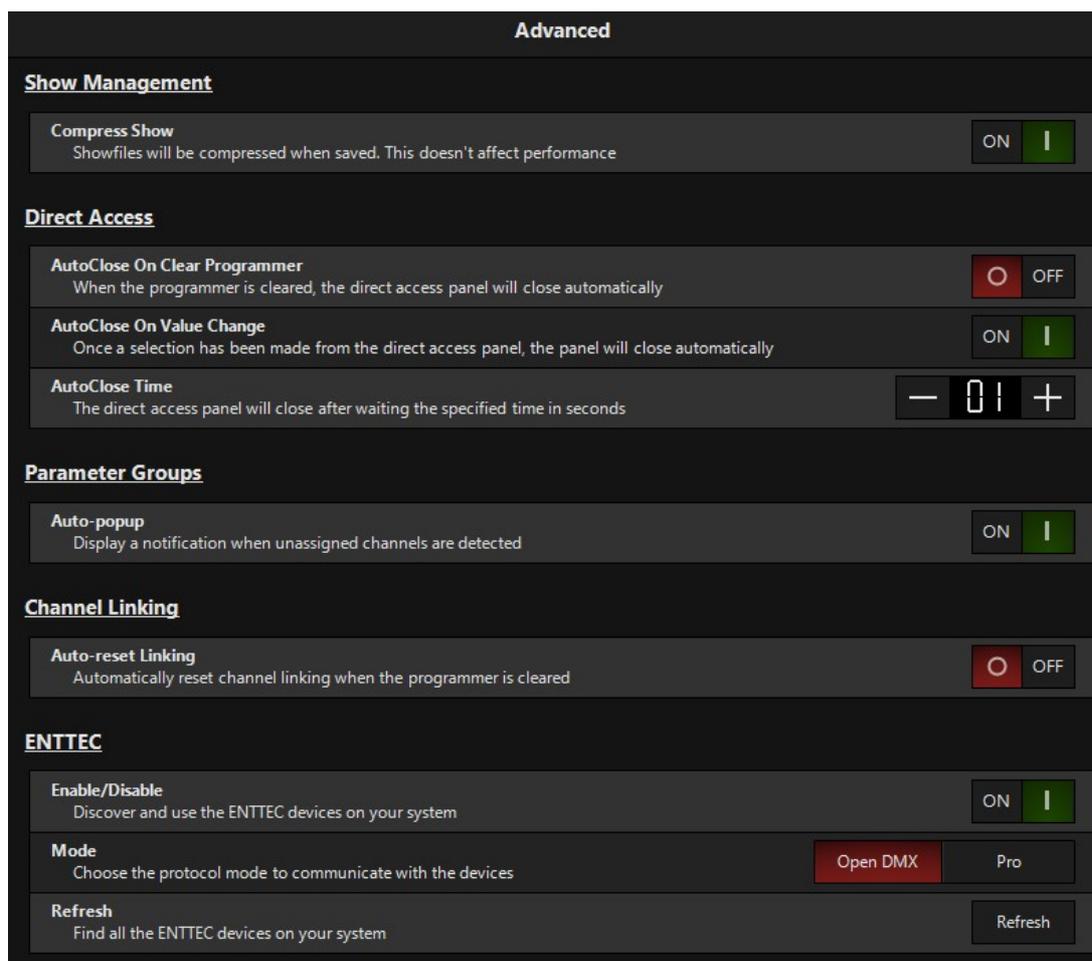


Unlocking the Desk

To unlock a locked desk, enter the 4 digit code that was set before locking the desk.



Advanced



Show management

Auto backup

Enable this to have the console automatically create a backup of your showfile using the interval set here. The default interval is 15 minutes.

Also note that whenever you either create a new show or load a show, the M-Series will generate a show file in the backup directory labeled either "before last create" or "before last load."

Compress show

When enabled, showfiles saved to an external drive like a thumb drive will be compressed. It is recommended that you leave this option enabled, as it doesn't affect performance and can save some space on your thumb drive.

Direct Access

Here you can set the default behavior for the direct access panel.

AutoClose on clear programmer

When the programmer is cleared, the direct access panel will close automatically.

AutoClose on value change

Once a selection has been made from the direct access panel, the panel will close automatically after waiting the amount of time specified here.

Virtual console

The virtual console is an onscreen representation of the console's hardware front panel. On the M-PC software, the virtual console is used in lieu of a hardware control surface.

Active/Inactive

Enable the virtual console here. You will need to restart the desk in order to see this change.

Channel linking

Auto-reset linking

Normally, channel linking settings will persist even when you clear the programmer. Enable Auto-reset linking to automatically reset channel linking when the programmer is cleared. For more information on channel linking see the chapter on [FX Linking](#).

Cue Settings

Cue Fade Times

Cue Fade Times
The fade times that are presented in the "Time" section of the Record Options window

Preferences

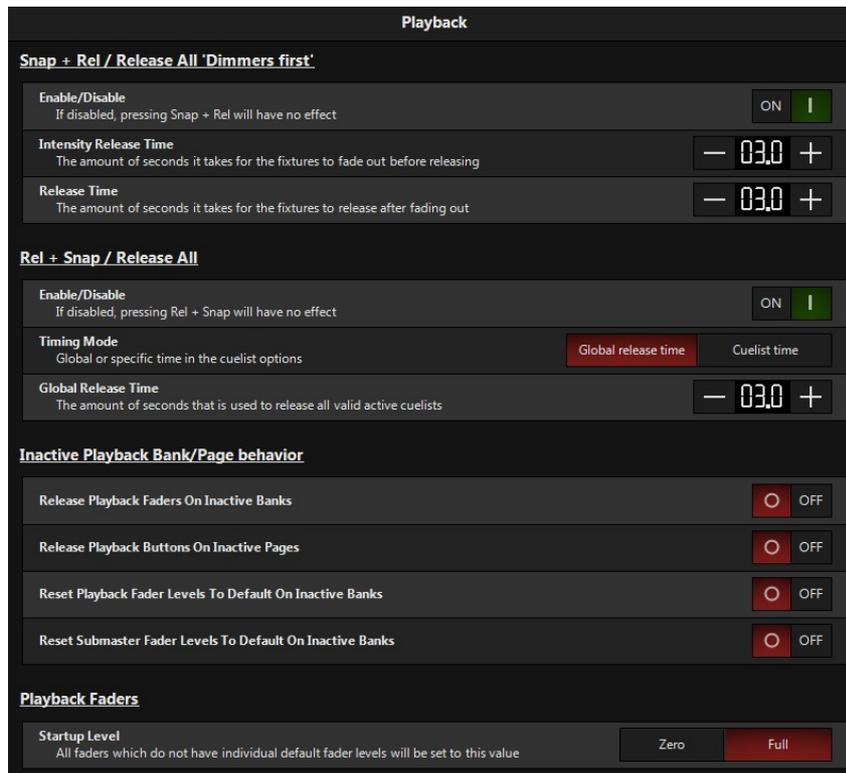
Cue Fade Time 1 Set the time in seconds	— 00.0 +
Cue Fade Time 2 Set the time in seconds	— 00.5 +
Cue Fade Time 3 Set the time in seconds	— 01.0 +
Cue Fade Time 4 Set the time in seconds	— 01.5 +
Cue Fade Time 5 Set the time in seconds	— 02.0 +
Cue Fade Time 6 Set the time in seconds	— 02.5 +
Cue Fade Time 7 Set the time in seconds	— 03.0 +
Cue Fade Time 8 Set the time in seconds	— 03.5 +
Cue Fade Time 9 Set the time in seconds	— 04.0 +

Programmable cue fade times

The Cue fade times screen allows you to configure the nine fade times that are presented in the "Time" section of the Record Options window. You can set those values here. The time stored in field number 6 will be used as the default cue fade time if no other time is selected.

To accept your changes, press "Apply." To cancel your changes, simply navigate away from this screen without pressing "Apply." To set these options to their factory defaults instantly, press "Default."

Playback



Snap + Rel / Release All 'Dimmers first'

When enabled, pressing holding "Snap" and pressing "Rel" will cause all valid active cuelists to be released by fading the fixture intensity to zero, then releasing the fixtures to their default state. This is a convenient and elegant way to clear the look on the stage before starting a new song.

On/Off

Enable or disable this feature. If disabled, pressing Snap + Rel will have no effect.

Intensity release time

Set the amount of time it takes the fixtures to fade out before releasing.

Release time

Set the amount of time it takes the fixtures to release after fading out.

Rel + Snap / Release All

When enabled, holding "Rel" and then pressing "Snap" will cause all parameters in all valid active cuelists to be released simultaneously. Fixture intensity will not be released first.

On/Off

Enable or disable this feature. If disabled, pressing Rel + Snap will have no effect.

Timing mode

Choose either "Global release time" or "Cuelist time." Global release time will use the timing set below while cuelist time will use the time set in the cuelist options of each affected cuelist.

Global release time

If "Global cuelist time" is enabled, this is the time that Rel + Snap will use to release all valid active cuelists.

Note: Cuelists marked as "Ignore Global Release" will not respond to Rel + Snap and Snap + Rel commands. These cuelists must be released directly.

Inactive Playback Bank/Page behavior

A bank or page is said to be "Inactive" when it is no longer visible on the front panel of the console or modules connected to the console.

Release playback faders on inactive pages

Setting this to "On" will cause cuelists residing on any banks/pages that become inactive (hidden from view) to be released. For example, let's say that you are running a song on bank 10. At the end of the song, you press "Next Bank," switching to bank 11. If you have enabled this function, all cuelists which are visible on bank 10, but not bank 11 will be released.

Release playback fader levels to default on inactive banks

In the same way that cuelists on inactive banks can be released, the console can also set the playback faders of those cuelists to their default levels. The default fader level can be set in the [Function Assignments Window](#).

Release playback buttons on inactive pages

Playbacks on the external button module can exhibit the same behavior as playbacks on the console or playback modules.

Reset submaster fader levels to default on inactive banks

When set to on, submasters will also be sent to a level of zero if the Fader Level at Startup is set to zero, but will not be affected if the startup level is set to full. Group masters are not affected by this setting. Individual submasters can be set to ignore this command in the cuelist options of the desired submaster(s). See ["Submaster Options"](#) for more information.

Playback Faders

Startup level

At console startup, all faders which do not have individual default fader levels set can be set to either "Zero" or "Full."

To accept your changes, press "Apply." To cancel your changes, simply navigate away from this screen without pressing "Apply." To set these options to their factory defaults instantly, press "Default."

Mark Cue



Global Mark Cue Timings

Delay

This sets the global delay time used for auto-mark cues.

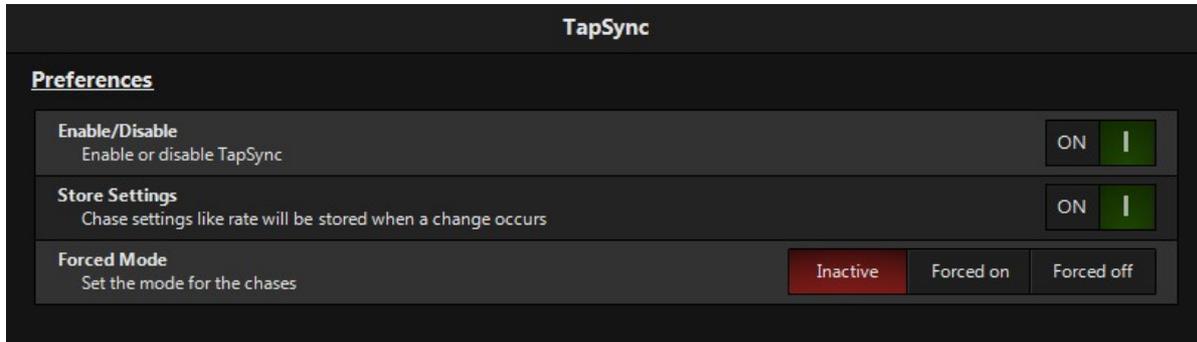
Fade

This sets the global fade time used for auto-mark cues.

For more information on Mark Cues, see [Auto Mark](#).

To accept your changes, press "Apply." To cancel your changes, simply navigate away from this screen without pressing "Apply." To set these options to their factory defaults instantly, press "Default."

TapSync



TapSync

Using TapSync, you can quickly set the rate of a chase. Here you can set the global options for TapSync.

Enabled/Disabled

Store settings (like rate)

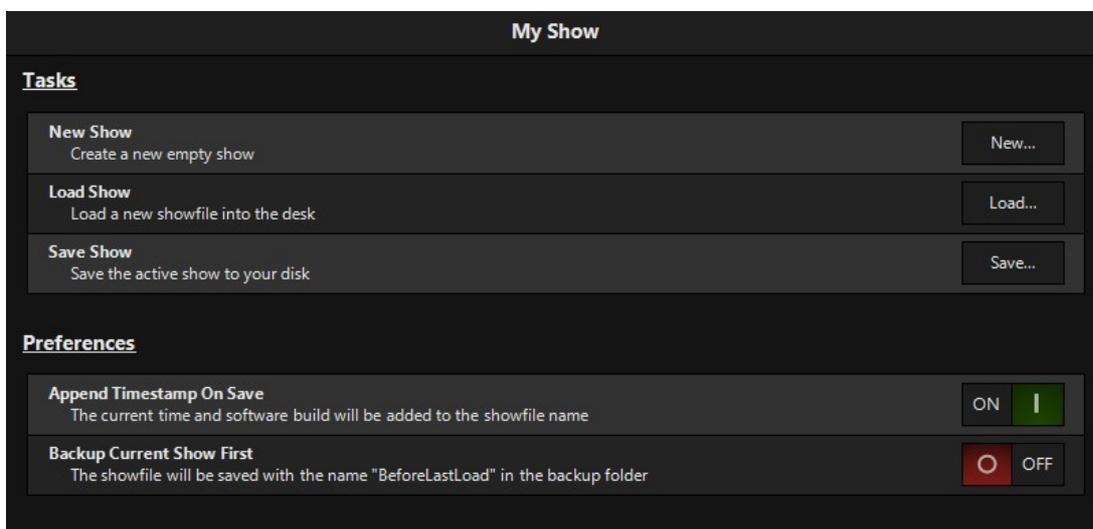
When enabled, chase settings like rate will be stored as soon as they are changed. If this is disabled, the chase setting will return to their defaults on the next console startup.

Forced mode

Setting Forced mode to "On" will force TapSync to "On" for all chases. Setting this to "Off" will force TapSync to "Off" for all chases. Setting it to "Inactive" will cause all chases to use their individual TapSync settings. This can be useful if you want to make sure all chases have the same behavior during playback or programming.

To accept your changes, press "Apply." To cancel your changes, simply navigate away from this screen without pressing "Apply." To set these options to their factory defaults instantly, press "Default."

Load/Save



Show management

Save the current show...

Save an archive copy of the current show.

Once a copy is saved, it is no longer modified. The software saves an exact "STATE" of the current show. Any further changes are not added to this file. The reason is that it otherwise would not allow definite backups of the show (e.g. "Dress Rehearsal" or "Staples Center")
Replacing the showfile in the database may cause loss of programming if the show is not saved again under the desired name first.

Load a show...

Load a new showfile into the desk. The current showfile will be replaced, so be sure to save a copy before you load the new show.

Create a new show...

Create a new, empty showfile. The current showfile will be replaced, so be sure to save a copy before you load the new show.

Organize...

Brings up a file browser allowing you to perform file operations such as copy, move and delete.

Append timestamp on save

When active, this function adds the current time and software build to the name of the showfile when you save the show.

Backup current show first

The showfile will be saved with the name "BeforeLastLoad" in the backup folder. It can be used to restore an accidentally overwritten show.

Cue settings

Save cue settings...

This allows you to save your cue settings to an external file. If you have settings which are different from the defaults, you can use this file to quickly set up a new showfile.

Load cue settings...

Load a previously saved cue settings file. The cue settings will be replaced by the settings in the file.

Load factory defaults

All cuelist settings will be set to their factory defaults.

Reports



Export cuelist...

Exports a nice xml report of all cuelists in the showfile. This can be very helpful when maintaining a large showfile. 3 files are saved to disk: the xml file with the name you choose, CuelistReport.xslt and CuelistReport.css. To view the report, make sure all three files live in the same folder, then use your favorite web browser to open the xml file. If you will be sharing the report, be sure to send the xslt and css files along with it.

