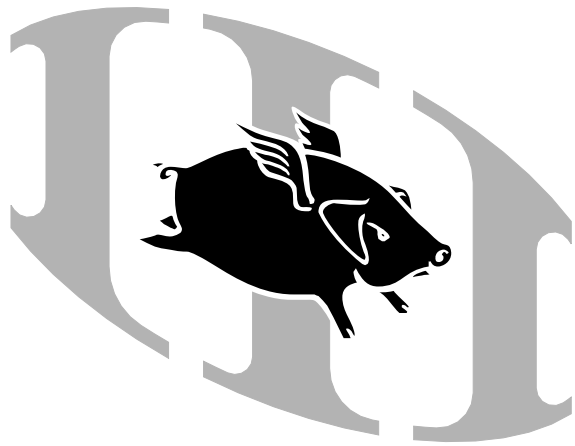

Wholehog III

User Manual

Wholehog III: User Manual

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Note: Freight Damage Claims are invalid for fixtures shipped in non-factory boxes and packing materials.

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Warranty is void if the product is misused, damaged, modified in any way, or for unauthorized repairs or parts. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Revision History

Revision 0.8 beta 1	1st May 2002
Revision 0.9 beta 4	24th June 2002
Revision 1.0	22nd July 2002

Declaration of Conformity

According to ISO/IEC Guide 22 and EN45104

Manufacturer's name:	Flying Pig Systems (High End Systems Europe Ltd.)
Distributor's name:	High End Systems Europe Ltd.
Distributor's address:	53 Northfield Road, London, W13 9SY

Declares that the product:

Product Name:	Wholehog III
Product Number:	All
Product Options:	All

Conforms to the following EEC directives:

73/23/EEC, as amended by 93/68/EEC
89/336/EEC, as amended by 92/31/EEC and 93/68/EEC

Equipment referred to in this declaration of conformity was first manufactured in compliance with the following standards in 2002:

Safety:	EN60950:2000
EMC:	EN55103-1:1996 (E2)
	EN55103-2:1996 (E2)

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directives and Standards.

Richard Bunn, Compliance Engineer
30 May 2002

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Introduction

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Section 1: **Getting Started**

The Wholehog III has been designed to be as easy to use as possible. However, it is also designed to control big, complex lighting rigs (as well as small, simple ones) and so at times operating the console is going to get complex too.

This manual has been written to help you become a proficient programmer with the Wholehog III, wherever you are starting from and whatever kind of lighting you do.

1.1 **Where to Start**

If you want to get going straight away, go to *Quick and Dirty: Create a Show in Ten Steps (Tutorial, Section 4)*. Otherwise, we recommend that you read one of the two sections designed to help you make the transition to the Wholehog III, according to your previous experience with consoles:

Users New to Moving Light Consoles (Introduction, Section 2)

Wholehog II Users (Introduction, Section 3)

If you haven't used a Wholehog console before but are experienced with other moving light consoles, you may still find the section *Users New to Moving Light Consoles (Introduction, Section 2)* useful.

After that, you can either follow the *Tutorial* or simply start using the console and use the *Reference* as needed.

1.2 **Key**

The following conventions are used in the text of the manual:

Pan and Tilt (Reference, 8.3.2)	A cross reference to another part of the manual. In electronic versions of the manual (HTML and PDF) these references are clickable hyperlinks.
fixture	A reference to a term in the *Glossary*. In electronic versions of the manual (HTML and PDF) these references are clickable hyperlinks.
Enter	A name of an interface element such as a button, key or window.
(Studio Color)	A button that has a label that is specific to the show, created by the console or the user. The brackets indicate a label that will vary depending on your particular show.
`10 + 12`	Text or other information that you should enter using the numeric keypad or the on-screen or external keyboard.
`[password]`	A description of information that you should enter that is not the literal text.

Record, Enter	Buttons or keys separated by commas show that the keystrokes are sequential. In this case, press the Record key, then the Enter key.
Open + Fixture	Buttons or keys followed by + are held down while the second key is pressed. In this example, hold down the Open key and press Fixture.
Setup ⟶ Fixture ⟶ Fixture Window	A series of operations that navigate through windows and toolbars.

In the manual the word 'key' is used to indicate a hardware button on the Wholehog III's front panel. For example: 'press the Enter key'. The word 'button' refers to 'virtual' buttons that can be pressed on the touch screens or clicked on with the trackball or mouse.

You will also find important or useful information highlighted:

Caution
A caution, which has information about hazards to equipment or personnel.

Important
An important note, usually alerting you to situations where you might lose some of your show's data. There are very few of these.

Tip
A tip, to help you be more productive in your programming.

Section 2: **Users New to Moving Light Consoles**

If your previous experience with lighting consoles has been mainly with 'theatre' desks (Strand, ETC, etc.) then this section will introduce you to some fundamental differences that you will find with the Wholehog III.

2.1 **The User Interface**

Most 'theatre' desks use a **command line** to control them. This means that you enter instructions using a keypad, in the form channel 36 at 50. Information displayed on monitors is limited to pure text, and only one screen layout can be displayed on one monitor at a time.

The Wholehog III is rather different. It has been designed on the principle that you should be able to see any information about your programmed show at any time, and that you should be able to change that information directly if you wish to. In addition to a conventional command line, the Wholehog III uses a **graphical user interface** similar to those found on personal computers. Combined with the touch screens, this interface gives a very powerful alternative way of working. You can arrange multiple windows as you want them on the screens, in order to display whatever information you need. You do not have to write down (or remember) as much, because the window that shows you, say, **groups** that you have programmed also allows you to select those groups simply by touching them. Any object, such as a cue, a group or a **fixture**, can be named as you wish for easy identification.

The advantages of a graphical user interface are far-reaching, and will become fully apparent as you get more familiar with the Wholehog III. For more information, see *The Graphical User Interface (Reference, 6.1.1)* and *Working with Windows (Reference, 6.2)*.

2.2 **Referring to Fixtures**

Lighting consoles that have been primarily designed to work with 'conventional' fixtures that have only one **parameter** (intensity) generally refer to fixtures by number. These 'channel' numbers usually run consecutively in a single sequence, say from 1 to 200. This can be a problem with fixtures such as moving lights that have multiple parameters and so require multiple channels to control, causing the numbering sequence to no longer relate to separate fixtures.

The Wholehog III treats a fixture as a single entity, no matter how many or few parameters it has. By default, each type of fixture has its own numbering range, so that you would refer to 'Studio Spot 6' and 'Cyberlight 12'. Fixtures can be numbered in any way that you prefer, however. For more information, see *Modifying the User Number (Reference, 7.4.1)*.

The Wholehog III treats conventional lights, consisting of a luminaire controlled by a dimmer, as a special kind of fixture known as a 'desk channel'.

2.3 **Palettes**

The complexity of modern lighting rigs, especially with the widespread use of moving lights, means that programming can be very time consuming. Palettes help to simplify the process by allowing pre-defined lighting 'elements' to be created and then used as required. A great advantage of palettes over the equivalent 'group' type features found on many consoles is that they update automatically. If the palette is changed, then all cues that have been recorded using the palette are also changed. This is especially useful if, for example, the position of a piece of set on stage is moved, and moving lights have been programmed to hit it. The palette can be updated once to accommodate the change, rather than in every cue. For more information, see *Working with Palettes (Reference, Section 10)*.

2.4 **Tracking**

Tracking is quite a difficult concept at first, but it is a very important one. When a sequence of cues is programmed, the lighting console can store the information in one of two ways: either it records the settings for all the lights on stage in every cue, or it just records the changes from one cue to the next. The second method is called tracking. For example, consider the following sequence of three cues:

Channel:	**1**	**2**	**3**	**4**
Cue 1	100	0	50	50
Cue 2	50	0	100	50
Cue 3	50	100	100	50

With a non-tracking console, the cues would be recorded with the channel levels as shown. With a tracking console, however, the recorded information would be:

Channel:	**1**	**2**	**3**	**4**
Cue 1	100	0	50	50
Cue 2	50		100	
Cue 3		100		

If the channel level has not changed from the previous cue, then no level is recorded for that channel.

So, during playback there are two types of fixture parameter value on stage:

- **Hard Values:** values programmed into the current cue. Hard values are sometimes known as hard commands.
- **Tracked Values:** those values set in previous cues but that have not yet been changed again or removed from the output. These values are said to have 'tracked through' from a previous cue in which they were Hard Values.

2.4.1 **Tracking Through Changes**

One advantage of tracking is that changes can be 'tracked through' a series of cues. For example, if after programming a scene you decide that the level on the cyclorama floods is too low, you can change the level through the whole scene just by changing the first cue. If the cyc floods don't change level in the cues during the rest of the scene, those cues will contain no levels for the cyc channels, and the modified levels will track through until a cue when the levels do change.

While this can help speed up the modification of cues, you may not always want changes to track through. Typically at the start of a new section of the performance the lighting look will essentially 'start from scratch', and you want to prevent changes tracking through from the previous section. To do this you can create a blocking cue which contains hard values for all parameters that have values at that point in the cuelist, regardless of whether the values have tracked through from previous cues. This then acts as an end-stop, preventing changes from tracking past the blocking cue.

See *Blocking Cues (Reference, 12.6.2)*.

2.4.2 **Simultaneous Cues**

Another advantage of tracking is that multiple cues can be run simultaneously. Imagine a play where the sun is setting outside the window, and characters turn on various lights in the room as the natural light fades. With a non-tracking console this would cause problems: what would you programme in the cues that turn the room lights on? If you recorded the full state, how you wouldn't know what level to set the sunset fixtures at, as during playback they will have faded down to some indeterminate level during the action of the scene. The cue to turn the room light on would be a snap cue, and the result would be a snap change in the sunset as well - not very realistic!

A tracking console allows you to programme just the room lights into the cue, so that the cue won't interfere with the sunset fixtures, which will proceed with their long fade undisturbed.

Similarly, tracking allows multiple chases to be run at the same time without them conflicting, so that you can run a colour chase and a (different) intensity chase on the same fixtures. This is possible because only the colour parameters of the fixture are recorded in the colour chase, and only the intensity parameters in the intensity chase.

2.4.3 **Maintain State**

One disadvantage found with some tracking consoles occurs when you play back cues out of sequence. Typically this will happen during rehearsals when you want to go back over a section of the show, but it can happen during performance if the performers miss out a bit, for example.

If you jump from cue 3 to cue 8, the look on stage will not be correct, because cue 8 only contains the information needed to create the state of cue 8 if you are starting from cue 7. Start from cue 3, and the look on stage will be wrong.

The Wholehog III avoids this by Maintaining State. This means that whenever you run a cue, the console ensures that what you get on stage is what you would have got if you had run through the cuelist up to that point, regardless of where you have actually come from in the cue list.

Most of the time, maintaining state means that the console does what you would expect and want. Occasionally, you may wish to turn this feature off: see *Tracking Through Loops (Reference, 13.3.3)*.

2.5 Multiple Playbacks and Cuelists

Most 'theatre' consoles only use a single cue list. The Wholehog III allows multiple cue lists, each with their own numbering sequence. These can be replayed either at the same time on multiple **playbacks**, or consecutively on the same playback. This approach is especially useful when the order of the various parts of a show is not predetermined, such as a band that only decides which songs to perform at the last minute.

Each of the Wholehog III's ten playbacks ('Masters') has a fader, Go, Pause and Flash keys, and any Master can act as a Grand Master to control to total output of the console. For more information, see *Cuelist Playback (Reference, Section 17)*.

2.6 HTP and LTP

Generally, theatre desks that are not designed to handle moving lights work on a Highest Takes Precedence (HTP) basis. This means that if a light is being controlled by two different parts of the console, such as a playback and a submaster, the light will be at the highest of the two levels. For example, if in the playback channel 1 is at 50%, and in the submaster it is at 100%, then the level seen on stage will be 100%. If the submaster is reduced to 40%, then the on-stage level will be 50%, because the level in the playback is higher and will take precedence.

This system generally works well for non-moving light consoles, but moving lights introduce a problem. Parameters other than intensity don't have 'higher' and 'lower' values: a colour of red is not higher or lower than green, and a pan of 50% is not higher or lower than one of 20%. Working with moving lights needs a new way to decide the precedence, called Latest Takes Precedence (LTP).

With this system, the fixture parameters go to the value they have been most recently assigned. In our example, moving the submaster to 40% would result in a level of 40%, because this is the most recent instruction. The submaster would effectively 'grab' control of the parameter from the playback. Of course, running another cue in the playback might grab it back again.

Many moving light consoles use HTP for intensity and LTP for all other parameters. By default, the Wholehog III uses LTP for all parameters, but you can set individual cuelists to use HTP. There are also other options that control how cuelists interact; see *Playback Options (Reference, 17.4)*.

2.7 Individual Times for Each Parameter

With the Wholehog III you can set individual timings for each parameter of each fixture, giving you complete control of how each parameter changes during a cue. Because of this, there are no cue parts as found on some other consoles. The Wholehog III gives you easy ways to set timings for the whole cue, for individual fixtures and by parameter type (intensity, beam, colour, and so on) as well as for each parameter. For more information, see *Setting Timings (Reference, 8.4)* and *Working with Fade Timings (Reference, 13.1)*.

Section 3: **Wholehog II Users**

If you are an experienced Wholehog II user, you will find the transition to Wholehog III very straightforward. This section lists the major changes and additions with brief descriptions, while full information on each topic can be found in the *Reference* part of this handbook.

3.1 **Networking**

Unlike Wholehog II, the Wholehog III does not produce a **DMX** output directly. Instead, the console is designed to work as part of a network, linked to other devices that serve a variety of functions including generating DMX for connection to dimmers and fixtures. At its simplest, the network is a Wholehog III console connected to a DMX Processor, which produces DMX.

A more complex network might consist of several Wholehog III consoles, personal computers running Wholehog III software, DMX Processors, and other devices such as networkable dimmers and fixtures. For more information on networks, see *Setting Up the Network (Reference, 5.3)*.

3.1.1 **Multiple Consoles on Same Show**

With networking, it is possible to have several programmers, each with a Wholehog III console, working on the same show. The system can be set up so that each programmer can only control certain fixtures, or one 'master' programmer can override the actions of others. In this way, one programmer might be responsible for all wash lights, while another controls hard-edged fixtures. Both programmers are working on the same show, though, so it is a simple matter for a single operator to take over the running of the show once programming is complete.

3.1.2 **Multiple Shows on the Network**

Similarly, networking allows several shows to be run on the same network. A theme park, for example, might have several rides, stages and other lighting areas, which need to be run as separate shows. Each show could have an operator with a console, while a 'master' operator controls all shows, perhaps in order to make changes to the programming.

3.2 **The Front Panel**

The front panel of the Wholehog III looks relatively unchanged, but it incorporates many improvements. The rear part of the panel with the touch screens can be tilted up to present the screens at a more convenient angle, while in response to user feedback the wrist rest has been made softer and more comfortable.

3.2.1 **Faders**

The number of Masters has been increased from eight to ten, while the Grand Master and Cross Fade Master have been removed. Any Master can now act as a

Grand Master or Cross Fade Master. For more detailed information, see *Working with Master Controls (Reference, Section 20)*.

3.2.2 **Trackball**

The trackball has been added to give easy control over 'paired' functions (such as the pan and tilt of a moving head fixture) and to control the cursor in windows. This is especially useful with the Wholehog III's enhanced spreadsheet-style features.

3.2.3 **Vertical Wheels**

In addition to the parameter wheels used by the Wholehog II, the Wholehog III features two vertically mounted wheels. The one on the right hand side of the console is the I-Wheel and is used for controlling the intensity of fixtures. The Rate Wheel on the left hand end is sprung, and is typically used for overriding the speed of a cue.

3.2.4 **New Keys**

Some functions that on Wholehog II required a combination of key presses have been given their own dedicated buttons, such as Open, Intensity, Back and Next.

Additional buttons have also been provided along the top and bottom edges of the touch screens. These Soft Keys replicate the on-screen toolbar buttons.

3.2.5 **Touch Screens**

The two touch screens are larger, are in colour, and have better brightness and contrast characteristics. For more information, see *Using the Touch Screens (Reference, 6.1.2)*.

3.3 **New Windows**

Many of the windows that appear on the screens show information in a spreadsheet style display. As with spreadsheet programs on a PC, columns can be resized and reordered so that you have much more control over the way that information is shown.

3.4 **New Playback Features**

The new playback features include:

- **Ten Fully Customisable Playbacks:** Any of the ten Masters can also be set up as a Grand Master.
- **Scene Masters:** Scenes, which are cues that are not associated with a cuelist, can be loaded onto any of the Masters and controlled by the fader.

- **Fixture Masters:** Groups can be loaded onto Masters, and their maximum intensity controlled by the fader.
- **Virtual Masters:** An almost unlimited number of cuelists can run simultaneously using Virtual Masters. These are controlled on screen rather than by a physical master on the front panel.

3.5 The Effects Engine

The new features of the Effects Engine include:

- **Parameter Level Control:** Effects can be controlled at the individual parameter level.
- **Palettes:** Effects can be recorded into embeddable palettes, so that they update throughout the show when the original palette is modified.
- **Simultaneous Effects:** Because effects are controllable at the parameter level, many effects can be run simultaneously. For example, you can run a colour chase and a movement effect on the same fixtures.

3.6 Abstraction

A key philosophy behind the Wholehog III is that as a user you shouldn't have to worry about the technicalities of the way that a particular manufacturer implements a particular feature on a fixture. As far as you are concerned the fixture has parameters such as colour, intensity, position, and so on, and it is these parameters that you use the console to control. You no longer have to think in terms of **DMX addresses** and values.

This is called the 'abstraction layer' because the software acts as a layer between you the user and the lighting hardware, converting 'abstract' ideas of colour, intensity, and so on into the specific instructions that the fixtures need.

3.6.1 Real World Units

Fixture parameters are described as far as possible in real world units such as degrees for rotation and beats per minute for the speed of a strobe. Colour can be described in terms of a single colour model for all fixtures (red-green-blue or hue-and-saturation, for example) irrespective of the technical details of how the fixture does colour. This speeds up programming and allows several fixtures of different types to be selected and adjusted at the same time.

3.6.2 Parameters

Some fixtures put more than one parameter onto a single DMX address, such as intensity, strobe and reset. The Wholehog III separates these into independent parameters, so that you do not need to remember the detailed workings of a

particular fixture. This feature also prevents you from running off the end of the scale of one parameter into another.

3.6.3 **Interchangeable Fixtures**

You can replace a fixture already programmed into a show by one of a different type, and Wholehog III will as far as possible make the new fixture do what the old one did. If the new fixture has more limited capabilities than the old one, this is handled as gracefully as possible..

Tutorial

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Section 4: **Quick and Dirty: Create a Show in Ten Steps**

OK, you've spent your money on a new Wholehog III, and you want to see it working right now. You need the Quick and Dirty tutorial.

Step 1: Connecting the Mains

Use the IEC cables supplied to connect the console and the DMX Processor to any voltage between 100 and 240V AC.

Step 2: Connecting the DMX Processor

Connect the DMX Processor directly to your console with a standard Category 5 **Ethernet cross-over** cable.

Step 3: Starting the Console

Switch on the power to the console and the DMX Processor. Once the console has started up, the Start window will appear.

Step 4: Starting a New Show

Select Launch New Show. You will be prompted for:

- A name for your show. Press the Set key to bring up an on-screen keyboard to enter text.
- A Storage Location. Choose the location that the console suggests.
- A **Fixture Library**. This contains fixture personality information. Choose the one the console suggests.

The Wholehog III will launch a new show.

Step 5: Adding the Fixtures

Choose the **fixtures** you want in your show. To add Fixtures:

1. Setup ⟶ Fixtures ⟶ Fixture Schedule : open the Fixture Schedule window.
2. Choose a manufacturer, and click on the Plus button to expand the list and see individual fixture types.
3. Select the fixture's Quantity cell and press Set.
4. Enter the number of fixtures, and press Enter.
5. Repeat for all the fixture types you want.
6. When you have finished, Click Apply then Close.

