Maxxyz

user manual

FOR USE WITH SOFTWARE VERSION 2.0

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INTRODUCTION

Thank you for selecting the Martin Maxxyz controller.

The Maxxyz controller is a stable hardware platform combined with leading edge software that is constantly being developed and refined. This manual matches the functionality provided in Version 2.0 of the Maxxyz software. For the latest firmware and software updates, documentation, and other information about this console, please visit www.maxxyz.com.

NEW SOFTWARE FEATURES

- The Maxxyz PC USB-DMX can now be connected to the rear USB port of a Maxxyz console to add additional universes (page 205).
- You can now select a preset by entering it's number on the command line (page 83).
- New "Universe View" added to patch display (page 42).
- You can now load and create new shows from the Menu without restarting the console.
- Console now schedules automatic showfile backups on user defined schedule (page 23).
- Auto Screen Merge added to displays (page 16).
- New Global Cue Timings and Programmer timings added (page 146).
- "Shortcut Keys" added to Maxxyz PC (page 201).
- Changes made in the Effects displays allowing for easier selection of specific values and the addition of the "Wait" element to effects (page 193).
- Significant changes made to Update operations (page 119).
- MIDI Show Control (MSC) commands added (page 171).
- Invert Selection (page 56) and Invert Fixture Masking (page 59) added.
- Showfile management and many other settings are now available through the Menu functions (see "Menu" on page 18)
- Screen layouts now save with showfiles and can be saved and loaded separately (see page 20).
- Each touchscreen now supports 16 discreet views.
- Showfiles now load from the *front* USB port.
- Martin Show Designer scene files now save as a part of the showfile.
- Access to the Patch screen has been moved to the Menu button.
- A number of new Global Show Settings for Bank change behavior, release behavior, startup faders, MIDI and ArtNet have been added (see page 182).
- New Submaster options added including "swap," sometimes referred to as "solo" (see page 158).
- Added two new Macro types: "Release Cuelist" and "Release Bank" (see page 162).

MAXXYZ SAFETY INFORMATION

This product presents risks of lethal or severe injury due to electric shock. **Read this manual** before powering or installing the console, follow the safety precautions listed below and observe all warnings in this manual and printed on the console. If you have questions about how to operate the console safely, please contact your Martin supplier or call the Martin 24-hour service hotline at +45 70 200 201 or +1 954 858 1800.

- Always ground (earth) the console electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the console to rain or moisture.
- Refer any service operation not described in this manual to a qualified technician.
- Do not modify the console or install other than genuine Martin parts.
- Do not lift or carry the console alone.

INCLUDED ITEMS

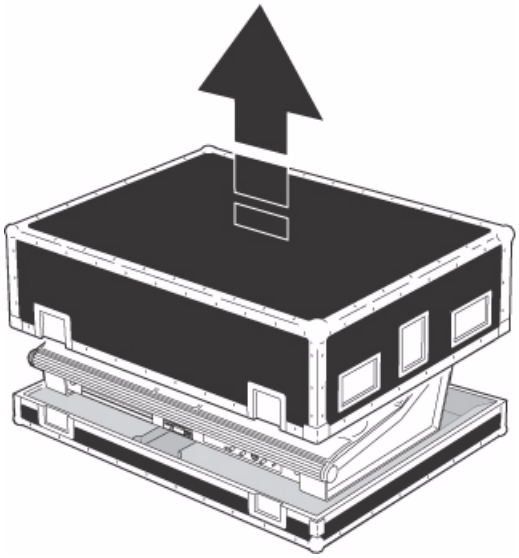
The Maxxyz is shipped in a flight case that contains the following items:

- Maxxyz console
- Power cable
- 3 desk lamps
- 1 dust cover
- 2 sets removable roadcase wheels
- 2 monitor stands
- 1 set spare fuses (found under console)
- 4 3-pin to 5-pin XLR adaptors
- 1 set CDs in CD case

UNPACKING/PACKING THE CONSOLE

UNPACKING THE CONSOLE

1 Remove the top of the flight case.



2 With one person on each side, lift the console out of the bottom of the flight case *or t*he Maxxyz can be operated directly from the base of the flightcase (recommended).

PACKING THE CONSOLE

1 Disconnect the console from power.

2 Disconnect any external video monitors

3 Remove monitor stands from back of console

4 Disconnect desk lamps

5 Place the console in the bottom of the flight case.

6 Place cables and desk lamps in cavity at back of console

7 Place monitor stands in space provided at back of console

8 Fold dust cover and place in the rear of the flight case between the monitor stands and the console. (*Note: The Maxxyz flight case is constructed to very tight tolerances. The top of the roadcase will not fit over the console if the dust cover is left on the console.)*

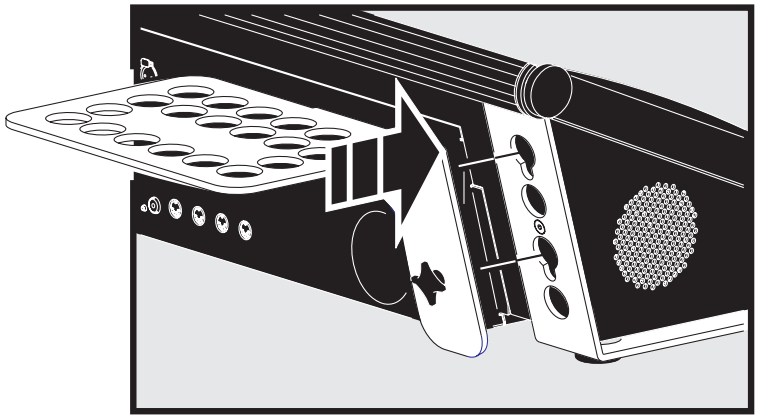
9 Place the top section of the flight case over the console without forcing

SETTING UP THE CONSOLE

1 Remove 3 desk lamps, AC power cord and detachable monitor stands.

2 Connect AC power cord to inlet found at the lower right corner of the console (as viewed from behind).

3 If using external monitors, install the left and right monitor brackets as shown below:



Be certain that the bracket is fitted snugly and pressed into the slots provided before tightening wing bolts. **Note:** The maximum allowed weight is 5kg (11 lbs) per monitor.

4 Connect external monitors to SVGA ports found one on the left and one on the right of the back of the console.

5 Connect desk lamps to connections on the console.

6 Connect DMX devices following the procedure and notes below (Connecting DMX Devices).

7 Connect console to mains power. Please see “AC power” on page 5 for warnings and details on AC connections.

CONNECTING DMX DEVICES

The Maxxyz has 5-pin XLR sockets for DMX input and output. The pin-out on all sockets is pin 1 to shield, pin 2 to data cold/compliment (-), and pin 3 to data hot/true (+).

- Use shielded twisted-pair cable designed specifically for DMX devices: standard microphone cable cannot transmit control data reliably. 24 AWG cable is suitable for runs up to 300 meters (1000 ft). Heavier gauge cable and/or an amplifier is recommended for longer runs.
- To split the DMX link into multiple branches, use a splitter such as the Martin 4-Channel Opto-Isolated RS-485 Splitter/Amplifier. Never use a “Y” cable.
- Do not overload the link. Up to 31 additional devices may be connected on any given DMX link.
- Terminate the link by installing a termination plug in the output socket of the last fixture. The termination plug, which is a male XLR plug with a 120 ohm, 0.25 watt resistor soldered between pins 2 and 3, “soaks up” the control signal so it does not reflect and cause interference. If a splitter is used, terminate each branch of the link. Please note that some fixtures and dimmers provide onboard termination and do not require an external terminator. Consult the user manual of the DMX device for details.

- Martin fixtures introduced before 1997 have reversed polarity data sockets (pin 2 + and pin 3 -). The socket polarity is labelled. *Use a phase-reversing cable between the Maxxyz and any device with reversed polarity.*

CONNECTING THE DMX LINK

1. Using the proper cable, connect the DMX device to the Maxxyz's 5-pin output (female) connector.
2. Insert a male 120 Ω XLR termination plug in the 3-pin or 5-pin output of the last device on the link if required.

AC POWER

WARNING! For protection from electric shock, the console must be grounded (earthed). The AC mains supply shall be fitted with a fuse or circuit breaker and ground-fault protection.

POWER SUPPLY

The Maxxyz comes with an auto-sensing, auto-ranging switch-mode power supply. Manual adjustments to the mains voltage and frequency are not necessary as the Maxxyz automatically adapts.

POWER CONNECTION

Important! Connect the Maxxyz directly to AC power. Do not connect it to a dimmer system; doing so may damage the console.

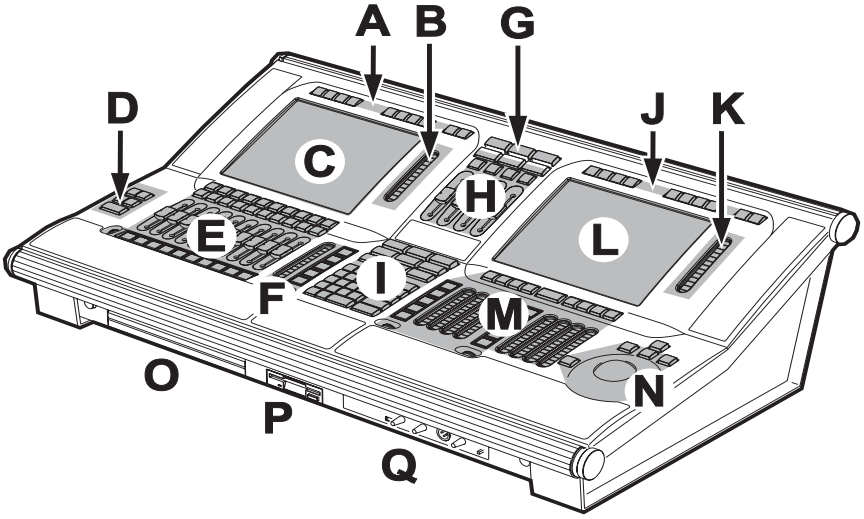
You may need to install a cord cap that fits your supply on the power cable. A 3-prong grounding-type plug must be installed following the manufacturer's instructions. The table below shows some possible pin identification schemes; if the pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

To apply power, set the power switch on the rear of the console to the "I" position.

Wire Color	Pin	Symbol	Screw (US)
brown	live	L	yellow or brass
blue	neutral	N	silver
yellow/green	ground	⏚	green

MAXXYZ LAYOUT AND DESCRIPTION

The Maxxyz console can be divided into a number of sub-controls. Those sub-controls are



A	Playback View Buttons
B	Playback Screen Control
C	Playback Touch Screen
D	Main Go
E	Playback Control
F	Playback Command
G	Screen Swap
H	Master Control
I	Keypad Entry
J	Programmer View Buttons
K	Programmer Screen Control
L	Programmer Touch Screen
M	Programmer Control
N	Trackball Control
O	Alphanumeric Keyboard
P	Removable Media Data Drives
Q	Operator Audio

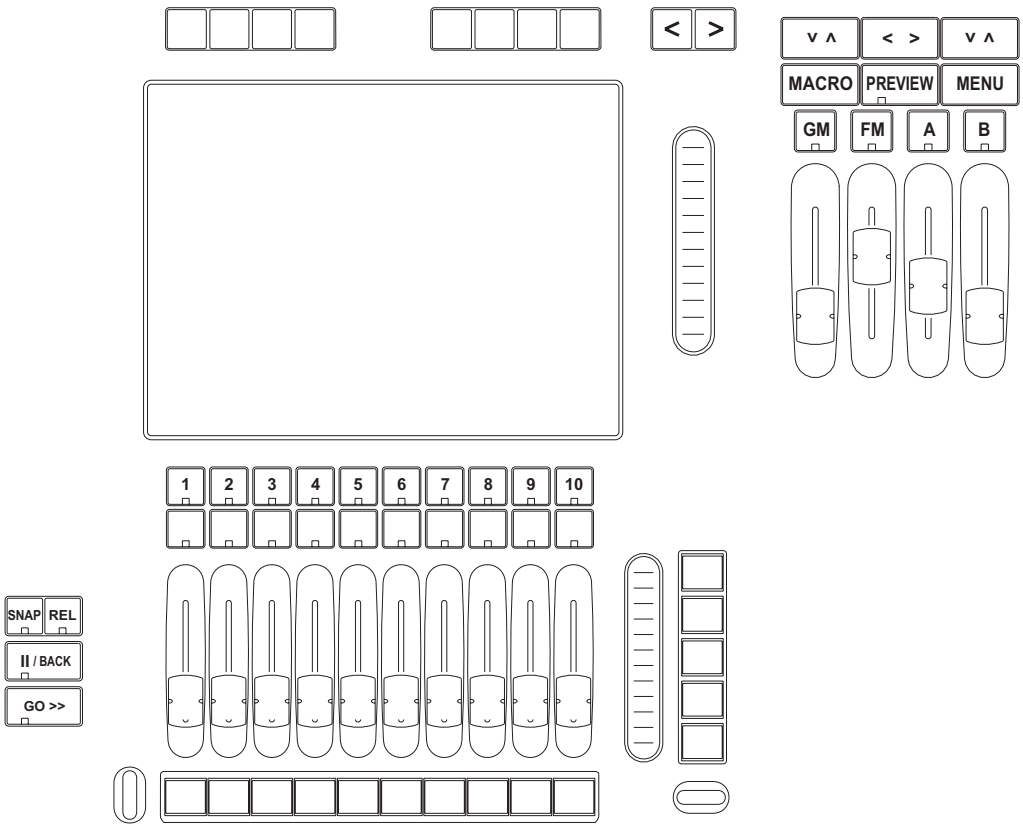
Please note that the Maxxyz console is a very flexible console and therefore the labels “Playback” and “Programmer” are not absolute. That is to say that there may be times when you are using the playback side for programming and vice versa depending on the functions you are performing.

TYPES OF CONTROLS

The Maxxyz console uses several different types of controllers to manipulate the data for your show. Among them are:

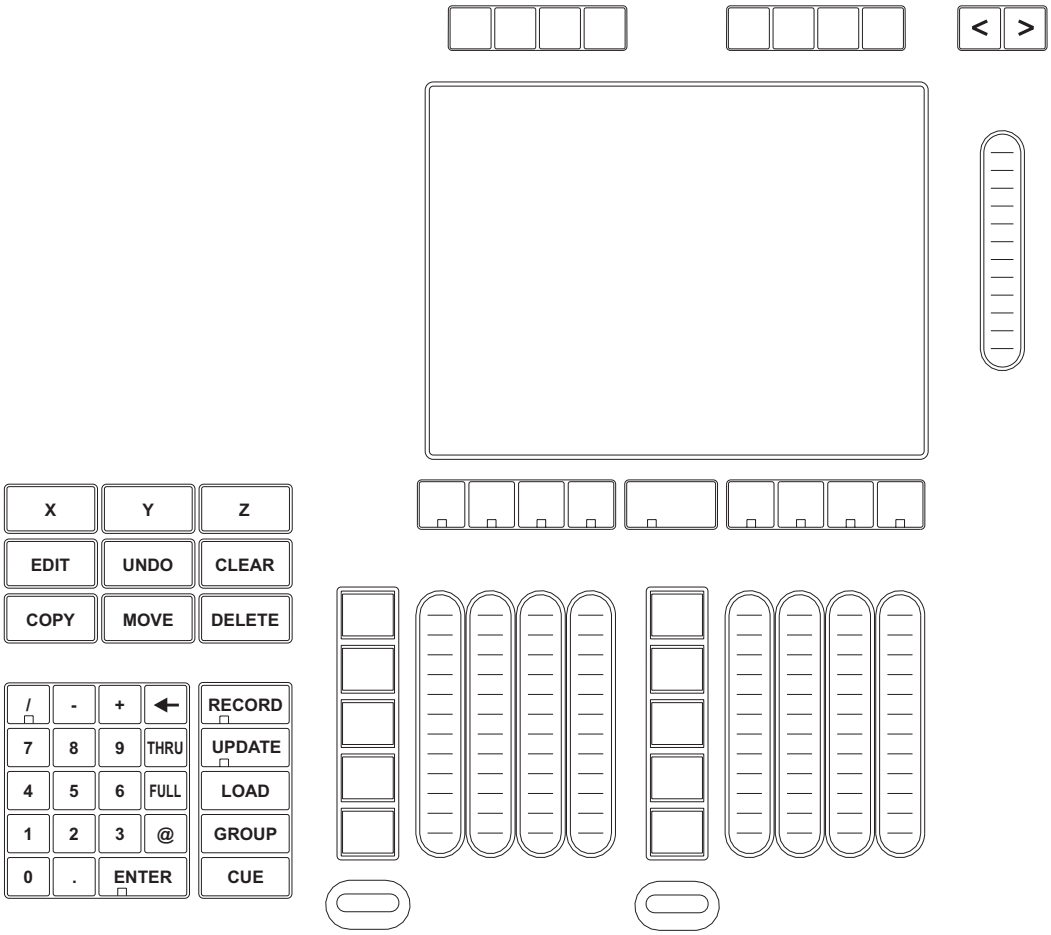
Hard Keys *(buttons)*	These are the traditional buttons found on the console.
Soft Keys	These are keys that appear on the video displays are activated by touching them on the touch screens, clicking on them using the trackball controls on the external monitors, or, in the case of selecting displays for the touch screens (as an example), by pressing the associated view key directly above or below the softkey.
LCD Keys	These are hard keys with the ability to change their color and legend.
Slider Potentiometer *(fader)*	There are 14 faders on the Maxxyz; all located in the Playback Controls and Master Controls sections. These are used for controlling the intensities of any fixtures associated with them. The 10 directly below the Playback Touch Screen are motorized and will vary in position dependent upon the playback page selected and the level assigned to the fader.
Track Belt	There are 11 track belts on the Maxxyz. The two located next to the touch screens (Screen Controls) are used to scroll through the touch screen displays. The 8 in the Programmer Controls are used to change the values of selected fixtures. The remaining track belt, in Playback Control, is used to change cue timings.
Jog Dial	There are four silver jog dials (three horizontal and one vertical). The three horizontal jog dials are used to change the displays on their associated LCD Keys. The vertical jog dial is used to change playback pages/banks in the playback touch screen.
Trackball	The blue track ball is located on the right side of the console and is used to move the cursor across the touch screens and external monitors. By pressing the associated “P/T” key, the trackball can be used to control the pan and tilt of selected fixtures.

THE PLAYBACK CONTROLS



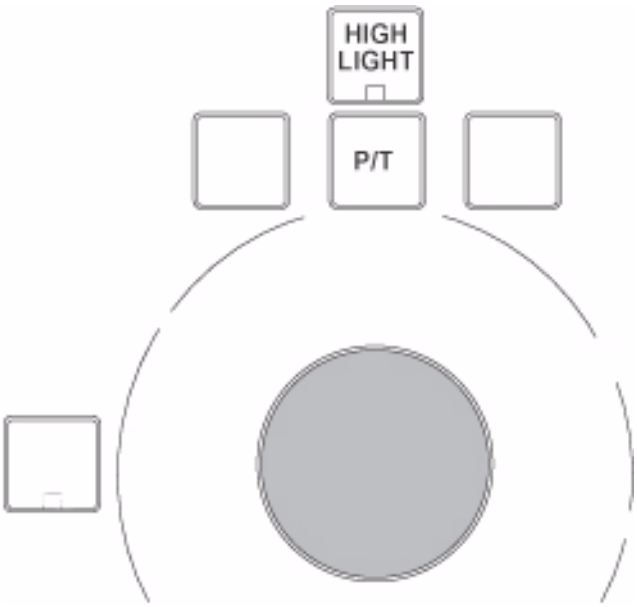
The left hand side of the desk is designed primarily for playback use. However, the 5 LCD keys and track belt on the right side of the Playback Controls are used for setting and recording timings into cues, changing the playback banks and other functions.

THE PROGRAMMER CONTROLS



The right hand side of the desk is designed primarily for selecting and manipulating fixtures and cues. When a fixture is selected, it's attributes will be loaded into the programmer controls.

TRACKBALL CONTROL



The Trackball Controls, found on the right side of the console, are used for moving the cursor between the touch screens and external monitors and manipulating the menus on those screens. It can also be used to control the pan/tilt attributes of selected fixtures. There are five hard keys associated with the trackball; four across the top and one on the left. The mode of the Trackball Controls determines the function of the keys and the trackball.

By pressing and holding the “P/T” key and any other trackball key you will toggle the functionality of the trackball controls between:

Normal Mode (default)	When in this mode, the trackball is continuously lit and it controls the cursor. The bottom left key is associated with the left mouse button while the top left and right keys are assigned “next” and “previous” fixture selection functions.
Mouse Mode	The trackball will be dark in this mode and will control the cursor. The bottom left button is assigned “left mouse click” while the top right button is designated as “right mouse click.” The other buttons are disabled.

Pressing the “P/T” key alone (regardless of whether you are in Normal or Mouse mode) will toggle you into:

P/T Mode	In this mode, the “P/T” key will be lit and the trackball will pulse slowly and control the pan/tilt attributes of any selected fixtures. The “previous” and “next” keys remain unchanged. To escape P/T mode and return to the previous mode, press the “P/T” key.

Note that by default in all modes, the “Highlight” button, when engaged, will cause any selected fixtures to go to full intensity, force their shutter/strobe and gobo to “open”, open the iris, change the focus of the fixtures to their default value and change their color to “Open White” or “No Color” for rapid identification.

The function of the “next/previous” keys is dependant on whether or not there are fixtures selected in the programmer. If no fixtures are selected, the “next/previous” buttons will cycle through all fixtures, beginning with the lowest fixture number and working up. If there are fixtures selected in the programmer, the “next/previous” buttons will cycle through those fixtures based on the order in which they were entered into the programmer.

SLIDER POTENTIOMETER (FADER)

The Maxxyz uses 14 faders, 10 of which are motorized and the function of which is covered later in this manual. Here we will concern ourselves only with the four non-motorized faders and their associated bump buttons.

Grand Master	The Grand Master is located at the top center of the console. It is consistent with the function of the Grand Master found on most other boards in that it masters the intensity output channels of all other control devices on the console including the programmer. However, please note that while the programmer output is limited by the GM, the values in the programmer remain unaffected. Therefore, if you were to record a cue with the GM down, the intensity values in the programmer would still be recorded into the cue, although their output would not be visible on stage. The GM fader can be overridden by the GM hard key directly above the fader. The GM hard key acts as a “flash” and pressing and holding the key has the same effect as if the GM fader were at full.
Flash Master	The Flash Master is not currently implemented.
A/B Group Master	The A & B Group Masters are similar in function to the Grand Master except they can be programmed to master only those fixtures you specify. See below for information on programming the Group Masters

GROUP MASTERS

Maxxyz utilizes two Group Masters, labeled “A” and “B.” These can be programmed to master the intensity of any individual or group of fixtures. Please note that just as with the Grand Master, the A and B submasters can not be used to *raise* the levels of fixtures, but can only be used to limit their intensity.

To program the Group Masters:

1 Select the fixtures that you wish to have controlled by the submaster (see“Selecting Fixtures” on page 53 for information on selecting fixtures).

2 Press **Record** and either the **A** or **B** hard key above the desired Group Master fader.

As with the Grand Master, the hard keys directly above the Group Master sliders will function as a “flash” button for the contents of that group.

To clear a group master:

Press **Delete** and either the **A** or **B** key and then **Enter**.

OPERATOR AUDIO

Located on the front of the console on the right hand side you will find the controls for operator audio. These include>

- Speaker Volume
- (Head)Phones Volume
- Intercom
- Mic Volume
- Mic In
- Speech On/Off.

With the current release of Maxxyz, only “Speaker Volume” and “Phones Volume” are used. “Speaker Volume” controls the level of the built-in speaker system when playing CDs, while “Phones Volume” controls the output to the “phones” jack.

Display Screens

The Maxxyz console uses sixteen different displays (two pages of eight each) per touchscreen to convey information to the user. The different displays can be selected by pressing the softkey on each of touchscreens or by using the two sets of four hard keys found directly above the touchscreen. To change from display page one (1 through 8) to display page two (9 through 16), you can use either the left and right facing softkey arrows or the ”<“ and “>” hardkeys found just to the right of the touchscreens. These view keys will change the displays on both the built-in touch screens and the external monitors. The Programmer and the Playback have a discrete set of default displays. The functionality of these screens can be found later in the manual.

Default Playback Screens

Page one (top) and page two (bottom) of the Playback screens are shown below.

The Maxxyz has the following default playback screens:

1) Programmer Groups	This view key will display Programmer values on the external monitor and Fixture Groups on the touch screen.
2) Programmer Presets	This view key will display Programmer values on the external monitor and Presets on the touch screen
3) Cuelist Values	This view key will display the Selected Cuelist information on the touch screen and the Cuelist Values on the external monitor.
4) Programmer Cuelist	This view key will display Programmer values on the external monitor and Selected Cuelist information on the touch screen.
5) Select Mask	This view key displays Fixture Groups, Selected Fixtures and Fixture Selection Mask windows on the touch screen and the Fixtures window on the external monitor. To access the various windows on the touchscreen, touch or click the “tab” along the right side of the window to bring it to the front.
6) Output Programmer	This view key will display the Programmer on the touch screen and the Live Output on the external monitor.
7) Playback Buttons	This view key will display Playback Button page in the touch screen and the Selected Cuelist view and Cuelist Values screen on the external monitor.
8) Cuelist Directory	This view key will display the Cuelist Directory (a sort of “master cuelist) on the touch screen and the Selected Cuelist view and a nifty digital clock on the external monitor.

1) Programmer Groups	This view key will display Programmer values on the external monitor and Fixture Groups on the touch screen.
9) Groups Presets	This view shows the Fixture Groups and Preset windows on the touchscreen while the external monitor is left blank for user customization.
10) Programmer	This view shows the Programmer window on the touchscreen while the external monitor is left blank for user customization.
11) Fixtures	This view key displays Fixture Groups, Selected Fixtures and Fixture Selection Mask windows on the touch screen while the external monitor is left blank for user customization.
12) Cuelist Values	This view show the Selected Cuelist and Cuelist Values windows on the touchscreen while the external monitor is left blank for user customization.
13) Cuelist	This view show the Selected Cuelist and nifty digital clock on the touchscreen while the external monitor is left blank.
14) Cuelist Programmer	This view show the Selected Cuelist and Programmer on the touchscreen while the external monitor is left blank.
15) Playback Buttons	This view show the Playback Buttons window on the touchscreen while the external monitor is left blank for user customization.
16) Cuelist Directory	This view show the Cuelist Directory on the touchscreen while the external monitor is left blank.

DEFAULT PROGRAMMER SCREENS

Page one (top) and page two (bottom) of the Programmer screens are shown below.

The Maxxyz has the following default programmer screens:

1) 3D Groups	This view key will display the channels view (used in manipulating fixtures) and group selection on the touch screen and the Martin Show Designer view on the external monitor.
2) Presets	This view key will display the channels view and Preset selection on the touch screen and the Fixture selection view on the external monitor
3) CV (channel visualization)	This view key will display the channels view only on the touch screen and the Fixtures and ever-so-popular digital clock on the external monitor
4) Fixture Mask	This view key displays Fixture Groups, Selected Fixtures and Fixture Selection Mask windows on the touch screen while the external monitor displays the Fixtures window.
5) Presets Groups	Preset and channels view are shown on the touchscreen while Fixture Groups and the digital clock are on the external monitor.
6) 3D Groups	A copy of screen 1, this view key will display the channels view and group selection on the touch screen and the Martin Show Designer view on the external monitor.
7) Fixt Groups Preset	Preset and Fixture Groups are on the touchscreen while the external monitor shows the Fixture window and.....a digital clock!

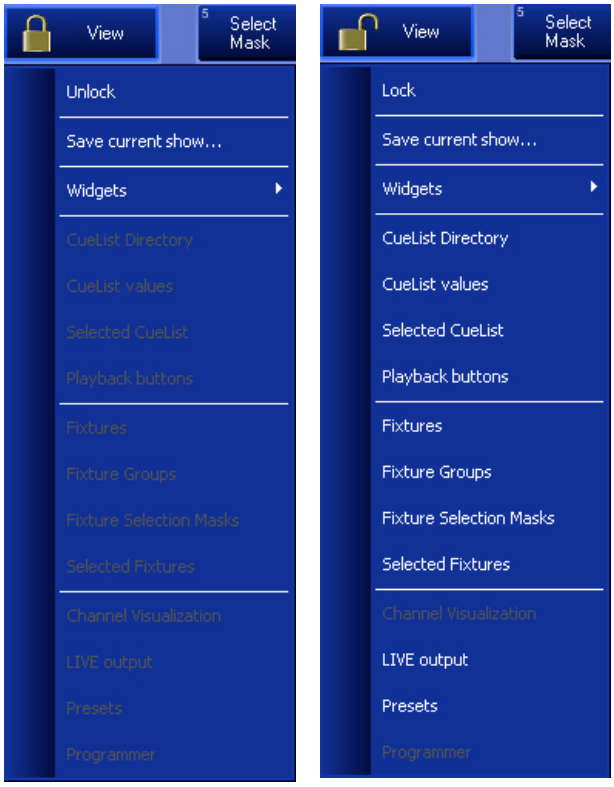
1) 3D Groups	This view key will display the channels view (used in manipulating fixtures) and group selection on the touch screen and the Martin Show Designer view on the external monitor.
8) 3D Groups	This view key will display the channels view and Fixture Group selection on the touch screen and the Martin Show Designer view and an *analog (!)* clock on the external monitor.
9) Groups	Groups and the channels view are on the touchscreen while the external monitor is left for user definition.
10) Presets	Presets and the channels view are on the touchscreen while the external monitor is left for user definition.
11) Fixtures	The Fixtures view and the channels view are on the touchscreen while the external monitor is left for user definition. (Perhaps a nice digital clock?)
12) Selected Fixtures	Selected Fixtures, Fixture Selection Mask and channels view are on the touchscreen while the external monitor is left for user definition.
13) 3D Visualizer	The Show Designer screen moves to the touchscreen and the external monitor is blank.
14) Output	The Live Output and the channels view are on the touchscreen while the external monitor is left for user definition.
15) Screen 15	We ran out of ideas. The channel visualization is on the touchscreen, but the rest of it is up to you to design.
16) Screen 16	Ditto.

Editing Display Screens

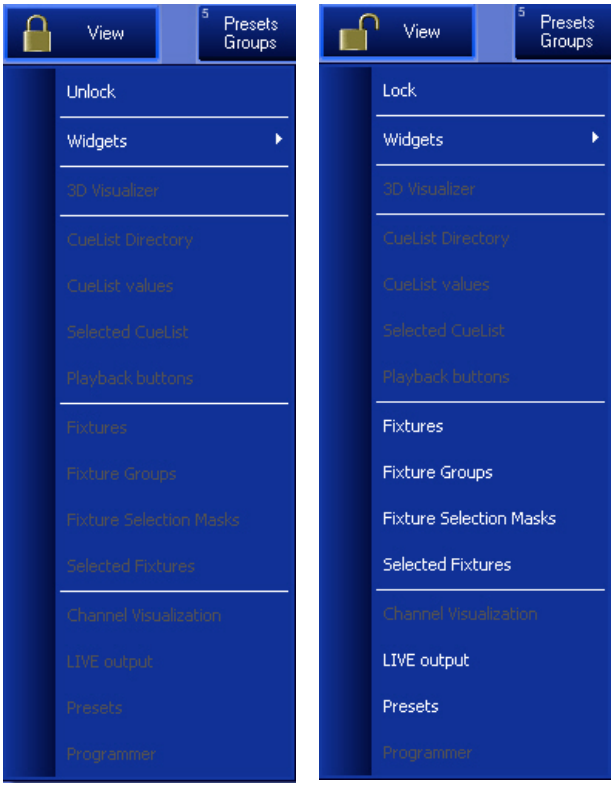
It is possible to customize the views shown on the Playback screens of the Maxxyz console to suit your needs. Starting with Maxxyz software version 1.8, the view is now recorded to the *show*, not just the specific console it was set up in. This means that any changes made to the views on one console will be transferred to a new console by loading a show. It is also possible to import your views from one show to another without affecting any of the other data in that show (see “Load/Save” on page 20).

By default, all view screens in version 1.8 are locked. To unlock, click on the icon of the lock in the top center of the touchscreen and a pull down menu will appear. Click on “Unlock” in the pull down menu.

Below are shown both the Playback and Programmer pull down screens in both their locked (left) and unlocked (right) states.



Playback Touchscreen locked and unlocked



Programmer Touchscreen locked and unlocked

As you can see, not all views are available on both screens.

Every view has a minimum required size. In order to place a new window into a view, there must be a space large enough for the window to be placed. “Blank space” is indicated as a light blue field with a grid of white dots on it. These white dots identify the grid that newly placed windows will automatically snap to. You can create “blank space” by resizing the existing windows in the view (in the same way that any MS Windows window would be resized), closing an existing window[1], or working with one of the views that has been left blank.

Once you have created some room on your screens, you can use the “Views” pull-down menu to select whichever new window(s) you would like to add and then click on either the touchscreen or external monitor to add them. You can move the window around your screen by clicking on the title bar and dragging it into position.

1.Note: the one exception to this is the “channels” window. The channels window can not be closed.

When you have your screens set the way you like them, you can then save the view by pressing and holding the **Record** button and then the associated view key (either the hard key or the softkey). When you have done this, the following window will appear:

The monitors that are highlighted in red will be the ones that will be saved to the view. You can also change the screen name if you desire. Press OK and your new view will be saved.

Note: If at anytime in the process before recording your new view you wish to revert to the original view, you can simply select any other view and then return to the view you were previously in. No changes will be saved until they are recorded.

AUTO SCREEN MERGE ON/OFF

Auto Screen Merge allows you greater flexibility in how your screens are configured. By default, this setting is off and when a display button is selected, both of either the right or left screen displays are changed. When Auto Screen Merge is set to “on,” you can select whether you wish to change the display of the top, bottom or both screens change when you press the corresponding display button. You could, for example, use displays 1-8 to record displays only in the lower monitor and 9-16 to record displays in the upper monitor. By doing this, you could then change your lower displays by pressing 1-8 and the top display would be unaffected. The Maxxyz console displays whether the display button contains information for the bottom, top, or both monitors by the placing small green squares in the display button as shown below.

Toggling the Auto Screen Merge between on and off is done in the Settings section of the Appearance menu (see page 19).

STARTING THE MAXXYZ

Once your console is set up and the cables are connected, start the Maxxyz by turning on the power. The switch is located at the back on the left hand side as you're facing the front of the console. The processors will then boot and load the operating software. The first screen you see that requires your input is the "Welcome Screen" located on the Playback Touch Screen.

At this point, you are presented with three options. They are

Create new show	This option allows you to start a new show from the beginning with no existing show information.
Load a show...	This option will take you to "My Maxxyz Files" window where you can select any show stored on the console or external media. (See "Load/Save" on page 20 for information on navigating the window.) Note that when you load a show from a USB drive, it will automatically be copied to the hard drive.
Continue with current show	The third option loads the last show that you were working on. Please note that cues will not become automatically active after you continue your show.

In the lower left hand corner of the "Welcome Screen" you'll notice a check box labeled "Start automatically." By default, this box is checked the console will automatically select "Continue with current show" after displaying the "Welcome Screen" for ~10 seconds. This setting is stored in the console and will take effect the next time the console if started. If not checked, the console will wait for your input before continuing.

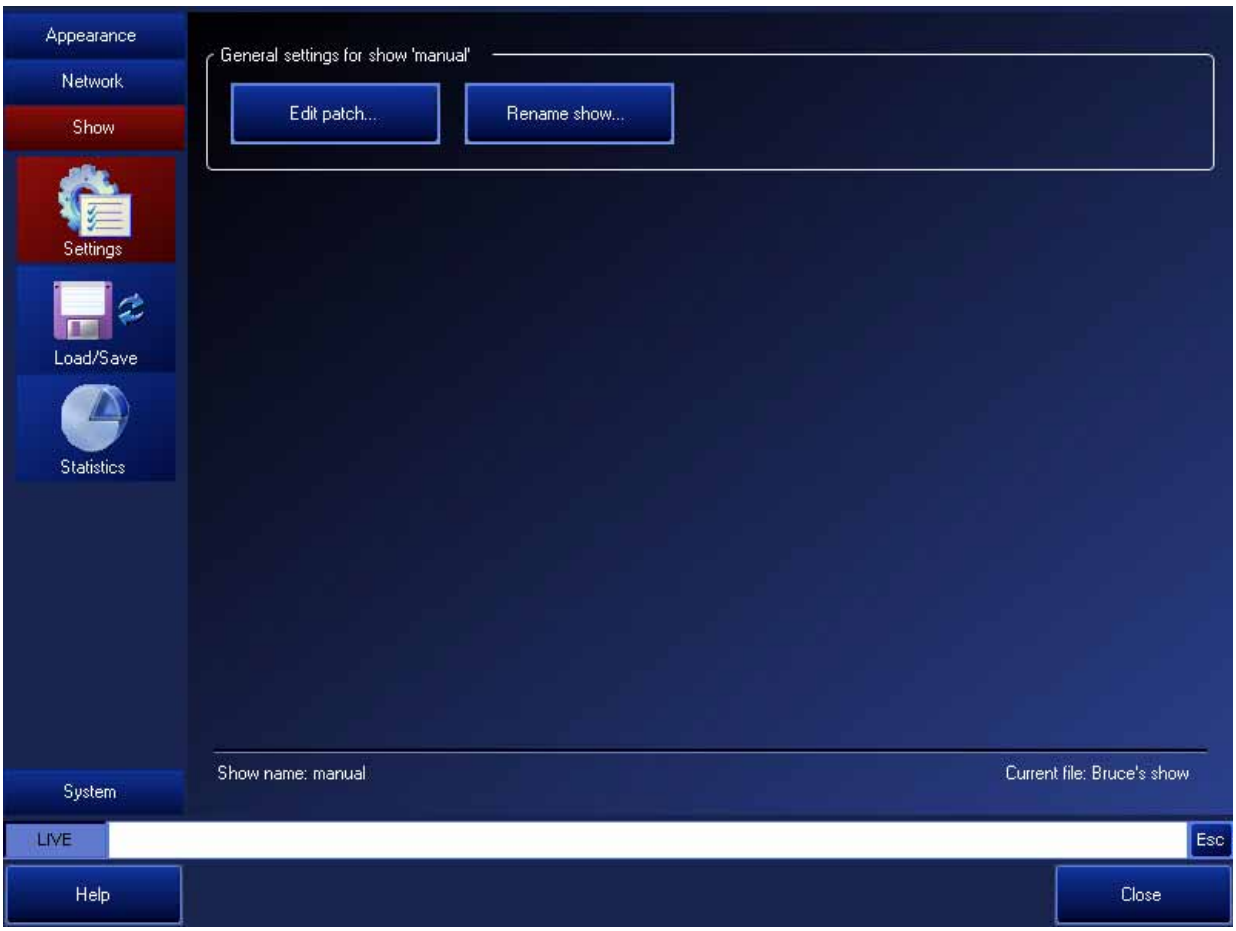
Note: ***The Maxxyz console automatically and continuously saves the current show as you are working on it. Therefore, if you select "Load a show..." please be aware that you will be recording over your existing show. Further, if you have not previously saved your showfile (see "Show Management" on page 23), that data will be permanently lost.***

For now, press "Create new show."

MENU

New to software version 1.8 is a much improved menu structure. From the Menu (accessed by pressing the “Menu” hard key at the top center of the console) all showfile management is now handled as well as diagnostics, time and date parameters and a variety of other useful information and tools.

When you press the menu hard key, you’ll see the following screen:



Along the left edge of the screen, you can see the 3 different sections that the menu is broken into: Appearance, Show, and System.

Appearance	This section allows you to determine items such as screen and LED brightness, the saving and loading of screen layouts, and has future accommodation for themes (also known as “skins”) and language.
Network	Currently, the Network section only displays current IP settings. Future development will add functionality to this selection.
Show (default)	From here you enter and edit your patch, name shows, load and save files to a variety of media, and can view statistics on your show such as number of fixtures, cues, showfile size, etc.
System	In this section you can see which software version you’re running, set the date and time, adjust DMX timings and access a variety of 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. Currently, “Help” is not implemented. Pressing “Close” will close the menu window and return you to your previous screen view.

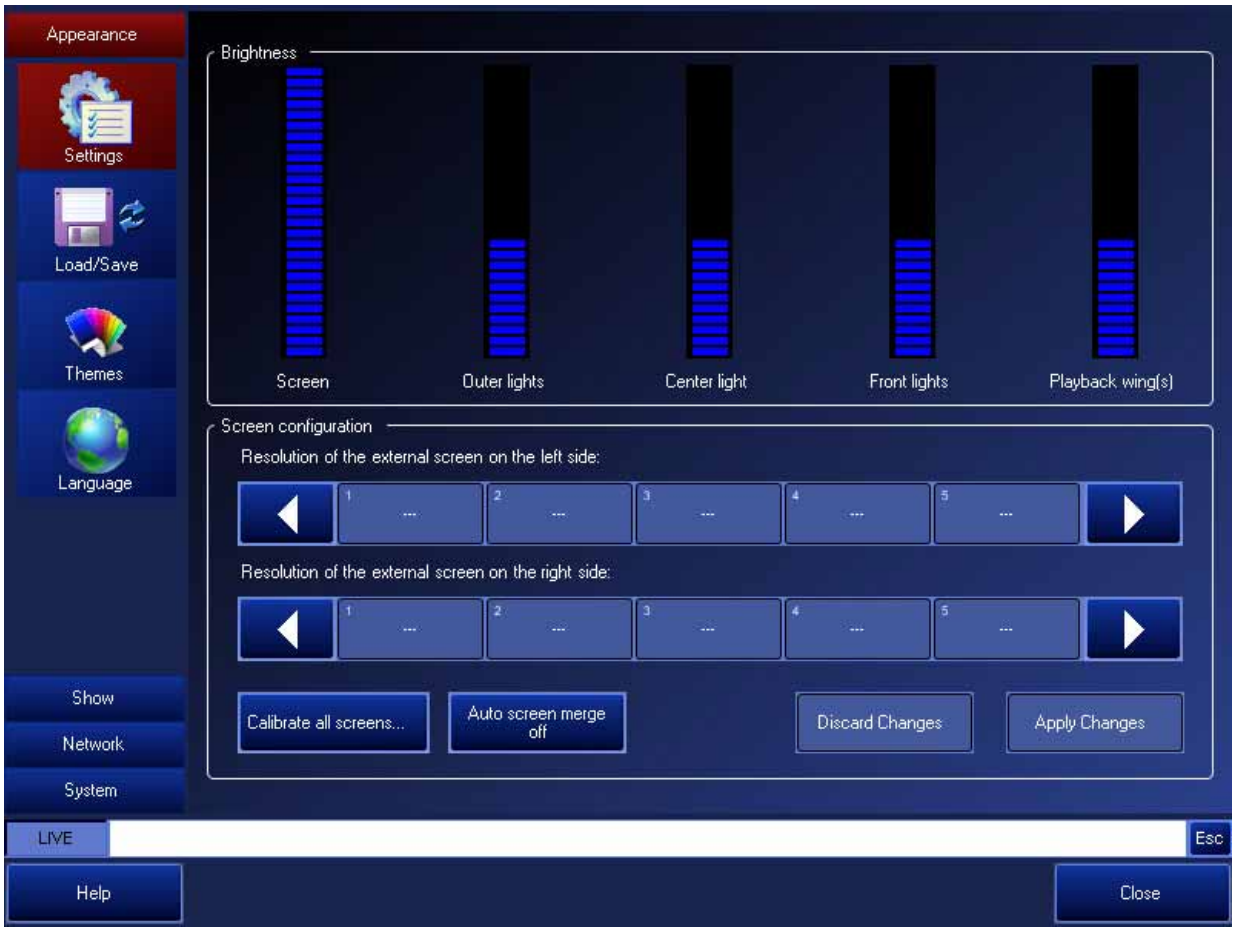
The two buttons at the top of the page, “Edit patch...” and “Rename show...” will be discussed later in this section.

APPEARANCE

The Appearance section of the Menu consists of “Settings,” “File,” “Themes,” and “Language.”

SETTINGS

Pressing “Settings” will bring up the following screen:

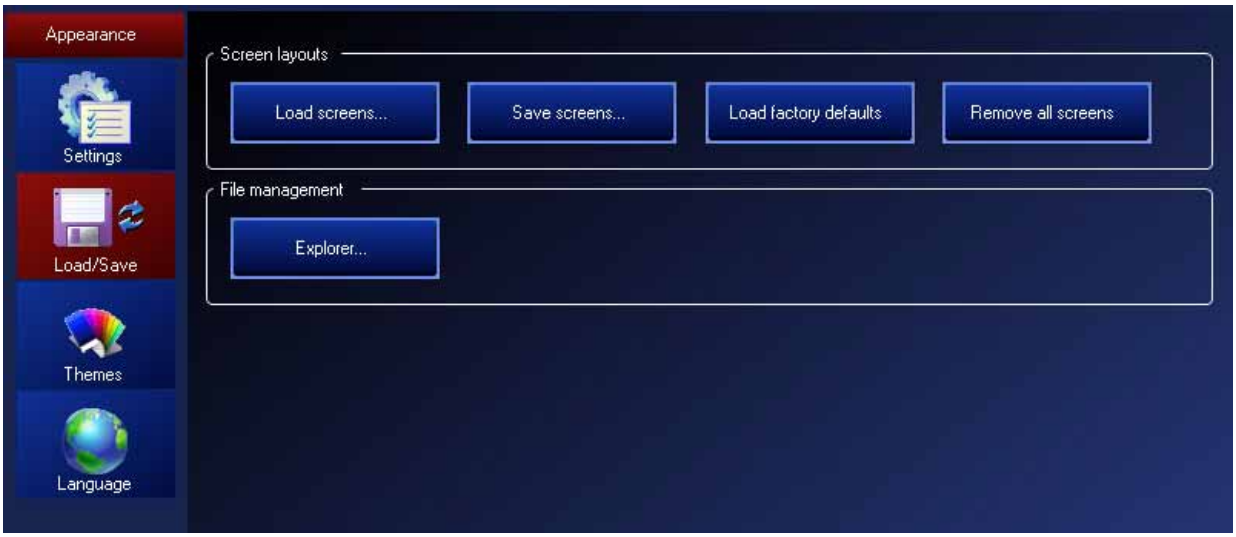


From this screen you can set the brightness of the onboard touchscreens and the LED lighting on the console and any attached wings. You can also set the resolution of any connected external touchscreens. Pressing the “Calibrate all screens...” button will start a routine that allows you to calibrate all touchscreens on the console, including external touchscreens.[1] The function of the “Auto Screen Merge” is covered earlier in this manual on page 16.

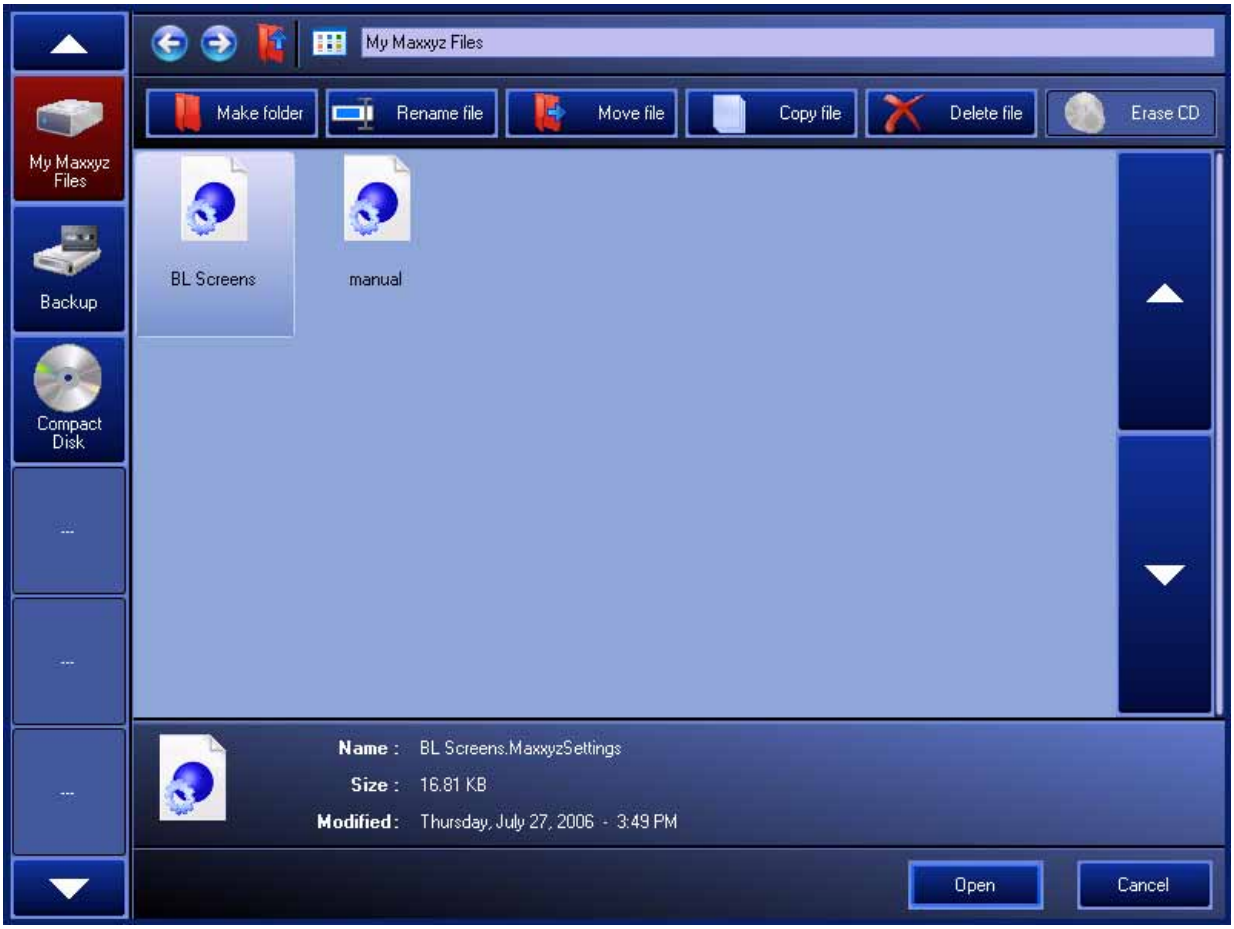
1.If no external touchscreens are attached, the diagnostic will still run on the regular monitors and will then proceed to the onboard touchscreens.

LOAD/SAVE

The “Load/Save” section produces the following screen:

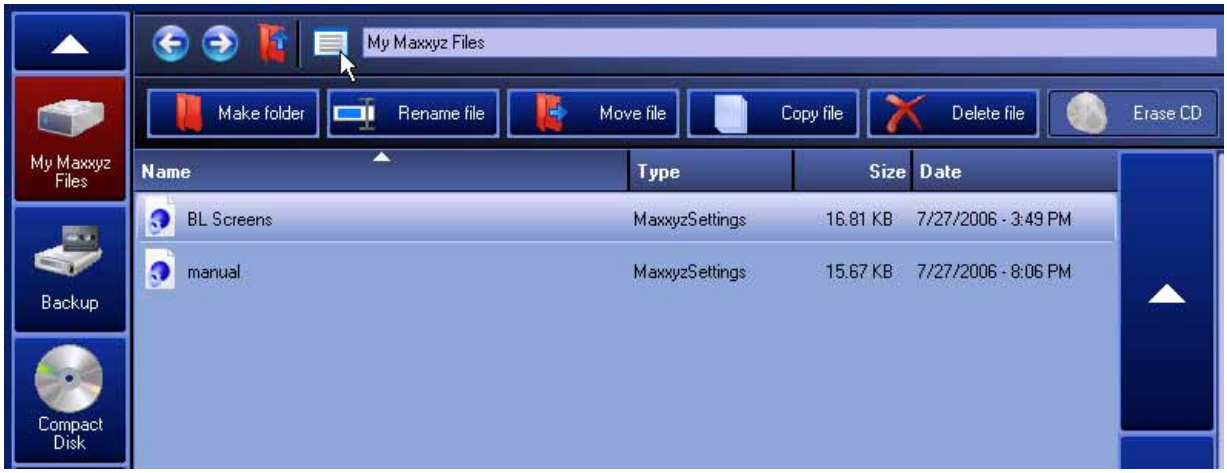


Here, we can load and save our screen layouts as well as reset the layouts to the factory defaults or remove all screens from the current showfile and build them from scratch. When we go to load or save screens, we will see the following:



The bottom of the screen gives you the name, size and date modified of the selected file. At the top of the screen, you can see the selected directory (in this example “My Maxxyz Files). Just to

the left of the directory name is a small icon. Clicking on this icon will toggle between the default “icon view” and a “list view” shown below.



At the top of this screen we will find file navigation buttons that are quite similar to most internet browsers.

Left Arrow	Pressing this will take you back to your previous folder/directory.
Right Arrow	Pressing this will take you forward.
Folder Icon	This will take you up a level in your directory structure.

Directly below the file navigation buttons are six buttons for file management.

Make Folder	This button will create a new folder on the currently selected directory and will generate a window asking you to name the folder.
Rename File/Folder	This button generates a pop up window where you can rename the selected file.
Move File/Folder	By selecting a file of folder and then pressing Move, you can then select another folder or directory and move the file to the new location. Press “Apply” at the bottom of the screen to complete the command or “Cancel” to abort.
Copy File/Folder	Similar to the move command, except the source file stays in it’s original position.
Delete File/Folder	Removes the current file. You will be prompted to confirm this action before it is executed.
Erase CD	This will erase a CD-RW. Again, you will be prompted to confirm this action.

The Rename, Move, Copy and Delete buttons will change their legend depending on whether a file or a folder is selected.

Along the left side of the screen are the icons for the various media.

My Maxxyz Files	This is the harddrive on the console.
Backup	Files that have been recorded to the “backup” directory will be available here.
Compact Disc	The Maxxyz console is capable of reading and writing to CD-R and CD-RW discs.

Removable Disc	The front USB port can be used for transferring files to a removable disc such as a USB thumbdrive. Please note, when using USB storage devices, do NOT use drives that require power from the USB port. Doing so could cause damage to the console, the drive or both. If you use a USB drive that requires power, an outside power source is required.

The “Explorer…” button allows you to examine and manipulate the contents of the various storage media using the same controls as those described above.

To Load a Screen Layout:

1 Press the Menu key.

2 Press the “Appearance” softkey.

3 Select “File”

4 Press “Load Screens...”

5 Select the drive (My Maxxyz Files, CD, or Removable Disc).

6 Select desired screen layout.

7 Press “Open.”

8 Select “Yes.”

THEMES AND LANGUAGE

The Maxxyz console currently supports only the Maxxyz standard theme (skin) and only the English language. Future releases of Maxxyz software will incorporate these options.

SHOW

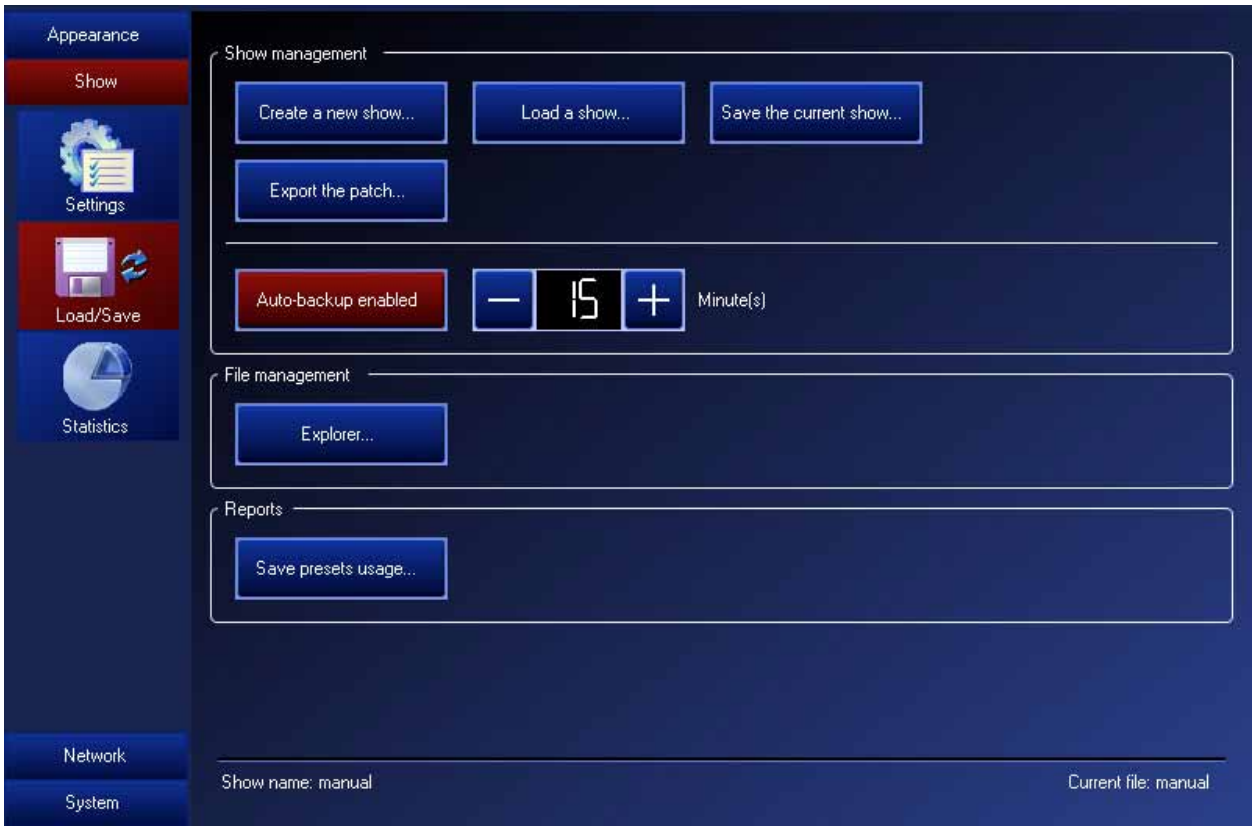
In this menu selection, we can manipulate show data such as settings, patch, and file management and view statistics on the currently loaded show.

SETTINGS

This is the default screen when you first press the Menu button. From here we can access the patch (see “Patching Fixtures” on page 29 for more information) and we can change the name of the current show. Note that the show name is not the same as the file name. It is possible to label your file with one name and have the show name be different.

LOAD/SAVE

The Load/Save screen in the Show menu consists of 3 sections: Show Management, File Management and Reports.



SHOW MANAGEMENT

This section is used for loading and saving shows. The controls for these operations are the same as those described in “Files” on page 20 with the same directories and options available. You can also press the “Create a new show...” button to start a new show from scratch.[1]

You can also export your patch from here so that it can be read by either Internet Explorer or Microsoft Excel. Simply press the “Export the patch...” button and select the directory you wish the patched to be saved in. You can then load the patch files on your pc and view them.

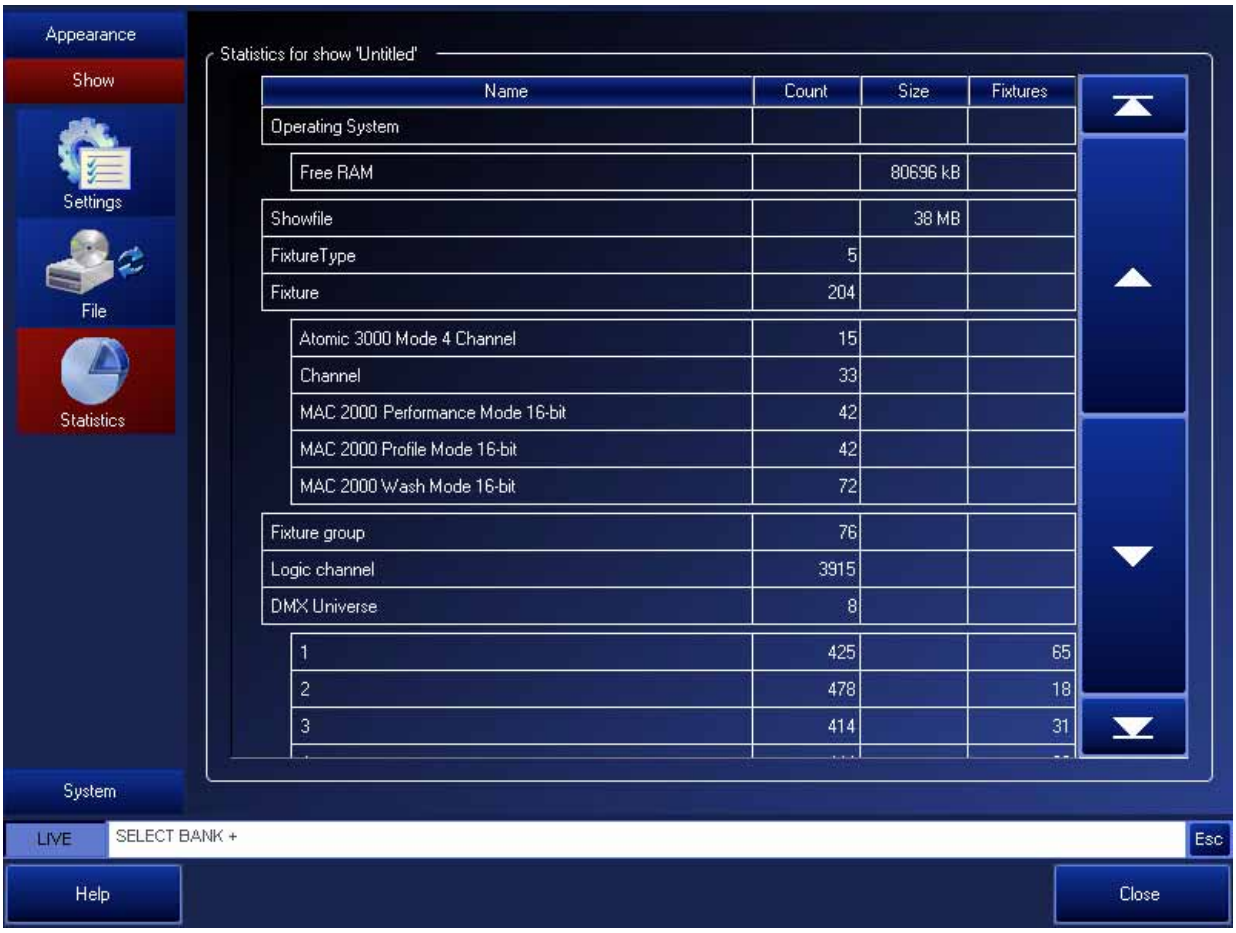
The final setting in Show Management is the Auto backup function. Auto backup creates a complete showfile in the backup directory of the “Load a show...” function. You can set the frequency of when these backups are created between one and 99 minutes. By default, Auto backup is set to “on” with a default period of 15 minutes.

Also note that whenever you either create a new show or load a show, the Maxxyz console will generate a show file in the backup directory labeled either “before last create” or “before last load.”

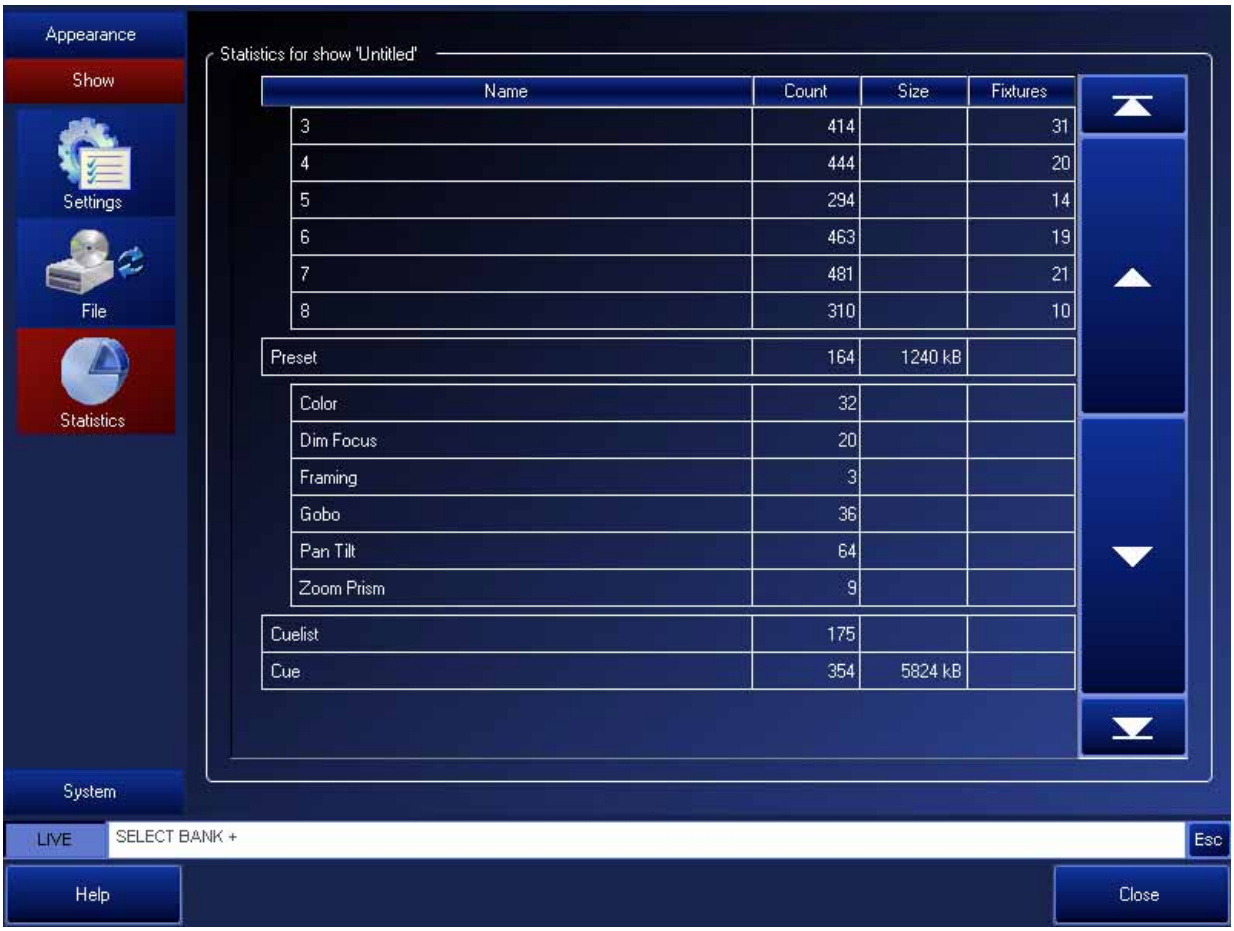
1.Note that with version 2.0 and later of Maxxyz software it is no longer necessary to reboot the console in order to load a show or create a new show.

STATISTICS

From this screen we can see a number of different bits of information about the current showfile such as number of fixtures, show size, etc. Scrolling down will reveal additional information.



Scrolling down reveals additional information.