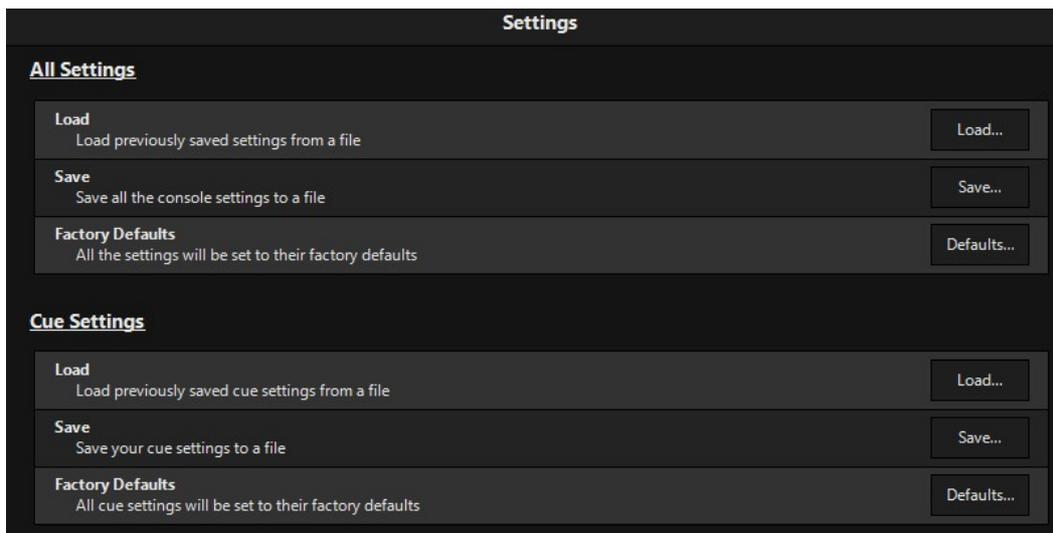
Export presets...

Creates a report of all presets existing in the showfile. Using this feature, you can easily clean up the presets for a show, eliminating unused presets and consolidating redundant presets. 3 files are saved to the disk: the xml file with the name you choose, PresetUsageReport.xslt and PresetUsageReport.css. To view the report, make sure all three files live in the same folder, then use your favorite web browser to open the xml file. If you will be sharing the report, be sure to send the xslt and css files along with it.

Export fixture group

Press this button to save a report containing details about all to of the fixture groups recorded in the showfile. Like the previous two report functions, this will save three files which must reside in the same folder in order to display correctly.

All settings



Note: In addition to screen layouts and parameter groups, any menu settings which are confirmed by pressing "Apply" are considered to be part of "All settings."

Save settings...

This will allow you to name and save a file containing all of the console settings.

Load settings...

Here you can load previously saved settings from a file.

Load factory defaults

This will bring up a confirmation box to make sure you want to load the factory default settings. Press yes to load the factory defaults. If you wish to keep your current settings, make sure you save them before loading the factory defaults.

Load/Save Screen Layouts

Screen Layouts can be saved onto a USB device for use on other M-Series Systems.



Statistics

Statistics	
General	
Showfile	48 MB
FixtureType Amount of fixturetypes	4
Fixture group Amount of fixture groups	29
Logic channel Amount of logic channels	1018
Cuelist Amount of cuelists	69
Cue Amount of cues	82 (40 kB)

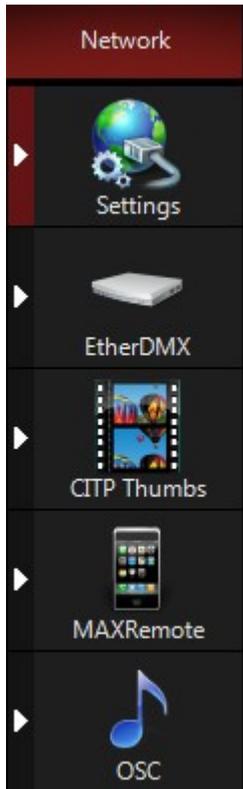
Statistics for show 'xxxxxxxxxx'

Here you can see various data relating to the showfile.

Showfile	Showfile size in MB.
FixtureType	The number of different fixture types patched into the showfile.
Fixture	The number of fixtures patched into the showfile. This is followed by a table showing the number of fixtures patched for each fixture type.
Fixture group	The number of fixture groups recorded in the show.
Logic channel	The number of actual dmx channels addressed by the showfile.

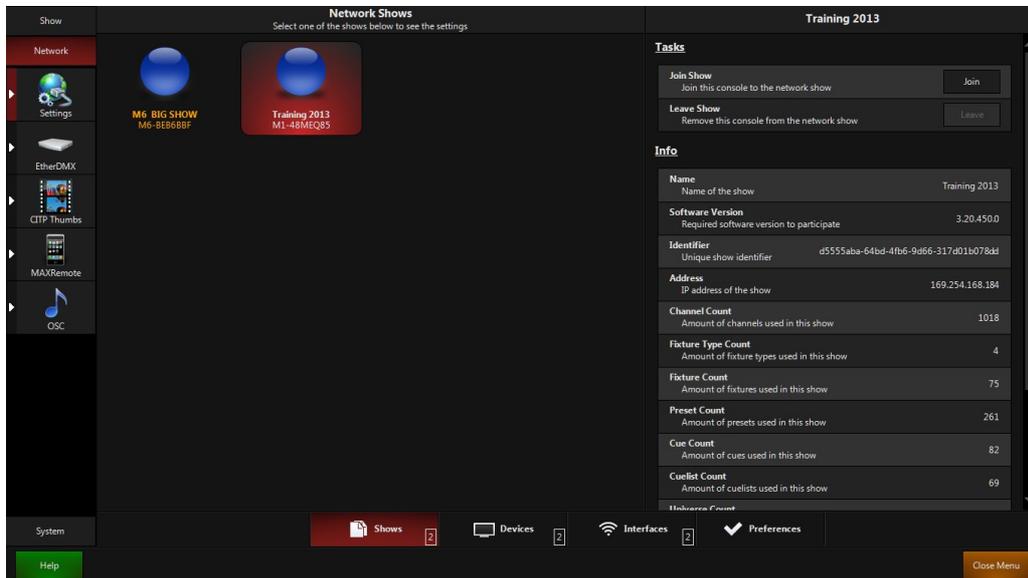
DMX Universe	The number of universes used in the showfile. This is followed by a table showing the number of dmx channels used in each universe and the number of fixtures patched into the universe.
Preset	The number of presets recorded in the show and how much memory they consume.
Cuelist	The number of cuelists stored in the show.
Cue	Total number of cues in the showfile and how much memory they consume.

Network

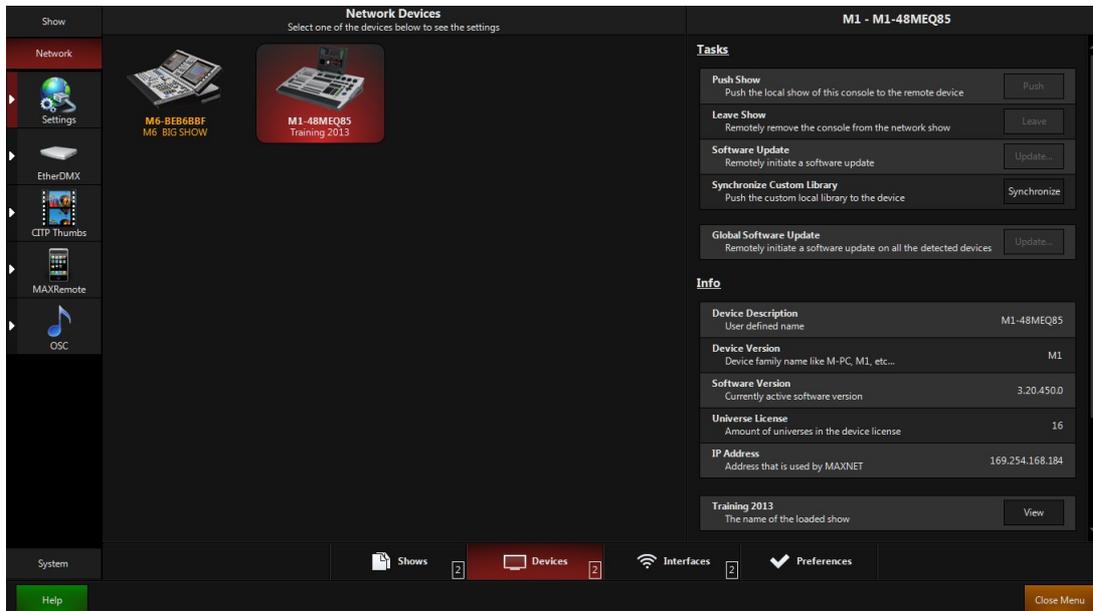


The Network tab allows you to access various settings related to the Artnet and remote networks available on the console.

Settings

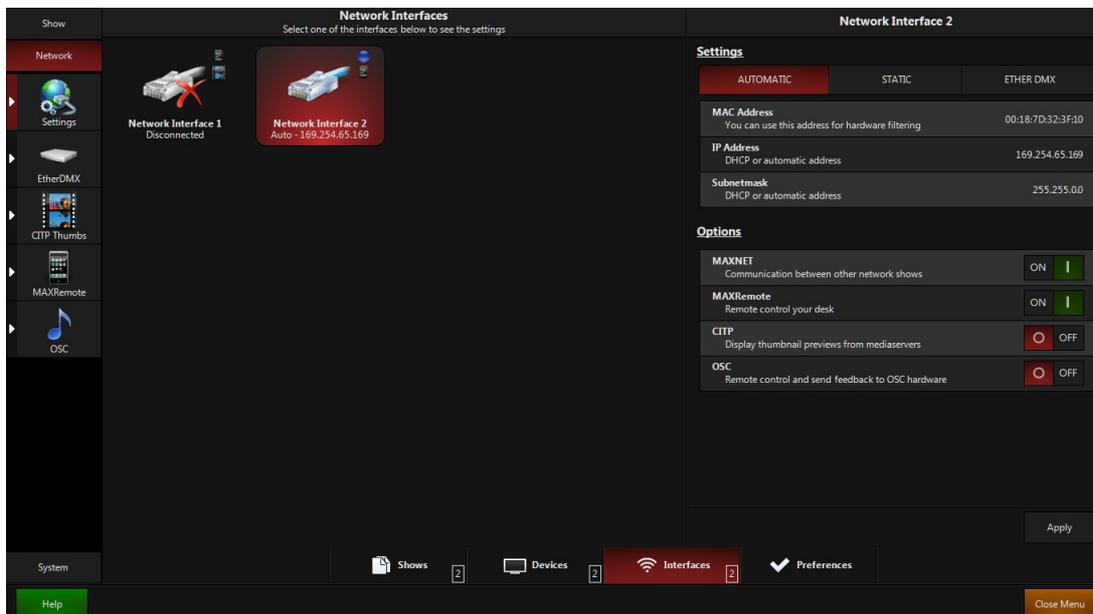


The shows sub tab shows all online shows on the network. The show in orange text is the show running on the local console. For more information on multi console networking, see "[Networking](#)"



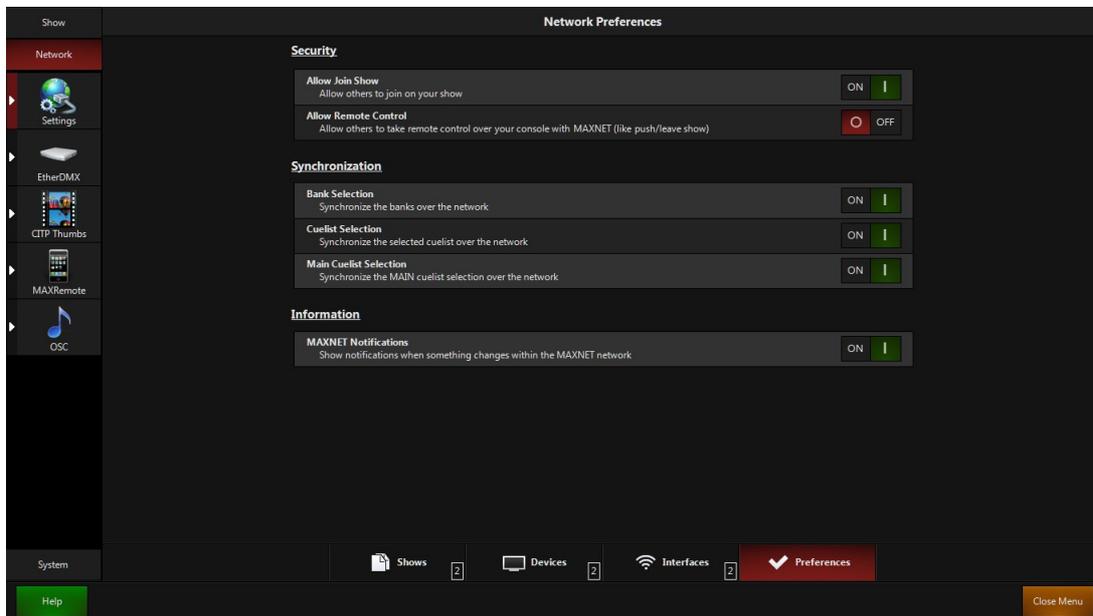
Network Devices window will show all M-Series Consoles on the network

In the above window you can select a console on the network and push the current showfile to the selected console for it to operate as a Backup Console. The console with orange text is the local console.



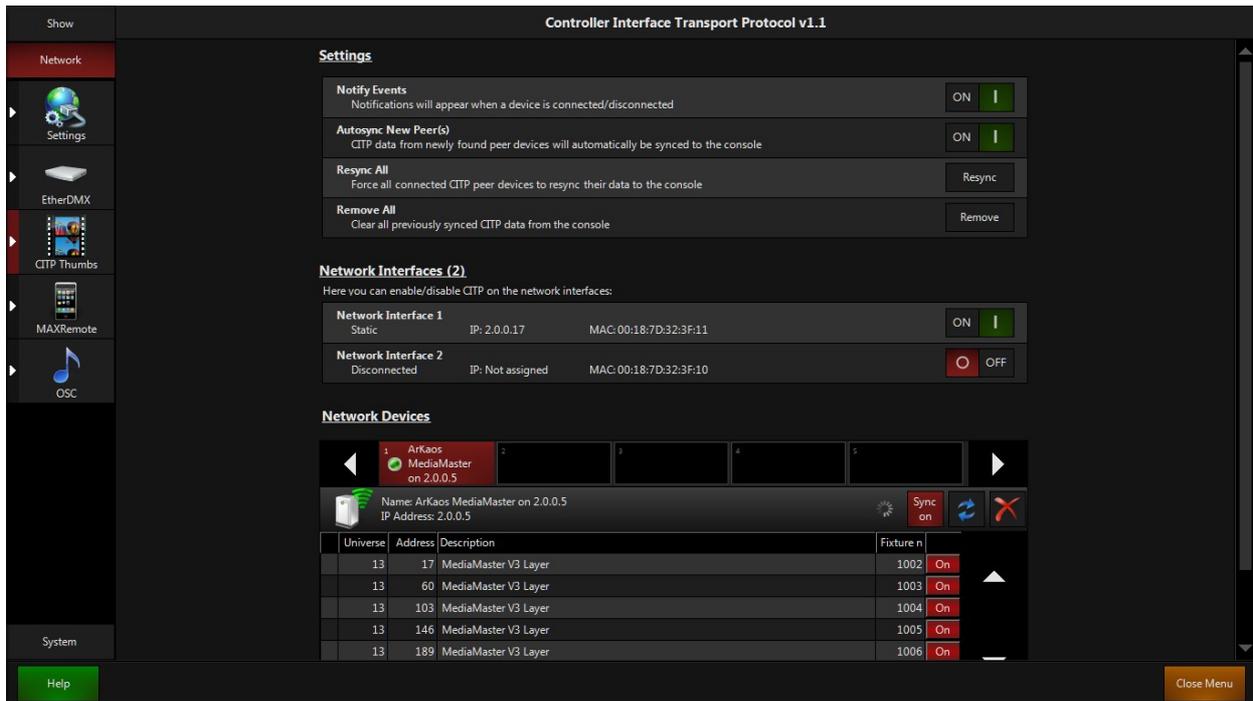
The Network Interfaces Window

The network interfaces window will show two network adapters for the console. Interface 1 is the "Remote" port used for connecting M-Series Consoles and Maxedia systems together and Interface 2 is the "EtherDMX" port - otherwise known as Art-Net port. The IP address settings can be configured for each interface in this window and MAXNET, MAXRemote, CTP and OSC can all be enabled or disabled on the interface too.



Network Settings Preferences window

CITP Thumbnails



Controller Interface Transport Protocol v1.1

The CITP allows the console to receive thumbnails and other data from attached media servers. This graphical representation of parameters can make media server programming much easier. The M-Series supports CITP v1.1. CITP Works automatically when the Device is in the same IP range as the console. CITP communication is based on the DMX address of the attached Media Server - so assuming the network settings are correct and the device is addressed accordingly, it should show up in the above window and start to synchronize automatically.

Notify events

When "Notify Events" is enabled, a slide-up window will appear at the bottom of the main screen indicating when a CITP device is connected to or disconnected from the network.

Autosync new peer(s)

CITP data from newly found peer devices will automatically be synced to the console.

Resynch all

Press Resync all to force all connected CITP peer devices to resync their data to the console.

Remove all

Pressing this button will clear all previously synced CITP data from the console.