Step 6: Patching the Fixtures

For each fixture:

> Fixture, (Fixture Type from Toolbar), **[Fixture Number]** @ **[Patch Address]**, Enter

For Example:

> Fixture, (Studio Color), **1** @ **1**, Enter

When you patch your first fixture the Add DMX Processor window will appear. Follow the onscreen instructions to set up the DMX Processor.

When patching, the Patch window will appear. Use this to determine the next free **DMX address**, and to see how full the **DMX universes** are.

Step 7: Setting Parameters

Fixtures and their parameters are set in the Programmer, opened by pressing Programmer in the Main Toolbar.

First, set the intensity of your fixture. For example:

> Fixture (Studio Color) **1** @ **60**, Enter : sets Studio Color 1 to 60%.

When you press the Fixture key, buttons for each fixture type appear along the bottom of the right-hand screen. Use these to select Studio Color in this example.

You can also adjust the intensity with the I-Wheel on the right of the console:

> Fixture (Studio Color), Enter : select the fixture, then move the I-Wheel.

Now set the other parameters:

Pan and Tilt: With the fixture still selected, change the Trackball to pan and tilt mode by pressing the top right trackball button. The Trackball will glow blue, and you can use it to set the pan and tilt of the fixture. When you have finished, press the top right button again to change the Trackball back to controlling the on-screen pointer.

Colour: Press the Colour key. You can now mix cyan, magenta, and yellow from the Parameter Wheels. You can also choose specific colour **slots** from the Slots Toolbar on the touch screen.

Beam: Press the Beam key. You can now select Beam slots such as gobos from the Slots Toolbar. You can set beam focus, frost and so on using the Parameter Wheels.

Step 8: Recording the Cue

Once you have set some fixtures, record a cue to a specific **Master** for playback:

> Press Record, then the Choose key above one of the Masters.

The first time you record a cue onto a Master, the Wholehog III will create a new Cuelist on that Master, and record the cue as Cue 1. If you record more cues into the same Cuelist, the Wholehog III will give it the next free cue number.

Step 9: Playing Back the Cue

Press Play on the Master that cues have been recorded in.

Step 10: Changing the Cue Time

The Wholehog III gives cues a default time when they are first recorded. To change the cue time:

Cue **1** Time **6**, Enter

Tip
You can now carry on to the full tutorial in the next section, or just start using the console and use the *Reference* to answer your questions as you go.

Reference

Table of Contents

Section 5: **Setting Up the System**

This section shows you how to:

- Set up the console
- Add a keyboard and mouse, and external monitors
- Set Up a Wholehog III Network
- Set Up a DMX Processor

5.1 **Setting Up the Console**

Many aspects of the Wholehog III are configured in the Control Panel and the Preferences window. To open these windows, press Setup and then either Panel or Preferences from the toolbar at the bottom of the right-hand touch screen.

5.1.1 **Power**

You can connect the Wholehog III to any mains supply between 100 and 240V AC.

In the event of power failure, the Wholehog III uses its battery backup supply to save any changes and shut down the console.

5.1.2 **Touch Screens**

The two large screens are touch-sensitive, so you can access buttons and data on those screen directly by touching them.

For information on maintenance of the touch screens, see *Touch Screens (Appendices, 23.2)*.

Calibration

The touch screens may occasionally need to be calibrated to ensure that where you are pressing is aligned with the screen's display. To recalibrate on start-up, select Calibrate Touch Screen at the bottom of the right-hand touch screen when the Start window appears. Follow the on screen instructions and press Enter to finish.

You can also calibrate the touch screens at any time by pressing the Calibrate Touch Screen button in the Control Panel.

Brightness

You can adjust the brightness of the touch screens by holding down the Setup key and adjusting the Parameter Wheels.

Backlight Off Time

The backlights that illuminate the touch screens switch off automatically after a time if the console is idle, to maximise their life. You can adjust the amount of time the backlights wait before switching off in the Console pane of the Preferences window.

Disabling Touchscreens

You can disable the touch-sensitive action of the screens, or turn them off all together, in the Displays pane of the Control Panel.

5.1.3 External Monitors

You can attach two external monitors to the Wholehog III using standard VGA connectors.

To use external monitors, you must enable them in the Displays pane of the Control Panel.

5.1.4 Desk Lights

You can adjust the brightness of the desk lights by holding down the Setup key and adjusting the Parameter Wheels. By default, the desk lights are white while the console is being used and turn blue after a period of inactivity (the *Backlight Off Time (Reference, 5.1.2)*). If you prefer the desklights to always be blue, you can select Use Blue Desklights in the Console pane of the Preferences window.

5.1.5 Trackball and Wheels

The Wholehog III has a number of controls that allow continuous input of data rather than discrete values: the Trackball, the I-Wheel, the Rate Wheel, and the four Parameter Wheels.

The sensitivity of all the wheels and the Trackball, can be adjusted in the Console pane of the Preferences window.

The Trackball has two modes:

- **Pointer Mode:** controls the on-screen pointer, like a mouse on a personal computer.
- **Position Mode:** controls the position (pan and tilt) of fixtures. The Trackball lights up blue in this mode.

You can switch between the two modes by pressing the top right Trackball key.

You can configure the four buttons above and below the Trackball from the following options:

- **Ball Mode:** switches the Trackball between position and pointer modes.

- **Ortho Toggle:** switches the Trackball between Ortho and normal. When in Position mode, with Ortho on, the Trackball will only control pan or tilt, not both at the same time. This can be useful for acurately setting fixtures.
- **Right Click:** the same as a right-click with the mouse. This is usually used to bring up a contextual menu with commands such as Copy and Paste.
- **Left Click:** the same as left-click with the mouse.
- **Next:** sub-selects the next fixture in the current selection. See *Sub Selections (Reference, 8.1.5)*.
- **Flip:** changes the pan and tilt of a moving head fixture to point at the same position on the stage, but from the other end of its movement range. See *Flip (Reference, 8.3.2)*.

The default settings for the Trackball keys are:

Trackball Key	Pointer Mode	Position Mode
top left	flip	flip
top right	ball mode	ball mode
bottom left	left click	next
bottom right	right click	ortho toggle

Using an External Mouse

You can also use an external mouse or trackball to supplement the built-in Trackball. This will always control the graphical pointer, irrespective of the Trackball mode.

The external mouse is connected by a standard PS2 5 pin mini-DIN connector, and you can adjust its sensitivity in the Console pane of the Preferences window.

5.1.6 Keyboards

Using an External Keyboard

You can connect an external keyboard to the Wholehog III via a standard PS2 5 pin mini-DIN connector. Choose a driver for the keyboard, and set the keyboard layout according to the language, in the Keyboard pane of the Control Panel.

Using the On-screen Keyboard

You can use an on-screen keyboard to enter text when an external keyboard is not present. When prompted to insert text, press the Set key to launch a touch-screen keyboard. Press the Enter key when you have finished typing.

To close the on-screen keyboard without making any changes, press Set instead of Enter.

5.1.7 **Date and Time**

The console has a built in clock. Set the date, time and time zone in the Console Date and Time pane of the Control Panel. You can also set the format that the date and time is displayed in.

5.2 **User Preferences**

You can configure various aspects of the Wholehog III in the Console pane of the Preferences window:

Setting	Notes
Date format	The way that dates are displayed on the console.
Scaling factor	Adjust this to increase the size of text and buttons on the displays.
Key repeat delay	When you hold down a key, this is the delay before it starts to repeat.
Key repeat period	When you hold down a key, this is the time between repeats.
Key double press time	When you press a key or button twice within this time, the Wholehog III interprets this as a double-press.
Mouse double press time	When you press a mouse or Trackball key twice within this time, the Wholehog III interprets this as a double-press.

5.3 **Setting Up the Network**

The Wholehog III uses **100 Base-T Ethernet** to connect the various components of a system together. The simplest system consists of a console and an DMX Processor that generates four universes of **DMX** to connect to the lighting rig. Complex systems can have several consoles, DMX Processors and other network devices controlling large lighting rigs.

5.3.1 **Connecting Directly to an DMX Processor**

If you have a single console and DMX Processor, you should join them using a Category 5 cross-over cable. Note that an ordinary (non-crossover) cable won't work. We recommend that you use only certified Category 5 cables.

With this set-up, no configuration is required as the Wholehog III and DMX Processor do it automatically.

5.3.2 **Connecting More Complex Networks**

If you have a more complex network with more than two devices, you will need to use an Ethernet **switch** to connect them together; for example *Figure 5-1* shows a

network with two consoles and two DMX Processors.

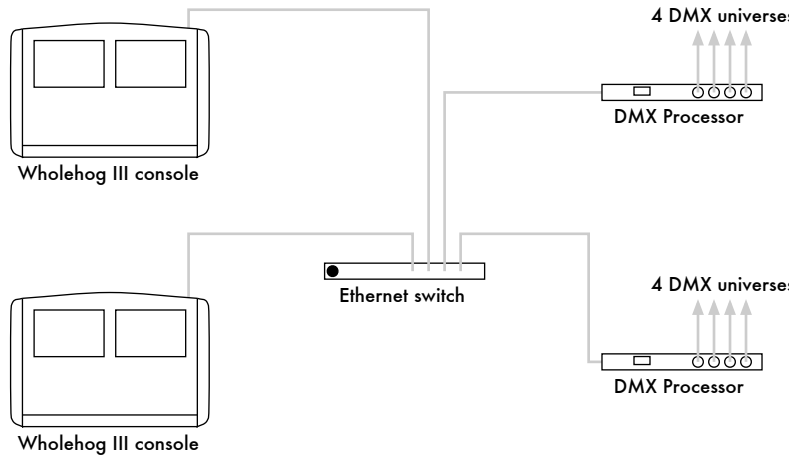


Figure 5-1. A Typical Network with Two Consoles

5.3.3 Configuring the Network

Consoles and DMX Processors are initially set up so that a single console and multiple DMX Processors can be connected together and will automatically configure themselves to operate.

In complex systems, with multiple consoles or mixed networks, you may need to manually configure the network settings. You will find basic guidance here, but if you are planning a complex network please contact Flying Pig Systems Ltd. for advice on getting the most effective setup for your particular needs.

There are three main settings involved in a network:

- **The Net Number:** indentifies an DMX Processor on the network, and is used when *Patching Fixtures (Reference, 7.3)*.
- **The IP Address:** identifies any device (console, DMX Processor, switch, personal computer) on the network. A network device can have its IP address set by the user (known as a 'static' address), or it can obtain one automatically from a DHCP server. By default, consoles act as DHCP servers, giving IP addresses to DMX Processors.
- **The Port Number:** identifies information transmitted across the network. An DMX Processor will only respond to information sent by a console with the same port number.

Tip
Definitions of the various terms used including IP Address, Port number and DHCP may be found in the *Glossary*.

More than One DMX Processor on the Network

If you have more than one DMX Processor on the network, each one needs to have its own Net Number and IP address. To set the Net Number on the DMX Processor, see *Checking and Setting the Net Number (Reference, 5.4.1)*.

By default, DMX Processors are set to get their IP address from a DHCP server (usually the Wholehog III console), so you don't have to do anything. To give a DMX Processor a static IP address, see *Checking and Setting the IP Addresses (Reference, 5.4.1)*.

More than One Console on the Network

If you want to use more than one console on the same network, you need give them different IP addresses:

1. Setup ⟶ Panel ⟶ Network Settings : open the network pane of the Control Panel.
2. Select Use Custom IP Address.
3. Enter a new IP address. The default IP address for a console is 172.31.0.1, so you could increment the number for additional consoles by one: 172.31.0.2, 172.31.0.3, and so on.

Generally, it is best to have DMX Processors get their IP address from a console's **DHCP** server; see *Checking and Setting the IP Addresses (Reference, 5.4.1)*. It is not a problem to have more than one console running as a DHCP server, but you should ensure that they serve IP addresses in a range that does not include the console's static IP addresses; say 172.31.0.10 to 172.31.255.254.

Important
You could set the second console to get its IP address automatically from the first one's DHCP server. However, if you are using the second console as a backup, then if the first one has a problem it may not be able to supply an IP address, and the backup may fail.

More than One Show on the Network

If you want to run more than one show on the same network, you need to choose a port number for each show. The default port number is 6600, so the second show could be on 6601, the third on 6602, and so on. You need to set the port number of each console for the show it is used on:

1. Shut down and re-start the console.
2. In the Start window, press Settings...
3. Enter the port number.

4. Either launch a new show or join a running show.

Also, you will need to set the Port Number of the DMX Processors according to the show they are being used on. See *Setting the Port Number (Reference, 5.4.1)*.

5.4 Working with DMX Processors

DMX Processors are connected to the console via the network, and each provide four **DMX universes**. An DMX Processor needs mains power at any voltage between 100 and 240V AC.

The front panel keys give you access to the DMX Processor's functions. To navigate through the screens:

- ◀ Move the cursor through the options backwards.
- ● Select the option currently highlighted by the cursor.
- ▶ Move the cursor through the options forwards.

The menus use the following conventions:

OK	Confirm changes and return to the previous screen.
Cancel	Abandon changes and return to the previous screen.
Close	Return to the previous screen.

To set a numerical value:

1. Move the cursor to the value you want to change.
2. Press the ● key, and the first digit of the number will be highlighted.
3. Use the ● key to change the value, and the ◀ and ▶ keys to select a different digit of the number.
4. When you have finished, press ▶ until no digits are selected. You can then use ◀ and ▶ to select options in the usual way.

5.4.1 Network Settings

A simple network of just a console and an DMX Processor will configure itself automatically. If you have a more complex network, you may need to change some of the network settings. See *Configuring the Network (Reference, 5.3.3)*.

Checking and Setting the Net Number

The Net Number is displayed on the main screen of the DMX Processor in the top right hand corner. To set the Net Number:

1. Main ⟶ Network : navigate to the Network screen.

2. Set the Net Number to any value between 00 and 99.
3. OK : return to the Main screen.

Checking and Setting the IP Addresses

By default, DMX Processors are set to use **DHCP** to get an **IP address** automatically from a Wholehog III console. You can turn this off in the IP Config screen:

1. Main ⟶ Network ⟶ IP Config : navigate to the IP Config screen.
2. Set DHCP On or Off.
3. OK : return to the Network screen.
4. OK : return to the Main screen.
5. Main ⟶ Control Panel : navigate to the Control Panel.
6. Hard Reset : the DMX Processor needs a hard reset for changes to take effect.

You may want to set a fixed or 'static' IP address, perhaps if the Wholehog III system is sharing a network with non-lighting devices such as personal computers. You should contact your system administrator to determine the optimum settings for your network.

To set a static IP address:

1. Main ⟶ Network ⟶ IP Config : navigate to the IP Config screen.
2. Set DHCP Off.
3. Set the IP Address and Subnet Mask as required.
4. OK : return to the Network screen.
5. OK : return to the Main screen.
6. Main ⟶ Control Panel : navigate to the Control Panel.
7. Hard Reset : the DMX Processor needs a hard reset for changes to take effect.

Setting the Port Number

To set the Port Number:

1. Main ⟶ Network : navigate to the Network screen.
2. Set the Port Number as required.
3. OK : return to the Main screen.

5.4.2 **Options and Defaults**

The DMX Processor has various options and controls, set in the Control Panel screen:

Main ⟶ Control Panel

You can revert all settings to their default values by selecting Set Defaults.

Locking the DMX Processor Controls

You can use the Lock function to lock the DMX Processor's controls:

1. In the Control Panel, select Lock.
2. Enter your chosen 4-digit code number, and select OK to confirm. The DMX Processor is now locked.

To unlock, enter the correct four digit code.

Important
Make sure that you keep a record of your lock code. The DMX Processor cannot be unlocked without it.

Backlight Off Time

Selecting Backlight in the Control Panel opens a screen where you can set the delay time before the backlight goes off. The Permanent setting keeps the light on continually.

Watchdog

The Watchdog feature automatically restarts the DMX Processor if its software stops running for some reason. Watchdog is on by default, and generally it is best to leave it switched on. However, if you suspect that an DMX Processor is not working correctly, you may want to turn Watchdog off so that you can see any error messages before restarting it:

1. In the Control Panel, select Watchdog.
2. Deselect the Watchdog checkbox, and select OK.

Resetting the DMX Processor

There are two types of reset: soft and hard. Soft Reset resets the DMX Processor so that it re-initialises communication with the network. Hard Reset is equivalent to turning off and on the DMX Processor's mains power. You can do both types of reset from the Control Panel.

Section 6: **Using the Console**

This section introduces:

- The user interface
- Modifier keys like Pig and Open

This section shows you how to:

- Startup and shutdown the console
- Start a new, run an existing, or join a networked show
- Manage your show data using the Show Manager
- Undo and redo mistakes
- Work with windows and spreadsheets
- Work with editors and directories

6.1 **Basic Concepts**

The Wholehog III has two methods for entering information into the console: the **command line** and the **graphical user interface** (GUI) on the touchscreens. Many of the most common operations on the console can be done in more than one way, and as you become familiar with the Wholehog III you will develop your own preferred methods.

6.1.1 **The Graphical User Interface**

The Wholehog III's graphical user interface (GUI) is generally similar to that found on Windows and Macintosh personal computers, with each section of the console (Programmer, Output display and so on) displayed in a window which can be placed anywhere on the touch screens or external monitors. The key features of the GUI are:

- You can work with on-screen controls and windows using the touch screen or through a pointer controlled by the built in trackball, or an external mouse. Left-clicking the mouse is the same as touching the screen and is used for selecting or activating controls, while right-clicking brings up a context sensitive range of menu options.
- The Soft Keys adjacent to the touch-screens provide another method of accessing functions, changing to match whichever **toolbar** is docked along that edge of the screen.

- The graphical environment is highly customisable, giving you complete control of the console and individual window layout. For example, you can rearrange column headers in list windows (e.g. the Fixture Setup and Programmer windows) to prioritise information that is most pertinent that a specific show or user. Information displayed can also be sorted or filtered. When a user logs out these preferences and settings are stored, and retrieved again on logging in.

6.1.2 Using the Touch Screens

You can use your finger on the touch screens in the same way that you use a mouse; pressing the touch screen is equivalent to a mouse click. You can also use an eraser-tipped pencil, which can feel more precise than a finger.

If the touchscreens are sluggish or make inaccurate selections, you can fine tune them by adjusting the *Calibration (Reference, 5.1.2)*.

Tip
You can keep your eraser-tipped pencil, and other useful knick-knacks, under the arm rest at the front of the console.

6.1.3 Modifier Keys

Modifier keys may be depressed simultaneously with other keys on the console to extend their functions. A modifier key works in a similar way to a Shift or Control key on a personal computer.

Most of the Wholehog III's modifier keys have functions that relate to particular tasks, but the Pig key is a general-purpose modifier, which is context sensitive. It usually provides more advanced functions such as fine control with the Parameter Wheels, or a visual cut and paste with the Delete and Copy keys.

6.1.4 Undo and Redo

The Undo button is on the Main Toolbar. Similar to the undo command found in computer applications, the undo function works back through the last commands entered by the user, undoing them, each time the button is pressed. Its application is global, working back through operations in chronological order.

Pressing the Pig button, together with the Undo button, will redo the last undone action.

What You Can and Can't Undo

The undo and redo feature works on your show data, but generally not on other things. If no undo is available, then the Undo button appears disabled on the Main Toolbar. Undo is not available for:

- Changes to the fixture selection in the Programmer. However, the selection may change as a side effect of an undo action.

- Changes to security, control panel settings, and other things not directly related to your programmed show.
- Changes to window positions and views, and the like.

If undo is not available, you will always be asked to confirm important changes before they take place.

6.2 Working with Windows

6.2.1 Opening Windows

Windows can be opened in four ways:

- **From a Toolbar:** Some windows may have a dedicated button that can be pressed; the Programmer, for example.
- **With the Open Key:** To open a window using console keys, hold down Open and press the window's associated key. For example:

  Open + Fixture : opens the Fixture window.

  Open + Position : opens the Position Palette window.