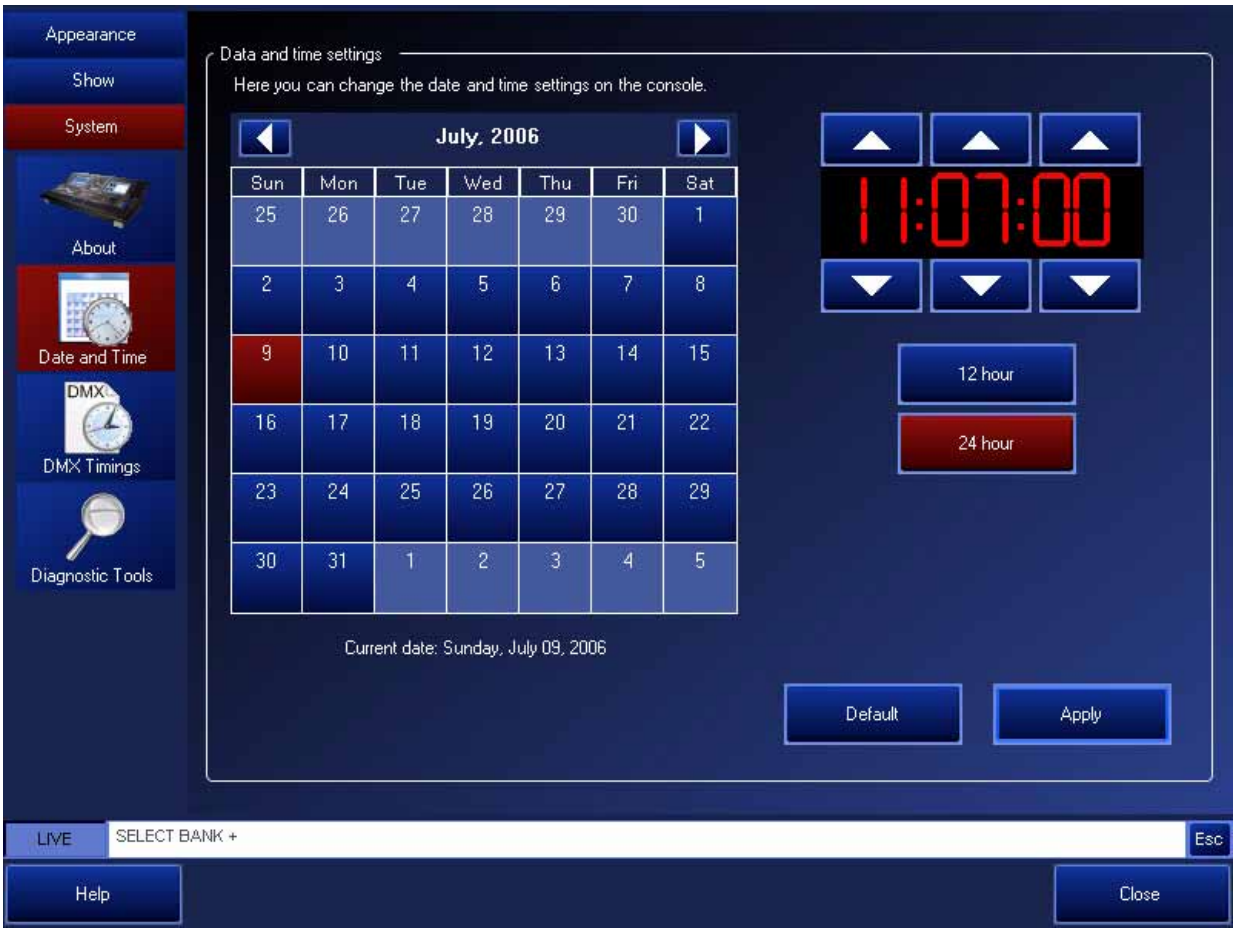
SYSTEM

The system menu gives you access to several system wide settings as well as diagnostics to assist in troubleshooting.

ABOUT

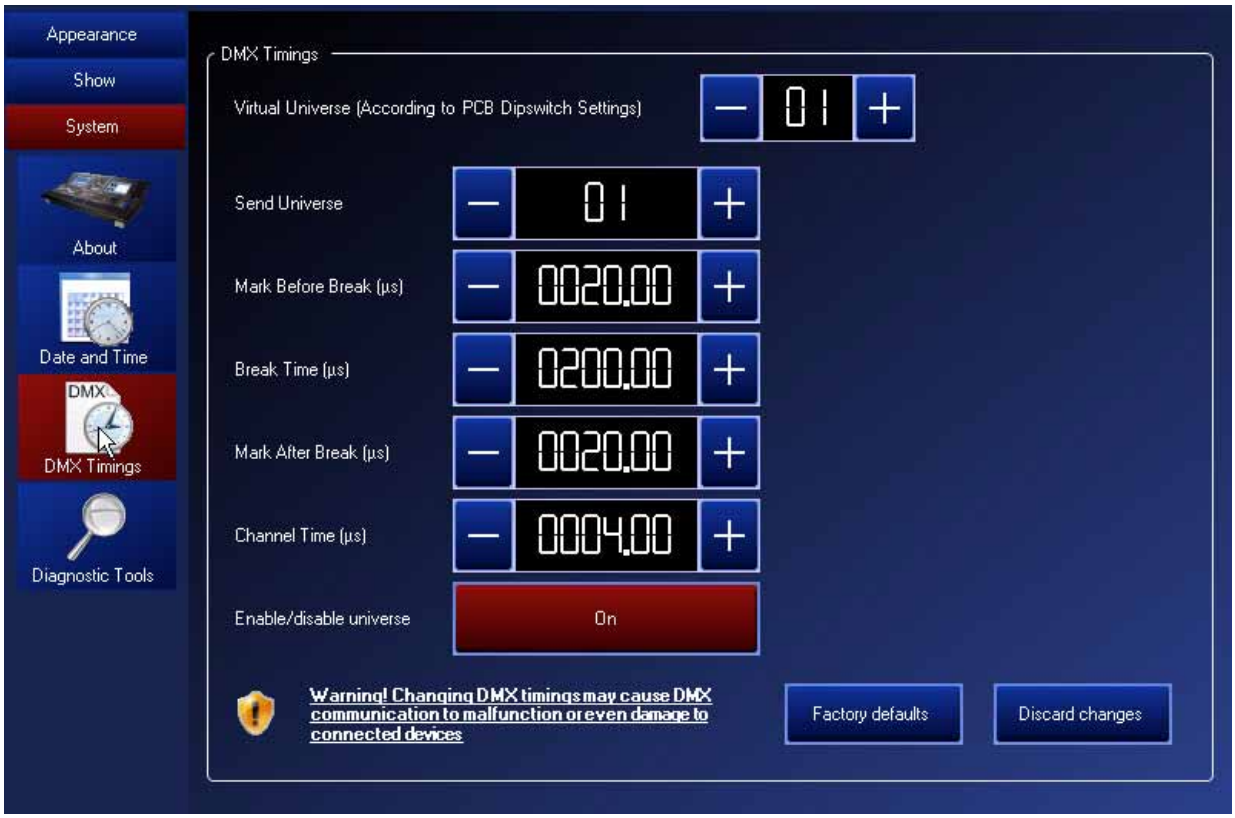
This page displays the software version that you are running at the top of the screen as well as the release notes for the software installed.

DATE AND TIME



The Date and Time display allows you to set....the date and time. Changes made here will be reflected in the analog and digital clocks as well as in timestamps on files. Once changes are made, press “Apply.” Pressing the “Default” button will change the clock to a 24 hour clock.

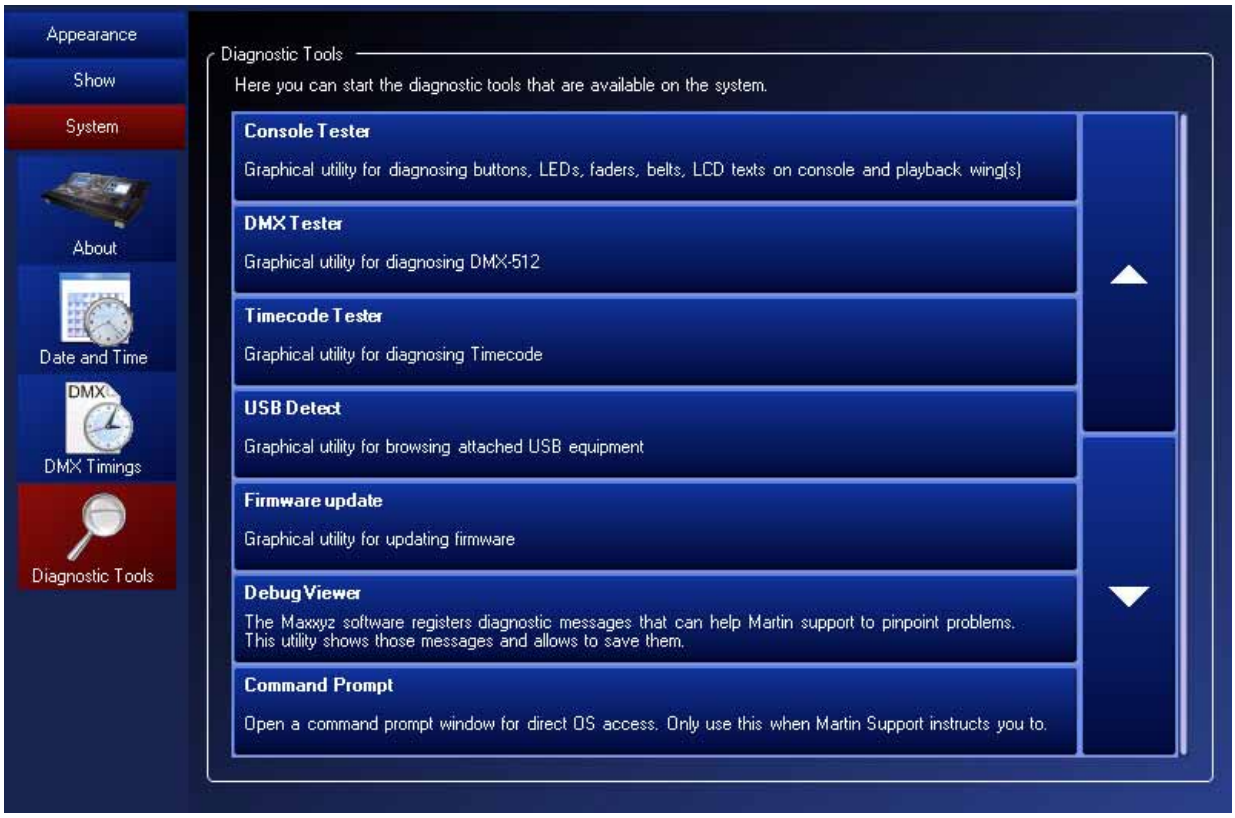
DMX TIMINGS



Please heed the warning at the bottom of this screen! Changing of DMX 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.

One thing that will not be covered in the publication can be found at the top of the screen: the “Virtual Universe” and “Send Universe” settings. The Virtual universe refers to the physical connections on the back of the console. By default, the “Out 1” sends DMX universe one. By changing the “Send Universe” setting, you can have “Out 1” send any of the 64 universes that you can be patched. Pressing “Factory defaults” will reset any changes you have made to those shown above.

DIAGNOSTIC TOOLS

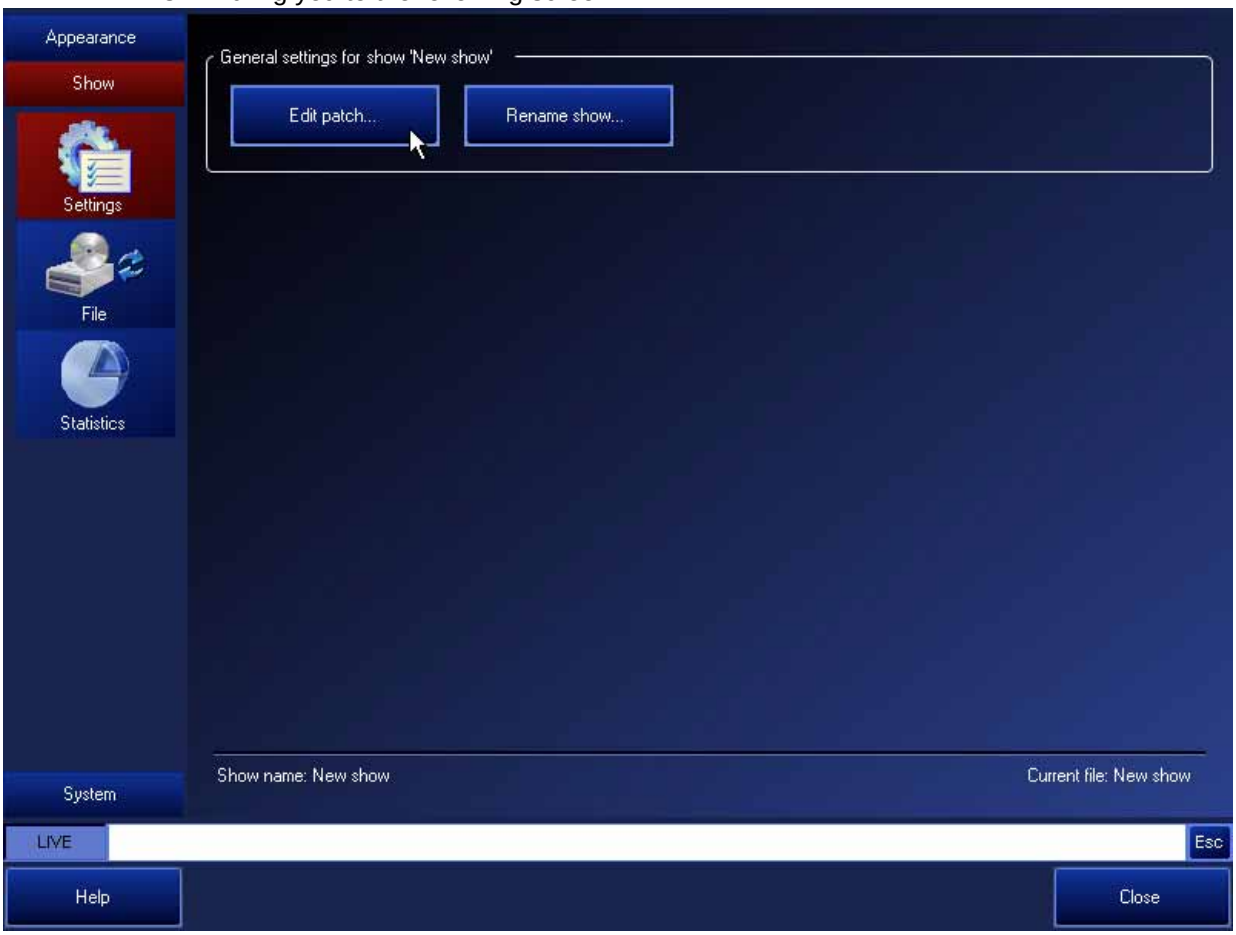


The on-screen descriptions as shown above present an accurate description of each of the available diagnostics. In general, you should not need to run these unless directed to do so by a member of Martin's Technical Support staff. One exception to this is the Firmware Updater which you may be required to run when updating software. If running the Firmware Updater is required, you will be informed in the installation instructions for the software.

PATCHING FIXTURES

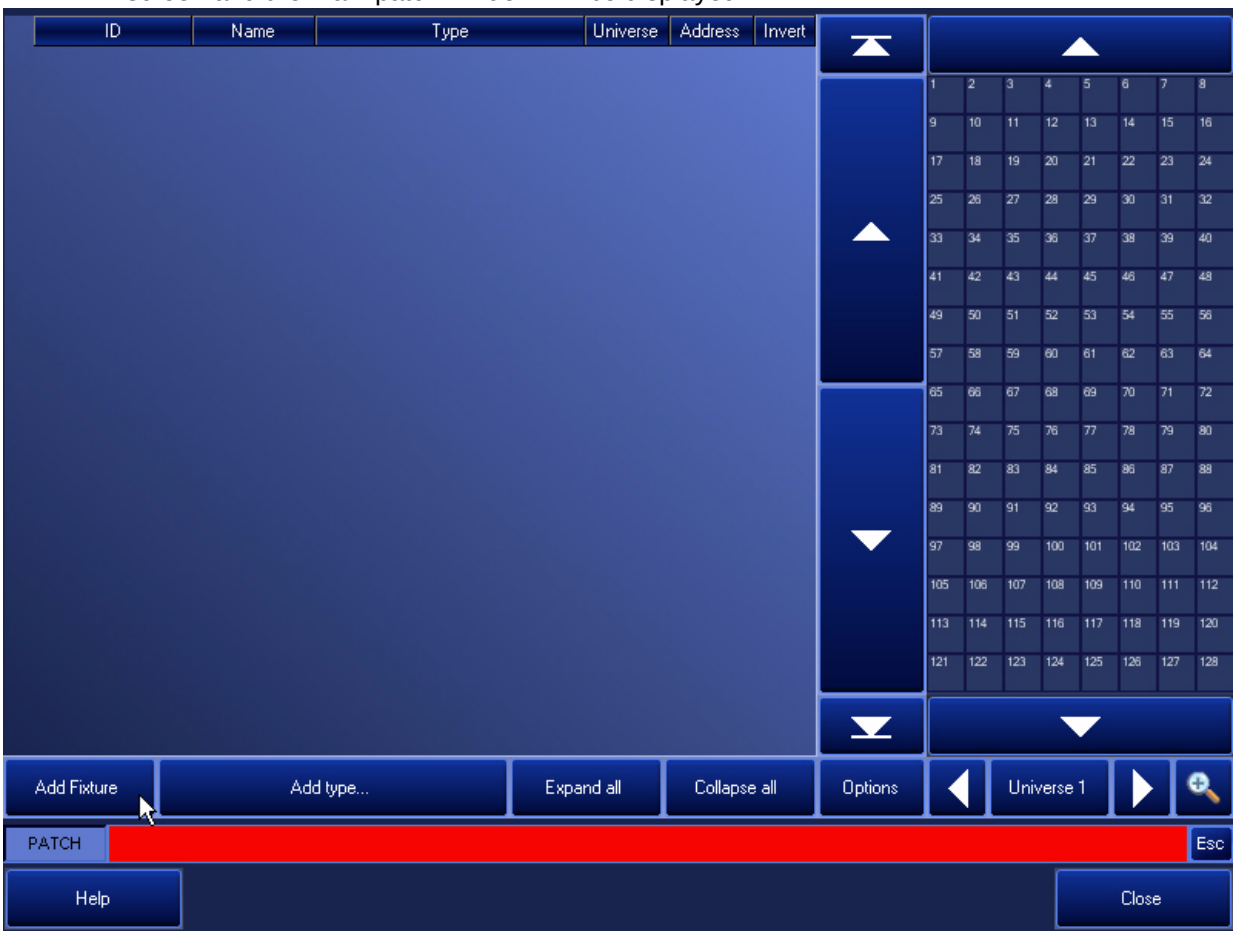
ADDING FIXTURES TO THE PATCH

When starting a new show, the first thing you will need to do us enter the patch for your show. To patch, we'll only be using the Programmer Touch Screen. To access the patch, you will need to press the Menu hard key located at the top center of the console directly above "B" submaster. This will bring you to the following screen.



Other controls in this screen are discussed elsewhere in this manual. Please see "Menu" on page 18 for more information.

From here, select the “Edit patch...” softkey using either the trackball or pressing the touch screen and the main patch window will be displayed:



The left side of the screen is where new information for the fixtures can be added or edited. On the right side of the screen is the “Universe View.” This view will be populated as fixtures are added and can be used to identify any open/available DMX channels in the specified universe[1].

Near the bottom and to the far left side of the screen is a softkey labeled “Add Fixture” (near the cursor in the above screen shot). Press this key and then, using the keypad, enter the quantity of a specific fixture type you would like to add. For the purposes of the Maxxyz Training file that is included, enter a quantity of “24.” When complete, the command line area of the screen will look like this:

1.Note that in the current software version, no changes can be made in the Universe View screen. It is provided as a source of information only and can not be used for editing.

Once the quantity of the specific fixture type has been entered, the fixture type must be selected. This is done by pressing the “Select Type” softkey found to the right of the “Add Fixture” key. When pressed, the following pop-up window will appear:

All fixture types that are patched into the current show will be displayed here, sorted alphabetically. As there are no fixtures patched in the show currently, this list appears blank.

THE FIXTURE LIBRARY

To add fixtures to a show, access the library and choose the desired fixture type. The library is accessed by pressing the “Fixture Library” softkey and will generate the following window[1]:

The default manufacturer’s library is “Martin.” Other manufacturers may be selected by using the up and down arrows found above 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 Maxxyz console.

For our training file, we need to add Martin MAC 600 (E). Using the down arrow below the fixture types, scroll until you see the MAC 600 (E) and then select it by pressing or clicking on the softkey. (You can also press the “mno” softkey to the left of the fixture types to rapidly advance the library to that area.)

1.Please note that the “Create New Fixture” function is not currently implemented.

When selected, you will note that the fixture patch screen changes:

We can now see that the two columns to the right of the fixture type have become populated with information as well. The first column to the right contains information about the fixture settings or options such as lens type, operating mode and any notes on the fixture. The operating mode can easily be changed by simply pressing or clicking on the desired mode. When the “Lens” option softkey is pressed, the fixture settings column will change to display the available lens types for the selected fixture:

Other types of fixtures will have different options available to them. For our training file however, we will use the default settings of Mode 4 with a 25 degree lens.

Also note that the extreme right column, “DMX Profile”, gives a listing of the attributes for that fixture and their DMX offset. This column is not editable and is provided for informational purposes only.

When you have selected the desired fixture type and settings, press the “OK” softkey on the bottom left of the patch screen to proceed. The command line will now appear as follows”

PATCH	ADD FIXTURE 24 "MAC 600 (E) Mode 4" ID <AUTO Fixture number>

FIXTURE NUMBERING

If the “Enter” key on the keypad is pressed at this time, the 24 fixtures will automatically be assigned 24 fixture IDs beginning with the next highest available fixture ID. Example: if fixtures 1 through 24 and 31 through 44 were already patched, the MAC 600’s would be assigned fixture IDs of 45 through 67.

It is also possible to override the “AUTO Fixture number” function by manually entering the fixture id of the first fixture in the range of fixtures to be patched using the numeric keypad.

Note!: The Maxxyz console does NOT allow overlapping fixture IDs. If a fixture is assigned an ID of a fixture already patched, the patch operation will be aborted for the entire range of fixtures that were to be patched!

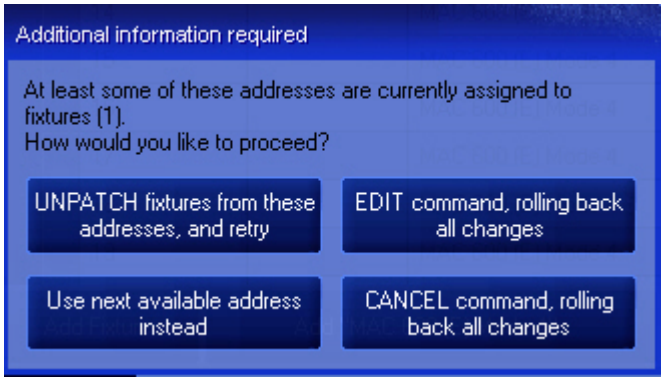
For the training file included with the Maxxyz console, the fixture ID of the first MAC 600 is one (1). Pressing either “**Enter**” or “**1 Enter**” on the keypad will assign fixture IDs of 1 through 24 to the 24 MAC 600s to be patched.

ASSIGNING DMX ADDRESSES

Once you have patched the MAC 600s and assigned them fixture IDs, your patch screen will look like this:

Assigning the DMX address(es) to a fixture or a range of fixtures can be very rapidly accomplished. This is done using the keypad and the syntax **Fixture number(s) @ DMX Address(es).**

Note: 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 Maxxyz notes that the patch is “overlapped,” the following window will pop-up:

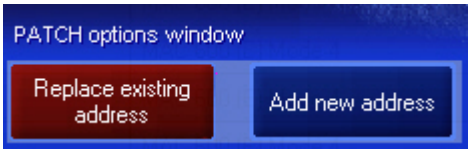


Here, you are presented with four options:

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.
Use next available...	Instead of using the DMX addresses entered on the command line, the Maxxyz 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.
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.
Cancel	Does not execute the command and clears the command line.

Patching an Individual Fixture

In much the same way that the Maxxyz console will automatically assign fixture IDs, it can also automatically assign DMX addresses. By using the keypad to select the fixture number or fixture range and then pressing “@ Enter”, the Maxxyz console will automatically patch the selected fixture(s) to the *first available* DMX addresses. Note that this does not meant that the addresses will necessarily be sequential. The Maxxyz 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: 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 between 1 and 32 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 widow” during this operation.



This will be discussed later in this chapter but can be safely ignored for the time being.

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” **(-)** keys to create non-sequential ranges of fixtures such as “1 Thru 5 + 11 Thru 15” or 1 Thru 24 - 5.” Also, be aware that the Maxxyz

console 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 Maxxyz console 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 Maxxyz console retains the concept of fixture ID for channel, and allows for the creation of a fixture type called “channels” which can assigned to the desired ID(s). Adding control for conventional dimmers is very similar to adding control for a moving light.

1 While in Patch, press the “Add Fixture” softkey and then enter the number of *control channels* desired. For our demonstration file, enter 24.

2 Press “Select type”

3 Press Fixture Library and then go to the “Generic” manufacturer

4 From the top of the list, select “Channel” and then press “OK.”

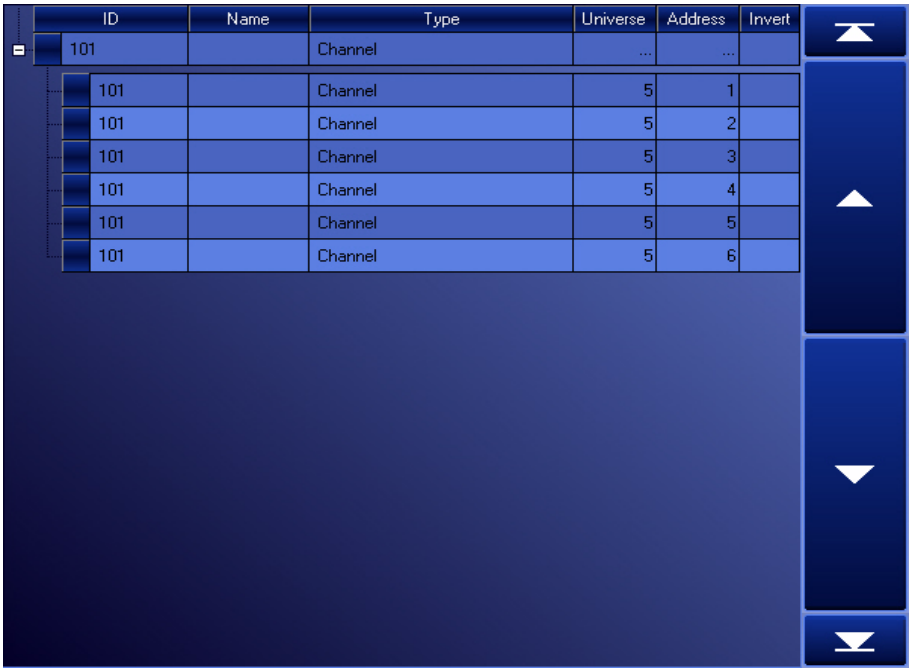
5 Enter the fist channel number and press Enter. For our demonstration file, enter “101.”

6 Assign the channels DMX addresses as described above. Again, for our demonstration, we will select **101 Thru 124 @ 401 / 2 Enter.** This will assign the pars US in the 3d Vis 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.

For example, 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) 101, you would use the following keystrokes: **101 @ 1 Thru 6 / 5 Enter.** When you have completed this, your patch screen will show the patched dimmers as follows:

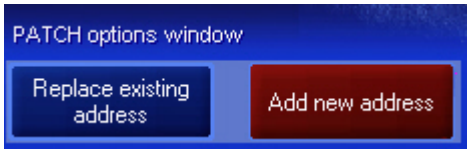


ID	Name	Type	Universe	Address	Invert
101		Channel	...	...	
101		Channel	5	1	
101		Channel	5	2	
101		Channel	5	3	
101		Channel	5	4	
101		Channel	5	5	
101		Channel	5	6	

The Maxxyz console has now patched control of DMX universe 5, addresses 1 through 6 to fixture ID (channel) 101. 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” **(-)** keys as in **101 @ 1 Thru 6 - 4 Enter**.

Adding DMX Addresses to a Previously Patched Fixture/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 addresses.”



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 a Maxxyz console.

To examine multi-part fixture patching on the Maxxyz console, add 6 Vari*lite VL5s in default mode to your show and set the fixture IDs to 501 through 506. When completed, your patch screen will look similar to that shown below[1]:

1.It may be necessary to press the “Expand All” softkey at the bottom of the screen to see this view.

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 **501 Thru 506 @ 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 **501.1 Thru 506.1 @ 1 / 10 Enter**.

When completed, your patch should resemble the one below:

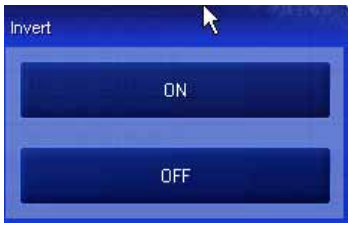
OTHER PATCH FUNCTIONS

Pan/Tilt Swap and Invert

Occasionally, 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 fixture(s)[1]. When the “Inv” field is selected for the desired fixture(s), the following pop-up window will appear:

1.Note that a range of fixtures can be selected by “clicking and dragging: through the “Inv” column of the desired fixtures.

From here, select which attribute(s) modify. Once selected, an additional 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 “ON” softkey and then **Enter** on the keypad 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:

ID	Name	Type	Universe	Address	Invert
1		MAC 600 (E) Mode 4	1	1	P
2		MAC 600 (E) Mode 4	1	15	T
3		MAC 600 (E) Mode 4	1	29	S
4		MAC 600 (E) Mode 4	1	43	PTS

Labeling Fixtures

The Maxxyz console has a “Fixture” window that by default, shows the fixture type. This can be altered in the patch however to show a label assigned by the user.[1] 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” window:

ID	Name	Type	Universe	Address	Invert
1	Truss 1 600-6	MAC 600 (E) Mode 4	1	1	
2	Truss 1 600-5	MAC 600 (E) Mode 4	1	15	
3	Truss 1 600-4	MAC 600 (E) Mode 4	1	29	
4	Truss 1 600-3	MAC 600 (E) Mode 4	1	43	
5		MAC 600 (E) Mode 4	1	57	

To clear a name from a fixture, select the fixture(s) and then press **Enter**.

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.

Other Patch Screen Controls

In the lower right hand corner of the patch spreadsheet is a button labeled “Options.” Pressing this button will toggle between displaying or hiding the “Expand All,” “Collapse All,” “Add Fixture,”

1.See “Using the Fixtures Screen” on page 60 for more information on this feature.

and “Select Type” buttons. “Add Fixture” and “Select Type” have already been discussed. The “Expand All” and “Collapse All” buttons are used with multi-part fixtures and with and fixture/channels that have multiple DMX addresses assigned to them. While you can expand and collapse individual fixtures by pressing the “+” or “-” key found on the left of the fixture number, this allows you global control of all such fixtures.

On the right hand side of the screen are arrow controls that anyone who has ever owned a VCR, CD player, DVD player or iPod should immediately recognize as: top of list, scroll up, scroll down, bottom of list. You can also use the trackbelt to the right of the touchscreen to scroll through the Patch.

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 “Menu” key.

4 Press “Edit patch....”

5 Press “Add Fixture”

6 Enter the number of fixtures to be patched

7 Press “Select Fixture”

8 Press “Fixture Library...”

9 Select the Manufacturer

10 Select the fixture type

11 Select any options from the “Fixture Settings” menu

12 Press “OK”

13 Set the Fixture ID of the first fixture or use the Auto Fixture Number feature

14 Press Enter on the keypad

15 Select the fixture range using the keypad (i.e. **1 Thru 24**)

16 Press the “At” **(@)** key and then the DMX address of the first fixture to assign to the default DMX universe or;

Press the “At” **(@)** key, the desired DMX start address, the “Slash” **(/)** key and then the desired DMX universe (i.e. @ **1 / 2**) or;

Use the console’s “Auto (first) DMX start address” feature

17 Press **Enter** on the keypad

18 Press ”Close”

Advanced Patching Syntax

While the assignment of fixture IDs and DMX addresses have been handled separately in this manual, it is worth noting that it is possible to create a longer, more complex command line that will add fixtures, assign the IDs and DMX addresses all as a single command. For example: **“Add Fixture” 24 “Select Type” “MAC 600” 101 @ 1 / 2 Enter** would add 24 MAC 600s, numbered beginning with 101 and addressed in a continuous range beginning with DMX address 1 of universe 2.

Patching the "Maxxyz Training" File

With the information listed in the table below, it is possible to patch all the fixtures in the training file.

Quantity	Type	Fixture ID	DMX Add/Univ
24	MAC 600 E Mode 4	1-24	1/1
12	MAC 500 E Mode 4	31-42	337/1
12	MAC 2k Profile 16 Bit	51-62	17/2
24	(Generic) Channel	101-124	401/2

Patch Universe View

As you add fixtures to your patch, the Patch Universe View will be automatically populated. You can see the name of the fixture (or the fixture type if the name has been left blank) and the number of DMX channels it occupies.

You can use the arrow keys to advance through the various universes and the magnifying glass to zoom in and out on the universe view.

EDITING AN EXISTING PATCH

Once your patch is created, there are a number of different ways that it can be modified. All of the following commands employ the **Thru**, **And**, and **Except** modifiers as described earlier. Note that the **Enter Patch** button on the patch touchscreen must be selected for the commands to be executed.

CLEARING A FIXTURE FROM PATCH

In the patch, when a fixture is cleared, it is unpatched, but is not removed from the show. This can be useful if a fixture develops an error that can not be addressed in a timely manner. The fixture will remain in all groups, presets, and cues, but no DMX values will be sent to it. To clear a fixture from the patch:

1 Press the **Clear** key above the numeric keypad

2 Enter the fixture number(s) that you wish to be unpatched

3 Press **Enter**

CLEARING DMX ADDRESSES

Aside from clearing DMX data by specifying a fixture number, it is also possible to clear this information by specifying the DMX information to be cleared. This can be done for an entire universe or for specific addresses. Unlike clearing a fixture from the patch, all group, preset and cue information will remain unaltered.

<u>To clear an entire DMX universe</u>

1 Press the **Clear** key above the numeric keypad

2 Press the **Universe** button found in the lower right hand corner of the Patch touchscreen

3 Enter the universe number(s) you wish to be cleared

4 Press **Enter**

<u>To clear a specific DMX address</u>

1 Press the **Clear** key

2 Press the "@**"** (at) key

3 Enter the DMX address to be cleared

4 Press the "**/**" (slash) key

5 Enter the DMX universe

6 Press **Enter**

Note that steps 4 and 5 above can be skipped if the DMX address to be cleared is in the default DMX universe.

<u>To clear a specific DMX address from a specific fixture/channel</u>

1 Press the **Clear** key

2 Enter the fixture number

3 Press the "@" (at) key

4 Enter the DMX address/universe that is to be removed

5 Press **Enter**

Changing DMX Universe numbers

It is also possible to change a fixture from one DMX universe to another. This can be done by individual fixture, fixture range or by moving an entire universe.

To change the universe of an individual or range of fixtures

1 Highlight the universe cell of the fixtures(s) to be changed.

2 Using the keypad, enter the new universe number.

3 Press **Enter**.

To move an entire universe

1 Press the **Move** key.

2 Press the “Universe” softkey found in the lower right hand corner of the Patch screen.

3 Enter the original universe number using the key pad.

4 Press the **“@”** key.

5 Enter the destination universe.

6 Press **Enter**.

Deleting a Fixture From Patch

A fixture that is deleted from the patch is completely removed from the patch as well as all groups, presets and cues that it may have been recorded in. When this operation is completed, the only way to restore that fixture to the show is to load a previously saved show from memory. When deleting a fixture or fixtures, a pop-up window will appear:

- Pressing “Confirm” will execute the command and remove the fixture(s) from the patch.
- Pressing “Cancel” will stop the execution of the command and clear the command line.
- Pressing “Edit” will stop the execution of the command, but allows you to return to the command line and make any desired changes.

To delete a fixture from the patch (and all associated groups, presets and cues):

1 Press the **Delete** key above the numeric keypad

2 Enter the fixture number(s) that you wish to be unpatched

3 Press **Enter**

4 Select Confirm, Cancel or Edit from the pop-up window.

Moving a Fixture in the Patch

Due to changes during a show, it may become necessary to change the fixture ID of one or more fixtures. This is accomplished by using the “Move” command. To move a fixture or group of fixtures from one ID to another:

1 Press the **Move** key above the numeric keypad

2 Enter the fixture number(s) that you would like to have changed

3 Press the “At” **(@)** key

4 Enter the fixture ID of the first fixture in the range

5 Press **Enter**

Copying a Fixture

There may come fortuitous times when fixtures are actually added to a rig. While generally regarded as a favorable event, this can create problems in programming. The Maxxyz patch simplifies this procedure by allowing you to copy information from one or more fixtures to the new fixtures. When this feature is employed, the new fixtures will be added to all presets, groups and cues that the original fixtures are in. DMX addressing information will *not* be copied.

Note: Depending upon the size of the show and the number of fixtures being added/copied, this function may take a few minutes to execute. It is recommended that this be done well before show time!

To copy a fixture or fixtures:

1 Add the new fixtures to the patch. For this example, we will be adding 10 MAC 600s to the training file at addresses 201 through 210.

2 Press the **Copy** key above the numeric keypad. You will see the following window appear in the patch window as soon as you enter a fixture number:

This window is a filter that allows you to determine which sets of information will be copied to the new fixtures. By default, you will be copying all three: Cues, Presets, and Groups. Pressing any of these buttons once will turn them off and that information will not be copied to the new fixtures. Pressing them again allows for that information to be copied to the new fixtures.

3 Enter the ID number(s) of the original, or *source*, fixture(s). In this case, **1 Thru 10**

4 Press the “At” **(@)** key

5 Enter the ID number of the new, of *target*, fixture(s). In this case, **201 Thru 210**

6 Press **Enter** and the following popup window will appear in the patch window:

- Pressing “Confirm” will execute the command and copy the fixture information to the new fixtures.
- Pressing “Cancel” will stop the execution of the command and clear the command line.
- Pressing “Edit” will stop the execution of the command, but allows you to return to the command line and make any desired changes.

7 Select Confirm, Cancel or Edit from the pop-up window

It is also possible to copy the information from one fixture to a range of fixtures (**Copy 1 @ 201 Thru 210 Enter**) or to invert the selection so that the original and new fixtures mirror each other (**Copy 1 Thru 10 @ 210 Thru 201 Enter**).

Copying Fixtures of Different Types (Cloning)

In the example above, we copied fixtures of the same type. Beginning with Maxxyz software version 1.6, it is now possible to copy fixtures of different types. The procedure is exactly the same as that listed above. This is particularly useful if you go into a venue where the fixtures available are not the same as those already in your showfile. In such a situation, you could add the new fixtures to your patch and copy the information from the fixtures already in your showfile to the new fixtures.

There are, of course certain limitations. For example, if you are forced to replace your Mac 2K profiles with a wash fixture, there will be no gobo information in the wash fixture. Similarly, if you copy from a CMY fixture to a fixed color wheel fixture, you will need to select the colors on the new fixtures manually however all position, group, cue, preset and intensity information (at the minimum) would be copied for you.

THE MAXXYZ VISUALIZER

The Maxxyz console uses files created with Martin Show Designer (MSD) to provide a visual representation of the console output. The current version of the Maxxyz console software supports limited editing of MSD files on the console as discussed below. The visualization is always displayed on the programmer external monitor. While the visualization component of the Maxxyz console is not required for creating and running shows, it is a very valuable tool when pre-programming or learning the console, particularly if you are not connected to “physical” fixtures.

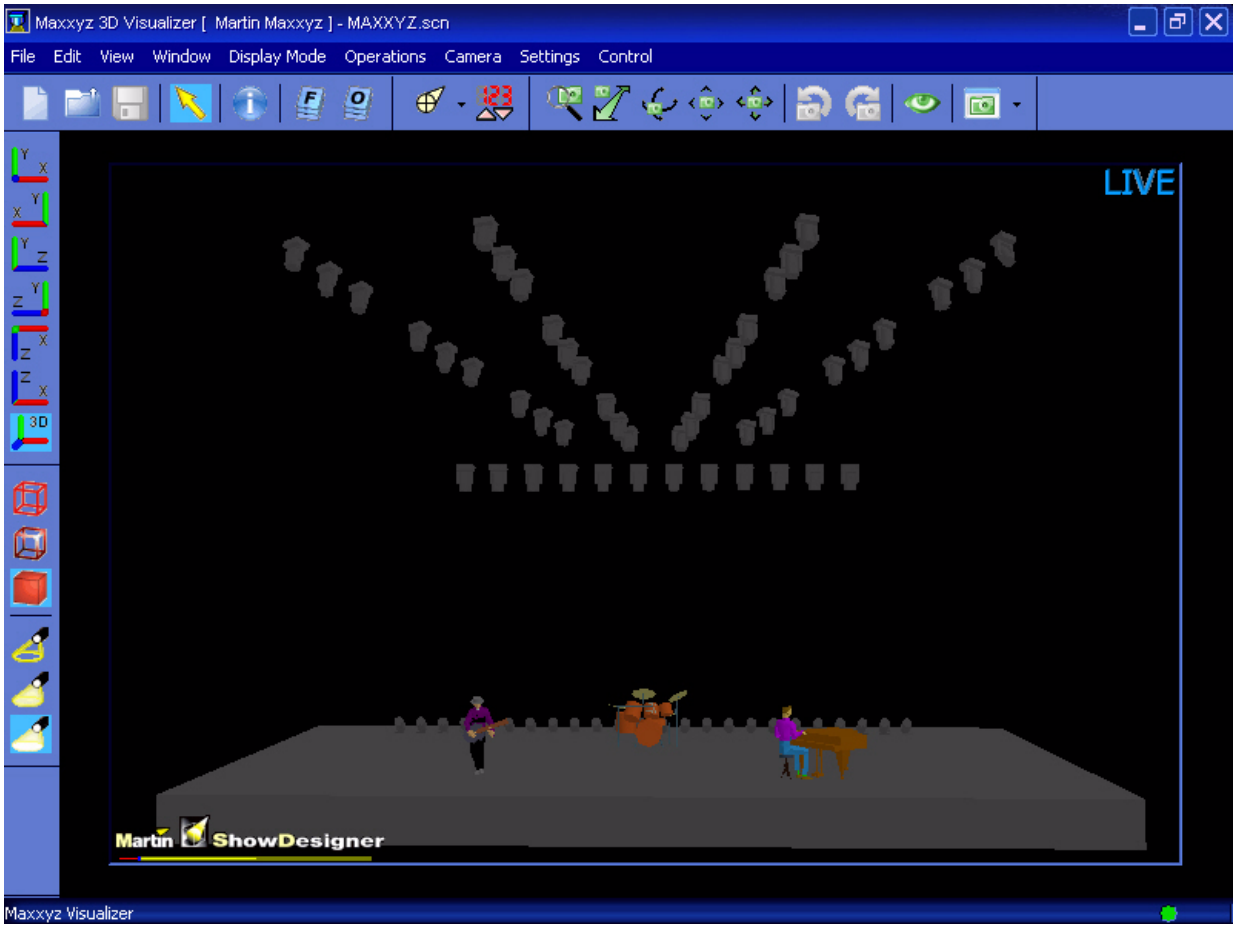
LOADING THE MAXXYZ VISUALIZER

When you first start the Maxxyz console with a new show, the visualizer will display a blank stage. In order to utilize the visualizer, you will need to create a scene using Martin Show Designer. You can then save the scene on a USB “thumbdrive” and load it into the console via the front USB port. To open your Show Designer .scn file, go to “File” then “Open.” On the pull down menu “Look in:” (which will be defaulted to the “Scenes” file) find your drive and then select the desired file and press “Open.” Once the scene has opened, it is recommended that the file be saved in the “Scene” folder (My Computer\Shared Documents\MSD4\Scenes[1]).

In order for the visualization to be accurate, the fixture type (including mode), DMX universe number and DMX address must be *exactly* the same in both the Maxxyz patch and the MSD scene file.

1.For a complete manual on Martin Show Designer, please visit www.Martinpro.com.

Shown below is the Show Designer .scn file used with the tutorial that was patched earlier in this manual:



NOTE: As of Maxxyz software version 1.8, the visualization file now saves with the showfile!

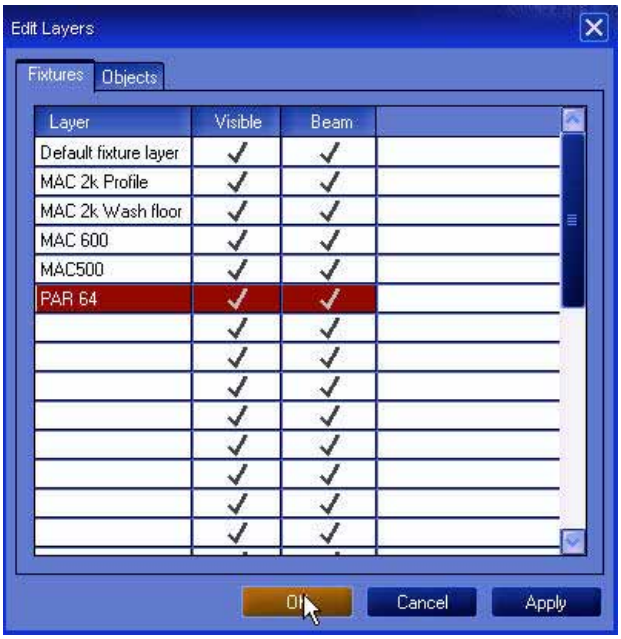
MAXXYZ VISUALIZER TOOLBARS

At the top and along the left side of the visualization display are five different groups of toolbars. These can be selected using the trackball cursor and allow you to manipulate fixtures, fixture data, and displays.

Misc Bar	This toolbar contains the standard Windows(tm) functions for new file, open, save, etc. as well as two very application specific options.
Operations Bar	This toolbar allows you to manipulate fixture information
Camera Operations Bar	Here you can change the position from which you are viewing your scene.
Camera Bar	Similar to “Camera Operations,” the Camera mode changes your viewpoint, but instead of moving your point of view, the Camera mode changes the plane (top, bottom, left, right, etc.) from which you are viewing your scene.
Display Mode Bar	There are 3 different Display modes for both object and fixtures in the scene. Each Display mode shows you a different type of representation.

THE MISCELLANEOUS BAR

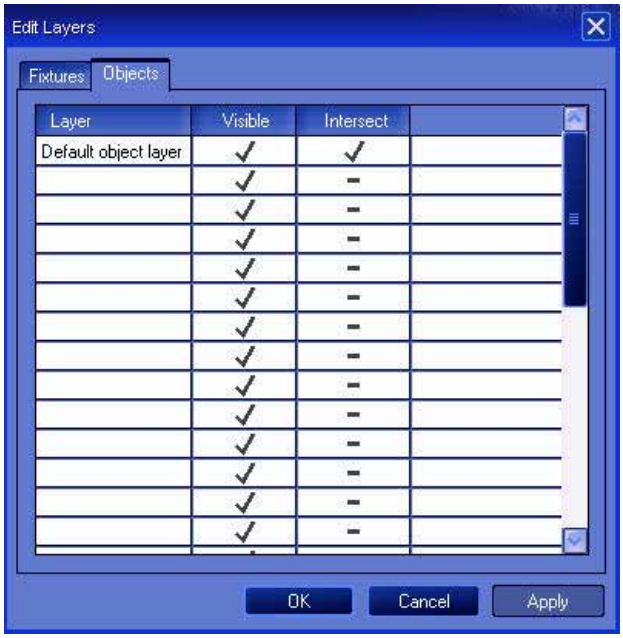
Aside from the standard Window operations of New, Open, Save, Cursor[1] and About, the Miscellaneous Bar also contains two very closely related functions on the right side of the toolbar: Edit Fixture Layers and Edit Object Layers. As with many CAD-type programs, the visualization file is built in “layers.” An object layer would contain such items as draperies, performers, platforms, stage, etc. A fixture layer contains.....fixtures! Objects and fixtures are assigned to specific layers when the visualization file is created in Martin Show Designer. The Edit Fixture and Edit Object Layers in the visualizer determine how these layers will be depicted in the visualizer. Pressing the Edit Fixture Layers button (the one with the “F”) will present the following screen:



The leftmost column displays the different fixture layers that were created in Martin Show Designer. To the right of that is “Visible.” When checked, fixtures on that layer will be visible in the visualizer. When not checked, neither the fixture nor it’s beam will be visualized. Similarly, the “Beam” Column determines whether or not the beam(s) of the fixtures in that layer will be seen on the visualizer. This can be particularly useful when working on a show with a large number of fixtures and you wish to focus on a specific group.

1.Note that the “Cursor” command currently has no function.

To the right of the “Fixtures” tab at the top of the window is the “Objects” tab. Selecting it will change the window to show the Object layers.



As with the Fixtures window, you can select whether or not specific object layers are visible.[1] There is also an option for “Intersect.” When selected, light beams will interact with the surface of the object. Deselecting this option will cause the beam to pass through the object as if it weren’t there. (The Default Object layer will always be treated as though Intersect is set to on.)

THE OPERATIONS BAR

The Operations toolbar is possibly the most powerful of the toolbars found in the Maxxyz visualizer. It consists of two separate elements: the Focus Beam selection and the Fast Patch selection. The Focus Beam selection will be covered in detail later in this manual. Please see “Fast Focus” on page 63 for details. To use the Fast Patch, simply open the window and then click on the desired fixtures. Based on the options that you have selected in the Fast Patch window, fixtures that you click on will then have their fixture number(s) and patch information changed in the visualizer.

Note! Any changes made in the visualizer of the Maxxyz console will <u>not</u> be automatically transferred to the actual fixture patch of the console. Changes made in the visualizer will need to be manually updated in the patch screen. Please see “Patching Fixtures” on page 29 for more information.

1.Note that in this example, all objects were created on one layer, the default layer.

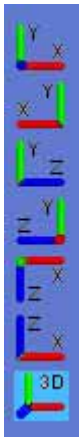
The Fast Patch option is broken up into 3 separate sections:

Automated Lights	Here you can select whether you wish the Base Channel (the first DMX channel of the specified fixture) to be affected or not. You can also set the Base Channel DMX address using the x:yyy format where “x” represents the DMX universe number and “yyy” represents the DMX address. You can also determine if you wish the DMX address to automatically increment as you go along (recommended). Note that should you go past the 512 channel limit of a specific DMX universe, the universe number will automatically increment to the next available address.
Conventional Lights	This section allows you to determine the address of conventional lighting dimmers and other associated devices. You specify your starting address in the same manner as with the Automated Lights section and you can determine the number of DMX addresses you wish to increment with each “click.” By default, only the “Dimmer” option is selected. To include other devices, select the appropriate checkbox and click on it.
Fixture ID	This box corresponds to the “Fixture Number” column found in the console patch.

THE CAMERA OPERATIONS BAR

You can use the camera operations bar to change your viewpoint within the plane of the scene. These icons will move the camera’s view within the scene by using the trackball. To the right of the camera position icons are the icons for “camera view undo” and “camera view redo.” These will undo or redo several of the last camera move commands issued to the console. Directly to the right of these buttons is the “Full View” button. Pressing this will cause the camera to move to a position such that the entire scene is visible. At the far right of the Camera Operations bar is the “Select Camera” pull down menu. Pressing this will open a pull down menu that lists all camera views that were set in Martin Show Designer.

The Camera Bar



From this toolbar you can determine (from left to right) whether you are looking at your scene from the front, back, left side, right side, top, bottom or in three-dimensions. Note that selecting a specific camera view as described above, will change to that view regardless of the Camera Bar selection

The Display Mode Bar

The Display Mode is used to determine whether objects and beams are displayed as wireframes or solid objects. By default, all objects and beams are set to their highest (and more realistic) settings. However, in very large shows, it may be desirable to reduce the resolution by choosing a wireframe mode as this will allow for faster refreshing of the visualization display.

SELECTING FIXTURES

There are several methods of selecting fixtures on the Maxxyz console: using the main keypad, using the “Fixture Selection” screen, using the “Fixture” screen, or clicking on the fixtures in the visualizer. In this section, we will look at using the main keypad.

SELECTING FIXTURES USING THE MAIN KEYPAD

If you know the number of the fixture(s) you wish to select, you can use the 0-9 keys to specify the fixture numbers and the “+” (and), “-” (except) and “Thru” (through) keys to modify your selection. Maxxyz allows simple as well as complex fixture selection. Some possible examples are:

1 Enter	This will select fixture 1.
1 + 2 Enter	This will select fixture 1 and 2.
1 Thru 5 Enter	This will select fixture 1 through 5.
1 Thru 5 + 21 Thru 25 Enter	This will select fixtures 1 through 5 and 21 through 25.
1 Thru 5 - 4 Enter	This select fixtures 1, 2, 3 and 5.

SELECTING FIXTURES AND SPECIFYING AN INTENSITY

Using the above keys in conjunction with the “@” (at) or Full keys allows you to set specified fixtures to specified intensity values.

1 Full	This will bring the intensity of fixture one to 100%
1 + 2 Full	This will bring the intensity of fixtures 1 and 2 to 100%.
1 Thru 5 @ 50 Enter	This will bring 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” keys. When entering any other value, these keys are required.

1 Thru 5 + 21 Thru 25 @ 75 Enter	This will bring the intensity of fixtures 1 through 5 and 21 through 25 to 75 percent.
1 Thru 5 - 4 @ 95 Enter	This will bring the intensity of fixtures 1, 2, 3 and 5 to 95%

Intensity Fanning - The Maxxyz console allows you to rapidly assign a range of intensities to a range of fixtures. Use the following procedure to implement Intensity Fanning:

1 Thru 5 @ 10 Thru 50 Enter	This will bring the intensity of fixture 1 to 10%, fixture 2 to 20%, fixture 3 to 30%, etc. Conversely, you could enter **1 Thru 5 @ 50 Thru 10 Enter**. This would put fixture 1 at 50% and each of the following fixtures 10% lower. Note that if you wish to fan the intensity from 50% to full, you *must* enter **1 Thru 5 @ 50 Thru 100 Enter**. You can not use the "FULL" key as this would drive all selected fixtures to 100% thus negating the fan.

Selecting/Deselecting All Fixtures in the Programmer

Maxxyz provides four different ways to very rapidly determine which fixtures will be manipulated in the programmer:

1 **"."** (decimal) **Enter** - Pressing "decimal enter" will select every fixture in the programmer and allow you to make changes to all of them using the programmer controls.

2 **"0"** (zero) **Enter** - Pressing "zero enter" will *deselect* every fixture that is currently in the programmer.

3 **"."** (decimal) **"0"** (zero) **Enter** - "Decimal zero enter" will select every fixture that is patched in your show and place it in the programmer in a selected state.

4 **"/"** (slash) **Enter** - "Slash Enter" will invert the selected fixtures in the programmer. Those that are selected will become deselected and vice versa.

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 otherwise cleared.

- To deselect a specific fixture or fixtures, press the **- (minus)** key and enter the desired fixture or group number(s).
- To deselect all fixtures, press the "Deselect All" softkey found in the "Fixtures" window *or* press **0 (zero) Enter.**
- Entering a new fixture selection will deselect all previously selected fixtures.
- Selecting fixtures using the Selected Fixtures screen will deselect all previously selected fixtures.

Clearing Selected Fixtures

To completely clear the programmer of all fixtures, press the Clear button twice.

- The first time you press Clear, the "Clear Options" window will appear.
- The second time you press Clear, all fixtures will be cleared.

  At that point, the programmer screen[1] will be emptied and the visualizer will return to it's previous state.

  It is also possible to clear only selected attributes of specified fixtures. For more information, please see "Clear and the Programmer" on page 96.

1.For more details, please see "The Programmer Window" on page 85.

Fixture Color Coding

The Maxxyz console uses relies on color coding to indicate the various states of selected fixtures. A list of those colors as well as complete descriptions of selected and deselected follows.

Selected Fixture	A selected fixture is one that is currently editable using the programmer's trackbelts, touch screen, etc.
Deselected Fixture	A deselected fixture is a fixture that, while in the programmer, will not be affected by changes made in the programmer. That is to say that changes made using the trackbelts, touch screens, etc. will have no effect on deselected fixtures. For more information, please see "Loading the Programmer Using Fixture Selection" on page 87.
Blue	Fixture is in programmer, but is not currently selected and will be unaffected by changes made by the programmer keys.
Red	Fixture is selected, will be affected by changes made using the programmer keys, and is the specific fixture displayed in the programmer controls.
Green	Fixture is selected as part of a range of fixtures (i.e. "Fixture 1 Thru 12") and will be affected by changes made using the programmer keys, but is not the specific fixture displayed in the programmer controls.
Dark Green	A fixture on a dark green field is one that has been selected, but has been overridden through the use of the "next/previous" commands or by selecting fixtures that are a subset of the original selection. Pressing "revert to selected" in the Fixture Groups window or reselecting the fixtures will return the selection to a green field.

Using the Selected Fixtures Screen

The Maxxyz console also make use of a "Selected Fixtures Screen." You can find this screen by selecting the "Fixtures" view key (view 11) over the Playback Controls touch screen among other places. Please note that the screen has been resized for easier viewing in this manual.

This screen is automatically populated with fixtures as you select them; either by the means described above, or by selecting Groups (see “Groups” on page 72). In this screen you are provided with the fixture number and model or the fixture’s label if one was entered in the patch.

When the “Options” key is pressed, it will hide the various options found on the bottom of the screen allowing more fixtures to be viewed. By default, these options are shown.

Fixture Selection Order

The Maxxyz console 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 (see “Setting a Staggered Delay Time (Delay Fanning)” on page 141) or when stepping through the fixtures using the “Next/Previous” buttons in the Trackball Controls. In other words, the Maxxyz console goes beyond listing the fixtures from highest to lowest based only on their fixture number.

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 softkey is the equivalent to the “***/***” (slash) **Enter** command. When pressed, those fixtures in the programmer that are selected will become deselected and vice versa.

Random

The order of the selected fixtures in the programmer can be randomized by pressing the “Random” softkey on the Selected Fixture list.

Reverse

Similar to randomizing the order of the fixture selection, you can reverse the order by pressing the “Reverse” softkey. This will flip the current selection order regardless of whether fixtures are selected or deselected. “Reverse” can be used in conjunction with “Random.”

Sort

The “Sort” softkey will sort any selected fixtures by their fixture number from lowest to highest.

Using The Fixture Selection Mask

Located on several screens throughout the Maxxyz console is the Fixture Selection Mask. This powerful tool easily allows for the division of groups into subsets of those groups. When

combined with the “Next/Previous” trackball buttons, rapid manipulation of selected fixtures becomes possible.

In the current release of software, only one fixture filter is active.

At the top of the screen is a button labeled “Off.” By repeatedly pressing this button, you can toggle between “Off,” “Every,” “Block” and “Divide.” To the right of this button is the number counter (by default, this number is 2.) This number can be incremented or decremented by pressing the “+” and “-” keys next to the number.

- Off - By pressing this button and then the “Apply mask” button, all fixtures currently in the programmer will be selected and any masks will be removed.
- Every - By pressing this button and then the “Apply mask” button, the filter will select every “xth” fixture (where “x” is a number between 2 and the total number of fixtures in the programmer) as determined by the number in the counter. For example, if the number counter is set at 3 and then “Apply mask” is pressed, every third fixture will be selected as illustrated below:

Pressing the “Next” key near the trackball will advance to the next set of 3:

- Block - By pressing this button and then the “Apply mask” button, the filter will select the first “x” fixtures (where “x” is a number between 2 and the total number of fixtures in the programmer) as determined by the number in the counter. For example, if the number counter is set at 3 and then “Apply mask” is pressed, the first 3 fixtures will be selected as illustrated below:

Pressing “Next” will advance to the next 3 fixtures and pressing “Previous” will move to the previous 3 fixtures.

- Divide - By pressing this button and then the “Apply mask” button, the filter will divide the total number of fixtures in the programmer by “x” (where “x” is a number between 2 and the total number of fixtures in the programmer) as determined by the number in the counter. For example, if the number counter is set at 3 and then “Apply mask” is pressed, the first 4 fixtures (12 divided by 3) will be selected as illustrated below

Pressing “Next” will advance to the next 4 fixtures and pressing “Previous” will move to the previous 4 fixtures.

- 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 “Previous” will advance through the selected fixtures.

Also note that when fixtures are masked using the Fixture Selection Mask, their status is reflected in the Selected Fixtures list.

Fixture Selection Order, Masking And Recording Groups

It is useful to note that when recording a group, the order in which the fixtures are entered (and subsequently sorted) will be stored with the group. In other words, you can have one group with your Mac 600s stored as 1-24 and a second group that has them stored as 24-1. Further, any masks that were applied when the group was recorded will also be stored with that group. This allows for the rapid selection of, for example, all Mac 600s every 3rd, all Mac 500 in blocks of 4, etc.

USING THE FIXTURES SCREEN

The “Fixtures” screen can be found in several of the default views on the Maxxyz.

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 600 is followed on the next row by fixture 31, a Mac 500.) The label of the fixture defaults to the fixture type. For information on changing these labels, please see “Other Patch Functions” on page 39.

To select an individual fixture, simply tap 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.

Active vs. Inactive Channels

The Maxxyz console allows you to control fixtures and their individual channel attributes based on whether they are selected or deselected for fixtures and active or inactive for channel attributes. The following definitions will be helpful to remember while working with the console.

Active Channel — An active channel is a channel in the programmer that, by default, will be recorded into a group, cue or preset. These channel values are displayed in white.

Inactive Channel — An inactive channel is a channel in the programmer that will not normally be recorded into the specified group, cue or preset unless specifically commanded to do so. A channel automatically becomes inactive once recorded into a cue (but not a preset or group). A channel can also be forced into an inactive state by using the Clear functions. Please see “Clear and the Programmer” on page 96. These channel values are displayed in black.

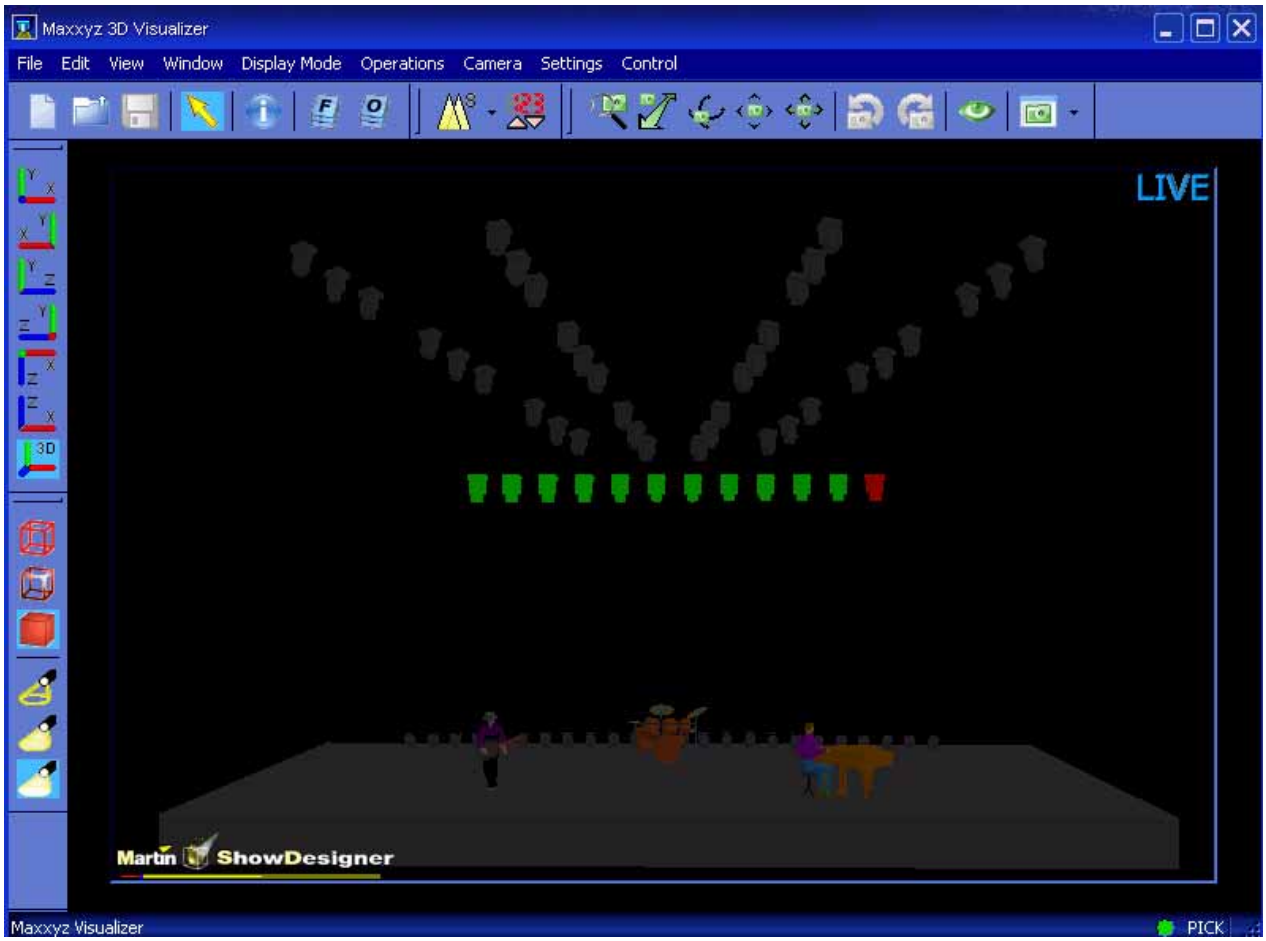
Null Channel — A null channel is one that is not in the programmer. It may still have a value, but, as it is not in the programmer, it is not considered either active or inactive and is therefore “null.”

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 on the programmer touch screen and programmer controls, but a number of the screens that are displayed on the playback touch screen and external monitors are also effected. We'll start by selecting fixtures 51 through 62 and viewing some of the affected screens.

THE 3D VISUALIZER

When you select fixtures, those fixtures that are under active control of the programmer will be highlighted in green or red in the visualizer. While both the red and green fixtures are selected, it is important to note that only the attributes of the red fixture (the last fixture number of the selected range) are displayed in the Programmer Control, although any fixtures that are highlighted will be under the control of the keys and track belts on the Programmer Control. Once you have adjusted one or more of the attributes of the selected fixture(s) and then select another fixture or fixture(s), the first fixture will return to its deselected (grey) color and the new selection will be highlighted in green. Changes made to the first selected fixture will remain visible in the programmer screen until it is cleared.

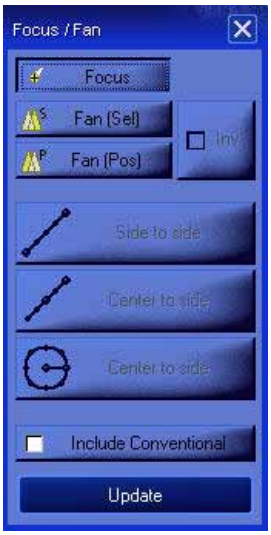


FAST FOCUS

The Maxxyz console allows you to very rapidly adjust the pan and tilt attributes of your selected fixtures using a feature called “Fast Focus.” Using the visualizer, you can simply click on the desired focus position of your fixtures and they will move to that point.[1]

To access this feature, press on the “Focus Beam” button in the visualizer toolbar.

Clicking on this button will bring up the following pop-up window:



In order to use the Fast Focus feature, the “Focus” button at the top of this window must be selected. Any fixtures selected in the programmer can now be moved to any position in the visualizer by moving the cursor to the desired position and clicking there. You may find it useful to be in the “Top” view when using this feature.

FOCUS FANNING

Similar to the Fast Focus feature, you can also use the visualizer to “fan” a group of fixtures and have their focus evenly distributed over a line or around a circle[2]. As with Fast Focus, you may find it useful to be in the “Top” view when using this feature.

<u>To Create a Position Fan</u>

For the first examples, we will use the Mac 500’s in the demo file.

1 Select the Mac 500’s and bring them to full.

2 Open the “Focus/Fan window.

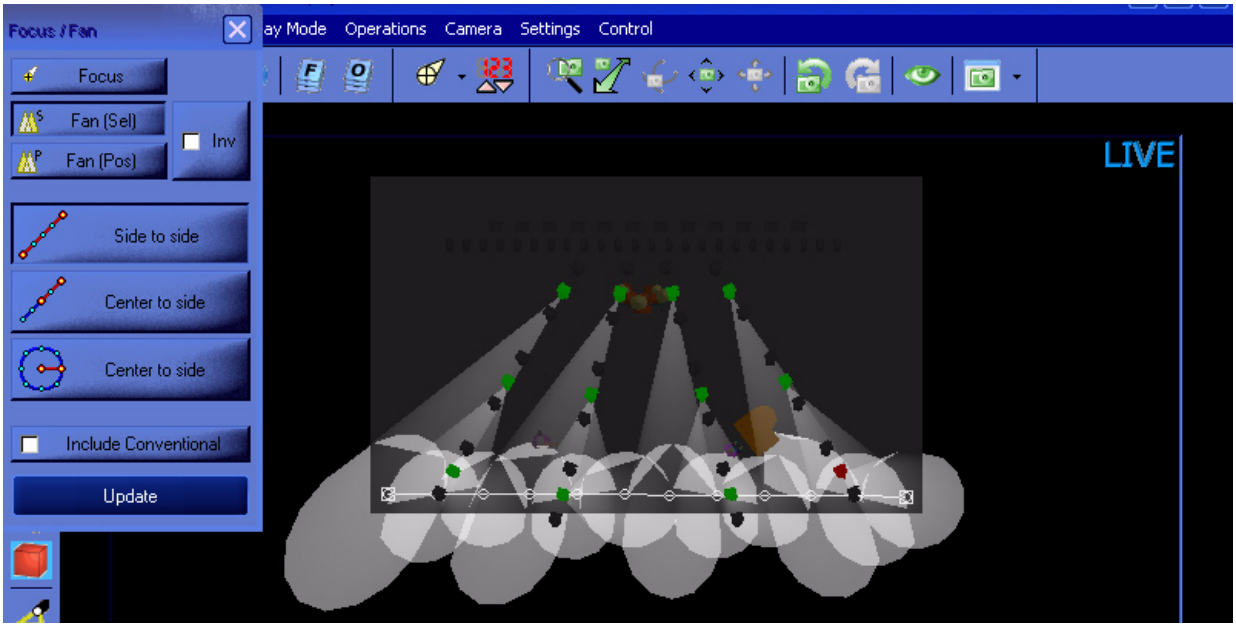
3 Click on the “Fan (Sel)” button. This will cause the fixtures to be fanned by their selection order (in this case, fixtures 31 through 42).