Network devices

Show

- Network
- Settings
- EtherDMX
- QTP Thumbs
- MAXRemote
- OSC

System

Help

Artnet Devices

Select one of the devices below to see the settings.

ArKaos MediaMaster
2.0.0.5

Warning! Not all devices support auto-discovery. Check the capabilities of your remote Artnet devices.

ArKaos MediaMaster on 2.0.0.5

Tasks

Name
User defined name: ArKaos MediaMaster Edit...

Website
Change settings on the device: Website...

Firmware Version
Current version of the device: 0.1

RDM Capable
Check if the device can handle RDM traffic: No

IP Address
Network address that is used by the device: 2.0.0.5

MAC Address
Unique identifier assigned to the device: 00:00:00:00:0000

Options

Port 1	In: 001 +	0:0	Out: 013 +	0:0
Port 2	In: 001 +	0:0	Out: 001 +	0:0
Port 3	In: 001 +	0:0	Out: 001 +	0:0
Port 4	In: 001 +	0:0	Out: 001 +	0:0

Devices

⚙ Settings

Close Menu

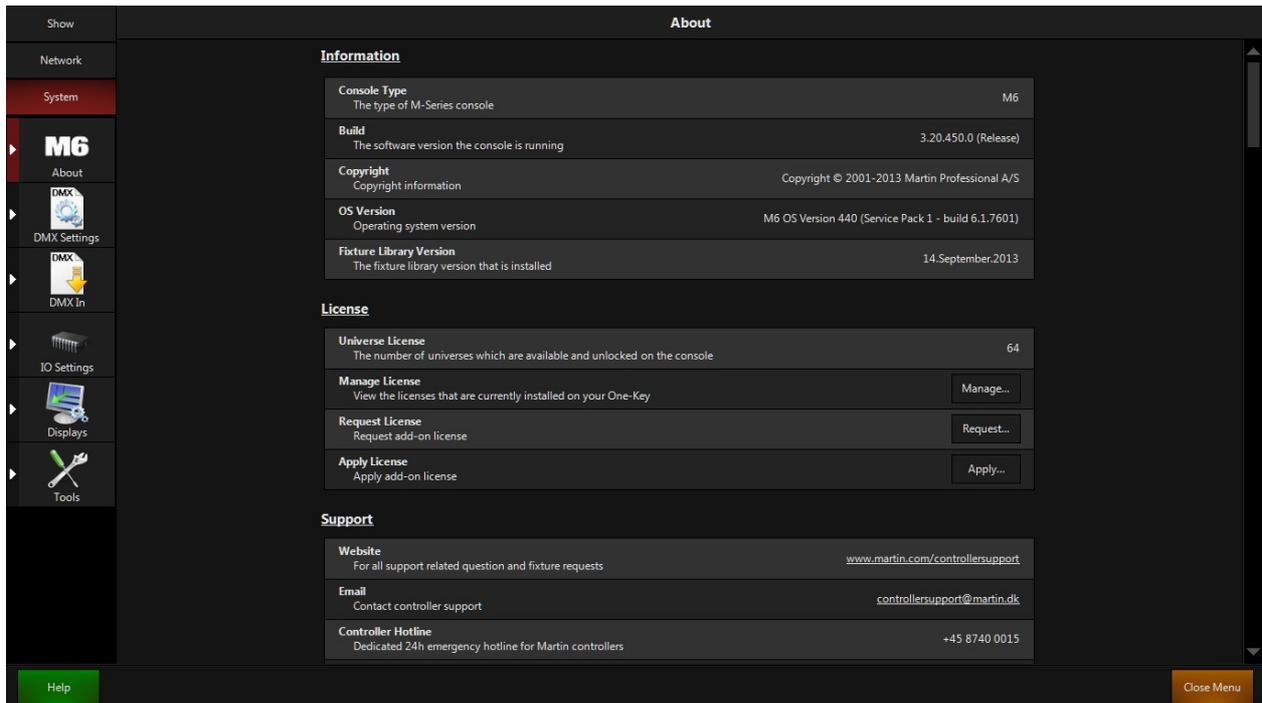
EtherDMX Devices will show all attached Art-Net devices

System



The System tab gives you access to various system-related tasks and settings.

About



The "About" tab shows information about the console such as Console Type, Available Universes, Software Version, OS Version, Fixture Library Version and emergency contact details for Martin Controller support.

License info...

About Licensing

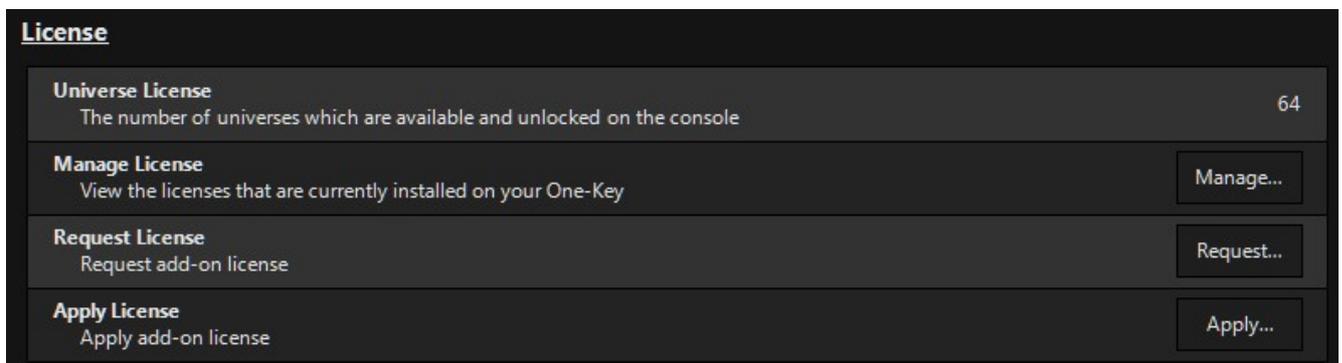
The M1 Console can be reprogrammed with license packs containing 4 Universes each. Up to 3 packs can be added.

The M2GO Console can be reprogrammed with license packs containing 4 universes each. Only 1 extra license pack can be added.

The M6 Console can be reprogrammed with license packs containing 4 universes each. Up to 16 packs can be added.

License information

The license information for the console can be viewed in the "About" tab of the system menu.



Manage...

If you would like to manage the code meter containers connected to the console, or perform advanced license tasks, the code meter control centre can be opened using this button.

Request...

If you would like to purchase an add-on license for your console, you can do so easily. Press this button to save a

file called "LicenseInfo.WibuCmRaU" to an external drive. Send this file to your distributor for console identification. They will then send you another file with the same name which contains your new license information. Load this new file using the "Apply add-on license..." button below.

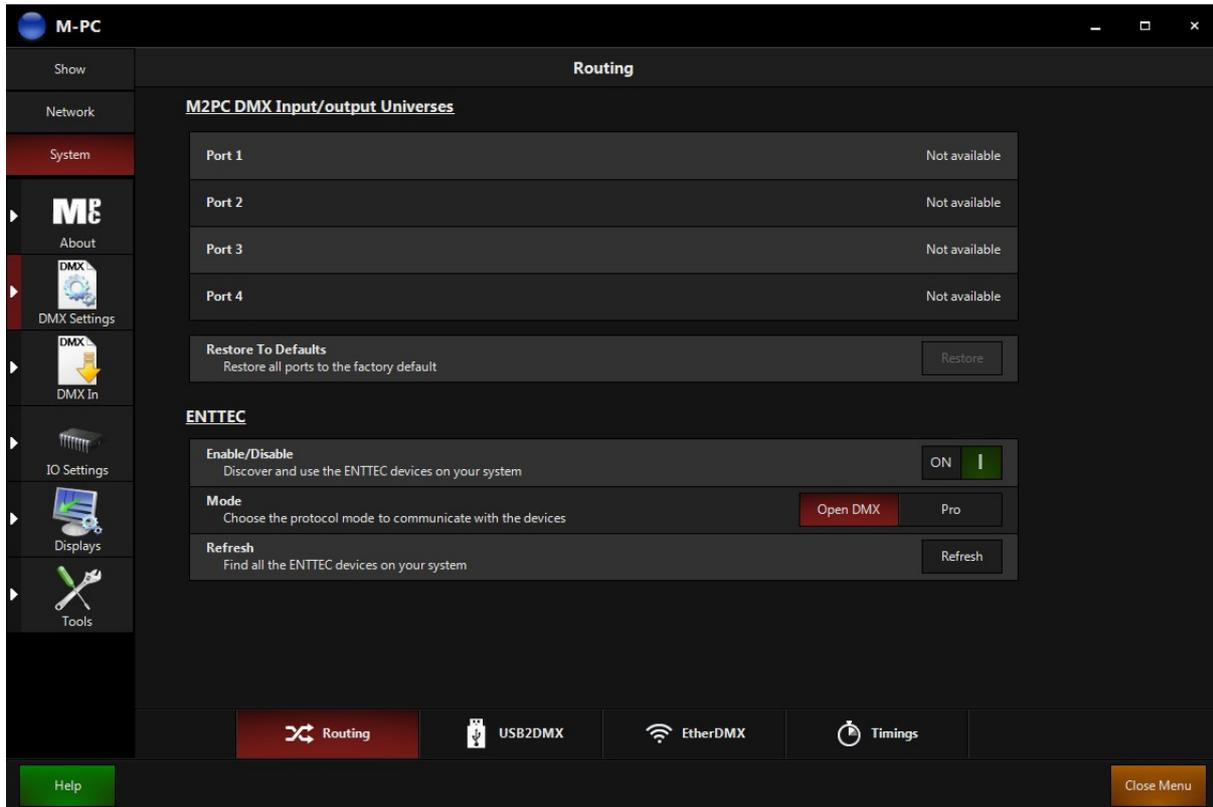
Apply...

When you purchase an add-on license, you will be sent a file called "LicenseInfo.WibuCmRaU." Pressing this button allows you to load this file from an external drive. When the license is applied, it is recommended that you restart the console to enable your new functionality.

DMX Settings

Routing

The Routing tab is not available in the M-PC software.



Here you can setup the output universe

The hardware DMX ports available on your console will be available here. Using these controls, you may choose which universes are output by the onboard DMX ports. By default, this is universes 1 through 4. You could set all ports to output universe 6 if you were inclined.

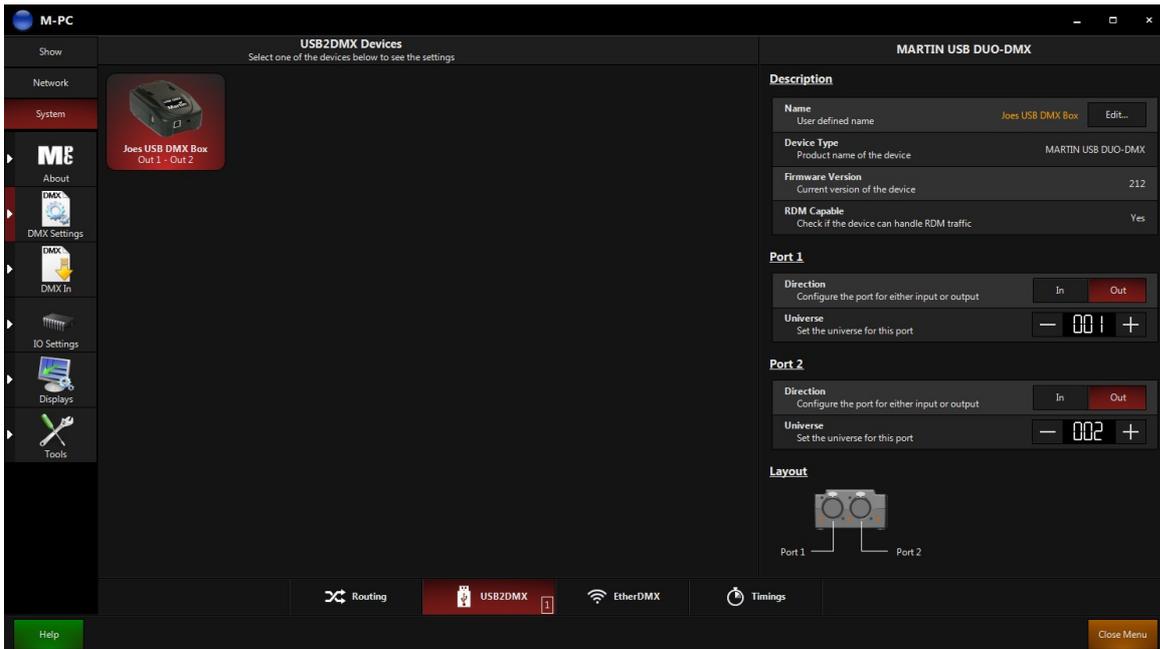
Configure Enttec Devices

The bottom portion of the DMX Routing tab allows configuration of any attached Enttec devices for use with the Free Edition of M-PC. Once discovered, the Enttec device will appear in the USB2DMX tab.

Note: Unlike other settings in the menu, it is not necessary to "Apply" changes to the output ports. To accept your changes, simply navigate away from this window. If you wish to discard your changes, press "Discard changes." If you wish to set these controls to their factory defaults, press the "Factory defaults" button.

USB2DMX

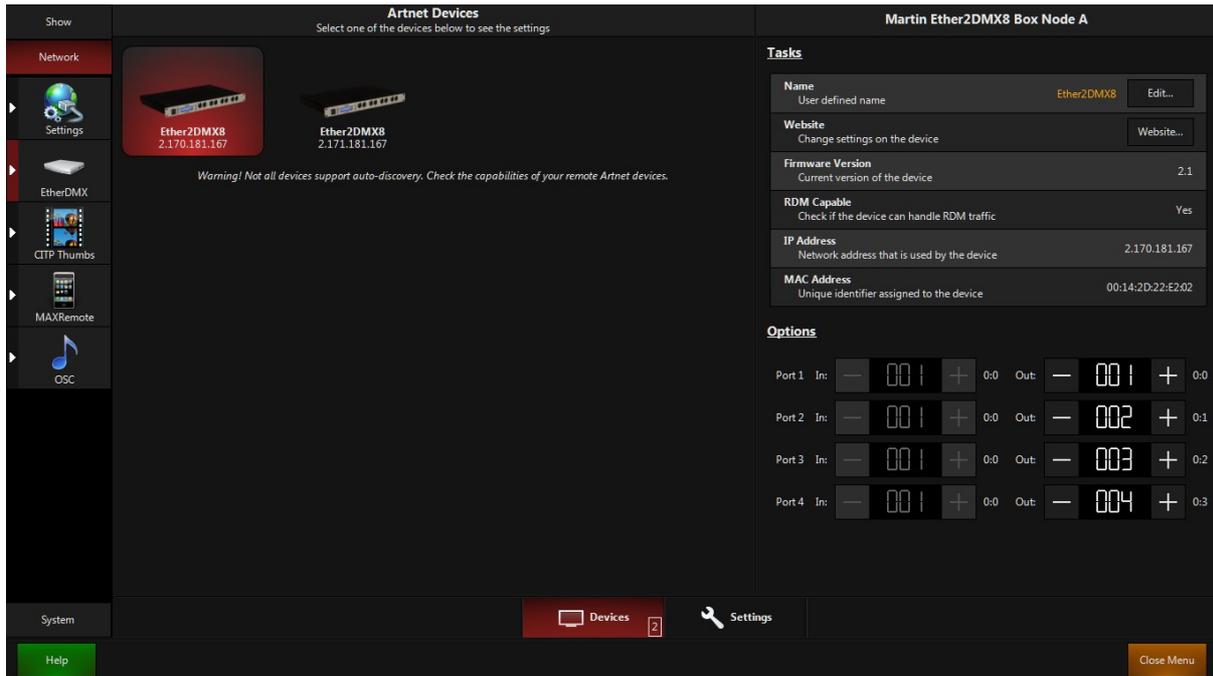
This window will be blank if no USB2DMX devices are detected



Any USB DMX Devices connected will be shown in the above window, devices such as the USB-DUO box, Entec Devices, and Max Module DMX outputs will all be available for configuration.

Artnet Devices

This window will be blank if no artnet devices are detected.



Any connected Art-Net devices will be displayed here if they support Auto Discovery. They can be configured using the options on the right.

DMX Timings

DMX Timings Per Universe

Universe <small>Current universe where you change the timings</small>	- 001 +
Mark Before Break	- 0020,00 +
Break Time	- 0200,00 +
Mark After Break	- 0020,00 +
Channel Time	- 0004,00 +

Restore Selected Universe To Factory Defaults
Reset any changes you have made to the selected universe Restore

Restore All To Factory Defaults
Reset any changes you have made to all universes Restore

Here you can setup the DMX timings per universe

Universe

Choose the universe to modify.