  Open + Cuelist : opens the Cuelist Directory window.

  Open + Choose : opens the Cuelist window for the chosen Master.

- **From the Command Line:** You can specify the window to be opened using the command line, and then press the Open key. For example:

  Position **5** Open : opens the Editor window for Position Palette 5.

  Cue **2** Group **4** Open : opens the Editor window for cue 2 and selects the fixtures in Group 4.

- **Double Pressing Keys:** You can also open some windows by double-pressing the appropriate key:

  Position, Position : opens the Position Palette Directory window.

6.2.2 **Closing Windows**

Windows can be closed using the window's close button, by pressing Open + Backspace, or with the button on the Window Control Toolbar. See *Fronting, Resizing and Moving Windows (Reference, 6.2.3)*.

6.2.3 **Fronting, Resizing and Moving Windows**

You can open as many windows as you wish, but you can only work in one at a time. To work in a window make it the frontmost by clicking or pressing the touch-screen within it, or use the Move Focus button on the Window Control Toolbar. The window's title bar will become dark to show that the window is active.

Windows and toolbars can be placed any where within the console's internal touch-screens, or on the (optional) external displays.

You can move and resize windows in two ways:

Using the Mouse or Trackball

To move a window, click and hold on the window's top status bar whilst dragging it to its new position. To move a toolbar click and hold its left-hand edge and drag to its new position.

Windows can be resized by clicking and holding on corners until the resize arrow appears. You can then drag the corner to make the window bigger or smaller.

If the contents of the window is bigger than the window itself, you can scroll the contents:

- by using the scroll bars at the right and bottom edges of the window.
- by holding down the Open key, and using the Trackball, mouse, parameter wheels or I-Wheel.

Using Keys and Buttons

The Window Control Toolbar sits at the top of the right-hand touchscreen, and provides a quick and easy way to manipulate windows. Its functions are also available as key shortcuts.

Button	Function	Shortcut
	Page Up, Page Down, Page Left and Page Right scroll the currently selected window. The cursor isn't moved.	Open + (cursor key)
	Split creates a copy of the selected window. This is helpful when you need to view two parts of the same window at once.	Open + (slash)

Button	Function	Shortcut
	Shuffle Left and Shuffle Right rotate through a range of set positions and sizes for the selected window within its current screen. The options are full screen, and top, bottom, left and right half and quarter screens.	Open + (plus) or (minus)
	Move Screen moves the selected window between touch-screens and external monitors.	Open + @
	Maximise toggles the size of the currently selected window between full screen and its previous size.	Open + Full
	Move Focus switches between windows in turn, bringing each to the front.	Open + Thru
	Close closes the window.	Open + Backspace

6.3 **Working with Spreadsheets**

Many windows on the Wholehog III show information such as **parameter** values, timings, and so on in a spreadsheet-style display. These all work in the same way:

To do this...	do this
Resize a column	Place the cursor over the right-hand edge of the column header. The cursor will change to a double-ended arrow. Click and drag to resize the column.
Move a column	Click and drag on the column header.
Hide a column	Right-click on the column header, and choose Hide.
Show a hidden column	Right-click on a column header, and choose the name of the column from the menu.
Sort the spreadsheet	Right-click on a column header, and choose Sort. The spreadsheet will be sorted by the values in that column. Choose Sort again the reverse the direction of the sort.
Select a row	Click on the row number button at the left-hand side of the spreadsheet.
Select a range of rows	You can click and drag across a range of row buttons to select them all.
Select all the cells in a column	Double-click on the column header at the top of the spreadsheet.

To do this...	do this
Select a cell	Click in the cell. You can use the cursor keys below the Trackball to change which cell is selected.
Select a range of cells	You can click and drag across a range of cells to select them all. Alternatively, you can click in the first cell, press Thru, and click in the last cell; this is useful if you want to select a large range and need to scroll the window.
Edit the contents of cells	Click in the cell and press Set, or double-click in the cell. Type in the new value, and press Enter. This works for both a single selected cell and a range.

6.4 **Working with Editors**

Editors are windows where you can set the parameter values of fixtures. There are editors for cues, scenes and palettes, and the **Programmer** is also an editor, and editing parameter values works in essentially the same way for all of them; see *Selecting Fixtures and Modifying Parameters (Reference, Section 8)*.

Figure 6-1. A Typical Editor

Figure 6-1 shows a typical editor. The main part of the window shows the fixture parameter values in a spreadsheet view, with each row representing a single fixture; see *Working with Spreadsheets (Reference, 6.3)*.

There is a row of buttons along the top of the window, most of which are common to all editors:

Button	Purpose
Value, Fade, Delay and Path	Use these buttons to display the different kinds of information associated with the fixture's parameters in addition to the parameter value. See *Working with Fade Timings (Reference, 13.1)*.
Source	Press the this to see which part of the Wholehog III is determining the parameter value. This might be the Programmer or a cuelist on a Master, for example.

Button	Purpose
Active	Press this to edit the contents of the editor, rather than just view it. Instructions given to the command line are directed to the active editor.
Show Palettes	Parameter values may be determined by an embedded palette; see *Working with Palettes (Reference, Section 10)*. Press Show Palettes to see the palette name, rather than the parameter value.
Off	Press this to cancel runnning effects.
	Reports. Not implemented in version 1.0.
	Configure. This allows you to control various aspects of how the editor window displays information.
	Help. Not implemented in version 1.0.

6.5 **Working with Directories**

Directory windows give you quick access to Groups, Palettes, Scenes and Cuelists, and they all work in essentially the same way.

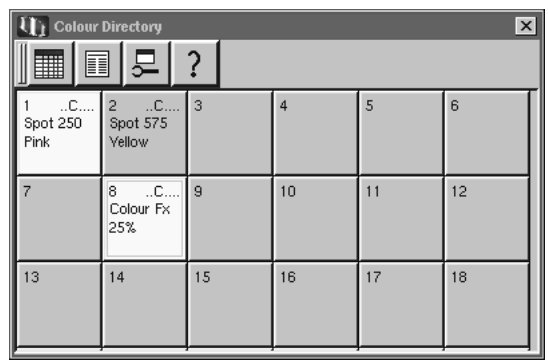


Figure 6-2. A Typical Directory

Figure 6-2 shows a typical directory. The main part of the window is filled with large buttons, used to access the group, palette, scene or cuelist, as well as displaying their names and other key information. Pressing the button while holding Pig sends the button to the command line, rather than causing an action directly. For example, in the Colour Palette:

> (Red Wash) : sets the selected fixtures to their Red Wash palette values.

while

Pig (Red Wash) : does not set any fixtures, but puts Red Wash in the command line to use as part of a command.

There is a row of buttons along the top of the window, which are common to all directories:

Button	Purpose
	Switches to a spreadsheet view, allowing you to edit attributes of the items in the directory such as their names. See *Working with Spreadsheets (Reference, 6.3)*.
	Reports. Not implemented in version 1.0.
	Configure. This allows you to control various aspects of how the editor window displays information.
	Help. Not implemented in version 1.0.

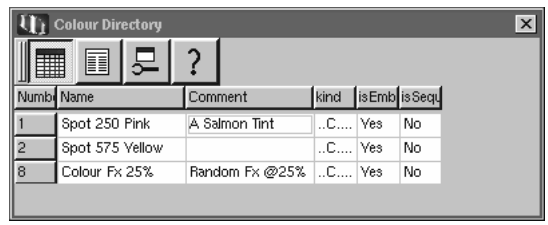


Figure 6-3. A Typical Directory in Spreadsheet View

6.6 Using the Command Line

The Wholehog III has two fundamental approaches to programming: one uses an on-screen, graphical approach, while the other uses a command line. The graphical approach is easy to learn because you can see the available options on screen, but tends to be slower. The command line is harder to learn because you have to learn the commands, but it is faster once you know it and it allows you to do complex operations in a single action. Often, you can combine elements of the two approaches.

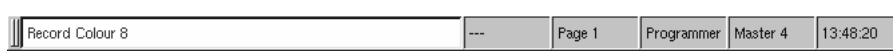


Figure 6-4. The Command Line

The commands that you enter appear in the command line bar at the bottom of the right-hand touch-screen; see *Figure 6-4*. You build up a command as a series of

keystrokes, and the command is acted on when you press Enter. You can use the Backspace key to delete each part of the command in turn if you make a mistake typing it in.

The command is sent to the currently active editor; press Active in the editor window to make it the active editor.

Tip
Because the command goes to the active editor, not the front window, you can have several editors open, perhaps with other windows in front, and still be sure which editor the commands will be applied to.

6.6.1 Command Line Syntax

The commands for editing show data all use a common syntax structure. The key to mastering the command line is realising that the syntax is the same for different commands, and different types of show data.

The basic structure is: Source, Mask, Command, Options, Destination.

Part	Description
Source	The source is the object within the show that you want to take data from. It might be a palette, scene, cue, or the active editor. With most commands the source object is not modified.
Mask	The Mask is a filter for when you only want some of the data from that object. There are two types of mask: a fixture mask specifies only data for certain fixtures (for example Cyberlight 1); a kind mask specifies only data for certain kinds (for example Colour, Beam). If no mask is given then the whole object is used.
Command	The Command is the operation you want to perform. Commands include Copy, Record, Delete, Move, Merge, Knockout. Some of these only need a source to be specified, others only need a destination, but they all have the same syntactical form.
Options	The behaviour of some commands (for example Record) can be altered with options. These usually appear on a popup toolbar once the command key is pressed.
Destination	The destination is the object that will be affected by the command. Again it might be a palette, cue, scene or the active editor. If the destination already exists, and the action to take is unclear, then you will be asked what the console s do.

The important thing to understand is that the command line follows a standard syntax, with the various parts in a particular order. Knowing this, you will be able to extend the many examples of command line syntax in this manual to do anything that you want.

6.6.2 The Status Bar

To the right of the command line is the Status Bar. This gives you the following

information about the status of the console, from left to right:

Description	Example
The Trackball mode	--- (pointer)
	POS (position)
	POS, ortho (ortho mode)
The name of the current page	Page 1
The current editor	Programmer
	Cue 3
The currently chosen Master	Master 4
The current time in hours, minutes and seconds.	13.48.20

6.7 Starting Up and Shutting Down

6.7.1 The Start Window

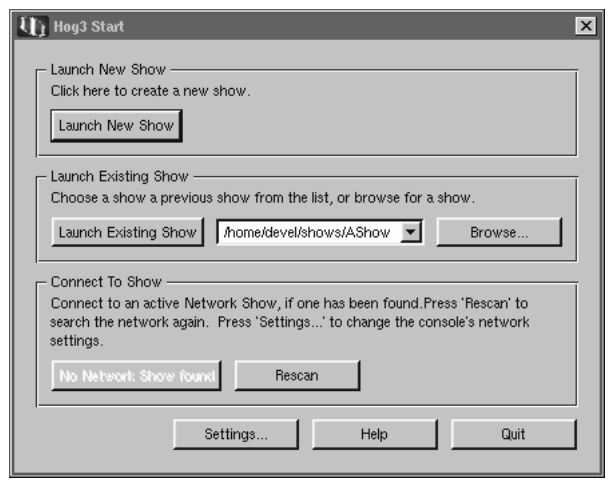


Figure 6-5. The Start window

On starting up the Start window will appear with three options:

Launch New Show

Selecting this will launch a new show screen and you will be asked to enter the following information:

- **Your show name:** This can be as long as you like. If you do not have a keyboard attached, press Set to open an on-screen keyboard.
- **A storage location:** Choose the location on the console's hard drive where you would like to store the show. You cannot chose the Zip drive or the CD-ROM as a storage location.
- **A fixture library:** Choose the library to use as the **fixture library**. The library contains information about different types of fixtures that the Wholehog III needs. We will often release new versions of the library separately from the software, and so you may have multiple versions of the library available to use.

Launch Existing Show

You can choose from a list of recently used shows and then press Launch Existing Show, or browse all available shows using the Browse button.

Connect to Show

To connect to a show already running on the network select it in the Connect to Show section.

If no show is displayed, and you are sure that a show is running, this could be because:

- your console is on the wrong network port. Click on the Settings button and adjust the **port number**.
- your console has the wrong network settings. Press the Panel button on the Startup Toolbar at the top of the screen, and adjust the settings in the Network Settings pane.

When multiple consoles are working together on a show then you can identify each console with a separate number. This can also be set in the Settings section of the Startup screen.

Tip
What is the difference between launching or starting a new show, and connecting to a running one? Normally your console will start a 'show server'. When you connect to a running show, no server is started; instead you use the server of the remote console.

6.7.2 Shutting Down

To shut down, select Setup and Quit. You will be then be prompted to Shut Down or Log Off your user profile. Shutting down will turn the Wholehog III off completely, while logging off leaves the console powered up and running, ready for you or another user to log on. Logging off will close your current desktop, programmer and output screens. In either case, your show data is automatically saved to disk.

6.8 **Managing Show Data**

Your show data is stored on the internal hard disk in the location that you chose when creating the show. The console saves changes to the disk as they are made, and in the event of a power failure, the battery backup will ensure that all saves are completed before shut down.

The Show Manager window allows you to see the details of the current show and change its name. If you wish to change the current show, then press the Change Show button. To open the Show Manager:

Setup ⟶ Shows

6.8.1 **Storing Shows**

Use the Backup pane to store a copy of your current show to another location on the hard disk, or to Zip disk, CD-ROM or network drive.

It is good practice to backup your show regularly. You can automate this using the Auto Backup function. This will make an automatic backup at specified intervals, set to twenty minutes by default. In the Auto-Backup pane you can specify a location and name for your back-ups, as well as specifying how many the system should keep, the default being the last three.

Section 7: **Adding and Configuring Fixtures**

This section introduces:

- The fixture window
- User numbers
- Slots

This section shows you how to:

- Choose and add fixtures to your show
- Add a DMX Processor
- Patch fixtures to different universes, and DMX Processors
- Patch fixtures with multiple patch points
- Configure fixtures

Once you have created your new show (see *Launch New Show (Reference, 6.7.1)*), you need to:

- Add fixtures.
- Patch fixtures.
- Configure fixtures.

7.1 **Adding a Fixture to the Show**

You add fixtures using the Fixture Schedule, see *Figure 7-1*. The Number column shows the number of fixtures of that type currently in the show. Any mode options specific to the fixture type are shown in the Mode column.

To add a fixture:

1. Setup ⟶ Fixtures ⟶ Schedule... ⟶ Fixture Schedule : The Fixture Schedule window will open with a list of fixture personalities in the current Fixture Library. Each fixture is listed under its manufacturer, while Desk Channel and Scroller-Dimmer are listed under Generic. See *Figure 7-1*.
2. Expand each manufacturer by clicking on it or the adjacent Plus button to find and select the specific fixture type you want.
3. Click on the Quantity cell.
4. Set, **[number of fixtures required]**, Enter : Set the number of that fixture type in the show.
5. Repeat for all fixture types required, or you can add more later.

6. When you have finished select OK.

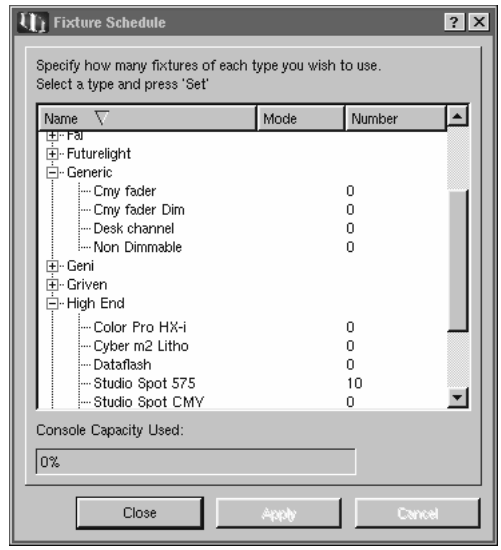


Figure 7-1. The Fixture Schedule window

7.2 Removing a Fixture from the Show

To remove a fixture:

1. Setup ⟶ Fixtures : open the Fixtures window.
2. Select the fixtures you want to remove, and press Remove. You will be asked to confirm.

7.3 Patching Fixtures

Once fixtures have been added to the show, they need to be **patched** to the appropriate **DMX address**. On previous consoles such as Wholehog II this was a case of selecting one of several **DMX universes** and setting a start address between 1 and 512. Because of the network capability of the Wholehog III, fixtures are first assigned to an **DMX Processor**, and then assigned to a specific DMX universe and address.

7.3.1 **Selecting the DMX Processor, Universe and Patch Point**

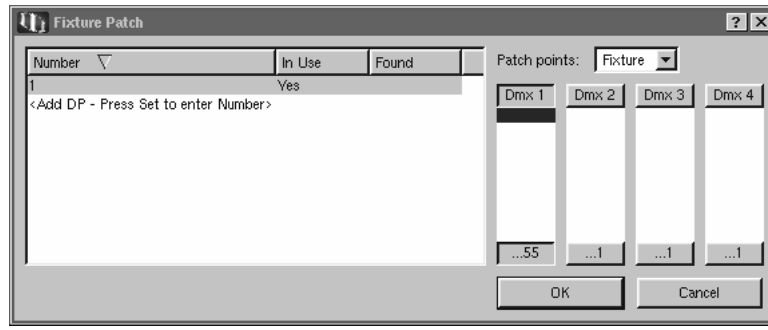


Figure 7-2. The Fixture Patch window

To patch a fixture:

1. Setup ⟶ Fixtures ⟶ Fixture Window
2. Select the fixture by clicking on it, then select Patch@ to open the Fixture Patch window. See *Figure 7-2*.
3. Select a DMX Processor in the list on the left hand side of the window. If there are no DMX Processors shown, or you want to patch to one that isn't listed shown in the list, you need to add it. See *Adding DMX Processors (Reference, 7.3.3)*
4. If the fixture has more than one Patch Point, select the desired patch point in the list. See *Fixtures with Multiple Patch Points (Reference, 7.3.5)*.
5. Select the DMX universe from the four shown. The display gives a graphical indication of which addresses are already occupied. Type in a number for the DMX address; the next free address is shown below each universe.
6. Click on OK or press Enter.

You can also use the keypad to patch fixtures. For example, to patch Studio Color 1 to DMX Processor 2, Universe 4, at address 17:

(Studio Color) **1** @ **2/4/17** Enter

To patch further fixtures to the same DMX Processor and universe, you can use the shorthand:

(Studio Color) **2** @ **33** Enter

You can patch one fixture to multiple different addresses; select the fixture again and patch it as before.

Tip
You don't have to patch fixtures before you start programming. Once the fixtures have been added they can be programmed; see *Adding a Fixture to the Show (Reference, 7.1)*.

7.3.2 Patching Several Fixtures at Once

If you select several fixtures and patch them, the Wholehog III will allocate them to a continuous range of DMX addresses, setting each fixture's patch address so that it follows on from the last.

For example, to patch 5 Studio Colors, starting at DMX address 1:

1. Setup ⟶ Fixtures ⟶ Fixture Window
2. Fixture (Studio Color) **1** thru **5** Patch@ **1**, Enter : You can use the @ key as an alternative to the Patch@ button.

Studio Colors 1 to 5 will now have the incremental patch addresses of 1:1, 1:17, 1:33, 1:49, and 1:65. Note that the fixtures selected do not have to be from a contiguous range, and they can be of different types.

7.3.3 Adding DMX Processors

To add an DMX Processor:

1. Setup ⟶ Fixtures ⟶ Patch@ : open the Fixture Patch window.
2. Click on Add DP in the list of DMX Processors, and press Set.
3. **[DMX Processor number]**, Enter : type in the Net Number of the DMX Processor.
4. OK : close the Fixture Patch window.

7.3.4 Unpatching Fixtures

To unpatch a fixture, select it and press Unpatch in the Fixture window. This unpatches the fixture, but leaves all programming involving the fixture intact.

7.3.5 Fixtures with Multiple Patch Points

Some fixture types actually consist of several separate elements that work together. An example would be a parcan with a scroller, which operationally you want to treat as a single fixture ('a light that can change brightness and colour') but that technically consists of a dimmer/lamp and a scroller controlled independently. Similarly, some moving fixtures such as the Vari-Lite VL5 have a separate dimmer.