4 Confirm that “Side to Side” is selected.

5 Double click and **hold** the lower left trackball button at the desired starting point of your fan. For this example, select the downstage right corner of the stage. The Mac 500’s will all jump to your start point.

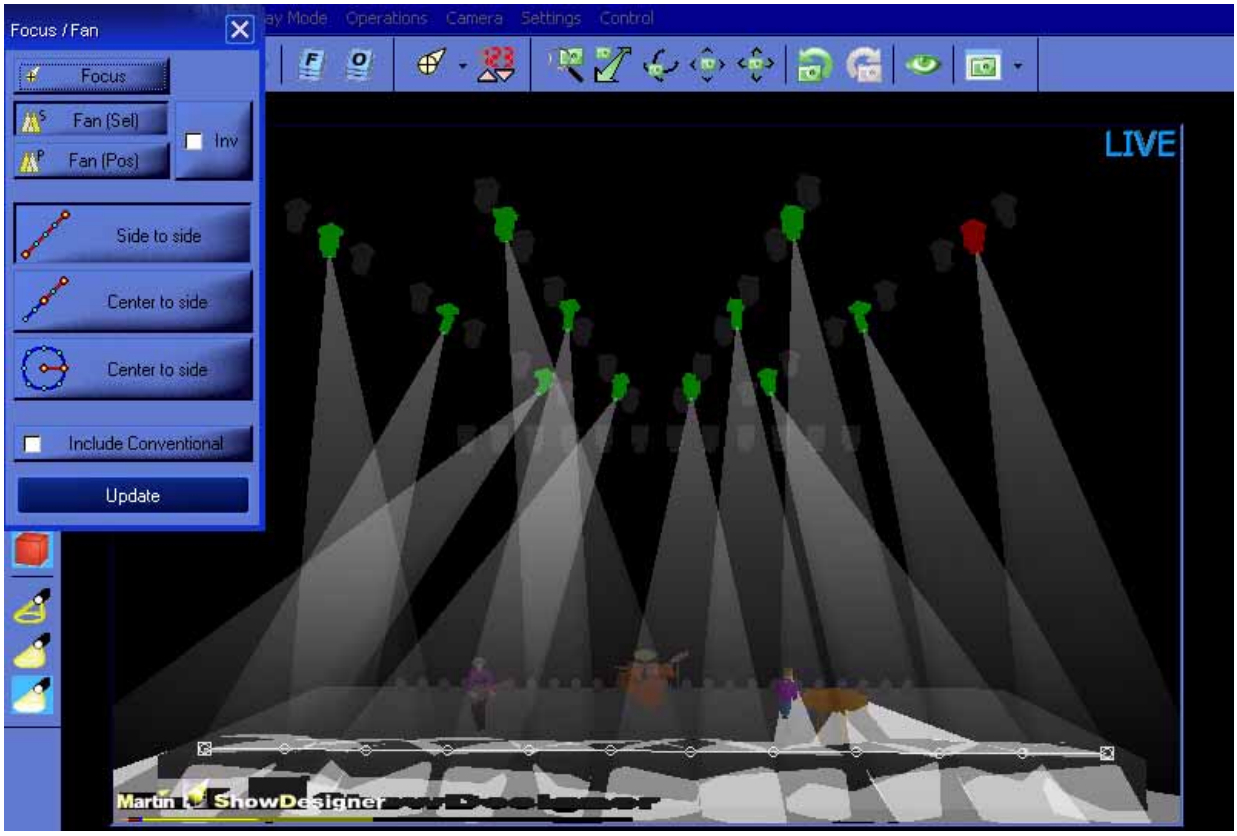
1.Note that the accuracy of this feature is entirely dependant upon the accuracy of the visualization file created with Martin Show Designer.
2.For information on creating fans without using the visualizer, please see “Fixture Fanning” on page 99.

6 While continuing to hold the left trackball button, drag the cursor across the screen to your desired stopping point (in this case, downstage left) and then release the button. When complete, your visualizer will look something like this from the “Top” perspective:

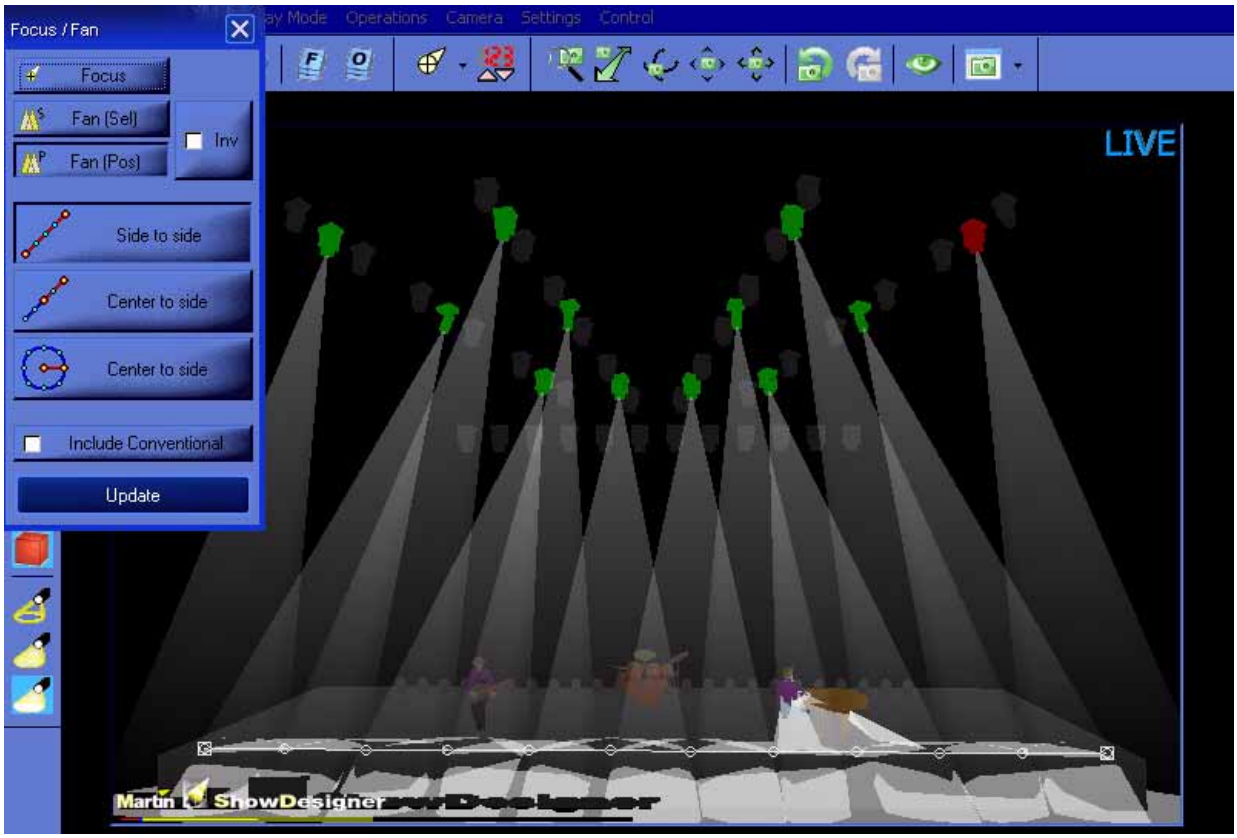


We can see in this top view that the first fixture selected, number 31 which is the furthest upstage right fixture is focused on the start position and the last unit selected, number 42 is focused downstage left. All other fixtures have been evenly distributed evenly *based on their selection order*.

Changing to the 3D FOH (Front of House) view from the “Select Camera” pull down menu will generate the following:

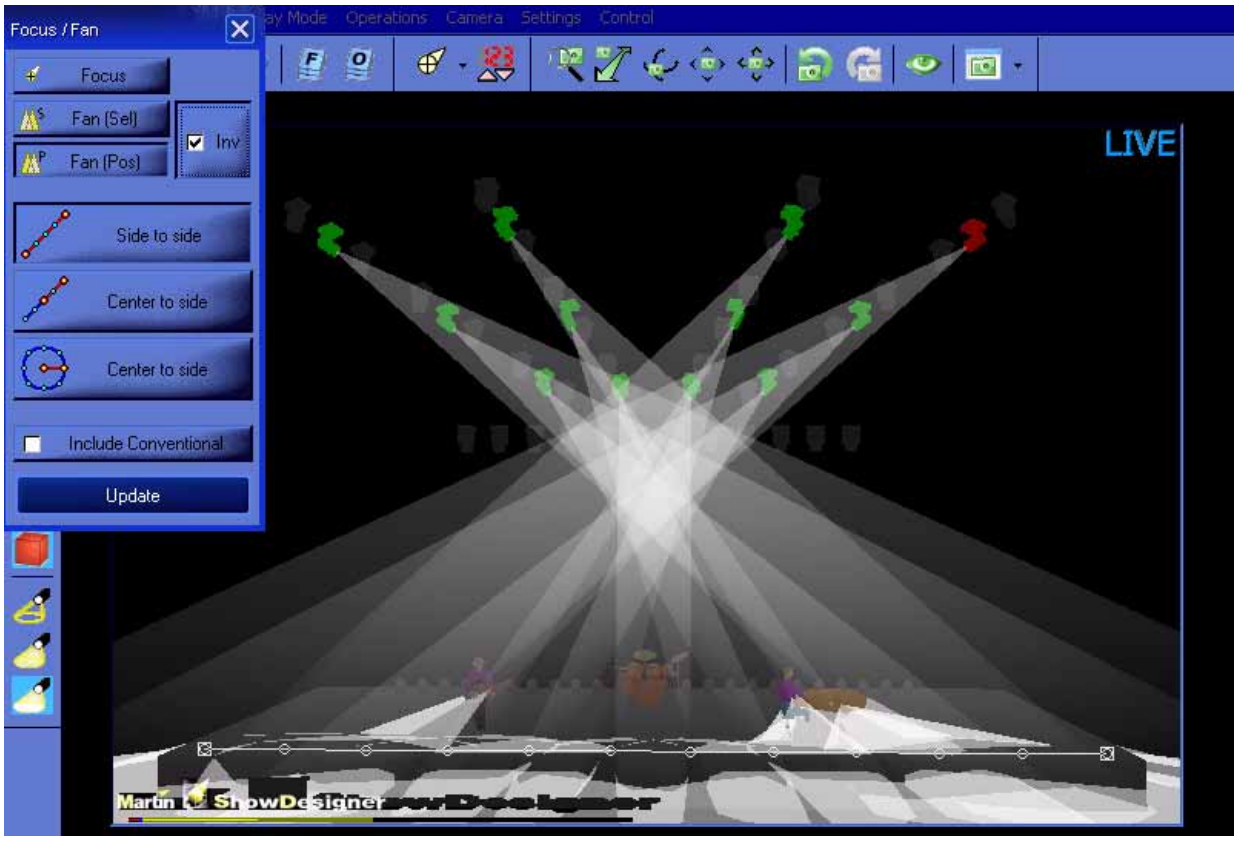


You can see that while the fixtures are evenly distributed, it may not be quite as smooth of a fan as you desire. This is because the fixtures are distributed by *selection* order. Clicking on the “Fan (Pos)” button in the Focus/Fan window will result in the following:



Here you can see that the Maxxyz console has calculated the shortest distance for each of the points along the selected fan line resulting in a smoother fan.

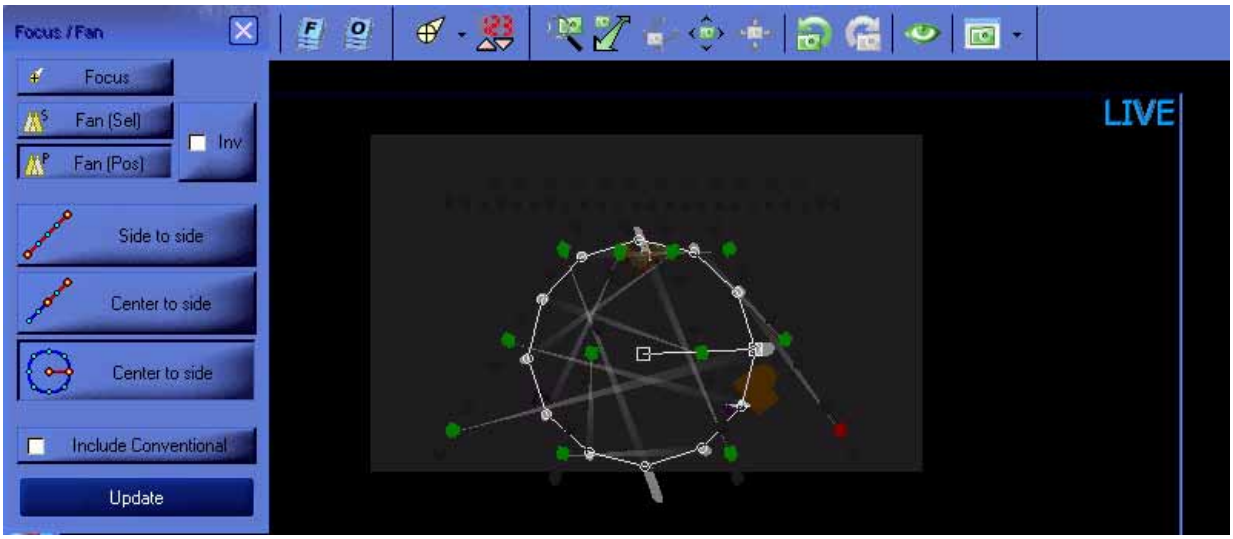
Checking the “Inv” checkbox will cause the distribution order to become inverted:



OTHER FOCUS FANNING OPTIONS

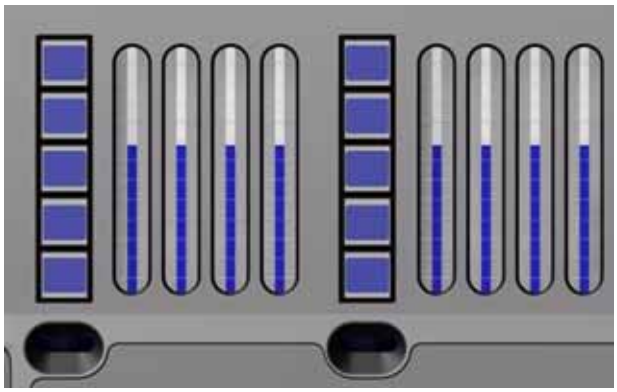
Also found in the Fan/Focus pop-up box are two selections named “Center to side.” The first of these is for linear functions and the second is for use in a circular pattern. The linear “Center to side” is similar to the “Side to side” option used in the examples above except that when you select your start point by double clicking and holding the left trackball button, you are not selecting an *end* but instead selecting the *middle* of your distribution line. Fixtures will be evenly distributed on each side of your start point for a distance determined by your end point (where you release the left trackball button).

Lastly is the “Center to side” circular option. When this is selected, you are first determining the center point of a circle and, upon releasing the left trackball button, it’s radius. Below is an example of a “Circle to side” fan using the Mac 500’s (with a closed iris) and shown in a top view.



PROGRAMMER CONTROL

The programmer controls, located directly below the programmer touch screen, determine what attributes are displayed in the touch screen and provide a way to control those attributes.



The left four track belts, jog dial and LCD keys are used to control fixture attributes while those on the right 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.) Using fixture 51, a MAC 2000 Profile, we can see that attribute groups have loaded into the left LCD keys[1]. From top to bottom, the attribute groups are:

Dim/Focus	This contains the dimmer, shutter and focus attributes.
Pan/Tilt	This contains the pan, tilt, and pan/tilt speed attributes.
Color	This contains the color 1 and color 2 attributes.
Gobo	This contains the gobo, gobo 1R, and fixed gobos attributes.
Zoom/Prism	This contains the iris and prism attributes.

Turning the jog wheel directly below the LCD keys will load the next page of attribute groups, if any exist. For the MAC 2000 Profile, turning the job wheel will load the Speed/Effects attribute group.

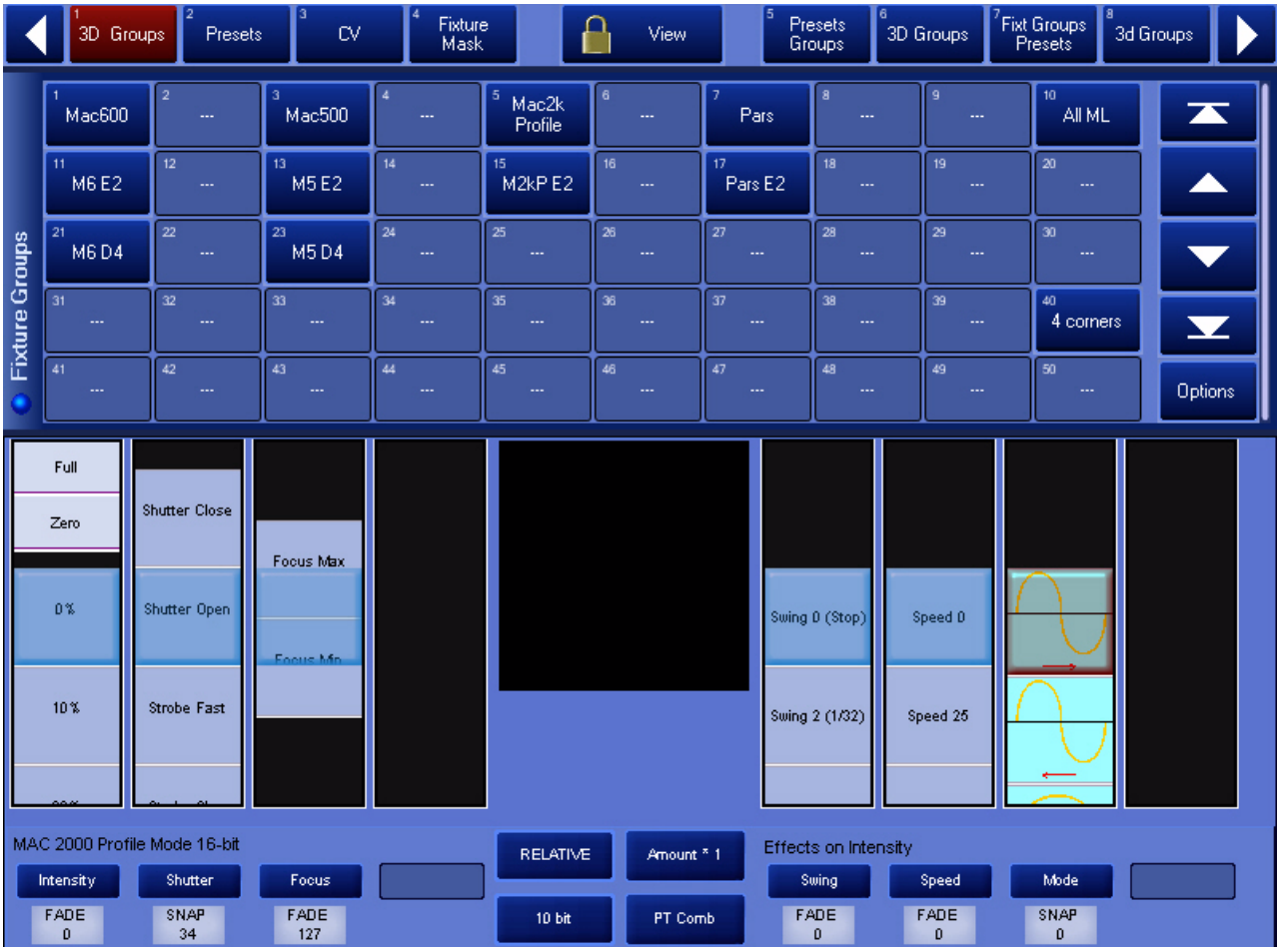
Turning to the first page of attributes and pressing the “Dim Focus” LCD key, you will notice that it turns red. This indicates that the Dim/Focus attributes have been loaded on the corresponding track belts. The color coding for the LCD keys is as follows:

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.

1.Different fixture types will result in different attribute groups being loaded into the LCD keys. Only those attribute groups appropriate to the fixture will be loaded. If differing fixture types are selected in the programmer simultaneously, the attributes of the last fixture selected (highlighted in red) will be displayed.

THE PROGRAMMER TOUCH SCREEN

When a fixture or fixtures are selected, the programmer touch screen is loaded with information concerning the selected fixture. The information that is loaded into the programmer touch screen is dependant 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 51, a MAC 2000 Profile and are displaying the Dim/Focus information.



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

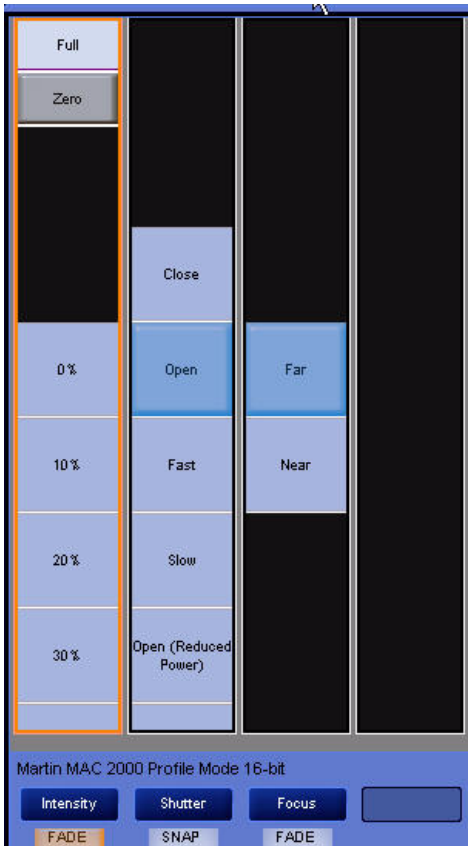
DISPLAY SELECTION

There is a row of labels across the top of the Programmer Touch Screen that correspond to the Programmer View Buttons found directly about the touch screen. These labels are used to change the layout of the Programmer Touch Screen.

Pressing the view keys (two sets of four keys found directly above the Programmer Touch Screen) will change the display of both the touch screen and the associated external monitor. You can also press the label on the touch screen itself to change the display. For more information, please refer to "Display Screens" on page 12.

ATTRIBUTE CONTROL

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



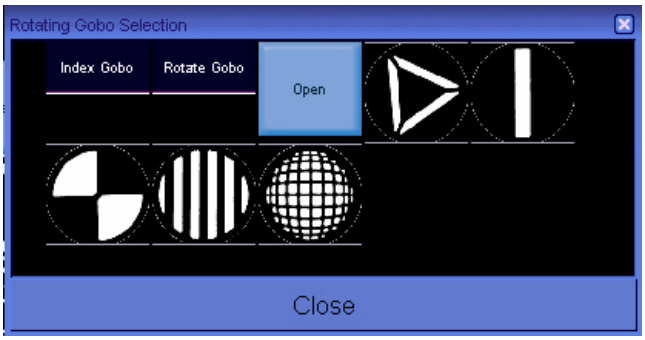
Four columns are displayed for any attribute group selected (such as “Dim/Focus” displayed above). Each column pertains to a specific attribute from the selected group and displays the current settings of that attribute.[1] The attribute assigned to each column is identified by a dark blue label near the bottom of the screen; in this case “Dimmer,” “Shutter,” and “Focus.” 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 track belt below each column to scroll through the values. There is also a light blue label at the bottom of each column that identifies whether the values will fade smoothly or snap to specific values as well as the specific numeric (dmx) value for the attribute.

Some attribute groups (the Color attribute group most commonly) may have more than four attributes. As there are only four control columns, only the first for attributes are displayed by default. To access other attributes from that group, press and **hold** the appropriate attribute group LCD key and then turn the jog wheel found directly below the attribute group LCD keys. The additional attributes will scroll on the touchscreen and you will now be able to access them.

1.Note that if multiple fixtures of different types with varying settings for the same attribute are selected, the value of the last fixture selected is displayed.

Attribute Pop-up (Direct Access) Window

Below each attribute column is an associated hard key (directly above the track belt). By double clicking on this hard key, 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 500.



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

Effects, Fixture Fanning and Timing Controls

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” on page 187 and fixture fanning is covered in “Fixture Fanning” on page 99. Timing overrides are covered in “Changing Global Cue Timing” on page 146.

Miscellaneous Controls

Located at the bottom center of the programmer touch screen are four miscellaneous controls.

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 trackbelt 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 trackbelt is moved. This feature is particularly useful with the pan/tilt attributes however, please note that while it works well with the trackbelts, it does not function with the trackball

Control resolution

Located in the lower left-hand corner of the menu is the control resolution box. Pressing or clinking 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.

Amount * “x”	This box can be changed from “Amount *1” through “Amount *5” in steps of one. It is used in the creation of effects and is covered in “The “Amount * 1” Button” on page 193.
PT Comb	This is an abbreviation for “Pan/Tilt Combine” and will be discussed later in the Effects section of the manual (page 187).

COMMAND LINE

The Maxxyz console uses a command line display that displays the keys pressed to construct a command. At any point during the construction of the command, you may press the back arrow key found on the Keypad Entry to “backspace” over commands and edit them. Once the command has been constructed and executed, it can no longer be edited but it remains on the command line in a “grayed out” state until the next command is started.

The command line (outlined in red below) appears at the bottom of several of the playback screens including Cuelist, Playback, Presets, Programmer, and Groups. The command line is a useful tool in keeping track of the commands you have been entering as well as showing the mode (Live, Blind or Patch) that the console is currently in. It is recommended that if the console is not behaving in the manner you anticipate that you first check the command line before pursuing other alternatives.

At the far right hand side of the command line is a button labeled and “Esc” (escape). Pressing the escape key can be used to clear the entire command line.

Configuring Your Show

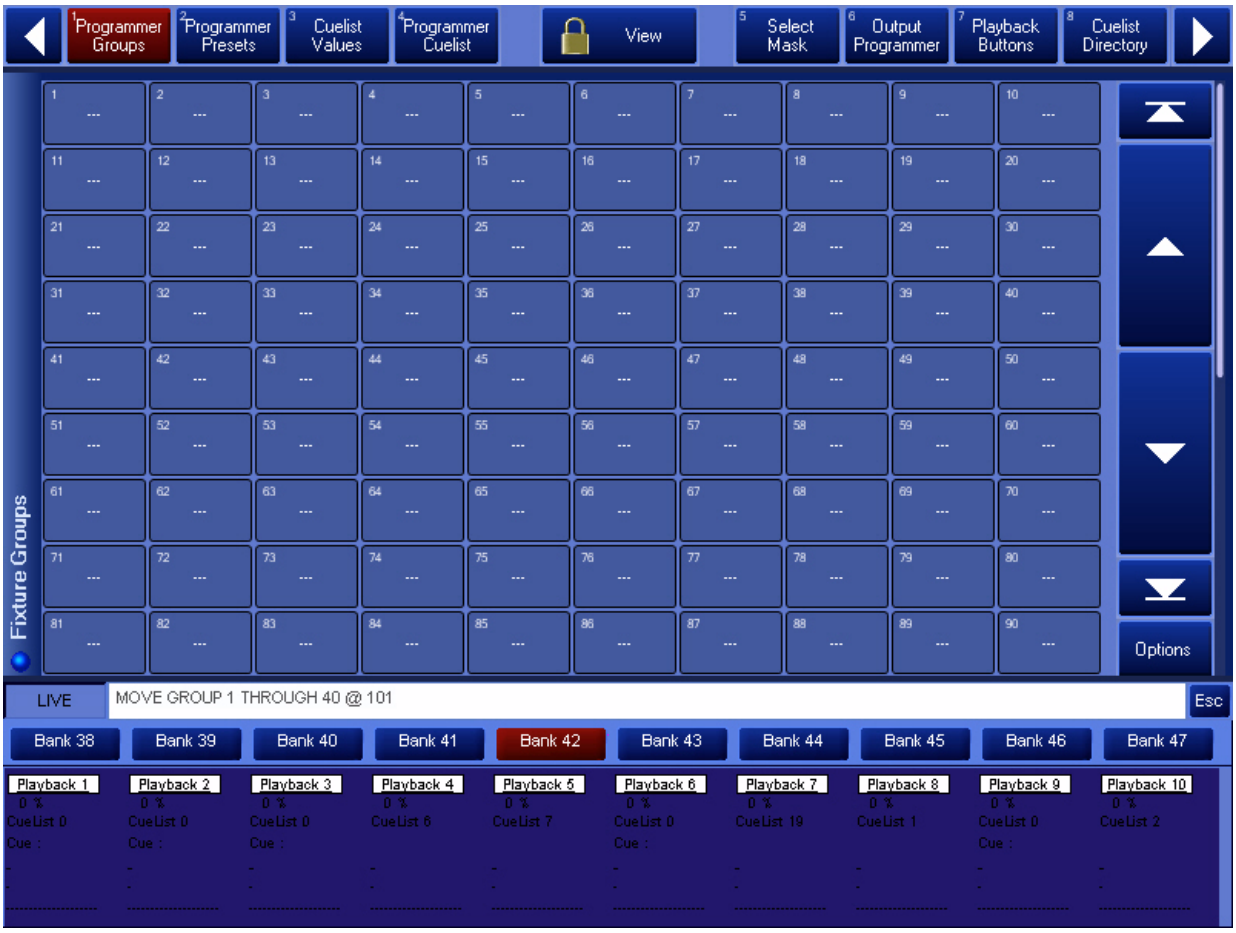
Before you begin recording cues, you may wish to take advantage of some of the fixture management functions the Maxxyz console provides. These functions can save immense amounts of time when it comes to cueing your show.

Groups

The Groups function and displays allow you to select ranges of fixtures with a single button or mouse click. The fixtures needn't be of the same type or within any specific numeric range.

Recording Groups

To record a group, bring up the "Fixture Groups" screen on one of the views such as the "Programmer Groups" view on the Playback Touch Screen by pressing the view button directly above the "Programmer Groups" label.



You can then select fixtures as described earlier. Once the fixtures are selected, press **Record** and then press or click on the desired group button and the group will be recorded. Should you wish to label the group, select the desired fixtures, press record and the desired group button

and then use the keyboard to enter the desired text and press Enter.[1] You can also label a group after it's been created by simply pressing the desired group and then entering the text with the keyboard.

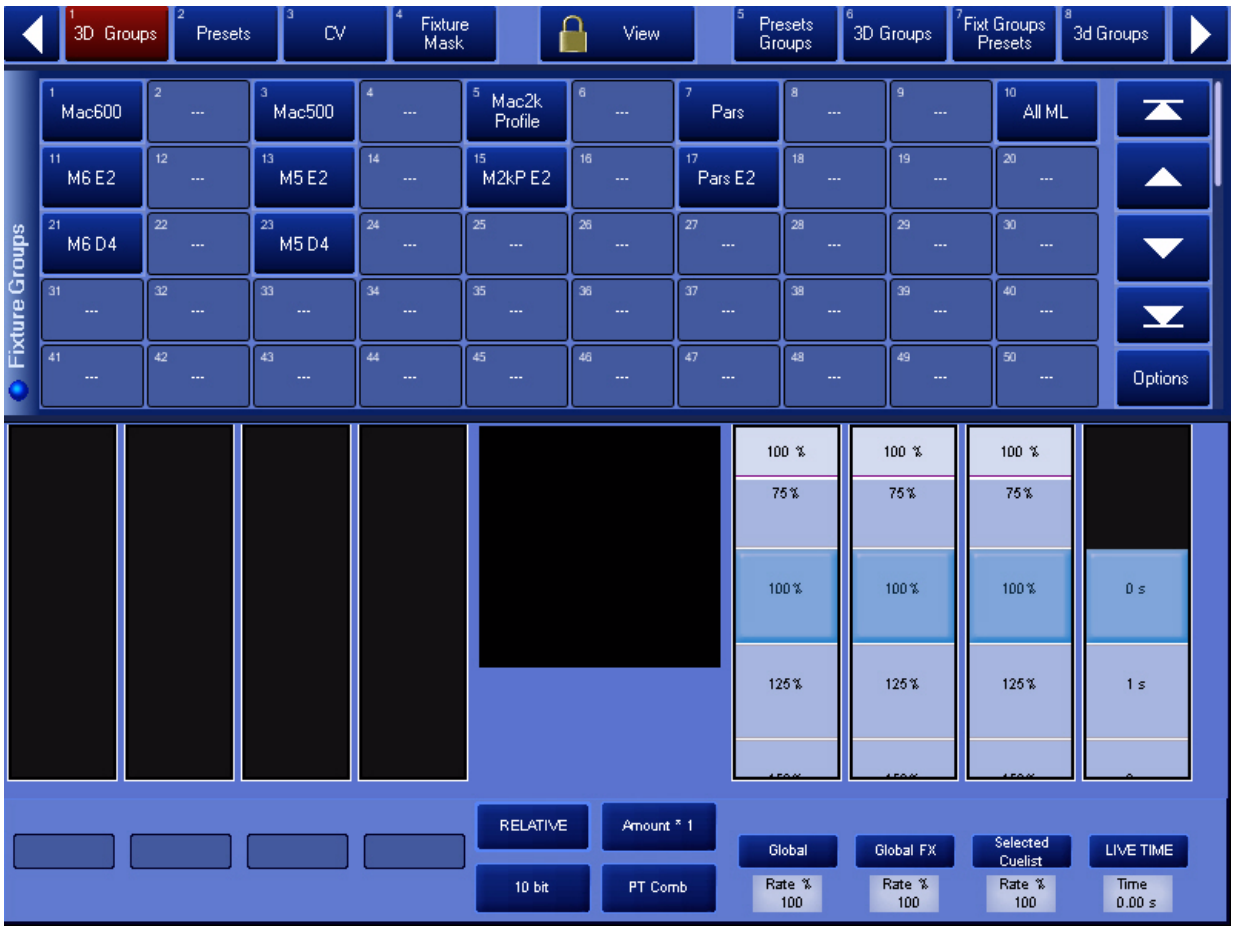
Record the following groups using the fixtures from the tutorial[2]:

Group #	*Keystrokes*	*Instructions*
1	**1 Thru 24 Enter**	**Record Group1** (then type on the keyboard) **Mac600** (then press) **Enter**
2	**1 Thru 24 Enter then set Fixture Filter to "Every 2" and apply**	**Record Group11** (then type) **M6 E2** (then press) **Enter**
3	**1 Thru 24 Enter then set Fixture Filter to "Divide 4" and apply**	**Record Group21** (then type) **M6 D4** (then press) **Enter**
4	**31 Thru 42 Enter**	**Record Group3** (then type) **Mac500** (then press) **Enter**
5	**31 Thru 42 Enter then set Fixture Filter to "Every 2" and apply**	**Record Group13** (then type) **M5 E2** (then press) **Enter**
6	**31 Thru 42 Enter then set Fixture Filter to "Divide 4" and apply**	**Record Group23** (then type) **M5 D4** (then press) **Enter**
7	**51 Thru 62 Enter**	**Record Group5** (then type) **Mac2K Profile** (then press) **Enter**
8	**51 Thru 62 Enter then set Fixture Filter to "Every 2" and apply**	**Record Group15** (then type) **M2kP E2** (then press) **Enter**
9	**101 Thru 124 Enter**	**Record Group7** (then type) **Pars** (then type) **Enter**
10	**101 Thru 124 Enter then set Fixture Filter to "Every 2" and apply**	**Record Group17** (then type) **Pars E2** (then type) **Enter**
11	**1 Thru 62 Enter**	**Record Group10** (then type) **All ML** (then press) **Enter**

When you have finished, your Fixture Group screen will look like this:

1.Note that you needn't be in a group screen to record a group. Instead of using the touch screens, you can enter the group number directly using the main keypad.
2.Note that the examples given assume the use of the touch screen to select the group number. If you prefer to use the keypad for group number selection, you will need to press **Enter** after inputting the desired group number.

Note that when you create groups in the playback touch screen, they were also created in the programmer touch screen in the “3D Groups” view.



In fact, you can create, edit and move groups from any group screen and the changes will be reflected in the others.

Moving and Copying Groups

Should you wish to move or copy a group from one location to the another, you can use one of the following methods:

To Move or Copy an Individual Group

To move an individual group, you can use the “Move” key found in the keypad entry area (directly above the numeric entry keys) using the following syntax:

- **Move Group xx @ yy**

  Alternatively, you can press the Move key, then press the desired group on the touch screen and then press it’s 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” key and the following command line syntax:

- **Copy Groupxx @ yy**

  Or you can press the Copy key, 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

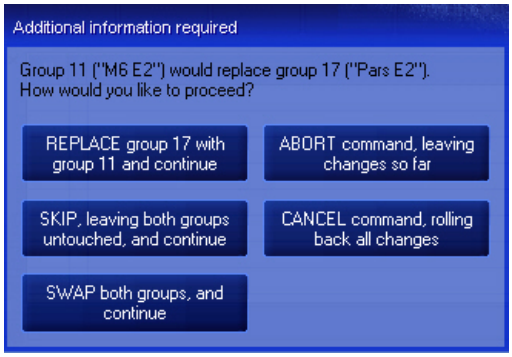
It is also possible to move or copy a number of different groups simultaneously. You can not use the touch screens for this operation; you must use the keypad. The following is an example of the syntax utilized in this command:

- **Move Group 1 Thru 5 + 10 @ 31 Enter**

  The following screen is the result of that move:

Note that the Mac 600 group, formerly group 1 is now at Group 31 and the other selected groups have moved in relation to the Mac 600 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 use the following command: **Move Group 11 + 13 @ 17 Enter**. When we complete this command, we will see the following window open on the left touch screen:



We are presented with 5 options:

- Replace - Choosing “Replace” will move groups 11 and 13 in relationship to each other (that is to say the space between them will be maintained) and group 13 will overwrite group 17.

- Skip - Selecting this option will leave group 11 in it's original location and not change group 17, but group 13 will be moved to group 19.

- Swap - When swap is used, the two conflicting groups will exchange positions. In our example, Group 11 will become Group 17 (and vice versa) and Group 13 will become Group 19.

- Abort - In order to understand the Abort function, we will need to create 3 new groups. Create groups19, 29 and 39 (with any content you desire).

Now, select **Move Group 19 + 29 + 39 @ 11 Enter**. You will see the pop up window on the right hand touch screen asking how to proceed with Group 19. Select "Replace." The pop up will reappear asking how to proceed with Group 29. At this point, press "Abort." You will note that Group 19 did move to Group 11, but Group 29 and 39 remained in their original position.

- Cancel - Cancel is similar to abort, except that the entire command would be ignored. The entire action, whether or not there is an empty group in the target group range, is cancelled. Please note that if all of the target groups are empty, you will not have this option.

When using the “Copy” command with a range of groups, the syntax is exactly the same as when using the “Move” command. The only difference is there is no “Swap: function. Below is an example using the syntax **Copy Group 11 Thru 15 @ 1 Enter**.

EDITING GROUPS

Once a group has been recorded, it can be easily edited. Maxxyz provides two different ways of editing an existing group. The first is to add or *merge* fixtures into an existing group and the second is to replace the fixtures in the existing group with the currently selected fixtures.

TO ADD FIXTURES TO AN EXISTING GROUP

1 Select the desired fixture(s)

2 Press “Record” and the button of the group to which you wish to add the fixture(s).

The following pop-up window will appear:

3 Select “MERGE with current selection.”

The selected fixtures will be added to the fixtures that were previously in the group.

TO REPLACE THE FIXTURES IN AN EXISTING GROUP

1 Select the desired fixture(s)

2 Press “Record” and the button of the group you wish to replace.

The following pop-up window will appear:

3 Select “REPLACE with current selection.”

The fixtures that were previously in the group will be replaced by the selected fixtures.

The “CANCEL current command” button will abort the command and clear the command line.

To Remove a Fixture from a Group

1 Select the desired group to load it’s contents 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 with current selection.”

Deleting a Group

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

Selecting Groups

When a group is selected, it is highlighted in red in the group screen(s). Further, any group that is a subset of that group is also highlighted in red. For example, if you were to select the group “Mac600” the group “M6 E2” and “M6 D4” 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 it’s button will select it but if it is already selected, pressing the button will deselect it. Again, if you were to press “All ML,” all of the moving light group buttons would highlight. If you were to then press “Mac2k Profile,” the “Mac600,” “Mac500” and “Par” groups (and their subsets) would still be highlighted, but the Mac 2k Profiles would no longer be selected.

Group Pages

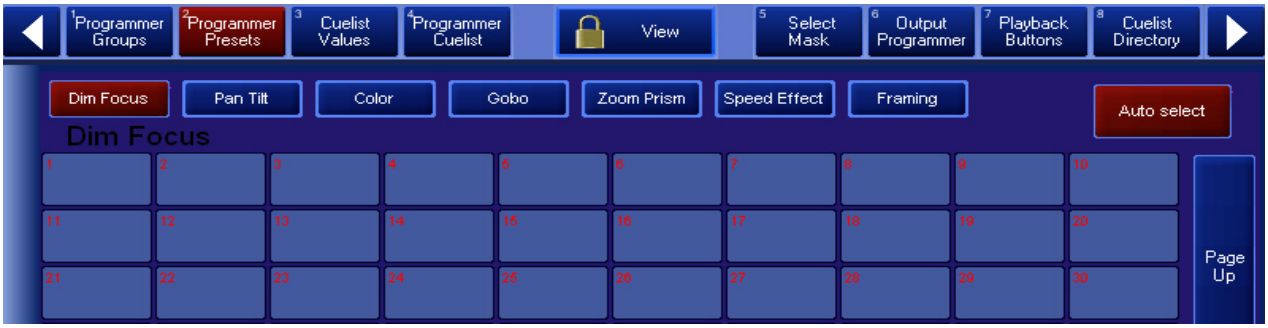
The Maxxyz console is capable of managing thousands of groups. Naturally, these can not all be displayed on a single screen. However, you can arrange your groups on various pages. The number of groups per page is dependant on the size of the group window. If you were to resize a window to display 100 groups, the first group of the second page will be 101. To change the Group page, use the arrow buttons found to the right of the group screen or the trackbelt to the immediate right of the touchscreen to scroll through the pages.

PRESETS

Where the Groups function allows you to rapidly select fixtures, The Presets function and display provide a method for rapidly recalling fixture channel attribute settings. Presets are also building blocks for cues. If a preset is recorded into a cue or several cues and the preset is later edited, all cues using that preset will be updated with the new preset information.

It is important to note that 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. Within the preset screen are several buttons labeled with different attribute groups. These attribute groups will record specific information from the programmer screen. The information recorded depends upon which attribute group is selected and whether or not and filtering has been applied.The groups and their specific attributes are:

Dim Focus	This group contains attributes such as Intensity, Shutter, Focus, etc.
Pan Tilt	This group contains attributes such as pan, tilt, pan/tilt speed, etc.
Color	This group contains attributes such as color wheels, CMY and color correction.[a]
Gobo	This group contains attributes such as Gobo wheels, rotation and indexing.
Zoom Prism	This group contains attributes such as iris and prism.
Speed Effect	This group contains attributes such as speed attributes.
Framing	This group contains attributes such as framing shutter information.

a. Please note that certain fixtures, for example the Mac 2k Profile, have a combination color and gobo wheel. In such cases, that particular attribute will be found under “Color.”

To the right of the attribute groups is the “Auto select” button. When highlighted (red), the auto-select will automatically set the preset attribute page to match the active attribute group in the programmer LCD keys. If you wish to record a different attribute group, press the attribute group button on the playback touch screen and the appropriate display will appear.

Recording Presets

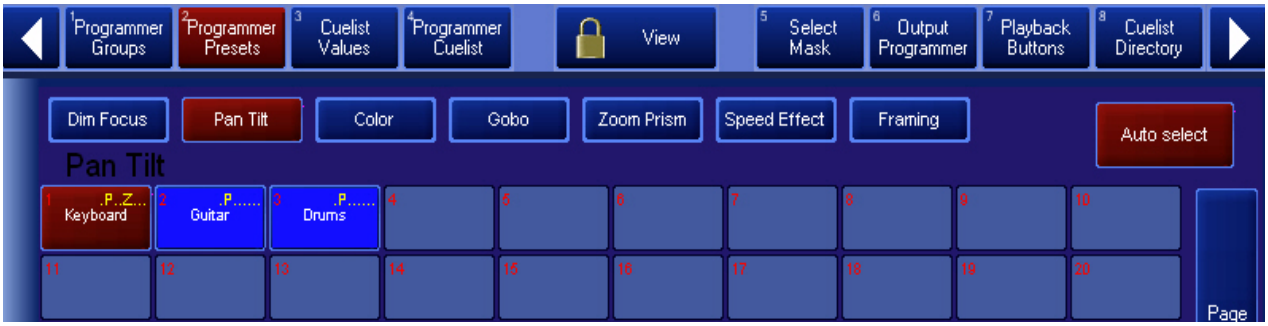
Recording presets is done in much the same way as recording groups. For example, select fixture 51, a MAC 2k Profile from the tutorial, and focus it on the keyboard player. Repeat this process with the other MAC 2ks, fixtures 52 through 62. With fixtures 51 through 62 on the keyboard player, selected 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 then entering the text with the keyboard.

If you now select the “Color” attribute group on the Programmer Touch Screen, you will note that the preset page changes and your previously recorded “Pan Tilt” preset is no longer visible. By default, recording a preset on this page will only capture the color attributes that are in the programmer. (Note that if you didn’t change the color when you were focusing the MAC 2ks, the color attribute will not be loaded into the programmer and nothing will be recorded into the preset.)

Only those attributes appropriate to the preset that are <u>currently displayed in the programmer screen</u> can be recorded.

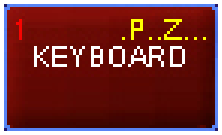
It should be noted that while by default only those attributes specific to the selected attribute group will be recorded in a preset, it is possible to override those defaults using the “Record Cue Options” pop-up window. That is to say that you could, as an example, have a preset on the Color page that also contains pan/tilt values. For more information, please see “The Record Options Window” on page 107.

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:



Preset Content Coding

A recorded preset uses a combination of colors and letters to indicate it’s contents. As mentioned earlier, it is possible when using the Record Options function to record attributes other than the defaults into a preset. The Maxxyz console displays the information recorded into a preset by displaying the first letter of each attribute group in the preset itself (“D” for DimFocus, “P” for Pan Tilt, etc.). Take a closer look at preset 1, “Keyboard.”



You can see the letters “P” and “Z” in the preset button. This indicates that there is both Pan Tilt and Zoom Prism information contained with in the preset.

You’ll also note that the Keyboard preset is red while the others are blue. This merely indicates that this was the last selected/played preset on the page. However, the Maxxyz can also indicate to the user if a fixture or group of fixtures is contained within that preset. In our earlier example,

we recorded only Mac 2K information into these Pan Tilt presets. If we were to add, for example, the Mac 500s to the Drum preset (see below for information on adding fixtures to a preset), we would be able to tell at a glance if the 500s were included in a preset or not. When the 500s are added to the Drum preset and then any one or all of them are selected, the Pan Tilt preset window changes to indicate which preset(s) the 500s are in:

Note that the Drums preset is in a darker blue than the Keyboard and Guitar presets. This indicates that *at least one* of the selected fixtures, the Mac 500s in this case, are contained in the Drum preset, but not the Keyboard or Guitar preset. To reinforce, at least one of the selected fixtures is in the darker blue preset; this does <u>not</u> mean that all of the selected fixtures will be affected by that preset.

Presets and Timing

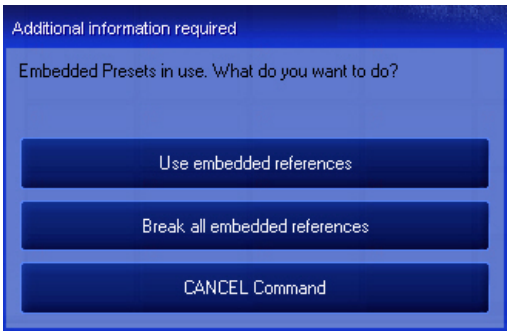
Aside from attribute level information, it is also possible to record attribute timing information into a preset. This is done in the same manner as recording level information. That is to say, if the information is in the programmer, it can be recorded into the preset. For information on setting attribute timing values, please refer to “Setting an Individual Attribute Fade Time” on page 138 and the sections following it for setting other timing values.

Presets and Effects

As with presets and timing, effect information can also be recorded into a preset. Note that there is no effect preset, but each of the other preset types (Pan/Tilt, Color, etc.) can be used to record that particular effect type. For information on working with effects, please see “Effects” on page 187. 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

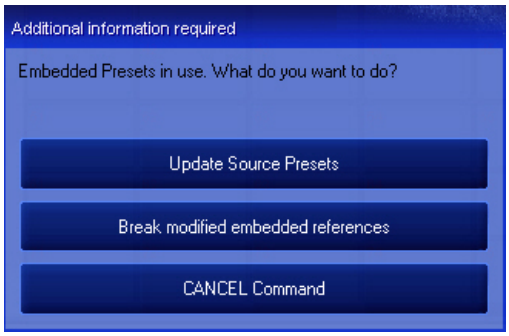
It is possible to make a preset that is composed of other presets. These are called “embedded presets” as one or more presets are embedded in another. For example, you could have four fixtures, each with it’s own pan/tilt preset focused on the drum riser. You could then create a fifth preset that contains 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.

Moving and Copying Presets

Should you wish to move a preset from one location to the another, you can use the “Move” key found in the keypad entry and the following command line syntax:

- **Move Presetxx @ Presetyy**

  Or you can press the Move key, then press the desired preset on the touch screen and then press it’s new location. You can move presets between pages if you wish.[1]

  Similarly, if you wish to copy a preset, use the “Copy” key and the following command line syntax:

- **Copy Presetxx @ Presetyy**

  Or you can press the Copy key, then press the desired preset on the touch screen and then press the location for the copy. By default, the copy will be named “Copy of (original preset name).” You can copy presets from on page to a different page should you desire.

1.Note that Maxxyz does not currently allow for “range selection” of Presets as it does in Groups.

Direct Preset Selection

While the standard method of selecting a preset is clicking on or touching the desired preset on the preset screen, it may at times be desirable to simply enter the preset number on the command line after you have selected your fixtures. This can be done by double tapping on the attribute group LCD key. Note that you must double tap the desired group LCD key *very* rapidly! When you have done this, the command line will display the parameter type selected on the command line and will prompt you to enter the preset number as shown below:

If you now enter the preset number and press the **Enter** key, the selected fixtures will load that preset.

Editing Presets

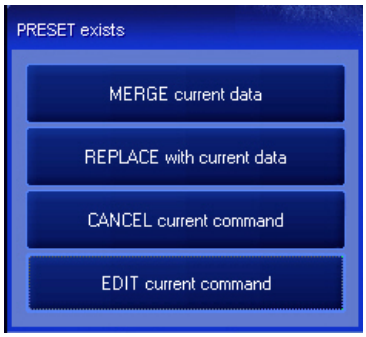
As with editing groups, Maxxyz provides two ways to edit a preset: merging and replacing.

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:



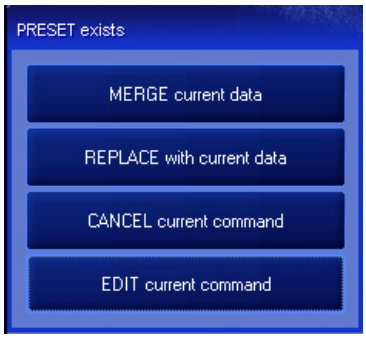
3 Select “Merge current data” and the appropriate fixture attributes will be added to the preset.

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** key

2 Press the softkey on the touchscreen 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 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.

Deleting a Preset

To delete a preset, press the “Delete” hard key, the desired preset, and then Enter. Alternatively, you can press and hold the “Delete” key and then select a group using the touch screen.

THE PROGRAMMER WINDOW

The programmer window 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. It is important to note that ***any attribute of any fixture loaded into the programmer will have the highest priority.*** Nothing, with the exception of the Grand Master or a sub/group master specifically set to ignore the programmer, will override the output of any fixture loaded into the programmer when it is in “Live” mode. Also, when you record or update a cue, group or preset, *only that information contained in the programmer will be recorded or updated.*

PROGRAMMER MODES

There are two programmer modes available on the Maxxyz; the first is Live and the second is Blind. When in Live mode, all attribute information in the programmer will be output to the stage. When in Blind mode, information in the programmer is *not* output, however it can still be recorded into cues, groups, presets, etc. It simply won’t be seen on stage. When in Blind mode, the legend “BLIND” appears in the header of the programmer window.

<u>To change between Live and Blind modes:</u>

Press the “Preview” hard key found at the top center of the console. This key will toggle the programmer between Live and Blind modes. (The visualizer will always show the Live mode.)

THE PROGRAMMER DISPLAY

Activate the programmer display by pressing the view button directly over the “Programmer Groups” label on the playback touch screen.

Across the top of the programmer display there are 5 soft keys. The two left-most soft keys are toggles while the 3 right-most soft keys are either active (red) or inactive (blue).

The first two buttons determine how data is displayed:

Percentage Toggle This button will toggle the values displayed between a decimal percentage (0-100%) and digital (DMX) values (0-255 for 8-bit attributes and 0-32767 for 16-bit attributes). The default is Percentage.

Preset Name Toggle 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.

The next 3 buttons determine what data is displayed:

Show Base This key is permanently on and can not be deselected. This key displays the base attribute information in the programmer.

Show FX When active, this key allows for the display of effects channel information such as “Swing Value,” “Mode,” and “Figure.” Deselecting this key will hide those values resulting in a less “busy” screen.

Show Timing When active, this key allows for the display of Fade and Delay values entered for any of the attributes using the “Timing” Programmer LCD key.

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

You can see at a glance that fixture 56, a MAC 2k Profile in 16-bit mode, is selected and changes have been made to it’s position and gobo attributes. You can also see that the pan/tilt of all the odd 2k’s are set to the Preset “Guitar” while the evens are set to “Drums.” The intensity of all the 2k’s is varying. An intensity fade time of 5 seconds is also indicated and we can see that the even fixtures are in open white while the odd fixtures are running in color with a pan/tilt effect.

Loading Fixtures into the Programmer

There are three ways to load information into the programmer:

1 Selecting a fixture or fixtures as described above.

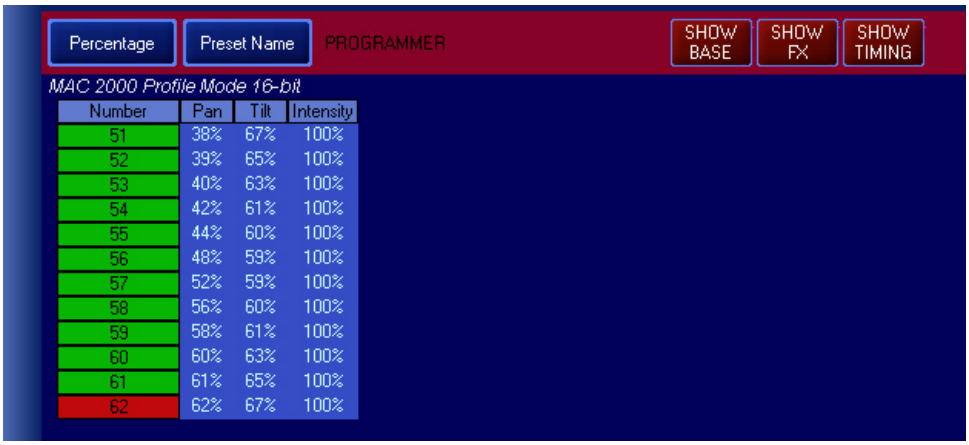
2 Using the “Edit” key from the keypad to edit cues.

3 Using the “Load” key from the keypad to load groups, attribute groups or individual attributes.

Loading the Programmer Using Fixture Selection

As noted earlier, this is an automatic function of the Maxxyz console. Whenever you select a fixture and adjust one or more of it’s attributes, it is loaded into the programmer. Please note that only those attributes that are adjusted are loaded.

For example, using the patch we created earlier, if you were to select fixtures 51-62, bring them to full and then focus them on the drummer, the programmer would look similar to this:



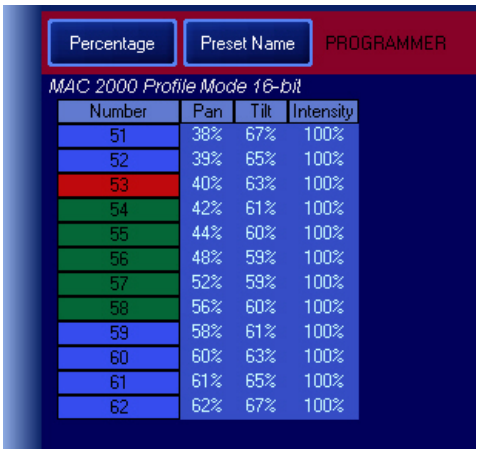
Number	Pan	Tilt	Intensity
51	38%	67%	100%
52	39%	65%	100%
53	40%	63%	100%
54	42%	61%	100%
55	44%	60%	100%
56	48%	59%	100%
57	52%	59%	100%
58	56%	60%	100%
59	58%	61%	100%
60	60%	63%	100%
61	61%	65%	100%
62	62%	67%	100%

You’ll note that while the fixture’s intensity and pan/tilt information is in the programmer, other information such as color, gobo, zoom, etc. is not included. This means that when you record this information into a cue, the other attributes will not be affected. If they were at a level before this cue, they will remain there; if they weren’t at a level, they won’t be given one.

You’ll also note that the number field for fixtures 51-61 are green while it is red for fixture 62. The number field is color coded as follows:

Blue	Fixture is in programmer, but is not currently selected and will be unaffected by changes made by the programmer keys.
Red	Fixture is selected, will be affected by changes made using the programmer keys, and is the specific fixture displayed in the programmer controls.
Green	Fixture is selected as part of a range of fixtures (i.e. “Fixture 1 Thru 12”) and will be affected by changes made using the programmer keys, but is not the specific fixture displayed in the programmer controls.
Dark Green	A fixture on a dark green field is one that has been selected, but has been overridden through the use of the “next/previous” commands or by selecting fixtures that are a subset of the original selection. Pressing “revert to selection” in the Selected Fixtures window or reselecting the fixtures will return the selection to a green field.

Below is a screen shot using several of the fixture selection color identifiers:



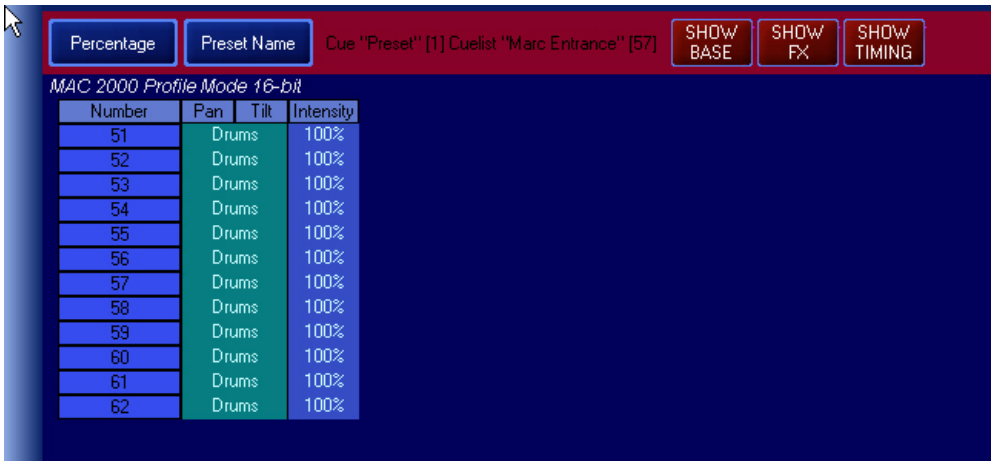
You can see that fixture 53 is the currently selected fixture, that fixtures 54 through 58 are dark green and can therefore be selected by using the next/previous functions and that all other fixtures are currently deselected. Please note that the Next/Previous keys will toggle though only those fixtures that are dark green.

Loading the Programmer Using Edit

Once a cue has been created, it can be loaded into the programmer for editing.

To do so, you must first make a cuelist “active” (please see “Playback Controls” on page 127 for information on activating cuelists). You can then press “Edit,” “Cue,” and a cue number from the active cuelist and then “Enter.” For example:

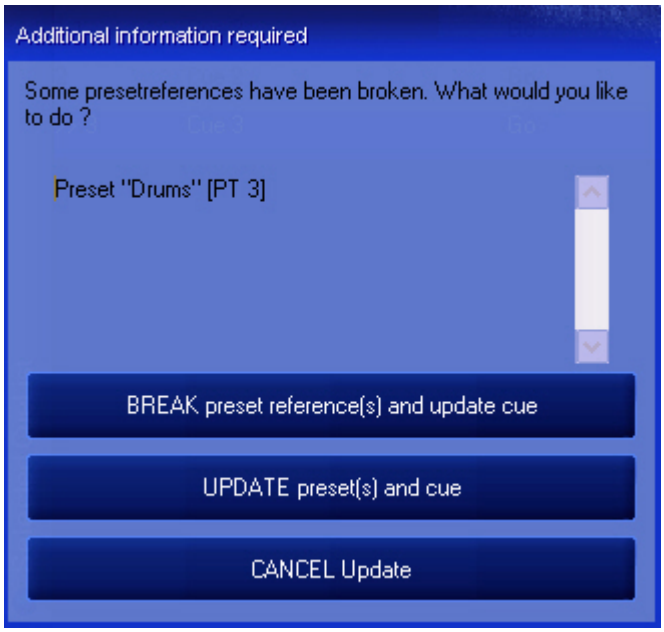
Edit Cue 1 Enter loads cue 1 of the selected cuelist into the programmer.



Note that directly to the right of the “Preset Name” toggle, we can see information telling us that this is Cue 1 (labeled “Preset”) from Cuelist 57 (labeled Marc Entrance). By examining the information inside the window, we can see that fixtures 51 through 62, MAC 2ks, are taken to a level of 100% by this cue and they are at a specific preset focus.

When fixtures are loaded into the programmer using “Edit,” they are not selected. 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.

Once you have made your changes, you can press **Update Enter** or **Update Update** to update the cue the original information was taken from. If you have made changes to one or more of the presets in the cue, the following window will pop up:



This window tells us that at least one of the fixtures that we have changed in the programmer referenced the Pan/Tilt Preset “Drums” (if more than one preset were referenced, they would all be displayed in this window). 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.

For more information on the Update function, please see “Update” on page 119.

Loading 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. Further, “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 Maxxyz console. “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 value attributes of the selected *fixtures*, whether they are at a value or not.[1] 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.

1.For an explanation of “base values,” please see“The Record Options Window” on page 107.

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

Press **Enter**

The Load Options window contains several buttons that are broken down into five categories:

Load Options	Normally used in Record to determine how attributes in the programmer are saved to cues, the “Merge” and “Replace” buttons have the same identical function in the Load Options window. That is to say, attribute values will always be merged into the programmer regardless of this setting.
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
Filter	This group of filters acts to filter 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” on page 93.

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 “Effects” on page 187.
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” on page 138 and “Setting an Attribute Delay Time” on page 141.

FILTER CATEGORY

In many ways, this category is akin to the Preset page filters. Using these filters, you can determine which attribute groups will be loaded into the programmer. By default, all of these filters are “on.”.

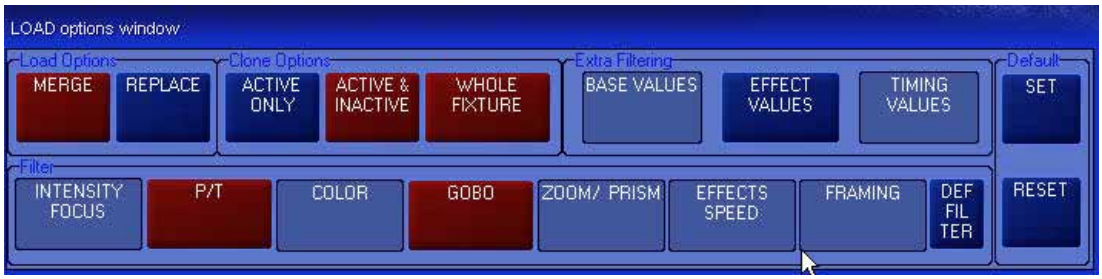
Intensity Focus	Only those attributes which would be found in the Dim/Focus attribute group will be recorded when this is selected.
P/T	Only those attributes which would be found in the Pan Tilt attribute group will be recorded when this is selected.
Color	Only those attributes which would be found in the Color attribute group will be recorded when this is selected.
Gobo	Only those attributes which would be found in the Gobo attribute group will be recorded when this is selected.
Zoom/Prism	Only those attributes which would be found in the Zoom/Prism attribute group will be recorded when this is selected.
Effects Speed	Only those attributes which would be found in the Effects/Speed attribute group will be recorded when this is selected.
Framing	Only those attributes which would be found in the Framing attribute group will be recorded when this is selected.
Defilter	Pressing this button will clear 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	Pressing this button will cause the Maxxyz 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	Pressing this button will cause the Load Options window to return to it’s default filter setting.

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



In this case, we will be loading 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.

Loading Groups

To load the attributes of a group into the programmer, press the “Load” hard key followed by the desired softkey on the Group touch screen and then **Enter**.[1] You can also press and hold the Load button and then touch the desired Group. When you release the Load button, the group will be loaded.

All attributes of the selected 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. Note that it is quite possible that more than one cue or submaster may be affecting different attributes 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[2]. 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”

The Load function also provides a very rapid means of capturing all information for any selected fixtures in the programmer. After selecting the desired fixtures via main keypad or groups pressing **Load Load** will load all attribute information for the selected fixtures into the programmer.

Capturing a Snapshot of the Stage Using Load

It is possible to capture the entire output of the console very rapidly and create a “snapshot” of the current look using the Load function. To do so use the following syntax:

“.” (decimal) **0 Enter Load Load**

The “decimal zero enter” command will select all the fixtures in the show and “load load” will put their current output into the programmer.