Mark Before Break, Break Time, Mark After Break, Channel Time

Please heed the warning at the bottom of this screen! Changing DMX time and break values should NOT be attempted by those that do not have a thorough knowledge of the DMX specification. Even those that do have a working knowledge of DMX will find little reason to adjust these settings. For information regarding the DMX standard, please refer to www.esta.org and look for publication ANSI E1.11 - 2004: Entertainment Technology - USITT DMX512-A - Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories.

Restore all to factory defaults

Pressing "Restore all to factory defaults" will reset any changes you have made to all universes.

Restore current to factory defaults

Pressing "Restore current to factory defaults" will reset any changes you have made to the selected universe.

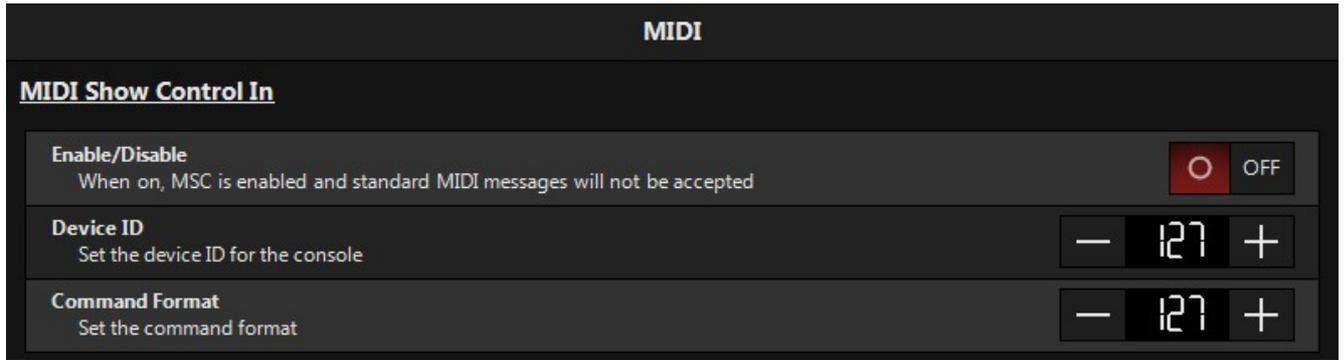
Discard changes

Discard changes and reset to the previous state.

Warning: Changing DMX timings may cause DMX communication to malfunction or may even cause damage to connected devices.

IO Settings

MIDI

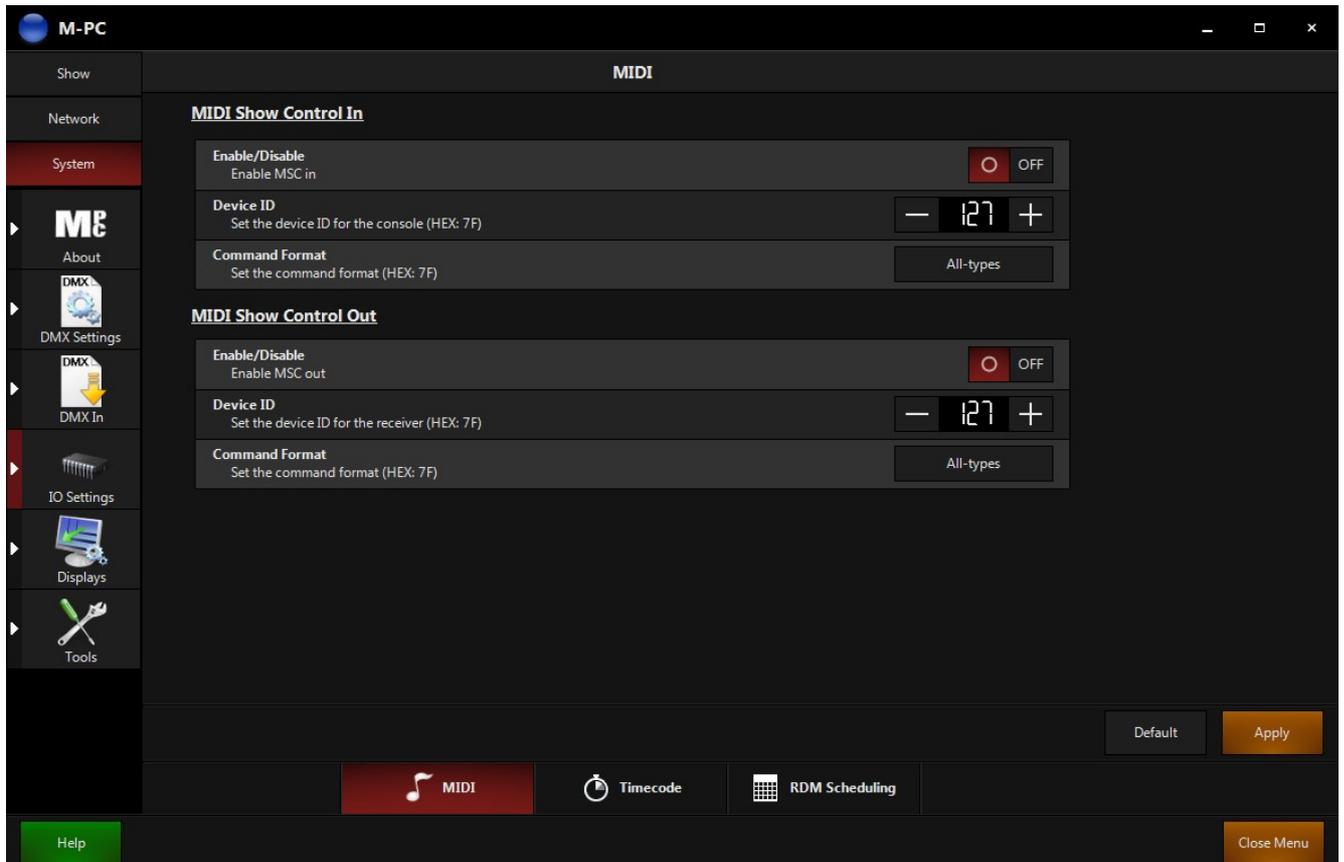


MIDI Show Control In

The MIDI tab allows you to enable MIDI Show Control and set the Device ID and Command Format options. When the On/Off toggle button is set to On, MSC is enabled and standard MIDI messages will not be accepted. By default, MSC is disabled. You can also set the Device ID for the console and the Command Format. When you have the settings as you wish them, press "Apply" to save your changes.

See "[MIDI Show Control \(MSC\)](#)" for more information about MIDI Show Control.

The M-Series supports MSC commands. In order to process these commands, you must first enable MSC in the menu under Show > Settings > MIDI. It is possible to Enable/Disable MSC in and out. They may be configured separately.



Accepted MSC Messages

The following MSC messages are accepted by the console:

Hex	Command	# of data bytes	Min Sets	M-Series Command
-----	---------	-----------------	----------	------------------

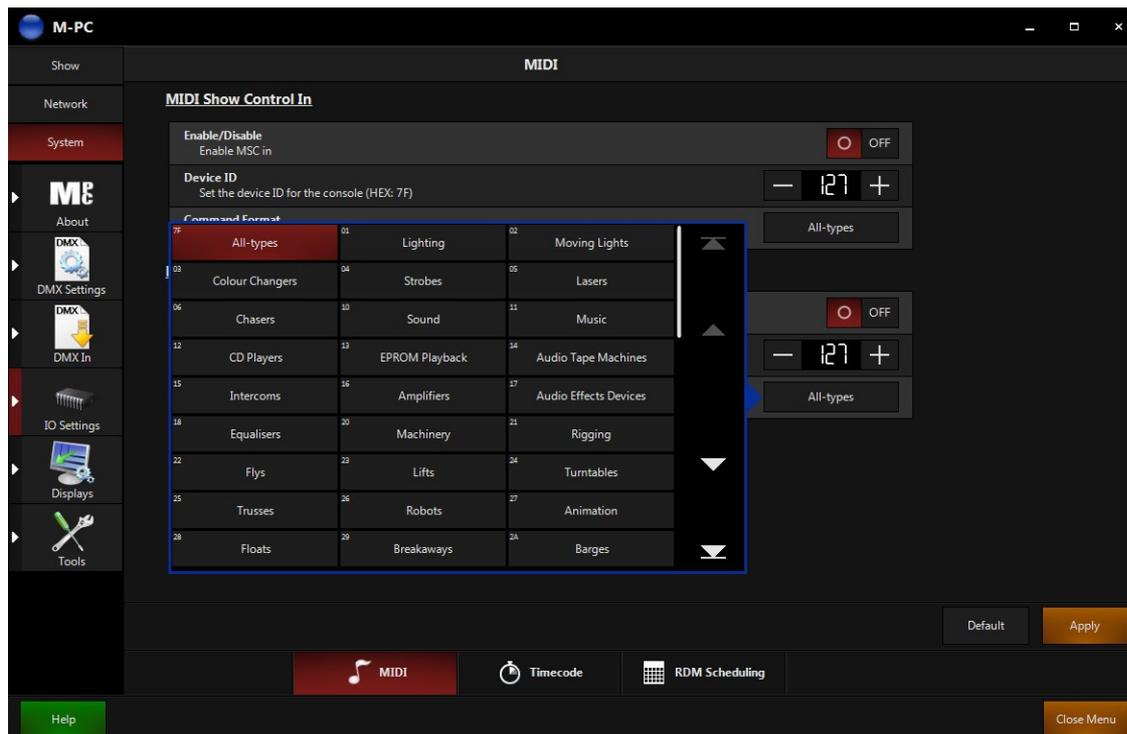
01	GO	variable	123	Go
02	STOP	variable	123	Pause
03	RESUME	variable	123	Back
06	SET	4 or 9	-23	Fader Level (see below)
08	ALL_OFF	0	-23	Snap/Release
0A	RESET	0	-23	Release All
0B	GO_OFF	variable	-23	Release Cuelist

When Set value equals "00", it will affect the Grand Master fader level. All others values will pertain to specific cuelists. When specifying the cuelist number or the variable use 2 7bit numbers with LSB listed first to create a 14bit number. Therefore, 06 00 00 vv vv will affect the Grand Master level whereas 06 cc cc vv vv will affect the level of the *selected* cuelist.

The console also supports a number of MSC Sound Commands listed below.

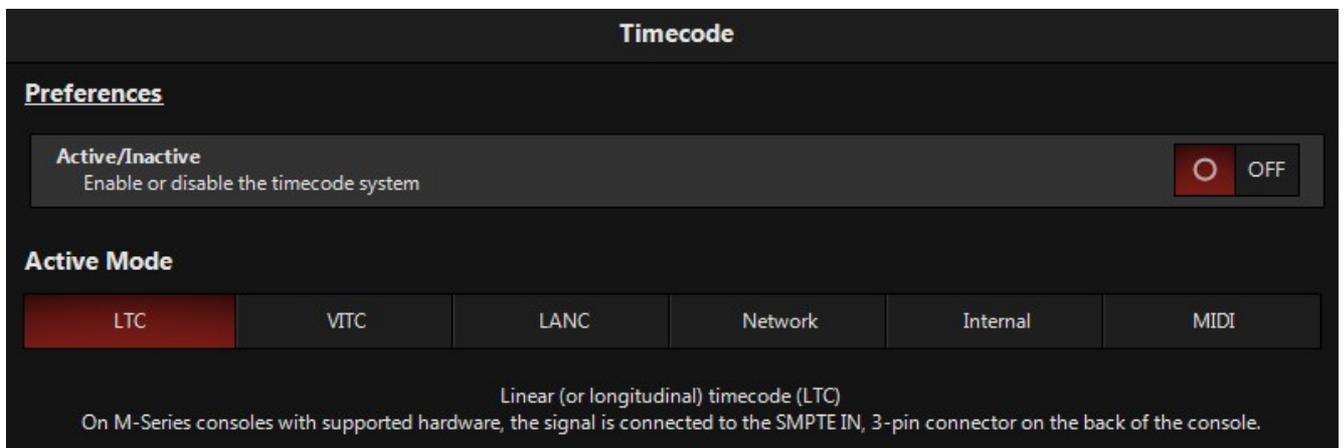
Hex	Command	# of data bytes	Min Sets	M-Series Command
10	GO/JAM_CLOCK	variable	--3	Go
1B	OPEN_CUE_LIST	variable	-23	Select Cuelist
1C	CLOSE_CUE_LIST	variable	-23	Release Cuelist

The "Command Format" Button allows you to choose preset formats for both MSC input and output respectively.



Timecode

The Timecode tab settings apply only when using an external 30 NDF timecode signal to trigger timecode cuelists. You must select the appropriate input and toggle the input on/off. These settings do not apply to MIDI or Artnet timecode signals.



Timecode

Active/Inactive

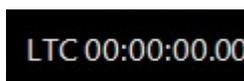
Enable/Disable the timecode system.

Active mode

Here you can set the type of timecode you will be receiving.

LTC (LTC)	On M-Series consoles with supported hardware, the VITC signal is connected to the SMPTE IN, 3-pin connector on the back of the console. http://en.wikipedia.org/wiki/Linear_timecode
VITC (vTC)	On M-Series consoles with supported hardware, the VITC signal is connected to the VITC IN, BNC connector on the back of the console. http://en.wikipedia.org/wiki/Vertical_interval_timecode
LANC (cTC)	On M-Series consoles with supported hardware, the VITC signal is connected to the SMPTE IN, 3-pin connector on the back of the console. http://en.wikipedia.org/wiki/LANC
Network (nTC)	Network timecode is not currently implemented.
Internal (iTC)	The console can generate timecode internally if there is no need to sync to an external source. Enabling this mode will add some controls to the timecode cue list view. See more at Timecode
MIDI (mTC)	You can easily capture MIDI timecode through the MIDI in port on consoles with installed MIDI hardware. http://en.wikipedia.org/wiki/MIDI_timecode

Command line indicator



Show/Hide the timecode indicator on the command line. The timecode indicator functions when valid timecode is present. When timecode is detected, the indicator will show the current timecode value.

RDM Scheduling

Preferences

Enable/Disable
Turn the RDM scheduling system on or off OFF

 **Warning! RDM scheduling will interrupt the DMX output.**
Disable scheduling when you are running a show.

Monday	ON <input checked="" type="checkbox"/>
Tuesday	<input type="radio"/> OFF
Wednesday	<input type="radio"/> OFF
Thursday	<input type="radio"/> OFF
Friday	<input type="radio"/> OFF
Saturday	<input type="radio"/> OFF
Sunday	<input type="radio"/> OFF

Repeat Run once

Run once at

07:02

RDM Scheduling

The M-Series console can run an RDM scan of your system at a scheduled time. This allows you to gather diagnostic data from RDM-capable fixtures for troubleshooting and general maintenance.

Enabled/Disabled

Turn the RDM scheduling system on or off.

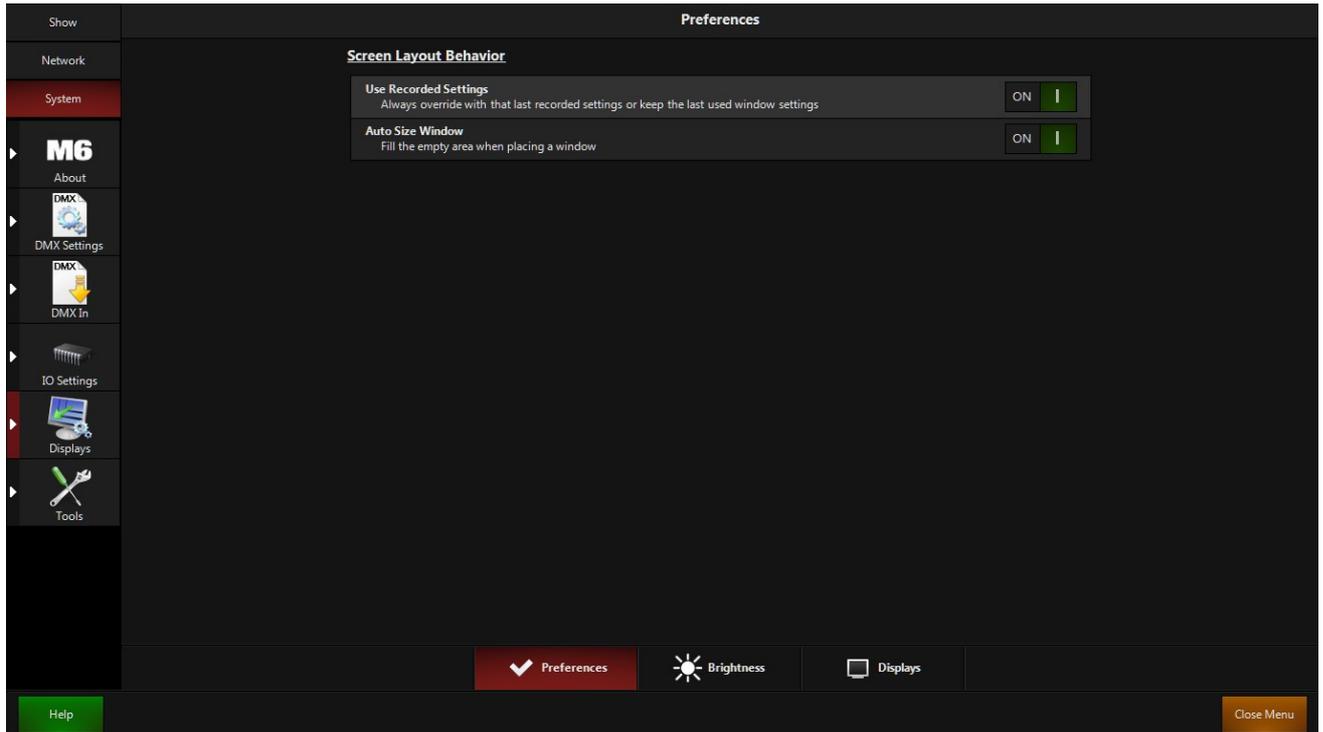
Daily Schedule

Here you can set the day(s) and time to run the RDM scan.