Because the elements of the fixture generally do not have adjacent patch addresses, the Wholehog III allows you to patch them separately. Select the Patch Point you want to patch at the top right of the Fixture Patch window.

In the Fixture window, these types of fixture will span more than one row - one for each Patch point.

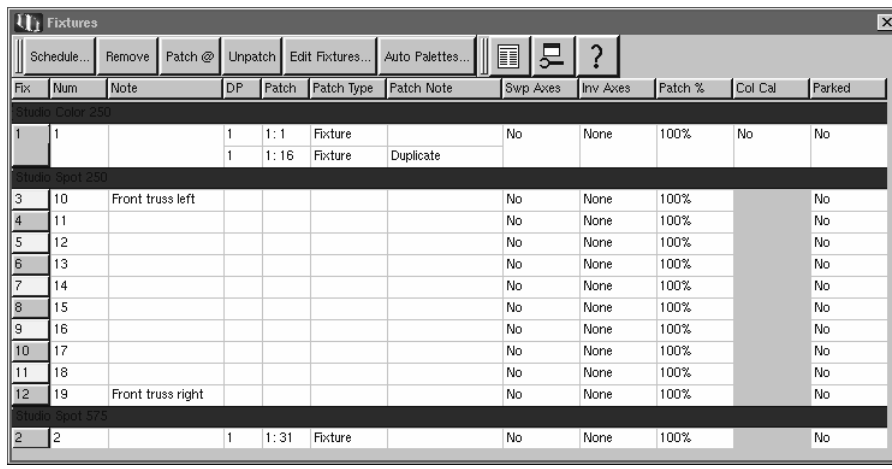
7.4 **Configuring Fixtures**

Each fixture has a variety of settings that control how the Wholehog III handles it. Settings that control how the fixture as a whole behaves are edited in the Fixtures window (*Figure 7-3*):

Setup ⟶ Fixtures

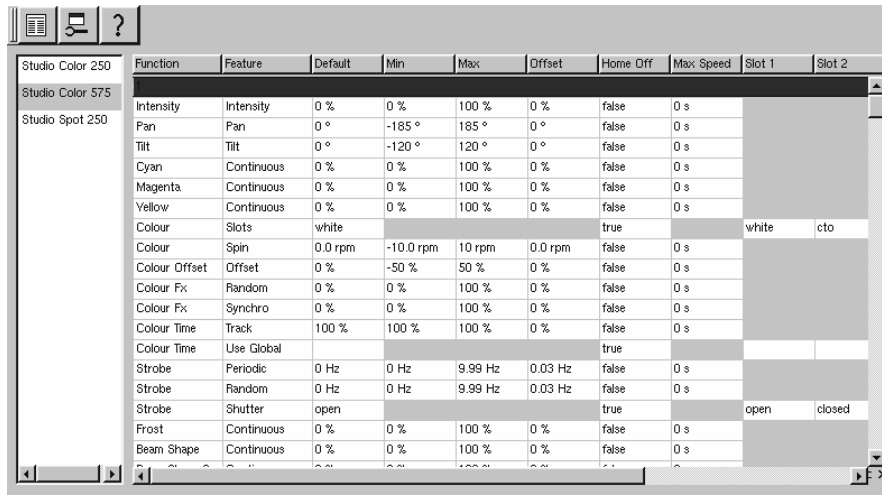
Settings that are specific to individual parameters are edited in the Edit Fixtures window (see *Figure 7-4*):

Setup ⟶ Fixtures ⟶ Edit Fixtures



Fix	Num	Note	DP	Patch	Patch Type	Patch Note	Swp Axes	Inv Axes	Patch %	Col Cal	Parked
Studio Color 250											
1	1		1	1: 1	Fixture		No	None	100%	No	No
			1	1: 16	Fixture	Duplicate					
Studio Spot 250											
3	10	Front truss left					No	None	100%		No
4	11						No	None	100%		No
5	12						No	None	100%		No
6	13						No	None	100%		No
7	14						No	None	100%		No
8	15						No	None	100%		No
9	16						No	None	100%		No
10	17						No	None	100%		No
11	18						No	None	100%		No
12	19	Front truss right					No	None	100%		No
Studio Spot 575											
2	2		1	1: 31	Fixture		No	None	100%		No

Figure 7-3. The Fixtures window



Function	Feature	Default	Min	Max	Offset	Home Off	Max Speed	Slot 1	Slot 2
Intensity	Intensity	0 %	0 %	100 %	0 %	false	0 s		
Pan	Pan	0 °	-185 °	185 °	0 °	false	0 s		
Tilt	Tilt	0 °	-120 °	120 °	0 °	false	0 s		
Cyan	Continuous	0 %	0 %	100 %	0 %	false	0 s		
Magenta	Continuous	0 %	0 %	100 %	0 %	false	0 s		
Yellow	Continuous	0 %	0 %	100 %	0 %	false	0 s		
Colour	Slots	white				true		white	cto
Colour	Spin	0.0 rpm	-10.0 rpm	10 rpm	0.0 rpm	false	0 s		
Colour Offset	Offset	0 %	-50 %	50 %	0 %	false	0 s		
Colour Fx	Random	0 %	0 %	100 %	0 %	false	0 s		
Colour Fx	Synchro	0 %	0 %	100 %	0 %	false	0 s		
Colour Time	Track	100 %	100 %	100 %	0 %	false	0 s		
Colour Time	Use Global					true			
Strobe	Periodic	0 Hz	0 Hz	9.99 Hz	0.03 Hz	false	0 s		
Strobe	Random	0 Hz	0 Hz	9.99 Hz	0.03 Hz	false	0 s		
Strobe	Shutter	open				true		open	closed
Frost	Continuous	0 %	0 %	100 %	0 %	false	0 s		
Beam Shape	Continuous	0 %	0 %	100 %	0 %	false	0 s		

Figure 7-4. The Edit Fixtures window

7.4.1 **Modifying the User Number**

The User Number is the number that you use to select a particular fixture when programming. By default, the Wholehog III gives each fixture type its own range of user numbers, so that there might be several fixtures numbered 1, of different types.

You may wish to renumber the fixtures in your show so that, for example, each one has a unique number irrespective of its type. By doing this you never have to specify the type when selecting fixtures, which can speed up programming, but you will have to remember what type of fixture each fixture number refers to. See *Selecting Fixtures (Reference, 8.1)*.

To change the User Number:

1. Setup ⟶ Fixtures
2. select the fixture's User Number cell.
3. Set, **[new number]**, Enter

To change several User Numbers at once:

1. Setup ⟶ Fixtures
2. select a range of User Number cells by clicking and dragging.
3. Set, **[new number]**, Enter : allocates a range of user numbers starting with the number that you enter.

7.4.2 **Notes**

Notes can be used to attach a comment to a fixture, such as its location or intended use.

To add a note:

1. Setup ⟶ Fixtures
2. Select the fixture's Note cell.
3. Set **[text of note]** Enter : Type in the note text.

7.4.3 Inverting and Swapping Pan and Tilt Axes

Depending on a fixture's orientation in the rig, you may want to invert or swap its pan and tilt axes. For example, inverting the pan can ensure that when moving the Trackball left, a fixture rigged facing the operator moves to the operator's left, not the fixture's left.

Similarly, if units are rigged facing across the stage rather than facing up or down stage, then swapping the axes keeps the Trackball movement and the fixture movement the same. This also ensures that fixtures selected in groups all move in the same direction as the Trackball is moved.

Fixtures that are rigged in other positions, for example on the stage floor as opposed to hanging, then combinations of swap and invert (either pan, tilt or both) may be required.

To invert or swap axes:

1. Setup ⟶ Fixtures
2. Scroll to the desired fixture, and select its Invert or Swap cell.
3. Press Set, and choose X, Y or Both for Invert, or Yes, No for Swap.

7.4.4 Proportional Patch

You can use proportional patching to change the brightness of a fixture relative to what has been programmed. For example, you can limit the maximum brightness of the fixture by setting the proportional patch to 80%.

1. Setup ⟶ Fixtures
2. Select the Proportional cell for the fixture required.
3. Set, **[percentage]**, Enter : enter a percentage.
4. To return the proportional patch to normal, set the value to 100%.

7.4.5 Setting Minimums and Maximums for Parameters

When fixtures are placed close to obstacles, such as trussing or set pieces, it may be important to limit movement to prevent accidental damage, especially when the fixture is out of view of the operator. However, other functions can also be limited, for example to implement a house or event policy on the use of strobe lighting, where multiple operators may be using the console.

To set limits:

1. Setup ⟶ Fixtures ⟶ Edit Fixtures
2. Select the Minimum cell of the parameter you wish to limit.
3. Set, **[new value]**, Enter : Enter a value as a real world unit. In the case of pan and tilt, it will be a plus or minus number of degrees from the fixture's home position.
4. Repeat to set the Maximum value.

7.4.6 **Setting a Custom Default**

The default value is the value that the parameter will take when no playbacks or editors are controlling it. Fixtures also go to their default setting when the console starts up.

To set a custom default:

1. Setup ⟶ Fixtures ⟶ Edit Fixtures
2. Select the Default cell of the desired parameter.
3. Set, **[new value]**, Enter : Enter a value as a real world unit.

7.4.7 **Setting a Parameter Offset**

This setting allows you to offset the range of values over which a parameter varies. For instance if one fixture is hung at an angle to the bar, so that it has a different pan centre-point from all the others on that bar, then you could set an offset so that the fixture appeared to line up from a programming and operating point of view.

To set a parameter offset:

1. Setup ⟶ Fixtures ⟶ Edit Fixtures
2. Select the Offset cell of the desired parameter.
3. Set, **[new value]**, Enter : Enter a value as a real world unit.

Important
Applying an offset to a parameter after you have programmed values for it into your show will mean that those values will also be offset.

7.4.8 **Parameter Homing**

Parameter Homing determines whether a parameter goes to its default value when it is released from a playback or editor. Normally, homing is on (like the Wholehog II), but you may prefer that a fixture retains its last setting, even if the cue or editor is no longer outputting. Some consoles such as the Vari-Lite Artisan work this way.

To change parameter homing:

1. Setup ⟶ Fixtures ⟶ Edit Fixtures
2. For the desired fixture, select the Homing cell for the parameter required.

3. Press Set : Turn homing on or off.

Tip
Be careful if you turn homing off for intensity parameters, as this can leave fixtures at non-zero intensities when released, such as at the end of a cuelist.

7.4.9 **Naming Slots**

Some fixture parameters are continuously variable, for example CMY colour mixing. On the other hand some parameters, for example gobo or colour wheels, work in discrete increments or 'slots'.

The Fixture Library loaded into the Wholehog III defines the fixture's default slots, displayed on the Slots Toolbar, in Palettes and the Programmer. When custom gobos or colours are used, you can customise the console to display the correct name for each gobo or colour slot.

To do this:

1. Setup ⟶ Fixtures ⟶ Edit Fixtures
2. For the desired fixture, select the Slot cell for the parameter required.
3. Press Set, select the desired slot name, and press Enter.

Section 8: **Selecting Fixtures and Modifying Parameters**

This section introduces:

- The programmer window
- The selection order
- Individual fixture and parameter timing
- Fanning

This section shows you how to:

- Select fixtures singly and in multiples
- Modify intensity, position, colour and beam parameters

You can select Fixtures and modify their parameters in the Programmer. Once recorded in groups, palettes, cues and scenes they can be adjusted in Editors. The Programmer and other editors all work in essentially the same way; for an overview of editors see *Working with Editors (Reference, 6.4)*.

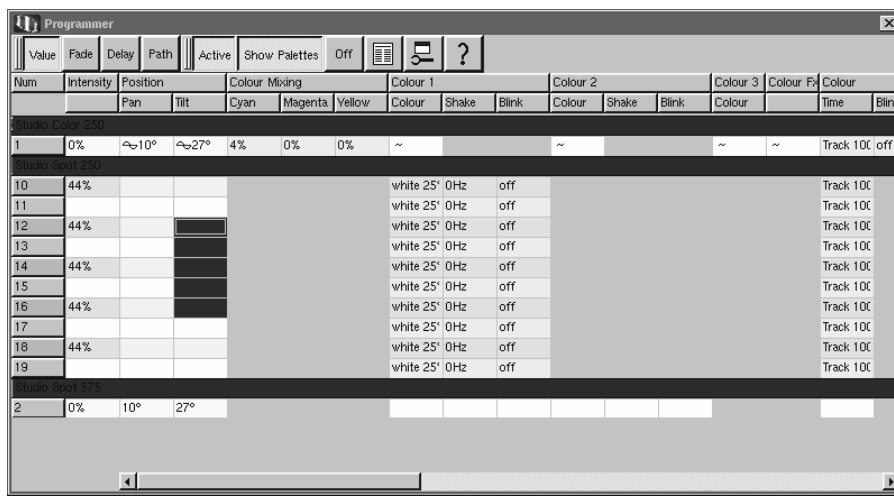


Figure 8-1. The Programmer window

To open the Programmer:

Select Programmer from the Main Toolbar.

To open other editors:

Select the desired group, palette, cue or scene and Open. Press the Active button in the editor window if you want to change, not just view, parameter values.

8.1 Selecting Fixtures

On the Wholehog III fixtures and **desk channels** are selected through the **command line** using the numeric keypad, or visually in the Editor. For an overview of the command line, see *Using the Command Line (Reference, 6.6)*.

8.1.1 Selecting Individual Fixtures

To select a fixture visually in the editor window, click on its number in the Num column of the spreadsheet. The row representing the fixture will be highlighted.

To select a fixture using the command line, you need to select the fixture type followed by the fixture's user number. For example, to select Studio Color number 1:

Fixture, (Studio Color), **1** : when you press the Fixture key, types of available fixtures will appear at the bottom of the touch screen, where you can select (Studio Color). Studio Color 1 is now selected.

If you have changed the user numbers so that they are all unique, irrespective of the fixture type, it is not necessary to select the fixture type. See *Modifying the User Number (Reference, 7.4.1)*.

Tip
The Wholehog III maintains the type of the last fixture selected. If, for example, Studio Colors are selected then all fixture numbers entered into the command line will refer to Studio Colors until a new fixture type is selected. Also, repeated pressing of the Fixture key will cycle through the available fixture types.

8.1.2 Selecting Multiple Fixtures

You can select more than one fixture of the selected type using the +, – and Thru key. For example:

Fixture (Studio Color) **1** + **5**, Enter : selects Studio Colors 1 and 5.

Fixture (Studio Color) **1** Thru **5**, Enter : selects Studio Colors 1 to 5.

1 Thru **5** – **4** : selects fixtures 1 to 5, but not 4.

1 Thru **5** + **7** : selects 1 to 5 and also 7.

1 Thru Enter : selects from fixture 1 of the current type through to the last fixture of the current type.

You can also select more than one fixture from a range of fixture types, for example Studio Spot 1 and Studio Color 6:

Fixture (Studio Spot) **1** Fixture (Studio Color) **6**, Enter

Note that selections are cumulative, building the total selection, until the selection is used to perform an action on the selected fixtures. After that, subsequent selections start from nothing, unless you use + or – to add or subtract from the previous selection.

8.1.3 Select All

You can select all the fixtures in the Programmer using the All button on the Select Toolbar. For example:

1. Studio Colors 1 to 5 are in the Programmer.
2. Main Toolbar ⟶ Select : open the Select Toolbar.
3. All : the selection is now Studio Colours 1 to 5.

8.1.4 Inverting the Selection

You can invert the current selection using the Invert button on the Select Toolbar. For example:

1. Studio Colors 1 to 5 are in the Programmer.
2. (Studio Color) **1** + **3** + **5** : select Studio Colors 1, 3 and 5.
3. Main Toolbar ⟶ Select : open the Select Toolbar.
4. Invert : the selection is now Studio Colours 2 and 4.

8.1.5 Sub Selections

You can make sub selections from within the current selection, using the Next and Back keys, and the Odd, Even and Random buttons on the Selection Toolbar:

Main Toolbar ⟶ Select

Next and Back: The Next and Back keys select a single fixture from within the current selection. Repeatedly pressing Next or Back steps forwards or backwards through the current selection, with the order determined by the *Selection Order (Reference, 8.2)*.

Tip
When the Trackball is in position mode, the bottom left Trackball key also acts as a Next key. This can make it very fast to work through a selection of fixtures setting their position.

Odd and Even: The Odd and Even buttons select the odd and even fixtures from the current selection, according to the *Selection Order (Reference, 8.2)*.

Random: The Random button selects a single fixture at random from the current active selection in the Programmer.

8.1.6 **Deselecting Fixtures**

To deselect all selected fixtures, press the Backspace key when the command line is empty.

To deselect specific fixtures, use the – key:

– Fixture (Studio Color) **1** : deselects Studio Color 1.

Alternatively, you can deselect a fixture visually in the Programmer or Editor window by clicking on its number in the Num column.

8.2 **The Selection Order**

The order in which you select fixtures is significant in controlling how fanning, sequence palettes and effects are applied to them. See *Fanning (Reference, 8.3.6)*, *Sequence Palettes (Reference, 10.7.2)* and *Working with Effects (Reference, Section 16)*.

8.2.1 **Reverse, Reorder, Transpose and Shuffle**

You can change the selection order of fixtures in predefined ways. The Reverse, Reorder, and Shuffle buttons are on the Selection Toolbar:

Main Toolbar ⟶ Select Toolbar

Reverse: reverses the selection sequence, so that the last is first and the first is last.

Reorder: sorts the selection order to match the User Number order.

Shuffle: randomises the selection order of the current selection.

8.3 **Modifying Parameters**

Once fixtures are selected into an Editor, you can modify their parameters. The Wholehog III groups parameters into four parameter types: Intensity, Position (pan and tilt), Colour and Beam. There are also two special types, Effect and Time.

The Wholehog III provides several ways to control the different parameter types:

Control	Use for
Command Line	Intensity.
I-Wheel	Intensity.
Trackball	Position (pan and tilt). Use the top-right Trackball key to switch the Trackball between controlling the on-screen pointer and the position of selected fixtures.

Control	Use for
Parameter Wheels	Position, Colour and Beam. To change the parameter type currently controlled by the parameter wheels, select one of the parameter type keys on the front panel: Intensity, Position, Colour or Beam. If the fixture has more parameters of a particular type than there are parameter wheels you can change the Wheelset to access all the parameters. See *Changing the Wheelset (Reference, 8.3.4)*.
Slots Toolbar	Parameters that have discrete rather than continuous values (known as 'slotted'), such as the positions of a colour wheel, can be controlled from the Slots Toolbar. This gives you button-press control of the posible values.
Spreadsheet	You can directly edit a parameter's value in an editor's spreadsheet view. Click on the cell, press Set, type in a value and press Enter.

8.3.1 Intensity

Fixture intensities can either be set from the keypad or using the I-Wheel.

With the @ Key

To set intensities using the @ key and the numeric keypad:

(Studio Color) **4** @ **70**, Enter : Sets Studio Color 4 to 70%.

(Studio Color) **4** @ **5**, Enter : Sets Studio Color 4 to 50%, not 5%. This is similar to some theatre consoles such as Strand.

(Studio Color) **4** @ **05**, Enter : Sets Studio Color 4 to 5%.

Note that the shortcut of using single digit entry to specify a level as shown above only works for simple commands. When using + and - or proportional scaling (see below) a single digit is interpreted as a percentage, not a level out of ten.

To set fixtures to full or zero:

(Studio Color) **4** Full : Sets Studio Color 4 to full.

(Studio Color) **4** Out : Sets Studio Color 4 to zero. The Out button is on the Main Toolbar.

The intensity of a fixture can be changed relative to its current level, for example:

(Studio Color) **4** @ + **5**, Enter : increases the intensity of Studio Color 4 by 5%.

(Studio Color) **4** @ – **10**, Enter : reduces the intensity of Studio Color 4 by 10%.