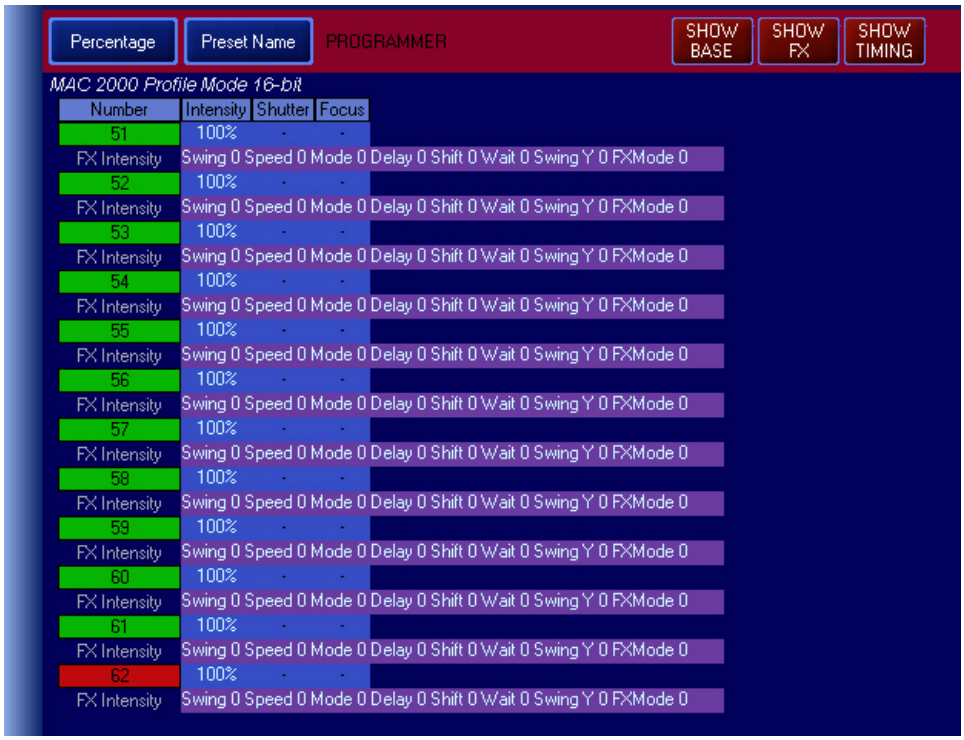
Loading an Individual Attribute

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:

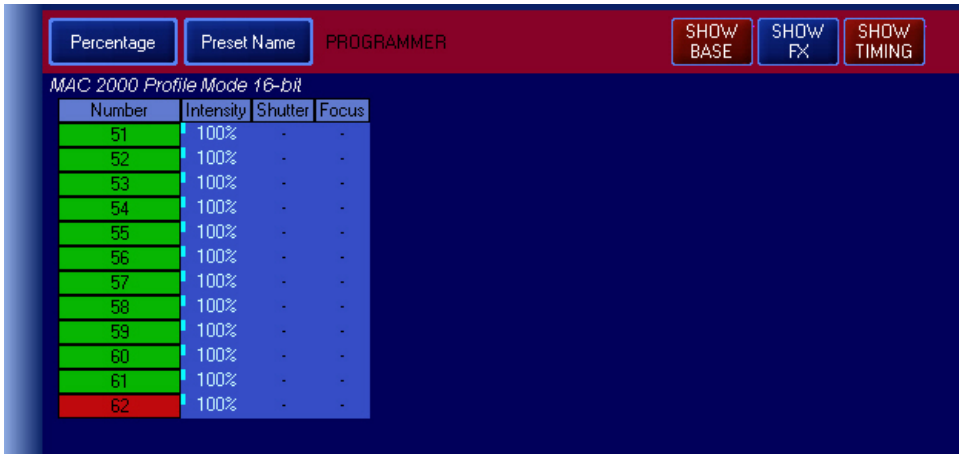
1. With a cue running, select the group “Mac 2k Profile” from one of the Group touch screens.
2. Press the “Dim Focus” LCD key in the programmer key section (if not already selected). Note that it is important to select the appropriate group *before* proceeding with the next step otherwise, that attribute group will be loaded, not the individual attribute.
3. Press and **hold** the Load key on the keypad.
4. Press the hard key directly below the “Intensity” label on the touch screen.
5. Release the Load key.

1.Alternatively, you can press the following keys on the keypad: **Load Group xx Enter.** Using the keypad allows you to use modifiers such as “**+**,” “**-**,” and “**Thru**.”
2.This is sometimes known as “capturing the state” of the fixture(s).

The programmer screen will then look similar to this:



You'll note that while shutter and focus attributes of the Dim/Focus attribute group are still blank, the intensity attribute has been loaded. Also loaded are the intensity FX values. These can either be cleared (see "Clear and the Programmer" on page 96) or hidden. To hide these values, press the "Show FX" soft key 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). 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 it's 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

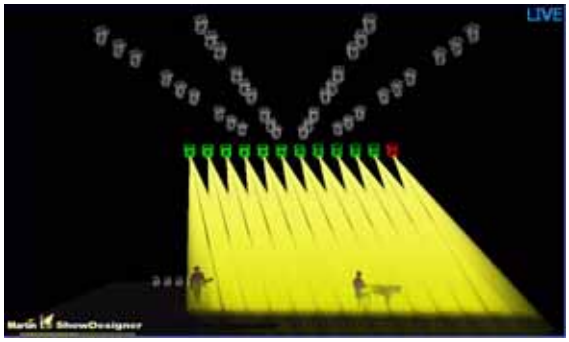
When cloning a fixture the syntax is **Load xx @ yy** where “xx” is the target and “yy” is the source. For our example, we will use the Mac 2k Profiles, fixtures 51 through 62.

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

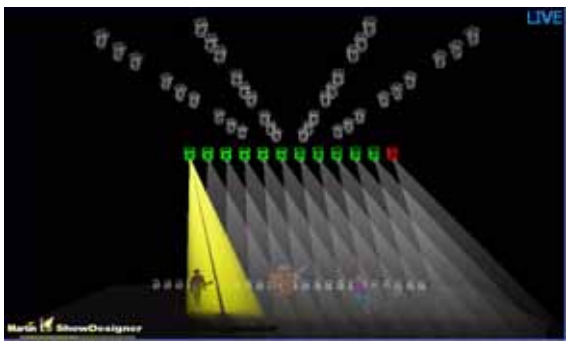
Number	Pan	Tilt	P/T Spd	Gobo 1	Cyan	Magenta	Yellow	Intensity
51	46%	69%	-	4%	0%	0%	100%	100%

2 Press **(“Mac 2K Profile” group button) Load @ 51 Enter**.

Number	Pan	Tilt	P/T Spd	Gobo 1	Cyan	Magenta	Yellow	Intensity
51	46%	69%	-	4%	0%	0%	100%	100%
52	46%	69%	-	4%	0%	0%	100%	100%
53	46%	69%	-	4%	0%	0%	100%	100%
54	46%	69%	-	4%	0%	0%	100%	100%
55	46%	69%	-	4%	0%	0%	100%	100%
56	46%	69%	-	4%	0%	0%	100%	100%
57	46%	69%	-	4%	0%	0%	100%	100%
58	46%	69%	-	4%	0%	0%	100%	100%
59	46%	69%	-	4%	0%	0%	100%	100%
60	46%	69%	-	4%	0%	0%	100%	100%
61	46%	69%	-	4%	0%	0%	100%	100%
62	46%	69%	-	4%	0%	0%	100%	100%



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, gobo and color attributes of that fixture to a “non-null” value. Select fixture 52 and do the same.

Number	Pan	Tilt	P/T Spd	Gobo 1	Cyan	Magenta	Yellow	Intensity
51	34%	59%	-	20%	33%	0%	100%	100%
52	66%	59%	-	20%	5%	91%	11%	100%

2 Press **(“Mac 2K Profile” group button) Load @ 51 + 52 Enter**.

Number	Pan	Tilt	P/T Spd	Gobo 1	Cyan	Magenta	Yellow	Intensity
51	34%	59%	-	20%	33%	0%	100%	100%
52	66%	59%	-	20%	5%	91%	11%	100%
53	34%	59%	-	20%	33%	0%	100%	100%
54	66%	59%	-	20%	5%	91%	11%	100%
55	34%	59%	-	20%	33%	0%	100%	100%
56	66%	59%	-	20%	5%	91%	11%	100%
57	34%	59%	-	20%	33%	0%	100%	100%
58	66%	59%	-	20%	5%	91%	11%	100%
59	34%	59%	-	20%	33%	0%	100%	100%
60	66%	59%	-	20%	5%	91%	11%	100%
61	34%	59%	-	20%	33%	0%	100%	100%
62	66%	59%	-	20%	5%	91%	11%	100%

Other Cloning Commands

It is also possible to clone across groups. For example **Load Group xx @ yy**. And, beginning with Maxxyz software version 1.6, you may now 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 2k’s to your Mac 600’s. 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” on page 128 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.

Removing Entire Fixtures from the Programmer

To remove 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.[1] For more information on the Clear command, see “Clearing Individual Attributes” on page 99.

1.You can not use the “minus” command to remove a fixture that has attributes at any level other than “null.”

CLEAR AND THE PROGRAMMER

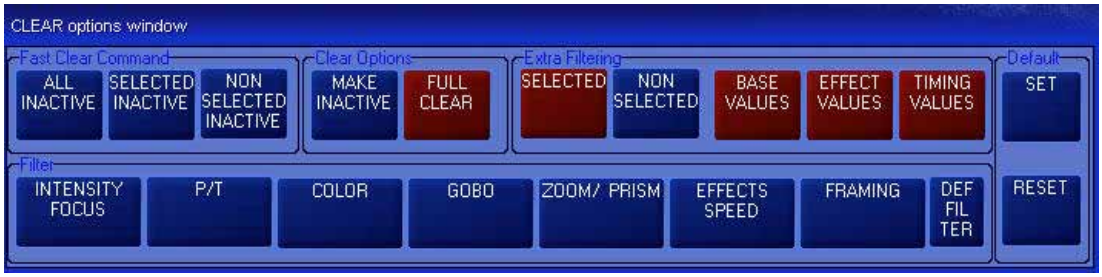
Fixture and attribute information entered into the programmer will remain there until it is cleared. The “Clear” button on the keypad serves three different functions within the programmer: it can be used to deselect active fixtures; it can be used to clear the programmer entirely; or it can be used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

At this point, it is worth repeating a few definitions found earlier in the manual:

Selected Fixture	A selected fixture is one that is currently editable using the programmer’s trackbelts, touch screen, etc.
Deselected Fixture	A deselected fixture is a fixture that, while in the programmer, will not be affected by changes made in the programmer. That is to say that changes made using the trackbelts, touch screens, etc. will have no effect on deselected fixtures. For more information, please see “Loading the Programmer Using Fixture Selection” on page 87.
Active Channel	An active channel is a channel in the programmer that, by default, will be recorded into a group, cue or preset. These channel values are displayed in white.
Inactive Channel	An inactive channel is a channel in the programmer that will not normally be recorded into the specified group, cue or preset unless specifically commanded to do so. A channel automatically becomes inactive once recorded into a cue (but not a preset or group). A channel can also be forced into an inactive state by using the Clear functions. Please see “Clear and the Programmer” on page 96. These channel values are displayed in black.
Null Channel	A null channel is one that is not in the programmer. It may still have a value, but, as it is not in the programmer, it is not considered either active or inactive and is therefore “null.”

THE CLEAR OPTIONS WINDOW

When you first press the Clear key, you will see the Clear Options window pop-up in the left hand touch screen.



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

1 Press **Clear**

2 Set your filters as desired

3 Press **Enter**

The Clear Options window is used not merely to clear fixtures, but also to make attributes inactive. Quite similar to the Load options window, it contains several buttons that are broken down into five categories:

Fast Clear Command	These keys are used to make attributes inactive and do not require an “Enter” command to execute. These commands also will ignore any other filtering that may be in place.
Clear Options	These keys determine whether a clear or an inactive function will be performed
Extra Filtering	These filters determine which fixtures and what types of attributes will be cleared or made inactive
Filter	This group of filters acts to filter specific attribute groups
Default	These two buttons allow you to change the “default” behavior of Clear options window.

FAST CLEAR COMMAND CATEGORY

These keys are not technically used for clearing fixture attributes, but are used in making attributes inactive. It is worth noting that none of these keys require an “Enter” command to execute. And, as mentioned above, none of the other filtering used in the Clear Options window will be applied when using the Fast Clear Commands.

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 key 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
Base Value (default on)	These values encompass the traditional attributes: pan, tilt, color, gobo, etc.
Effect Value (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 “Effects” on page 187.

Timing Value (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” on page 138 and “Setting an Attribute Delay Time” on page 141.

FILTER CATEGORY

In many ways, this category is akin to the Preset page filters. 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 Focus	Only those attributes which would be found in the Dim/Focus attribute group will be recorded when this is selected.
P/T	Only those attributes which would be found in the Pan Tilt attribute group will be recorded when this is selected.
Color	Only those attributes which would be found in the Color attribute group will be recorded when this is selected.
Gobo	Only those attributes which would be found in the Gobo attribute group will be recorded when this is selected.
Zoom/Prism	Only those attributes which would be found in the Zoom/Prism attribute group will be recorded when this is selected.
Effects Speed	Only those attributes which would be found in the Effects/Speed attribute group will be recorded when this is selected.
Framing	Only those attributes which would be found in the Framing attribute group will be recorded when this is selected.
Defilter	Pressing this button will clear all selected filters from the Filter Category

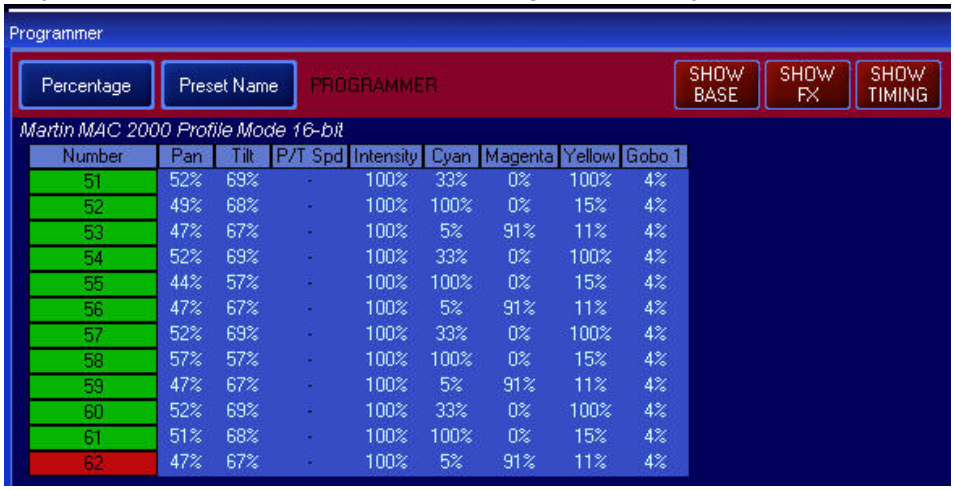
DEFAULT CATEGORY

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	Pressing this button will cause the Maxxyz console to “remember” any of the filters you have applied so that the next time you press Clear, those same filters will be selected. Note: there is no feedback when you press this button (it doesn’t change color).
Reset	Pressing this button will cause the Clear Options window to return to it’s 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 key. Please refer to the screen below:



Number	Pan	Tilt	P/T Spd	Intensity	Cyan	Magenta	Yellow	Gobo 1
51	52%	69%	-	100%	33%	0%	100%	4%
52	49%	68%	-	100%	100%	0%	15%	4%
53	47%	67%	-	100%	5%	91%	11%	4%
54	52%	69%	-	100%	33%	0%	100%	4%
55	44%	57%	-	100%	100%	0%	15%	4%
56	47%	67%	-	100%	5%	91%	11%	4%
57	52%	69%	-	100%	33%	0%	100%	4%
58	57%	57%	-	100%	100%	0%	15%	4%
59	47%	67%	-	100%	5%	91%	11%	4%
60	52%	69%	-	100%	33%	0%	100%	4%
61	51%	68%	-	100%	100%	0%	15%	4%
62	47%	67%	-	100%	5%	91%	11%	4%

To clear the “Cyan” attribute from only the odd numbered MAC 2K’s, we would use the following keystrokes:

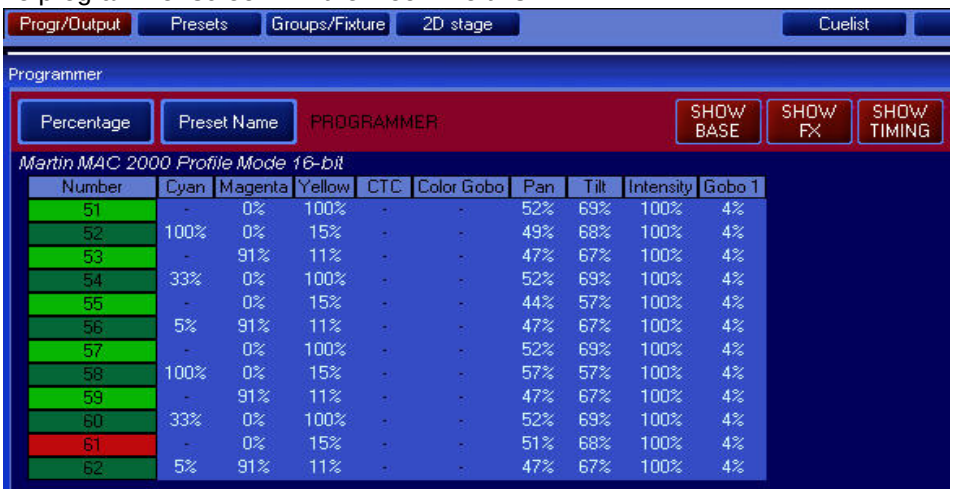
1 Select the group “2k Profile-2” from the Group touch screen.

2 Select the “Color” LED key on the programmer

3 Press and **hold** the “Clear” key on the keypad

4 Press the hard key in the programmer that is directly below the “Cyan” label in the Programmer Touch Screen.

The programmer screen will then look like this:



Number	Cyan	Magenta	Yellow	CTC	Color Gobo	Pan	Tilt	Intensity	Gobo 1
51	-	0%	100%	-	-	52%	69%	100%	4%
52	100%	0%	15%	-	-	49%	68%	100%	4%
53	-	91%	11%	-	-	47%	67%	100%	4%
54	33%	0%	100%	-	-	52%	69%	100%	4%
55	-	0%	15%	-	-	44%	57%	100%	4%
56	5%	91%	11%	-	-	47%	67%	100%	4%
57	-	0%	100%	-	-	52%	69%	100%	4%
58	100%	0%	15%	-	-	57%	57%	100%	4%
59	-	91%	11%	-	-	47%	67%	100%	4%
60	33%	0%	100%	-	-	52%	69%	100%	4%
61	-	0%	15%	-	-	51%	68%	100%	4%
62	5%	91%	11%	-	-	47%	67%	100%	4%

You can see that the cyan attribute on the odd Mac 2k’s is now set to null. This is sometimes referred to as “knocking out.”

Fixture Fanning

Fixture fanning is similar to “Focus Fanning” (page 63) except that it does not require the use of the 3d visualizer. In it’s place, the four trackbelts on the right hand side of the console are used to control the various aspects of the fan.

When a number of fixtures are selected and the “Fan” LCD button is pressed, the programmer touch screen will display the “Fan Display” on the right hand side of the “Channels” window.

Near the bottom of the screen are 4 labels for fan position control that correspond to the four trackbelts and indicate their function.

First	This label corresponds to the right 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 left 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 the attribute selection using the right 5 LCD keys in the programmer control. By selecting the “Pan Tilt” LCD and then pressing the hard key directly below the pan column in the touch screen, pan is selected as the attribute to be affected by the fan position controls. Note that the active attribute hard key 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 key above the tilt trackbelt.

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

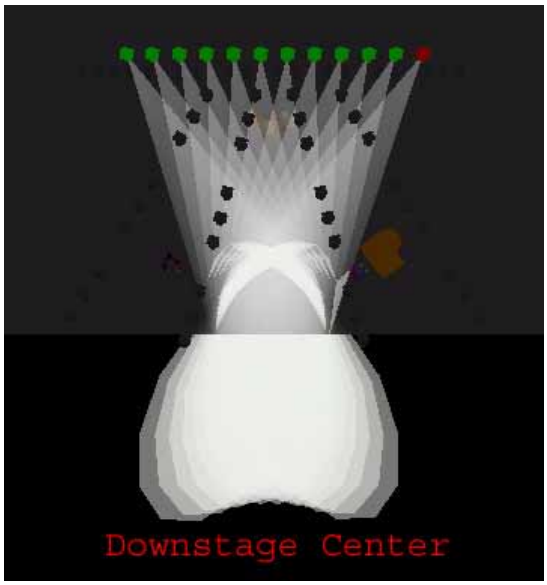
The functions of the fan softkeys are as follows:

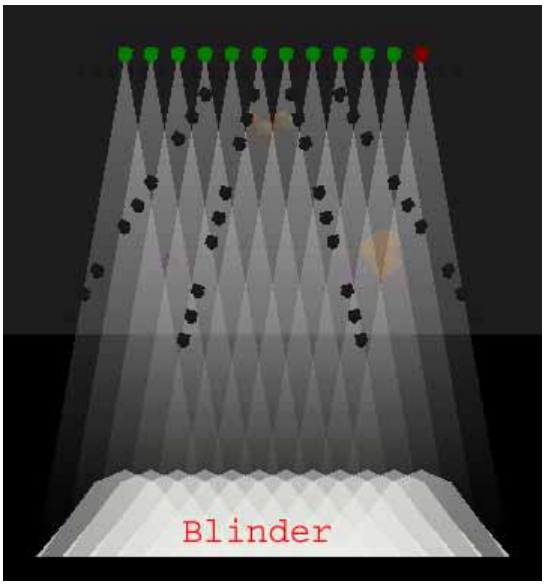
Default	**Alternate**

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.	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-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	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.
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	Linear - Similar to curve, except that instead of a curved path, a linear one is followed.
Clear Fan - Pressing this key will clear all fan effects.	N/A

EXAMPLES OF FIXTURE FANNING

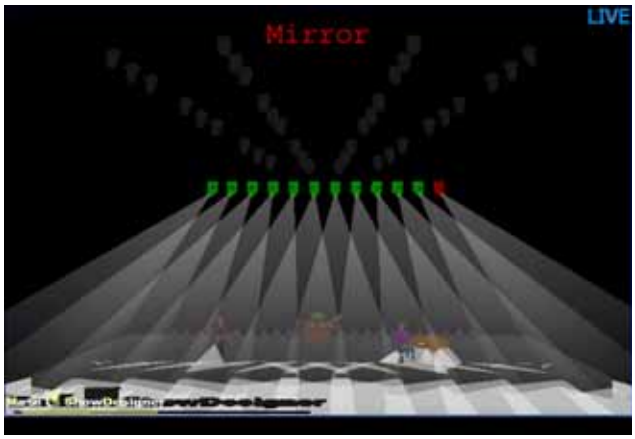
The Mac2k Profile group will be used in these examples. It may be helpful to create a "downstage center" and "blinder" pan/tilt preset groups (shown below in top view) in running through these examples.

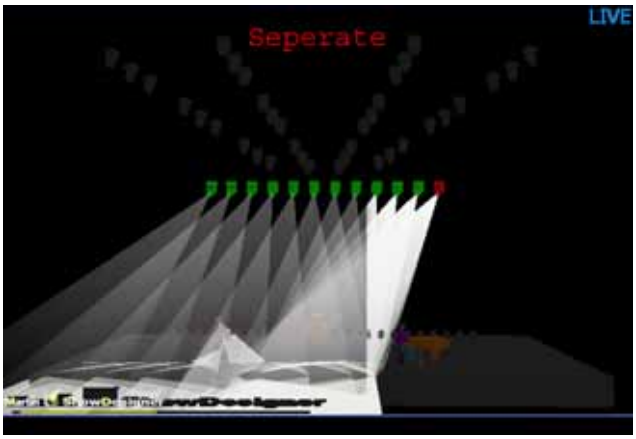


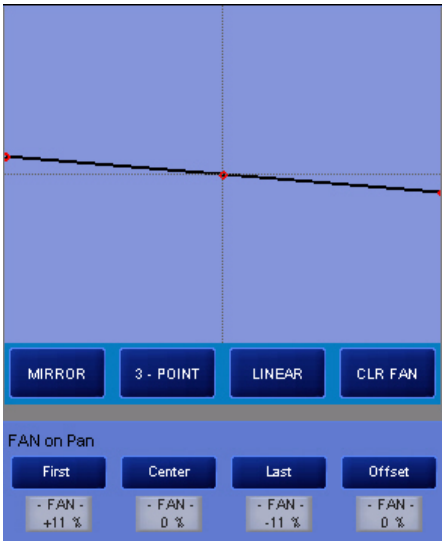


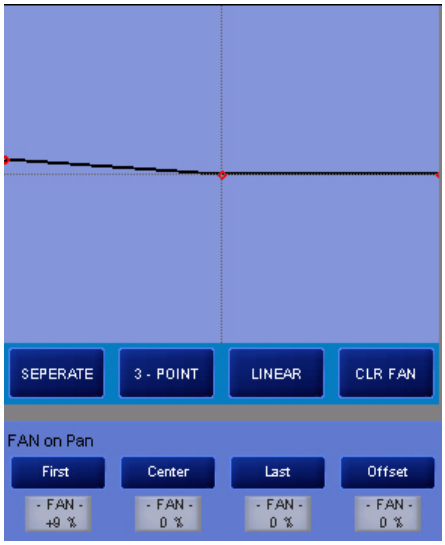
MIRROR VS. SEPARATE FANNING

Starting at the “downstage center” 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 trackbelt.





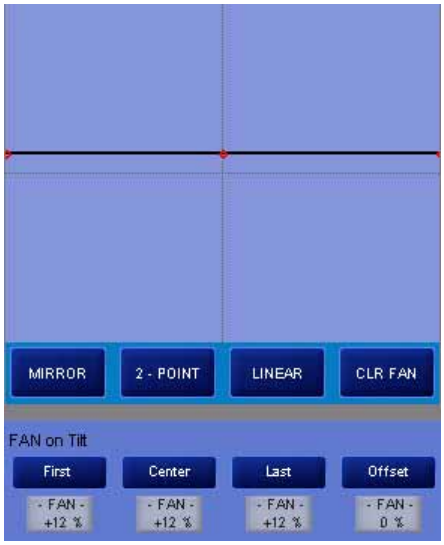


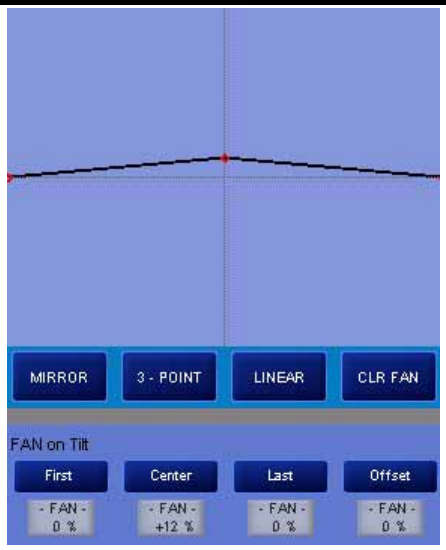


As you can see, in the Mirror example, the First and Last attributes are at +/-10% even though only the First fan attribute was adjusted. This is because as the First fan attribute was raised up to +10%, the Last fan attribute mirrored it and moved to -10%. In the Separate example the First fan attribute is at +8% but the Last fan attribute has remained at 0%. Note also that in the Mirror example the Center fan attribute remains at 0% while in the Separate example it has moved to 4% to maintain a linear alignment.

2-Point vs. 3-Point Fanning

Starting at the “blinder” preset, with “Fan on Tilt” in mirror and linear mode the following shows the difference between 2-Point and 3-Point modes when moving only the Center fan attribute trackbelt

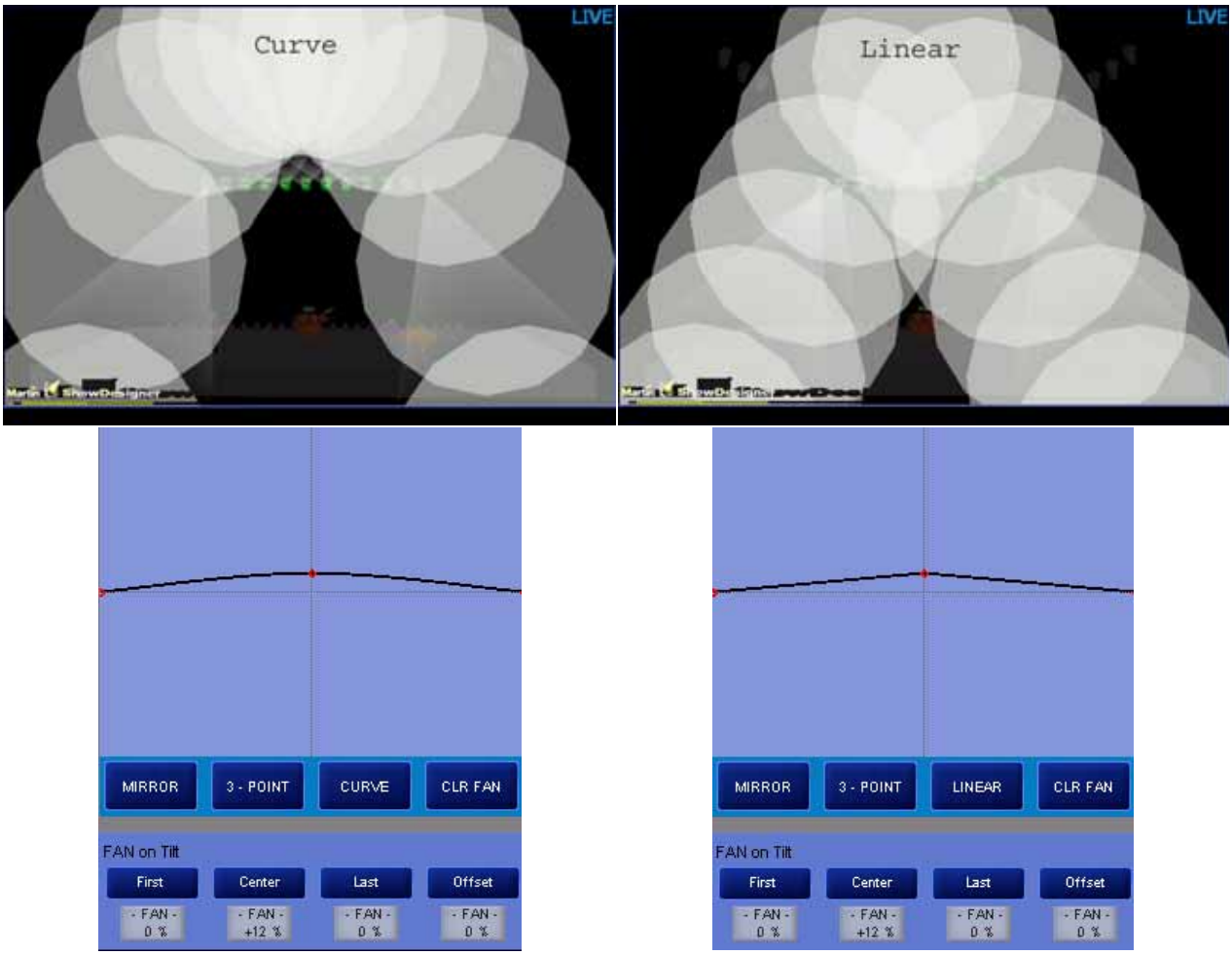




In the 2-Point example, moving the Center fan attribute only to +12% resulted in both the First and Last fan attributes also moving to +12%. In other words, it acted much like the traditional tilt attribute. In the 3-Point example, moving the Center attribute to +12% left the First and Last attributes unchanged (0%) and distributed a percentage of change to all fixtures between the first and last fixtures selected.

CURVE VS. LINEAR FANS

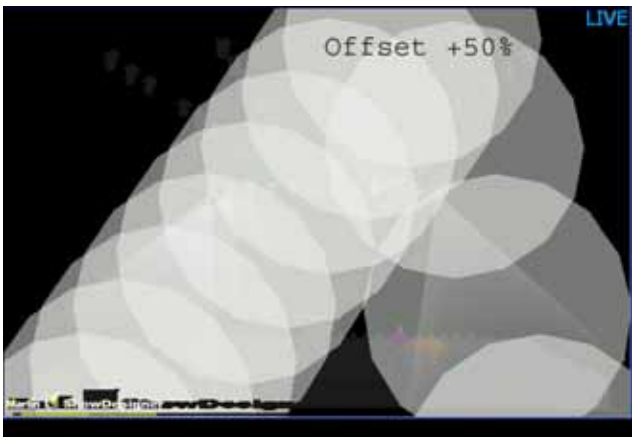
Again starting at the “blinder” preset, with “Fan on Tilt” in mirror and 3-Point mode the following shows the difference between 2-Point and 3-Point modes when moving only the Center fan attribute trackbelt

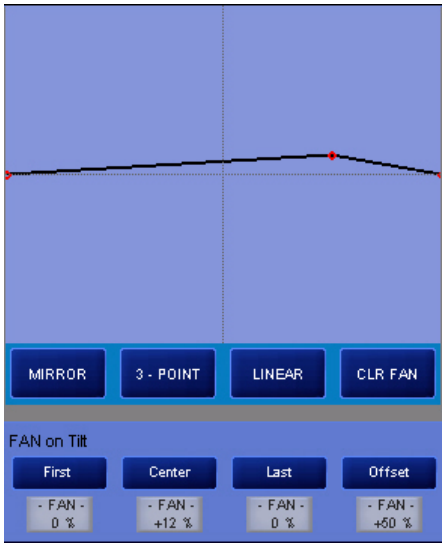


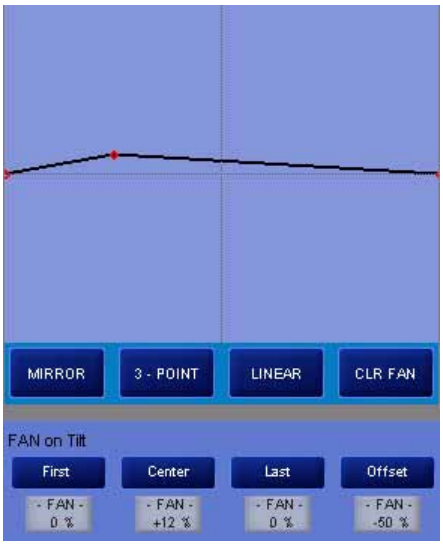
Moving only the Center fan attribute to +12% in Curve mode results, as you can see in a rounded shape whereas moving the Center pan attribute the same amount in Linear mode provides for a straight sided distribution of the beams.

OFFSETTING THE FAN

Using the mirror 3-point linear fan with the Center fan attribute at +12% created above, the effects of the Offset function become clear.



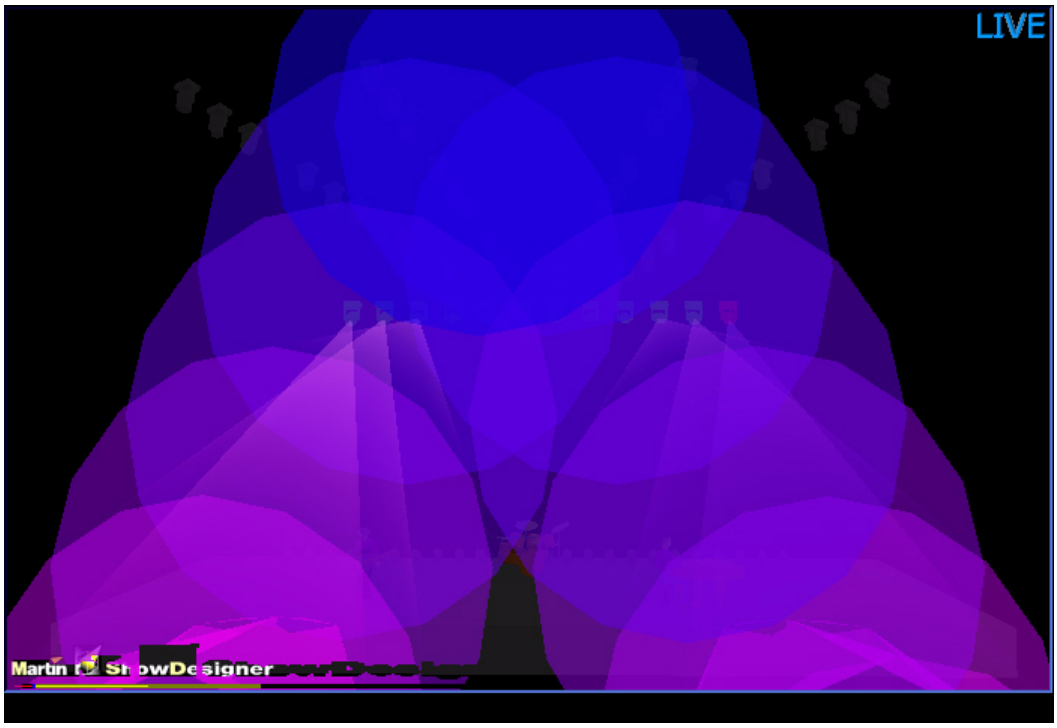


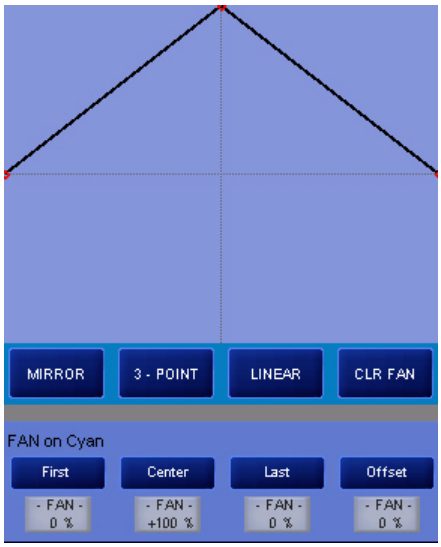


These two examples illustrate how the Offset fan attribute can be used to change the apparent “center” of the fan.

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 same way that





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%.

RECORDING CUES

Recording a cue to a cuelist on the Maxxyz console can be very simple, or through the use of the Record Options window, great detail and flexibility can be added in determining exactly what information is recorded and how it is stored.

RECORDING A SIMPLE CUE

There are three primary ways of recording the changes in the programmer into a cue. The first is to press “Record” and then the LCD key of the desired Cuelist below the playbacks. 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 cue type (cuelist, chase, override, etc.) and then the information in the programmer will be saved as cue 1. For more information on selecting the cuelist type, please refer to “Creating and Working with Cuelists” on page 133.

The second way to save the information as a cue is to specify the cue number. The information will then be saved as the specified cue number in the active playback. For example:

- **Record Cue 21 Enter**

  will save the information as cue 21 in the selected cuelist.

  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 or 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. This window pops up whenever the “Record” key is pressed.

The Record Cue Options window contains several buttons that are broken down into five categories:

Record Options	These functions are used primarily with cues.
Source Options	Used in determining exactly what attributes will be recorded, these buttons are of interest whenever you are recording.
Extra Filtering	These buttons determine exactly which contents of the programmer are to be recorded, broken down by attribute type.
Extra Options	Consisting of one button, “Cue Only” this is only of use when recording cues.
Filter	Used to determine which attribute groups will be recorded, this is useful in all recordings.
Default	These two buttons allow you to change the “default” behavior of Record options window.

RECORD OPTIONS CATEGORY

There are five buttons in this group, many of which can be found in other pop-up windows, but here they are collected in one place.

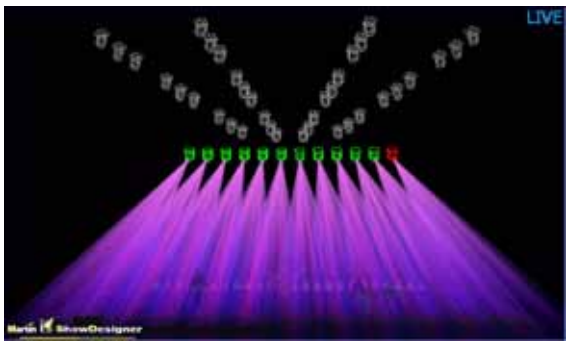
Merge	When selected, the merge command will add all selected attributes to the specified cue, group or preset. Attributes that were previously in the cue, group or preset will not be affected unless they are carried in the information to be added.
Replace	Where Merge adds information, the Replace function will overwrite all existing attributes. Any previously existing attribute values will be erased and the specified contents of the programmer will be put in their place. 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 specified cue.
Insert After	Same as “Insert Before” except information is added after the specified cue.
Remove	This function is similar to the Clear functions listed earlier and require 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 programer, the Record Remove function will remove the attribute from a cue. To use Record Remove, follow these steps:

1 Using the Mac 2k’s from the Maxxyz Demo file, record a cue 1 using intensity, pan, tilt, and gobo.

Number	Pan	Tilt	P/T Spd	Gobo 1	Cyan	Magenta	Yellow	Intensity
51	54%	69%	-	8%	0%	100%	0%	100%
52	53%	69%	-	8%	0%	100%	0%	100%
53	52%	69%	-	8%	0%	100%	0%	100%
54	52%	69%	-	8%	0%	100%	0%	100%
55	51%	69%	-	8%	0%	100%	0%	100%
56	50%	69%	-	8%	0%	100%	0%	100%
57	49%	69%	-	8%	0%	100%	0%	100%
58	49%	69%	-	8%	0%	100%	0%	100%
59	48%	69%	-	8%	0%	100%	0%	100%
60	47%	69%	-	8%	0%	100%	0%	100%
61	47%	69%	-	8%	0%	100%	0%	100%
62	46%	69%	-	8%	0%	100%	0%	100%



2 Clear the programmer and playback the cue.

3 Select the odd numbered Mac 2k's by pressing the "M2kP E2" group.

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).

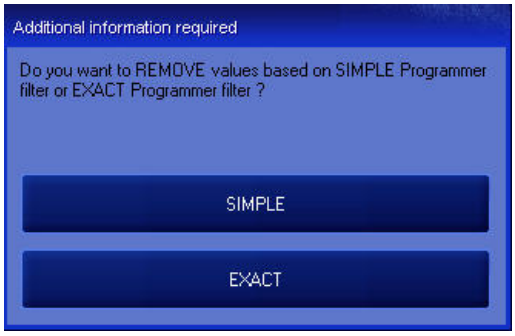
Number	Gobo 1	Gobo 1 Rot/Index	Gobo 2	Gobo 2 Rot/Index
51	41%	-	-	-
52	-	-	-	-
53	41%	-	-	-
54	-	-	-	-
55	41%	-	-	-
56	-	-	-	-
57	41%	-	-	-
58	-	-	-	-
59	41%	-	-	-
60	-	-	-	-
61	41%	-	-	-
62	-	-	-	-

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

6 Select **Remove**

7 Press **Cue 1 Enter**

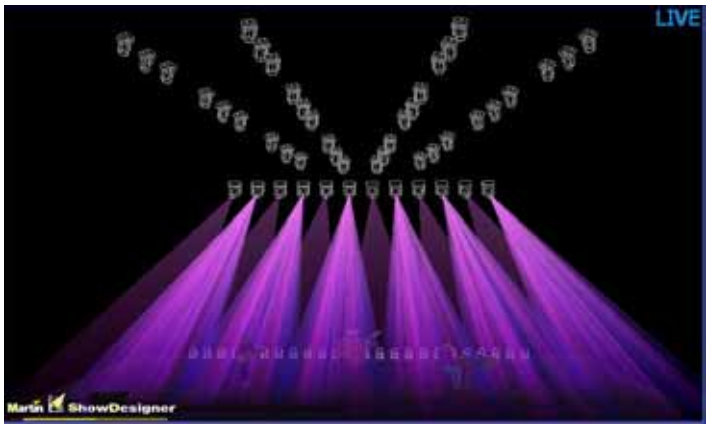
8 The Record Remove pop up window will open.



Here you have the option of either "Simple" or "Exact" removal.

- Simple Record Remove - When using this function, any value for the specified attribute of the selected fixtures will be removed from the cue. All fixtures with that attribute in the programmer will be set to null, regardless of their current level.
- Exact Record Remove - When "Exact" is selected, only those fixtures with the same precise attribute value will be removed. Example: If cue one has 1/2 of the Mac2ks in Gobo 1, Wheel 1 and the other half at Gobo 2, Wheel 1, selecting all Mac2ks and setting them to Gobo 2, Wheel 1 and then executing an Exact Record Remove will only remove the gobo from the 50% of the Mac2ks that were in Gobo2, Wheel 1. The gobos of the other fixtures will remain unaffected.

9 Press **Clear Clear** to clear the programmer and the gobos for the odd Mac 2k's will be cleared from the cue.



Note that no other filters (other than those set up by placing attribute values in the programmer) will work with Record Remove. Record Remove can also not be used with "range recording" of cues.

Source Options Category

This category contains two buttons that toggle between each other and deal with active vs. inactive attributes. For a definition of active/inactive attributes, see "Active vs. Inactive Channels" on page 61.

Active Only	This is the only default filter used in the Options window. When selected, only those attributes that are active in the programmer will be recorded.
Active & Inactive	When selected, both active and inactive attributes will be recorded.

Extra Filtering Category

These three filter buttons determine which attribute types will be loaded.

Base Channels	When deselected the "Base Channels," those defined in the Dim/Focus, Pan/Tilt, Color, Gobo, Zoom/Prism, Speed/Effect, and Framing attribute groups found on the programmer LCD keys will not be recorded.
Effect Channels	When deselected, the "Effects Channels," those defined in the Regular Effect and Time Effect attribute groups found on the programmer LCD keys will not be recorded.
Timing Channels	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" on page 138 and "Setting an Attribute Delay Time" on page 141.

Extra Options Category

This button breaks the normal recording method of the Maxxyz console. The Maxxyz 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 eventuality, the information will be tracked forward.

FILTER CATEGORY

In many ways, this category is akin to the Preset page filters. Using these filters, you can determine which attribute groups will be recorded into a cue, group or preset.

Intensity Focus	Only those attributes which would be found in the Dim/Focus attribute group will be recorded when this is selected.
P/T	Only those attributes which would be found in the Pan Tilt attribute group will be recorded when this is selected.
Color	Only those attributes which would be found in the Color attribute group will be recorded when this is selected.
Gobo	Only those attributes which would be found in the Gobo attribute group will be recorded when this is selected.
Zoom/Prism	Only those attributes which would be found in the Zoom/Prism attribute group will be recorded when this is selected.
Effects Speed	Only those attributes which would be found in the Effects/Speed attribute group will be recorded when this is selected.
Framing	Only those attributes which would be found in the Framing attribute group will be recorded when this is selected.
Defilter	Pressing this button will clear 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	Pressing this button will cause the Maxxyz 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	Pressing this button will cause the Record Options window to return to it’s default filter setting.

Filters can be combined so that, for example, you merge only active effects channels for gobo and color into one cue without tracking as shown below.

MODIFYING RECORDED CUES

Once a cue has been recorded, there are a number of different 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

If a cue is selected to be recorded and it already exits, you can use the record options window shown above to determine if it should merge, replace, etc. If none of the record options are selected, a second pop-up window appear:

Here you are given a variety of choices that are detailed above in “Record Options Category” on page 108.

RECORDING A RANGE OF CUES

The Maxxyz console allows for the modification of more than one cue simultaneously. This is referred to as “Range Recording.” Note that while you can *modify* an existing range of cues, you can not *create* a range of cues. An example of Range Recording is **Record Cue 1 Thru 4 + 25 Enter**.[1] This example will record the contents of the programmer (based upon any filters set in the Record Options window) into every cue in the specified range (in this case cues 1 through 4 and cue 25).

1.You will likely want to set the Record Options window to “Merge” the cues.

Important Note:

When recording a range of cues, all values will be entered into each cue as an Active Value. Using the example above, if after recording your range of cues you then change one of the recorded values in the first range recorded cue, it will **not** track through to the following cues. This is similar in function to recording each of the cues as “Cue Only.” To defeat this behavior, use the “Unblock Cuelist” button found in the Cuelist Options window (“Changing the Cuelist Type and Options” on page 148).

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/playback fader. 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 new cuelist, press **Copy Cue xx @ (Playback Fader LCD key)**. The cue will be recorded into the new cuelist and will maintain it’s original cue number. Again, if the cue already exists in the target cuelist, the copy will not record into the target cuelist. To copy a cue to a specific cue number in a new playback fader, press **Copy Cue xx @ yy (Playback Fader LCD key)**. This will copy the selected cue to the target cuelist at the specified cue number.

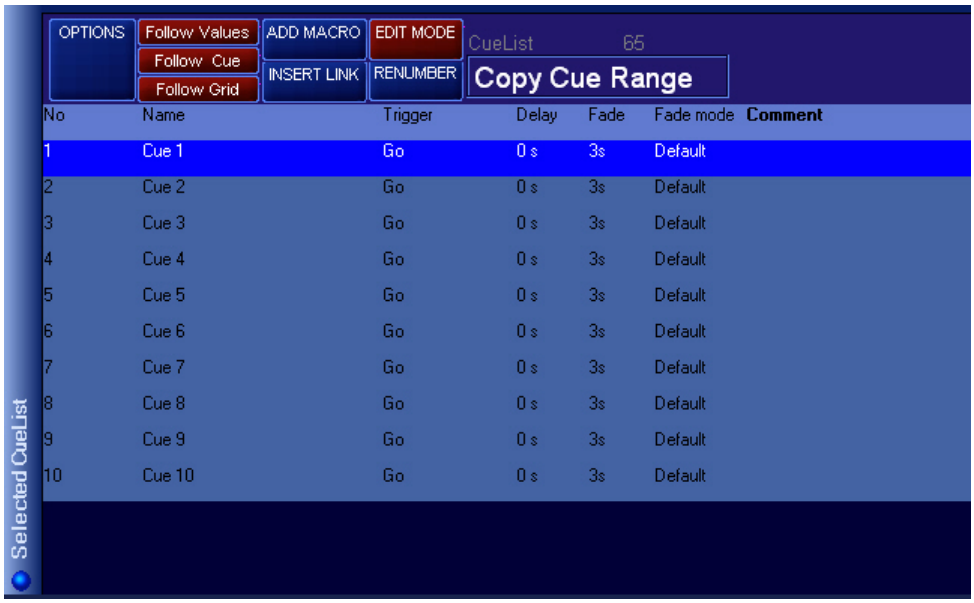
FILTERING COPIED CUES

Whenever the command line reads **Copy Cue**, you will note the following pop-up box appears:

The Copy Cue Options window allows you to filter which attribute groups and values are recorded in much the same the way Record Options widow works (for a complete description, please see “The Record Options Window” on page 107). 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.

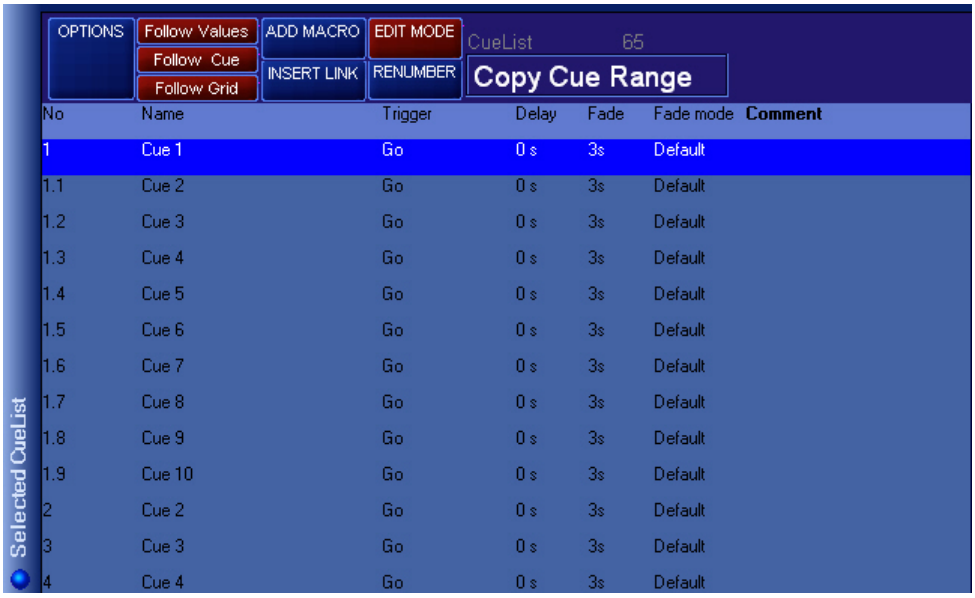
Copying a Range of Cues

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 Maxxyz console allows for several cues to be placed between the existing cues. For example, create 10 cues in a cuelist (see “Creating and Working with Cuelists” on page 133 for detailed information) as shown below:



No	Name	Trigger	Delay	Fade	Fade mode	Comment
1	Cue 1	Go	0 s	3s	Default	
2	Cue 2	Go	0 s	3s	Default	
3	Cue 3	Go	0 s	3s	Default	
4	Cue 4	Go	0 s	3s	Default	
5	Cue 5	Go	0 s	3s	Default	
6	Cue 6	Go	0 s	3s	Default	
7	Cue 7	Go	0 s	3s	Default	
8	Cue 8	Go	0 s	3s	Default	
9	Cue 9	Go	0 s	3s	Default	
10	Cue 10	Go	0 s	3s	Default	

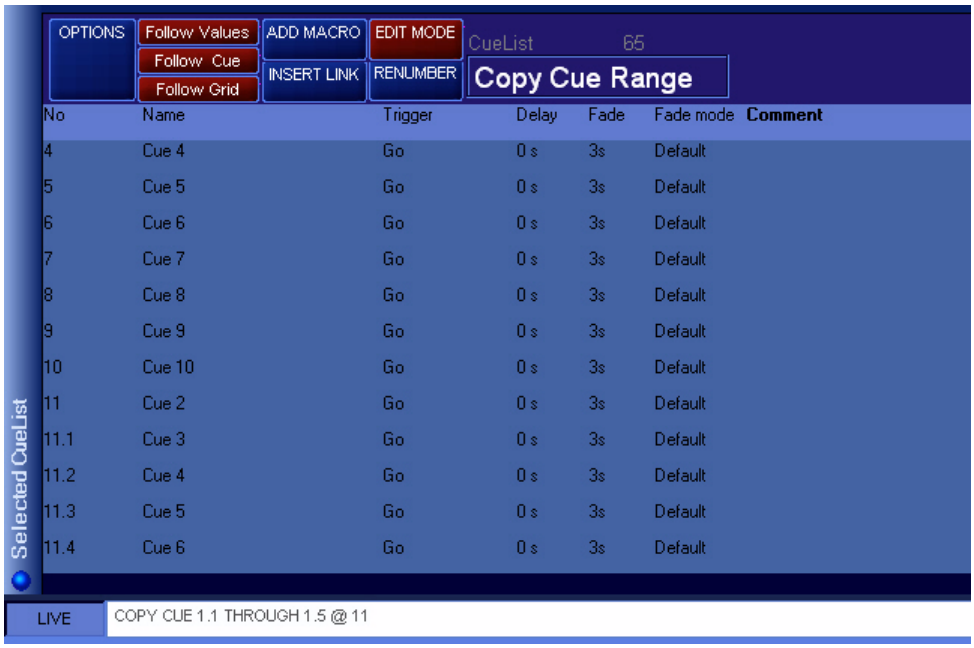
If we wished to copy cues 2 through 10 so that they immediately followed cue 1, the command **Copy Cue 2 Thru 10 @ 1 Enter** would be invalid as cue 1 already exists. However, using the command **Copy Cue 2 Thru 10 @ 1.1 Enter** is a valid command and would result in the following:



No	Name	Trigger	Delay	Fade	Fade mode	Comment
1	Cue 1	Go	0 s	3s	Default	
1.1	Cue 2	Go	0 s	3s	Default	
1.2	Cue 3	Go	0 s	3s	Default	
1.3	Cue 4	Go	0 s	3s	Default	
1.4	Cue 5	Go	0 s	3s	Default	
1.5	Cue 6	Go	0 s	3s	Default	
1.6	Cue 7	Go	0 s	3s	Default	
1.7	Cue 8	Go	0 s	3s	Default	
1.8	Cue 9	Go	0 s	3s	Default	
1.9	Cue 10	Go	0 s	3s	Default	
2	Cue 2	Go	0 s	3s	Default	
3	Cue 3	Go	0 s	3s	Default	
4	Cue 4	Go	0 s	3s	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 cue” to be created, the inverse is not true. For example, the command line **Copy Cue 1.1 Thru 1.5 @ 11 Enter** will result in the following:

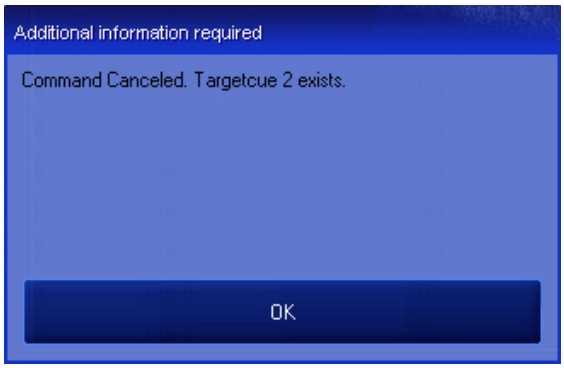


In the previous example, the “point cues” were created but this time, as the cues were copied to the bottom of the cuelist, you can see that the first cue was copied as a whole number cue (as specified) and the remainder were copied as “point cues.”

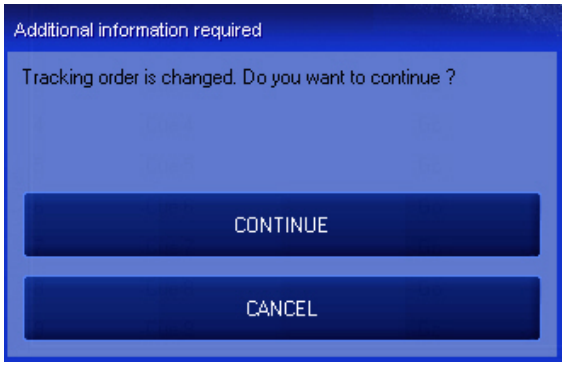
Copying a range of cues into another playback works as described above in “Copying a Cue.”

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 it’s 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 it’s original position. Pressing “Continue” will complete the command and the cue will move to the new position.

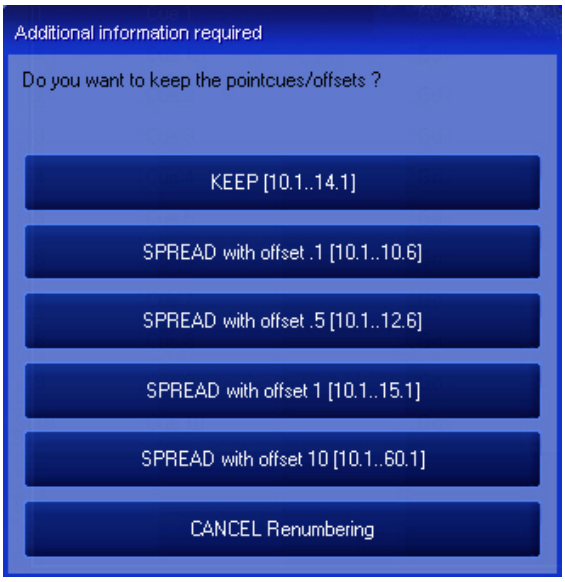
When a cue that has been linked to by another cue is moved, the link will automatically update so that the link remains intact. That is to say, if cue 10 has a link to cue 4 and then cue 4 is moved to cue 6.1, cue 10 will now link to cue 6.1.

Note!: 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. It is recommended for that reason that you use this command with some degree of 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 “Creating and Working with Cuelists” on page 133 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 fist 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.

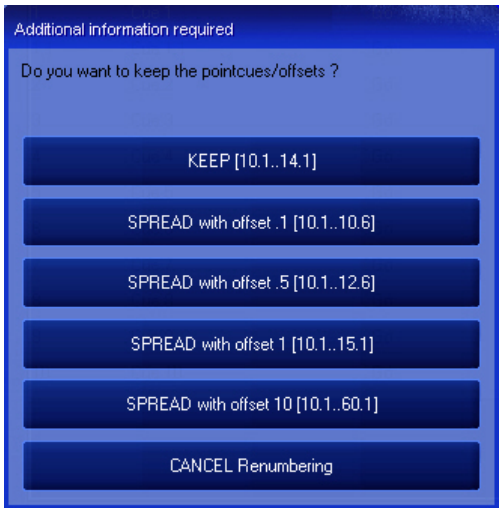
If a cue range is moved that contains a cue or cues that have been linked to by other cues, the link(s) will automatically update so that the link(s) remain intact. That is to say, if cue 10 has a link to cue 4 and then cue 4 is moved to cue 6.1, cue 10 will now link to cue 6.1.

Note!: As with moving a single cue, moving a range of cues can result in a change in the tracking of the fixtures within that cuelist!

Renumbering Cues

Renumbering a cuelist allows for 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” key in the cuelist window (see “Cuelist Touch Screen Buttons” on page 134 for more information)
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, as described above in “Moving a Range of Cues” (show below) 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.

UPDATE

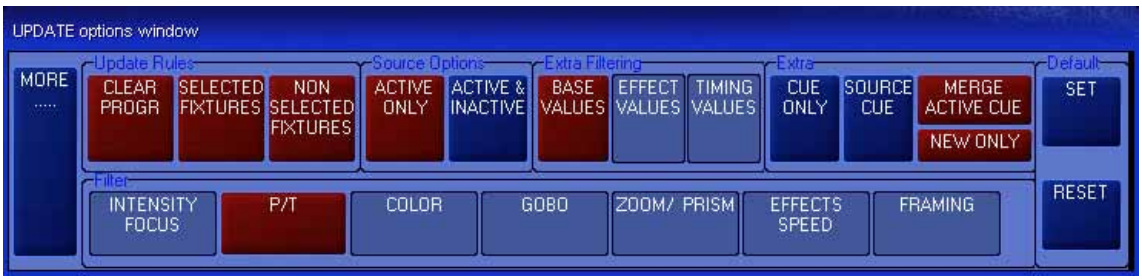
The Update feature allows you to apply changes made in the programmer to both cues and presets simultaneously. You can also do a significant amount of filtering. In order to understand how Update works, we need to introduce two more terms: Assigned Values and Unassigned Values.

Assigned Values	An Assigned Value is any non-null value (0-100%) of any attribute of any fixture that is recorded in a cuelist or preset that is active (playing).
Unassigned Values	An Unassigned Value is any non-null value (0-100%) of any attribute of any fixture that is NOT currently recorded in a cuelist or preset that is active.

For example: Fixture 1 and 2 are recorded into cue 1 at 75%. Their intensity values are “assigned” to cue 1. If, while cue 1 is active, we select fixtures 1 and 3 and bring them to full, fixture one’s intensity level remains assigned to cue 1, but fixture three’s intensity is “unassigned” as it is not recorded into cue 1. These definitions will be come more important as we move deeper into the Update function, but they are fundamental to it’s understanding.

UPDATE OPTIONS WINDOW

When a cue has been modified and the “Update” hard key is pressed, the “Update Options” widow will appear:



The Update Options window contains several buttons that are broken down into six categories.

Update Rules	This category determines which fixtures will be affected by an update and what will happen with the programmer following the completion of the command.
Source Options	Here it is determined which of those attributes in the programmer will modify the presets/cuelists.
Extra Filtering	These buttons determine exactly which contents of the programmer are to be recorded, broken down by attribute type.
Extra Options	This is a collection of functions that affect tracking and determination of how attributes are added to cues.
Filter	Used to determine which attribute groups will be recorded, this is useful in all updates.
Default	These two buttons allow you to change the “default” behavior of Record options window.
More...	Selecting “More...” generates a pop up window that allows you to view and select the presets/cuelists that will be affected by the update.

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 Programmer (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)	All selected fixtures (those on a red or bright green back ground in the programmer) will be updated into the target cue/preset when this is selected.
Non-selected Fixtures (default ON)	All fixtures that are not selected in the programmer will be updated to the target cue/preset.

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 (default ON)	Only those attributes that are active (i.e. displayed in the programmer in white) will be updated to the target preset/cue.
Active & Inactive (default OFF)	All attributes in the programmer (dependant on other filtering in place) will be updated.

EXTRA FILTERING CATEGORY

These three filter buttons determine which attribute types will be loaded.

Base Channels (default ON)	When selected the “Base Channels,” those defined in the Dim/Focus, Pan/Tilt, Color, Gobo, Zoom/Prism, Speed/Effect, and Framing attribute groups found on the programmer LCD keys will be recorded.
Effect Channels (default OFF)	When deselected, the “Effects Channels,” those defined in the Regular Effect and Time Effect attribute groups found on the programmer LCD keys will be recorded.
Timing Channels (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” on page 138 and “Setting an Attribute Delay Time” on page 141.

EXTRA OPTIONS CATEGORY

This category contains four separate options that don’t really fit into the definitions of the other categories. They affect tracking values as well as determining where attributes will be recorded.

Cue Only (default OFF)	When selected, this option breaks the standard tracking operation of the Maxxyz. A cue that is updated with “cue only” will record the new information into that cue, but any subsequent cues will return to the previous value. ***IMPORTANT NOTE!*** The Update command can simultaneously update both cue and preset information. Selecting “Cue Only” will <u>not</u> prevent information from being recorded into any presets unless they are deselected from the “More....” pop up window (see below).[a]

Source Cue (default OFF)	Sometimes referred to as “backtrack” this is similar to the standard tracking operation except, whereas normally changes made in a cue track forward to the next cue, selecting “Source Cue” will look back to find the original source cue that contains the level information for that particular attribute and will replace it at that point. All subsequent cues will then contain the new attribute value. Note that this function will not track through null values.
Merge Active Cue (default ON)	Any unassigned values in the programmer will be added/merged into the currently active cue of the selected cuelist. If no cuelist is selected or this option is turned off, the unassigned values will remain in the programmer.
New Only (default ON)	When selected, only unassigned attribute values will be merged. When deselected, it is possible to merge assigned values of another cue into the active cue of the selected cuelist. To merge the assigned values of one or more cues to another cue, you must press the “More...” key and deselect those cues that you do not wish to update.

a. An alternative to this is to use the standard Record function and select “Cue Only” from the Record Options window.

FILTER CATEGORY

Using these filters, you can determine which attribute groups will be updated in the same way these filters work in the Record Options window.

Intensity Focus	Only those attributes which would be found in the Dim/Focus attribute group will be updated when this is selected.
P/T	Only those attributes which would be found in the Pan Tilt attribute group will be updated when this is selected.
Color	Only those attributes which would be found in the Color attribute group will be updated when this is selected.
Gobo	Only those attributes which would be found in the Gobo attribute group will be updated when this is selected.
Zoom/Prism	Only those attributes which would be found in the Zoom/Prism attribute group will be updated when this is selected.
Effects Speed	Only those attributes which would be found in the Effects/Speed attribute group will be updated when this is selected.
Framing	Only those attributes which would be found in the Framing attribute group will be updated when this is selected.
Defilter	Pressing this button will clear all selected filters from the Filter Category

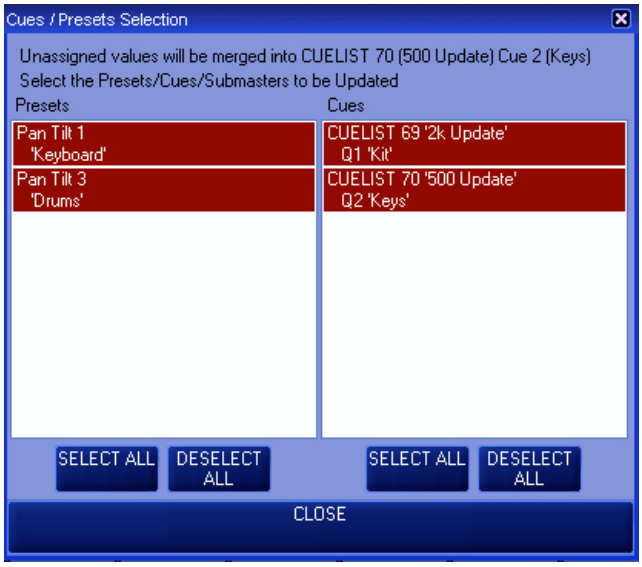
DEFAULT CATEGORY

Again, this category is consistent in behavior with the Record Options window.

Set	Pressing this button will cause the Maxxyz 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	Pressing this button will cause the Record Options window to return to it’s default filter setting.

The "More..." Function

This pop up window is required for determining and controlling which presets and cuelists will be affected by an Update function.



This list will automatically populate with all active cues and presets of assigned values that have been altered in the programmer. If only unassigned values are in the programmer, this list will be blank, but we can see at the top of the screen what will happen with those unassigned values. In this example, we can see that they will be merged into cue 2 (Keys) of cuelist 70 (labeled 500 Update). This is because cuelist 70 is the selected cuelist and cue 2 is the current active cue in that list.

We can deselect whichever presets or cuelists we wish and they will not be altered. Note that if we were to deselect both of the cuelists in the example above, they would still be altered as they contain the Keyboard and Drums presets. However, if we were to deselect the presets, only the cues would be updated.

Update Function Examples

Below are a few examples of the Update functions discussed above. To follow these examples, it is recommended that you create two different cuelists.

- Cuelist 1 - Label: 2k Update. Contents: 3 cues using all Mac2k's from demo file. Each cue should have all 2k's at 100% intensity and focusing on either the drummer, guitar or keyboard and need to be positioned using the pan/tilt presets. Use no other attributes!!
- Cuelist 2 - Label: 500 Update. Contents: same as above, but using Mac 500s.

Example 1: Assigned vs. Unassigned Values

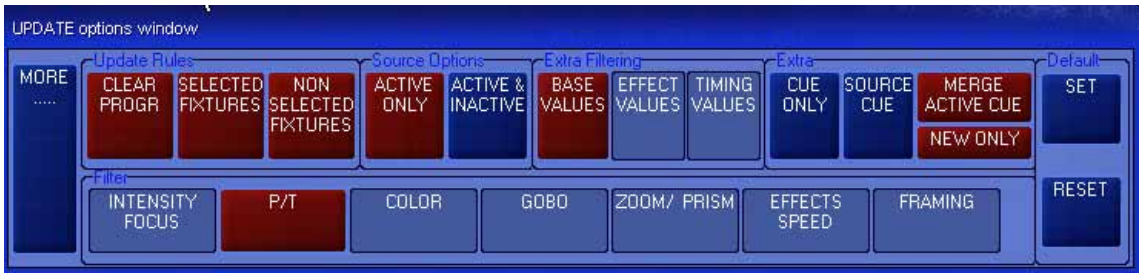
This example will help clarify the difference between assigned and unassigned values.