Warning: RDM scheduling will interrupt the DMX output of the console. Disable scheduling when you are running a show.

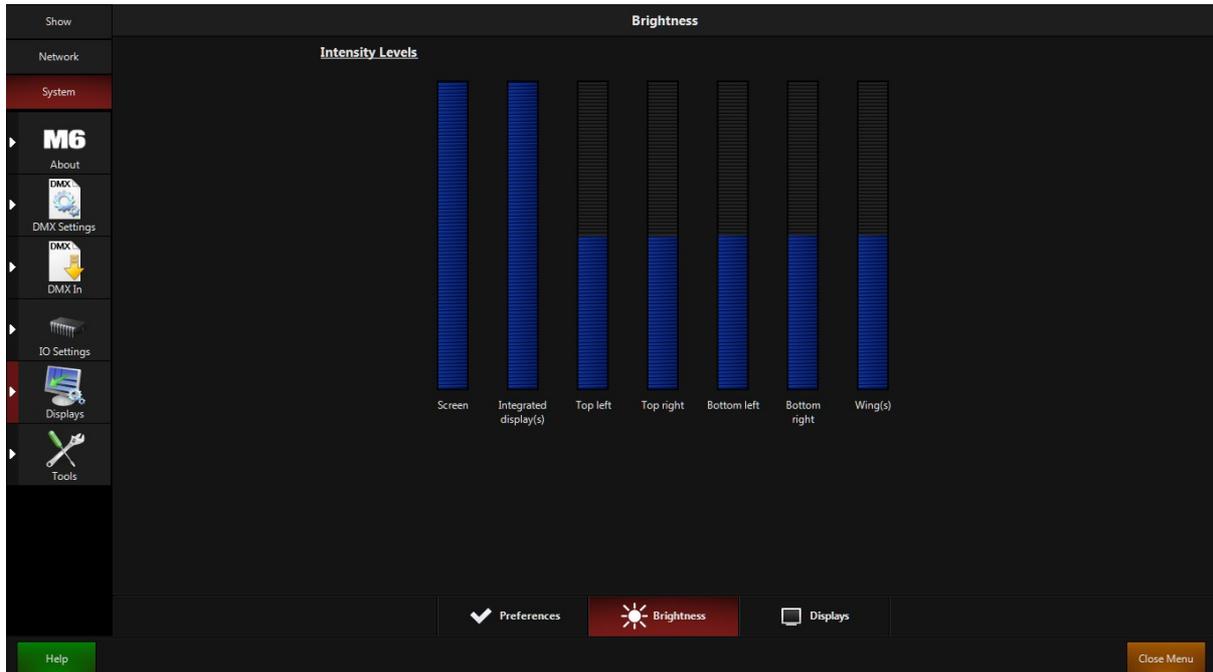
Displays

Preferences



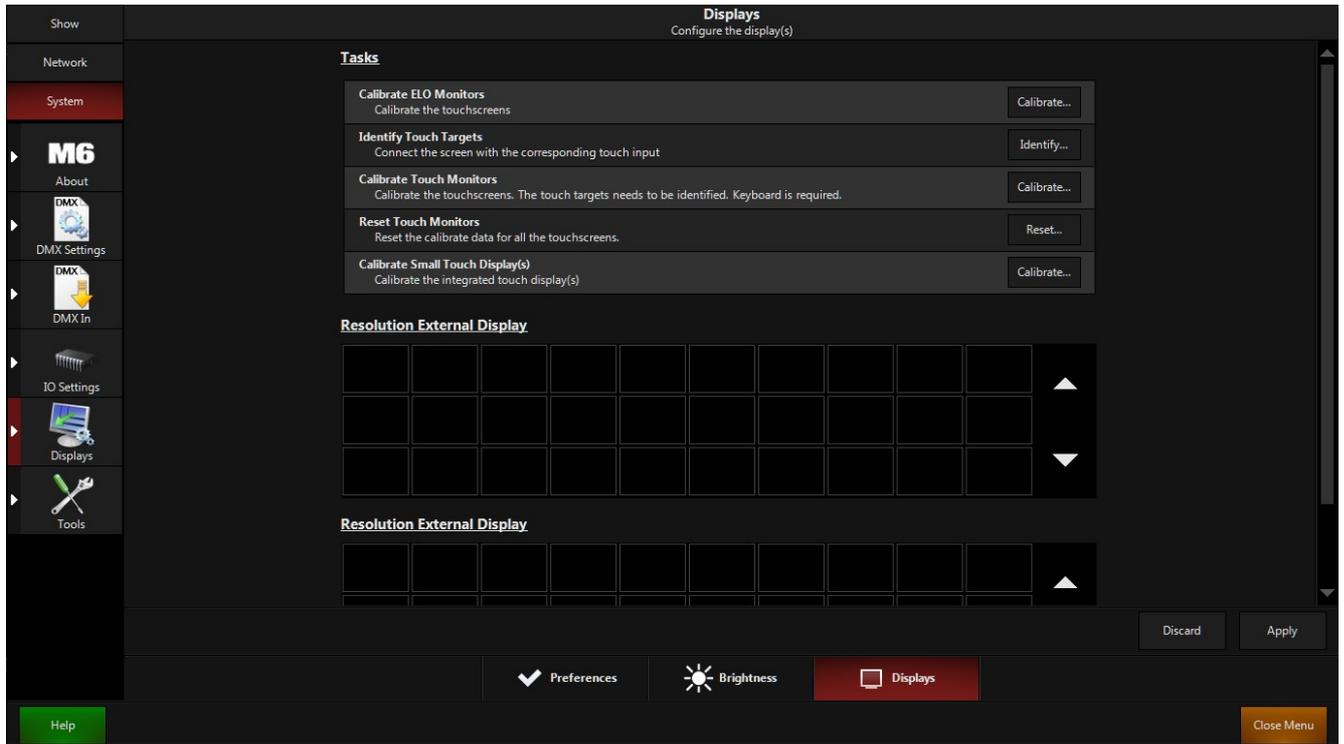
Display Preferences

Brightness



Internal & Attached Screen Brightness Controls

Displays



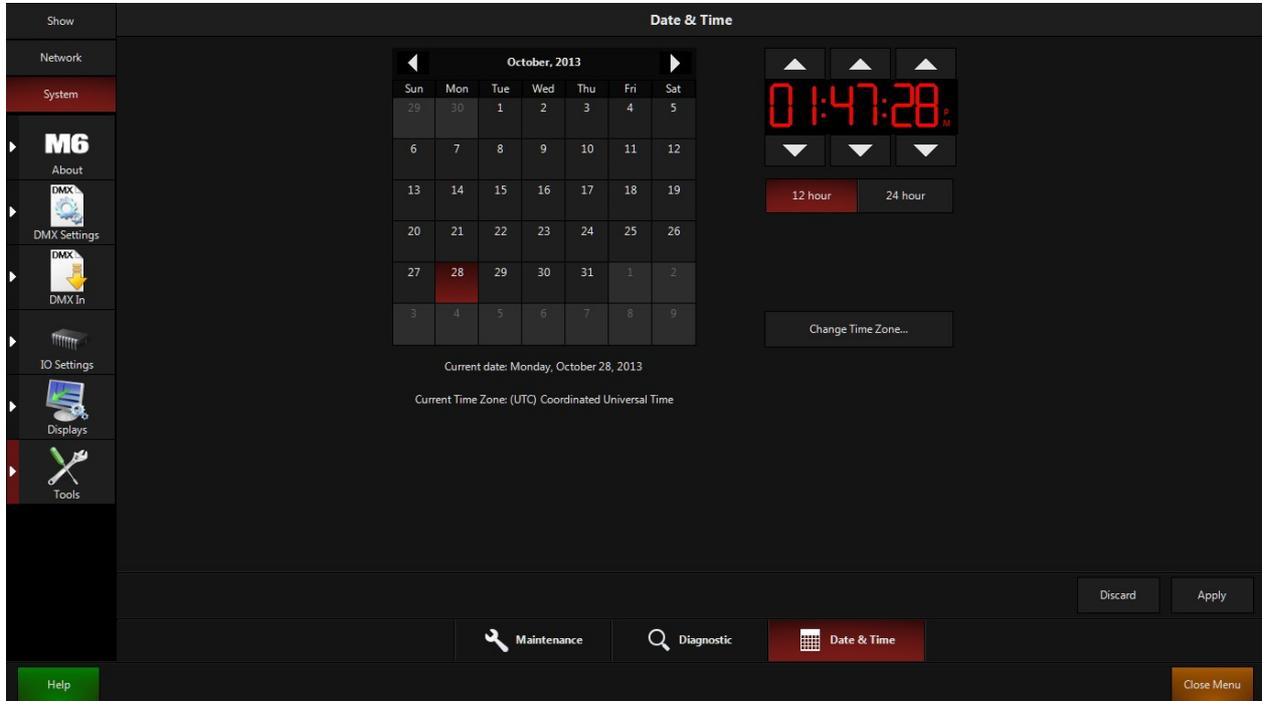
Resolutions will only be available in the menu if external screens are connected.

With a Dual or TrippleHead2GO connect, additional output resolutions will be available. By default, the Dual & Tripplehead2GO drivers are installed as part of the Operating System.

Tools

Date and Time

Use the date and time panel to set the console's date and time. You can choose from 12 and 24 hour formats. You can also set the current time zone. Press "Apply" to accept date and time changes or "Discard" to cancel. Changes made here will be reflected in the analog and digital clocks as well as in timestamps on files.



Maintenance

The M-Series Consoles are designed as rugged, road worthy console. However, some general maintenance is required. For any service related concerns not addressed below, please contact your Martin dealer or go to www.Martin.com.

Best Practices

Shutting down

The M-Series consoles run an embedded operating system, meaning there is no shut down procedure. Once you are finished with the console you can simply toggle the power switch to the off position. If you only wish to do a console restart this can be achieved via the menu.

To perform a console restart via the menu.

1. Press the Menu key
2. Navigate to the System
3. Select the Tools tab
4. Under the "Console Management" section of the maintenance tab, you have the "Restart" option.

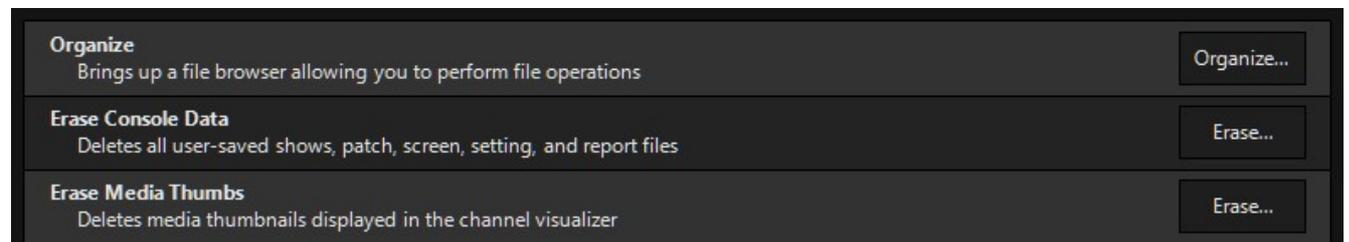


File Cleanup

Its good practice to periodically remove unneeded files from the console as this prevents accidental data loss and keeps the hard drive free of unnecessary data. Show Files, Custom Screen Layouts and Exported Reports should be removed to external media for archive or future reference. Once successfully saved to the external media, you can globally erase files from the Maintenance section of the menu.

To perform a console cleanup via the menu.

1. Press the Menu key
2. Navigate to the System tab
3. Under the maintenance page, Press the "Erase Console Data" button
4. The Console will ask you to type "Erase" into a text box
5. The Console will then ask you to confirm you wish to Erase all user files. **Once you confirm the command you can not recover the files.**



Storage and transportation

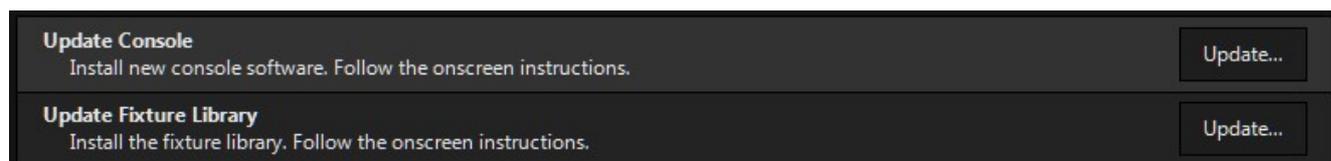
M-Series consoles have optional flightcases which can be ordered from your local Martin Dealer. Its recommended that consoles are transported in one of these cases. Custom flight cases can be manufactured by many case suppliers and if that is the desired option, an accurate CAD model of the console should be given to the case supplier so the internal foam can be moulded/cut correctly for the console to sit comfortably inside the case. CAD drawings are available on the console specifications page. Failure to secure the console inside the flightcase during storage and transport may result in a damaged console.

When new software becomes available, the release notes will state whether a Full Install or just an Update is required. An Update can be done from within the console.

It is a good idea to backup any user data such as showfiles, custom screen views and reports to external media before you do an update, this will prevent accidental data loss.

To perform a software update on the console:

1. Launch the Menu by pressing the "menu" hard key.
2. Navigate to the "System" section.
3. Access the "Tools" tab.
4. On the "Maintenance" page choose the "Update Console" button.
5. Follow all of the on screen instructions.

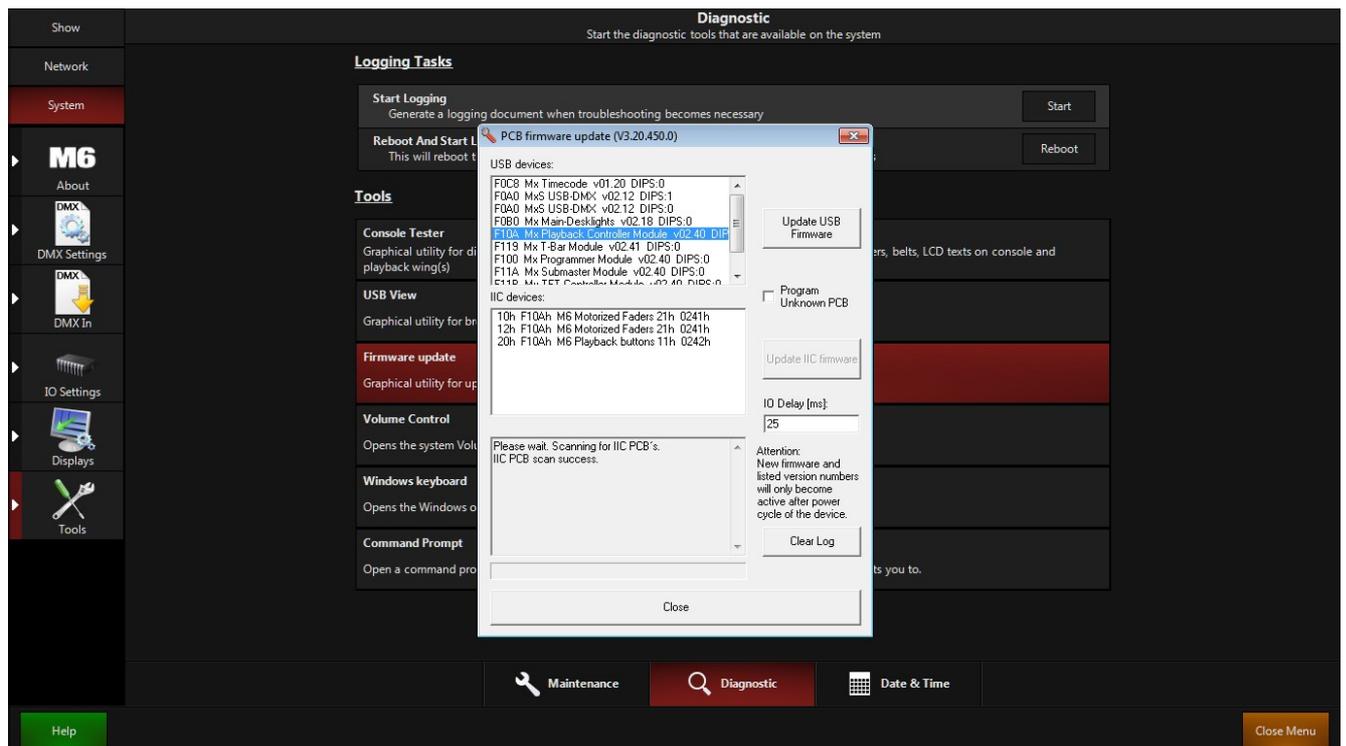


Updating Firmware

When a new console firmware version becomes available, you can update the firmware within the console software. This should not be done during a show run, as the console will "Stop Services" while it updates the firmware.