The intensity of a fixture can be scaled proportionally, for example:

(Studio Color) **4** @ / **70**, Enter : scales the intensity of Studio Color 4 to 70% of its original value.

(Studio Color) **4** @ / **120**, Enter : scales the intensity of Studio Color 4 to 120% of its original value.

With the I-Wheel

Moving the I-Wheel changes the level of the selected fixtures. When selecting several fixtures and adjusting levels, the wheel will maintain relative differences between them, so that all intensities change by the same amount. For example, if fixture 1 is at 10%, 2 at 50% and the wheel is increased by 10%, then fixture 1 will move to 20% and 2 will move to 60%.

By holding the Pig key whilst using the wheel, intensities will be increased or decreased in proportion to their individual level. For example, if fixture 1 is at 10%, 2 at 50% and the wheel is increased by 10%, then fixture 1 will move to 11% and 2 will move to 55%.

The Nudge Up and Nudge Down keys above and below the I-Wheel can be used to increase and decrease the intensity by a preset amount. The size of the increment is 10% by default, and you can change it in the Edit pane of the Preferences window.

Tip
To set a fixture to zero, type : **4** @ Enter.

Remainder Dim

The Remainder Dim button on the Main Toolbar can be pressed at the end of an intensity command line to take all unselected fixtures to zero.

8.3.2 Pan and Tilt

Using the Trackball

To switch the Trackball from controlling the cursor to controlling fixture position, press the top right selection key adjacent to the Trackball. When in fixture position mode the Trackball will glow blue, and can be used in two modes. To change mode press the top left Trackball selection key.

- **Pan and Tilt Mode:** In the default mode, the pan and tilt of the fixture follows the movement of the Trackball.
- **Ortho Mode:** Ortho mode helps the accurate positioning of fixtures by constraining pan while changing tilt, or vice versa.

You can set the way that fixtures move so that they follow the Trackball. See *Inverting and Swapping Pan and Tilt Axes (Reference, 7.4.3)*.

Tip
An external mouse will always control the graphical pointer, so you can keep the Trackball in fixture position mode to save having to change modes as you programme. Alternatively, pan and tilt also appear on the parameter wheels, so you can use the Trackball for the graphical pointer.

Using the Parameter Wheels

The pan and tilt parameters also appear on the Parameter Wheels, which can be used as an alternative to the Trackball.

Flip

With some moving lights, there is more than one combination of pan and tilt that results in the beam hitting the same point on the stage. You may sometimes want to change the pan and tilt combination being used, for example to ensure that the fixture takes the most direct route during a live position change.

The Flip function cycles the selected fixtures through the possible combinations in turn. To do this, select the fixture or fixtures and press Flip on the Main Toolbar.

Holding the Pig key down while pressing Flip cycles through the combinations the other way.

Tip
When the Trackball is in position mode, the top left Trackball key also acts as a Flip key, for quick access while positioning fixtures.

8.3.3 Colour and Beam

Colour and beam parameters can be either discrete (also known as 'slotted') or continuous. Discrete parameters are controlled from the Slots Toolbar, while continuous parameters are controlled using the Parameter Wheels.

The Parameter Wheels are parameter sensitive, changing function according to the currently selected parameter type and fixture. The current function and status is shown on the touch-screen immediately above each parameter wheel.

8.3.4 Changing the Wheelset

Some fixtures have more parameters of a particular type than there are parameter wheels. In this case the parameters are grouped into Wheelsets. Press a Parameter Type key and the choices of Wheelsets will be shown on the toolbar at the bottom of the right-hand touchscreen. Select the Wheelset you wish to use, or press the Parameter Type key repeatedly to cycle through them.

8.3.5 **Fine Control**

Holding the Pig key and moving the encoder wheel allows fine adjustment of the currently selected parameter.

8.3.6 **Fanning**

Fanning allows you to set a parameter across several fixtures, so that the parameter values are equally spaced. For example, you can use fanning easily to set intensities of 20, 30, 40, 50 and 60% across five fixtures.

You can fan any values including parameters and timings. The fixture *Selection Order (Reference, 8.2)* is significant when fanning, as the first and last fixtures change the most, while the middle fixture is unchanged. The value change when fanning is always relative to the starting value; if there is no starting value the parameter will fan from 0.

Using the Fan Key

To fan a parameter:

1. (Studio Color) **1** thru **5** @ 30 : select the fixtures and bring them to 30%.
2. Press and hold the Fan key, whilst moving the I-Wheel. The fixtures at either end of the range take the values 10% and 50%, with those in between evenly spread across the intervening range.

In the Programmer Window

To fan a parameter:

1. Select a range of cells, for example the intensity cells of Studio Colours 1 to 5.
2. Set **10** Thru **50**, Enter : The fixtures at either end of the range take the values 10% and 50%, with those in between evenly spread across the intervening range.

With the Command Line

To fan a parameter:

(Studio Colour) **1** Thru **5** @ **10** Thru **50**, Enter : The fixtures at either end of the range take the values 10% and 50%, with those in between evenly spread across the intervening range.

You can use palettes as the start and end points of a fan:

(Studio Colour) **1** Thru **5** @ Position **1** Thru Position **4**, Enter

8.3.7 **Copying Parameter Settings**

You can copy the settings of one fixture to another. For example:

> (Studio Color) **1** Thru **4** Copy **8** Thru **11**, Enter : copies the parameter settings of Studio Colors 1-4 to 8-11.

You can also copy fixture data by using the Copy and Paste commands: click the right-hand mouse or trackball button on the desired cell in the Programmer window.

Important
If you copy parameter settings between fixtures of different types, only those parameters that the fixtures have in common will be copied.

8.3.8 **Touching Parameters**

When you start to record your programming as cues you will find that only the parameters that you have assigned values to are stored; these are known as 'Hard Values'. This is important because it means that in cuelists values track through until they are changed, and it allows different playbacks interact to create a single onstage look.

However you will sometimes want to ensure that a value is stored at its current value in a cue or palette. To do this you can Touch it.

To touch all parameters of the current selection simply press the Touch key on the Main Toolbar. To touch only the parameters of a particular kind, press the appropriate Parameter Type key followed by Touch. For example:

> Beam Touch : touches all Beam parameters of the selected fixtures.

To touch a single parameter you can hold the Touch key while moving that parameter's wheel slightly, or selecting any slot.

8.4 **Setting Timings**

You can give fixtures and individual parameters timings in the Programmer, and these settings are then included when you record cues and scenes, and (optionally) palettes. You can also set timings in the cue, scene and palette editors. Each fixture or parameter can have fade and delay times, and a path; these are all explained in detail in *Working with Cue Timing and Ordering (Reference, Section 13)*.

Note that you can only set a timings for a parameter that has been 'touched' in the editor; see *Touching Parameters (Reference, 8.3.8)*.

Selecting Fade, Delay or Path from the top left of the Programmer window will display fade or delay times or paths for each fixture parameter.

Important
If you set fixture and parameter timings in the Programmer, and then record a cue, scene or palette with an overall time, the individual time information will be overridden.

8.4.1 **Fixture Timings**

You can set the individual timings of fixtures in the Programmer using the Timing Toolbar or the command line.

With the Timings Toolbar

1. Select the fixtures that you want to set timings for.
2. Time : open the Timings Toolbar.
3. Use the parameter wheels to set the desired timings.

With the Command Line

1. (Studio Color) **1** : select the desired fixtures.
2. Time **4** Enter : sets the **fade time** to 4 seconds.
3. Time Time **2** Enter : pressing Time twice sets the **delay time**.

8.4.2 **Parameter Timings**

Parameter timings can be set using the Timings Toolbar, or the command line, or directly in the Programmer window.

With the Timings Toolbar

1. Select the fixtures that you want to set timings for.
2. Time : open the Timings Toolbar.
3. Press the Fade In, Fade Out, Delay In or Delay Out button and select which parameter type to set the timings for.
4. Use the parameter wheels to set the desired timings.

With the Command Line

1. (Studio Color) **1** : select the desired fixtures.
2. Colour Time **4** Enter : sets the fade time of the colour parameters to 4 seconds.

In an Editor Window

1. Click in the cell for the desired parameter, or click and drag to select a range of cells.
2. Press Set.

3. Type in a new time value, and press Enter.

8.4.3 **Fanned Timings**

You can fan timings across multiple fixtures, just as you can fan colour or position. For example, to fan times across 10 Studio Colors:

(Studio Color) **1** Thru **10** Time **5** Thru **15** Enter : fans the fade times of Studio Colors 1 through 10 between 5 and 15 seconds.

For more on fanning, see *Fanning (Reference, 8.3.6)*.

8.5 **Removing Values**

As well as setting values for parameters, you will sometimes want to remove parameter values from editors. For example:

- You no longer want to use a particular fixture in a cue.
- You decide to have the colour of several fixtures controlled by a different cuelist on another playback. To do this, you need to remove colour parameter values, so that they don't take over control of the colour parameters under the LTP rule. See *HTP and LTP (Introduction, 2.6)*.

Tip
If you want to clear the entire contents of an editor, use the Clear key.

8.5.1 **Removing Entire Fixtures from the Programmer**

To remove selected fixtures from the Programmer or an editor (known as 'knocking out'), press the Knockout button on the Main Toolbar. For example:

(Studio Color) **1** Thru **5** Knockout : removes Studio Colors 1 to 5 from the Programmer or editor.

Group **2** Knockout : removes all fixtures in Group 2 from the Programmer or editor.

8.5.2 **Removing Specific Parameter Types from the Programmer**

You can remove specific parameter types from the selected fixtures in the Programmer:

Select the parameter type and press Knockout : Colour, Knockout

8.5.3 **Removing Individual Parameters from the Programmer**

You can remove individual parameters from the selected fixtures in the Programmer:

Hold Knockout and move the relevant Parameter Wheel, or press the relevant button on the Slots Toolbar.

8.6 **Linked Parameters**

When recording a cue, scene or palette, the Wholehog III only records parameters that have been changed or touched since the last cue was recorded. See *Tracking (Introduction, 2.4)* and *Working with Tracking (Reference, 12.6)*.

However, some parameter types are treated as a single fixture 'attribute', so for example the three colour parameters of a colour mixing fixture (cyan, magenta and yellow) are all recorded even though only one has changed. For most purposes this works to give the results that you would expect but there may be situations where you want to separate the linked parameters, for example to run separate chases with the cyan, magenta and yellow parameters.

By default, the Wholehog III links intensity, position and colour parameters. You can change which parameter types are linked in the Edit pane of the Preferences window.

Section 9: **Working with Groups**

This section introduces:

- The Group Directory

This section shows you how to:

- Record and delete groups
- Name and edit groups
- Copy and move groups

Groups are pre-recorded fixture selections, complete with **selection order** information. Groups are stored in the Group Directory. They allow the quick selection of multiple fixtures, and, like ordinary fixture selections, groups can be combined and manipulated in a variety of ways.

To Open the Group Directory : Open + Group

Or : Group, Group

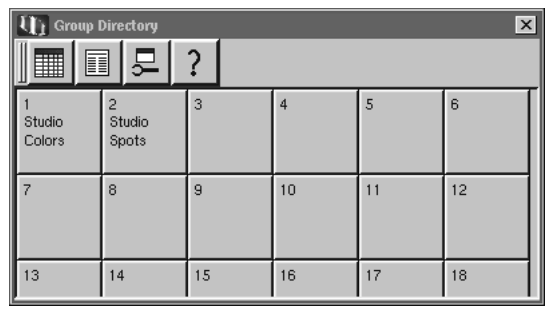


Figure 9-1. The Group Directory

9.1 **Recording a Group**

To record a group:

1. Select the desired fixtures in the Programmer.
2. Record, Group : the Group Directory window opens.
3. Select the destination location in the Group Directory window.
   Alternatively, enter a number on the keypad and press Enter.

Tip
When you record a group the selection order is also saved. This controls how fanning and effects are applied to the fixtures in the group. See *Selection Order (Reference, 8.2)*, *Fanning (Reference, 8.3.6)* and *Working with Effects (Reference, Section 16)*.

9.1.1 Replace, Merge and Insert

When recording, copying or moving a group, if the destination location already has a group recorded in it, you will be prompted with record options of Replace, Merge or Insert.

- **Replace:** Overwrites the group information in that destination.
- **Merge:** Incorporates the copied or moved information into the destination group.
- **Insert:** creates a new destination group. The new group will be assigned a free location just before the one chosen, using a point number if necessary.

Tip
If you know that you are about to record, copy or move a group to an existing destination, you can pre-select Replace, Merge or Insert from the Record Toolbar. This appears after you press the Record, Copy or Move keys.

9.1.2 Naming a Group

You can give a group a name that will be displayed in the Group Directory window:

1. Open + Group : opens the Group Directory window.
2. Select the group to be named.
3. Set **[name]** Enter : type in the name.

Tip
You can name a group, cue, scene or palette immediately after recording it by pressing the Set key. The Quickname window will open, and you can enter the name and select OK.

9.2 Deleting Groups

To delete a group:

Delete Group **1** Enter : deletes group 1.

You can also delete several groups at once:

Delete Group **1** Thru **5** Enter : deletes groups 1 through 5.

9.3 **Copying and Moving Groups**

To make a copy of a group:

> Group **1** Copy Group **2** Enter : copies the contents of Group 1 to Group 2.

Similarly, to move a group to a new location:

> Group **1** Move Group **2** Enter : moves Group 1 to Group 2, effectively deleting 1.

If the destination group already exists, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 9.1.1)*.

9.4 **Editing Group Contents**

To edit a groups contents, call the Group into the Programmer, make changes to the selection and re-record. The Wholehog III will ask you to choose from *Replace, Merge and Insert (Reference, 9.1.1)*. Select Replace to update the Group with the new selection.

Section 10: **Working with Palettes**

This section introduces:

- The Palette Directory
- Palette masking
- Direct and sequence palette types
- Palettes with timings

This section shows you how to:

- Record and delete palettes
- Name and edit palettes
- Copy and move palettes
- Programme with palettes

Palettes allow intensity, position, colour and beam parameters to be recorded as easily accessible 'building blocks' to be used when programming. Palettes are stored in a directory accessed by holding the Open key and a parameter type key:

Open + Colour : opens the colour palette.

Alternatively:

Colour, Colour

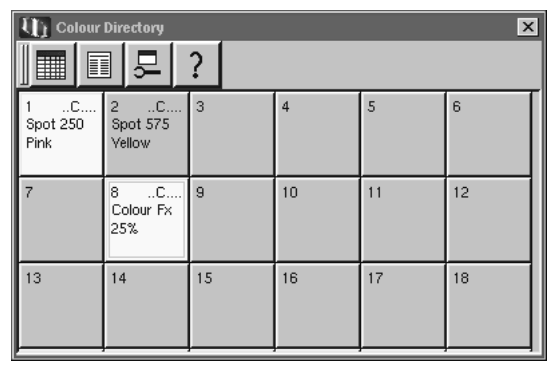


Figure 10-1. The Colour Palette Directory window

It is important to note that when you modify a palette's content, cues that were programmed using that palette will be automatically updated with the new values.

One palette is said to be 'embedded' in another. This is a very powerful feature that allows you to make global changes to the show very simply and quickly.

If you wish to make a palette where changes to it are not reflected in cues that have been recorded with it, you can use *Direct Palettes (Reference, 10.7.1)*.

Sequence palettes are similar to ordinary palettes, but they are not specific to particular fixtures. See *Sequence Palettes (Reference, 10.7.2)*.

10.1 Recording a Palette

To record, for example, a position a palette:

1. Set the desired fixtures as you want them in the Programmer.
2. Record Position : the Position Palette Directory window opens.
3. (Palette 1) : choose a location in the Directory.

Or, using the command line:

Record Position **1** Enter

If you leave out the palette location:

Record Position, Enter

the palette will be recorded in the next available location.

10.1.1 Replace, Merge and Insert

When copying or moving a palette, if the destination location already has a palette recorded in it, you will be prompted with record options of Replace, Merge or Insert:

- **Replace:** Overwrites the palette information in that destination.
- **Merge:** Incorporates the copied information into the destination palette. If the same fixtures and parameters are in both palettes, the new values will replace the old.
- **Insert:** creates a new destination palette. The new palette will be assigned a free location just before the one chosen, using a point number if necessary.

Tip
If you know that you are about to record, copy or move a palette to an existing destination, you can pre-select Replace, Merge or Insert from the Record Toolbar. This appears after you press the Record, Copy or Move keys.

10.1.2 Naming a Palette

You can give a palette a name that will be displayed in the Palette Directory window:

1. Open + Position : opens the Position Palette window.

2. Select the palette to be named.
3. Set **[name]** Enter : type in the name.

Tip
To name a palette immediately after recording it, pressing the Set key will open a Quickname window. Enter the palette name and select OK.

10.1.3 **Palette Timing**

Fixture and individual parameter timings that have been set in the Programmer can be recorded when you record a palette, and applied when the palette is used. By default, timings are not included in a palette; to include them, you should include Time as a mask during recording. See *Masking Using the Record Toolbar (Reference, 10.2.1)*.

You can also set an overall palette timing when recording the palette. For example, to record a Colour Palette with a **fade time** of 6 seconds:

1. Set the parameters of the fixtures as required.
2. Time **6** Enter : set their fade time to 6 seconds.
3. Colour Time Record Colour **1** Enter : record colour and timing information into Colour Palette 1.

You can also edit the palette timings in the Palette Content Editor. See *Editing Palette Contents (Reference, 10.6)*.

10.2 **Record Options**

10.2.1 **Recording with Specified Masking**

The Wholehog III records palettes through layers of masking; the **mask** determines which parameter types of the selected fixtures are included in the palette. By default palettes record just colour, beam, focus or intensity information according to the palette type. You can remove masks to record more than one parameter type in a palette, for example combining colour and beam information into one palette because they give a specific look.

The Palette Directory window will display the parameter types included in each palette.

Masking Using the Record Toolbar

To specify masking when recording a palette using the Record Toolbar:

1. Set the parameters of the fixtures as required.
2. Press Record.
3. Select Masking from the Record Toolbar and select the parameter types to be included in the palette using the buttons Use I for

intensity, Use P for position, Use C for colour, Use B for beam, Use E for effects, Use T for timing.

4. Press the key to choose the Palette type, for example Colour. The Palette Directory will open.
5. Select the palette location by pressing it in the Palette Directory window.

Masking Using the Command Line

When recording a palette using the command line, choose the parameters to include before the Record command:

Colour Position Record Colour **3** Enter : records the colour and position parameters of the current selection into Colour Palette 3.

Using a Selection Mask

By default, all fixtures in the Programmer are recorded. You can specify which fixtures to include in the Palette:

Group **2** Record Position, Enter : record only settings for fixtures in Group 2 into the next available Position palette.

10.3 Using Palettes in Programming

In the Programmer, you can apply a palette by selecting it from its Directory window. The Palette will directly affect the current selection, as long as the palette contains parameter information for the selected fixtures. A Palette that puts all Studio Colors in the rig to deep red will therefore apply this immediately to any Studio Colors that are in the current selection.

For example:

1. Open + Colour : open the Colour Palette window.
2. (Studio Color) **3** Thru **5** : select the fixtures.
3. (Palette 2) : select the palette from the Colour Palette window.

Or, using the command line:

1. (Studio Color) **3** Thru **5** Colour **2** Enter

10.4 Deleting Palettes

To delete a Palette:

Delete Colour **1** Enter : deletes Colour Palette 1.

10.5 **Copying and Moving Palettes**

To make a copy of a palette in a new location:

Colour **1** Copy Colour **2** Enter : copies the contents of Colour Palette 1 to Colour Palette 2.

Colour **1** Group **2** Copy Colour **2** Enter : copies fixtures that are in Colour Palette 1 and Group 2 into Colour Palette 2.

Similarly, to move a palette to a new location:

Colour **1** Move Colour **2** Enter : moves the contents of Colour Palette 1 to Colour Palette 2, leaving 1 empty.

If the destination palette already exists, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 10.1.1)*.