<u>Updating Using Assigned Values:</u>

1. Deselect any active cuelists (no inverse fields on the LCD playback keys).
2. Play cue one from your 2k Update cuelist.
3. Play cue 2 from your 500 Update cuelist.
4. Select one or more of your 2k fixtures and adjust the pan/tilt enough so that you can see the difference.

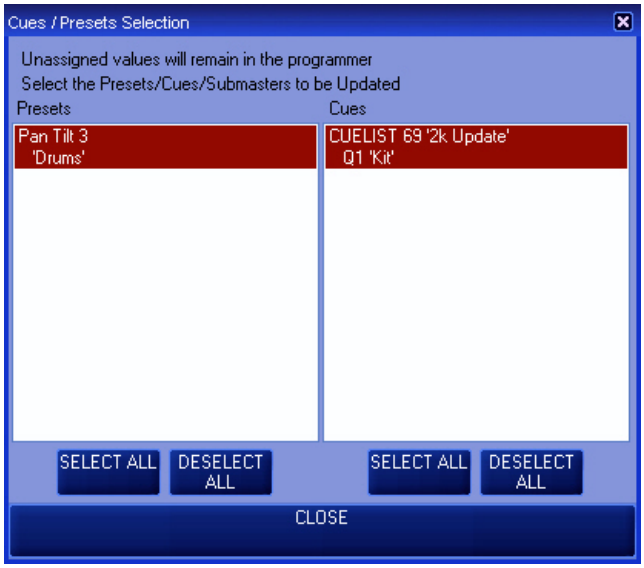
5 Press Update

You'll see the Update Options window:



You'll note that only the "P/T" filter is currently highlighted as that is the only attribute type that has been changed.

6 Press "More..."



Since the pan/tilt attribute of one or more of the 2k's was changed and, since the values were previously recorded in this active cue (i.e. "assigned"), we can now update those changes in either the cue, the preset, or both. You can also see that these changes will not have any impact on the 500's as they were left in their original focus.

7 Press either "Pan Tilt 3 - Drums" or "Deselect All" at the bottom of the preset column.

8 Press "Close."

9 Press either Update or Enter to complete the command.

The programmer is cleared and we have now changed the contents of the cue, but left the preset that served as the source for the cue's pan/tilt information untouched. To confirm this,

10 Select all 2k's

11 Press "Drums" (or appropriate preset) on the Pan Tilt preset page.

The 2k's should return to their original position.

12 Press "Update Update" or "Update Enter" to restore the cue to it's original look.

<u>Updating Using Unassigned Values:</u>

1 Select the "2k Update" cuelists to make it active (press the playback LCD key).

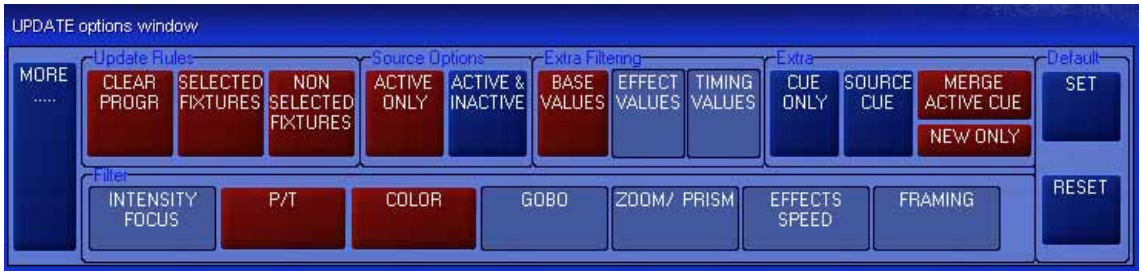
2 Play cue one from your 2k Update cuelist.

3 Play cue 2 from your 500 Update cuelist.

4 Select one or more of your 2k fixtures and one or more of the Mac 500's and adjust the pan/tilt enough so that you can see the difference.

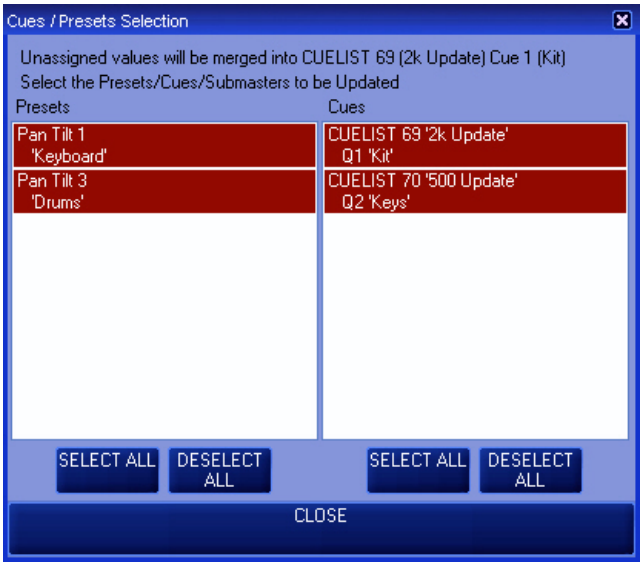
5 Change the color attributes on both the 500's and the 2k's.

6 Press Update.



You can see that both the P/T and Color attribute groups have been automatically selected.

7 Press "More...."



Since both the 500's and the 2k's were moved, we can see that both of the cuelists and both of their respective Pan/Tilt presets are now in the selection list. At the top of the list, we are told that all unassigned values will be merged into cue 1 of the 2k Update cuelist.

8 Press "Close."

9 Press either Update or Enter to complete the command.

If you now release the 2k Update cuelist, you will see that the not only do the 2k's fade, but the 500's also return to open white. This is because the colors that were added were unassigned values; they didn't exist in either the cuelists or the presets that were active. Pressing go on the 2k Update cuelist will add the color and the 2k beams back to the stage.

EXAMPLE 2: SOURCE CUE

To show the function of Source Cue, first select a fixture and bring it to 50%. Record it into a new cuelist 10 times to make ten identical cues numbered one through 10.

1 Go to cue five in that cuelist (select the cuelist and press **Cue 5 Enter**).

2 Select the fixture you used to create the cuelist and bring it to 100% intensity.

3 Press Update

4 Under the "Extra" category, press "Source Cue."

5 Press Update or Enter to complete the command.

By viewing the Cuelist Values window, you can see that not only have the cues that follow cue 5 been updated to an intensity of 100%, but so have all the cues before it since the Source Cue was cue one.

EXAMPLE 3: CUE ONLY

Using the same cuelist as before with the levels still at 100%:

1 Go to cue five in that cuelist (select the cuelist and press **Cue 5 Enter**).

2 Select the fixture you used to create the cuelist and bring it to 50% intensity.

3 Press Update

4 Under the “Extra” category, press “Cue Only.”

5 Press Update or Enter to complete the command.

By again viewing the Cuelist Values window, you can see that while cue 5 has been changed to a level of 50%, all other cues in the cuelist remain at 100%. Also note that the 100% value in cue 6 is shown in white which indicates that it is now a source and all cues following it are tracking that value.[1]

EXAMPLE 4: NEW ONLY

In this example, we’ll once again use our 2k Update and 500 Update cuelists.

1 Go to cue one in the 2k Update cuelist.

2 Go to cue three in the 500 Update cuelist.

3 Make the 500 Update cuelist the active cuelist by pressing the LCD key.

4 Select the 2k fixtures and adjust the pan/tilt enough so that you can see the difference.

5 Press Update.

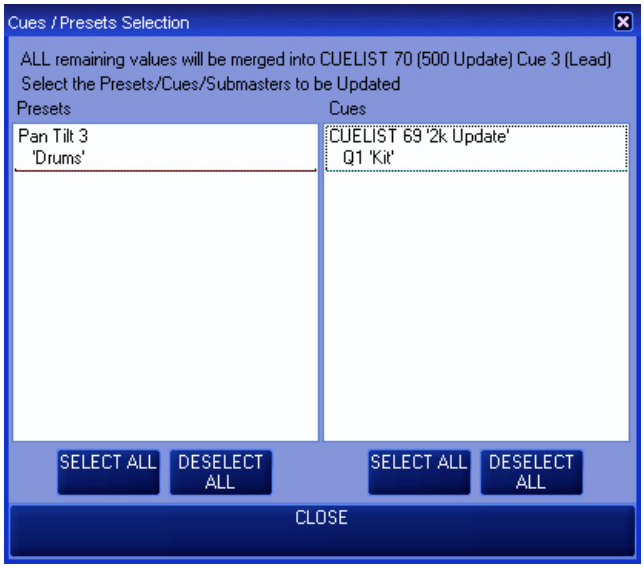
6 Deselect “New Only.”

You’ll recall that by default, assigned values will only update back to the preset or cue where they were recorded. By deselecting “New Only” though, we now make *all* values in the programmer available.

7 Press “More....”

1.You can also use “Cue Only” and “Source Cue” together to change only those cues that occur *before* the currently active cue. Those cues that follow the active cue will remain at their earlier levels.

8 Deselect the presets and the 2k Update cuelist as shown below.



9 Press “Close.”

10 Press either Update or Enter to complete the command.

The pan/tilt attributes of the 2k’s have now been merged into the 500 Update cuelist. To confirm, release the 500 Update cuelist and you will see the 2k’s return to their previous position.

EDIT

As noted earlier, the Edit command can be used to modify an existing cue. Once a cuelist is selected, pressing **Edit Cue 1 Enter** will load that cue into the programmer. Note that this will of course bring that cue up on stage. Once you have made any changes desired, you can press **Update Enter** to save the changes in the programmer to the cue you are editing. For more information, please see “Loading the Programmer Using Edit” on page 88.

WORKING WITH CUES

The primary method of playing back looks on the Maxxyz console is by the use of cues. Cues are recorded into cuelists which are then assigned to playback faders. The Maxxyz console uses a Last Takes Precedence (LTP) methodology of determining the values for the various fixture attributes. In an LTP console, a distinction is made between “zero” and “no value,” also know as “null.” Stated simply, an LTP console will not change an attribute unless specifically instructed to. If a cue specifically states that fixture 1 has an intensity of zero, then that value will be generated by the console and sent to the fixture over the DMX cable. If however a cue is executed that contains color information but no *specific* intensity information, then that fixtures color will change, but the intensity will continue at whatever level it was at previously and will remain at that level indefinitely until it receives a specific command to change. Maxxyz also makes no differentiation as to where the information comes from[1]. It can come from any cue on any cuelist of an equal or higher priority[2] in any playback fader. Last Takes Precedence.

PLAYBACK CONTROLS

There are 10 sets of LED Keys, Hard keys and motorized faders in the Playback Controls. Each of these controls pertains to an individual cuelist.

The LCD Key at the bottom is color coded and contains the cuelist text or label. The colors found on the LCD Key are as follows:

- Not lit - No cuelist is loaded into the Playback Control
- Orange - Cuelist is loaded and available, but is not currently running or fading a cue.
- Green - Cuelist is loaded and a cue is currently fading in that cuelist.
- Red - Cuelist is loaded and is actively controlling fixtures, but is not fading them.

1.The exception to this is the programmer which always takes precedence over any other control with the exception of the Grand Master, A & B Group masters and Sub/Group master cuelists depending upon their configuration.
2.See “Cuelist Options” on page 148 for information on cuelist priorities.

- Inverted Text - Inverted text (clear text on a shaded background) indicates that this is the selected cuelist.

  Directly above the LCD Key is the fader. The fader controls the intensity values of the fixtures in the assigned cuelist. By default, the fader will automatically return to it's last position when changing between playback pages.

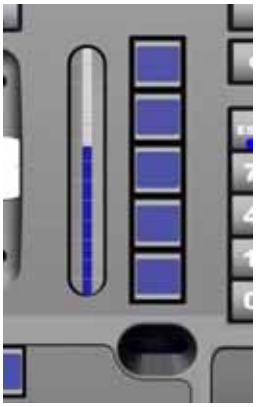
  The top button on the Playback Control (with the blue LED) is the Go button for that specific cuelist. The button directly below the Go button is referred to as the "Default Button" and can be programmed to perform a number of different functions. This button is configured in the Cuelist Options screen. For more information, please see "Changing the Cuelist Type and Options" on page 148.

SELECTING A CUELIST

Only a cuelist that is selected can be modified or viewed on in the Cuelist display and only one cuelist may be selected at any given time. Note that a cuelist needn't be selected in order to be playing back the cues it contains. To select a cuelist, press the LCD button at the bottom of the desired Playback Control. The LCD will invert it's display (clear lettering on a darkened background) to indicate that it is currently selected.[1]

PLAYBACK COMMAND

Located to the right of the playback faders and the left of the main keypad is the playback command. The playback command consists of 5 LCD keys, one jog wheel, and one track belt.



The playback command is used for manipulating cuelist information. The information and type of control exerted by the playback command is dependent upon the active cue type. The possible cue types that determine the information displayed are: 1) None, 2) Cuelist, 3) Chase, 4) Override, 5) Sub/Group Dim and 6) Timecode. (For information on cue types, please see "Working With Cues" on page 127.)

1.When recording the first cue into a new cuelist, that cuelist is automatically selected.

DISPLAYS WHEN CUELIST TYPE IS "NONE"

When no cuelist is selected, the playback command LCD keys contain the following information:

LCD Key	Legend Page 1
LCD Key 1	Next Bank
LCD Key 2	Prev Bank
LCD Key 3	Bank...
LCD Key 4	Delay
LCD Key 5	Fade

LCD KEY DEFINITIONS

Next Bank Pressing this key will advance the playback fader bank by one.

Previous Bank Pressing this key will decrement the playback fader bank by one.

Bank... By pressing this key and a number between 1 and 100, you will jump to that bank.

Delay This button is used in the setting of delay offsets for "fanning" the timing of selected attributes.

Fade This button is used to set the "Fade In" time of a specified attribute.

DISPLAYS WHEN CUELIST TYPE IS "CUELIST"

When you have selected a cuelist of the type "Cuelist," the playback command LCD keys contains the following information[1]:

LCD Key	Legend Page 1 (default)	Legend Page 2
LCD Key 1	Next Bank	Release
LCD Key 2	Prev Bank	---
LCD Key 3	Bank...	---
LCD Key 4	Delay	Pause Back
LCD Key 5	Fade	Go

1.The jog dial found at the bottom of the LCD keys is used to change the pages of the LCD keys.

LCD Key Definitions

Note that definitions given earlier are not repeated here.

Release Pressing release will cause the selected playback fader to release control of all associated fixtures.

Pause Back When this key is pressed once, the selected cuelist will stop it's fade. Pressing it a second time will cause the previous cue to be activated.

Go Pressing this button will cause the next cue in the selected cuelist to execute.

Displays When Cuelist Type is "Chase"

When you have selected a cuelist of the type "Chase," the playback command LCD keys contain the following information:

LCD Key	Legend Page 1(default)	Legend Page 2
LCD Key 1	Next Bank	Release
LCD Key 2	Prev Bank	Rate BPM
LCD Key 3	Bank...	XFade%
LCD Key 4	Delay	Pause Back
LCD Key 5	Fade	Go

LCD Key Definitions

Note that definitions given earlier are not repeated here.

Rate BPM Pressing this key activates the track belt and allows you to dynamically change the rate, measured in beats-per-minute, of the selected chase cuelist.

XFade % Pressing this key activates the track belt and allows you to dynamically change the proportion of the crossfade between cues that will be used when moving from one cue in a chase to the next of the selected cuelist.

Displays When Cuelist Type is "Override" or "Timecode"

When you have selected a cuelist of the type "Override" or "Timecode" the playback command LCD keys contain the following information:

LCD Key	Legend Page 1(default)	Legend Page 2
LCD Key 1	Next Bank	Release
LCD Key 2	Prev Bank	---
LCD Key 3	Bank...	---
LCD Key 4	Delay	Back
LCD Key 5	Fade	Go

Displays When Cuelist Type is "Sub/Group Dim":

When you have selected a cuelist of the type "Sub/Group Dim" the playback command LCD keys contain the following information

LCD Key	Legend Page 1(default)
LCD Key 1	Next Bank
LCD Key 2	Prev Bank
LCD Key 3	Bank...
LCD Key 4	Delay
LCD Key 5	Fade

THE “MAIN GO” BUTTONS

Aside from the individual playback faders, Maxxyz provides a location for controlling a “main” cuelist.

When a cuelist is set “as Main” the Go and Pause/Back buttons in the Main Go area will execute cues in that cuelist (see “Cuelist Directory” on page 177 for information on setting a cuelist as the “Main” cuelist).

Also in this area are the Release key and the Snap key. The Snap key can be used to override the cue timings in a cuelist and force the cue to execute in a time of zero.

SNAP KEY

The Snap key can be used to override the timings of previously recorded cues. There are a number of different functions assigned to the Snap key, all of which are dependent on what other key it is used in conjunction with. In all cases, the Snap key must be pressed and *held* while the other key is then pressed.

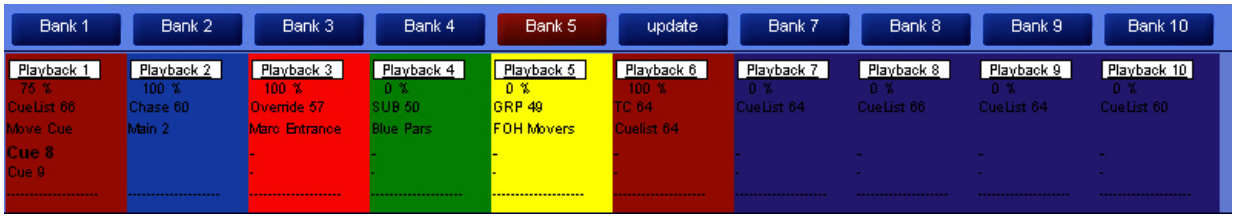
Key used with Snap	Result
Any Go button	Cuelist will advance in time zero
Any Pause/Back button	Cuelist will return to previous cue in time zero
Cue xx Enter	The selected cuelist will advance to specified cue in time zero
Release (REL)	Releases ALL active cuelists (except those set to “Ignore Global Release” (see “Default Release Time” on page 153) by first fading intensity to zero and then returning all other attributes to their default[a]

a. Note that it is also possible by first pressing and holding Release and *then* Snap to release all attributes, including intensity, simultaneously.

PLAYBACK PAGES (BANKS)

Maxxyz supports 100 Playback pages called “Banks”. Each bank contains 10 cuelists that correspond to the 10 Playback Controls. The bank list is found at the bottom of the programmer touch screen. To change banks, use the vertical jog wheel found to the left of the Playback

Control LCD keys, the Playback Command LCD, or touch the Bank label on the touch screen. The active bank is highlighted in red and displayed at the bottom of the Playback Touch Screen.



In the screen shot above, we can see that the console is currently in Bank 5 (highlighted in red). For each playback, we can see the cuelist name, the relative intensity that the cuelist will be playing back at and, when selected (as playback one is above), the currently active and next cue in the cuelist. The bank display also provides color coded information about the playback faders associated with that particular bank.

- Dark Red: A standard or timecode cuelist is loaded in this playback (note that if a timecode cuelist is selected, other changes in the Playback Touch Screen will make that apparent).
- Light Blue: A chase is loaded in this playback
- Bright Red: An override is loaded in this playback.
- Green: This cuelist is acting as a submaster
- Yellow: this cuelist is acting as a group master
- Dark Blue: No cuelist is loaded in this playback.

For more information on cuelist types, please see “Changing the Cuelist Type and Options” on page 148.

Labeling a Bank

It is possible to change the default label (Bank x) by using the following procedure:

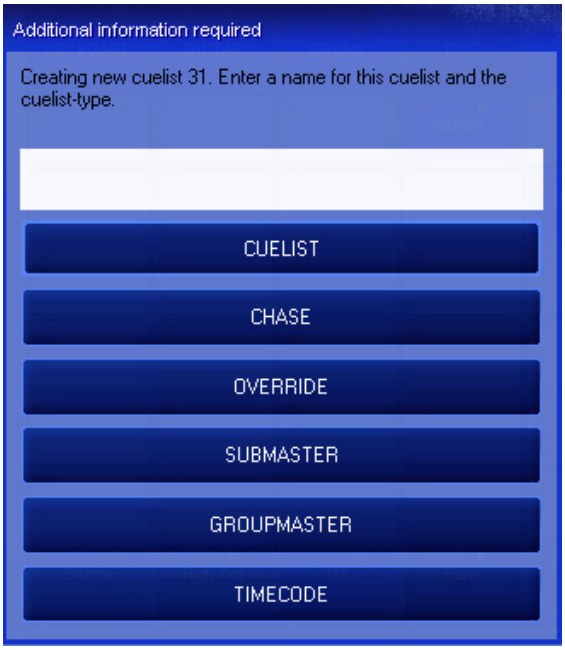
1. Go to the bank whose label you wish to change.
2. Press and hold **Edit**
3. Press **Bank...** on the Playback Command LCD.
4. Enter the text you wish using the keyboard.
5. Press **Enter.**

Creating and Working with Cuelists

The Cuelist window is the primary tool used by Maxxyz for manipulating cue data. You can access the Cuelist window by pressing the associated view key over the playback touch screen. In order to properly examine the Cuelist window, first create a cuelist in playback one with 5 cues using the following directions:

1. Select a group or groups of fixtures and focus them.
2. Press the “Record” key on the keypad.
3. The “Record Cue Options” window will open.

4 Press the LCD key under playback fader 1 (the furthest left fader). The following pop-up window will appear:

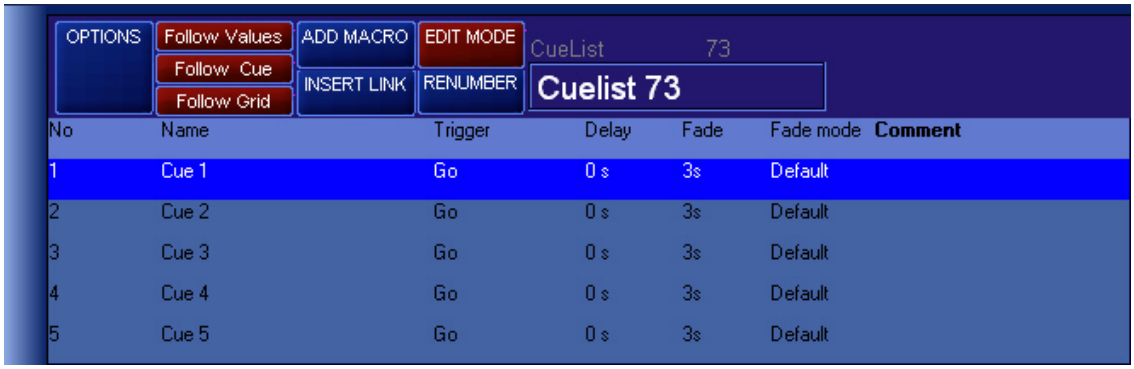


5 At this point you may provide the cuelist with a label using the built-in keyboard. If left blank, the cuelist name will default to the cuelist number. For now, leave this field blank.

6 Select a cuelist type of “Cuelist” and playback fader 1 will automatically become the selected cuelist. By default, the motorized fader will raise to full, the LCD key will light in orange with reversed text, and cue 1 will be recorded into the playback.

7 Change the attributes on the selected fixtures and repeat steps 1-4 until you have a total of 5 cues.[1]

When finished, the Cuelist window will look similar to this:



Cuelist Touch Screen Buttons

The Cuelist touch 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 “Changing the Cuelist Type and Options” on page 148)

1.Note the “Cuelist Types” pop-up window will only appear when the first cue in a new cuelist is created.

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 detail in “Using Macros” on page 162.
Insert Link	This button is discussed in detail in “Linking Cues” on page 172
Renumber	When selected (highlighted in red) this button allows for the renumbering of cues as described on page 118. When deselected, pressing or clicking on the cue numbers in the cuelist will load the information for the selected cuelist into the “Cuelist Values” screen.
Edit Mode	Finally, to the far right is the “Edit Mode” button. This button locks access the Name, Trigger, Delay, Fade, Fade Mode and Comment cue modifiers thereby preventing accidental changes to the cue. By default, the button is locked (blue). To unlock the cue modifiers, simply press the “Edit Mode” button and it will turn red. 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 it’s state (locked or unlocked) regardless of the cuelist or view displayed.

Following those 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 desired cuelist by pressing the appropriate LCD key

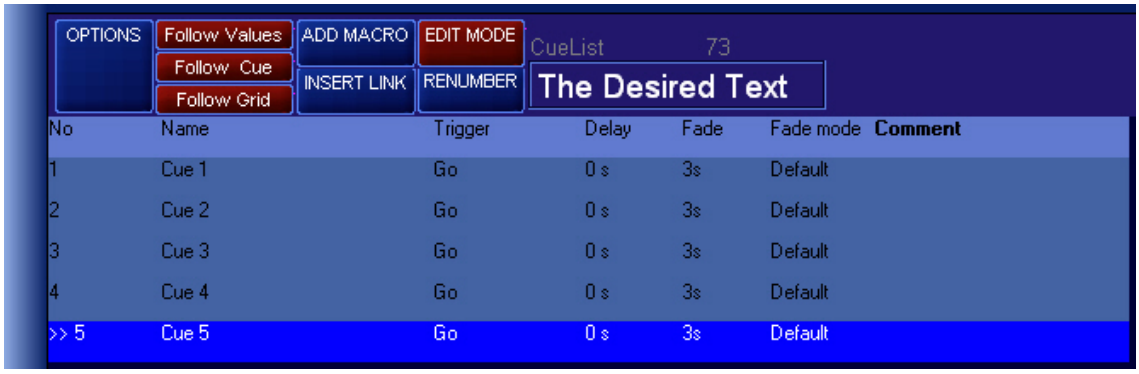
3 Select the default text (Cuelist xx) by touching or clicking on the text on the touch screen.

4 The text will highlight in red.

5 Using the keyboard, enter the desired text.

6 Press **Enter** and the cuelist will be relabeled.

Note that the new label is also displayed in the appropriate playback LCD key and that the cuelist number, found above the label on the touch screen remains unchanged.



CUELIST COLUMN HEADERS

Just below the Cuelist Screen Buttons are seven columns, each of which provide specific information about the cue.

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” on page 145.

Delay Any delay time is displayed here. For further information, see “Setting Cue Timing” on page 137. Note that an “Override” column will be added to the right of the Delay column if a Delay Override is recorded into the cue.

Fade The fade time of the cue is displayed here. For further information, see “Setting Cue Timing” on page 137. Note that an “Override” column will be added to the right of the Fade column if a Fade Override is recorded into the cue.

Fade Mode: There are 3 modes available. Each of them deals with how the snap or fade of attributes is processed. (See “Attribute Control” on page 69 for more information on snap and fade.)

- **Default Fade** All attributes in the cue will use snap or fade as denoted in the programmer touch screen.
- **Snap All Channels** When this option is selected, any fade attributes recorded into the cue will be overridden and will execute in a snap (zero) count.
- **Fade All Channels** When this option is selected, any attributes set as snap attributes will be overridden and will fade according to the cue or attribute timing.

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 desired cuelist by pressing the appropriate LCD key
3. With Edit Mode enabled, select the default text (Cue xx) by touching or clicking on the text on the touch screen.
4. The text will highlight in red.
5. Using the keyboard, enter the desired text.
6. Press **Enter** and the cue will be relabeled.

LABELING A COMMENT

1. Ensure that “Edit Mode” is active
2. Select the desired cuelist by pressing the appropriate LCD key
3. With Edit Mode enabled, select the comment to be edited by touching or clicking on the text on the touch screen.

4 The column will highlight in red.

5 Using the keyboard, enter the desired text.

6 Press **Enter** and the comment will be applied.

Setting Cue Timing

The Maxxyz console 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 in 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 Maxxyz console allows the use of "base" times for it's 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" on page 138.) The default base time is 3 seconds. Unless otherwise specified, all attributes will fade in 3 seconds. This 3 second default can be changed in the Cue Options page (page 148). Using cuelist 24 as the example, 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 main keypad, type **5 Enter**.

The cell will now show a time of 5 seconds.

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".

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 Maxxyz 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) key

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. The range for these times is between 0 seconds to one hour. These times override the base cue timing and are set through the programmer controls. For our example, we'll use cue 1 with a base time of 5 seconds but we're gong to change the intensity timing to zero using the following procedure:

1 Select the desired cuelist.

2 Select the fixtures who's fade time you wish to change.

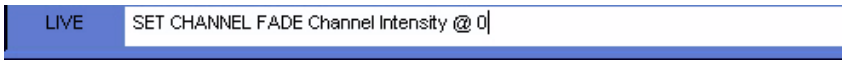
3 Select the attribute group with the desired attribute in the programmer controls LCD buttons. Use **Dim/Focus** for this example.

4 Press the **Fade** LCD key in the Playback Command

5 Press the hard key directly below the desired attribute label in the touch screen. For this example, use **Intensity**.[1]

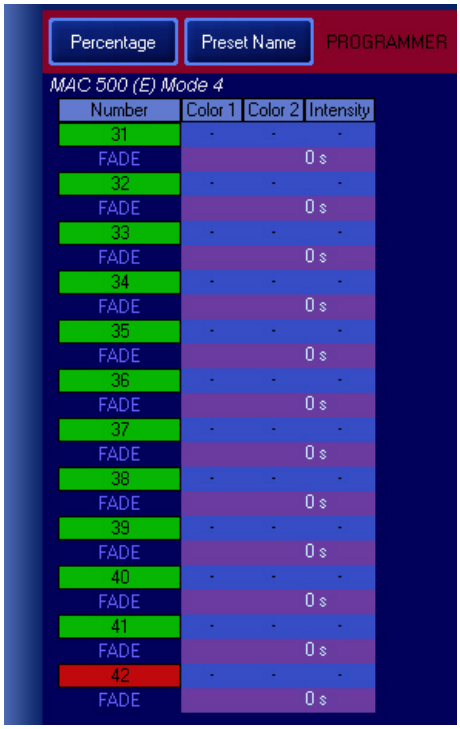
6 Press "**0**" on the keypad.

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



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.:



Here we can see that fixtures 31-42 have fade times of zero seconds (0 s) 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. To finish the process:

8 Press **Record Cue 1 Merge Enter**

1.Note that it is important to select the appropriate attribute group before pressing the "Fade" key. Pressing the attribute group LCD key after pressing the Fade key will result in the entire attribute group being put into the command line. This will disallow the selection of a specific attribute from within that group.

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

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.

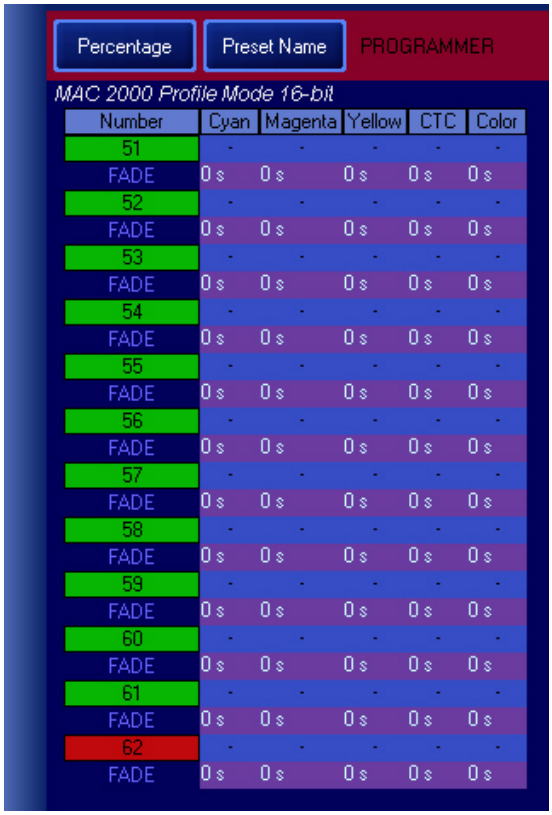
2 Select the fixtures you wish to change.

3 Press the “**Fade**” LCD key in the Playback Command.

4 Press the “**Color**” LCD in the programmer command.

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 window:



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 it's 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 odd numbered MAC 2k's will move 2.5 seconds after the even MAC 2k's by using the following procedure:

1 Select the desired cuelist.

2 Press the **"M2kP E2"** group button to select the fixtures

3 Press the "**Pan/Tilt**" programmer controls LCD button.

4 Press the **Delay** LCD key in the Playback Command.

5 Press **2.5 Enter** to set the pan and tilt delay to 2.5 seconds

We can now see that the Pan, Tilt, and Pan/Tilt Speed attributes of the odd MAC 2k'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 it's delay time set by pressing the hard key 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 Maxxyz console 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 it's 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 demo file.

1 Select group **"Mac2k Profile" Full**

2 Press **Record** and a blank Playback LCD to create cue 1 in a new cuelist.

3 Press the "Pan/Tilt" programmer controls LCD button.

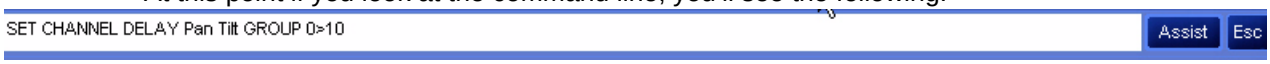
4 Using the trackbelt below the "Tilt" legend in the programmer touch screen, focus the MAC 2k's downstage.

5 Press the **Delay** LCD key in the Playback Command.

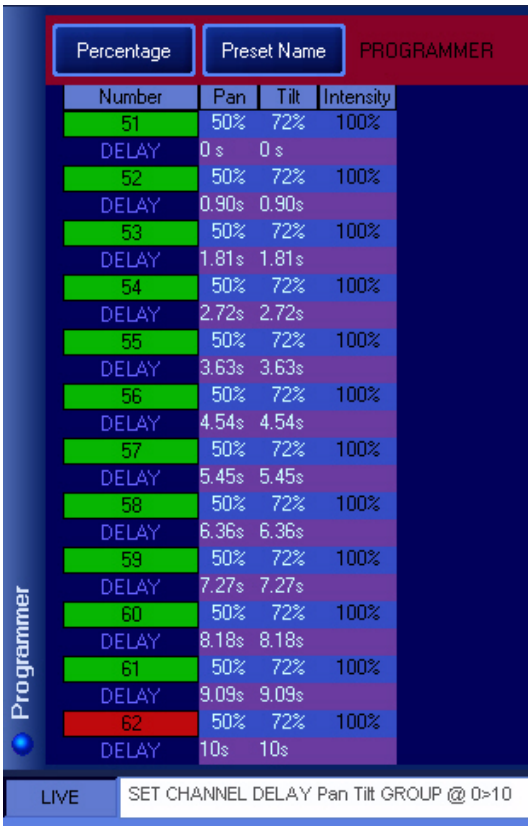
6 Press the **Pan/Tilt** LCD key in the programmer controls.

7 On the main keypad, press **0 Thru 10.**

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



8 Press **Enter**.



By looking at the programmer, you can see that the delay time of zero to 10 seconds has been evenly distributed across the 12 fixtures.

To complete this operation,

9 Press **Record** and the Playback LCD used to create cue 1

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

Delay Fanning from Multiple Points

In much the same way that a standard fan is created, you can use 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 Press the **Delay** LCD key in the Playback Command.

3 Press the **Pan/Tilt** LCD key in the programmer controls.

4 On the main keypad, press **0 Thru 5 Thru 0 Enter.**

5 Press **Update Enter.**

Now, when cue 2 is executed, you will see that the fan begins from the beginning and end of the selected fixtures and works it's 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 cuelist window showing the override time(s) for the affected cue(s).

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 it is not possible to see which fixtures are affected, at least one attribute of one fixture will be affected whenever the override column is displayed.[1] Changing these times is done in much the same way that a base fade or delay time is changed.

<u>To change "standard" override</u>

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**

<u>To change "ranged" overrides</u>

1 Select the fade or delay ranged time (such as 0s>>5s in the example above) by pressing or clicking on it

2 Enter the new lower range

1.To see which fixtures have overridden the base timing, use the Edit function to load the cue into the programmer.

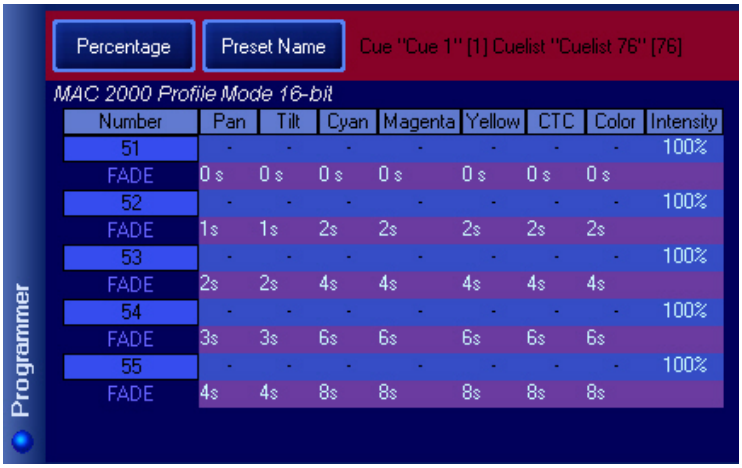
3 Press **Thru**

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.

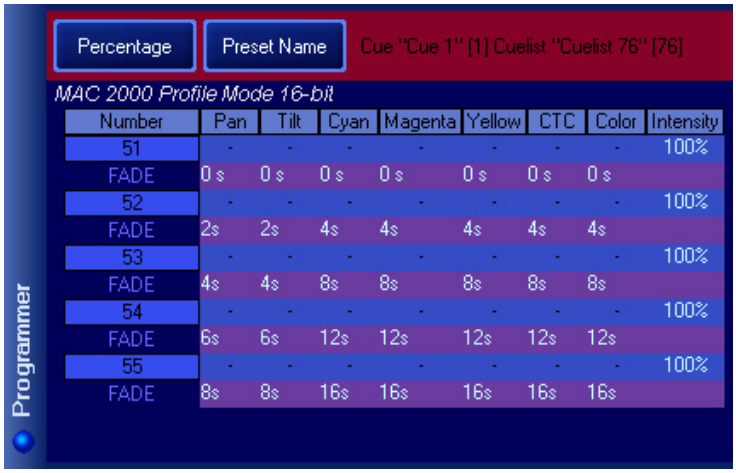
For example: select five fixtures and assign their color attributes to a fade of zero to eight and their pan/tilt attributes to a fade of zero to four and record this as a cue. When we press **Edit Cue 1 Enter** we will see programmer and cuelist screens similar to this:



Number	Pan	Tilt	Cyan	Magenta	Yellow	CTC	Color	Intensity
51	-	-	-	-	-	-	-	100%
FADE	0 s	0 s	0 s	0 s	0 s	0 s	0 s	
52	-	-	-	-	-	-	-	100%
FADE	1s	1s	2s	2s	2s	2s	2s	
53	-	-	-	-	-	-	-	100%
FADE	2s	2s	4s	4s	4s	4s	4s	
54	-	-	-	-	-	-	-	100%
FADE	3s	3s	6s	6s	6s	6s	6s	
55	-	-	-	-	-	-	-	100%
FADE	4s	4s	8s	8s	8s	8s	8s	

No	Name	Trigger	Delay	Fade	Override	Fade mode	Comment
1	Cue 1	Go	0 s	3s	0 s >> 8s	Default	

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:



Number	Pan	Tilt	Cyan	Magenta	Yellow	CTC	Color	Intensity
51	-	-	-	-	-	-	-	100%
FADE	0 s	0 s	0 s	0 s	0 s	0 s	0 s	
52	-	-	-	-	-	-	-	100%
FADE	2s	2s	4s	4s	4s	4s	4s	
53	-	-	-	-	-	-	-	100%
FADE	4s	4s	8s	8s	8s	8s	8s	
54	-	-	-	-	-	-	-	100%
FADE	6s	6s	12s	12s	12s	12s	12s	
55	-	-	-	-	-	-	-	100%
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 all of the fade overrides in that cue 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) key

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" on page 96).

To remove overrides from some fixtures in a cue:

1 Press the **Load** key

2 Selected the desired fixtures

3 Press **"@"** (at) **Cue xx** where "xx" is the cue number to be altered

4 Press the **Clear** key

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 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. Maxxyz 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. 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 LCD playback 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 is complete. 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*.

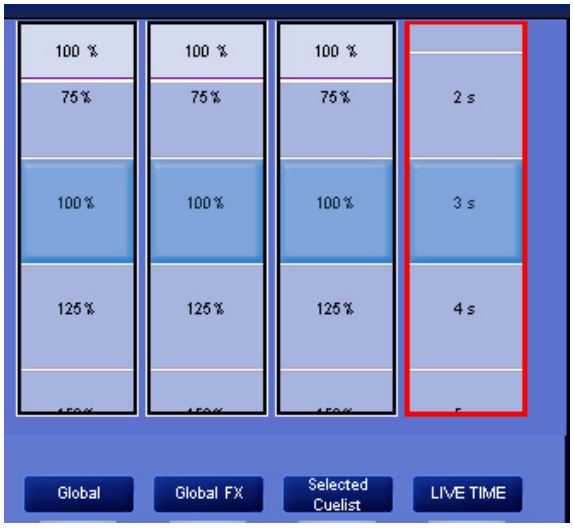
The procedure to set a follow trigger is the same as that used in setting a wait trigger except that in step 5, press the **Follow** button.

Changing Global Cue Timing

The Maxxyz console allows you to change the timings on previously recorded cuelist and on “Live” moves using the Global Cue Timing features. 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 key found on the extreme right bank of 5 LCD keys (just below the effects LCD keys).

Each of the four Global Cue Timing functions shown above correspond to the trackbelts 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 touchscreen labeled “100%” for the first three functions.

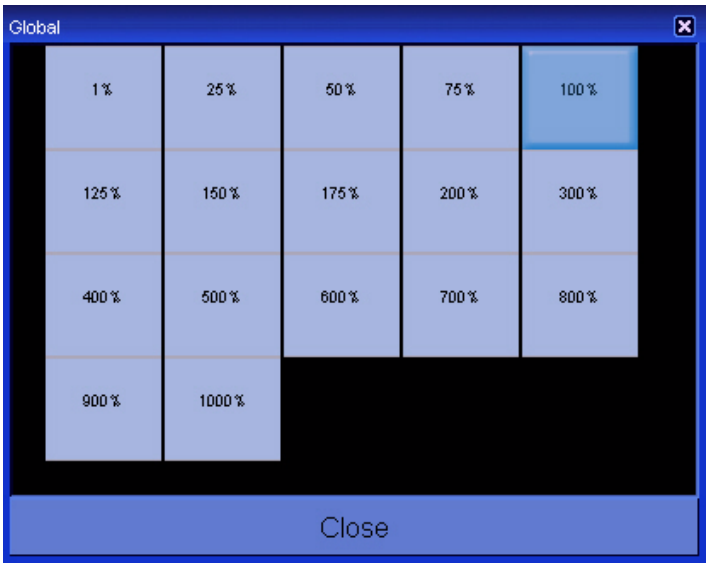
Note that when a change is made to the default settings, a red box appears around the appropriate function to indicate it has been changed as shown with “Live Time” below:



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 trackbelt to adjust the timing.



GLOBAL FX

Similar to the Global function discussed above, the “Global FX” adjusts the speed of all affect 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

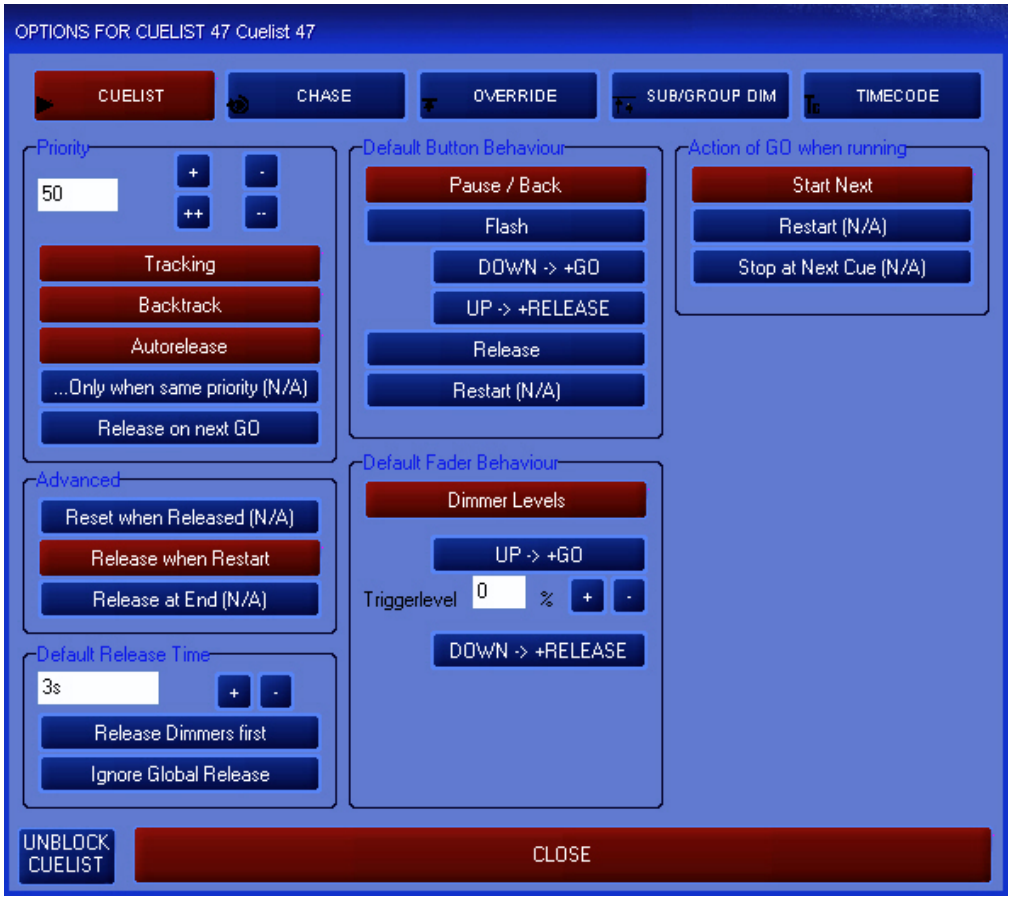
Live Time does not affect the timing of cues, but rather affects the speed at which changes in the programmer happen on stage. In earlier version of Maxxyz software, all moves in the programmer happened in a “snap” (time zero). This remains the default setting on Maxxyz, but it is now possible to have the changes made in the programmer fade in rather than snap. This can be particularly useful when transitioning from Blind to Live. Also note that when clearing the programmer, this time will be applied. The range can be set from 0 to 10 seconds.

Cuelist Options

Changing the Cuelist Type and Options

As mentioned earlier, Maxxyz supports several different cue types. “Cuelist,” the default, we have been working with. We’ll now look at the other cue types “Chase,” “Override,” “Sub/Group Dim,”

and “Timecode” and how they can be configured. To change the cuelist type, press the “Options” button in the upper left hand corner of the Cuelist view and the Cuelist Options window will open.



There are five cuelist types listed across the top of the screen. We can see that the selected type (in red) is “Cuelist.” Each of the cuelist types will be examined below.

Below the cuelist types are several other settings that may be applied to the cuelist. These settings are dynamic and will change depending on the cuelist type that is selected. Some of these features are not yet implemented and are denoted by “(N/A)”. Only those features that are implemented in the current software will be discussed here.

Common Cuelist Option Groups

Their are 6 Cuelist Option Groups that are constant, regardless of cuelist type selected. Each of these groups is listed below. The groups that are specific to a certain cuelist type will be discussed later in the manual.

Priority	Aside from setting the priority level of a cuelist, this group contains selections that determine the behavior of a cuelist when it’s contents are overridden by another cuelist.
Advanced	This section determines the behavior of a cuelist when it reaches it’s last cue. Currently, there is only one option.
Default Release Time	Here it is determined what effect the Release button will have.
Default Button Behavior	The button directly below the go button for each cuelist is referred to as the “Default Button.” There are many different options for this button that are determined here.

Default Fader Behavior	The behavior of the cuelist fader/slider is determined here.
Action of GO when running	Currently only supporting one option, this is where the functionality of the go button is determined.

PRIORITY CUELIST OPTION GROUP

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

Priority

The Maxxyz 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. We will use the demo file and patch in the examples below.

Example 1: Executing a higher priority cuelist first when the lower priority cuelist is a subset of the higher

1 Select all 2K's, bring them to full and focus them on the keyboard. Set the magenta attribute to full. Do not change any other attributes and then record as cue 1 in a new cuelist. We will leave these at the default cuelist priority of 50. This will be our "Keyboard" cuelist.

2 Clear the programmer.

3 Select all 2k's, bring them to full and focus them on the drummer. Do not change any other attributes. Record as cue 1 in a new cuelist. This will be our "Drummer" cuelist.

4 Clear the programmer.

Note: Cue 1 in both the "Keyboard" and "Drummer" cuelists have the same fixtures and both have position information for those fixtures. However, cue 1 in the "Keyboard" cuelist also contains color information. Therefore, the contents of cue 1 of "Drummer" are a subset of the contents of cue 1 in "Keyboard," the superset.

5 Open the cuelist options for the drummer cuelist.

6 Set the priority to 40 and press close.

7 Press Go on the Keyboard cuelist (higher priority)

8 Press Go on the Drummer cuelist (lower priority)

The fixtures do not move as the higher priority preset maintains control.

9 Release the Keyboard cuelist.

The fixtures move to cue 1 of the Drummer cuelist.

10 Press Go again for the Keyboard cuelist.

11 Release the Keyboard cuelist.

You'll note that the fixtures have returned to their home position. This is because on the second execution of the Keyboard cuelist (the superset), the subset cuelist (Drummer) was released. For more information, please see the following section on Autorelease.

Example 2: Executing a lower priority cuelist first when the lower priority cuelist is a subset of the higher

Using the cues created above:

1 Press Go on the Drummer cuelist.

2 Press Go on the Keyboard cuelist.

3 Press Release on the Keyboard cuelist.

The fixtures do not return to the Drummer cuelist as the Drummer cuelist was a subset. Pressing Go on the Drummer cuelist will not affect the fixtures.

Example 3: Using priorities with two cuelists that are subsets of each other.

Using the cues created above:

1 Edit cue 1 of the Drummer cuelist and add a gobo to all the 2k's.

2 Press Go on the Drummer cuelist.

3 Press Go on the Keyboard cuelist.

You can see that the gobo information has been carried over into the Keyboard cuelist. Pressing Go on the Drummer cuelist will have no effect as the Keyboard cuelist is at a higher priority level and controls the pan/tilt and color attributes.

4 Release the Drummer cuelist.

You can see that the gobos are no longer used.

5 Press Go on the Drummer cuelist.

6 Release the Keyboard cuelist.

Color and position information have been returned to the control of the Drummer cuelist.

Tracking (default On)

As mentioned earlier, the Maxxyz console is, by default a tracking console. That is to say that when a change is made, it tracks that information forward though 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.

Backtrack (default On)

As mentioned earlier, the Maxxyz 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.

Autorelease (default On)

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

Example with Autorelease 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, Autorelease 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 it's 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 Autorelease 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, Autorelease 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 it's 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 Autorelease to function in the manner described above, the cue in cuelist B must contain <u>all</u> 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.

ADVANCED CUELIST OPTIONS

In the current version of software, there is only one active option in the Advanced Cuelist Options.

Release when Restart	By default, Release when Restart is on. This function deals with the state of attributes when they finish the last cue in a cuelist and return to the first cue in the cuelist. By default, any changes made to any of the attributes will not be tracked back through cue one when the cuelist restarts. For example: **With Release when Restart ON** The first cue in the cuelist has all fixtures in open white The last cue in the cuelist has all fixtures in red. When the cuelist cycles back to the top, all fixtures will be returned to open white. **With Release when Restart OFF** The first cue in the cuelist has all fixtures in open white The last cue in the cuelist has all fixtures in red. When the cuelist cycles back to the top, all fixtures will remain red.

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.

Default Release Time (default 3 seconds)	Using the “+” and “-” keys, you can change the release time from it’s default.
Release Dimmers First (default Off)	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.
Ignore Global Release (default Off)	When selected, global release commands, such as “Snap/Release” or “Release/Snap” (page 132) are ignored.

DEFAULT BUTTON BEHAVIOR

This selection area allows for the toggling of several different settings, “Pause/Back,” “Release” and “Flash.” This setting pertains to the behavior of the button located directly below each playback “Go” button.

Pause/Back: (default)	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. 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.
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 with “DOWN -> GO”	When “DOWN->GO” is selected, pressing the default 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 with "UP->RELEASE"	When "UP->RELEASE" is selected, pressing the default button *down* will drive the current cue to full, regardless of the position of the fader and will then Release the cuelist as you release the button (and it goes *up*).
Release	When selected, the default button will act as an additional means of releasing the cuelist.

DEFAULT FADER BEHAVIOR

In the current release of software, the only thing that will be affected by the fader (except in an Override cuelist) is the intensity level. However, this can be modified.

"UP -> GO"	When selected, the next cue in the cuelist will be executed following the time set in that cue every time the fader moves from zero to 1% or higher (unless the Trigger level is changed).
"DOWN -> RELEASE"	When selected, the cuelist will be released following the release time that is set whenever the fader reaches zero (again, unless the trigger level is changed).
Trigger Level	Using the "+" and "-" keys, you can change threshold at which the "Up Go" and "Down Release" functions are activated

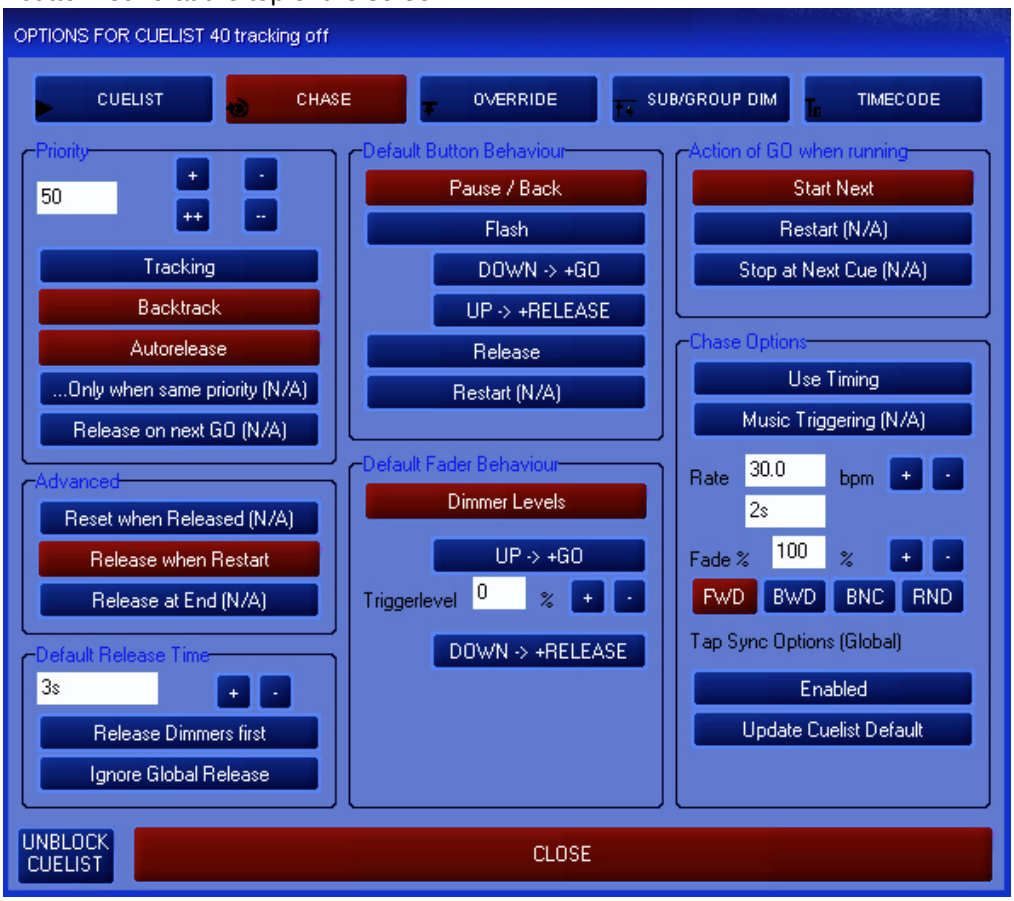
These features are particularly useful when working with Override cues.

UNBLOCK CUELIST

As mentioned earlier, the Maxxyz is a 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.

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 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 cuelist screen. When the Cuelist Options window opens, press the “Chase” button found at the top 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 30 bpm or 1 step every two seconds. You can increment or decrement the bpm by using the “+” and “-” soft keys 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 keys to the right of the Fade% display. You can also use the Playback Command trackbelt to alter this value.

FWD (default)	These button refers to the progression of the cues through the cuelist. When selected, the cuelist will progress from the first to the last cue and then loop back to the top of the cuelist 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 cuelist first in forward and then in reverse. In a 4 cue cuelist, 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 Synch 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 Synch” 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 Maxxyz console will automatically determine the BPM and adjust the speed of the chase accordingly.

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 Synch feature is used, it is an override to the recorded timing of the cuelist and is not, buy default recorded. When selected, the “Update Cuelist Default” *will* record and recall the timing that was previously set using Tap Synch.

While the Fade% and BPM settings can be changed “live” using the trackbelt (see“Displays When Cuelist Type is “Chase”” on page 130), 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 trackbelt.

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

OVERRIDE

An Override cue breaks the convention of an LTP console. (See “Working With Cues” on page 127 for more information on LTP.) A cue set as a type Override will maintain control of it’s associated channels regardless of any other control with the exception of the programmer, the grand master and any group masters. Do note however that one Override cue can be overridden by another Override cue in what might be described as Last Override Takes Precedence. Override cues do not make use of cuelist priorities; all Override cuelists are of the same priority.

To create an override cue perform the following steps:

1 Clear the programmer if necessary.

2 Select all fixtures and set to full intensity.

3 Load the Pan/Tilt attribute group into the programmer.

Your programmer should look something like this:

Number	Pan	Tilt	Intensity
1	50%	50%	100%
2	50%	50%	100%
3	50%	50%	100%
4	50%	50%	100%
5	50%	50%	100%
6	50%	50%	100%
7	50%	50%	100%
8	50%	50%	100%
9	50%	50%	100%
10	50%	50%	100%
11	50%	50%	100%
12	50%	50%	100%
13	50%	50%	100%
14	50%	50%	100%
15	50%	50%	100%
16	50%	50%	100%
17	50%	50%	100%
18	50%	50%	100%
19	50%	50%	100%
20	50%	50%	100%
21	50%	50%	100%
22	50%	50%	100%

4 Record the contents of the programmer to an available playback and set the type to “Override.”

5 Clear the programmer.

You have now created your override cue. To view the effects of the override, perform the following steps:

1 Start the chase created earlier (or any other cue) by pressing the appropriate go key[1].

2 Play the override cue by pressing the appropriate go key.

You’ll note that the Override cue has taken control of the pan, tilt and intensity attributes of all fixtures. Other attributes such as color, gobo, iris, etc. are unaffected. Note that you can master the amount of control the override exerts by raising and lowering the corresponding playback fader.

3 Release the override cue or pull fader down.

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

Override cues can also benefit significantly in functionality by changing the default fader behavior (page 154).

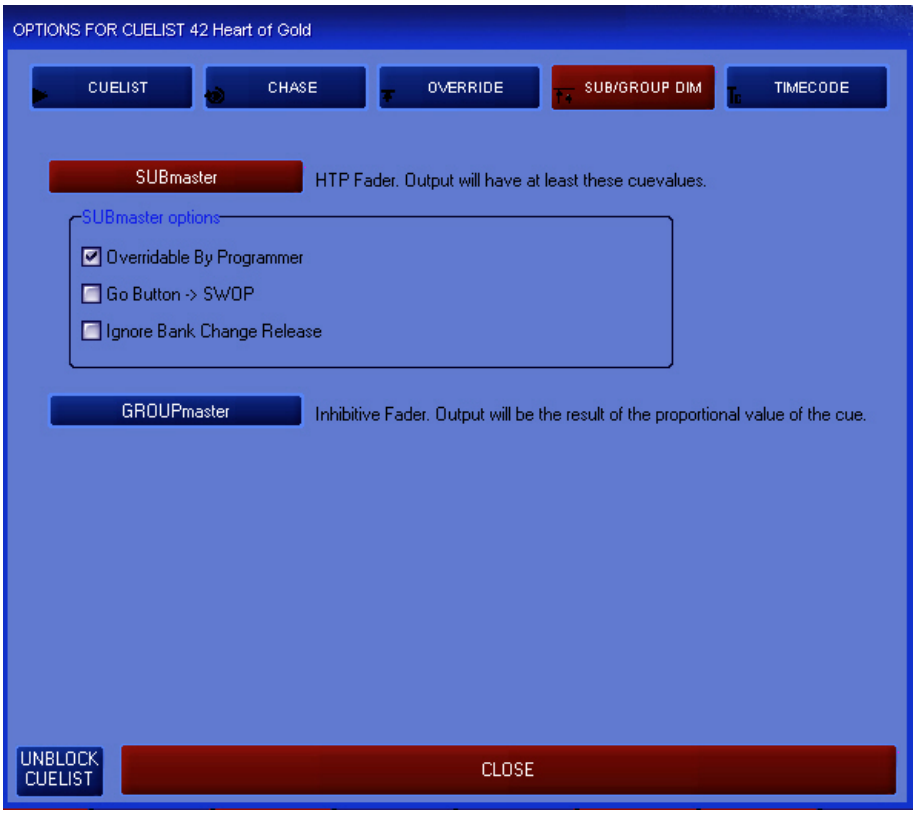
SUB/GROUP DIM

The Sub/Group Dim cuelist type allows you to set the cuelist to one of two cuelist types: submaster or group master. Both types of cuelists affect only the intensity attribute. Both cuelist types will control only those fixtures that are contained in cue 1 of the cuelist.

Note! Neither Submasters nor Group Masters are affected by the Release key.

1.For the best effect, use a cuelist that does not have fixtures at 100% intensity and 50/50 pan/tilt.

When you select the Sub/Group Dim cuelist type, you will be presented with the following screen:



SUBMASTER

When the cuelist type is set to Submaster, the intensity information of cue 1 in that cuelist will be controlled by the associated fader. As the fader is raised, the intensity will raise to the values recorded in the submaster. Other groups or cuelists 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 *higher* 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.
Go Button -> SWAP (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.
Ignore Bank Change Release (default OFF)	Related to the “Global Show Settings” functions (see page 183 “Include Submasters” for more information), selecting this setting will allow the submaster to remain at it’s current level when you change banks. When selected (and appropriately configured in the Global Show Settings), the submaster will go to zero when you change banks.

GROUP MASTER

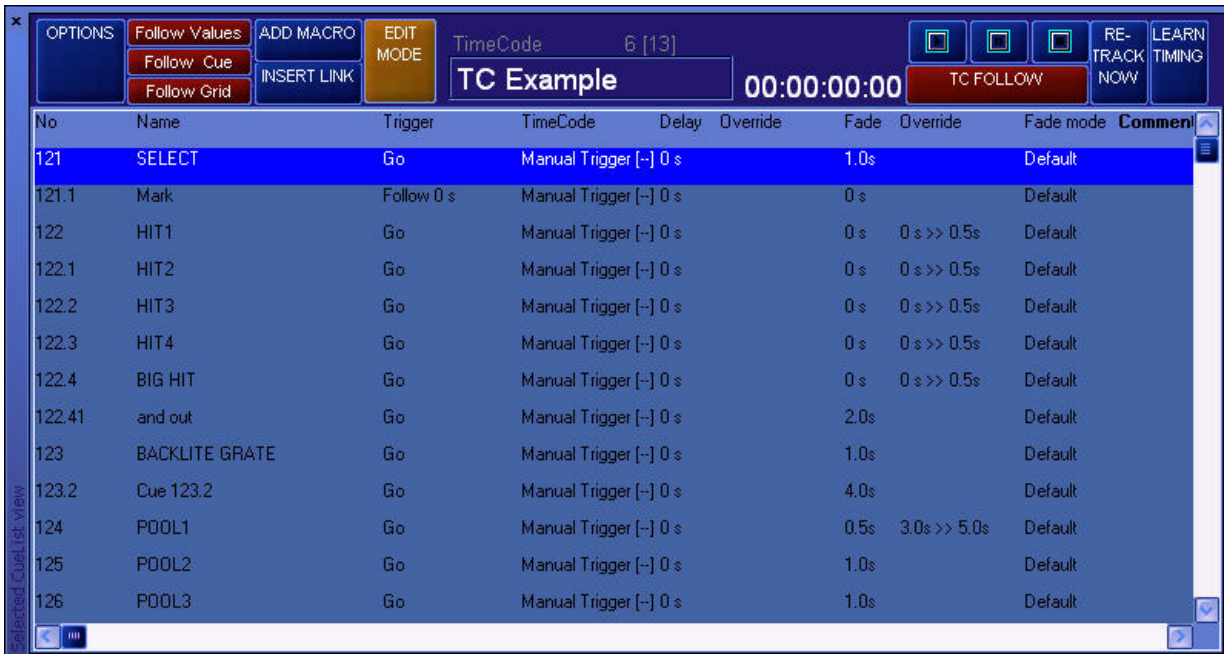
The Group Master is an inhibitive submaster. It can not be used to raise the level of the fixtures it contains, but the position of it's associated fader will determine the output of the fixture(s) that are recorded in cue 1 of the Group Master cuelist. For example, if a fixture is in a cuelist at 100%,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

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

TIMECODE

The Maxxyz console allows for the connection to an external time clock for the synchronized triggering of cues. Currently, MIDI and SMPTE timecodes are supported. When you select the Timecode cuelist type, you will note the following box appears in the Cuelist Options window:

Here you may select SMPTE 30 NDF (non-drop frame), Internal SMPTE, Net SMPTE or MIDI TC. Net SMPTE is not currently supported. After you have made your selection, press "Confirm" to set the cuelist to the desired timecode source. Once this is done, you will notice that the cuelist has changed to reflect it's status as a timecode cuelist.



No	Name	Trigger	TimeCode	Delay	Override	Fade	Override	Fade mode	Comment
121	SELECT	Go	Manual Trigger [--]	0 s		1.0s		Default	
121.1	Mark	Follow 0 s	Manual Trigger [--]	0 s		0 s		Default	
122	HIT1	Go	Manual Trigger [--]	0 s		0 s	0 s >> 0.5s	Default	
122.1	HIT2	Go	Manual Trigger [--]	0 s		0 s	0 s >> 0.5s	Default	
122.2	HIT3	Go	Manual Trigger [--]	0 s		0 s	0 s >> 0.5s	Default	
122.3	HIT4	Go	Manual Trigger [--]	0 s		0 s	0 s >> 0.5s	Default	
122.4	BIG HIT	Go	Manual Trigger [--]	0 s		0 s	0 s >> 0.5s	Default	
122.41	and out	Go	Manual Trigger [--]	0 s		2.0s		Default	
123	BACKLITE GRATE	Go	Manual Trigger [--]	0 s		1.0s		Default	
123.2	Cue 123.2	Go	Manual Trigger [--]	0 s		4.0s		Default	
124	POOL1	Go	Manual Trigger [--]	0 s		0.5s	3.0s >> 5.0s	Default	
125	POOL2	Go	Manual Trigger [--]	0 s		1.0s		Default	
126	POOL3	Go	Manual Trigger [--]	0 s		1.0s		Default	

Timecode Cuelist Header

You will note several additions to the header information in a Timecoded 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.
Retrack Now	It is possible to use the Go button to manual execute cues in a timecoded cuelist. When doing this, you may advance in the cuelist to a point where you are ahead of the timecode. Pressing “Retrack Now” will resynchronize the cuelist with the incoming timecode signal.
Learn Timing	When selected and a timecode source is present, pressing the Go button for the timecode cuelist will automatically capture the timecode time that the cue was executed and save it with the cue for later playback.

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. Maxxyz 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 minute and 15 frames press **1 1 5 Enter**.

- To set the time to 11 hours, press **1 1 0 0 0 0 0 0**.

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

- 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 **- - Enter**.

Timecode and Other Triggers

A timecoded cuelist 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 cuelist. Pressing Go will manually advance the cuelist. When the timecode then “catches up” to your position in the cuelist, 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 cuelist 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 cuelist (ex: **Copy Cue x Thru y @ “LCD key”**) the selected cues will be copied to the designated cuelist but *without* the attached SMPTE timings. To keep the timings with the cues, go to the Cuelist Directory window and in that window copy the entire cuelist as a new cuelist.