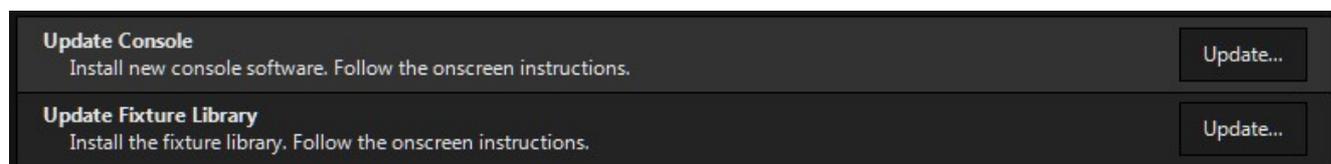
To update the firmware on the console or MPC system:

1. Press the "Menu" hardkey to access the menu.
2. Navigate to the "System" tab.
3. Choose the "Tools" page.
4. Under the maintenance "Diagnostic" section choose "Firmware Update" from the options.
5. The console will briefly show a message telling you its "Stopping Services" - This is normal.
6. A window will appear showing all the USB and IIC Devices it can find.
7. Select a USB Device then press "Update Firmware"
8. Browse to your console type folder and check to see if there is any new firmware for the selected device. (Firmware is placed onto the Hard Drive during a software install or update)
9. Repeat steps 7 & 8 for all USB and IIC devices available and exit the firmware update section.
10. A console restart is required before the firmware changes take effect.



On occasion, a new fixture library will be released to the public before a software update. To update the fixture Library or add a new fixture to the library that have been built specially for you, do the following...

1. Press the Menu hard key to access the Menu.
2. Navigate to the "System" section.
3. Choose the "Tools" tab.
4. Under the "Maintenance" section choose the "Update Fixture Library".
5. Locate and Select the .exe library update file you obtained from Controller Support.
6. Hit the blue "Install" Button on the bottom right of the screen.



Commandline Reference

Overview

The software supports an extensive amount of commands that can be entered directly from the keypad and function keys.

Many commands are context sensitive and will show a toolbar for more options and filters.

It is advised to study them carefully as many of them are very powerful and offer significant time savings when programming the system.

Shortcuts

Shortcuts

Below are some commonly used "shortcuts" or quick commands. Note: the "+" syntax means press and hold the first button.

“.” Enter	Selects all fixtures in the Programmer
“0” (Zero) Enter	Deselects all fixtures in the Programmer
“.” “0” Enter	Grabs every patched fixture in the entire show and puts it into the Programmer
Cue xx Enter	Goes to the specified cue in the specified time
Snap + Cue xx Enter	Goes to the specified cue in time zero
Snap + Release	Fades all fixtures to zero and then releases them from all playback controls in the specified time
Release + Snap	Releases all attributes of all fixtures in all playback controls simultaneously
Edit Enter	Loads all attributes of the active cue in the selected cuelist into the Programmer for editing
Record Enter	Records the contents of the Programmer into the next available whole numbered cue in the selected cuelist.
Load Load, Or Load Enter	Loads the current output of all playbacks into the Programmer

Status

The commandline shows the current status of operation.

- **BLIND**



All operations are sent to the programmer but the programmer is not sent to the DMX output. Live/Blind can be toggled with the PREVIEW button.

- **HIGHLIGHT**



Selected fixtures assume the Highlight state which usually is Open White with Intensity at 100%. Highlight can be customized from the Highlight tab in the Preset window.

- **PATCH**



The desk is in the patch mode and all operations are sent to the patch spreadsheet displayed above the commandline

- **OFFLINE**



The software can generate 2 Universes or DMX with a Martin USB DUO DMX box connected or 1 Universe with a compatible Entec device connected.

MPC can be operated without a One-Key, USB DUO DMX or Entec device connected. It does not generate DMX and the 3D Visualizer is only accepting 2 Universes of DMX for training and demo purposes. With no device connected, MPC can still be used to pre-program a show with no DMX output

Note: Grey text in the commandline indicates that this was the previous command and the commandline is now clear.

Keypad

Most commandline entries are accomplished with the keypad and commands keys in the programmer section of the console.



M1



M2GO/M2PC



Maxxyz Compact and MaxModule Programmer



M6 Programmer Module



Maxxzy

Selection

The commandline document usually references all possible selection options with [SELECTION], as many combinations of commands exist.

Usually fixtures are quickly selected from the numerical keypad.

All fixture selection can also be done visually from the Fixture and Group windows.

Command	Description
1 ENTER	Select fixture 1
1 + 10 ENTER	Select fixture 1 + 10
1 THRU 10 ENTER	Select fixture 1 through 10
1 THRU 10 - 8 ENTER	Select fixture 1 through 10 minus fixture 8
3 + 10 + 1ENTER	Select fixture 3 and 10 and 1 (and stores the order of selection)
+ 15 ENTER	add fixture 15 to current selection
- 7 ENTER	deselect fixture 7
GROUP 8 ENTER	select Group 8
- GROUP 5 ENTER	deselect Group 5
NEXT	advance forward through selected fixtures or select next set of fixture mask
PREVIOUS	step backwards through selected fixtures or select previous set of fixture mask
NEXT + PREVIOUS	Reactivate fixture selection, used when a grouping tool/mask is in place or when next/last has been used within a selection.
Selection Shortcuts	
. ENTER	select all fixtures currently in the programmer
0 ENTER	deselect all fixtures currently in the programmer
. 0 ENTER	select all fixtures patched into the current showfile
/ ENTER	invert fixture selection in the programmer

Grouping

MX-Series can combine fixtures and groups in patterns to create useful fixture selections.

It also allows to use the patterns as masks for powerful offsets and value spreads with the Fanning and Effects tools.

The function is accessed from the LCD Button "Grouping" in the right side (or second page) of the Parameter Control Section.

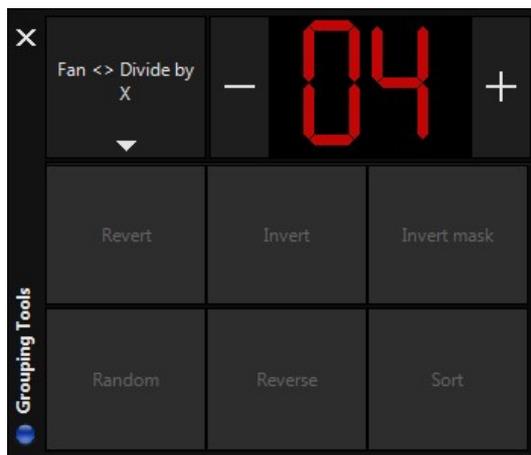
Command	Description
[REVERT TO SELECTION]	reactivate fixture selection
[INVERT ACTIVE MASK]	invert selection within selected fixture mask
[INVERT SELECTION]	invert fixture selection in the programmer
[RANDOM]	randomizes selection order to use with Fanned timings and Effect delay (Wave per x)
[SORT]	sorts current selection order by their ID #'s
[REVERSE]	sorts the current selection by the reversed ID #'s
[EVERY] 2	current fixture selection is divided into every 2 fixtures. Use NEXT to advance through masked selection
[EVERY] 4	current fixture selection is divided into every 4th fixture
[BLOCK] 5	current fixture selection is divided into blocks of 5 fixtures
[DIVIDE] 3	current fixture selection is divided into 3 equal parts
[GROUP]	NEXT/PREVIOUS advances in Groups Groups can be used as Fan and Effect Offset Points
"Use Active"	Values are applied to active fixture selection
"Use Mask"	Values are applied to all fixtures in selection all calculated value spreads (Fanning and Effect Offsets) use Mask Points

Examples

Divide by 4 Pan Fan



Mac 101s Fanned using the Fan <> Divide by 4 Mask



Fan Divide by 4



Every 2 Pan Fan



Mac 101s Fan <> Every 2

Grouping Tools

Fan <> Every X - 02 +

Revert Invert Invert mask

Random Reverse Sort

52 - MAC 101
MAC 101 Mode 16-Bit
First fanning on Pan

Mirror 2-Point Curve Clear

FX Timing

Fanning

Grouping

Rate

FAN	First	Center	Last	Offset
	-11 %	0 %	+11 %	0 %

Conditional Fixture Selection

This feature allows to select fixtures based on their current state in the playback on stage, for example all RED fixtures that are pointing to the DRUMS preset, or all fixtures that are currently 100% Intensity.

The command can be executed with an empty programmer to query the entire patch.

If fixtures are already selected in the programmer, the query is only considering those fixtures. This allows to select a Group first, e.g. all Washlights, then to select all BLUE fixtures.

The command can be executed as a selection tool with GROUP or as capture tool using LOAD.

Command	Description
Group [Touch] Preset	selects all fixtures that currently use the preset in the output
Group @ Preset + Preset + Preset Enter	selects all fixtures that currently use all of the selected presets in the output
(hold) Group [Touch] Preset + Preset + Preset	selects all fixtures that currently use all of the selected presets in the output
Group FULL	selects all fixtures at 100% Intensity in the output
Group Enter	selects all fixtures above 0% in the output
Group @ 20 Enter	selects all fixtures with exactly 20% Intensity
Group @ 50+ Enter	selects all fixtures with 50% and higher Intensity
Group @ 30- Enter	selects all fixtures with 30% and less Intensity
Group @ 20 THRU 80 Enter	selects all fixtures with from (and including) 20% to 80% Intensity
Load [Touch] Preset	read output for all fixtures that currently use the preset in the output
Load @ Preset + Preset + Preset Enter	read output for all fixtures that currently use all of the selected presets in the output
(hold) Load [Touch] Preset + Preset + Preset	read output for all fixtures that currently use all of the selected presets in the output
Load Group FULL	read output for all fixtures at 100% Intensity in the output
Load Group @ 20 Enter	read output for all fixtures with exactly 20% Intensity
Load Group @ 50+ Enter	read output for all fixtures with 50% and higher Intensity
Load Group @ 30- Enter	read output for all fixtures with 30% and less Intensity
Load Group @ 20 THRU 80 Enter	read output for all fixtures with from (and including) 20% to 80% Intensity

Intensity Commands

Intensity commands are used to assign dimmer levels to the fixture without needing to access the parameter controls.

They also allow to add or subtract values and they can be used to spread / fan levels across the fixture selection for more dynamic looks.

This is especially interesting in combination with the [Grouping](#) feature.

Command	Description
[SELECTION] FULL	set Intensity for [SELECTION] to 100 % (e.g. 10 FULL) and confirm fixture selection
[SELECTION] @ 25 ENTER	set Intensity for [SELECTION] to 25 % (e.g. 15 @ 25 Enter)
[SELECTION] @ + 15 ENTER	add 15 % Intensity to [SELECTION] (e.g. Group 5 @ + 10 Enter)
[SELECTION] @ - 25 ENTER	subtract 25% Intensity from [SELECTION] (e.g. 15 @ - 10 Enter)
[SELECTION] @ 0 THRU 100 ENTER	spread the Intensity across the [SELECTION] from 0 to 100% (e.g. @ 0 > 100 Enter)
[SELECTION] @ 0 THRU 100 THRU 0 ENTER	spread the Intensity across the [SELECTION] from 0% to 100% to 0% (e.g. @ 0 > 100 > 0 Enter)

Parameter Commands

Values can be entered directly for specific parameters, e.g. Magenta at 50%. It also possible to fan values across a selection with THRU.

Presets can be selected directly from the commandline with the @ key and the LCD Parameter Buttons.

Command	Description
[Selection] @ Parameter LCD # Enter	Selects Preset # in Parameter Group specified, e.g. @ Color 10 Enter
[Selection] @ Parameter Button # Enter	Assigns Value to Parameter, (Percent or DMX depends on Programmer setting) e.g. @ Magenta 50 Enter
[SELECTION] @ Parameter Button 0 THRU 100 ENTER	spread the Value across the [SELECTION] from 0 to 100% (e.g. @ Cyan 0 > 100 Enter)
[SELECTION] @ Parameter Button 0 THRU 100 THRU 0 ENTER	spread the Value across the [SELECTION] from 0% to 100% to 0% (e.g. @ Iris 0 > 100 > 0 Enter)

Playback Select

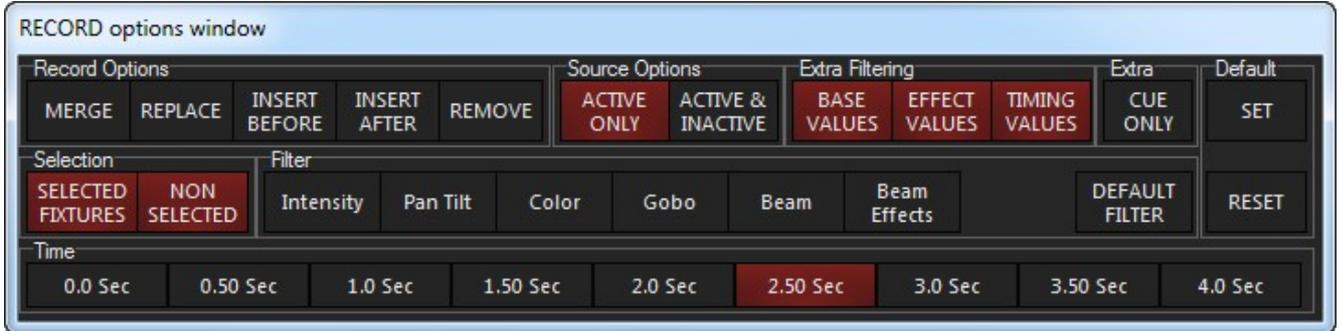
The selected cue list is used for all modifications, options and [CUE](#) commands.

Command	Description
PLAYBACK FADER / PLAYBACK MODULE	Default is LCD button, but can be customized. Also can be selected using the touch screen.
BUTTON MODULE	Default is LCD button, but can be customized.
SUBMASTER MODULE	When empty the flash button acts as SELECT. A temporary Select override button is located in the 5 LCD section
PLAYBACK BUTTONS	The screen button acts based on the chosen Mode above (Go, Pause, Select). Empty buttons are always SELECT
CUELIST BUTTON	The cue list directory buttons always act as SELECT

Record

Record is used to create new items in the showfile or to overwrite an existing one. A popup will ask for confirmation and overwriting choices depending on the item.

A toolbar is used to further define filters and options for RECORD.