10.6 **Editing Palette Contents**

Figure 10-2. The Palette Editor window

You can edit the contents of a palette in an Editor window, see *Figure 10-2*. For example, to open colour palette 1 for editing:

1. Open + Colour : opens the Colour Palette Directory window.
2. Open + (Colour 1) : opens the Palette Editor for Colour Palette 1.
3. Alternatively using the command line : Colour **1** Open
4. Press the Active button in the Editor window to select this as your current Editor.

Within the Editor, you can set fixture parameters and timing in the same way as in the Programmer. See *Selecting Fixtures and Modifying Parameters (Reference, Section 8)*.

10.7 **Palette Types**

10.7.1 **Direct Palettes**

Direct Palettes provide a way of grabbing values from a palette without embedding this information within the programming. Cues recorded using Direct Palettes will not update if the palette is later changed.

You can use a palette as a direct palette on a one-off basis as you programme, or you can set it to always act as a direct palette.

To temporarily use a palette as a direct palette when calling it into the Programmer:

> (Studio Color) **1** @ Colour **1** : the @ key indicates that the palette should be used in direct mode.

To record a direct palette:

1. Set the fixtures as required.
2. Record, Options : the Options button is on the Record Toolbar at the bottom of the right-hand screen.
3. Direct
4. (Position 1), Enter : choose a location for the Palette.

To convert a palette to a direct palette:

1. Open + Colour : open the appropriate Palette Directory.
2. Set the directory window to list view.
3. Select the Direct cell for the palette you want to change, and press Set.
4. Select Yes and press Enter.

10.7.2 **Sequence Palettes**

Normal palettes store parameter information for specific fixtures. Sequence Palettes are different because they hold information to be applied to any fixtures, according to a particular ordering. For example, while a normal palette may apply the colour red to Studio Color 10, a Sequence Palette might apply the colour red to every 1st and 5th fixture.

If the selection contains more fixtures than the Sequence Palette, the palette will be applied repeatedly. This means that a Sequence Palette can be programmed with one fixture and then applied to any number of fixtures and fixture types within a rig.

For example, sequence palettes could be used to:

- Set all colour mixing fixtures to fully saturated red.

- Program a colour pattern which fans across a sequence of fixtures starting in deep red on the first, moving to deep orange on the fifth.
- Store effects that apply in sequence where every other fixture has a time or position offset of 50% for example.
- Apply palette timing to sequences of fixtures to produce complex timing effects.

Note that Sequence Palettes are always direct rather than embedded because they contain a selection sequence, not fixture information.

To create a Sequence Palette:

1. Set the fixtures as required, paying careful attention to the selection order.
2. Record, Options : the Options button is on the Record Toolbar at the bottom of the right-hand screen.
3. Sequence
4. (Position 1), Enter : choose a location for the Palette.

You can also convert an existing palette to a Sequence palette:

1. Open + Colour : open the appropriate Palette Directory.
2. Set the directory window to list view.
3. Select the Sequence cell for the palette you want to change, and press Set.
4. Select Yes and press Enter.

Section 11: **Advanced Programming**

This section introduces:

- The Suck function
- The Update function
- Parking

This section shows you how to:

- Bring parameter values from on-stage into the Programmer
- programme and edit your show 'blind'

11.1 **Selecting from What is Onstage**

You can select fixtures and parameters based on what is on stage using the Live key. Fixtures are considered to be on stage if their intensities are non-zero. For example:

Live Enter : selects all fixtures that are on stage.

You can apply a **mask** to the selection:

Live Group **1** : selects fixtures from Group 1 that are live on stage.

Live @ **50** : selects fixtures that are on stage at 50%.

Live @ **50** Thru **80** : selects fixtures that are on stage at 50% to 80%.

Live (Spotty Gobos) : selects fixtures that are on stage that are at their 'Spotty Gobos' palette settings.

11.2 **Bringing Values Into the Programmer**

Sometimes you will end up with a look onstage or in a cue, scene or palette that you want to reuse in further programming. There are various ways in which you can pull those settings into the Programmer.

11.2.1 **Suck**

You can use Suck to set fixture parameters to the values that they currently have 'on stage'. The Suck button is located on the Main Toolbar.

You need to have fixtures selected before using the Suck command. For example, to set the fixtures in Group 3 to their current on stage values:

Group **3** Suck

Similarly, you can apply this to palettes, scenes and cues:

(Red Palette), Suck

You can use the Live key to bring in all the values that are on stage:

Live Suck

Tip
Suck only sets parameters that are contributing to the on stage lighting state. It doesn't set parameters that are at their **default value**, or that belong to fixtures that are at zero. This helps to ensure that you don't have redundant values in the cues that you create, which can cause problems later by blocking values that should track through.

11.2.2 **Copy**

You can bring fixture settings from a palette, scene or cue into the Programmer using Copy:

Scene **1** Copy, Enter : copies the contents of Scene 1 into the Programmer.

You can chose which fixtures or parameter types are copied. For example:

Scene **1** Position Copy, Enter : copies position settings only from Scene 1 into the Programmer.

11.2.3 **Using Live and Touch**

You can use the Touch button, located on the Main Toolbar, with the Live key to set parameters to their on-stage values in the Programmer:

Live Touch

You can select the parameter types to touch:

Live Colour Touch

Using Live and Touch touches all parameters that belong to fixtures that are at non-zero intensity on stage, regardless of whether those parameters are at their default values or not. This is similar to creating a **blocking cue** for the current on-stage look.

To avoid bringing in values into the Programmer that are at default, use *Suck (Reference, 11.2.1)*. See also *Touching Parameters (Reference, 8.3.8)* and *Tracking (Introduction, 2.4)*.

11.3 **Update**

When you are editing a cue, scene or palette, pressing Update saves the changes that you have made. Until you press Update, your changes do not take effect, so you will not see them if you run the cue or scene, or use the palette.

11.4 **Blind**

Blind mode allows you to continue programming and editing cues, groups, palettes and scenes without changing the onstage values of fixtures. The Blind button is located above the Trackball.

11.5 **Parking**

Sometimes it is useful to lock certain parameters of fixtures to values, outside the scope of normal programming and playback. For instance you might want a particular dimmer to be fixed at a certain level as a working light and not be affected by the Grand Master. Or a fixture might malfunction, and you need to lock its pan and tilt so that it doesn't make a noise as it tries to move during the show.

You can do this using the Park function. Parked fixture parameters are independent of any other part of the console, including the Grand Master.

To park fixtures, select them, set the parameter values you want to lock, and press the Park button on the Main Toolbar. To unpark fixtures, select them and hold the Pig key while pressing Park.

Both the park and unpark commands will accept a parameter mask on the command line, for example:

Position Park : parks only Position parameters of the selected fixtures.

11.5.1 **Viewing and Editing What is Parked**

You can see which fixtures are parked in the Fixtures window:

Setup ⟶ Fixtures

To view and modify the parked settings of fixtures, use the Park Editor, which can be opened by holding Open and pressing Park. Within this window fixtures and settings can be manipulated as in the Programmer.

Section 12: **Working with Cues**

This section introduces:

- Tracking

This section shows you how to:

- Record and delete cues
- Name and edit cues
- Copy and move cues

Every cue created on the Wholehog III is given a number and assigned to a cuelist. A cue number is specific to the current cuelist, not the entire console, so there can be a cue 1 for cuelists 1, 2 and 3.

For more on Cuelists, see *Working with Cuelists (Reference, Section 14)*.

12.1 **Recording a Cue**

To record a look created in the Programmer, you need to specify a cuelist and cue number to record to. If the cuelist does not yet exist, the Wholehog III will create it automatically.

For example, to record cue 4 into cuelist 2:

Record List **2** Cue **4** Enter

Or in shorthand:

Record **2/4** Enter

12.1.1 **Recording to a Cuelist on a Master**

You can choose a Master rather than a Cuelist when recording a cue. This will record the cue to the cuelist currently attached to the chosen Master, or create a cuelist if it doesn't exist. For example:

1. Press the Choose key above Master number 10. The Choose key will light up to show that Master 10 is the chosen one.
2. Record **1** Enter : records Cue 1 in the Cuelist attached to Master 10, creating it if necessary.

To record more cues:

- Record **1.5** Enter : inserts a new cue numbered 1.5 into the cuelist on the currently chosen Master.

- Record Enter : appends the cue to the end of the cuelist attached to the currently chosen Master.
- Record Choose : appends the cue to the end of the cuelist of the chosen Master. This allows the current Master to remain selected while recording cues onto other Masters.

12.1.2 Replace, Merge and Insert

When recording, copying or moving a cue, if the destination location already has a cue recorded in it, you will be prompted with record options of Replace, Merge or Insert:

- **Replace:** Overwrites the cue information in that destination.
- **Merge:** Incorporates the copied information into the destination cue. If the same fixtures and parameters are in both cues, the new values being merged will take priority.
- **Insert:** creates a new destination cue. The new cue will be assigned a free location lower than the one chosen, using a point number if necessary.

Tip
If you know that you are about to record, copy or move a cue to an existing destination, you can pre-select Replace, Merge or Insert from the Record Toolbar. This appears after you press the Record, Copy or Move keys.

12.1.3 Numbering Cues

If you leave out the cue number when recording cues, the Wholehog III will give the cue the next whole number in the list. If you specify a cue number, you can use numbers with up to four decimal places in order to insert cues between previously recorded ones.

12.1.4 Naming Cues

You can give a cue a name that will be displayed in the Cuelist window:

1. Open + Choose : opens the Cuelist window of the chosen Master.
2. Select the cue name cell.
3. Set **[name]** Enter : type in the name.

Tip
To name a cue immediately after recording it, press the Set key. This will open a Quickname window. Enter the cue name and select OK.

12.2 Record Options

12.2.1 Recording Selected Fixtures Only

Normally, recording a cue records the total contents of the Programmer, but you can choose to record only the selected fixtures. For example:

1. Select the fixtures that you want to record.
2. Record, Options : the Options button is on the Record Toolbar at the bottom of the right-hand screen.
3. Selected
4. Choose, Enter : records the selected fixtures as a new cue in the cuelist on the chosen Master.

12.2.2 Removing Parameter Values

You can remove the contents of the Programmer from a previously recorded cue. For example, you might have made changes to a cue, and you want the changes to track through subsequent cues (see *Tracking (Introduction, 2.4)* for an explanation of tracking). To remove parameter values:

1. Ensure that the parameters that you want to remove are in the Programmer.
2. Record, Remove : the Remove button is on the Record Toolbar at the bottom of the right-hand screen.
3. Cue **5**, Enter : removes the parameters from Cue 5.

12.3 Deleting Cues

To delete a cue:

Delete Cue **1** Enter : deletes cue 1 in the current Cuelist.

Or:

Delete List **1** Cue **1** Enter : deletes cue 1 in Cuelist 1.

You can delete a range of cues:

Delete List **1** Cue **1** Thru **4** Enter : deletes cues 1 to 4 in Cuelist 1.

12.4 Copying and Moving Cues

12.4.1 Copying Cues

To make a copy of a cue in the same cuelist:

1. Make sure that the cuelist you want to work with is on the currently chosen Master.
2. Cue **1** Copy Cue **2** Enter : copies the contents of Cue 1 to Cue 2.

To copy in a list other than the current one, or to copy between cuelists, specify the cuelist with the List key. For example:

List **1** Cue **1** Copy List **2** Cue **2** Enter : copies the contents of Cue 1 of Cuelist 1 to Cue 2 of Cuelist 2.

To copy a range of cues:

List **1** Cue **1** Thru **4** Copy List **2** Cue **2** Enter : copies the contents of Cues 1 to 4 of Cuelist 1 to Cuelist 2, starting at Cue 2.

If the destination cue(s) already exist, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 12.1.2)*.

12.4.2 **Moving Cues**

To move a cue to a new location:

Cue **1** Move Cue **2** Enter : moves the Cue from 1 to Cue 2, effectively deleting 1.

Similarly, to move between cuelists:

List **1** Cue **1** Move List **2** Cue **2** Enter : moves Cue 1 of Cuelist 1 to Cue 2 of Cuelist 2, effectively deleting 1.

To move a range of cues:

List **1** Cue **1** Thru **4** Move List **2** Cue **2** Enter : moves the contents of Cues 1 to 4 of Cuelist 1 to Cuelist 2, starting at Cue 2.

If the destination cue(s) already exist, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 12.1.2)*.

12.5 **Editing Cue Contents**

You can edit the contents of a cue in an Editor window: see *Figure 12-1*. For example, to open Cue 2 of Cuelist 1 for editing:

1. Open + List : opens the Cuelist Directory window.
2. Open + (Cuelist 1) : opens the Cuelist window for Cuelist 1.
3. Open + (Cue 2) : opens the Cue Editor for Cue 2. You can also press View Cue to open the currently selected cue in the list.

Alternatively, using the command line:

: List **1** Cue **2** Open

Press the Active button in the Cue Editor window to select this as your current Editor.

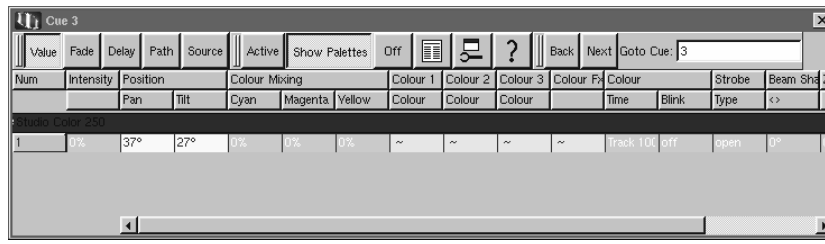


Figure 12-1. The Cue Editor window

Within the Editor, you can set fixture parameters and timing in the same way as in the Programmer. See *Selecting Fixtures and Modifying Parameters (Reference, Section 8)*.

In addition to the usual functions available in all editors, described in *Working with Editors (Reference, 6.4)*, the Cue Editor window has Next and Back buttons to allow you to easily step through the cues in the cuelist to view or edit them. You can also jump to another cue by typing its number in to the Goto Cue box and pressing Enter.

12.6 Working with Tracking

The Wholehog III is a tracking console, which gives it some very powerful abilities. Tracking can also add extra complexity, but the Wholehog III has several functions that make working with tracking straightforward. For a detailed discussion of what tracking is, see *Tracking (Introduction, 2.4)*.

12.6.1 Stopping Values from Tracking Forward

When you insert a new cue into a cuelist, or merge changes into an existing cue, the new values track forwards into later cues in the cuelist. For example, your cuelist has cues 1 to 10, none of which has Desk Channel 1 programmed into it, and you insert a Cue 2.5 with Desk Channel 1 at 100%. Because cues 3 to 10 do not change the intensity of Desk Channel 1, it will stay in ('track through') for the rest of the cuelist.

To record a cue without tracking forwards, deselect the Forwards button on the Record Toolbar that appears after pressing the Record key. For example:

1. Press the Record key.
2. Deselect Forward on the Record Options toolbar.
3. Press the Choose key above the desired Master.

12.6.2 **Blocking Cues**

Blocking cues prevent changes made earlier in the cuelist from tracking through the whole list. See *Tracking Through Changes (Introduction, 2.4.1)*.

Using State

You can create blocking cues using the State button on the Record Toolbar. For example, to turn cue 5 into a blocking cue, you copy it to itself 'with state':

Cue **5** Copy State Cue **5** Enter

Because of tracking, when you copy a cue to another location you only copy the **hard values**, so you do not create a new cue that actually represents the on-stage look that you would get by running the original cue.

To do this, you can use Copy and State:

List **1** Cue **5** Copy State List **2** Cue **1** Enter : creates a new cue in Cuelist 2 that is the state of Cue 5 in Cuelist 1.

Unblocking

Unblocking removes redundant hard values, and can be selected from the Cuelist Directory window. On large shows this can be used to reduce the amount of data transferred over the show network. To unblock a range of cues:

1. Open + Choose : open the Cuelist window.
2. Cue **1** Thru **10** : select the range of cues. You can also do this visually in the Cuelist window.
3. Press Unblock in the Cuelist window.

Important
We recommend that unblocking should only take place after programming has completely finished. It will remove blocking cues, so any future changes will be tracked through the whole show.

Section 13: **Working with Cue Timing and Ordering**

This section introduces:

- Cue triggers
- Paths

This section shows you how to:

- Modify cue timing
- Create complex cue sequences
- Link cues and make loops

You can control three aspects of cue timing and ordering:

- The speed and manner in which the transition happens when the cue runs. See *Working with Fade Timings (Reference, 13.1)*.
- How the cue is triggered. See *Working with Cue Triggers (Reference, 13.2)*.
- The order that cues in the cuelist are played back in. See *Working with Loops and Links (Reference, 13.3)*.

The different types of timing values are:

Fade Timings	
Fade-in time	The fade time for parameters belonging to fixtures that are increasing in intensity.
Fade-out time	The fade time for parameters belonging to fixtures that are decreasing in intensity..
In delay time	The delay between the cue being triggered and when parameters belonging to fixtures that are increasing in intensity starting to change.
Out delay time	The delay between the cue being triggered and when parameters belonging to fixtures that are decreasing in intensity starting to change.
Path	How parameter values change during the fade. The simplest path is a straight line, so that parameters change smoothly and evenly throughout the fade, but you can use paths that make all of the change happen at the start of the fade, for example.

The different types of trigger values are:

Cue Triggers	
Wait time	The time from the previous cue being triggered to the current cue being triggered.
Follow-on time	The time from the end of the previous cue to the current cue being triggered.

Figure 13-1 shows how the main kinds of timing and triggering values control the playback of cues.

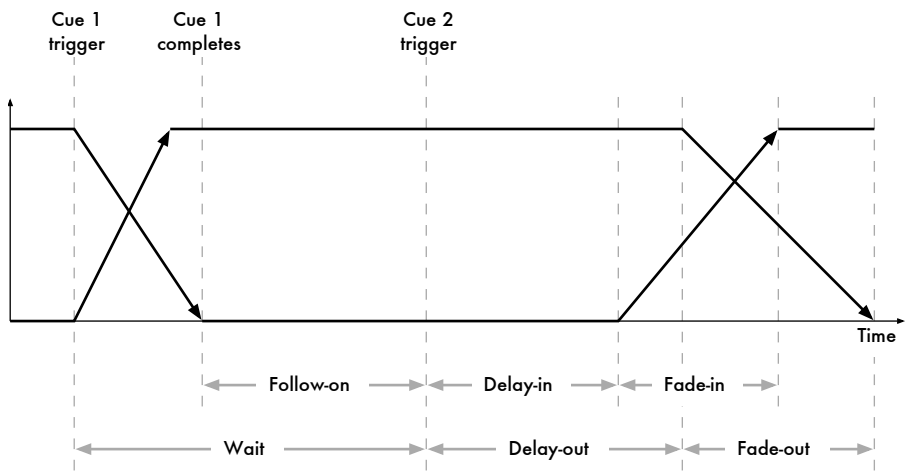


Figure 13-1. Cue timings

13.1 Working with Fade Timings

You can assign **fade** and **delay** times, and **paths**, to cues. Fade and delay times can have separate in and out times.

Cues recorded without assigning any time information will be given a default time; this can be adjusted in the Default Timing pane of the Preferences window.

13.1.1 Fade Time

To record a cue with a fade time other than the default:

1. Create the desired look for the cue in the Programmer.
2. Fixture Enter : select all the fixtures.
3. Time **7** Enter : set a fade time of 7 seconds.
4. Record Cue **1** Enter : record the cue on the currently selected Master.

To set times greater than 1 minute, enter the number of minutes followed by the number of seconds:

Time **140** Enter : select a fade time of 1 minute 40 seconds.

To change the time of an already recorded cue:

1. Cuelist **1** : select the cuelist unless the desired cuelist or master is already selected.
2. Cue **2** Time **7** Enter : selects a fade time of 7 seconds.

Different Fade-in and Fade-out Times

You can set different fade-in and fade-out times (known as a 'split time') using the / key. For example:

1. Create the desired look for the cue in the Programmer.
2. Time **7** / **10** Enter : select a fade-in time of 7 seconds, and a fade-out time of 10 seconds.
3. Record : record the cue on the currently selected Master.