USING MACROS

Macros are a device used to trigger a cuelist or event from a standard or timecode cuelist[1]. The Macro is inserted into the cuelist and will automatically trigger when the cue directly above it is executed. With the current version of software, it is possible to trigger only one Macro per cue. You can however trigger multiple macros by creating a cue for each macro. When doing so, it is recommended that you set a follow time of at least ".1" seconds for each cue.[2]

MACRO TYPES

The Maxxyz console 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
Select Main	Changes the cuelist assigned to the Main Go area.
Go to Bank	Loads the specified bank onto the playback faders. When selected, the option of changing the bank on the main console (default) or an attached Maxxyz 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 Maxxyz Playback Wing Manual.
Script Execute	This option is for application specific instances only. Please contact Technical Support for more information.
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. For more information, please see "Mastering the Level of a Cuelist Using a Macro" on page 164.
MIDImacro	A MIDImacro allows you to use MIDI to trigger cuelists and accomplish other functions. For more information, refer to "MIDI Macro" on page 165.
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.

1.Macros will not work when contained within a Chase, Override, or Sub/Group Dim cuelist.
2.This will prevent the console from attempting to simultaneously execute several different Macros which can have a negative impact on console speed performance.

Macro Type	Action
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 Maxxyz Playback Wings that may be attached.

CREATING A MACRO

To use a macro in a cuelist, follow this procedure:

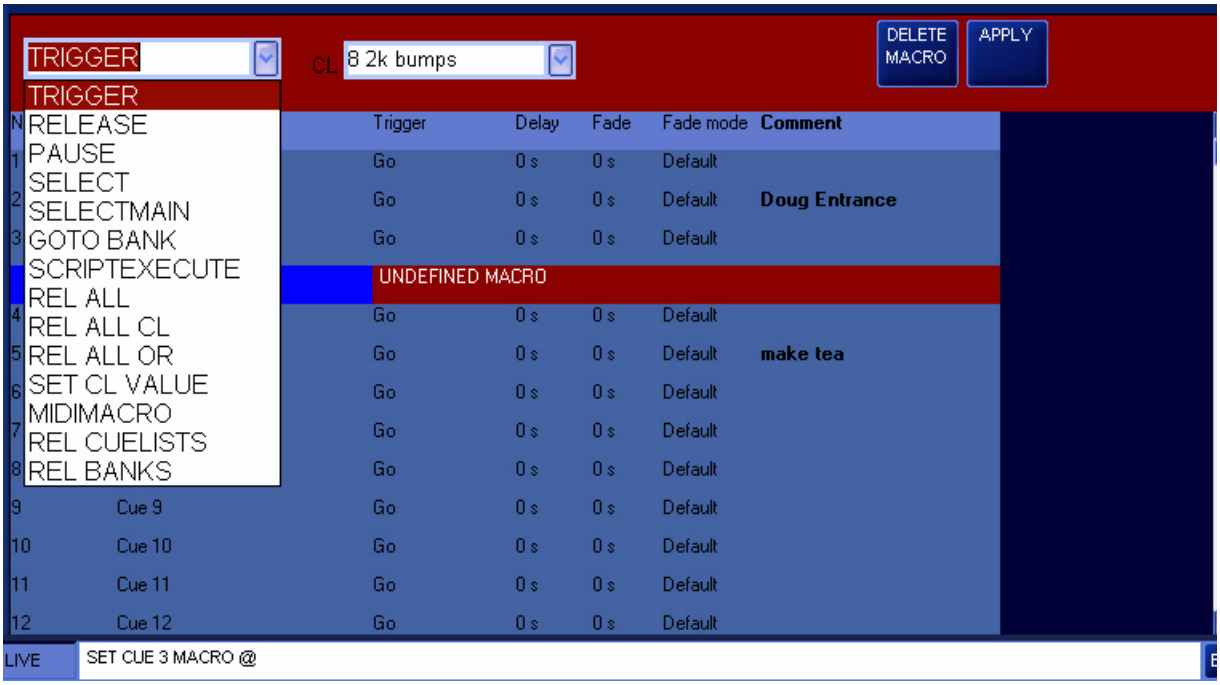
1 Select the desired cuelist and view it in the Cuelist window.

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 Select “Add Macro” at the top to the cuelist. The macro will be added directly below the selected 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.

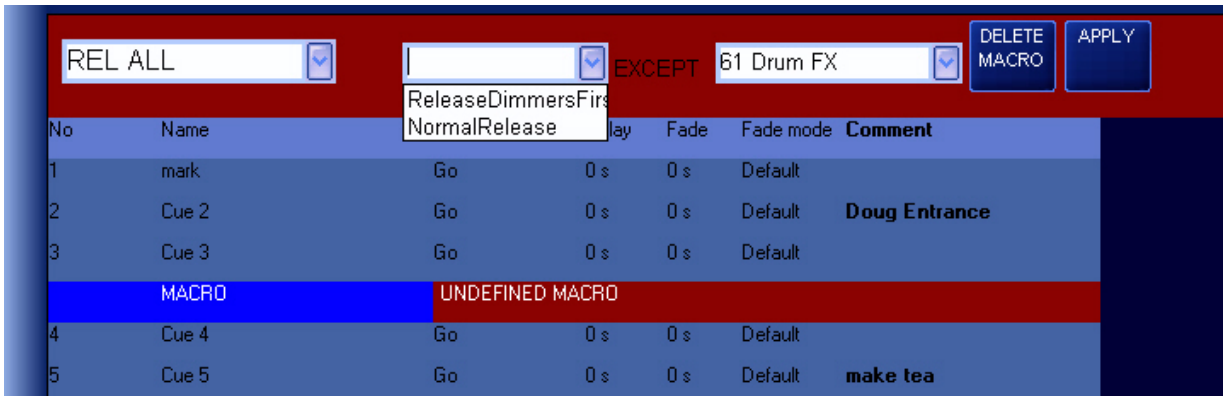
6 From the right pull down menu select any cuelist.

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 "Cuelist Options" on page 148). The final dropdown allows you to specify a single cuelist that will not be affected by the macro.

Deleting or Editing a Macro

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 Cuelist window.

2 Press the macro action (the cell that contains the macro type followed by the cuelist number).

3 To edit the macro, enter any changes in the trigger or cuelist selection then press apply.

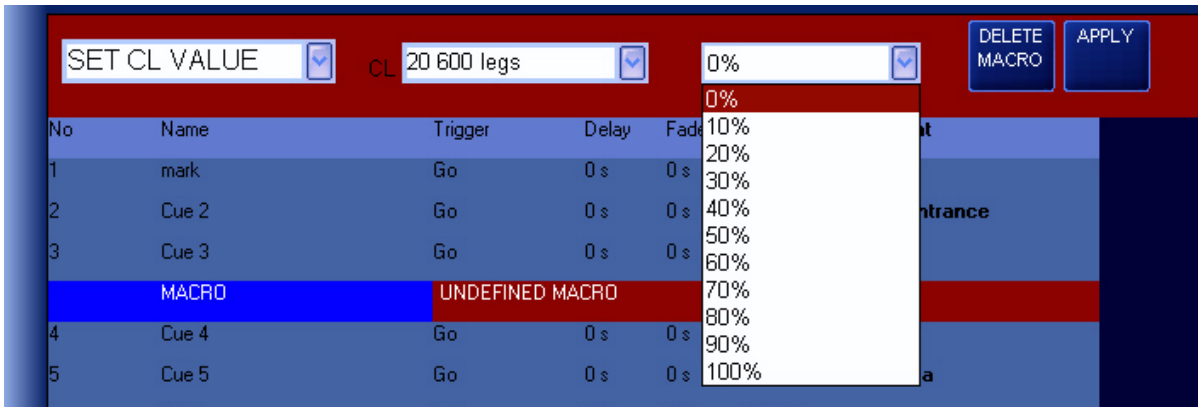
4 To delete the macro, press "Delete Macro."

5 The edits to the macro will be applied.

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 on the current cuelist, the intensities of all fixtures in all cues of cuelist 44 will be reduced by 50% of their recorded value.

MIDI Macro

The Maxxyz console 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.

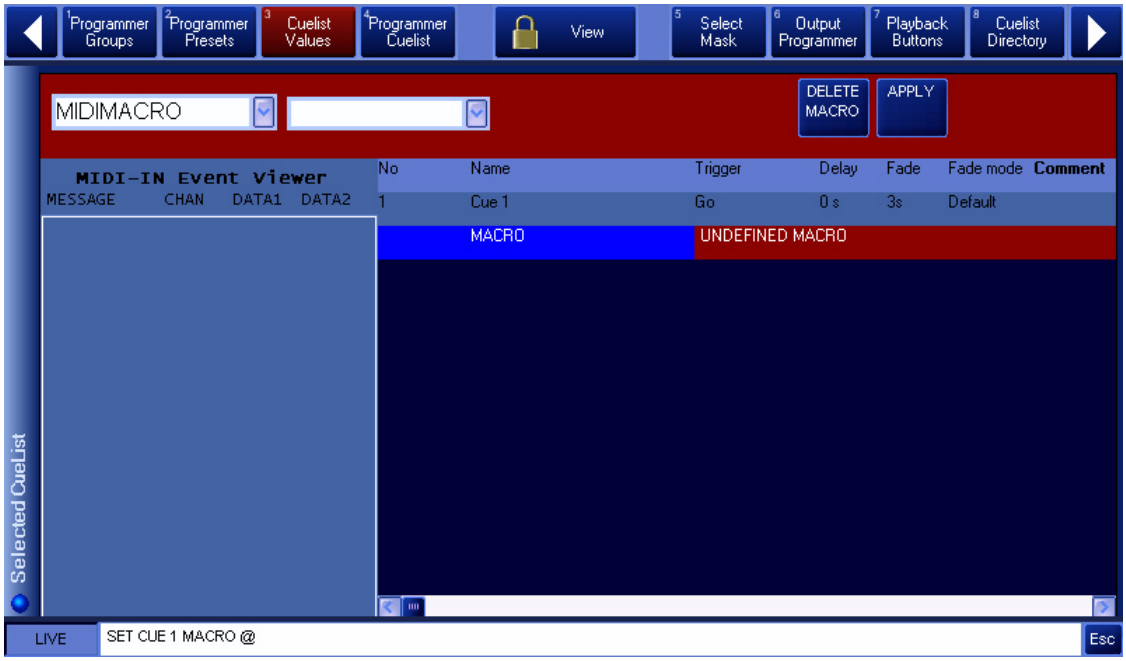
MIDIMacro Physical Connection

On the back of the Maxxyz console, there is a MIDI A in and out port and a MIDI B in and out port. These ports are identical in function. The in ports connect to the output from the MIDI generating device (synthesizer, PC, etc.). Both the A input and B input will accept incoming MIDI messages. Please note the the Maxxyz console does **not** differentiate between a message on the A port and a message on the B port. An incoming message on either port will be treated exactly the same. The A output port will send out only those messages that come in on the A input port. The same applies to the B output port. That is to say that the Maxxyz does not generate MIDI messages, but does pass them along for processing by other MIDI equipment in the system.

MIDIMacro 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.

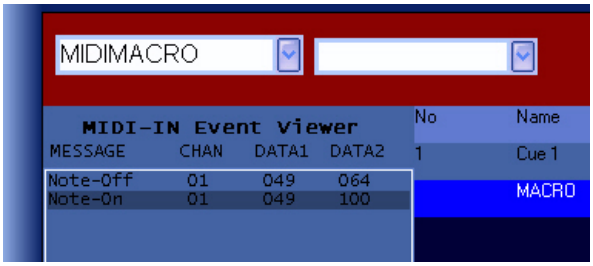
Message Under this column, you will find what type of MIDI message has been received by the Maxxyz console such as “Note On,” “Note Off,” etc.

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 Maxxyz display is numeric from 0-127 while MIDI protocol is frequently shown as hexidecimal (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.

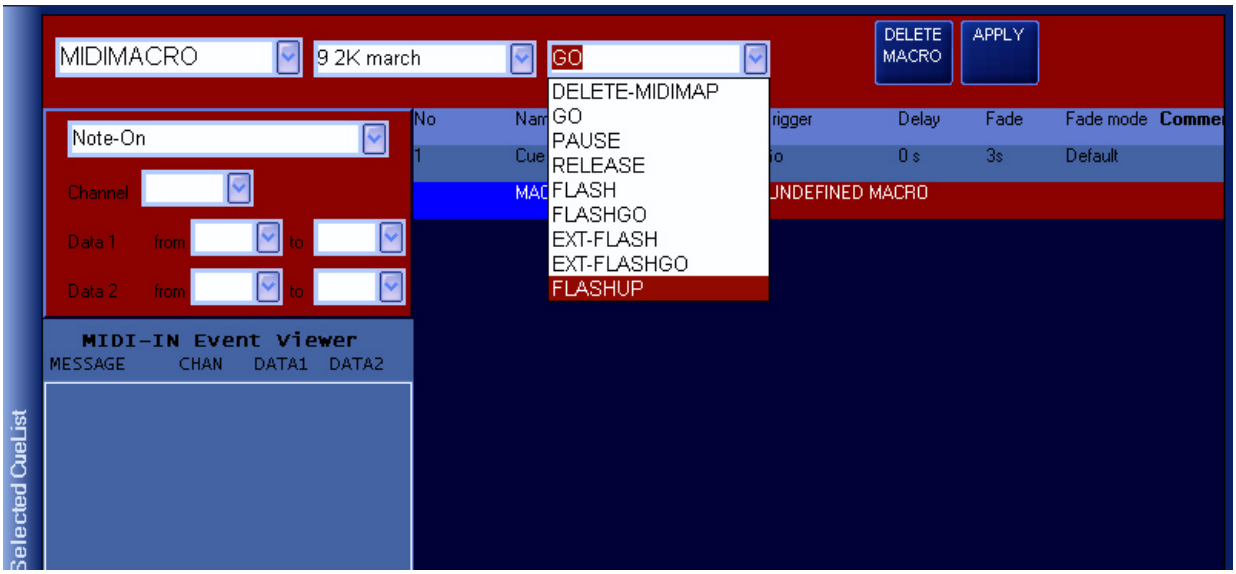
Once you have your MIDI In Event Window open, you can then test your physical connection by playing a note on your keyboard. If your connection is good, the note played will will be displayed in the Event Window.



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 049 (C#) and Data 2 was 100 (on). The second message was the same except for Data 2 which was 064 (off).

The dropdown menu to the right of the macro type dropdown window contains the various cuelists that the MIDImacro can be assigned to as well as 5 “global” MIDImacros.

The five global MIDImacros will be discussed later in this manual (see “Global MIDImacros” on page 170). Once you select the cuelist you wish to manipulate with the specific MIDImacro you are programming, the screen will change and present you with more options:



To the right of the cuelist selection dropdown menu is the MIDImacro action dropdown 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.

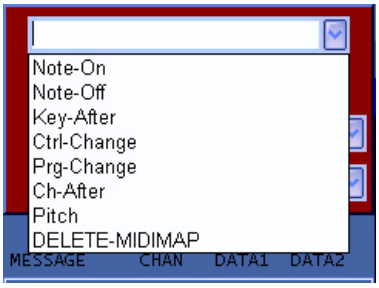
Ext Flash	This is similar to a Flash command, except that the level of the flash is determined by the information in the Data 2 field. For example, if you wanted a cue to flash to 50%, you would use a command with Data 2 at 64[a] such as a Note Off command.
Ext FlashGo	Similar to the FlashGo listed above 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.

a. 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 MIDImacros regardless of the setting of the “default button” in Cuelist Options (see“Default Button Behavior” on page 153).

You will also notice that when you select a cuelist for your MIDImacro to control, another window opens directly below the macro type selection window and above the event viewer. This window determines what type of MIDI command will act as the trigger for the macro.

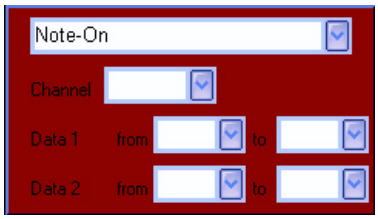
At the top of this section is a dropdown menu with eight MIDI commands.



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.[1] For our purposes, we'll use "Note On."

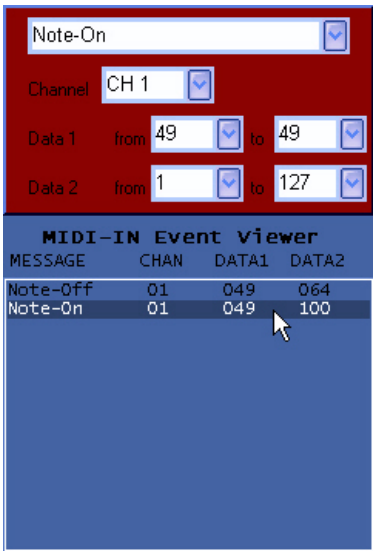


Below the MIDI command selection dropdown menu are five smaller dropdown menus:

Channel	As mentioned earlier, MIDI supports 16 discreet channels. You can use this pull down menu to determine which channel the Maxxyz console will "listen" to for it's 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 49 to 49 and Data 2 from 100 to 100, we would execute a Go command on cuelist 9 every time the keyboard played C#. This is a lot of data to enter, but there is a shortcut.

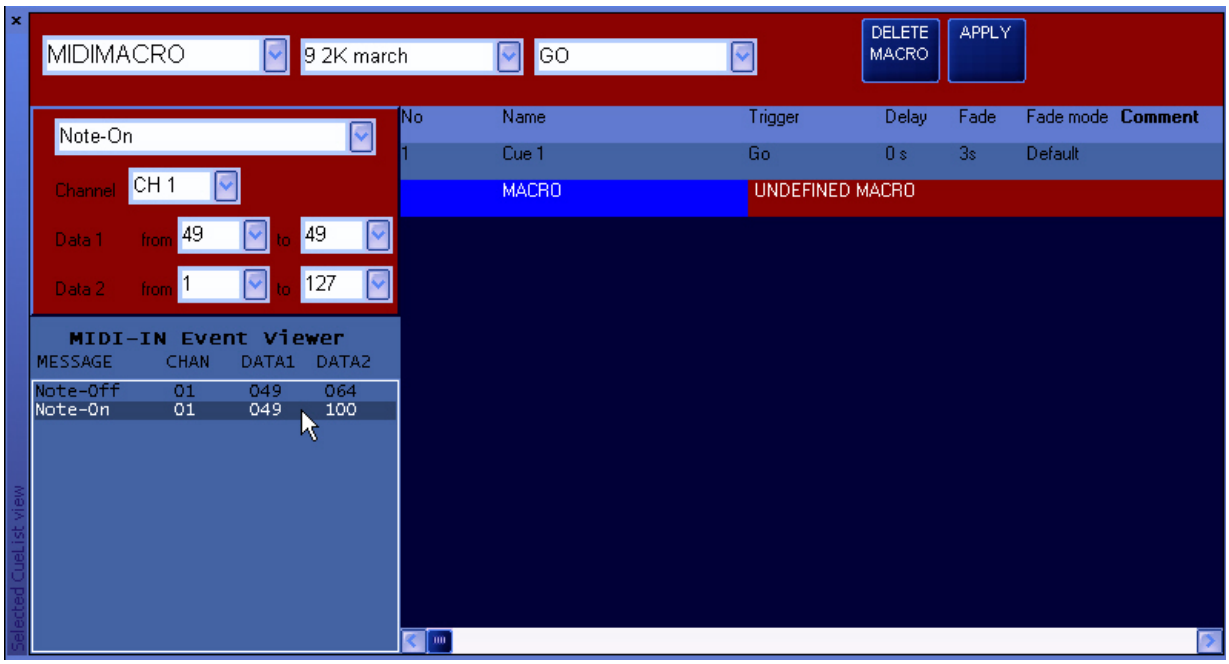
Instead of entering all the MIDI data manually, once the MIDImacro has been set up with it's cuelist selection (cuelist 9) and action (Go), you can *play* the desired key on the keyboard. It will show up in the MIDI In Event Viewer and you can then *click* on it and the data will be loaded into the appropriate 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.

1.Note that "Delete MIDIMap" is not implemented with this software version.

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 cuelist 9 a Go command when it sees a Note On command on MIDI channel 1 with Data 1 at 49 (C#) and any value in Data 2. Pressing “Apply” will complete the macro.

Playing MIDImacros

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 9 in the example above) must be active for the flash to work.

Global MIDImacros

As mentioned earlier, there are five global MIDImacros. A global MIDImacro is one which affects all other MIDImacros that the Maxxyz 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 to 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 Maxxyz 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 continuing the MIDIMacro has been deleted. The only way to stop the MIDImacro from accepting MIDI commands is to use the Global MIDI command of Delete MIDI.[1]

MIDIMACRO 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 dropdown list

5 Select the target cuelist that the MIDImacro is to effect from the dropdown 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

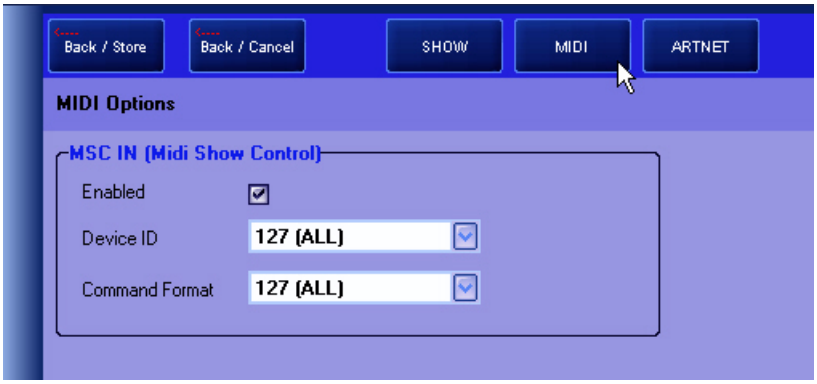
9 Press “Apply” to record the macro

MIDI TIMECODE (MTC)

MIDI Timecode is also supported. For information on working with please see “Timecode” on page 159.

MIDI SHOW CONTROL (MSC)

The Maxxyz console supports MSC commands. In order to process these commands, you must first enable MSC by going to the Cuelist Directory window and pressing the “Settings” softkey. Then locate the “MIDI” button at the top of the screen and press it. The following screen will appear:



1.Rebooting the console will, of course, also stop a deleted MIDImacro from playing.

From here you can enable or disable MSC. When enabled, standard MIDI messages will not be accepted. By default, this selection 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 “Back/Store” at the top of the screen to save your changes.

Accepted MSC Messages

The following MSC messages are accepted by the Maxxyz console:

Hex	Command	# of data bytes	Min Sets	Maxxyz 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 Maxxyz console also supports a number of MSC Sound Commands listed below.

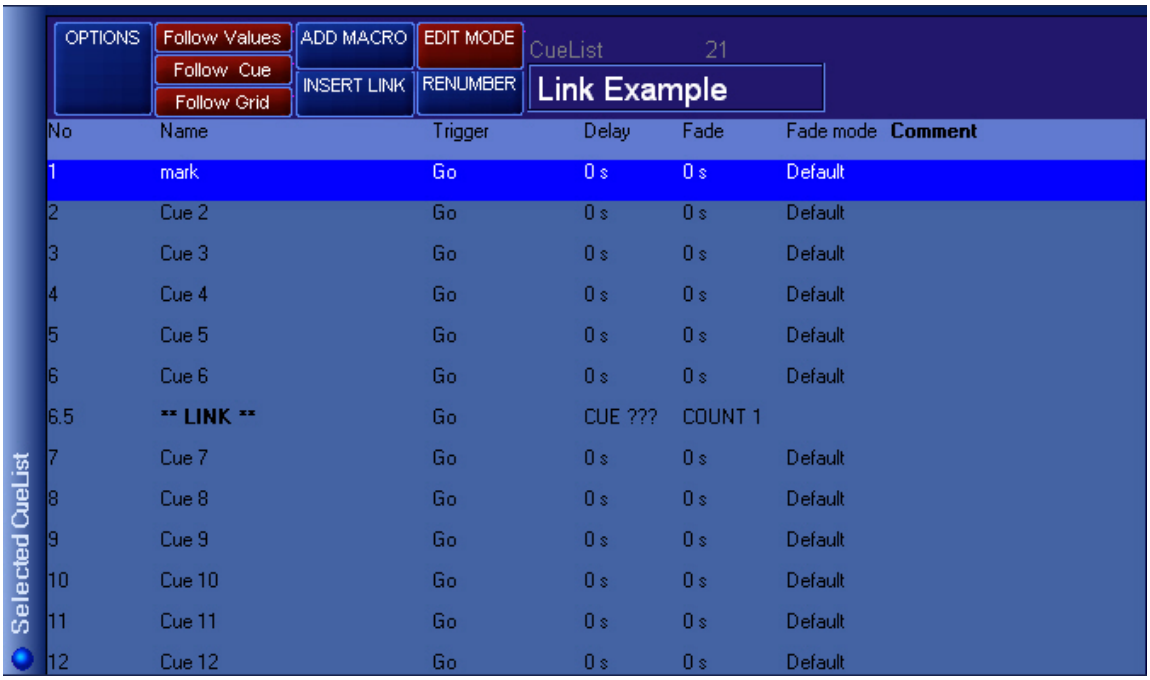
Hex	Command	# of data bytes	Min Sets	Maxxyz Command
10	GO/JAM_CLOCK	variable	--3	Go
1B	OPEN_CUE_LIST	variable	-23	Select Cuelist
1C	CLOSE_CUE_LIST	variable	-23	Release Cuelist

Linking Cues

The Maxxyz 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. To link one cue to another:

1 Select the desired cuelist and ensure the Edit Mode is on.

2 Highlight the cue you wish to link from and press the “Insert Link” button at the top of the cuelist.[1]



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

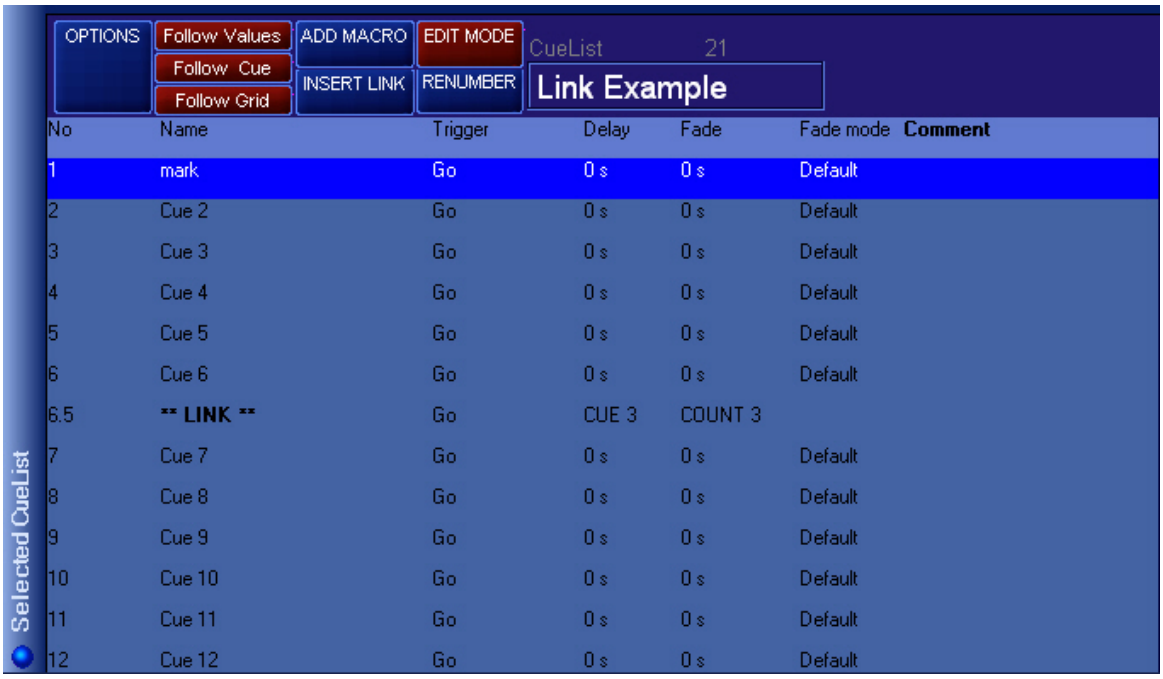
3 Under the Delay column, press “CUE???” The command line will read “Set Cue 6.5 Link To Cue.”

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

By default, the number of times the link will be repeated (the “Count”) is 1. To edit this:

5 Under the Fade column, press “COUNT 1.” The command line will read “Set Cue 6.5 Loop Count.”

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



1.When selecting cues in the cuelist, exercise caution to select the cue number by pressing under the “No” column, not the “Name” column. Selecting the “Name” column will cause the command line to read “Set Cue xx Name” and will wait for you to enter a cue name. This will disable other functions such as “Insert Link.”

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

RELEASING A CUELIST

Releasing (or *clearing*) a cuelist will cause the selected Playback Control to cease outputting instructions to it's 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 use the "Rel" button in the Main Go area:

1 Press and hold the "Rel" button

2 Press the "Go" button of the desired Playback Control

3 Release both buttons

RELEASING ALL CUELISTS

There are two ways to release all cuelists

REL/SNAP

1 Press and hold the "Rel" and then the "Snap" button in the Main Go area

All attributes in all faders on all banks will return to their "home" position in the default fade time.

2 Release both buttons

SNAP/REL

1 Press and hold the "Snap" and then the "Rel" button in the Main Go area

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.

2 Release both buttons

AUTOMATICALLY RELEASING CUELISTS

You can also release all or selected cuelists by using macros. A cuelist can be configured such that when executing a specific cue, other cuelists will be released. Please see "Using Macros" on page 162 for complete information.

Moving, Copying, and Deleting Cuelists on Playback Faders

Accomplishing the above mentioned tasks on the Maxxyz console is extremely simple and intuitive.

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 the **Move** key found in the main key area.

2 Press the LCD Playback key of the cuelist you wish to move.

3 Press the target LCD Playback key (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 the **Move** key found in the main key area.

2 Press the LCD Playback key of the cuelist you wish to move.

3 Press the "***/***" (slash) key[1]. The command line will read "Move Cuelist Playback Fader BB.nn Playback fader." "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 the **Copy** key found in the main key area.

2 Press the LCD Playback key of the cuelist you wish to copy.

3 Press the target LCD Playback key (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

1.Note that repeatedly pressing the "slash" key will cycle between "Playback Fader," "Virtual Cuelist," and "Playback Button."

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.

Deleting Cuelists on Playback Faders

To delete a cuelist from a playback fader:

1 Press the **Delete** key found in the main key area.

2 Press the LCD Playback key of the cuelist you wish to delete.

3 Press **Enter**[1]

The selected cuelist has been deleted from the playback. Accidentally delete a cuelist? Don't worry. See "Cuelist Directory" on page 177.

1.Note that you can also press and hold the "Delete" key and then press and LCD playback button. When "Delete" is then released, the specified cuelist will be removed from the fader.

Other Cuelist Locations

Aside from the playback faders, cuelists exist in two other locations: The Cuelist Directory and Playback Buttons.

Cuelist Directory

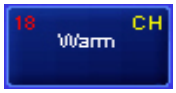
Throughout the manual, we have spoken of cuelists on playback faders. And while it is likely that that is where you will most often manipulate cuelist information, it is important to note that playback faders are not where the cuelist information is actually stored. Whenever you record a cue, you're not actually recording it into the playback fader, you're recording it into the Cuelist Directory. It may help you in your understanding of the Cuelist Directory if you think of it as the "Master Cuelist."

One way to describe the Cuelist Directory is to compare it to Microsoft Windows: In Windows, you have a folder that contains a file. This is the same as the Cuelist Directory. On your desktop you have shortcuts to the original file. This is the equivalent of the other cuelist locations (playback faders, playback button page).

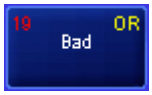
Cuelist Directory Display

Looking a little closer at the individual cuelists we can see the type of cuelist they are.

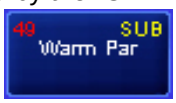
We can see that this is cuelist 17. The CL in the upper left-hand corner denotes that it is a cuelist and it has been labeled Global.



Here we see that cuelist 18, labeled “Warm” is active. The “CH” in the upper right hand corner identifies it as a chase.



Cuelist 19, is an override as noted by the “OR.”



Finally, we can see that cuelist 49 is a submaster.

Moving and Copying from the Cuelist Directory

In the case of the Cuelist Directory, moving and copying to playback faders or playback buttons (see “Playback Button Page” on page 183) are identical functions.

To copy from Cuelist Directory to a Playback Fader

1 Press **Copy**

2 Select the cuelist directory you desire from the touch screen

3 Press the target LCD Playback key (where you wish to copy the cuelist).

You can copy the same cuelist to as many different playback faders on as many banks as you wish. However, as with copying a cuelist from one playback fader to another, any changes made in one cuelist, will be reflected in all others. Also, changes made to a cuelist on a playback fader will affect the same cuelist if it’s found on a a playback button page as well.

To copy from Cuelist Directory to Playback Button

1 Press **Copy**

2 Select the cuelist directory you desire from the touch screen

3 Press the Playbbutton view hard key to bring up the Playback button window.

4 Press the target playback button (where you wish to copy the cuelist).

Again, you can make as many copies as you wish, but they are all still the same cuelist so changes made in any one, will affect all copies. This includes copies found on playback faders.

Moving a cuelist from the Cuelist Directory to a playback fader or playback button is exactly the same as copying it. The same rules apply.

Moving and Copying Within the Cuelist Directory

Moving or copying a cuelist from one location in the Cuelist Directory to another is simple to do, but it is important to understand what is happening.

TO COPY FROM ONE CUELIST DIRECTORY BUTTON TO ANOTHER CUELIST DIRECTORY BUTTON

1 Press **Copy**

2 Select the cuelist directory you desire from the touch screen.

3 Press the target cuelist directory button on the touch screen (where you wish to copy the cuelist).

When you perform this function, you have made an actual copy. There is no relationship between the two cuelists with the one exception that the copy will retain the same name. The reason for this is that when you select the original cuelist, it is assigned a number (such as cuelist 8); when you copy it to a new location, that location has it's own cuelist number. Therefore, by copying cuelist 8 and "pasting" it into a new cuelist button, you have in effect created a new cuelist.

TO MOVE FROM ONE CUELIST DIRECTORY BUTTON TO ANOTHER CUELIST DIRECTORY BUTTON

1 Press **Move**

2 Select the virtual cuelist you desire from the touch screen.

3 Press the target Virtual Cuelist button on the touch screen (where you wish to move the cuelist).

When you move a Virtual Cuelist from one location to another, you are destroying the old cuelist and creating a new one. If you move from cuelist 8 to cuelist 12, cuelist 8 no longer exists. However, the Maxxyz console will automatically update all playback faders and playback buttons with the new location of the cuelist.

DELETING A CUELIST FROM THE DIRECTORY

Warning! When you delete a Cuelist from the Cuelist Directory all references to it (i.e. copies on playback faders and playback buttons) are removed as well! A cuelist deleted from the Cuelist Directory is completely and irrevocably removed from the show file. Once deleted, your only recourse in retrieving it is to load a previously saved showfile.

TO DELETE A CUELIST FROM THE CUELIST DIRECTORY

1 Press **Delete**

2 Select the cuelist you wish to delete on the touch screen

3 Press **Enter**

Cuelist Directory Special Functions

At the top of the Cuelist Directory display are six softkeys (AS MAIN, Hibernate, RESTORE, SETTINGS, GOTO END, and SCROLL) that allow for a significant amount of control in how cuelists are accessed and controlled on the Maxxyz console.

Each of these “special functions” is described below.

“As Main”

It is possible to set any cuelist created as the “Main Cuelist.” A cuelist designated as the main cuelist will be controlled by the “Main Go” (page 132) buttons.

Setting a Cuelist as the Main Cuelist:

1 In the Cuelist Display page, press the button of the cuelist to be set as the Main cuelist

2 Press the “AS MAIN” button at the top of the Cuelist Display.

The selected cuelist will now be displayed with a yellow border to denote it’s status as the Main Cuelist.

Only one cuelist may be designated as the Main Cuelist at any time.

To remove the Main Cuelist designation, simply select the cuelist in the Cuelist Display window and press “AS MAIN” again.

Hibernate

There may be times that it is desirable to remove a specific cuelist from a show without deleting it. For this purpose, the Maxxyz 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 cue:

1 Select the cue to be “hibernated” in the Cuelist Display window.

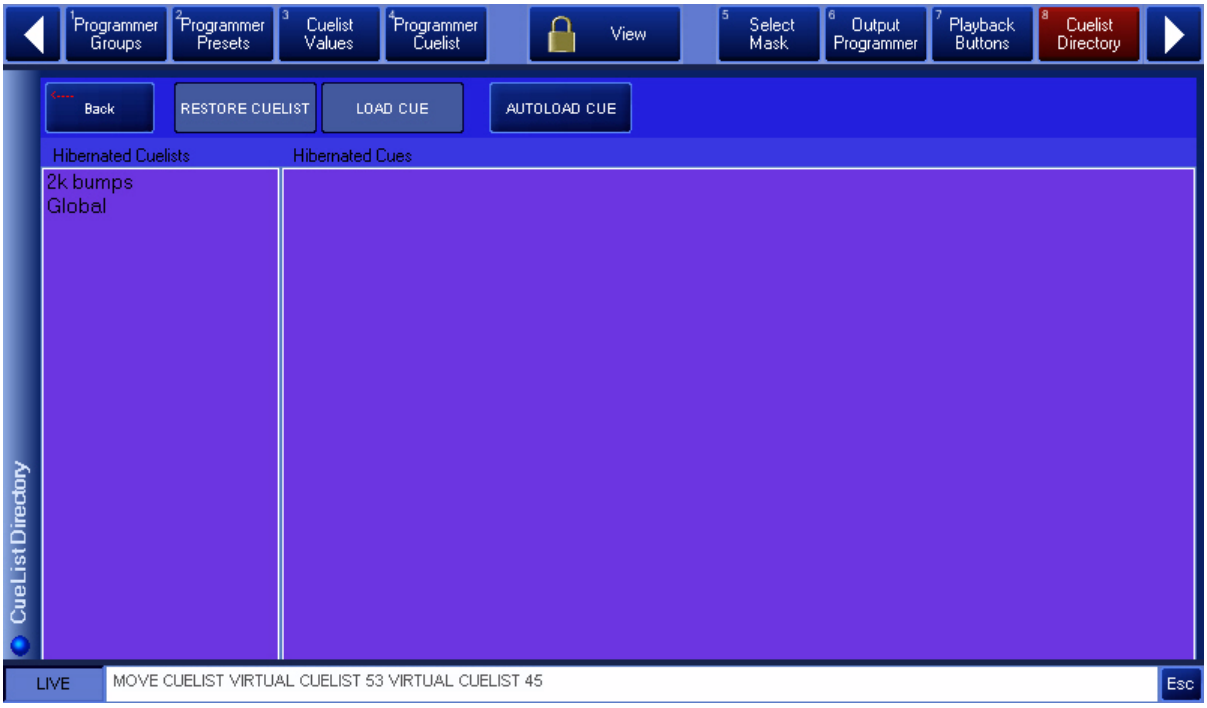
2 Press the “Hibernate” softkey.

3 A pop-up window will appear. Select “Yes” to hibernate the cuelist or “Cancel” to leave the cuelist in it’s current position.

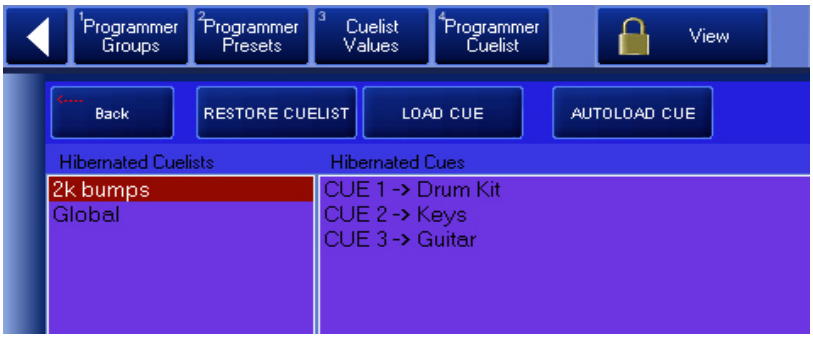
Restore

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 faders or the Playback Button page. When the “Restore” button at the top of the Cuelist Display page is pressed, the Restore window will open:



Here you can see and “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 Display. The other three buttons require you to first select a cuelist by touching it. When a cuelist is selected, it’s contents are displayed in the right hand portion of the screen:



There are now three actions that can be taken: Restore Cuelist, Load Cue, or Autoload Cue

Restore Cuelist

After selecting a cuelist, pressing this button will place the cuelist back into the Cuelist Display. Note that when your cuelist is restored, it will not necessarily be returned to it’s 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.

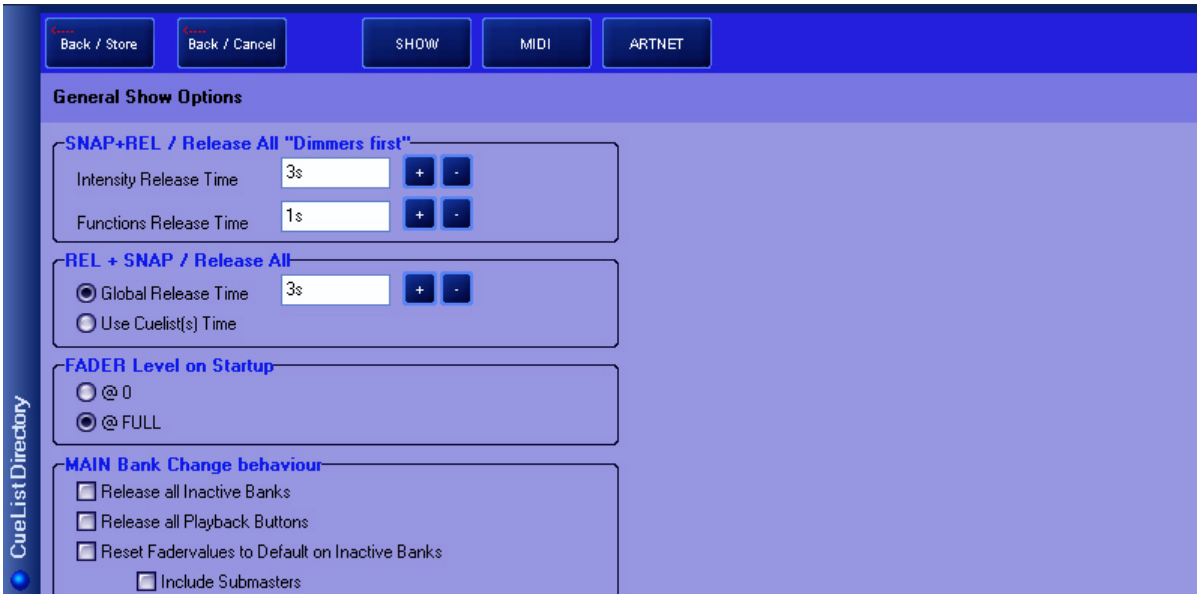
Load Cue

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 *not* 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 it’s 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.

GLOBAL SETTINGS

Pressing the “Settings” button at the top of the Cuelist Directory page pulls up a page that can be used to adjust the global settings for several parameters used in cuelists.



At the top of the Settings page, there are five buttons:

Back/Save When pressed, this will return you to the Cuelist Directory and save any changes made.

Back/Cancel Pressing this will return you to the Cuelist Directory, but without saving any changes made.

Show This button brings up the general show options (described below).

Midi Pressing this button will bring up a screen that allows you to enable MSC (Midi Show Control). When in this screen you can also set the Device ID and the Command Format from 0 to 127 (all).

ArtNet From this window, you can select the ArtNet IP address format as either 2.x.x.x or 10.x.x.x on a per universe basis.

GLOBAL SHOW SETTINGS

The Global Settings under the Show tab allow you to change a number of the default parameters of the Maxxyz console as far as release timings and behavior when changing cuelist banks are concerned.

SNAP + REL / Release All Cuelists - Release Dimmers First[a]

Intensity Release Time (default 3 sec) This is the default time it will take the intensity channel of fixtures dimmers to fade to zero. This can be incremented or decremented in 1/10th second increments using either the “+” or “-” buttons to the right of the displayed time.

Functions Release Time (default 1 sec)	This is the default time that all non-intensity attributes will fade in when using Snap + Rel. This time can also be adjusted as above.

REL + SNAP / Release All Cuelists - Release Attributes Simultaneously

Global Release Time (default 3 sec)	Selecting this will override any release times set in the Cuelist Options of the individual cuelists. All attributes of all cuelists will be released in this time. This can be incremented or decremented in 1/10th second increments using either the "+" or "-" buttons to the right of the displayed time. By default, this will be the selected Release + Snap behavior.
Use Cuelist(s) Time	When this option is selected instead of the Global Release Time, the cuelists will release using the timings found in the Cuelist Options for each cuelist.

Fader Level on Startup

@ 0	When selected, cuelists of type Cuelist and Chase will have the physical fader handle in the down (zero) position when the console is first started.[b] Group masters are not affected by this setting; they will always start up at full.
@ Full	In this setting, the default, Chase and Cuelist faders will be in the full position when the console starts up. Submasters and Overrides are not affected by this setting. They will always start up at zero.

Main Bank Change Behavior

Release All Inactive Banks	When selected and the bank is changed all Cuelists, Chases and Overrides will be released (unless the same bank is duplicated on another device such as a Maxxyz Playback Module). Submasters and Group masters are not affected.
Release All Playback Buttons	Selecting this option will cause all Cuelist, Chase and Override cues that are active in the Playback Buttons page to be released when the bank is changed.
Reset Fader Values to Default on Inactive Banks	This option determines the position of the physical faders after you have changed a bank and is based on the Fader Level at Startup setting. If you have set the fader level to zero, then all Cuelist, Chase and Override cuelist faders will be set to zero when you return to that bank. If you have set the fader level to full, those same cuelists will be set to full.
Include Submasters	When this option is selected, 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 page 158 for more information.

a. See "Snap Key" on page 132 for more information on releasing multiple cuelists simultaneously.

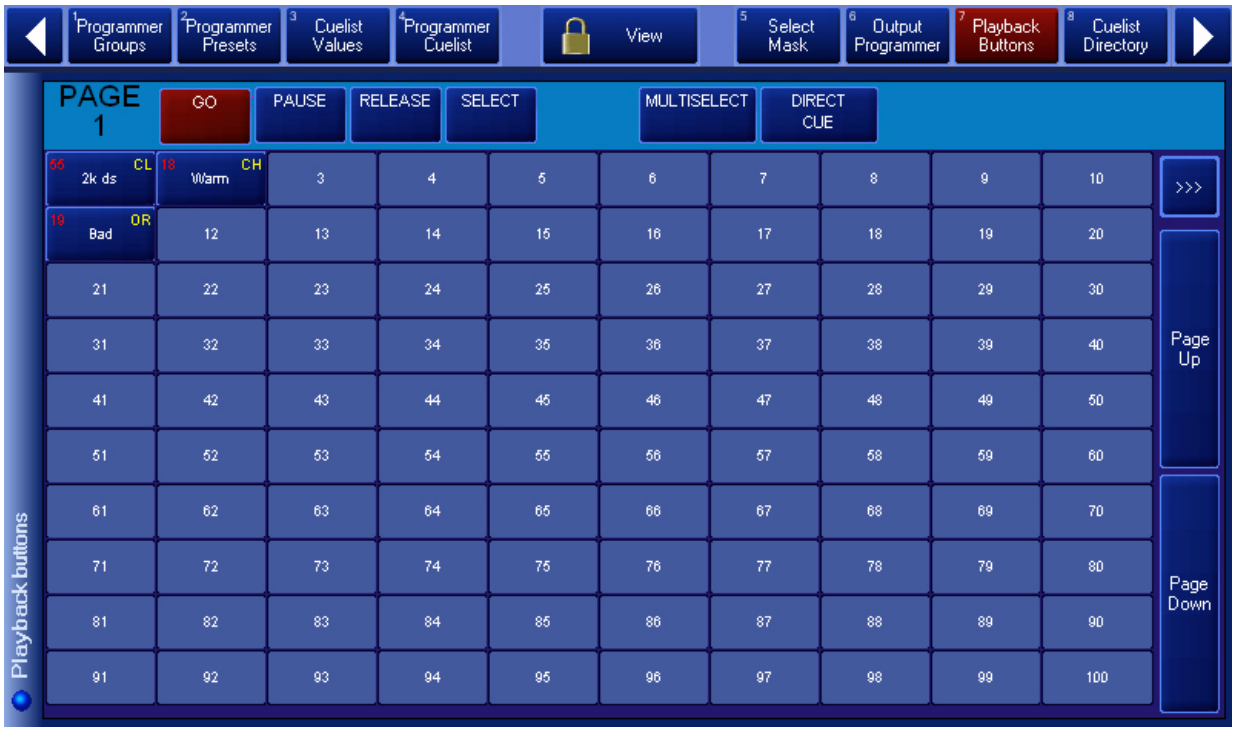
b. Note that the Maxxyz console will always startup in Bank 1.

Changing these values by pressing the "+" or "-" buttons will allow you to change the release timings of *all* cuelists. The "Back/Save" and "Back/Cancel" buttons will return you to the Cuelist Directory and either save the new settings or revert to the previous settings without accepting any changes made.

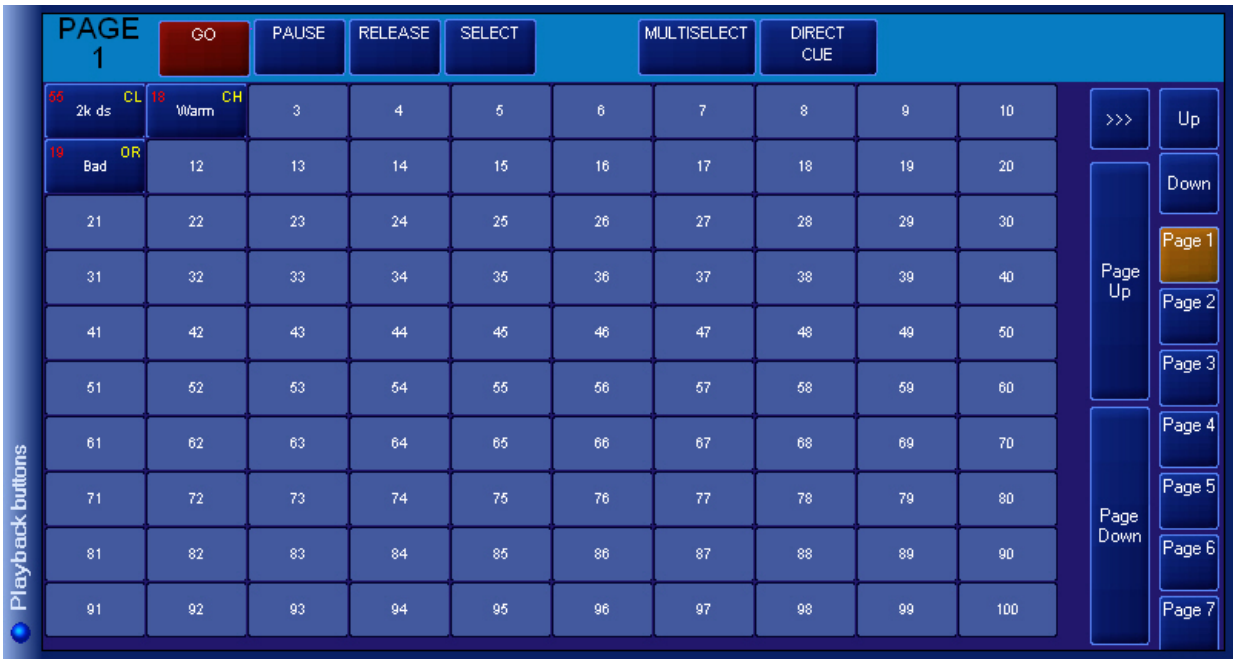
PLAYBACK BUTTON PAGE

The Playback Button Page presents an alternative way of displaying information to be used instead of or in conjunction with the playback faders. 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 BUTTON DISPLAY



At the top of the screen you can see the controls for the playback buttons. The “Page Up” and “Page Down” increment and decrement through the 99 available Playback Button pages. Pressing the “**>>>**” directly above the “Page Up” button, opens a direct select option for rapidly jumping to the desired page.



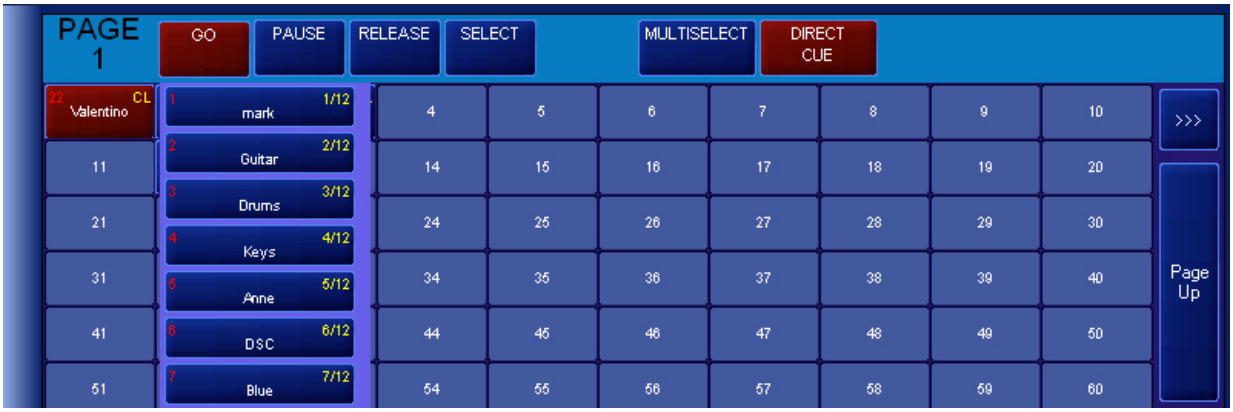
The “Go,” “Pause,” and “Release” buttons have the same function as described earlier in this manual. However, whereas in a playback fader you select the cuelist and then the function, in the Playback Button page, you select the function and then the cuelist. That is to say that in order to

execute a cue, you press (and therefore highlight and make active) the “Go” button and *then* select which cuelist you wish. The three other buttons on this page are described below.

Select Select is used to load a cuelist into the Selected Cuelist View and Cuelist Values windows. “Select” also allows you to access all functions that you would normally have access to with a selected cuelist in a playback fader.

Multiselect When activated, Multiselect allows you to have more than one cuelist on the Playback Button pages selected at the same time. With this feature, you can then Go, Pause or Release multiple cuelists at the same time.

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 select the specific cue in the cuelist you wish to execute.



Moving and Copying Cuelists with the Playback Button Display

Moving and copying cues in the Playback Button Display is somewhat limited. You are not allowed to move or copy cuelists from the Playback Button display to anywhere other than the same or a different Playback Button page. Nor can you copy or move cuelists from the playback faders to the Playback Buttons. You are allowed only to move or copy cuelists from the Virtual Cuelist to the Playback Button Display. 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 Cuelists in the Playback Button Display

To delete a Playback Button Cuelist

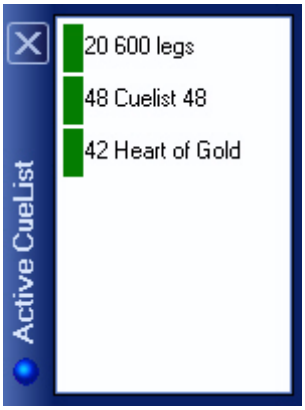
1 Press **Delete**

2 Select the cuelist you wish to delete on the touch screen

3 Press **Enter**

Active Cuelist Display

The Active Cuelist Display, while not used for manipulating or controlling cues, is useful in viewing which cuelists are currently running. When one or more cuelists are running this window will automatically populate with the cuelist number and it's name.



EFFECTS

The Maxxyz console utilizes a very powerful effects package. With Maxxyz effects you can use either pre-programmed shapes or work on an attribute-by-attribute level to design your own. Effects are created using the programmer keys on the right of the console. 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 with your console.

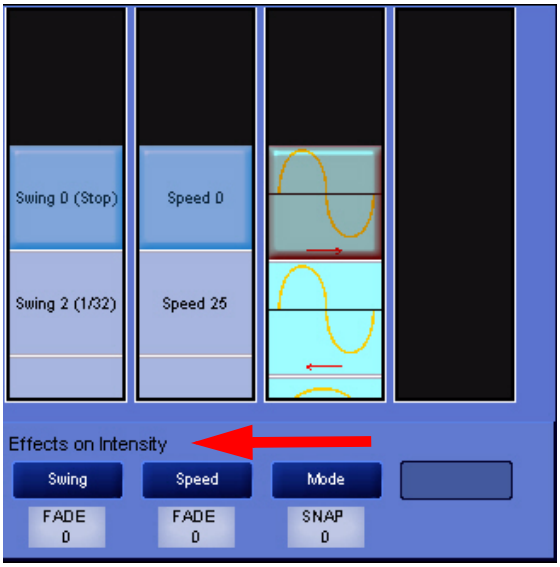
Please note: Maxxyz handles all attributes the same with the exception of pan and tilt. Pan and tilt receive a special treatment when the “PT Comb” (pan/tilt combine) button in the programmer touch screen is selected. This manual will cover “PT Comb” at the end of this section. Please confirm that “PT Comb” is not highlighted for the first part of this section.

EFFECTS CONTROLS

The effects controls are limited to the 4 right trackbelts and 2 of the 5 right LCD keys in the programmer controls. The two LCD keys are:

REGULAR EFFECT

This loads the control elements for the motion of the attribute being controlled by the effect. The elements are: Swing, Speed, and Mode.



Note that the attribute that will be affected by the Regular Effect control elements is intensity. This is determined by the attribute selection using the right 5 LCD keys in the programmer control. By selecting the “Dim Focus” LCD and then pressing the hard key directly below the intensity column in the touch screen, intensity is selected as the attribute to be affected by the Regular Effect elements. Note that the active attribute hard key has a blue LED. That LED will be lit on the active attribute.

BASELINE - A QUICK CONCEPT

All regular effects elements in the Maxxyz console work 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 it's baseline to 100% but that attribute's baseline is already 100%, the effect element won't have any affect on the attribute.

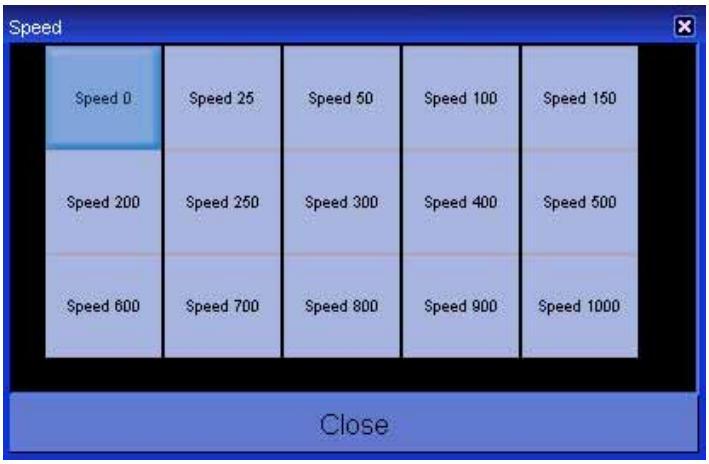
To put it another way, if fixture one is at full and we apply an effect element that goes from zero to 100% and back to zero, we won't see any change in the fixtures intensity. If however, the fixture were at zero, we would see the intensity rise and fall with the effect.

SWING

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 it's 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. There are some examples at the end of this section that should help clear this all up. But first, let's examine the other two Regular Effect Elements.

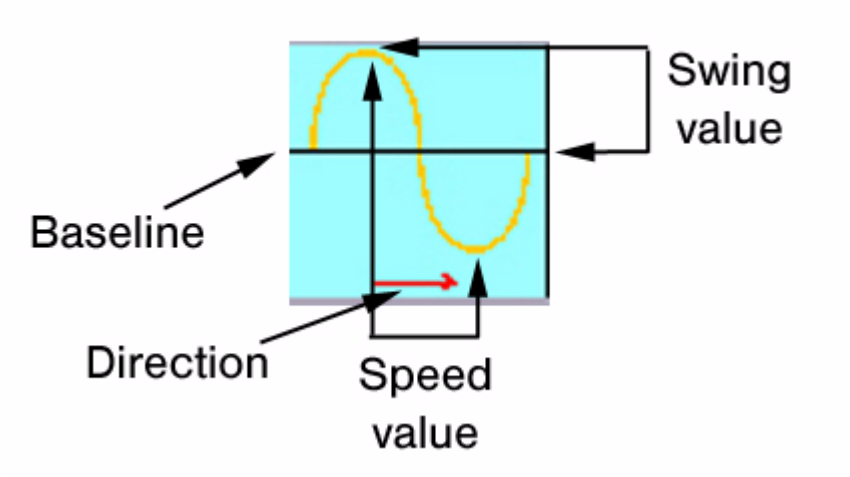
SPEED



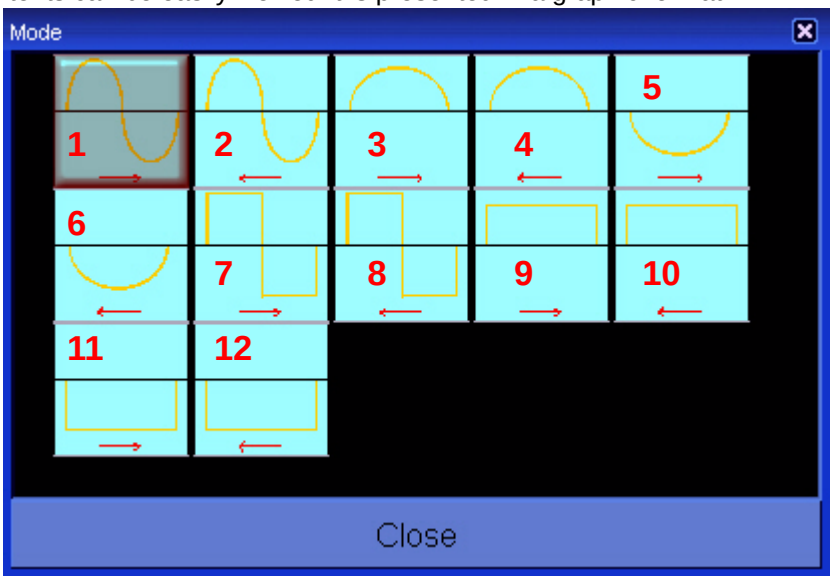
Speed determines how fast the selected attribute will execute it's swing value. Again in audio terms, it would be best described as frequency. While the baseline of an attribute does not have a great impact on how speed affects the attribute, physics and the mechanics of the fixture certainly do. If 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 it's 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 trackbelt.

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 key below the Mode element will open up the Mode window so that all of it's contents can be easily viewed.It is presented in a graphic format:



Note: The numbers 1-12 were added for identification in this manual and do not appear in the actual Mode screen on the console.

There are 12 modes available on the Maxxyz.

1 In this mode, we 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.

2 This mode is identical to mode one except that we fade below the baseline first and the direction of travel is right to left. This is only noticeable when working with groups of fixtures and using the Time Effects in conjunction with the Regular Effects.

3 In this mode, we start at the baseline, fade up the amount specified by the swing element and fade back to the baseline. This mode never goes below the baseline.

4 This mode is identical to mode three except the direction of travel is right to left. This is only noticeable when working with groups of fixtures and using the Time Effects in conjunction with the Regular Effects.

5 In this mode, we start at the baseline, fade down the amount specified by the swing element and fade back to the baseline. This mode never goes above the baseline.

6 This mode is identical to mode five except the direction of travel is right to left. This is only noticeable when working with groups of fixtures and using the Time Effects in conjunction with the Regular Effects.

7 In this mode, we 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.

8 This mode is identical to mode seven except that we snap below the baseline first and the direction of travel is right to left. This is only noticeable when working with groups of fixtures and using the Time Effects in conjunction with the Regular Effects.

Effects 9 through 12 also require the use of Time Effects, specifically the "Shift/Step" element in order for the effect to be seen.

9 In this mode, we 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.

10 Similar to above, except changes are applied from last to first selected fixture.

11 This mode 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.

12 Similar to above, except changes are applied from last to first selected fixture.

REGULAR EFFECTS EXAMPLES

Example #1

1 Using the tutorial file, select fixture 8 and bring it to 50%

2 Making sure that “intensity” is the selected attribute (the blue LED on the associated hard key is lit), roll the Swing element to 64.

3 Now, 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 Maxxyz console.) 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, were 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 where we were, double click the hard key below the mode label to open the mode window.

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 intensity on fixture 8 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 fixture is moving between zero and full.

Example #3

1 Clear the programmer.

2 Bring fixture 8 to full and focus it approximately half way between the sphere and the pyramid.

3 Select the “Tilt” attribute. (Press the Pan/Tilt LCD key and the hard key below the “Tilt” label in the touch screen.) Directly above the “Swing” label, it should say “Effects on Tilt.”

4 Set Swing to 11 and Speed to 200.

The fixture should now be swinging somewhere between the end of the stage and the backdrop.

5 When the fixture next reaches it’s most upstage point, rapidly change the speed to zero.

You’ll note that the fixture has stopped, but it’s not at it’s baseline (between the sphere and the pyramid). The effect is still “running” but it has, in a manner of speaking, “frozen in time.”

6 Return the speed to 200.

At this point you may wish to move the pan/tilt attributes and move the baseline around.

Of course on the Maxxyz console you can have different attributes on the same fixture running different effects at different speeds. All attributes of every fixture can run an effect.

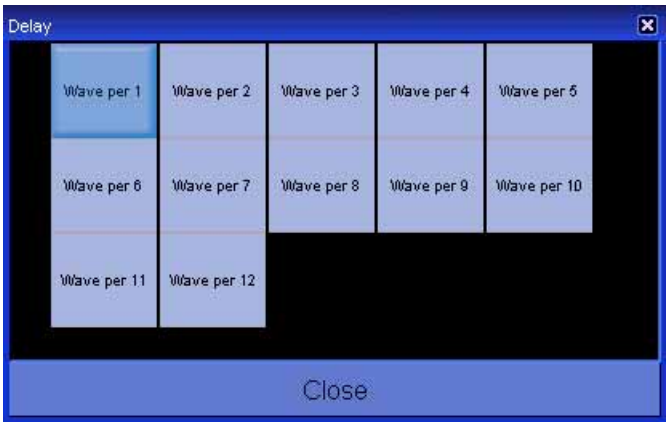
TIME EFFECTS

Where Regular Effects can be used with a single fixture and deal with movement, Time Effects address groups of fixtures and the execution of the regular effects. While it is, of course possible to assign Time Effects to individual fixtures, there would be no discernible behavior in the fixture.

Time Effects consist of Delay (or Wave), Shift (or Step), and Wait. Wait is not fully implemented at this time and will be addressed in a later revision of this manual.

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 trackbelt, 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 it’s own, evenly distributed point along the curve of the effect. To examine how Delay works, do the following:

1 Using the tutorial.scn, select all the MAC 600s and bring them to full.

2 Select the Tilt attribute hard key.

3 In Regular Effects, set Swing to 18, Speed to 250 and use Mode #3 as described earlier.

The fixtures should be tilting from their “home” position to somewhere near the downstage edge of the stage.

4 Select the “Time Effect” LCD key.

5 Double click the hard key below the “Delay” label to open the pop-up window shown above.

6 Select “Wave per 12.”

You can set the fixtures to the other “Wave per x” settings to see how they work, then return to “Wave per 12.”

7 Confirm that Tilt is the selected attribute and then press the “Regular Effect” 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 it's 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 Using the tutorial.scn, select all the MAC 600s and bring them to full.

2 Select the Tilt attribute hard key.

3 In Regular Effects, set Swing to 18, Speed to 250 and use Mode #3 as described earlier.

The fixtures should be tilting from their "home" position to somewhere near the downstage edge of the stage.