Command	Description
RECORD [PLAYBACK SELECT]	add new cue to end of specific playback If playback is empty asks for cuelist type to create
RECORD CUE # ENTER	record Cue to specific Cue # in current selected cuelist
RECORD CUE # THRU # (e.g. RECORD CUE 2 THRU 10 ENTER)	if cues exist in range only merging in existing cues is possible If cue range is not existing, all cues within the range are created
RECORD CUE # + # + # THRU #	if cues exist conflict popups appear per cue
RECORD CUE # [PLAYBACK SELECT]	record Cue to playback
RECORD GROUP # ENTER	create new fixture Group and store fixture order and fixture filter settings If Group exists, pop up asks to MERGE or REPLACE
RECORD [Touchscreen GROUP]	create new fixture Group and store fixture order and fixture filter settings If Group exists, pop up asks to MERGE or REPLACE
RECORD [Touchscreen PRESET]	create new preset If existing preset is touched, pop up asks to MERGE or REPLACE
	default filter only records only values of selected preset parameter group, or filtered parameters as set in Record toolbar
(Hold) RECORD [Screenview button]	record new screenview
RECORD [Groupmaster A or B]	assigns selected fixtures to Groupmaster (replaces current fixtures)

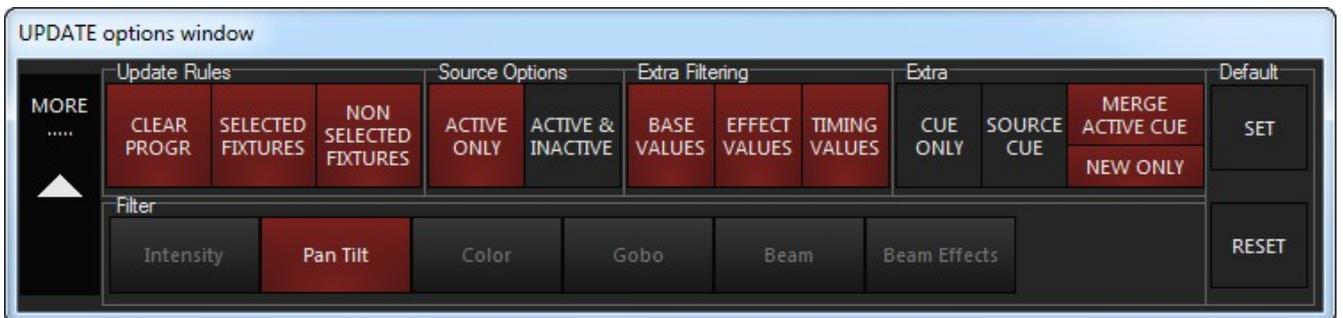
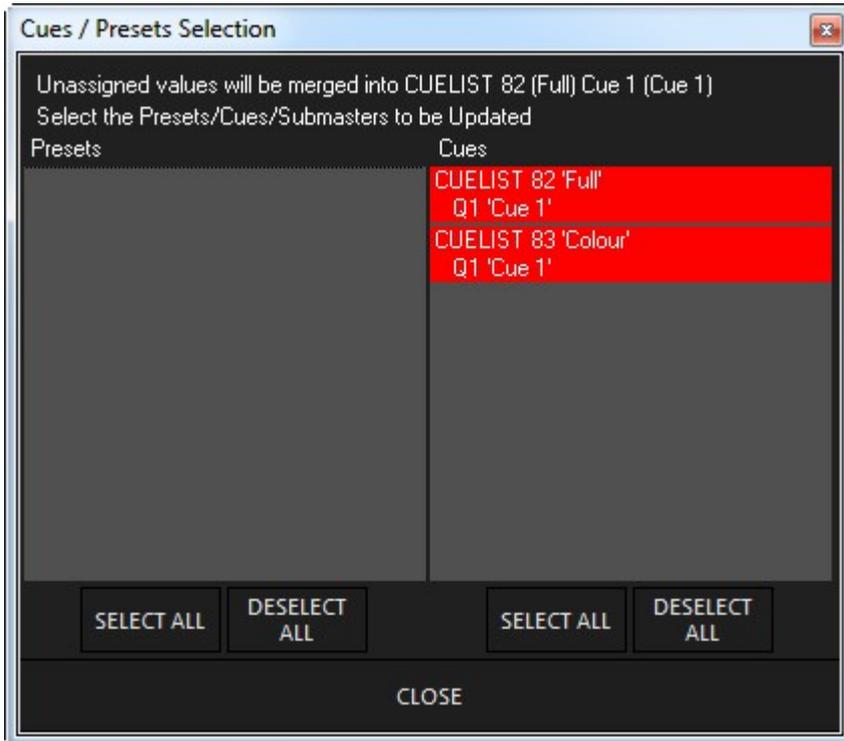
Edit

Editing is used to change an existing item of the showfile.

Command	Description
EDIT [Touchscreen PRESET]	edit the preset in the programmer, confirm changes of the changes with UPDATE
EDIT ENTER	edit the current active cue of the currently selected cuelist into the programmer for editing, confirm with UPDATE
EDIT CUE # ENTER	edit the cue # of the currently selected cuelist into the programmer for editing, confirm with UPDATE
EDIT [Touchscreen GROUP]	edit the group in the programmer, confirm with UPDATE
EDIT GROUP 4 ENTER	edit group 4 in the programmer, confirm with UPDATE
EDIT [BANK]	renaming of current Bank
(Hold) EDIT [Screenview button]	edit name of screenview
EDIT F-Key	edit shortcut functions for Function keys

Update

Update is either used to confirm a open EDIT command or it is used to trace current programmer values into the playback and offer direct updating of many playbacks and presets at once. This is called "auto-update" and will open a popup to select options and include/exclude presets and cuelists.

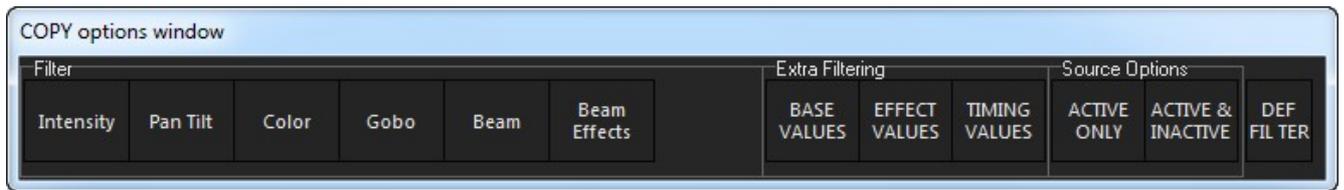


Command	Description
UPDATE (confirm popups) UPDATE	uses current programmer values to trace current cues and presets using them
	toolbar allows to select / deselect which cues and presets to update.
	Second UPDATE press confirms command

Copy

Copy is used to duplicate an item.

Copy Cue also shows some additional filter options in a toolbar.



Command	Description
COPY [Touchscreen PRESET] [Touchscreen PRESET]	create copy of existing preset
COPY [Touchscreen GROUP] [Touchscreen GROUP]	create copy of existing group
COPY GROUP 5 @ 10 ENTER	create copy of existing group
COPY [PLAYBACK SELECT] [PLAYBACK SELECT]	create a copy of the playback on new destination. Destinations are Submaster Faders, Playback Buttons, Playback Faders, Virtual Playback Buttons This does NOT create a new cue list
COPY [CUELIST BUTTON] [PLAYBACK SELECT]	Assigns the cue list to a playback.
COPY [CUELIST BUTTON] [CUELIST BUTTON]	create copy of the cue list. This DOES create a new cue list
COPY CUE 5 @ 15 ENTER	copy cue 5 to 15 on currently selected cue list
COPY CUE 5 @ 15 [PLAYBACK SELECT]	copy cue 5 from current selected cue list to cue 15 on specific playback cue list
COPY CUE 5 @ [PLAYBACK SELECT]	copy cue 5 from current selected cue list to a new cue at the end of specified playback

Move

Move is used to rearrange items.

Command	Description
MOVE [Touchscreen GROUP] [Touchscreen GROUP]	move Group button to a new #
MOVE GROUP 5 @ 10 ENTER	move group 5 to group 10
MOVE [Touchscreen PRESET] [Touchscreen PRESET]	move Preset button Preset can be moved between different preset pages, e.g. Move a Color preset to the P/T Preset page
MOVE [PLAYBACK SELECT] [PLAYBACK SELECT]	move cuelist to a different playback
MOVE [CUELIST BUTTON] [CUELIST BUTTON]	move cuelist to new #. Macros referencing this cuelist will be updated automatically
MOVE [CUELIST BUTTON] [PLAYBACK SELECT]	assign the cuelist to a playback
MOVE CUE 5 @ 15 ENTER	move cue 5 to 15 on currently selected cuelist
MOVE CUE 5 THRU 8 @ 15 ENTER	move cue 5 through 8 to cue 15 on current selected cuelist

Delete

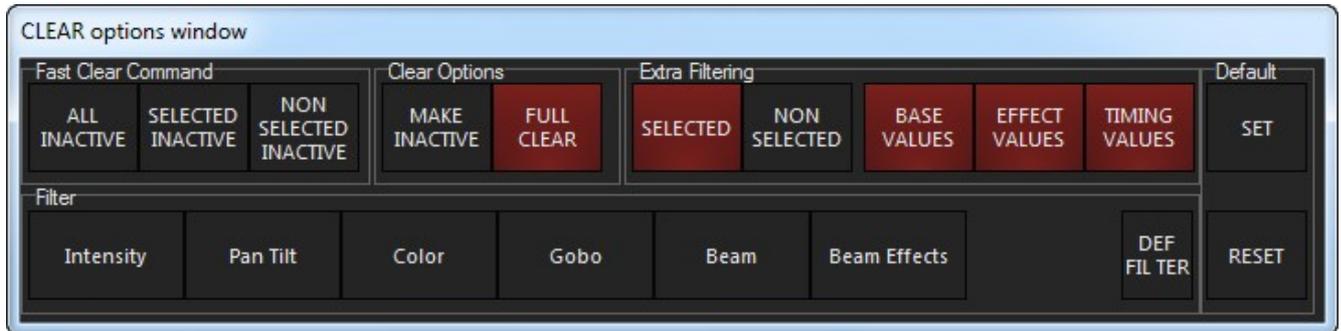
Delete is used to remove items from the show.

Command	Description
DELETE [Touchscreen PRESET] ENTER	delete a preset
(hold) DELETE [Touchscreen PRESET] (release) DELETE	delete a preset
DELETE [Touchscreen GROUP] ENTER	delete a group
(hold) DELETE [Touchscreen GROUP] (release) DELETE	delete a group
DELETE GROUP 12 ENTER	deletes group 12
DELETE [PLAYBACK SELECT] ENTER	remove cuelist assignment from playback
(hold) DELETE [PLAYBACK SELECT] (release) DELETE	remove cuelist assignment from playback
DELETE [CUELIST BUTTON] ENTER	delete a cuelist
(hold) DELETE [CUELIST BUTTON] (release) DELETE	delete a cuelist
DELETE [Groupmaster A or B] ENTER	delete fixture selection from groupmaster
DELETE CUE 8 ENTER	delete cue 8 from selected cuelist
DELETE CUE 8 THRU 12 ENTER	delete cue 8 through 12 from selected cuelist
DELETE CUE 8 THRU 12 + 21 ENTER	delete cue 8 through 12 and cue 21 from selected cuelist
(Hold) DELETE [Screenview button]	delete screenview

Clear

Clear is used to remove values from the programmer. It also is a shortcut for unpatching which is described in the [PATCH](#) section.

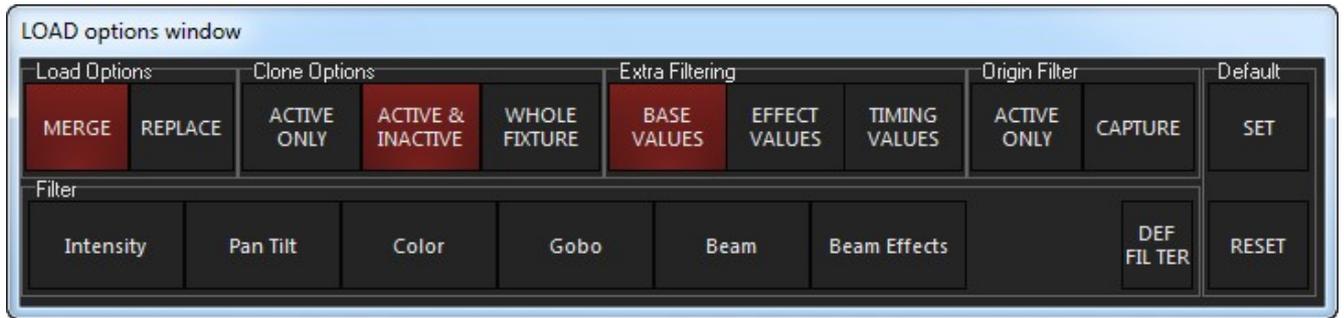
A toolbar allows filtering and multiple option in executing the CLEAR function.



Command	Description
CLEAR ENTER	removes all values from current selected fixtures in programmer
CLEAR [SELECTION] ENTER	removes all values from fixtures in [SELECTION] e.g. Clear 5 Enter, Clear Group 10 Enter, Clear 8 thru 15 Enter
CLEAR CLEAR	all values and all fixture selection is removed from the programmer
(hold) CLEAR [LCD Channel button]	removes the values out of the programmer (e.g. Color)
(hold) CLEAR [Channel button]	removes the value out of the programmer
(hold) CLEAR [multiple Group or fixture buttons]	removes all values from specific fixtures or groups
CLEAR [Fixure button]	removes all values for the specific fixture
CLEAR [Touchscreen GROUP]	removes all values for the specific Group

Load

Load has two main function. Capturing a parameters current value from the output, and cloning / copying values across fixtures in the programmer.



Command	Description
LOAD LOAD	read current ouput for all selected fixtures
LOAD [SELECTION] ENTER	read current ouput for fixture in [SELECTION] e.g. Load 5 thru 10 Enter or Load Group 3 Enter
(hold) LOAD [Fixture button]	read current ouput for specific fixture
(hold) LOAD [Touschscreen GROUP]	read current ouput for specific Group
(hold) LOAD [LCD Channel button]	read current output for all parameters in selected button (e.g. capture all color parameters)
(hold) LOAD [Channel button]	read current output for all parameters in selected button (e.g. LOAD Magenta)
(hold) LOAD [multiple Group or fixture buttons]	read current ouput for specific Groups or Fixtures
LOAD [Destination SELECTION] @ [Source SELECTION] ENTER	Copy values (clone) to the destination selection from the source selection
	Examples: Load 1 @ 5 Load Group 5 @1 Load 3 Thru 9 @ 1 Thru 3 LOAD 1 THRU 5 @ 15 THRU 10
LOAD @ [Source SELECTION] ENTER	Copy values (clone) to the current selection from the source selection (uses selection/ command order)
	Example: Load @ 5 Enter
LOAD [SELECTION] @ CUE # ENTER	Extract the values for the selection out of the specific cue
	Example: Load 1 @ Cue 10 Enter
LOAD @ CUE # ENTER	Extract values for the current selection out of the specific cue
LOAD ENTER (no selection in programmer)	load all active playback values into the programmer and select all current active fixtures

Cue

Cue is used to target a CUE directly for execution on the selected cuelist and will read GOTO CUE on the commandline.

Some command may also require CUE like COPY, MOVE, DELETE and LOAD.

Command	Description
CUE # ENTER	Goto Cue in selected cuelist
CUE # [PLAYBACK SELECT]	Goto Cue in specific Playback button cuelist
CUE # [CUELIST BUTTON]	Goto Cue in specific Virtual cuelist
(hold) [SNAP] before confirming the command to jump to the cue with no timing	

Fade and Delay

Fade and Delay timings are used to set specific timings for parameters. Fanned timings are a very powerful tool for dynamic looks, especially when used with the [GROUPING](#) tool.

All commands shown can be executed with DELAY instead of of FADE

Command	Description
FADE / DELAY	
FADE [LCD Channel button] # ENTER	assign fadetime to the specified parameter group (e.g. Color) of current selection
FADE [Channel button] # ENTER	assign fadetime to specific channel (e.g. Magenta) of current selection
FADE # ENTER	assign fadetime to all parameters of the current selection
Remove timings from programmer with [-]	
FADE [LCD Channel button] - ENTER	removes all fade times and reverts them back to use base cue fade time
FADE [Channel button] - ENTER	removes all fade times and reverts them back to use base cue fade time
FADE - ENTER	removes all fade times and reverts them back to use base cue fade time
Split times for Intensities can be entered with [/]	
FADE Intensity 2 / 4 ENTER	4s fade time for incoming intensities, 2s for outgoing intensities
FADE Intensity 8 / ENTER	8s fade time in, out time is untouched
FADE Intensity / 1ENTER	1s fade time out, in time is untouched
FADE Intensity 5 / - ENTER	5s fade time in, out time gets removed
Fanned (spread) timing can be created with THRU	
DELAY [LCD/Channel/@] 0 THRU 10 ENTER	spread the delay time evenly from 0 to 10s across the selected fixtures (in order of selection)
... @ 0 THRU 5 THRU 0	spread the delay time from 0s to 5s in the center to 0s at the end of the selection
... @ 2 THRU 0 THRU 2	spreads 2s on the edge to 0s in the center
multiple THRU are possible; split times can be fanned separately for in/out	
all combinations with fanning and split times are possible	
FADE Intensity 2 THRU 8 / 4 ENTER	incoming fades are spread from 2s to 8s, outgoing fades are simple 4s
Parameter time offset	
FADE [LCD/Channel]+ 5 ENTER	adds 5s to every parameter fade time
FADE [LCD/Channel] - 5 ENTER	subtracts 5s from every parameter fade time
DELAY [LCD/Channel] + 0 THRU 4 ENTER	adds a fanned range of 0 > 4 s to every parameter time

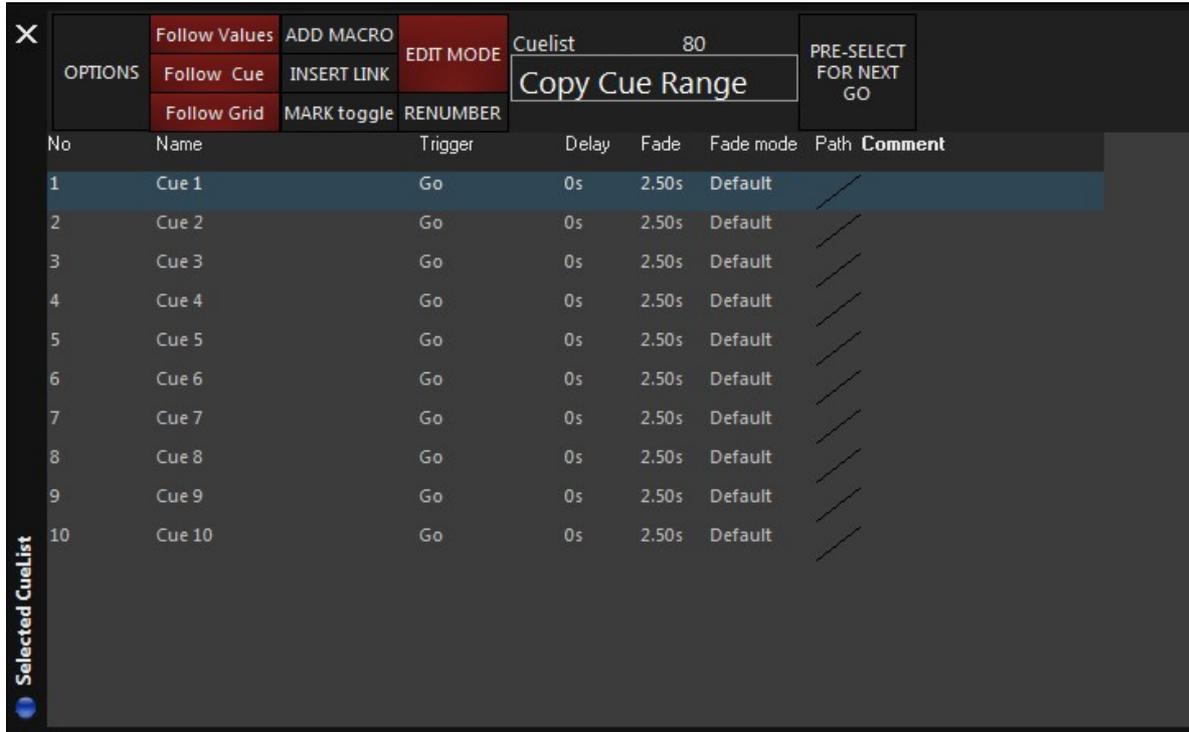
Bank

Banks can be accessed directly on the consoles Playback Section

BANK	
BANK # ENTER	Goto Bank #

Cuelist Edit

The cuelist surface is designed as an Editor. By default the surface is protected. To enable any changes the cuelist window has to be switched to EDIT Mode. This mode is active as long as the button is red.