Tip
The Wholehog III's definition of fade-in and fade-out times is different to that used by some other consoles. Some consoles use fade-in and fade-out times for intensity parameters only and have a separate time for all other parameters. Also, with some consoles such as Zero 88 desks, the fade-out time applies when the cue goes out, so that cue 2's fade-out time takes effect during the change from cue 2 to cue 3, rather than cue 1 to cue 2.

13.1.2 Delay Time

You can create a delay between the cue being triggered and it starting to run by setting the Delay time:

1. List **1** Open : open the cuelist.
2. Select the cue's Delay cell and press Set.
3. **3/5**, Enter : enter the delay time. As with fade times you can set separate delay times for the incoming and outgoing parts of the cue.

Alternatively, you can use the command line, pressing the Time key twice to set the delay time:

Cue **2** Time Time **3/5** Enter

Tip
Note that the Delay time should not be confused with the Wait time.
See *Wait Time (Reference, 13.2.1)*

13.1.3 **Paths**

Paths determine the way parameter values change during a cue. For example, with the simplest (linear) path, an intensity parameter travels from its start value to its end value at a steady rate for the duration of the cue. The paths available are:

Path	Description	
Default	Uses the default path from the fixture's library definition. This is generally Linear for continuous parameters and Start for slotted parameters.	
Linear	Fades at a steady rate for the duration of the cue.	
Start	Snap change at the beginning of the cue.	
End	Snap change at the end of the cue.	
Over	The parameters overshoot their destination and then return to it.	

To select a path for a cue:

1. List **1** Open : open the Cuelist window.
2. Select the cue's Path cell and press Set. The Crossfade Paths window will open.
3. Select the path type required for the incoming and outgoing parts of the cue.
4. Press OK

13.1.4 **Setting Cue Timings in the Cuelist Window**

You can edit cue timings in the Cuelist window:

1. Open + Choose : open the Cuelist of the desired Master.
2. Click in the cell for the desired parameter, and press Set.
3. Enter a new value, or select a Path, and press Enter.

13.1.5 **Individual Fixture and Parameter Timings**

Each fixture and individual fixture parameter can have its own fade and delay time and path. These can be set in the Programmer before recording the cue or in the Cue Editor afterwards.

Important
If you set individual timings for fixtures or parameters and subsequently set an overall cue time, then the individual timings will be lost.

To set times in the Cue Editor:

1. Open + Choose : open the Cuelist of the desired Master.
2. Open + (Cue 1) : open the Cue Editor for cue 1.
3. Press the Active button to make the Editor active.
4. Press Fade, Delay or Path to display the desired settings.
5. Click in the cell for the desired parameter, and press Set.
6. Type in a new value or select a new Path, and press Enter.

To set timings in the Programmer, see *Setting Timings (Reference, 8.4)*.

13.2 Working with Cue Triggers

The Wholehog III provides several ways to trigger cues in addition to manual operation from the Go button. To set a cue's trigger:

1. Cuelist **1** Open : open the Cuelist.
2. Select the Wait cell for the desired cue, and press Set.
3. The Trigger Toolbar will appear below the Wait cell. Select an option from this.

The trigger options are:

- **Halt:** When the cue list reaches a Halt, it stops executing cues and waits for the Go button to be pressed. A Halt is shown by an empty Wait cell, and it is the default setting.
- **Wait:** The cuelist waits for this length of time after starting the previous cue before starting this one. See *Wait Time (Reference, 13.2.1)*.
- **Follow On:** The cue starts this length of time after the previous cue completes its fade. See *Follow On (Reference, 13.2.2)*.

13.2.1 Wait Time

The Wait time is the time between the triggering of the last cue (either automatically or by pressing Go) and the current cue being triggered. It should not be confused with the Delay, which is the time between the cue being triggered (after a Wait if there is one) and the fade starting. The Wait time schedules cues within the cuelist, whereas the Delay time schedules the fades of each fixture or parameter within the cue. A cue can contain multiple Delay times, but it can only have one Wait time.

13.2.2 **Follow On**

A Follow On will trigger the next cue once the previous one has completed its fade. Follow On can be entered with or without a time, which determines the time between the previous cue completing and the follow on cue being triggered.

Tip
The Follow On time should not be confused with the Wait time. The Follow On time controls the time between the end of one cue and the triggering of the next, while the Wait time controls the time between the triggering of one cue and the triggering of the next.

13.3 **Working with Loops and Links**

Normally cues in a cuelist will be replayed in numerical order, but you can use links to change this. Links can be used to jump to other points in the cuelist, or to create loops.

Unlike some consoles, the Wholehog III creates a link as a special type of cue, rather than an attribute of an ordinary cue. Because it is a separate item in the cuelist, you can move cues within the list without disturbing the link.

Tip
When it gets to the end, a cuelist will link back to the first cue by default, so there is no need to put a link in.

13.3.1 **Creating a Link**

To create a link:

1. Open + Cuelist **1** : open the cuelist window.
2. Select the cue after the position where you want the link.
3. Click on the Insert Link button in the window. The link cue will be inserted.
4. Select the Fade cell of the link.
5. Set **[cue number]** Enter : set the cue number to be linked to.

You can delete Link cues in the same way as any other type of cue:

Delete Cue **3.5** Enter

13.3.2 **Creating a Loop**

To create a loop, you need to have two things:

- A link that points to a cue earlier in the cuelist.

- All the cues in the loop (between the linked-to cue and the link cue) must be set with Wait or Follow On triggers; see *Working with Cue Triggers (Reference, 13.2)*.

The Wholehog III will recognise this as a loop. Once the cuelist enters the loop, it will run indefinitely until you press the Go key, at which point the cuelist will move to the first cue after the loop.

13.3.3 Tracking Through Loops

By default, the Wholehog III ensures that when you use links to change the order of cue playback cues appear as you would expect even though you are not coming from the previous cue in the list. This is because of the console's *Maintain State (Introduction, 2.4.3)* feature.

Sometimes, however, you might want to track through links rather than maintain state. For example, you are creating a loop where the first time through you want the four fixtures to come on one at a time, and throughout the loop you want them to alternate colour between red and blue. To do this, you might plot:

	Fixture 1		Fixture 2		Fixture 3		Fixture 4	
Cue	Int.	Colour	Int.	Colour	Int.	Colour	Int.	Colour
1	50%	Red		Blue		Red		Blue
2	↓	Blue	50%	Red		Blue		Red
3	↓	Red	↓	Blue	50%	Red		Blue
4	↓	Blue	↓	Red	↓	Blue	50%	Red
5	Link to Cue 2							

The idea is that the intensity of the next fixture is brought to 50% in each cue, and that these values then track through for the duration of the loop (shown by the arrows). However, because of the Maintain State function, when the cuelist loops back to cue 1 the Wholehog III will make cue 1 look as it would have if you had run the cuelist in order. The result is that fixtures 2 to 4 will go out, just as they did the first time round the loop.

To stop this happening, you need to enable Track Through Loops, in the Cuelist Options window:

1. Open List **1** : open the cuelist window.
2. Press Options... and select the Track Through Loops tickbox.

Important
The Track Through Loops option applies to the whole cuelist. Using it may have unintended consequences when playing back other cues in the list out of sequence. You can avoid this by plotting your loop as a separate cuelist.

Section 14: **Working with Cuelists**

This section introduces:

- The Cuelist Directory

This section shows you how to:

- Create and delete cuelists
- Copy and move cuelists

Cuelists are lists of cues, usually used to play back the cues in a defined order. A cue number is specific to the current cuelist, not the entire console, so there can be a cue 1 for cuelists 1, 2 and 3. Cuelists are held in the Cuelist Directory (*Figure 14-1*), and it is possible to copy or move cues between cuelists.

To open the Cuelist Directory:

Open + List

Alternatively:

List, List

Figure 14-1. The Cuelist Directory window

To Open a Cuelist (*Figure 14-2*):

Open + [Cuelist 1] : select a cuelist from the Cuelist Directory.

Or with the command line:

Open Cuelist **1** Enter

Or:

Open + Choose : choose the Master with the cuelist.

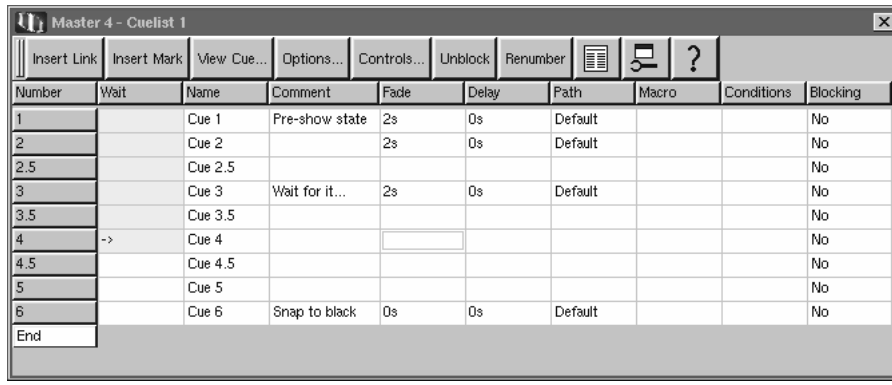


Figure 14-2. The Cuelist window

14.1 **Creating Cuelists**

Cuelists are created automatically when you record a cue to a cuelist that doesn't exist, or a Master that has no cuelist attached to it. See *Recording a Cue (Reference, 12.1)*.

14.2 **Deleting Cuelists**

To delete a cuelist:

Delete List **1** Enter : deletes cuelist 1.

Tip
To detach a cuelist from its Master rather than deleting it completely, hold Delete while pressing the Master's Choose button. This removes the cuelist from the Master but not from the cuelist directory.

14.3 **Copying and Moving Cuelists**

Cuelists can be copied and moved within the Cuelist Directory. To open the Cuelist Directory:

Open + List

14.3.1 **Copying Cuelists**

To make a copy of a cuelist:

List **1** Copy List **2** Enter : copies the contents of Cuelist 1 to Cuelist 2.

If the destination cuelist already exists, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 14.3.3)*.

14.3.2 **Moving Cuelists**

To move a cuelist to a new location:

List **1** Move List **2** Enter : moves Cuelist 1 to Cuelist 2.

If the destination cuelist already exists, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 14.3.3)*.

14.3.3 **Replace, Merge and Insert**

When copying or moving a cuelist, if the destination location already has a cuelist in it, you will be prompted with record options of Replace, Merge or Insert:

- **Replace:** Overwrites the cuelist information in that destination.
- **Merge:** Incorporates the copied information into the destination cuelist. If the cue numbers are in both cuelists, the new values will replace the old.
- **Insert:** creates a new destination cuelist. The new cuelist will be assigned a free location just before the one chosen, using a point number if necessary.

Tip
If you know that you are about to move or copy a cuelist to an existing destination, you can pre-select Replace, Merge or Insert from the Record Toolbar. This appears after you press the Copy or Move keys.

Section 15: **Working with Scenes**

This section introduces:

- The Scene Directory

This section shows you how to:

- Record and delete scenes
- Name and edit scenes
- Copy and move scenes
- Modify scene timings

A scene is like a cue with full timing features that does not belong to a cuelist. Scenes can be used to store multiple looks that may be called back for programming, or to load many simple looks for direct playback from physical masters.

Scenes are stored in the Scene Directory: see *Figure 15-1*. To open the Scene Directory:

Open + Scene : opens the Scene Directory.

See also *Scene Playback (Reference, Section 18)*.

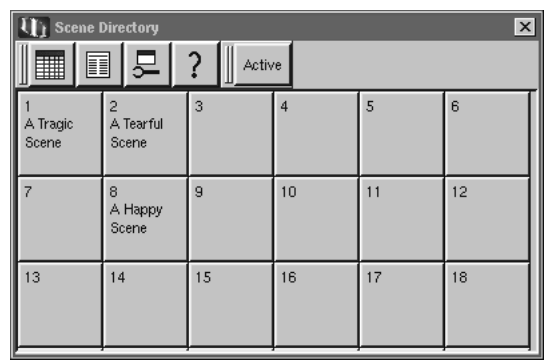


Figure 15-1. The Scene Directory window

15.1 **Recording a Scene**

You can record scenes either directly to a physical Master for immediate playback, or to the Scene Directory.

15.1.1 **Recording to the Scene Directory**

To record a scene:

1. Create the look for the scene in the Programmer.
2. Record, Scene : the Scene Directory window opens.
3. Select the destination location in the Scene Directory window.
4. Alternatively, enter a number on the keypad and press Enter.

15.1.2 **Recording to a Physical Master**

You can record a Scene directly to a physical Master. The Wholehog III will automatically put it in the next available location in the Scene Directory:

1. Create the look for the scene in the Programmer.
2. Record, Scene
3. Press the Choose key above the desired physical Master.

15.1.3 **Replace, Merge and Insert**

When recording, copying or moving a scene, if the destination location already has a scene recorded in it, you will be prompted with record options of Replace, Merge or Insert.

Replace: Overwrites the scene information in that destination.

Merge: Incorporates the copied information into the destination scene. If the same fixtures and parameters are in both scenes, the new values will replace the old.

Insert: creates a new destination scene. The new scene will be assigned a free location just before the one chosen, using a point number if necessary.

15.1.4 **Naming a Scene**

You can give a scene a name that will be displayed in the Scene Directory window:

1. Scene + Open : open the Scene Directory.
2. Select the Scene.
3. Set **[name]** Enter : type in the name.

Tip
To name a scene immediately after recording it, pressing the Set key will open a Quickname window. Enter the scene name and select OK.

15.2 **Deleting Scenes**

To delete a scene:

Delete Scene **1** Enter : deletes scene 1.

You can delete a range of scenes:

Delete Scene **1** Thru **4** Enter : deletes scenes 1 to 4.

15.3 Copying and Moving Scenes

To make a copy of a scene:

Scene **1** Copy Scene **2** Enter : copies the contents of Scene 1 to Scene 2.

Similarly, to move a scene to a new location:

Scene **1** Move Scene **2** Enter : moves Scene 1 to Scene 2, effectively deleting 1.

If the destination scene already exists, you will be asked to choose an option: *Replace, Merge and Insert (Reference, 15.1.3)*.

15.4 Editing Scene Contents

You can edit the contents of a palette in an Editor window. For example, to open Scene 1 for editing:

1. Scene Open : opens the Scene Window.
2. Open + (Scene 1) : opens the Scene Editor for Scene 1.
3. Alternatively using the command line : Scene **1** Open
4. Press the Active button in the Editor window to select this as your current Editor.

Within the Editor, you can set fixture parameters and timing in the same way as in the Programmer. See *Selecting Fixtures and Modifying Parameters (Reference, Section 8)*.

15.5 Scene Timing

Scene timing controls the fade in of a scene when it is run on a Master. See *Scene Playback (Reference, Section 18)*.

You can set Scene timing in the Scene Editor - see *Editing Scene Contents (Reference, 15.4)* - or in the Programmer before recording the Scene. You can also set the fade time of a Scene from the command line. For example, to give Scene 1 a fade time of 6 seconds:

Scene **1** Time **6** Enter

Section 16: **Working with Effects**

This section introduces:

- The Effects key
- The effects attributes of path, size, rate, offset and active

This section shows you how to:

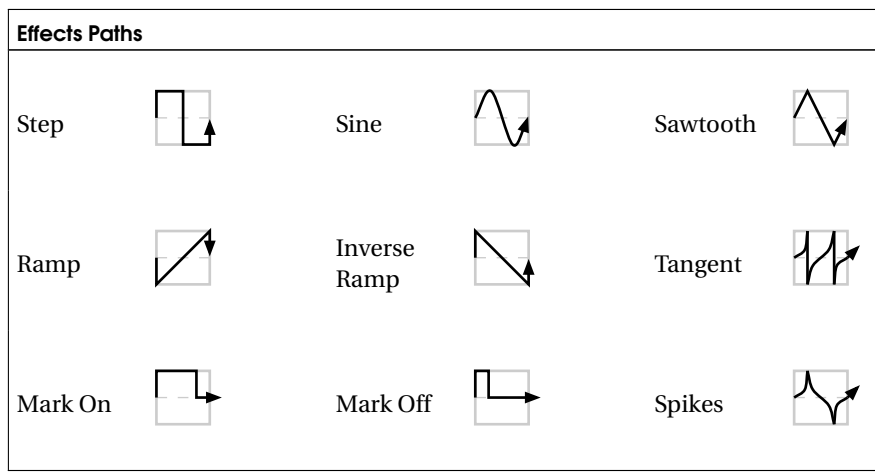
- Apply an effect
- Modify an effect
- Record an Effect Palette

You can use effects to create a repeating change or 'movement' in the value of fixture parameters. Effects are recorded as part of cues, scenes and palettes.

Each parameter that has an effect applied to it has five effects attributes: path, size, rate, offset, and active.

16.1 **Types of Effect**

You select the type of effect by choosing an Effect Path:

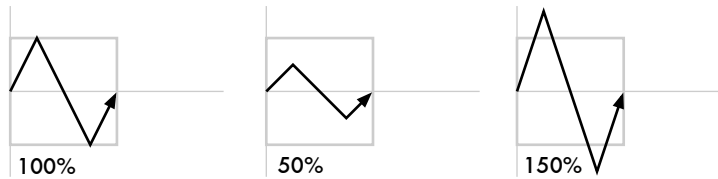


Note that the effects path varies the value of the parameter either side of its base level (represented by the dotted line in the diagrams).

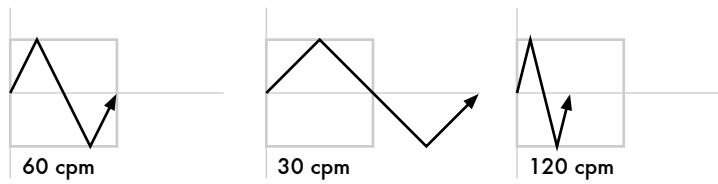
16.2 **Effect Attributes**

Once you have set the path, you can change the appearance of the effect by adjusting its attributes: size, rate, offset and active.

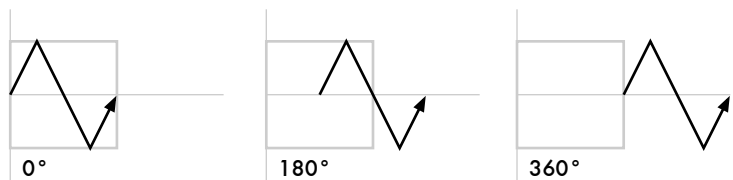
Effects Size: The range over which the parameter varies. This is described in terms appropriate for the parameter, for example degrees for position parameters, or slots for slotted colour parameters.



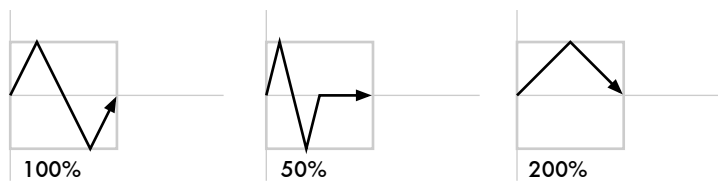
Effects Rate: The rate in cycles per minute.



Effects Offset: This sets the effect start and finish point for each effect, so they can be staggered. It is set in degrees.



Effect Active: This the proportion of the effect's period that it is active for. It is set as a percentage.



16.3 **Applying an Effect**

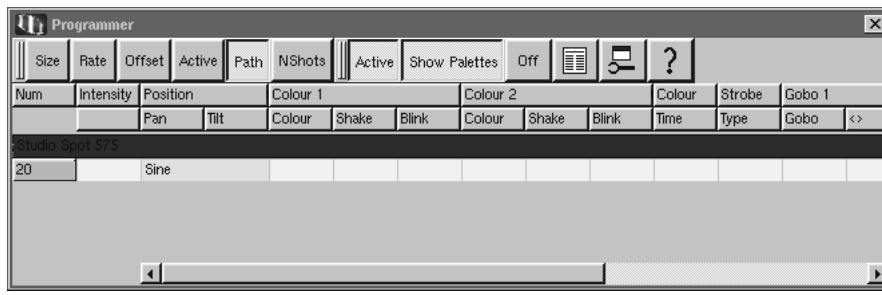


Figure 16-1. The Programmer with the Effects Key Selected

To apply an effect:

1. In the Programmer, select fixtures and set their base parameter values. These settings will be the 'underlying' state for the effect: for example, the centre position of a fixture doing a circular movement effect.
2. Press the Effect key, then select Path from the Programmer window.
3. Select the cells for the fixture parameters that you want to apply the effect to.
4. Press Set, choose the effect type from the menu and press Enter.