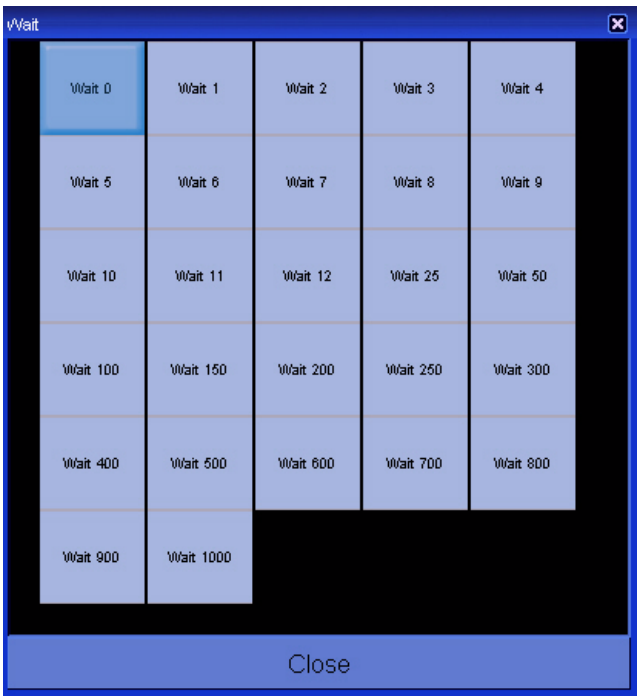
4 Select the "Time Effect" LCD key.

5 Double click the hard key below the "Shift" label to open the pop-up window.

6 Select "Shift per 12."

Set the fixtures to the other "Step per x" settings to see how they work.

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 it's 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 * 1" BUTTON

To the left of the effects displays in the programming touchscreen is a button labeled "Amount *1." This is used in combination with the "wave" and "step" functions. By default, this button is set

to one, however by repeatedly pressing it you can increment the amount between one and five. This amount serves as a multiplier for the number of “waves” or “steps” allowing you additional flexibility in the programming of you effect. For example, if you have five fixtures selected in the programmer and you set this button to “Amount *3” there will be 15 waves or steps available in the effect.

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 “Regular Effects” (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 Maxxyz console treats it the same as any other attribute. This is particularly apparent and useful when discussing LTP. We can examine some of the advantageous of this using the tutorial.scn file and the “Speed” attribute.

“SPEED” AS IT’S OWN CUELIST

1 Select Fixture 1 and bring it to full.

2 Select the “Tilt” attribute.

3 In Regular Effects, set the Swing to 45. Do Not Change The Seed. Leave Speed at zero.

4 Record this as cue 1 in a new cuelist.

As might be expected, when this cue is activated, the fixture comes to full, but it doesn’t move.

5 Clear the programmer.

6 Select Fixture 1 again.

7 Select the “Tilt” attribute.

8 In Regular Effects, set the Speed to 300. Do Not Change The Swing.

9 Select a new cuelist and record this as cue 1.

10 Open the cuelist options for this cuelist and set to type “Override.”

11 Execute both cuelists.

You can now see fixture 1 tilting up and down stage. But, if you pull down the Override cuelist fader, you will notice that you now 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 on stage[1].

1.Note that had a speed been entered in the first cue created, the override cue would 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 all the MAC 500s and bring them to full.

2 Using the Swing and Speed attributes in Regular Effect, set them to tilt up and downstage at a speed of 200.

3 Record as cue 1 in a new cuelist (do not clear the programmer).

4 Increase the speed to 400.

5 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. However, if we wish to make changes in cue 1, we'll see those changes track through and again, all cue 2 will do is increase the speed.

6 Release the cuelist (if it's running).

7 Press **Edit Cue 1 Enter**

8 Press the Tilt attribute hard key

9 Select the "Time Effects" LCD key and set to "Wave per 12."

10 Press **Update Enter** and clear the programmer.

Again, as we execute the cuelist, we'll see the fixtures moving, but this time in a wave. As we execute cue 2, the wave will track through, but it will be moving at twice the earlier speed.

SERVICE

The Maxxyz console is designed as a 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.

LOADING MAXXYZ SOFTWARE UPGRADES

Maxxyz software upgrades are available at http://www.maxxyz.com. Once downloaded to your PC, the zipped file can be extracted to either a CD or a USB storage device such as a removable hard drive or thumbdrive. If extracted to a CD, simply insert the CD and the software upgrade will automatically be installed. (Note that during installation of the software, normal console operation will be stopped and a restart of the console may be required.) If using a thumbdrive to transfer the files, you will need to click on the “Installx.x.x” icon to start the upgrade. Also, please refer to any specific upgrade instructions found with the upgrade.

CLEANING

The Maxxyz requires periodic cleaning, as does any computer. The schedule depends heavily on the operating environment; please consult a Martin service technician for recommendations if needed.

As with any computer, never spray the cleaner directly onto the Maxxyz, always spray into a lint free cloth and wipe clean. The touch screens should only be cleaned with cleaners or wipes specifically designed for cleaning computer screens.

Refer any other service not described here to a qualified Martin technician.

Important! Excessive dust, smoke fluid, and particulate buildup degrades performance and causes overheating and damage to the console that is not covered by the warranty.

TECHNICAL SUPPORT

For a complete list of Technical Support phone numbers, please visit our web site at http://www.martin.com/service/hotline.asp

OTHER MAXXYZ RELATED PRODUCTS

MAXXYZ PC

Maxxyz PC is an offline PC editor program for the Maxxyz console. It includes the Maxxyz visualizer and, with the additional purchase of a dongle and a Maxxyz PC USB DMX can be used to generate up to 32 universes of DMX. Maxxyz PC also supports ArtNet DMX distribution devices and the Maxxyz Ether2DMX. The Maxxyz PC program is free and is available at www.maxxyz.com.

SYSTEM REQUIREMENTS

- Windows XP (Home or Professional Edition) with Service Pack 2
- Pentium3 1.2 GHZ (Pentium4 recommended)
- 512MB RAM (1024MB RAM recommended)
- 250MB available hard drive space
- Display with min. 1024x768 resolution
- CDROM drive for installation and updates
- USB 1.1 port for HASP dongle
- USB 1.1 port for each Universal USB-DMX device
- 10/100 Ethernet port for Artnet output
- Full administrator access to your PC.

  If the PC is part of a corporate domain it may not be possible to install Maxxyz PC as it will add components to your system that may not be allowed based on your group policy. Check with your network administrator if you have any questions regarding your group policy settings.
- Your PC must also be running the following XP Services:
- COM+ Event System
- COM+ System Application
- Server
- Distributed Transaction Coordinator

  These services are normally running on an XP system.

MAXXYZ PC INSTALLATION

NOTE: Do NOT insert the hasp dongle into the USB port of your PC until prompted!!!

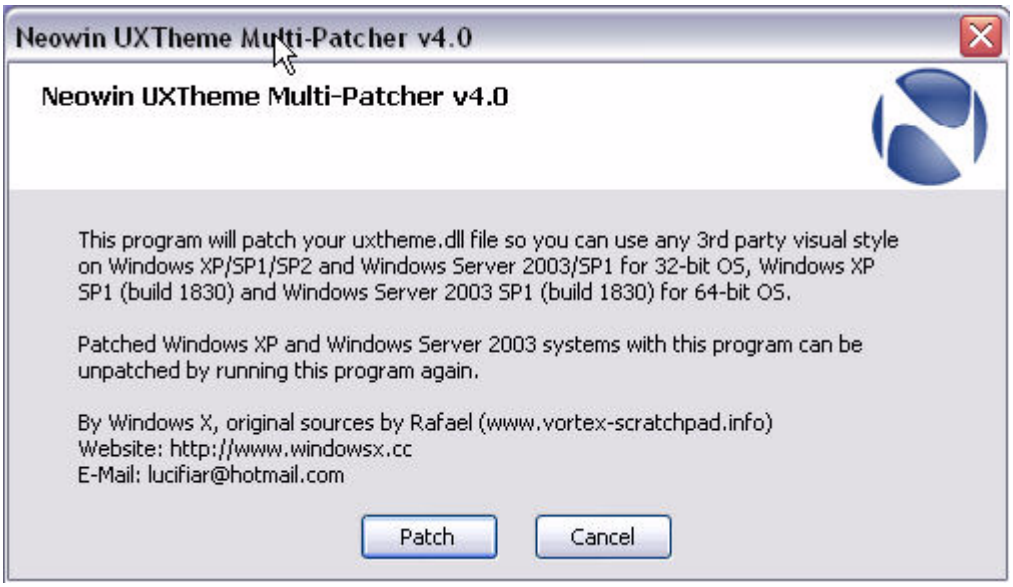
Before starting the installation, be sure that you are logged in to you PC as the administrator or as a user with administrative rights and turn off any virus protection or firewalls. You can then insert the installation CD. The installation CD is designed as an “autorun” but should you have trouble, look for the file “SetupMaxxyzPC.exe” on your installation CD and launch from there.

Once the program has launched, follow the on-screen prompts to install the software.

When the program has finished installing, you will be prompted to connect your hasp dongle. If you do not at this time have a hasp dongle and are running in “offline” mode only, you can skip this step. If you purchase a hasp dongle at a later time, you can initialize it by running the application in Programs/Martin Professional/Maxxyz PC/Activate Maxxyz HASP.

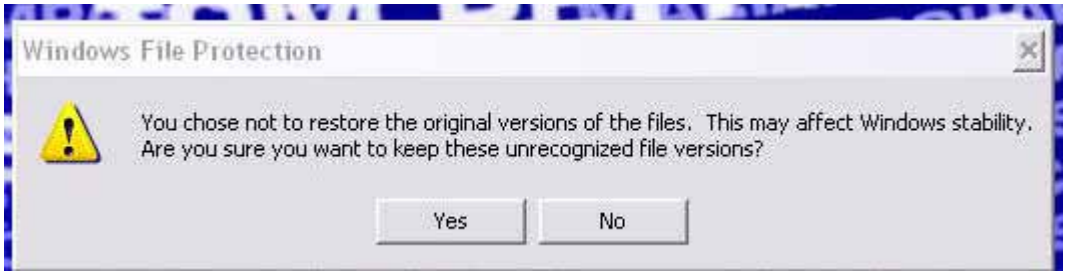
INSTALL MAXXYZ PC THEME

Before running the Maxxyz PC application, you will need to run the Theme Multi-patcher for the Maxxyz PC to have the correct look. (A “theme” is what determines the background on your desktop.) Go to Start/All Programs/Martin Professional/Maxxyz PC/Theme Multi-patcher to launch. Once launched, you will see the following window:

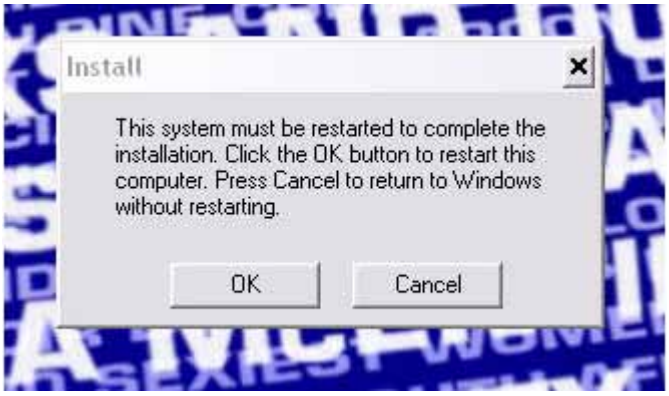


Click on the Patch button to continue.

When this window appears, click on cancel. It is not necessary to have the Service Pack 2.0 CD. Then click OK and the following will appear:

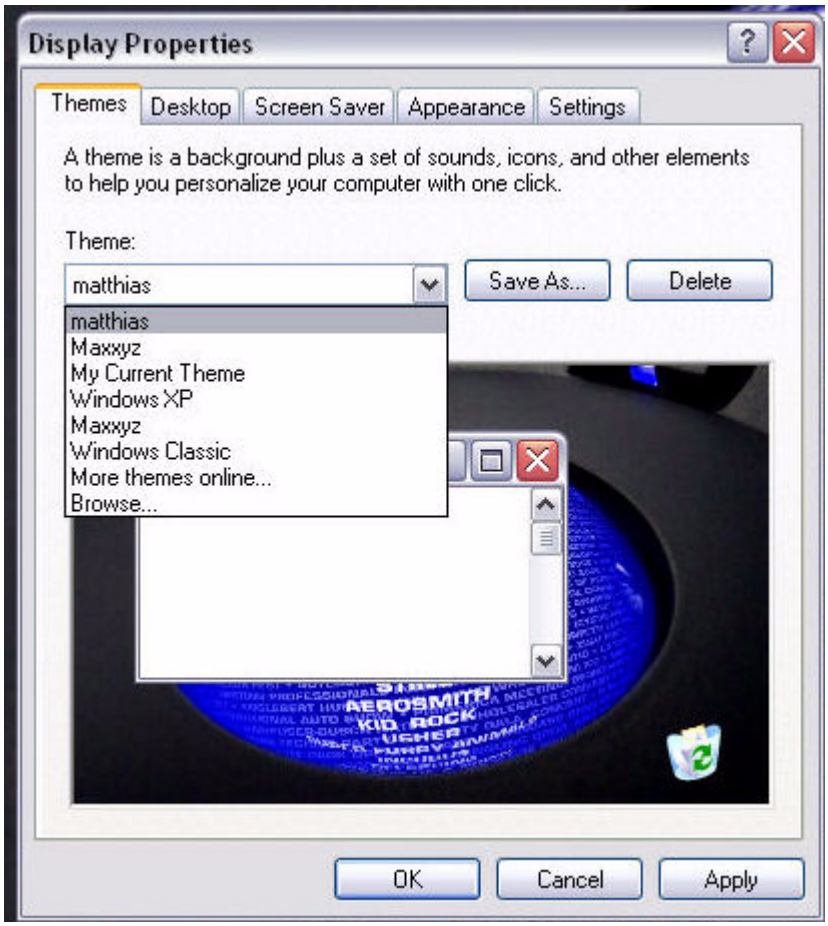


Press yes to continue to the next window.

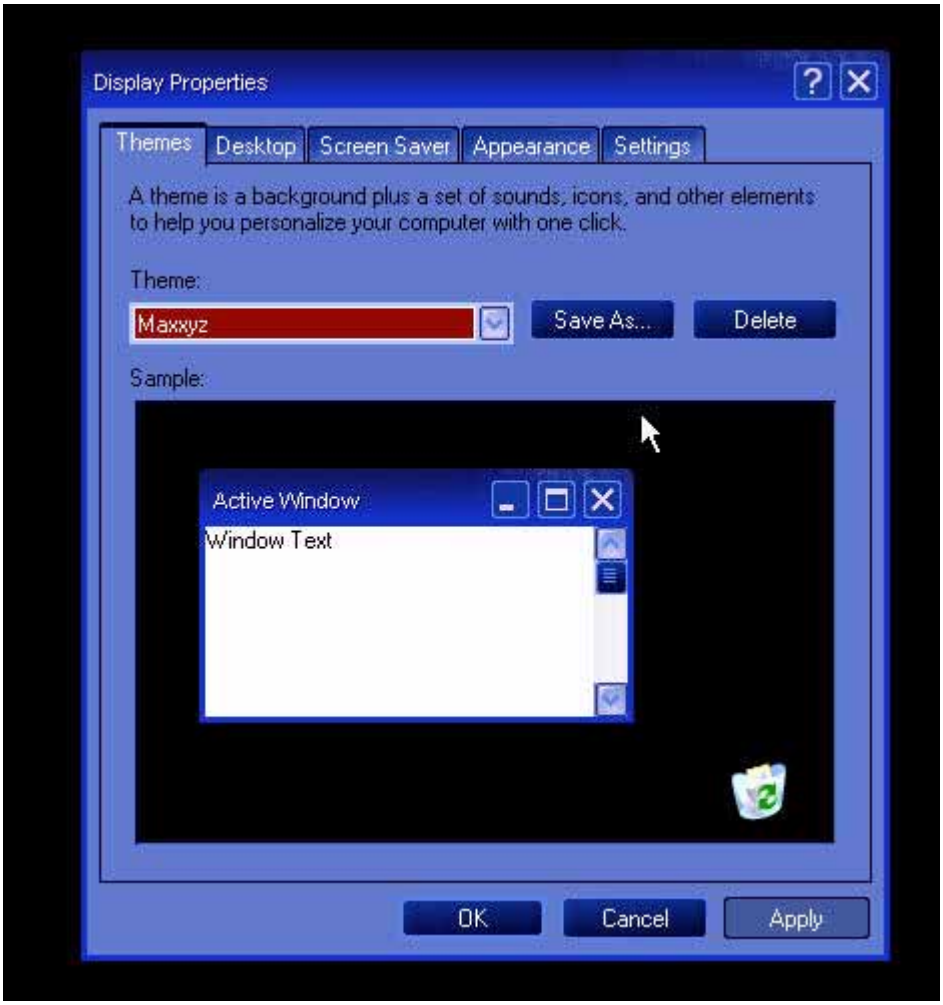


Press OK to reboot your system or Cancel to return to Windows. You will need to reboot your system however before launching Maxxyz PC.

After you have rebooted, right click on your desktop and select “Properties” to pull up your Display properties window.



Enter your name (or other identifier) in the “Theme” dropdown window and click on “Save As” to save your current theme. Once you have done this select the Maxxyz theme.



Press OK.

You are now ready to run Maxxyz PC.

Maxxyz PC Application Notes

In general, the operation of Maxxyz PC is identical to that of the Maxxyz console. Listed below are the differences.

- In order to “press and hold” a button in Maxxyz PC, right click on the desired button. The button will remain “held” until it is clicked on again (either right or left click will release it).
- You can maximize any of the control areas by right clicking anywhere on it’s black surface. Clicking again on the black surface will restore it to it’s previous size.
- You can launch the 3d Visualizer by clicking on the Menu button found to the left of the command line. If using a laptop and an external monitor, it is recommended to keep the 3d visualizer on the laptop screen and more the components of Maxxyz PC to the external monitor.
- Please note that when using the offline/non-hasp/free version of Maxxyz PC, only the first two universes of DMX may be visualized.
- If you close the control surfaces (in order to get to the patch screen for example), you can bring them back up by going to the Menu and selecting them.
- The easiest way to access the Patch screen is to close the programmer.
- Clicking the double arrows above the Undo button will open the Grand Master fader panel.
- You can add Maxxyz Playback Modules from the Menu. Set the address of each module by using the interface found in the upper left hand corner of each module.
- A “Maxxyz” folder is added to the “My Documents” folder during installation. Showfiles are accessed here.
- When using ArtNet, you will need to set your Ethernet IP to 2.1.128.1 with a subnet mask of 255.0.0.0

Maxxyz PC Keyboard Shortcuts (Hotkeys)

Starting with version 1.8 of Maxxyz and Maxxyz PC software, keyboard shortcuts have been introduced as an aid in programming your show. While intended primarily for use in Maxxyz PC, these shortcuts can also be used on the built-in keyboard of your Maxxyz console.

MAIN KEYS

The “Command Keys” from the facepanel of the Maxxyz can be accessed by pressing and holding the Control key and then the keys shown in the list below. Alternatively, you can engage the “Scroll Lock” on your keyboard and then just press the keys listed.

A	**@**
B	**Bank**
C	**Copy**
D	**Delay Time**
E	**Edit**
F	**Fade Time**
G	**Group**
H	**Highlight**
I	**Full**
J	**Previous Bank**
K	**Next Bank**
L	**Load**
M	**Move**
N	**Undo**
O	**Macro**
P	**Preview/Live Toggle**
Q	**Cue**
R	**Record**
S	**Save Show**
T	**Thru**
U	**Update**

V	**Playback View (future)**
W	
X	**Menu**
Y	**Belt Res (Toggle modes)**
Z	**Snapshot (future)**
Delete	**Clear**
Shift+Delete	**Delete**
Pg Up	**Next**
Pg Down	**Last**
Space Bar	**Main Go**
Backspace	**←**
TAB	**Main Pause/Back**
>.	**.**
? /	**/**
Home	**Snap**
End	**Release**
Home+End	**Snap+Rel**
End+Home	**Rel+Snap**
-	**-**
+	**+**
Enter	**Enter**

SCREEN VIEW KEYS

Ctrl + F1	**Select PC View 1/9**
Ctrl + F2	**Select PC View 2/10**
Ctrl + F3	**Select PC View 3/11**
Ctrl + F4	**Select PC View 4/12**
Ctrl + F5	**Select PC View 5/13**
Ctrl + F6	**Select PC View 6/14**
Ctrl + F7	**Select PC View 7/15**
Ctrl + F8	**Select PC View 8/16**
Ctrl + F9	**Toggle PC View bank**

PLAYBACK KEYS

Alt + 1	Select Fader 1 (LCD)
Alt + 2	Select Fader 2 (LCD)
Alt + 3	Select Fader 3 (LCD)
Alt + 4	Select Fader 4 (LCD)
Alt + 5	Select Fader 5 (LCD)
Alt + 6	Select Fader 6 (LCD)
Alt + 7	Select Fader 7 (LCD)
Alt + 8	Select Fader 8 (LCD)
Alt + 9	Select Fader 9 (LCD)
Alt + 0	Select Fader 10 (LCD)

Ctrl + 1	Fader 1 (top row)
Ctrl + 2	Fader 2 (top row)
Ctrl + 3	Fader 3 (top row)
Ctrl + 4	Fader 4 (top row)
Ctrl + 5	Fader 5 (top row)
Ctrl + 6	Fader 6 (top row)
Ctrl + 7	Fader 7 (top row)
Ctrl + 8	Fader 8 (top row)
Ctrl + 9	Fader 9 (top row)
Ctrl + 0	Fader 10 (top row)
Ctrl + Shift + 1	Fader 1 (second row)
Ctrl + Shift + 2	Fader 2 (second row)
Ctrl + Shift + 3	Fader 3 (second row)
Ctrl + Shift + 4	Fader 4 (second row)
Ctrl + Shift + 5	Fader 5 (second row)
Ctrl + Shift + 6	Fader 6 (second row)
Ctrl + Shift + 7	Fader 7 (second row)
Ctrl + Shift + 8	Fader 8 (second row)
Ctrl + Shift + 9	Fader 9 (second row)
Ctrl + Shift + 0	Fader 10 (second row)

Ctrl + Home + 1	Snap Forward Fader 1
Ctrl + Home + 2	Snap Forward Fader 2
Ctrl + Home + 3	Snap Forward Fader 3
Ctrl + Home + 4	Snap Forward Fader 4
Ctrl + Home + 5	Snap Forward Fader 5
Ctrl + Home + 6	Snap Forward Fader 6
Ctrl + Home + 7	Snap Forward Fader 7
Ctrl + Home + 8	Snap Forward Fader 8
Ctrl + Home + 9	Snap Forward Fader 9
Ctrl + Home + 0	Snap Forward Fader 10
Ctrl + Home + Shift + 1	Snap Back Fader 1
Ctrl + Home + Shift + 2	Snap Back Fader 2
Ctrl + Home + Shift + 3	Snap Back Fader 3
Ctrl + Home + Shift + 4	Snap Back Fader 4
Ctrl + Home + Shift + 5	Snap Back Fader 5
Ctrl + Home + Shift + 6	Snap Back Fader 6
Ctrl + Home + Shift + 7	Snap Back Fader 7
Ctrl + Home + Shift + 8	Snap Back Fader 8
Ctrl + Home + Shift + 9	Snap Back Fader 9
Ctrl + Home + Shift + 0	Snap Back Fader 10

Ctrl + End + 1	Release Fader 1
Ctrl + End + 2	Release Fader 2
Ctrl + End + 3	Release Fader 3
Ctrl + End + 4	Release Fader 4
Ctrl + End + 5	Release Fader 5
Ctrl + End + 6	Release Fader 6
Ctrl + End + 7	Release Fader 7
Ctrl + End + 8	Release Fader 8
Ctrl + End + 9	Release Fader 9
Ctrl + End + 0	Release Fader 10

MAXXYZ PC USB DMX

The Maxxyz PC USB DMX is designed to connect to a PC running Maxxyz PC or to one of the rear USB ports on a Maxxyz console and output 2 universes of DMX. The DMX USB can be configured so that any of it's two DMX ports can be assigned to any of the 32 universes of DMX that Maxxyz can generate.

Note: If using a USB hub to connect to one or more USB DMX boxes, it is important that the hub be a powered hub and that power is applied to that hub.

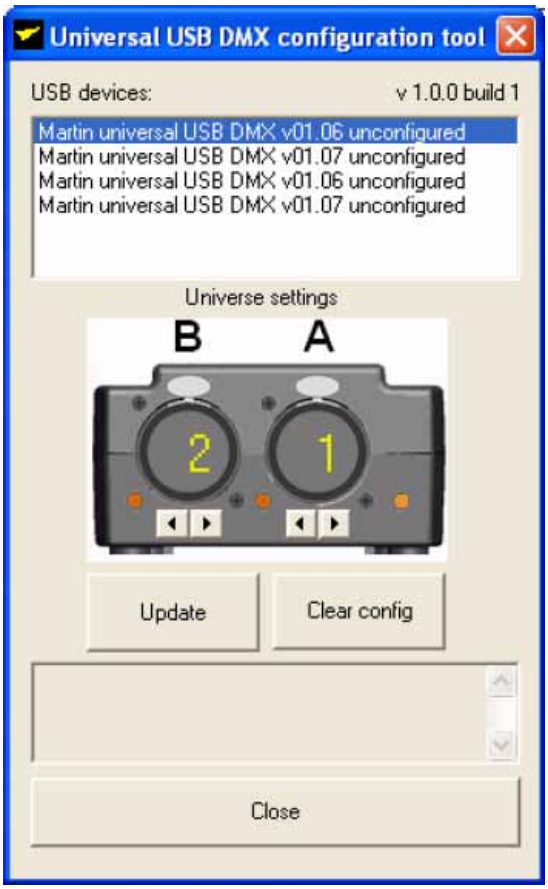
ASSIGNING DMX UNIVERSE NUMBERS

If USB DMX boxes are connected to operate with Maxxyz PC or console, DMX universes must be assigned to the output connectors of each USB DMX box. By default, all USB DMX boxes are configured as universes one and two. In order to access additional universes, follow the procedure below.

1 Connect USB DMX boxes to your PC or Maxxyz.

2 Open the program Start/All Programs/Martin Professional/Maxxyz PC/USB DMX Configuration or go to the Diagnostics section in the Menu of the Maxxyz.

The program will open the configuration screen.



3 Select one of the USB DMX boxes from the list. The right LED of the selected box will blink to indicate that it has been selected.

4 Assign a DMX universe number by either using the left/right arrow keys pictured below the connectors or by clicking on the connector and typing in the desired universe number. Repeat procedure for second DMX connector.

5 Press “Update” to store the configuration in the USB DMX box.

6 Repeat for any other USB DMX boxes required.

7 Press “Close” to close the configuration program and re-establish communication between the USB DMX boxes and Maxxyz PC.

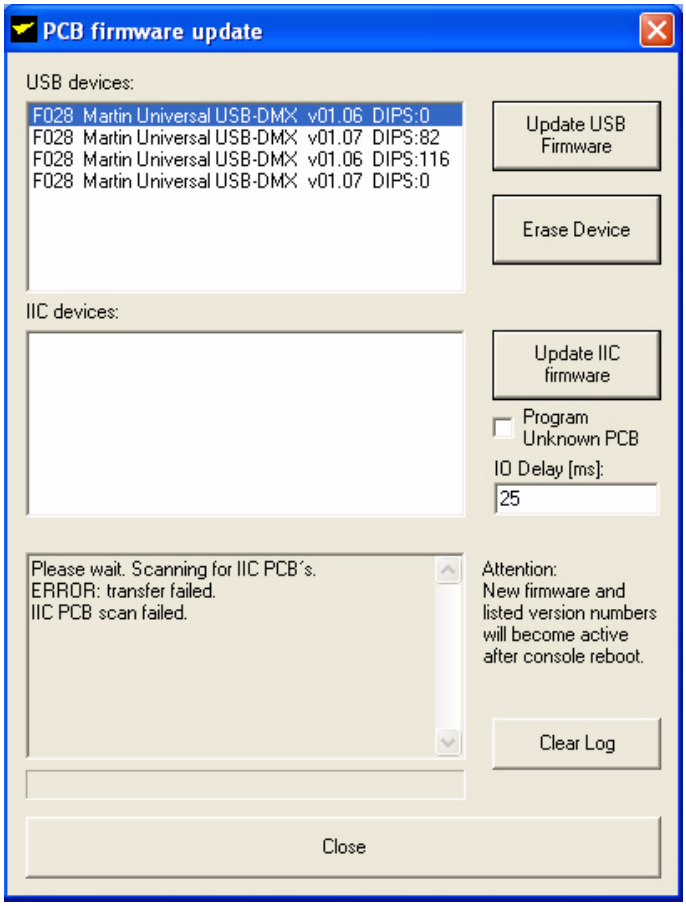
Note that this procedure requires the USB DMX box to have firmware version 1.06 or higher. Also, the DMX address is stored in the USB DMX box and it will retain that address, regardless of the system it is connected to, until it is changed using the same process.

UPDATING FIRMWARE ON USB DMX

New versions of firmware may periodically become available for the USB DMX box. These can be found on the Martin website at www.martin.com in the “support” section. To update the firmware in the USB DMX box, use the following procedure:

1 Connect USB DMX boxes to PC.

2 Open the program Start/All Programs/Martin Professional/Maxxyz PC/Utilities/Firmware Upgrade. The program will open the upgrade screen.

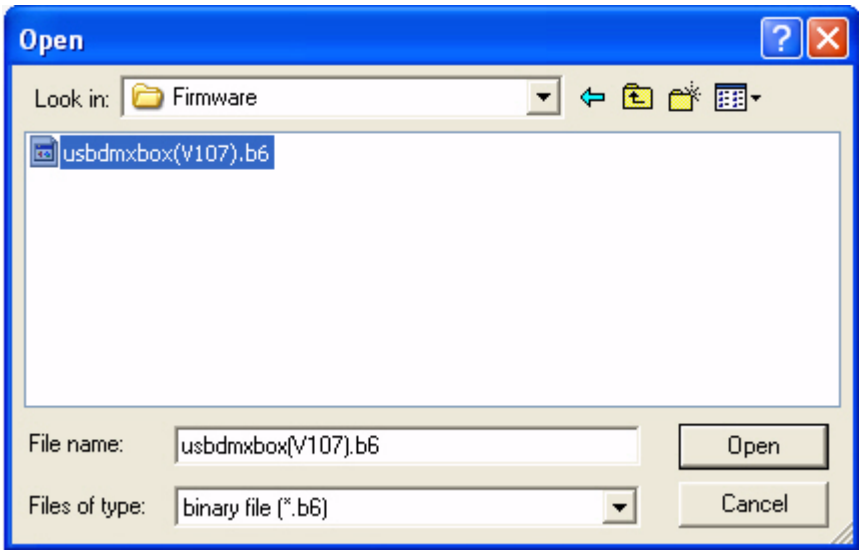


3 Select the device that needs the new firmware. The current firmware version is displayed to the right of the device name.

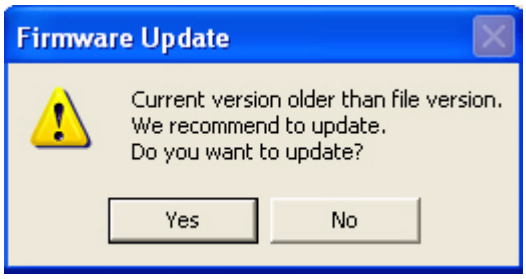
4 If the message “error: transfer failed, IIC PCB scan failed” appears, ignore it.

5 Select “Update USB Firmware”

6 Go to Program Files/Martin Professional/Maxxyz/Firmware and select the file “usbdmxbox(Vxyz).b6” where “xyz” represents the version. In the example below, the version is 1.07.

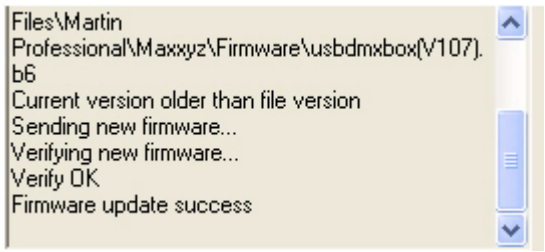


7 Select “Open” and the following message will appear:



8 Press “Yes.” At this point, do NOT unplug your USB DMX box and do NOT unplug you powered USB hub (if used). A loss of power during the reprogramming can cause permanent damage to the USB DMX box.

9 When the message “Firmware update success” appears, the USB DMX box has been reprogrammed. You MUST disconnect and then reconnect the USB DMX box for the new firmware to activate.



Repeat this process as required for all USB DMX boxes.

MAXXYZ MANAGER

Maxxyz Manager is an add-on application for the Martin Maxxyz PC. It can be used for various purposes from automation of an installation to live applications. The Scheduler module can be used to automate an installation so certain events happen at a specific time and date.

MAXXYZ MANAGER SYSTEM REQUIREMENTS

Maxxyz Manager can run on any system capable of supporting Maxxyz PC. See “System Requirements” on page 197 for more information.

MAXXYZ MANAGER RELEASE HISTORY

VERSION 1.0

Fixes

Changing event Types on scheduler set the offset to 0

Schedule Start commands are now ignore when use as action in a schedule to avoid loops

Calendar explorer colors are correct when using Maxxyz Theme

Calendar Explorer open to current date

Improvement

Faster Cuelist retrieval procedure

VERSION 0.8.7

New

Added Delay on Application Startup Action

Fixes

Action Group Editor now display the Executable name in the filed as expected;

VERSION 0.8.6

Fixes

Fix issue with Maxxyz PC running detection after Maxxyz PC was restarted

Improve resources usage when Scheduler is running

VERSION 0.8.5

New Features

New Startup screen with Load Show capability

New Menu items in Main screen to Load, Save and New show.

Scheduler

New option in Scheduler (Schedule Menu) to start the schedule without tracking through the events to call actions on Maxxyz

New option to start Scheduler without startup action.

VERSION 0.7.0

New Features

New Calendar rules

Every Odd Day

Every Even day

Every Friday to Sunday

Every Friday and Saturday

Fixes

Fixed default window size

VERSION 0.6 BETA

New Compiler D2005

Fix issues with Calendars Rules Editor

New additions to Telnet command list

TimePresetList	[TimePresetList] -Return a list of time preset
SetTimepreset	[SetTimepreset] -Set the time of a Time Preset No, H, M, S (24 hours values). Example: timepreset 1,16,55,30 will set time preset 1 @ 4:55:30 PM
SchUseCalendar	[SchUseCalendar] -Set the Scheduler to use the Calendar Rules
SetDate	[SetDate] -Set the Remote computer date (setdate YYYY, MM, DD). Example: setdate 2006,07,30 will set the date for July 30 2006
SetTime	[SetTime] -Set the Remote computer time (settime HH, MM, SS) is 24 hours format. Example: settime 19,13,30 will set the time for 7:13:30 PM
SetPosDec	[SetPosDec] -Set the geographical position in decimal value (setposdec Latitude, N or S, Longitude, E or W). Example: setposdec 45.5,N,34.3,E
SetPosDMS	[SetPosDMS] -Set the geographical position in degree, minute, second value (setposdms DD,MM,SS,N or S,DD,MM,SS,E or W). Example: setposdms 45,30,00,N,34,15,00,W

VERSION 0.5 BETA FIRST OFFICIAL BETA RELEASE

List of Telnet commands

ACT	[ACT #] -Action Group = where # is the Action Group Number
ActList	[ActList] -Will return the Maxxyz Manager Action List
ActName	[ActName #] -Will return the name of Maxxyz Manager Action name
BYE	[Bye] -Disconnect from server
CLRCLR	[CLRCLR] -Clear+Clear (clear the programmer)
CMD	[CMD #] -Internal Command where # is the Command Number
CmdList	[CmdList] -Will return the Maxxyz Manager Command List
CmdName	[CmdName #] -Will return the name of Maxxyz Manager Command name #
GQL	[GQL #] -Go Cuelist where # is the Cuelist Number
GSC	[GSC #] -Go Schedule where # is the Schedule Number
GTQ	[GTQ #,#] -Go to Cuelist where first # is the Cuelist Number and second is the cue number.
Help	Displays commands that server supports.
IsMxRun	[IsMxRun] -Will return the state of Maxxyz (Yes or No)
IsQLActive	[IsQLActive #] -Will return the state of Qlist # (Yes or No)
IsSchRun	[IsSchRun] -Will return the Scheduler state (yes or no)
Lastlog	[LastLog #] -Return the number of specified log lines starting from the end. Example: LastLog 10 will return the 10 last entry in the log. (300 Lines max)
PQL	[PQL #] -Pause Cuelist where # is the Cuelist Number
QLActive	[QLActive] -Will return a list of the current active cuelist
QLList	[QLList] -Will return a list of the available Cuelist
QLName	[QLName #] -Will return the name of Maxxyz Cuelist #
RAO	[RAO] -Release All Override
RAQL	[RAQL] -Release All Cuelist
RAQLDF	[RAQLDF] -Release All Cuelist Dimmer First
RAQLO	[RAQLO] -Release All Cuelist and Override
RAQLODF	[RAQLODF] -Release All Cuelist and Override Dimmer First
RQL	[RQL #] -Release Cuelist where # is the Cuelist Number
SchList	[SchList] -Will return the Maxxyz Manager Schedule List
SchName	[SchName #] -Will return the name of Maxxyz Manager Schedule name #
Status	[Status] -Will return a status report
WhoIAm	[WhoIAm] -Will Return your IP Address used to login on that server

List of Web Commands

MXM_GQL	[MXM_GQL_#] -Go Cuelist where # is the Cuelist Number
MXM_RQL	[MXM_RQL_#] -Release Cuelist where # is the Cuelist Number
MXM_PQL	[MXM_PQL_#] -Pause Cuelist where # is the Cuelist Number
MXM_SCH	[MXM_SCH_#] -Load Schedule where # is the Schedule Number
MXM_CMD	[MXM_CMD_#] -Call Internal Command where # is the Action Number
MXM_ACT	[MXM_ACT_#] -Call Action where # is the Action Number

INSTALLATION

Installing the Maxxyz Manager is simple. Run the Setup application (MaxxyzManage_1_0_0_setup) and simply follow the screen prompts. It is suggested that you use the default installation path, but if needed, the Maxxyz Manager can be installed anywhere you want on your hard drive. Start Maxxyz PC and you should now see a new item in the top menu (Maxxyz Manager). From there you can launch Maxxyz Manager.

START UP SCREEN

When you start Maxxyz Manager, you will see the following screen:

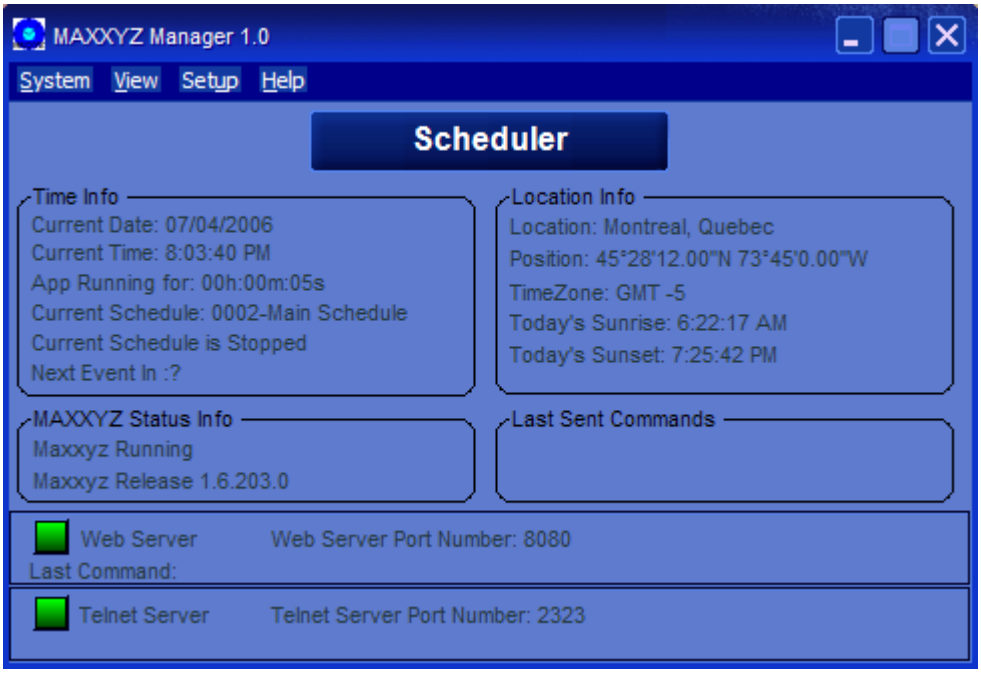
On the right side of the window, there are 5 options.

New Manager Data	To start a new Maxxyz Manager configuration. A prompt will ask to save current data.
Load Manager Data	To load a Maxxyz Manager configuration from a file. A prompt will ask to save current data. (The file extension is MXM.)
Cancel	Closes the program.
Continue	Continue with current data.

Auto Continue When checked, the Maxxyz Manager will start automatically within 15 seconds. Pressing any other buttons will cancel the auto launch.

MAXXYZ MANAGER LAUNCHER

The Maxxyz Manager Launcher allows you access to most of the application modules



The menu bar in this window contains four selections. The contents of each selection are detailed below.

System menu

- Restore All Windows - All minimized windows are restored
- Hide All Windows - Will hide all open windows. Use tray icon to restore the windows.
- Close All Windows - Will close all open windows except the main form
- Exit - Exit the Application

View menu

- Show Scheduler
- Show List of Schedule
- Show Scheduler Calendar
- Show Action Editor
- Show List of Actions
- Show/Hide Information Bar - This option shows or hides the status panel in the main form.

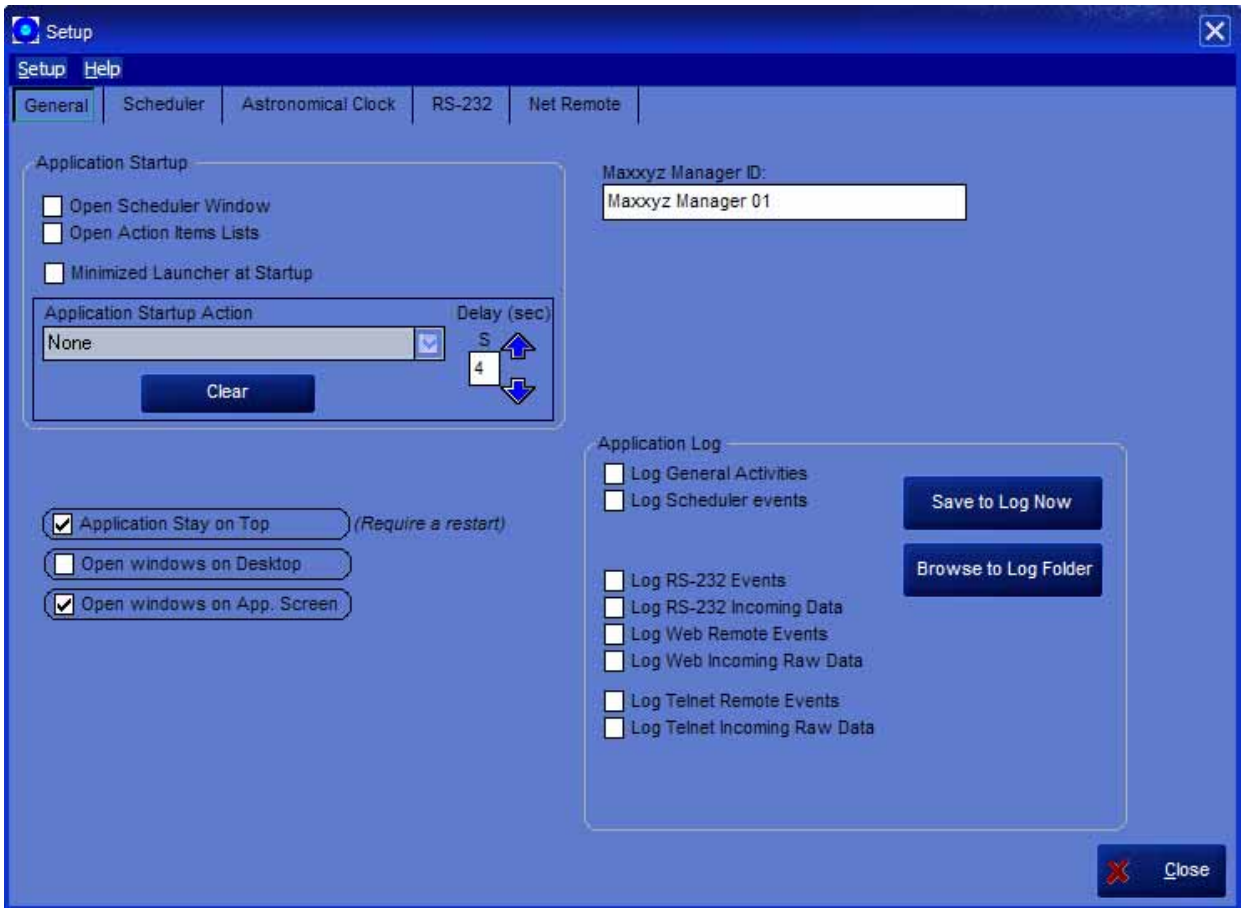
Setup - Click on setup to open the application setup screen.

Help - Opens the help file

Clicking on the “Scheduler” button found in the top middle of the window will open the Maxxyz Manager Scheduler.

SETTING UP MAXXYZ MANAGER

To access the set up functions of Maxxyz Manager, click on the “Setup” menu bar item and the following screen will appear:



You will note that there are five tabs across the top of the Setup screen: General, Scheduler, Astronomical Clock, RS-232 and Net Remote. We’ll look at each of these individually.

SETUP: GENERAL

Application Startup

Here you can select the windows to open when you start the application.

Application Startup Action

Select an Action to be called when the Application starts.You can use this setting to automatically open a Touch Panel window.

Minimized Launcher at Startup

When enabled, the Launcher (main screen) will be minimized to the system tray when the application starts.

Application Stay On Top

Use this setting to keep the application on top of other open applications.

Open Windows on Desktop

The window will be on the main desktop of the computer. Useful when switching from multi monitor to single monitor setup or when the computer screen resolution is switched to a smaller resolution.

Open Windows on App. Screen

Use this setting to force windows to open on the same monitor as the application main form.

Application Log

Activities on the Maxxyz Manager can be logged into a log file simple text file. Select the activities section you wish to monitor. A new Log file is created every time the Maxxyz Manager is started or when it reach 10,000 lines or around 300Kb. The log is primarily used for debugging or tracking events.

Save to Log Now

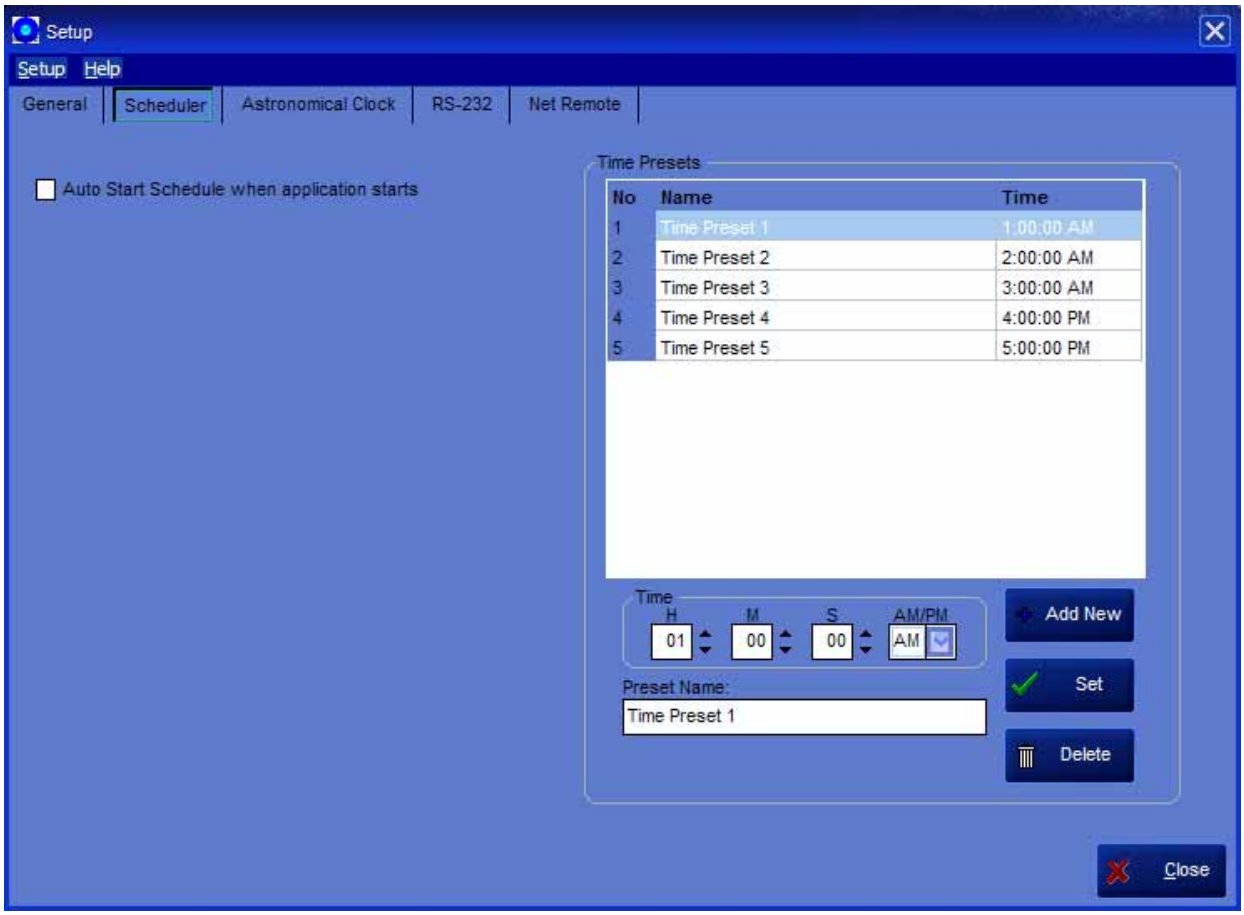
Press this button to have the Log file store immediately. Usually, the log is stored when the application is closed or when the log file exceeds 200Kb.

Browse to Log Folder

Press this button to open the Windows Explorer folder where log files are stored.

SETUP: SCHEDULER

Clicking on the Scheduler tab will bring up the following window:



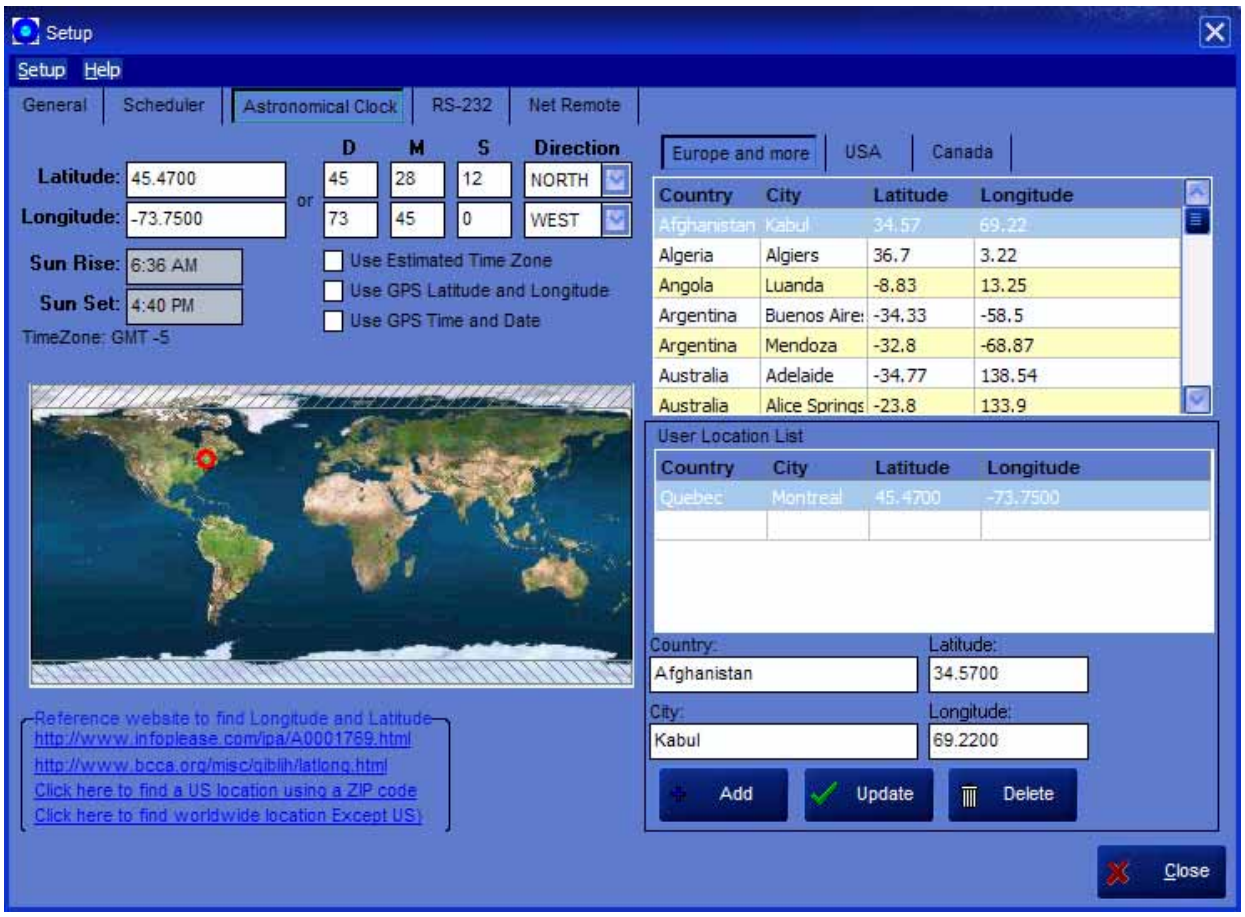
Scheduler Startup

Select the items to clear or release when the Scheduler starts. This is to ensure that Maxxyz PC is not overriding something that would prevent the show from running properly.

Auto Start Schedule

When enabled, the scheduler will automatically start when the application starts and Maxxyz PC is ready to receive commands.

SETUP: ASTRONOMICAL CLOCK



The Astronomical clock system is fairly simple. It uses the date, time zone, longitude and latitude to calculate the sunset and sunrise times for the specified location. Knowing the sunset and sunrise times can be helpful in automating an installation so the lights are only working when desired.

On the right side of the screen, a database of major cities in the world will help you to find the longitude and latitude for your city. Double clicking on one of those cities will copy the coordinates to the left side input fields

If the location you are looking for is not in the database, it is possible to manually add it to your user database. On the bottom left of the screen you will find links to several websites where you can search for your locations longitude and latitude. You can also click on the world map to set your location (although it is not a very precise way to find a location).

Other functions on this screen include:

<u>Use Estimated Time Zone</u>

Use this option if the time zone settings of the computer cannot match the actual time zone. Example: the installation is on a cruise ship, so you rely on a GPS to get the coordinates.

<u>Use GPS Latitude and Longitude</u>

When enabled, the longitude and latitude will be retrieved from a GPS input.

<u>Use GPS Time and Date</u>

When enabled, the Time and Date will be retrieved from the GPS input

<u>Add</u>

Adds an entry to the user database

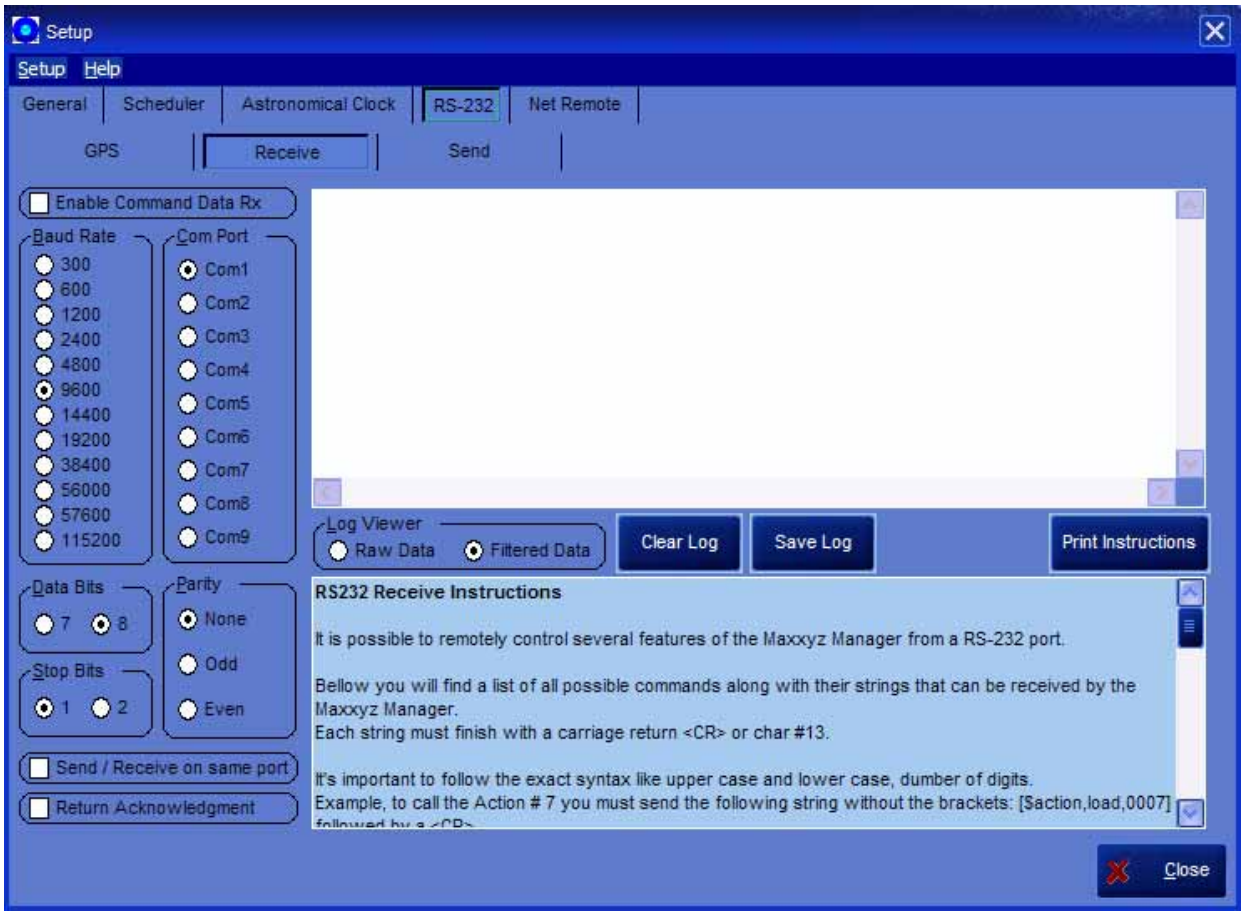
Update

Updates the current user database entry with what is on the user fields

Delete

Deletes the current user database entry

SETUP: RS-232



You can see that the RS-232 tab has three pages: GPS, Receive, and Send. The settings on each of these pages is very similar.

Enable...

Use this to enable the com port. If the settings are not good or the com port is already busy an error will appear.

Baud Rate

Select the appropriate baud rate for the com port. 9600 is a standard.

Com Port

Select the appropriate com port

Parity

Generally, this will be set to None.

Data Bits

Generally, this is set to 8.

Stop Bits

Generally, this is set to 1.

Send/Return on same port

Most of the time this setting will be enabled, but by disabling, you can send and receive data on a separate ports.

Return Acknowledgement

When a command is received by the application a string message will be sent back to the sender.

RS-232 Receive Instructions

It is possible to remotely control several features of the Maxxyz Manager from a RS-232 port. Below you will find a list of all possible commands along with the strings that can be received by the Maxxyz Manager. Each string must finish with a carriage return <CR> or char #13. It's important to follow the exact syntax such as upper case and lower case, and number of digits.

For example, to call the Action # 7 you must send the following string without the brackets: [$action,load,0007] followed by a <CR>. <CR> can be express as #13 or #X0D

RS-232 Receive Command List

Command	String to send
Load action #	$act,load,0000
Maxxyz Go Cuelist #	$mx,gql,00000
Maxxyz Pause Cuelist #	$mx,pql,00000
Maxxyz Release Cuelist #	$mx,rql,00000
Load Schedule specific schedule #	$sch,load,0000
Start Schedule	$sch,start
Stop Schedule	$sch,stop
Use Calendar Schedule	$sch,usecalendar
Set Preset Time (Preset No, Hour,Minute,Second)	$timepreset,000,00,00,00
Set Position Decimal (Lat,N,Long,W)	$posdec,00.0000,N,000.0000,W
Set Position DMS (Lat D,M,S,N,Long D,M,S,W)	$posdms,00,00,00,N,000,00,00,W
Set Time (Hr, Min, Sec) (24 hours)	$time,00,00,00
Set Date (day,month,year)	$date,00,00,0000

RS-232 Send

Strings of any format can be sent. Simply create or edit an Action and in the tab “MISC” you will be able to create a script to be sent via RS232.

ASCII character strings

Characters sent from Maxxyz Manager are converted into individual ASCII character values before transmitting the RS-232 command. E.g. the command-string "Command123" sent from

Maxxyz is translated into the following binary values: [67][111][109][109][97][110][100][49][50][51], and the command-string "123" is translated into [49][50][51].

Decimal values

Use # to indicate that the values following is to be considered a decimal value. E.g. the command string "#123#1#2#3" is translated into [123][1][2][3], and "Test#1#2#3" is translated into [84][101][115][116][1][2][3]. Valid decimal values are in the range of 0 to 255.

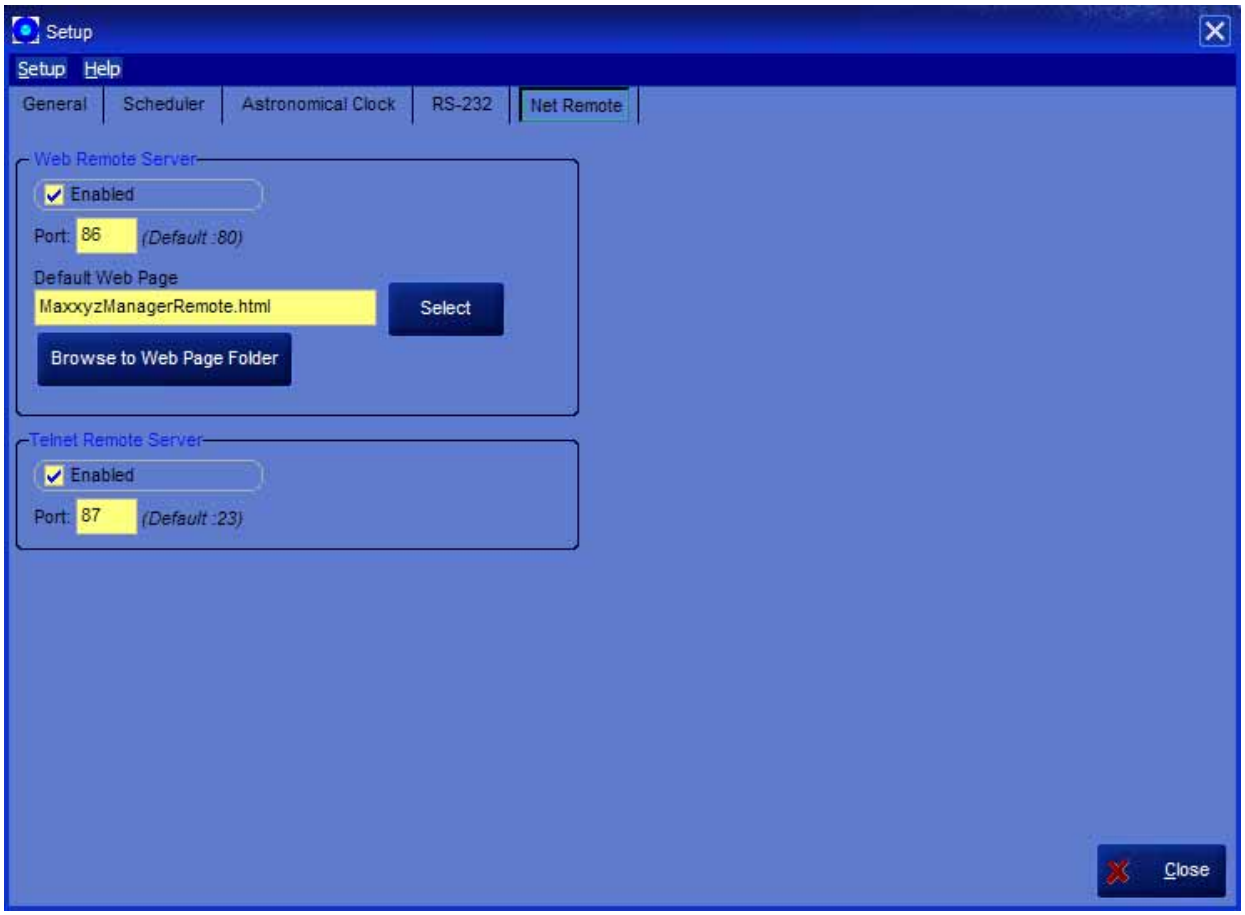
Hexadecimal values

Use #X to indicate that a hexadecimal value is following. E.g the command string "#X00#X01#XFF "is translated into [0][1][255], and "Test#X01#XFF" is translated into [84][101][115][116][1][255]. Valid hexadecimal decimal values are in the range of 00 to FF and hexadecimal values must always be written as two characters (#X1 is not valid #X01 is).

Special Characters

Since # is used to indicate that the value following is a decimal or hexadecimal value the only way to send the ASCII value of # (decimal 35) is to send it as a decimal or hexadecimal value (35 or 0x23). E.g. to send the string "#TEST" to a RS-232 device use the following command: "#35TEST" or to send the string "!TEST to a RS-232 device use the following command: "#33TEST"

SETUP: NET REMOTE



Web Remote Server

Use the Web Remote Server to control the Maxxyz/Maxxyz Manager over a network or Web.

Port

The default HTML port is 80, but it can be changed to any number between 1 and 65535 However certain port are reserved such as Port 21 is used for an FTP server. The port numbers are divided into three ranges: Well Known Ports, Registered Ports, and Dynamic and/or Private Ports. The Well Known Ports are those from 0 through 1023. The Registered Ports are those from 1024 through 49151. The Dynamic and/or Private Ports are those from 49152 through 65535. A complete list can be found here http://www.iana.org/assignments/port-numbers.

The port number must not be used by any other application such as Windows Web Server or a telephony application like Skype that uses Port 80 to transmit data.

Default Web Page

Once you have built some web pages, you can assign one page as the default. This page will be loaded when the Web Server root is accessed. For example, if the default page is "TouchPanel_0001.html", Address http://127.0.0.1 or http://127.0.0.1/TouchPanel_0001.html will browse to the same page.

Browse to Web Page Folder

Press this button to open the Windows Explorer to the folder where all HTML files are stored.

HTML Commands

To activate something on the Maxxyz Manager, it is necessary to have the proper syntax. All Commands start with ?MXM_ followed by the action type and then action number. For example, to call Action 17 the command would be ?MXM_ACT_17.