Command	Description
Touch name cell, type name, ENTER	change cue name; changing multiple cells at once enumerates the name, e.g Gobo 1, Gobo 2, Gobo 3....
Touch Trigger cell, select Trigger Mode, # Enter	change Cue Trigger to Go / Follow / Wait and assign x seconds for Follow or Wait
Touch Trigger cell, select Trigger Mode, Enter	toggle trigger mode without changing the time
Touch Trigger cell, 3 Enter	change trigger time to 3s without changing trigger mode
Touch Fade, 4 ENTER	change cue Base Fade time to 4s
Touch Fade, 4/2 ENTER	assign split base fade time 4s in, 2s out to cue
Touch Fade, 5 / Enter	change in time to 5s, leave out time
Touch Fade, / 8 Enter	leave in time, change out time to 8s
Touch Delay, 2 / 6 ENTER	assign split base delay time of 2s in, 6s out to cue
Touch Delay, 2 ENTER	change cue Base Delay time to 2s
Touch Delay, 5 / Enter	change delay in time to 5s, leave out time
Touch Fade Mode, change to Fade All, Snap All, Default	changes the cue to make all parameters SNAP or FADE
Touch Fade (Delay) Override , 3 Enter	changes all parameter delay times to 3s
Touch Fade (Delay) Override , 1 THRU 3 Enter	changes lowest and highest parameter times in cue (and adjust all times in between relatively)
Touch Fade (Delay) Override, - Enter	removes all parameter times out of the cue (all parameter will use the cue base time again)
Touch Fade (Delay) Override, + 2 Enter	adds 2s to every parameter time in the cue
Touch Fade (Delay) Override, - 3 Enter	subtracts 3s from every parameter time in the cue
Touch Comment	change the cue comment (text only);
only in TIMECODE mode	
touch TimeCode cell, enter new	changes timecode time

Command	Description
TimeCode Enter	
touch TimeCode cell, + 15 Enter	adds 15 frames to existing timecode
touch range of TimeCode cells, - 5 Enter	subtract 5 frames from range of cues
touch TimeCode cell, - - Enter	erases timecode and reverts to manual trigger
Touch MACRO	change cue macro
LINK; touch CUE	select destination cue to jump to
LINK; touch AMOUNT	specify amount of links to be executed

Cuelist Renumber

Cue numbers can only be changed when the Renumber mode is active (red).

Additional information required

Do you want to keep the pointcues/offsets?

KEEP [11..11.4]

SPREAD with offset .1 [11..11.4]

SPREAD with offset .5 [11..13]

SPREAD with offset 1 [11..15]

SPREAD with offset 10 [11..51]

CANCEL Renumbering

Command	Description
Touch Cue 3 cell, 15 Enter	renumbers cue 3 to cue 15
Select range of Cue # cells, 10 Enter	assigns range of cues to new start at cue # 10, Pop-Up will offer different spreads:
	by .1 (10.1, 10.2, 10.3...)
	by 5 (10, 10.5, 11, 11.5...)
	by 1 (10, 11, 12...)
	by 10 (10, 20, 30, 40...)
	leave untouched (leaves spacing intact, e.g. 1 1.5 2 renumbered to 10 creates 10 10.5 and 11)

Patch

MX-Series provides a patch commandline that allows many different combinations. In addition to the commandline, adding of fixtures and assigning addresses also offers a Wizard Mode.

Patching is active as long as the commandline indicates "PATCH".



Commandline

Command	Description
[TYPE]	fixture type from existing fixtures in show or new types out of fixture library
(AutoID) (AutoAddress) (AutoDMXUniverse)	console suggested values for automatic fixture IDs and addressing
UNIVERSE # ENTER	select Universe # for patching and viewing
Universe " < " or " > "	scrolls through available Universes with the < > touchscreen buttons
RECORD 20 [TYPE] (AutoID) ENTER	Adds 20 fixtures of TYPE to the patch at next available fixture ID
RECORD 20 [TYPE] 101 ENTER	Adds 20 fixtures of TYPE to the patch starting at ID 101
RECORD 20 [TYPE] (AutoID) @ 201 ENTER	Adds 20 fixtures of TYPE starting at the next available ID and patches it to address 201
RECORD 20 [TYPE] 101 @ 201 ENTER	Adds 20 fixtures of TYPE starting at ID 101 and patches it to address 201
RECORD [TYPE] (AutoID) ENTER	adds one fixture of TYPE to the patch
RECORD [TYPE] 101 ENTER	adds one fixture of TYPE to the patch at ID 101
RECORD [TYPE] 101 + 105 + 108 ENTER	adds fixtures 101, 105, 108 of TYPE
RECORD [TYPE] 101 THRU 110 ENTER	adds fixtures 101 > 110 of TYPE
RECORD [TYPE] 101 @ 201 ENTER	add fixture 101 of TYPE and patch it to address 201
RECORD [TYPE] 101 + 105 + 108 @ 201 ENTER	add fixture 101, 105, 108 of TYPE and patch it to address 201
RECORD [TYPE] 101 THRU 110 @ 201 ENTER	add fixture 101 > 110 of TYPE and patch it to address 201
115 @ 401 ENTER	patch fixture ID 115 to address 401
115 THRU 121 @ 5 ENTER	patch fixture ID 115 > 121 to address 5
115 @ (AutoAddress)	patch fixture 115 at next available DMX address
115 + 120 THRU 125 @ 201 ENTER	patch fixture 115 and 120 > 125 @ address 201
51 THRU 31 @ 354 ENTER	patches 51 > 31 to address 354 using the inverted fixture order
101 @ 1 + 15 + 91 ENTER	patch fixture 101 at address 1, 15, 91
101 @ 5 THRU 25	patch fixture 101 at address 5 > 25
1 1 @ 105	patches fixture part 1 of ID 1 to address 105
1 1 THRU 10 1 @ 105	patches fixture part 1 of ID 1 > 10 to address 105
(patching @ address can also be done by touching the address cells)	
CLEAR 101 ENTER	clear (unpatch) the DMX address of fixture 101
CLEAR 101 + 105 ENTER	unpatch fixture 101 and 105
CLEAR 1 + 5 THRU 10 ENTER	unpatch fixture 1 and 5 > 10
CLEAR 101 @ 15 ENTER	unpatch address 15 from fixture 101
CLEAR @ 91 ENTER	unpatch address 91 from a fixture in current Universe
CLEAR UNIVERSE 5 ENTER	unpatch all fixtures in universe 5

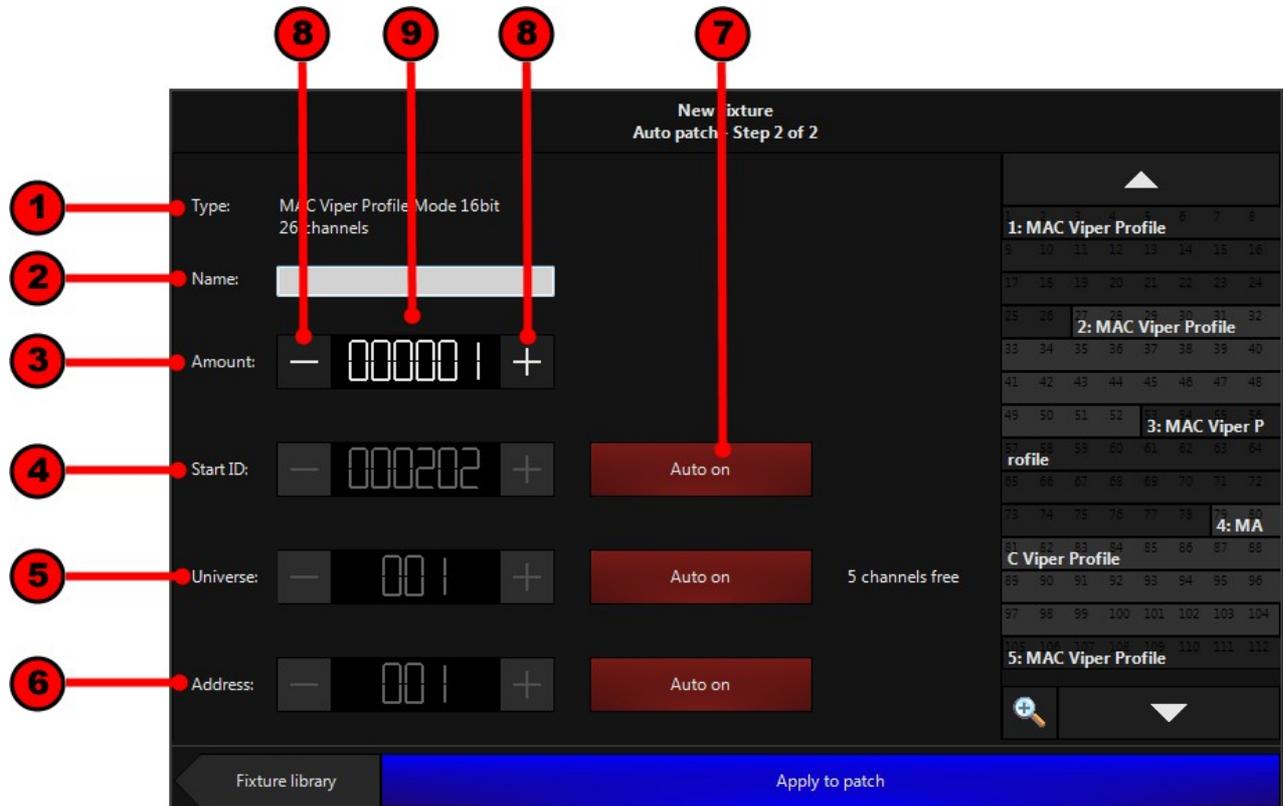
Command	Description
DELETE 101 ENTER	delete fixture 101 from the showfile
DELETE 101 + 105 ENTER	delete fixture 101, 105 from the showfile
DELETE 101 + 105 THRU 110 ENTER	delete fixture 101, 105 > 110 from the showfile
MOVE 1 @ 5 ENTER	renumber fixture ID 1 to ID 5 (if 5 is available)
MOVE 1 THRU 10 @ 51 ENTER	renumber fixture 1 > 10 to ID 51
(renumbering IDs can also be done by touching the ID cells)	
Touch NAME cell (Name) ENTER	renames the fixture to (Name)

Wizards

MX-Series provides a patch commandline that allows many different combinations. In addition to the commandline, adding of fixtures and assigning addresses also offers a Wizard Mode.

The wizards create a commandline that helps to learn how the patch functions.

Add Fixture Wizard



Cloning Fixtures

Sometimes it is necessary to add fixtures to a show after programming is completed. The M-Series allows you to clone and duplicate fixtures in the patch easily using natural language. This results in the new fixtures being added into all cues, presets and groups.

Cloning allows also to duplicate programming to a different fixture type. It will try to emulate the original fixture as close as possible during the command.

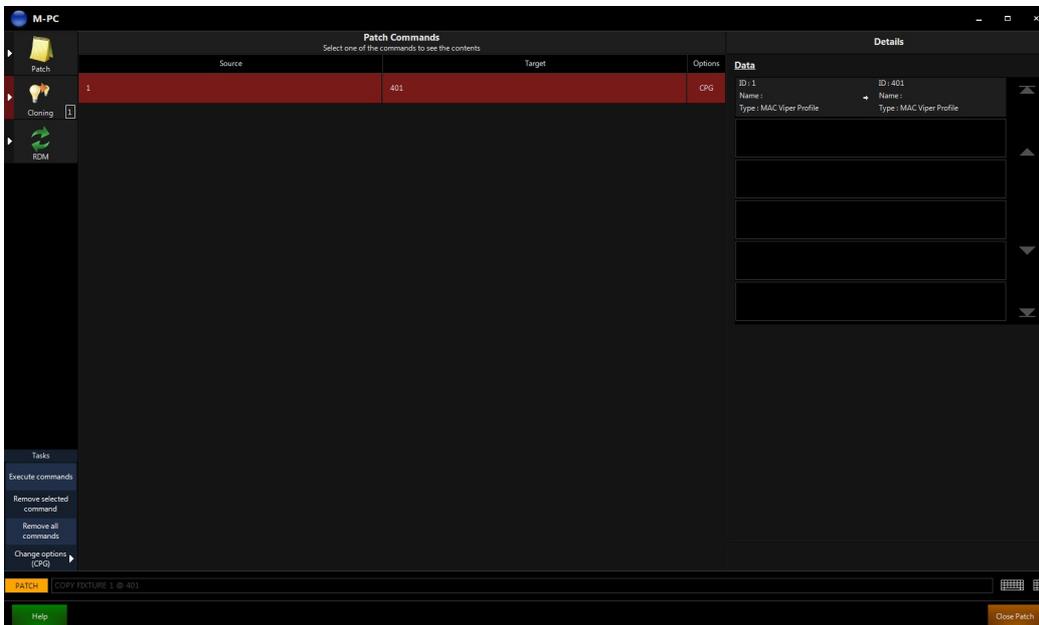
To clone one entire fixture onto a new fixture you must first enter the Patch screen by pressing **Menu** and selecting [Edit Patch...]

Cloning example

For example, let's say that we have a Mac Viper Profile with the unit number 1 that we would like to clone to a new Mac Viper with the unit number 301...

We would press **Copy 1 @ 301**

The Console would then automatically switch to the Cloning tab in Patch. This window allows you to batch clone multiple fixtures with one "Execute" Command.



The Change Options section under the "Tasks" in the bottom left corner of the screen has the following options.

Change Options (CPG)	
CUES	All cues will be copied from the source fixture to the new fixture. Note that when selecting CUES, PRESETS will be automatically selected, as the cues may rely on presets for their data.
PRESETS	All preset data will be copied from the source fixture to the new fixture. It is possible to copy only preset data. For instance, you might only want the preset focuses and various color and beam palettes copied to the new fixture, but not the group and cue data.
GROUPS	The new fixture will be added to all groups currently containing the source fixture.

Press the "Execute Commands" Button under "Tasks" to execute cloning for all the fixtures you added to the Clone window. When the console finishes calculating, we will have 2 essentially identical fixtures in your show. We can now update the preset focuses in the new instrument to reflect its position.

Note: A cloned fixture is not tied to the source fixture. You can manipulate it just like any other fixture in the rig.

Commandline examples

Command	Description
COPY 1 @ 301	copies all cue values, preset values and group memberships from fixture 1 to fixture 301
COPY 1 @ 301 + 305	copies all cue values, preset values and group memberships from fixture 1 to fixture 301 and 305
COPY 1 THRU 10 @ 310 THRU 301	copies all cue values, preset values and group memberships from fixture 1 > 10 to fixture 310 > 301
COPY 1 + 8 @ 301 + 305	copies all cue values, preset values and group memberships from fixture 1 to 301 and fixture 8 to 305

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