List of Web Commands

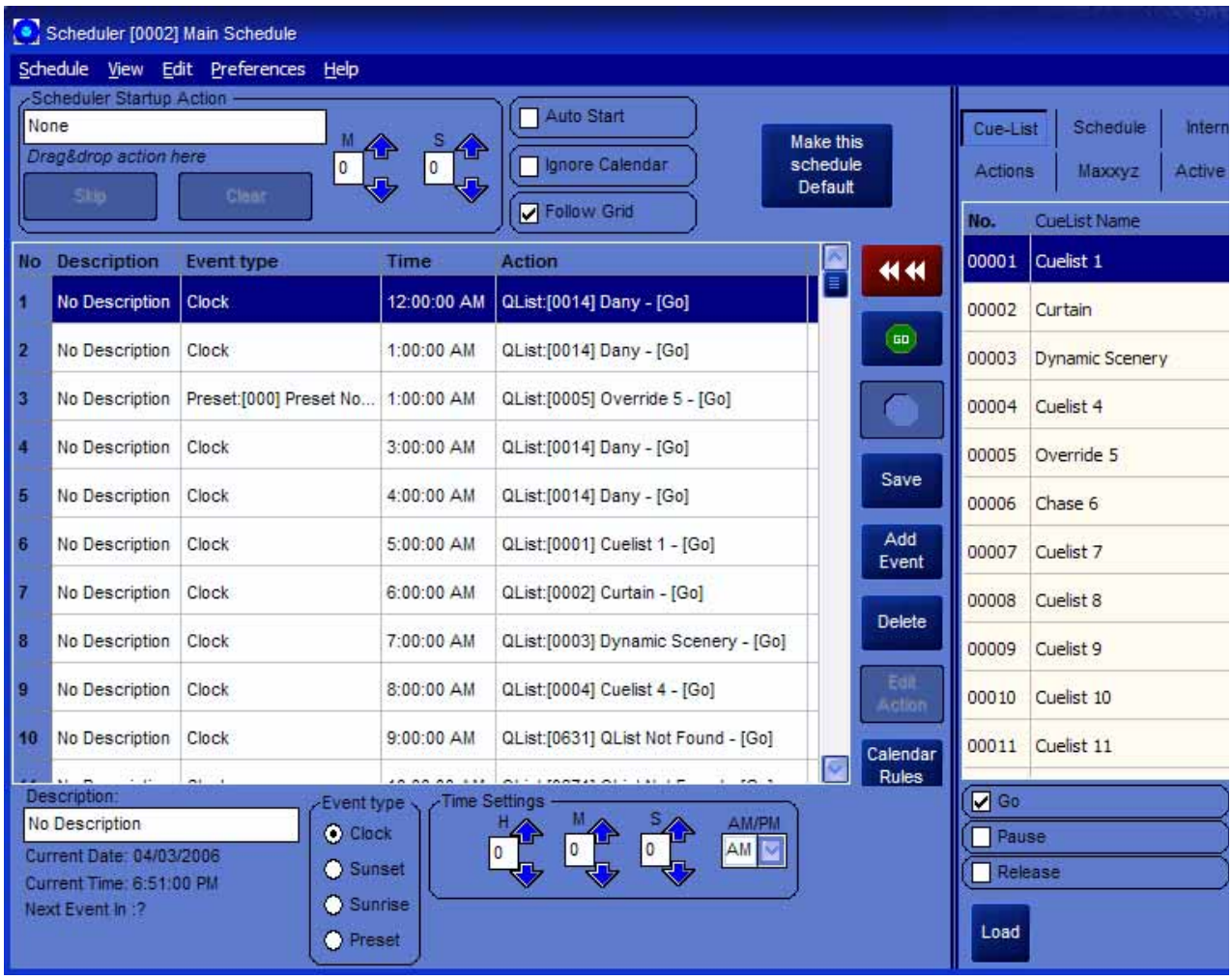
MXM_GQL	[MXM_GQL_#] -Go Cuelist where # is the Cuelist Number
MXM_RQL	[MXM_RQL_#] -Release Cuelist where # is the Cuelist Number
MXM_PQL	[MXM_PQL_#] -Pause Cuelist where # is the Cuelist Number
MXM_SCH	[MXM_SCH_#] -Load Schedule where # is the Schedule Number
MXM_CMD	[MXM_CMD_#] -Call Internal Command where # is the Action Number
MXM_ACT	[MXM_ACT_#] -Call Action where # is the Action Number

List of Telnet commands

ACT	[ACT #] -Action Group = where # is the Action Group Number
ActList	[ActList] -Will return the Maxxyz Manager Action List
ActName	[ActName #] -Will return the name of Maxxyz Manager Action name
BYE	[Bye] -Disconnect from server
CLRCLR	[CLRCLR] -Clear+Clear (clear the programmer)
CMD	[CMD #] -Internal Command where # is the Command Number
CmdList	[CmdList] -Will return the Maxxyz Manager Command List
CmdName	[CmdName #] -Will return the name of Maxxyz Manager Command name #
GQL	[GQL #] -Go Cuelist where # is the Cuelist Number

GSC	[GSC #] -Go Schedule where # is the Schedule Number
GTQ	[GTQ #,#] -Go to Cuelist where first # is the Cuelist Number and second is the cue number.
Help	Displays commands that server supports.
IsMxRun	[IsMxRun] -Will return the state of Maxxyz (Yes or No)
IsQLActive	[IsQLActive #] -Will return the state of Qlist # (Yes or No)
IsSchRun	[IsSchRun] -Will return the Scheduler state (yes or no)
Lastlog	[LastLog #] -Return the number of specified log lines starting from the end. Example: LastLog 10 will return the 10 last entry in the log. (300 Lines max)
PQL	[PQL #] -Pause Cuelist where # is the Cuelist Number
QLActive	[QLActive] -Will return a list of the current active cuelist
QLList	[QLList] -Will return a list of the available Cuelist
QLName	[QLName #] -Will return the name of Maxxyz Cuelist #
RAO	[RAO] -Release All Override
RAQL	[RAQL] -Release All Cuelist
RAQLDF	[RAQLDF] -Release All Cuelist Dimmer First
RAQLO	[RAQLO] -Release All Cuelist and Override
RAQLODF	[RAQLODF] -Release All Cuelist and Override Dimmer First
RQL	[RQL #] -Release Cuelist where # is the Cuelist Number
SchList	[SchList] -Will return the Maxxyz Manager Schedule List
SchName	[SchName #] -Will return the name of Maxxyz Manager Schedule name #
Status	[Status] -Will return a status report
WhoIAm	[WhoIAm] -Will Return your IP Address used to login on that server
TimePresetList	[TimePresetList] -Return a list of time preset
SetTimepreset	[SetTimepreset] -Set the time of a Time Preset No, H, M, S (24 hours values). Example: timepreset 1,16,55,30 will set time preset 1 @ 4:55:30 PM
SchUseCalendar	[SchUseCalendar] -Set the Scheduler to use the Calendar Rules
SetDate	[SetDate] -Set the Remote computer date (setdate YYYY, MM, DD). Example: setdate 2006,07,30 will set the date for July 30 2006
SetTime	[SetTime] -Set the Remote computer time (settime HH, MM, SS) is 24 hours format. Example: settime 19,13,30 will set the time for 7:13:30 PM
SetPosDec	[SetPosDec] -Set the geographical position in decimal value (setposdec Latitude, N or S, Longitude, E or W). Example: setposdec 45.5,N,34.3,E
SetPosDMS	[SetPosDMS] -Set the geographical position in degree, minute, second value (setposdms DD,MM,SS,N or S,DD,MM,SS,E or W). Example: setposdms 45,30,00,N,34,15,00,W

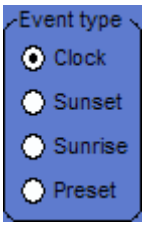
MAXXYZ MANAGER SCHEDULER



Scheduler is a 24 hour based list of events. Each event can be set to use the normal PC clock or to use sunset, sunrise or preset times. Sunset, sunrise and preset times can be offset. For an event to occur 1 hour before sunset, you can set the offset to -1 hour. The Grid displays the events in the current schedule. The “description” field is optional. You may enter any text you want here to describe the event.

SCHEDULER EVENT TYPES

Displays the event type chosen (Clock, Sunset, Sunrise or Preset). When sunset, sunrise or preset is chosen, it also displays the time’s offset value.



Clock

The time of the event is base on a specific set time.

Sunset

The Event will be trigger according the current day Sunset

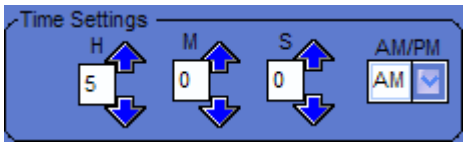
Sunrise

The Event will be trigger according the current day Sunrise

Preset

The Event will be triggered according a preset time set by the user in the Scheduler Setup. Preset can be used to globally change a time. If for example, the opening of a location is usually 9:00AM, you could set a preset called Opening for 9:00AM. You would use that preset when ever you want to trigger an event at the opening. Now, if the opening time was ever to changed to 8:30AM, a simple change to the preset will change the time of all the schedules that use this preset.

TIME

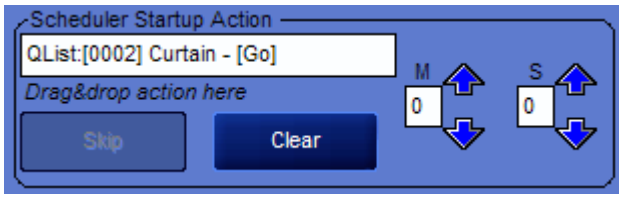


This field shows the time at which an event will happen. Note that when using sunset or sunrise type events, this time value is relative to the date and geographical position entered in the setup.

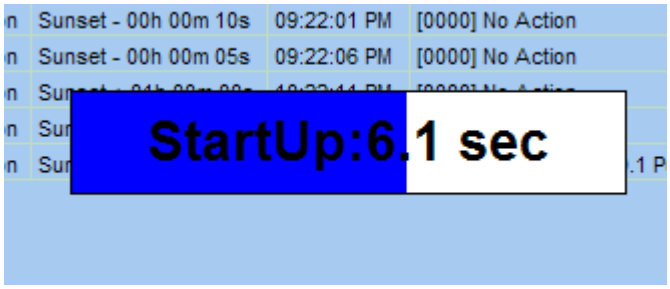
ACTION

The Action field displays the chosen Action. The Action can be dragged and dropped from the Action list window. If the selected event is an action group, it can be edited by right-clicking on the grid and choosing Edit Current Event Action.

STARTUP ACTION



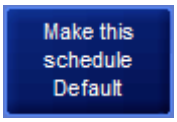
Use this feature to have an action called every time the Scheduler start. For example, this can be useful if you want to have a Lamp ON command sent for a specific period of time when the schedule starts.



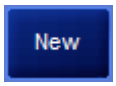
This option must be enabled if you want the Scheduler to automatically start when Maxxyz Manager starts.

Use this option to test schedule without having the calendar settings loading the current schedule according to the calendar rules.

When the schedule is running the current event line remain in view



Use this button to have the current schedule as default schedule (no use of the Calendar rules).

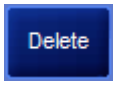


New schedule

Open list of saved schedules

Opens Save Schedule dialogue

Add event to a schedule



Delete selected event from schedule

Edit current event action

Open the “Calendar Rules” editor

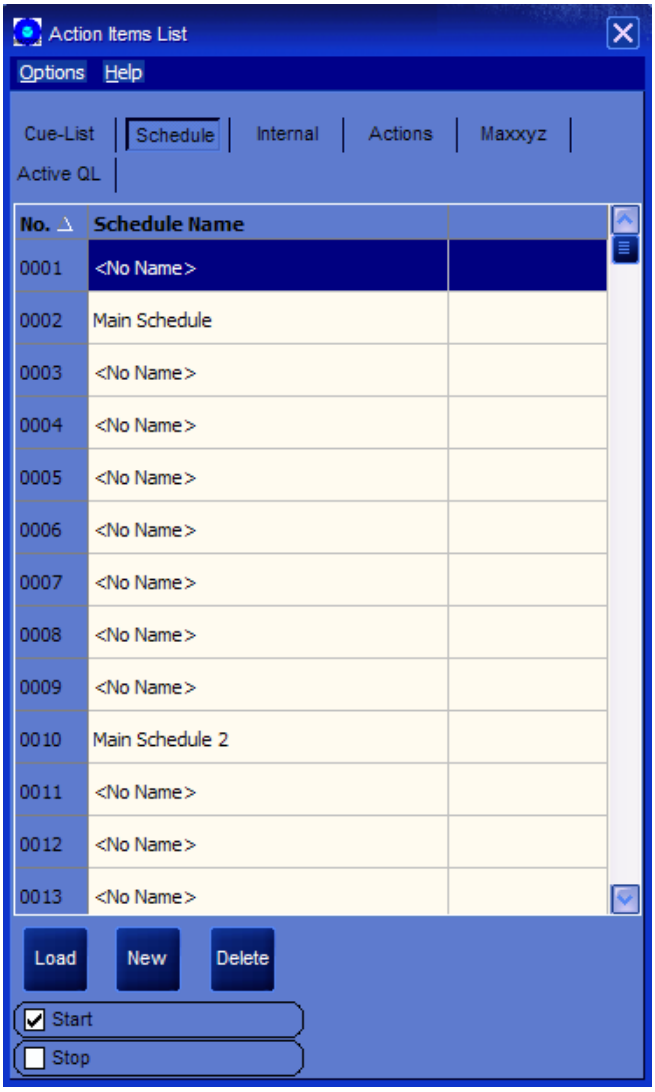
Start schedule

Stop schedule

From the main menu, their are three additional selections.

Go	Start Schedule with Startup Action first
Go (Without Startup Action)	Start Schedule without using the Startup Action first
Go (Without Tracking)	Start Schedule without tracking through all the events and calling their actions until the time of the day is met. Use this option to restart the Schedule in the middle of operation.

LIST OF SCHEDULES



This list contains all the Schedules created. Double clicking on a Schedule will open it in the Scheduler. Clicking on a column header will sort the list by that column.

Open

Open the selected Schedule in the Scheduler

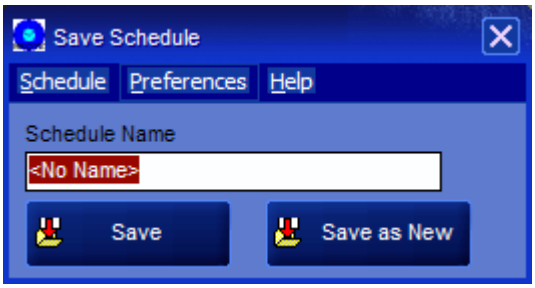
Delete

Delete the currently selected schedule.

New

Start a new schedule

SAVE SCHEDULE CONTROL



Schedule Name

Enter the name of the schedule here. (Up to 32 characters)

Save

Save the Schedule to the current schedule (the current schedule will be overwritten)

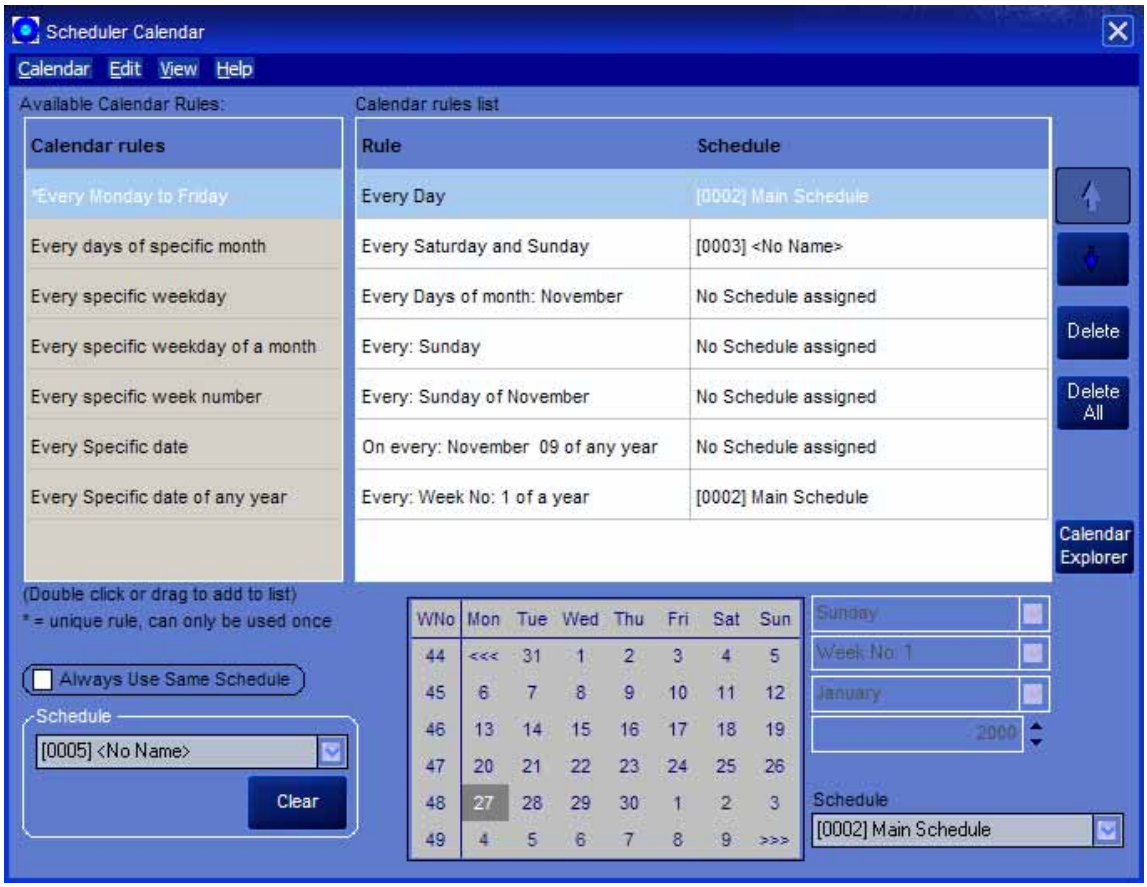
Save As New

The schedule will be saved as a new schedule

Preferences

Auto Close: The Save Dialog is automatically closed when the schedule is saved.

SCHEDULER CALENDAR RULES



This window allows you to create a set of rules that will dictate which schedule will be loaded for a particular day. On the left side, you have all the rules available and on the right side you have the rule list. By dragging or double clicking you can add a rule to the list. To assign a schedule to a rule, simply drag the schedule from the List of schedules to the schedule column.

The rules work as follows: the lowest priority is at the top of the list and the highest priority is at the bottom. The first rules could be "Everyday", this means that everyday a specified schedule would be loaded. But if you wanted something different on a Wednesday you simply add the rule "Every specific weekday" and choose Wednesday from the drop list at the bottom. Now you have forced the schedule to load a different Schedule on Wednesday than on the other days. You can stack as many rules as you wish in this manner.

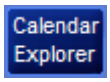
When this is enabled, the calendar rules are ignored and the specified Schedule will always be used until the rules are enabled again. This is useful to bypass the calendar rules on special occasions.

Move the selected item up one place.

Move the selected item down one place.

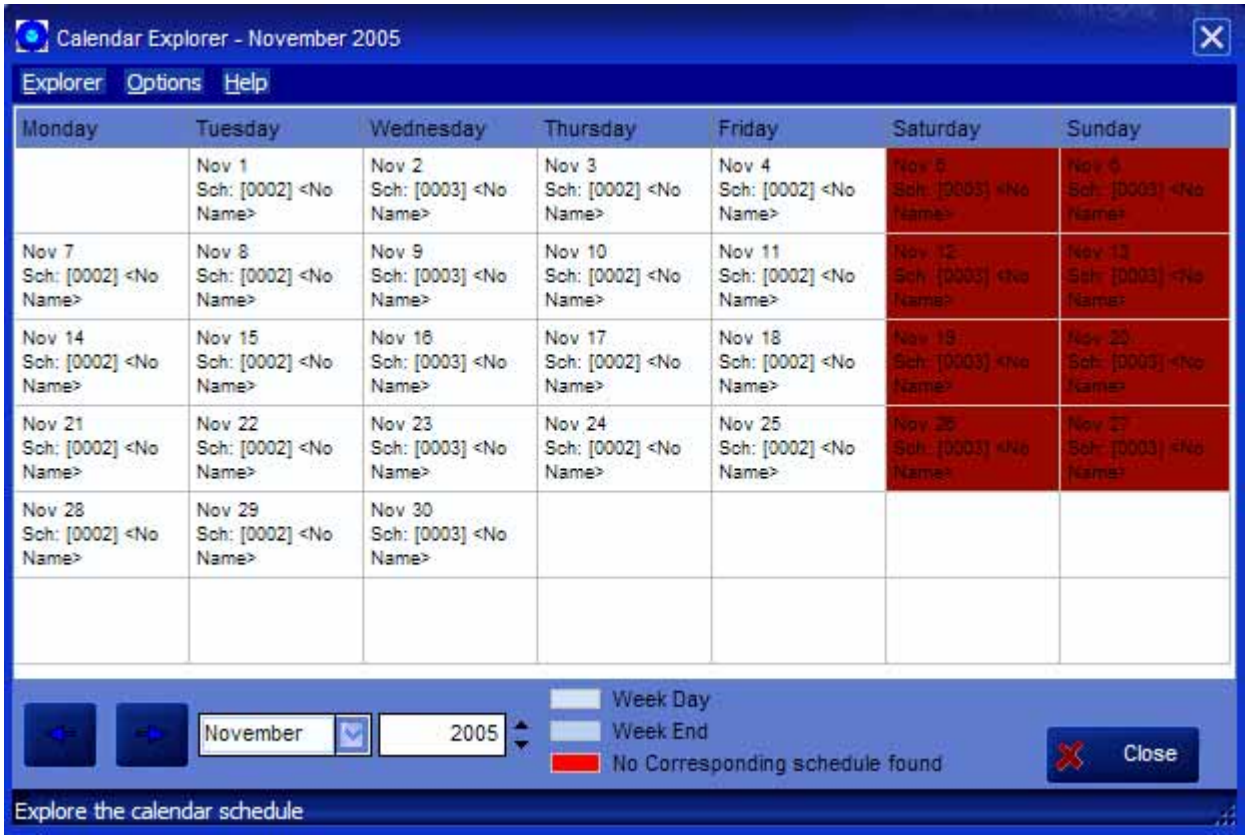
Delete selected item(s)

Delete all items



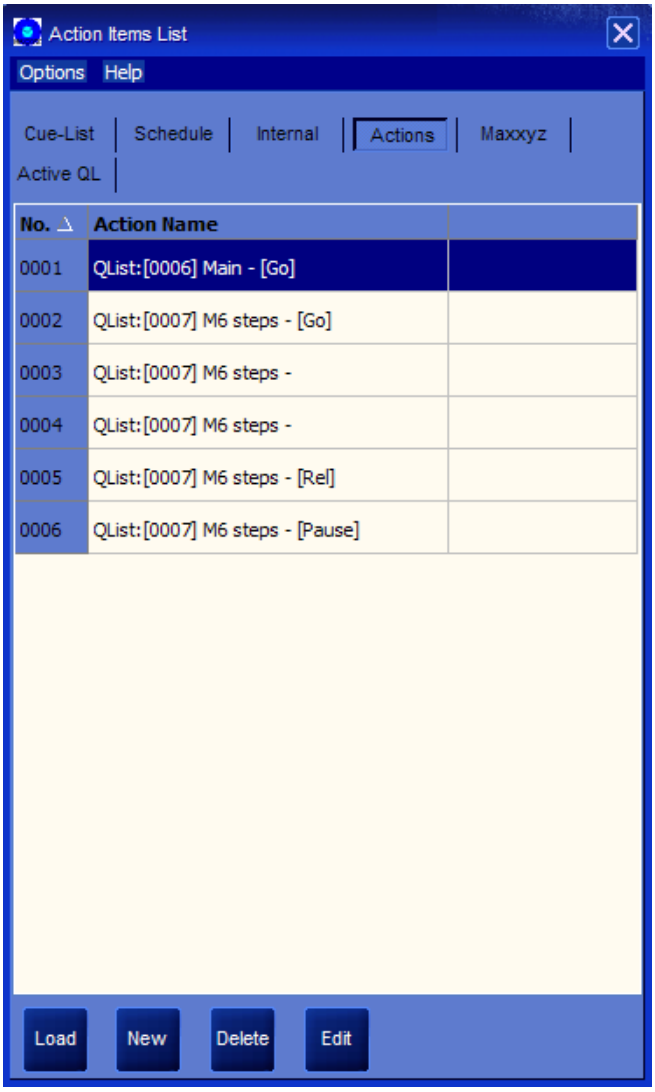
Opens the Calendar Explorer

SCHEDULER CALENDAR EXPLORER



This window shows the results of the calendar rules. If no schedule is set for a day, it will be shown in red. This also displays the Sunset, Sunrise, hours of daylight and night for each day.

List of Actions



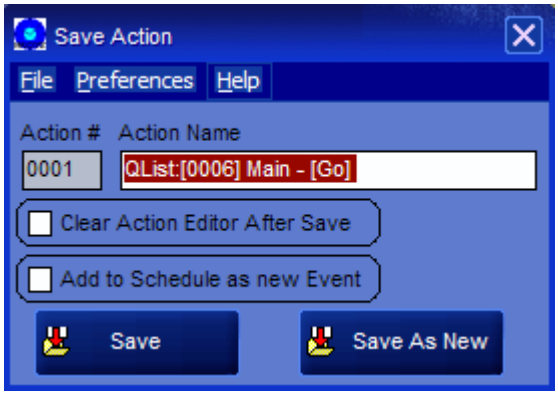
This list contains all the Actions Group created. A double click on an Action will open it in the Action Editor. Actions can be Dragged and Dropped directly onto a Schedule Event or to a Touch Panel button.

Deletes the selected actions

Opens the action in the Action Editor

Opens the Action Editor ready for a new action

SAVE ACTION CONTROL



Action#

This number is used for internal tracking of the action. It can't be changed by the user

Action Name

Enter the name of the action here. (up to 32 characters)

Clear Action Editor After Save

Once the Action is saved, the editor will be cleared and is ready for a new action

Add to Schedule as new Event

If selected, the current action you are saving will be added to the schedule as a new event.

Save

Save the Action to the current action number

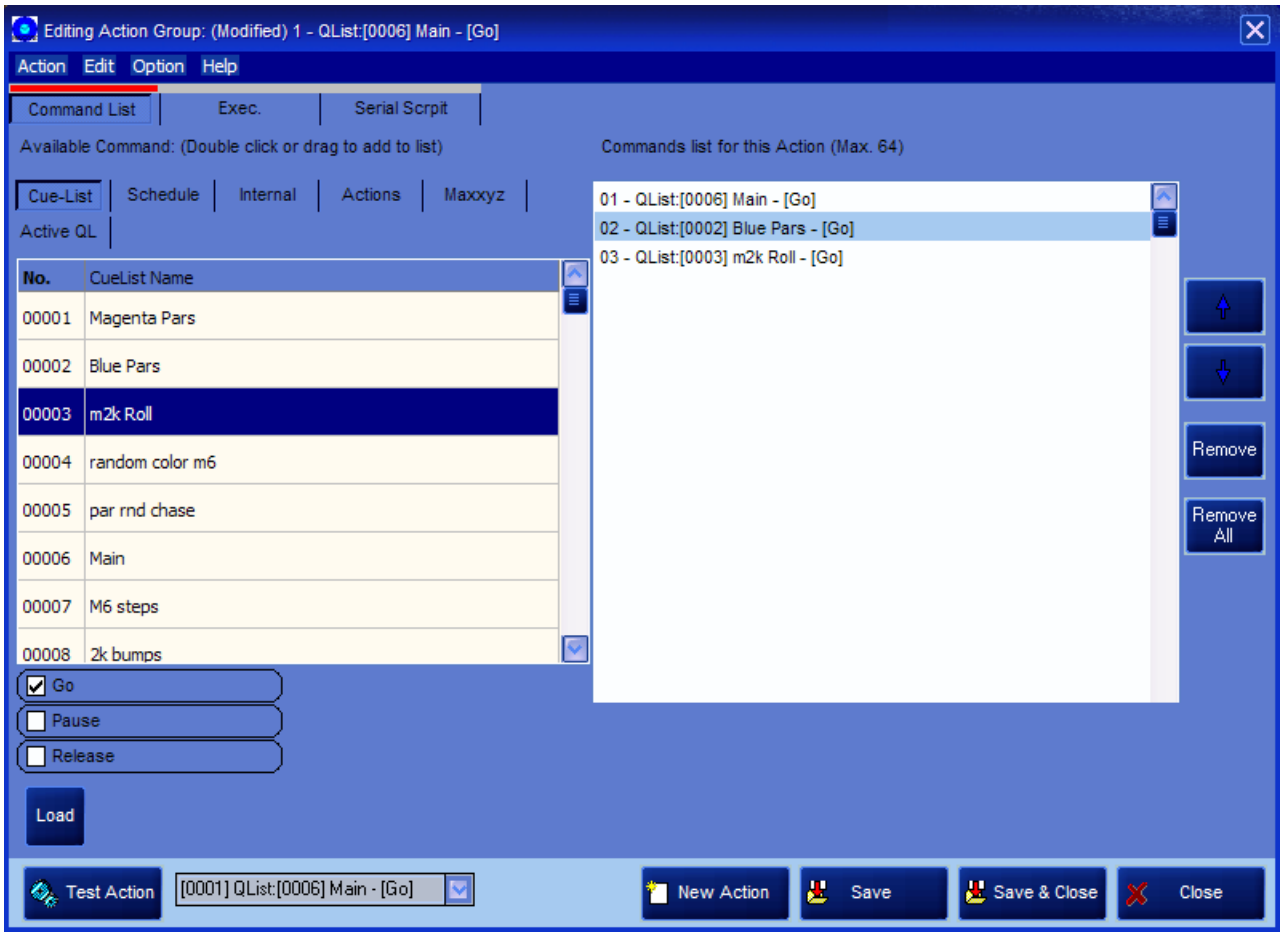
Save As New

The Action will be save as a new action

Preferences

Auto Close - If enabled the control window will be closed after saving

ACTION EDITOR



The Action Editor contains a list of available commands on the left and a list of used commands on the right. The far left is a list of pages for the different command types available. To add a command to the list double click the command or drag the command from the left list to the right list.

Click here to test the current action in the editor.

Clears the editor and starts a new action.

Opens the Save Action control

If the Action as been previously saved, it will be re-saved and the editor will close. If it's not saved, the Save Action control will open.

Moves the selected item up one place.

Moves the selected item down one place.

Remove the selected item(s) in the command list.

Removes all items in the command list.

MENUS

Action

New Action - Clear the editor and start a new Action

Load Action - Open the Action List

Save Action - Open the Save Action control

Test Action - Test the current action in the editor

Close - Close this control, if the action is not saved, you will be prompted

Edit

Remove all Commands - Delete all items in the commands list

Remove Selected Command(s) - Delete selected item(s) in the commands list

Clear Exec Command - Clear both fields in the Executable tab

Clear Script - Clear the selected script in the Script Tab

Delete Script - Delete Selected Script

New Script - Start a New Script

Save Script - Save Current Script

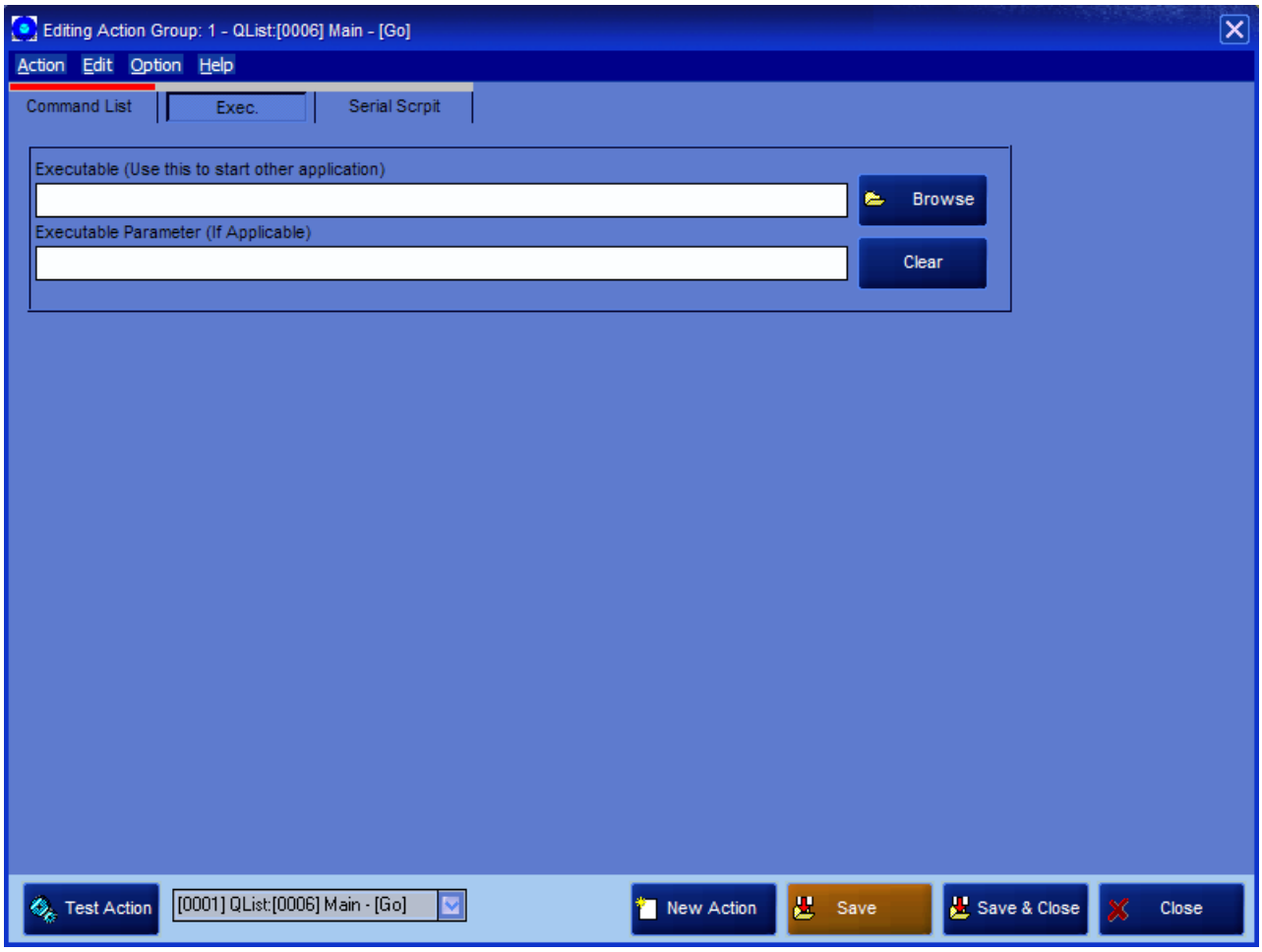
View

Show Action Items List - Open the Action Items list, from there you can automatically create actions

Option

Auto Generate Title - When enabled, the action title will change automatically according the first item on the list, If more than one items on the list, ellipsis is added at the end of the title.

ACTION EDITOR EXECUTABLE



An Action can start a executable, batch file, video, image or pretty much anything that can be opened in Windows!

The first field is the one containing the object to open, while the second field can be used to pass parameters to the command.

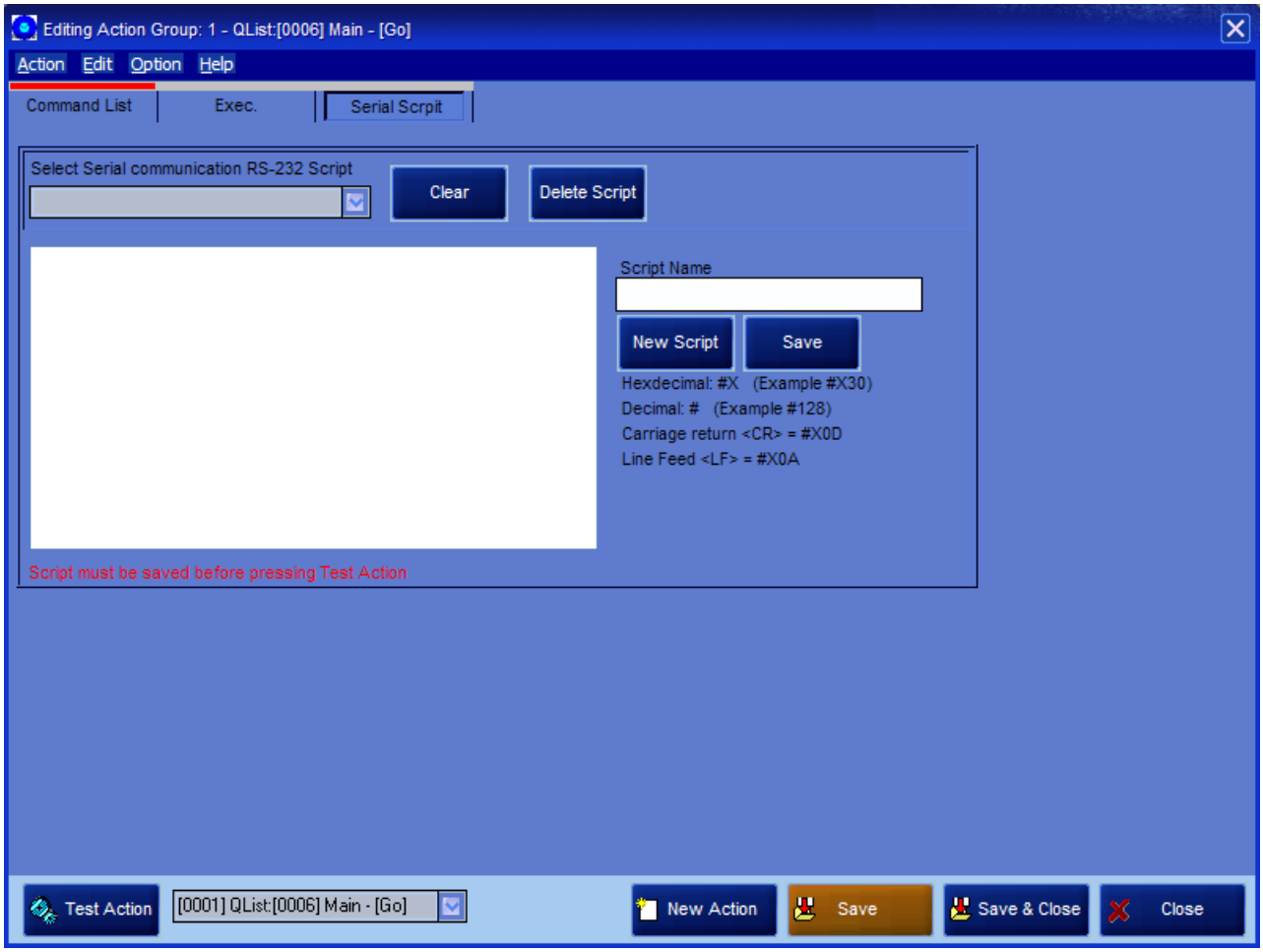
Browse

To browse for a file - in the “File of Type” dropdown you can choose between Executable, (*.exe), Batch file (*.bat) or all (*.*)

Clear

Clear both fields

ACTION EDITOR SCRIPT



Scripts are created and assigned from this page. A script is a simple text file that will be sent through the RS-232 port.

RS-232 Script

A String of any format can be sent, simply create or edit an Action and in the MISC tab.you will be able to create a script to be sent via RS232.

RS-232 command syntax

ASCII character strings

Characters sent from Maxxyz Manager are converted into individual ASCII character values before transmitting the RS-232 command. E.g. the command-string "Command123" sent from Maxxyz is translated into the following binary values: [67][111][109][109][97][110][100][49][50][51], and the command-string "123" is translated into [49][50][51]

Decimal values

Use # to indicate that the values following is to be considered a decimal value. E.g. the command string "#123#1#2#3" is translated into [123][1][2][3], and "Test#1#2#3" is translated into [84][101][115][116][1][2][3]. Valid decimal values are in the range of 0 to 255.

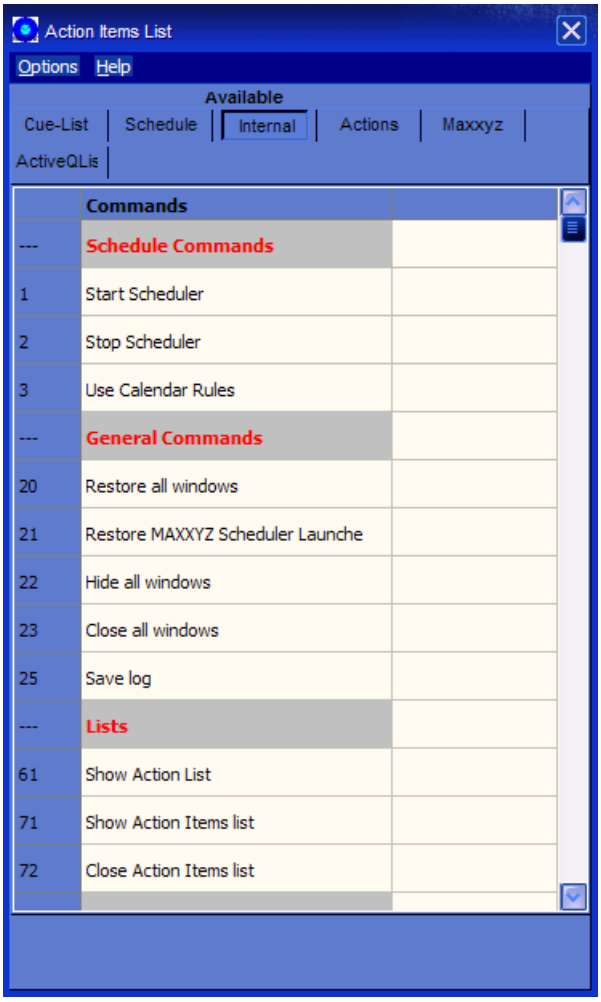
Hexadecimal values

Use #X to indicate that a hexadecimal value is following. E.g the command string "#X00#X01#XFF "is translated into [0][1][255], and "Test#X01#XFF" is translated into [84][101][115][116][1][255]. Valid hexadecimal decimal values are in the range of 00 to FF and hexadecimal values must always be written as two characters (#X1 is not valid #X01 is).

Special Characters

Since # is used to indicate that the value following is a decimal or hexadecimal value the only way to send the ASCII value of # (decimal 35) is to send it as a decimal or hexadecimal value (35 or 0x23). E.g. to send the string "#TEST" to a RS-232 device use the following command: "#35TEST" or to send the string "!TEST to a RS-232 device use the following command: "#33TEST"

Action Items List



This window shows all the items available as actions in the Maxxyz Manager: Cuelists Functions, Schedule, Internal Commands, Action Groups. From this window you can drag and drop items directly onto the Scheduler. If an Action Group already exists at the drop location, the item will be replaced with the new dropped item but if the CTRL key is held down while drag and drop operation, the item will be added to the action group command list.

If no action exists at the drop location and the CTRL key is held down, a new action will be created automatically and the name of the action will be the same as the items plus a suffix describing the items type Certain item types have optional parameters such as Start, Stop, Toggle, Open, Close. Select the desired option before dragging to target.

How To Use Maxxyz Manager

How to create an Action Group

An Action Group is one or several commands sent to Maxxyz PC or to the Maxxyz Manager itself. If the schedule event or touch panel button only requires one item (example: One cue) you don't have to create an action Group

There are different ways of creating an action, let's start with the standard way:

- Make sure Maxxyz PC is running
- From the Maxxyz Manager launcher go to the VIEW menu and click on Action Editor
- On the command list select the category you want, (Example Maxxyz CUELIST)
- Drag the Cue from the left column to the right column, you can also double-click to move the item from one column to the other.
- Up to 64 commands can be placed in the same action, but for now, lets keep it simple.
- Press the Save Button and the Save window will open
- As you can see there's already a name on the field, that's because the Maxxyz Manager automatically looks for what's in the action and determines a name.
- Press Save As New and you have created a new action.

Another way of creating actions is to use the "Show Action Items List."

- Make sure Maxxyz PC is running
- From the Maxxyz Manager launcher go to the VIEW menu and click on Show Action Items List
- A list of all the items from Maxxyz will be shown
- Choose a category (Example Function)
- Select one or multiple items in the list
- Right-Click and select "Create New Action"
- Maxxyz Manager will create the new actions, and each action will have the same name as the item you put in it.

Finally you can create an action simply by dragging an item from the Show Action Items List list onto an event in the Scheduler while holding down the CTRL key.

How to create a Schedule

Creating a schedule requires some planing and preparation. All the different elements of the show must first be programmed into the Maxxyz. Each step of the schedule must be well thought out - such as lamp strike, lamp off, reset of fixtures, etc. Then, add all the actions needed to the Schedule and set the time for each event.

If you are using the Sunset and Sunrise feature (Astronomical clock), a location setup must be set first. Use the description field to add comments for future reference, this will help if someone else has to modify the schedule you made. Lastly, save the schedule

If more then one schedule is needed, create all of them before doing the Calendar Rules.

Once finished, you must then create a set of rules in the Calendar Rules editor.

How to create a Calendar Rules

Calendar Rules is a key feature of Maxxyz Manager. It allows the use of several schedules for different days. For example, the first rule could be "Everyday", this mean that everyday a specified schedule would be loaded. But if you want something different on a Wednesday you add the rule "Every specific weekday" and choose Wednesday on the drop down list at the

bottom. Now you have forced the schedule to load a different Schedule on Wednesday then on the other days. You can also specify a schedule for a specific day of the year, for example, January 1st. You can stack as many rules as you wish like this. If there's only one schedule, you can set this schedule under Always use Same Schedule. To see the result of the rules press the Calendar Explorer button.

How to Load/Save data

The Default Folder where all data is saved is C:\Documents and Settings\All Users\Application Data\Martin Professional\Maxxyz\MaxxyzManager

See the Startup screen for Loading a new show and see the Main Menu system for saving current show.

Shortcut Keys at Startup

S: Opens the Scheduler window

R: Runs the Scheduler - The schedule loaded at startup is determine by the Calendar rules

M: Minimizes Maxxyz Manager

H: Hides the Maxxyz Manager Launcher

Here is an example of a command you can have in a batch file

"C:\Program Files\Martin Professional\Maxxyz\Maxxyz Manager\Maxxyzmanager.exe" R-S-M-H

APPENDIX 1: MAXXYZ SPECIFICATIONS

PHYSICAL

Dimensions (L x W x H) . . . . . .1034 x 613 x 287 mm (41 x 24 x 11 in.)
Weight: . . . . . .48 Kg (106 lbs), including flight case 66 kg (145.5 lbs)

AC SUPPLY

Power supply. . . . . 100-240 V, 50-60 Hz
Power consumption. . . . . .0.75 A, 160 W @ 230 V

HARDWARE

8 5-pin DMX universe outputs

DMX/Ethernet connector (for addition of up to 24 extra DMX universes)

10 motorized playback faders, each with one dynamically-labeled-LCD-button (to identify/activate the playback), and two function-assignable buttons

8 digital fader belts for fixture control

Digital LCD buttons (dynamically labeled)

Grandmaster fader

Built-in stereo loudspeakers

Headphone mini-jack connector

Speaker and headphone volume controls

3 USB connectors for peripheral device connection

2 VGA connectors for external monitors

2 12.1” SVGA TFT industrial color touch screens

2 industrial motherboards with Pentium III processors (1.3 GHz) with failure redundancy system

2 built-in hard drives with failure redundancy system

DVD/CD combo-drive

3.5” floppy disk drive

Built-in US keyboard

Trackball (with pan/tilt control switch)

3 desk light XLR connectors

Control & Programming

DMX-512 standard

8 DMX universes (expandable to 32)

4096 channels (expandable to 16384)

No per fixture channel limit

100 playback banks, each containing 10 playbacks

Unlimited cue stacks on virtual cuelists

2-D plan view

3-D offline visualizer

Import Martin Show Designer data

Extensive fixture library

Unlimited presets for each group of functions: P/T, color, gobo, effect

Effect generator for automated programming of more complex effects (with 16 bit)

High light function to identify individual fixtures

Pan and tilt . . . . . relative or absolute programming

Fan function for all channels including timing parameters

Playback Facilities

10 motorized playback faders, each with one dynamically-labeled-LCD-button (to identify/activate the playback), and two function-assignable buttons

Place a cue, cuelist (sequence), virtual cuelist, or effect, on any playback fader

100 banks, each of 10 playbacks, selectable with a scroll wheel on the desk

Full 16-bit fading for high-resolution fixtures

Individual fade in/fade out times for all playbacks

Manual override available at all times

Cue memory with individual delay-in, fade-in, fade-out and delay-out timing on all fixtures and their parameters

Freeze times and playbacks

Live override of the global cue timings from 0-100%

Go-function (supporting multiple cues simultaneously)

Cuelists have tracking

Show data is mirrored on secondary hard drive to protect against failures

Motherboards are designed with redundancy in mind to enable the running of a show in the event of a failure

Software

Embedded OS WinXPe user interface

Real-world paradigm - pictures, dynamic text labels, and actuals are used instead of channel numbers, values and percentages - wherever possible

Show backup on hard drive, floppy disk, or USB storage device (not included)

Compatible with Martin Show Designer

Ordering information

Maxxyz Controller, 90-230V . . . . . P/N 90732000

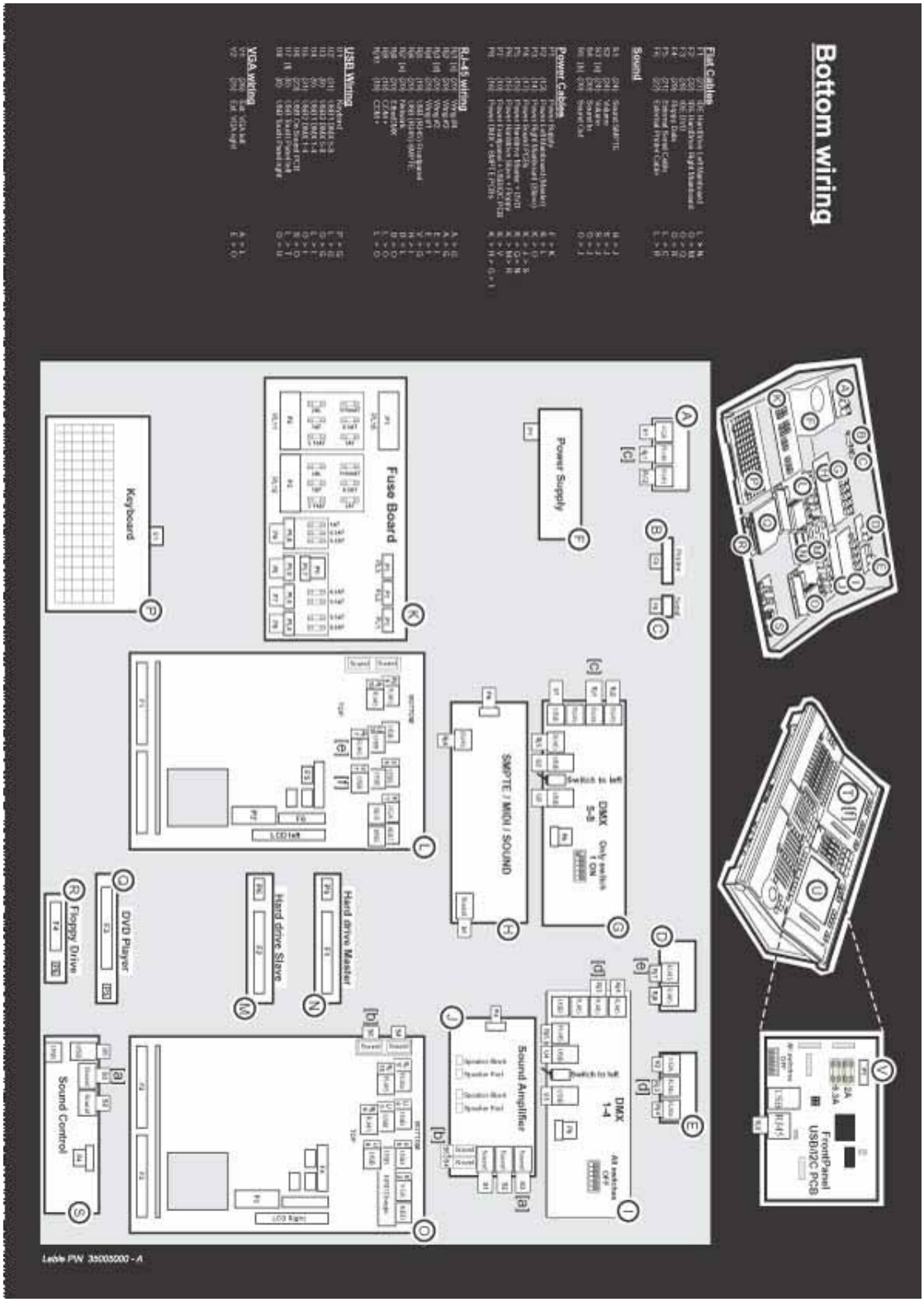
APPENDIX 2: SHORTCUTS

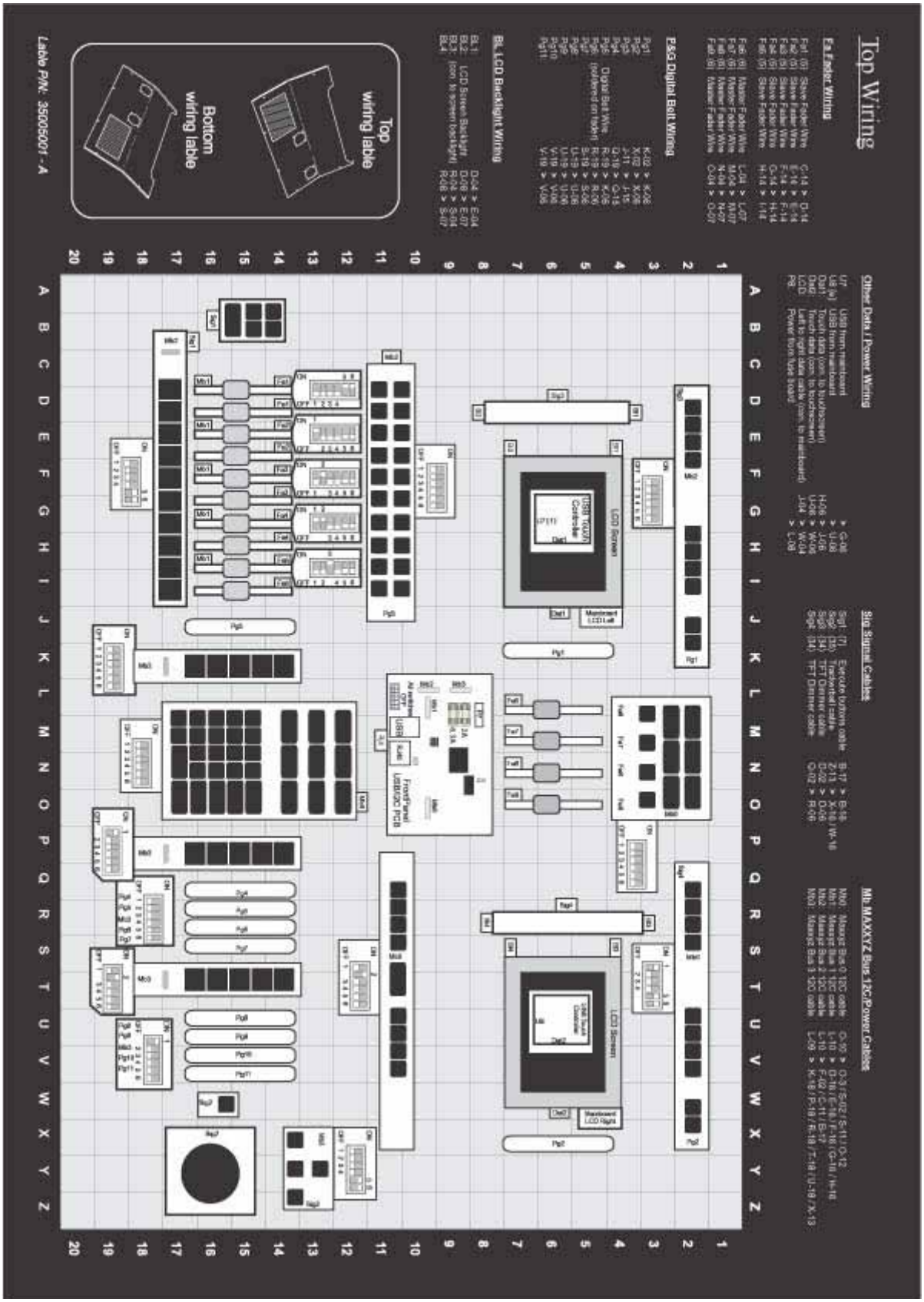
Below are a list of commonly used “shortcuts” or quick commands

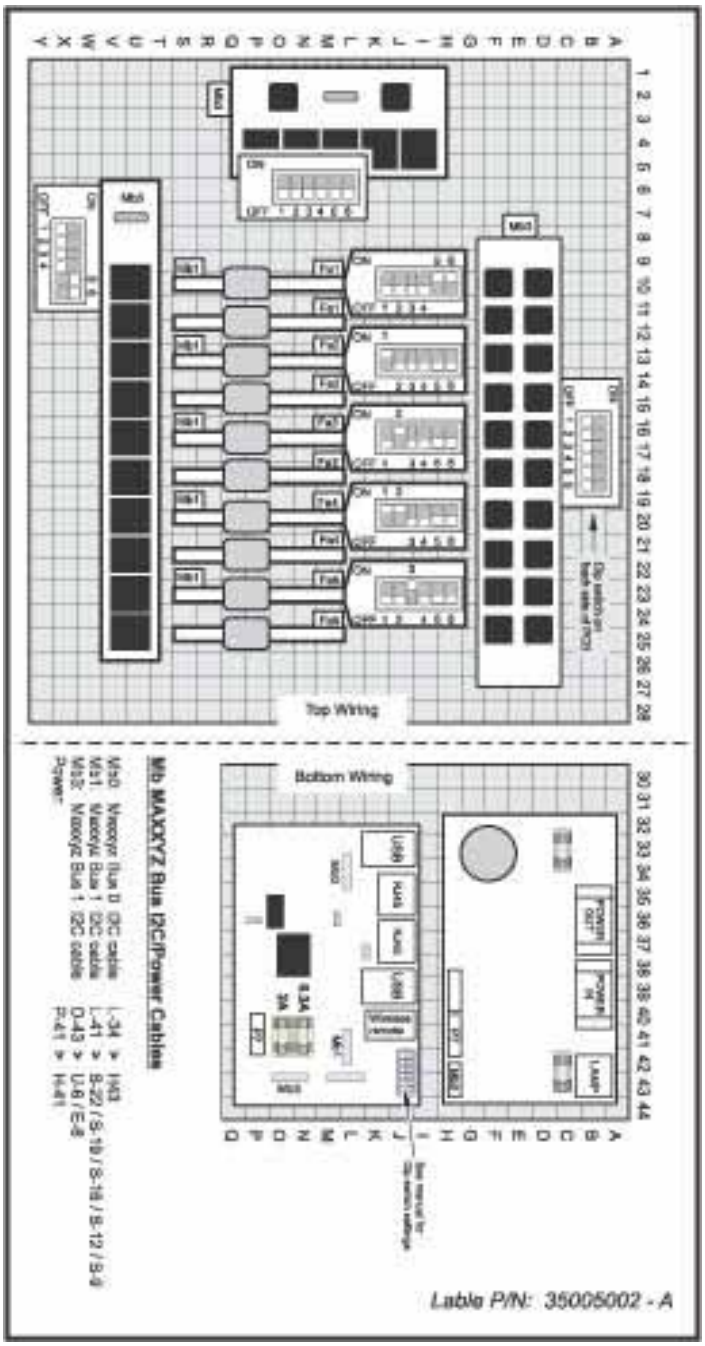
“.” (Decimal) Enter	Selects all fixtures in the programmer
“0” (Zero) Enter	Deselects all fixtures in the programmer
“.” (Decimal) “0” Zero Enter	Grabs every patched fixture in the entire show and puts it into the programmer
Cue xx Enter	Goes to the specified cue in the specified time
(hold) Snap Cue xx Enter	Goes to the specified cue in time zero
(hold) Snap Release	Fades all fixtures to zero and then releases them from all playback faders in the specified time
(hold) Release Snap	Releases all attributes of all fixtures in all playback faders 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 current cue in the selected cuelist
Next/Last keys held together	Selects all fixtures in the programmer
Load Load	Takes a “snapshot” of the current output of all playbacks and loads it to the programmer

APPENDIX 3: WIRING CHARTS

The following charts can be found on the inside and outside of the processor cover inside the Maxxyz console.




Top Wiring
Ea Feder Wiring
Fa1 (5) Slave Feder Wire C-14 v D-14
Fa2 (5) Slave Feder Wire E-14 v E-14
Fa3 (5) Slave Feder Wire F-14 v F-14
Fa4 (5) Slave Feder Wire G-14 v H-14
Fa5 (5) Slave Feder Wire H-14 v I-14
Fa6 (5) Master Feder Wire L-04 v L-07
Fa7 (5) Master Feder Wire M-04 v M-07
Fa8 (5) Master Feder Wire N-04 v N-07
Fa9 (5) Master Feder Wire O-04 v O-07
E&G Digital Belt Wiring
Pd1 K-02 v K-06
Pd2 X-02 v X-06
Pd3 C-11 v C-15
Pd4 R-19 v R-15
Pd5 R-19 v R-06
Pd6 (not used on table) S-19 v S-06
Pd7 U-19 v U-06
Pd8 V-19 v V-06
Pd9 V-19 v V-06
Pd10
Pd11
Digital Belt Wire
Bk LCD Backlight Wiring
Bk1 D-04 v E-04
Bk2 LCD Screen Backlight D-08 v E-07
Bk3 (con. to screen backlight) R-04 v S-04
Bk4 R-08 v S-07
Top wiring lable
Bottom wiring lable
Lable P/N: 35005001 - A
Other Data / Power Wiring
U7 USB from mainboard
U8 (x) USB from mainboard
Da1 Touch data (con. to touchscreen)
Da2 Touch data (con. to touchscreen)
LCD Left to right data cable (con. to mainboard)
P8 Power from fuse board
G-08
U-08
J-08
H-06 v J-06
U-06 v W-06
J-04 v W-04
v L-08
Sig Signal Cables
Sig1 (7) Execute bottom cable B-17 v B-18
Sig2 (10) Touchscreen cable Z-11 v X-18 / W-18
Sig3 (14) TFT Dimmer cable D-02 v D-06
Sig4 (14) TFT Dimmer cable O-02 v R-06
Mb MAXXYZ Bus 12C/Power Cables
Mb1 Maxxyz Bus 0 12C cable O-05 v O-3 / S-02 / S-11 / O-12
Mb1 Maxxyz Bus 1 12C cable L-10 v D-18 / E-18 / F-18 / G-18 / N-18
Mb2 Maxxyz Bus 2 12C cable L-10 v F-09 / G-11 / S-27
Mb3 Maxxyz Bus 3 12C cable L-09 v K-18 / P-18 / R-18 / T-18 / U-18 / X-19
LCD Screen
Mainboard LCD Left
Mainboard LCD Right
FrontPanel USB/I2C PCB
USB Touch Controller
LCD Power
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20


Top Wiring
Bottom Wiring
Mb MAXXYZ Bus I2C/Power Cables
Mb0: Maxxyz Bus 0 I2C cable L-34 > H43
Mb1: Maxxyz Bus 1 I2C cable L-41 > B-22 / S-19 / S-18 / S-12 / S-9
Mb2: Maxxyz Bus 1 I2C cable D-43 > U-8 / E-8
Power P-41 > H-41
Lable P/N: 35005002 - A

APPENDIX 4: COMMAND LINE DOCUMENT

The following table lists all current valid command line entries.

Fixture Selection	
General Selection (referred to as [SELECTION])	
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
PREV	step backwards through selected fixtures or select previous set of fixture mask
NEXT + PREV	reactivate fixture selection
[REVERT TO SELECTION]	reactivate fixture selection
[RANDOM]	randomizes selection order to use with Fanned timings and Effect delay (Wave per…)
[SORT]	sorts curent selection order by their ID #s
[REVERSE]	sorts the current selection by the inverted 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
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

Intensity commands	Note: with no selection specified commands are applied to current active (bright green or red) fixture selection
[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	substract 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)
	mulitple # THRU # THRU # THRU # can be used
RECORD	**RECORD TOOLBAR opens on RECORD**
All Record commands are filtered through the toolbar	if cue(s) exist, pop up asks for merge/replace…
RECORD [PLAYBACK LCD]	add new cue to end of specific playback fader If playback is empty ask for cuelist type to create
RECORD [PLAYBACK BUTTON]	add new cue to end of specific playback button If playback is empty ask for cuelist type to create
RECORD [CUELIST BUTTON]	add new cue to end of specific cuelist. If playback is empty ask for cuelist type to create
RECORD CUE # ENTER	record Cue to specific Cue # in current selected cuelist
# 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 exisiting, all cues within the range are created
RECORD CUE # [PLAYBACK LCD]	record Cue to playback
RECORD CUE # [PLAYBACK BUTTON]	record Cue to playback button
RECORD CUE # [CUELIST BUTTON]	record Cue to virtual cuelist
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 paramter group, or filtered parameters as set in Record toolbar
(Hold) RECORD [Screenview button]	record new screenview
RECORD [Groupmaster A or B]	record selected fixtures to Groupmaster (replaces current fixtures)

EDIT	NOTE: UPDATE ENTER has the same functionality as UPDATE UPDATE
EDIT [Touchscreen PRESET] ENTER	edit the preset in the programmer, confirm changes of the changes with UPDATE UPDATE
EDIT ENTER	edit the current active cue of the currently selected cuelist into the programmer for editing, confirm with UPDATE UPDATE
EDIT CUE # ENTER	edit the cue # of the currently selected cuelist into the programmer for editing, confirm with UPDATE UPDATE
EDIT [Touchscreen GROUP]	edit the group in the programmer, confirm with UPDATE ENTER
EDIT GROUP 4 ENTER	edit group 4 in the programmer, confirm with [UPDATE ENTER
EDIT [Groupmaster A or B]	edit groupmaster selection, confirm with [UPDATE ENTER
EDIT [BANK LCD BUTTON]	renaming of current Bank
COPY	**COPY CUE uses filter toolbar for parameters**
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 LCD] [PLAYBACK LCD]	create a copy of the playback fader. This does NOT create a new cuelist
COPY [PLAYBACK BUTTON] [PLAYBACK BUTTON]	create copy of the playback button. This does NOT create a new cuelist
COPY [CUELIST BUTTON] [CUELIST BUTTON]	create copy of the cuelist. This DOES create a new cuelist
COPY CUE 5 @ 15 ENTER	copy cue 5 to 15 on currently selected cuelist
COPY CUE 5 @ 15 [PLAYBACK LCD]	copy cue 5 from current selected cuelist to cue 15 on specific playback cuelist
COPY CUE 5 @ 15 [PLAYBACK BUTTON]	copy cue 5 from current selected cuelist to cue 15 on specific playback button cuelist
COPY CUE 5 @ 15 [CUELIST BUTTON]	copy cue 5 from current selected cuelist to cue 15 on specific virtual cuelist
COPY CUE 5 @ [PLAYBACK LCD]	copy cue 5 from current selected cuelist to a new cue at the end of specified playback

MOVE	
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 LCD] [PLAYBACK LCD]	move cuelist to a different playback fader
MOVE [PLAYBACK BUTTON] [PLAYBACK BUTTON]	move cuelist to a different playback button
MOVE [CUELIST BUTTON] [CUELIST BUTTON]	move virtual cuelist button to new #
MOVE [CUELIST BUTTON] [PLAYBACK LCD]	assign the cuelist to a playback fader
MOVE [CUELIST BUTTON] [PLAYBACK BUTTON]	assign the cuelist to a playback button
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 [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	delete group 12
DELETE [PLAYBACK LCD] ENTER	remove cuelist assignment from playback fader
(hold) DELETE [PLAYBACK LCD] (release) DELETE	remove cuelist assignment from playback fader
DELETE [PLAYBACK BUTTON] ENTER	remove cuelist assignment from playback button page
(hold) DELETE [PLAYBACK BUTTON] (release) DELETE	remove cuelist assignment from playback button page
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

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CLEAR	CLEAR toolbar opens on CLEAR
All CLEAR commands are filtered through the toolbar	Extra filtering :Non selected removes parameters from fixtures currently not selected
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 toolbar opens on LOAD
All LOAD commands are filtered through the toolbar	
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
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

CUE	
CUE # ENTER	Goto Cue in selected cuelist
CUE # [PLAYBACK LCD]	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 timings	

FADE / DELAY (LCD Buttons)	**All commands shown can be executed with DELAY instead of FADE**
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 a [/]	
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 seperatly 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	substracts 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

Cuelist Commands (in EDIT Mode)	
Touch name cell, type name, ENTER	change cue name
Touch Trigger cell, select Trigger Mode, 5 Enter	change Cue Trigger to Go / Follow / Wait and assign 5s 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	substracts 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 TimeCode Enter	changes timecode time
touch TimeCode cell, + 15 Enter	adds 15 frames to existing timecode
touch range of TimeCode cells, - 5 Enter	substract 5 frames from range of cues
Touch MACRO	change cue macro
LINK; touch CUE	select destination cue to jump to
LINK; touch AMOUNT	specify amount of links to be executed
BANK	
BANK # ENTER	Goto Bank #

Cuelist Commands (in RENUMBER Mode)	
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 2, 2 3, 4 8 renumbered to 10 creates 10, 2, 11, 3, 13, 8)

Patch	
[TYPE]	fixture type from exisiting 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
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

Patch	
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
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)	
COPY 1 @ 201	copies all cue values, preset values and group memberships from fixture 1 to fixture 201
COPY 1 @ 201 + 205	copies all cue values, preset values and group memberships from fixture 1 to fixture 201 and 205
COPY 1 THRU 10 @ 210 THRU 201	copies all cue values, preset values and group memberships from fixture 1 > 10 to fixture 210 > 201
Touch NAME cell (Name) ENTER	renames the fixture to (Name)

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