Once the effect path is set, you can modify the effect attributes either graphically or with the Parameter Wheels.

To edit the values visually:

1. Make sure that the Effects key is selected.
2. Select Size, Rate, Offset or Active from the top of Programmer window.
3. Select the cells for the parameters that you want to edit, and press Set.
4. Type a new value, and press Enter.

Or, using the Parameter Wheels:

1. Select the fixtures or individual parameters that you want to edit.
2. Adjust the Size, Rate, Offset or Active Parameter Wheel.
3. Press Enter.

You can view the effect of adjusting the various Parameter Wheels by selecting Size, Rate, Offset and Active at the top of the Programmer window.

All these effect attributes can be fanned using the Fan key and Parameter Wheels, or by entering a value of, say, **50** Thru **80** in the Programmer window.

16.4 Recording an Effect Palette

You can record any combination of effects into a Palette:

1. Select the fixtures, and set the desired effects.
2. Record, Effect : the Effects Palette Directory window opens.
3. Select a location.

This will only record parameters that have been **touched** in the Effects window, and does not include the parameters underlying values. To include underlying intensity, colour, beam, position and time information use the **mask** function:

1. Select the fixtures, and set the desired effects.
2. Record, Effect
3. Select Mask from the Record Toolbar, and select the parameter types that you wish to record: Use I, Use P, Use C, Use B, Use T.
4. Select a location from the Effect Palette Directory window.

Section 17: **Cuelist Playback**

This section introduces:

- The playback Masters and controls
- Virtual masters
- Feedback

This section shows you how to:

- Playback cues on the physical and virtual Masters
- Change playback options

To play back a cuelist, it needs to be attached to a Master. Masters can be either Physical (the faders and controls on the front panel of the console, see *Figure 17-1.*) or Virtual (an on-screen Master).

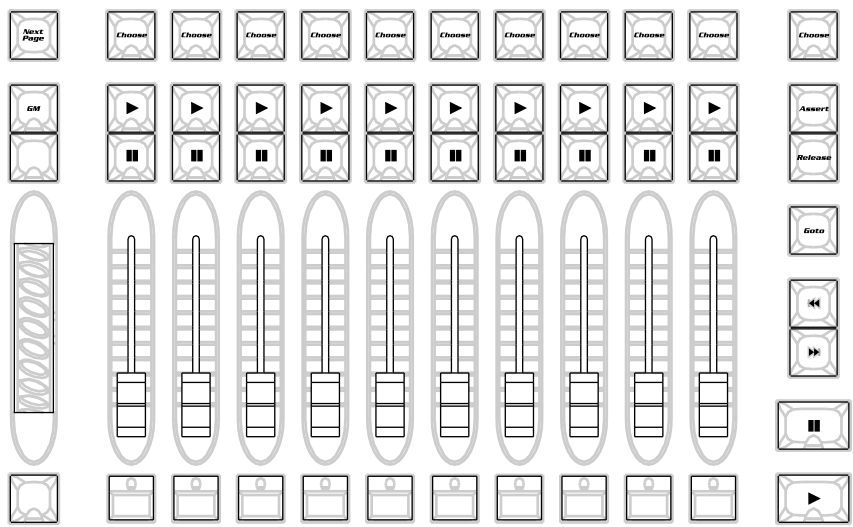


Figure 17-1. The Playback Controls

17.1 **Playback Attached to a Physical Master**

To attach a cuelist to a Master:

List **1** Move Choose : puts Cuelist 1 onto the chosen Master.

To remove a cuelist from a Master:

Delete + Choose : removes the cuelist from the chosen Master.

Cuelists can also be attached to Masters using Pages, see *Working with Pages (Reference, Section 19)*.

17.1.1 Standard Controls

The standard playback controls found on each of the ten Masters are:

- **Choose:** Allows the Master to be selected. If the blue LED is illuminated then it is the current Master, and the main controls will work with this Master. This will also be the case when the Choose button is held down.
- **Go:** If the playback is inactive this will put it onstage. If already active then it advances to the next cue in the cuelist. It will restart any paused crossfades (see Halt).
- **Halt/Back:** Pauses any running crossfades. If there are no running crossfades then by default it will start a fade back to the previous cue.
- **Fader:** Controls the intensity of fixtures under the control of this playback.
- **Flash:** Momentarily puts the intensity of fixtures under the control of this playback to the full programmed value, as if the fader had been put to maximum.

The main controls (to the right of the Masters, see *Figure 17-1*) work with the currently chosen Master. You can also use them with another playback by holding down the required Choose key while pressing a key from the main controls. The controls are:

- **Go and Halt:** As above.
- **Skip Forward/Skip Back:** Steps forward or backward through the cuelist.
- **Release:** Releases the playback's control of fixtures, making the playback inactive.
- **Assert:** Reasserts control of fixtures if other playbacks have taken control under the Latest Takes Precedence rule.
- **Rate Wheel:** The centre-sprung wheel on the left of the console allows the crossfade rate to be momentarily modified to speed up or slow down crossfades.
- **Left-Hand Parameter Wheel:** When you hold down a Choose key, you can use the left-hand parameter wheel to control the crossfade rate of the selected playback. This modified rate will persist until you make another change.

17.1.2 **Understanding Feedback**

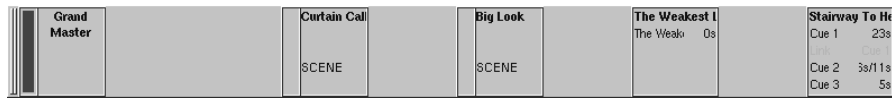


Figure 17-2. The Playback Bar

Immediately above each Master is a block of screen giving feedback for the Master: see *Figure 17-2*. For a Cuelist it displays the Cuelist name, the current Cue and its total time, and the next few cues and their times. When a cue is crossfading it is displayed in green text, and the time counts down.

The button LEDs also display feedback information:

- **Flash button (Red):** When solidly lit, this indicates that this playback is controlling intensity. When flashing it indicates that its control of intensity has been overridden by other playbacks.
- **Halt button (Red):** When solidly lit, this indicates that this playback is controlling parameters other than intensity. When flashing it indicates that its control of those parameters has been overridden by other playbacks.
- **Go button (Green):** When solidly lit, this indicates that a crossfade is in progress. When flashing it indicates that a crossfade has been paused.

You can see the total output of the console in the Output window:

Main Toolbar ⟶ Output

17.2 **Playback with a Virtual Master**

You can run cuelists without assigning them to a physical Master by using Virtual Masters. Virtual Masters are always at full intensity, so the level of fixtures is that recorded in the cues. An almost unlimited number of Virtual Masters running different cuelists can be in operation at any one time.

Cuelist Virtual Masters are operated from the Cuelist Directory window:

Open + List

The window must be in the Active mode, controlled by a toggle button in the window. When in this mode, press a Cuelist button in the directory, and it will appear onstage, as if Go had been pressed on a Master. Holding your finger down on the cuelist's button acts as if a Choose was being held, and you can use the main controls.

The cuelist buttons in the directory are coloured to indicate when they are onstage, and change colour when a crossfade is running.

Alternatively, in the Cuelist Editor window, the Controls button shows a set of on-screen playback controls.

17.3 Overrides

17.3.1 Crossfade Rate Overrides

A cuelist can have its rate increased or decreased whilst on a Master; this affects all cue timings in the list:

1. Press and hold the Master's Choose key.
2. Adjust the left-hand Parameter Wheel.

17.4 Playback Options

There are several options that control how a cuelist works during playback:

Setting	Default	Notes
Playback Priority	0	Which cuelist or scene takes priority when both have values for a parameter is normally determined by the LTP rule. You can use the Playback Priority to give a cuelist or scene higher priority (a higher number) than others, overriding the LTP rule.
Release Time	2s	The time that parameters take to go to their default settings when the cuelist is released from the Master.
Assert Time	2s	The time that parameter values change over when you assert a cuelist with the Assert key. See *Standard Controls (Reference, 17.1.1)*.
Back Time	2s	The transition time when you press the Back key to step back one cue in the cuelist.
Use HTP	Off	Makes the cuelist work under the HTP rule, rather than LTP. See *HTP and LTP (Introduction, 2.6)*.

Setting	Default	Notes
Persist on Override	Off	When a cuelist is no longer controlling any parameters, because they have been overridden by other cuelists or scenes under the LTP rule, it is automatically released. Use Persist on Override to stop this happening.
Swap FX	Off	If a cuelist has parameters that are running an Effect, when another cuelist or scene changes the underlying values of those parameters the effect continues to run. Use Swap FX to allow the second cuelist or scene to override the effect as well as the underlying values.
Reset on Release	Off	Use this to make the Cuelist go back to the first cue when it is released.
Cue Only	Off	Use this to run the list without **tracking**. Any parameter that has no value in a cue will go to its **default value**, rather than tracking through.
Track Through Loops	Off	Controls whether parameter values track from the end of a loop back to the beginning. See *Tracking Through Loops (Reference, 13.3.3)* for a fuller description of this.
Is a Chase	Off	Use this to make a Cuelist into a chase. Cue timings are ignored and each cue becomes a step in the chase.

You can change the default values in the Cuelist Options pane of the Preferences window:

Setup ⟶ Preferences

You can also set values for each cuelist:

1. Open + Choose : open the Cuelist Editor window for the cuelist on the chosen Master.
2. Options... : open the Options window.

Section 18: **Scene Playback**

This section introduces:

- This
- That
- Another

This section shows you how to:

- Playback scenes on physical and virtual Masters
- Change playback options

To play back a scene, it needs to be attached to a Master. Masters can be either Physical (the faders and controls on the front panel of the console, see *Figure 17-1.*) or Virtual (an on-screen Master).

18.1 **Playback Attached to a Physical Master**

18.1.1 **Attaching a Scene to a Master**

To attach a scene to a Master:

Scene **1** Move, Choose

Alternatively you can select the Scene from the Scene Directory:

(Scene 1) Move, Choose

The name of the Scene and the fader level is shown on the screen immediately above the Master.

18.1.2 **Playing Back the Scene**

To play back the scene, press the Go key. The scene will fade in with the times recorded with it, and the fader acts as an **inhibitive master** for the scene.

You can increase or decrease the fade rate:

1. Press and hold the Master's Choose key.
2. Adjust the left-hand Parameter Wheel.

18.2 Playback with a Virtual Master

You can play back Scenes without assigning them to a physical Master by using Virtual Masters, run directly from the Scene Directory. Virtual Masters are always at full intensity, so the level of fixtures is that recorded in the scene. An almost unlimited number of Virtual Masters running different scenes can be in operation at any one time.

Scene Virtual Masters are operated from the Scene Directory window:

Open + Scene

The window must be in the Active mode, controlled by a toggle button in the window. When in this mode, press a Scene button in the directory, and it will appear onstage.

18.3 Playback Options

There are several options that control how a scene works during playback:

Setting	Default	Notes
Playback priority	0	Which scene or cuelist takes priority when both have values for a parameter is normally determined by the LTP rule. You can use the Playback Priority to give a scene or cuelist higher priority (a higher number) than others, overriding the LTP rule.
Release time	2s	The time that parameters take to go to their default settings when the scene is released from the Master.
Assert time	2s	The time that parameter values change over when you assert a scene with the Assert key. See *Standard Controls (Reference, 17.1.1)*.
Use HTP	Off	Makes the scene work under the HTP rule, rather than LTP. See *HTP and LTP (Introduction, 2.6)*.
Persist on override	Off	When a scene is no longer controlling any parameters, because they have been overridden by other cuelists or scenes under the LTP rule, it is automatically released. Use Persist on Override to stop this happening.

Setting	Default	Notes
Swap FX	Off	If a scene has parameters that are running an Effect, when another cuelist or scene changes the underlying values of those parameters the effect continues to run. Use Swap FX to allow the second cuelist or scene to override the effect as well as the underlying values.

You can change the default values in the Scene Options pane of the Preferences window:

Setup ⟶ Preferences

You can also set values for each scene when it is attached to a Master:

Open + Choose : open the Scene Options window for the scene on the chosen Master.

Section 19: **Working with Pages**

This section introduces:

- The Page Directory
- Template Pages

This section shows you how to:

- Create a new page
- Edit pages
- Change pages during playback

Pages allow you to predefine layouts of Cuelists, Scenes and Groups, so that they can be loaded quickly on to the available Playback Masters. There are ten Masters on a console, but this number may be expanded with the addition of Wings.

For example, for a concert Cuelists can be organized in one Page per song, so that before each performance it is possible to re-arrange the pages to reflect the current running order. The same cuelist can be used several times within a page or on several pages.

19.1 **Creating a New Page**

Activating or selecting a Page that currently does not exist will automatically load a blank page onto the Masters. Cuelists, Scenes and Group Masters then assigned to the masters will be recorded onto the newly created page.

To create a new Page:

1. Open, Page : opens the Page Directory.
2. Page **[number]** Enter : the cuelists currently allocated to the Masters are recorded into the selected Page.
3. Set **[name]** Enter : name the page.

19.2 **Changing Page**

Changing the page loads a different set of cuelists onto the Masters. You can do this in several ways:

- Press the Next Page key to go to the next page in the Page Directory. To go to the previous page hold Pig and press Next Page.
- Using the keypad : Page **[number]** Enter.

- Select the desired page from the Page Directory window.

Important
Note that any changes made to cuelists on the Masters of the current page will be recorded as part of that page.

19.2.1 Options When Changing Page

When you change page, there are three options for what happens to cuelists that are still active:

- **Release All:** releases all cuelists on the old page and replaces them with the cuelists on the new page, irrespective of whether the old cuelists are still active.
- **Hold Over if Active:** keeps active cuelists from the old page on their Master, until you release them. They are then replaced with the cuelist from the new page.
- **Leave in Background:** leaves the old cuelist running in the background, and attaches the new one to the Master. To get to the background list, go back to the page that it is on.

Release All is the default option, but you can change this in the Miscellaneous pane the Preferences window.

If you want to hold over a particular cuelist, hold the Master's Choose key when changing the page. The cuelist name above the held Master is highlighted to indicate it is in holdover mode.

To remove a held over Master simply release it and the cuelist for the new page will replace it.

19.3 Modifying Pages

If you make changes to the current page they will automatically be recorded as part of that page. You can copy or move cuelists to the page, or remove them.

19.3.1 Copying

Copying a cuelist to a page creates a new cuelist which is independent of the one it is a copy of. Any changes made to it will not affect other pages. To copy an existing cuelist to a page:

List **2** Copy Choose, Enter : copies cuelist 2 to the chosen Master.

19.3.2 Moving

Moving a cuelist to a page does not create a new cuelist, so changes made to it later will affect all other uses of that cuelist on other pages. To move an existing cuelist to a page:

List **2** Move Choose, Enter : moves cuelist 2 to the chosen Master.

19.3.3 **Removing**

To remove a cuelist from a page:

Delete, Choose : removes the cuelist from the chosen Master. You can also press the keys together : Delete + Choose.

Note that this will only remove the cuelist from the Master, not from the cuelist directory.

19.4 **Template Page**

A template page specifies which cuelists will appear on every page without physically having to load them into all pages. For example, you could have a master cuelist containing commonly used sequences of cues or effects, which you want available on all pages. To make a page into a template page:

1. Open + Page : opens the Page Directory window.
2. Right-click on the Page, and select Set As Template from the menu.

You can turn off the template in the same way, but select No Template from the menu.

Tip
If a normal page and a template page use the same Master, the normal page will override the template.

Section 20: **Working with Master Controls**

This section introduces:

- The Grand Master

20.1 **Grand Master**

The Grand Master inhibits the intensities of all fixtures on the console, including those within the Programmer, with the exception of those that are parked. By default, it resides on Master 1 on each page of masters. For more information on pages, see *Working with Pages (Reference, Section 19)*.

Tip
If you lose your Grand Master, then it has probably been obscured by cuelists loaded onto later pages.

Appendices

Table of Contents

Section 21: **Technical Specification**

21.1 **Input and Output Connections**

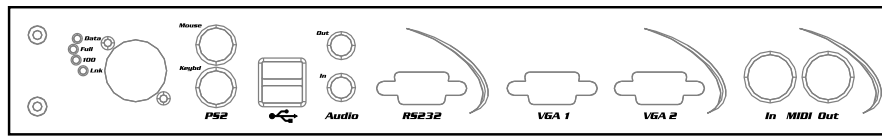


Figure 21-1. Rear panel of the console

From right to left when viewing the console from the back:

Mains in:	IEC 320 connector (5A/250V rated cable supplied)
	100-240V, 50/60Hz, 2A maximum
	2 x 5x20mm 5A T fuses
MIDI in & out:	Fully compliant Musical Instrument Digital Interface input and output ports
VGA out:	15 pin double density D type
	IBM/PC compatible VGA/SVGA analogue monitor outputs (x2)
RS232:	Debug port for service/factory use only
Audio in & out:	3.5mm stereo jack
	Soundblaster compatible audio line input and output
USB:	Fully compliant Universal Serial Bus 1.0 ports (x2)
Keyboard & mouse:	5 pin mini-DIN
	IBM/PC PS2 compatible keyboard and mouse
Ethernet:	Neutrik Ethercon or standard RJ45
	Fully compliant 10base-T or 100base-TX Ethernet port

21.2 **Power, Weight and Dimensions**

Power:	75W
Weight:	22.5Kg
Dimensions:	760mm (w) x 580mm (d) x 110mm (h), footprint smaller

Section 22: **Safety Information**

22.1 **Safety Information**

Warning: For Continued Protection Against Fire

1. This equipment for connection to branch circuit having a maximum overload protection of 20 A.

Warning: For Continued Protection Against Electric Shock

1. If this equipment was received without a line cord plug, attach the appropriate line cord plug according to the following code:
    - brown - live
    - blue - neutral
    - green/yellow - earth
2. As the colours of the cores in the mains lead of this equipment may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
    - the core which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ⏚, or coloured green or green and yellow.
    - the core which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
    - the core which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
3. Class I equipment. This equipment must be earthed.
4. Equipment suitable for dry locations only. Do not expose this equipment to rain or moisture.
5. Disconnect power before servicing.
6. Refer servicing to qualified personnel; no user serviceable parts inside.

22.2 **Importantes Informations Sur La Sécurité**

Mise En Garde: Pour Une Protection Permanente Contre Les Incendies

1. Pour Une Protection Permanente Contre Les Incendies Cet

appareil de connection au circuit comporte une protection contre les surcharges de 20 A.

Mise En Garde: Pour Une Protection Permanente Contre Les Chocs Électriques

1. Si cet équipement est livré sans prise de cable, veuillez connecter la prise de cable correcte selon le code suivant:
    - marron - phase
    - bleu - neutre
    - vert/jaune - terre
2. Débrancher le courant avant d'effectuer des réparations.
3. Cet équipement doit être uniquement utilisé dans des endroits secs. Ne pas l'exposer à la pluie ou l'humidité.
4. Ë l'intérieur de l'équipement il n'y a pas de pièces remplaçables par l'utilisateur. Confiez l'entretien à un personnel qualifié.
5. Equipement de Classe I. Cet équipement doit être mis à la terre.

22.3 Wichtige Hinweise Für Ihre Sicherheit

Warnung: Zum Schutz Vor Brandgefahr

1. Dieses Gerät darf nur an eine Zweigleitung mit einem Überlastungsschutz von höchstens 20 A angeschlossen werden.

Warnung: Zum Schutz Gegen Gefährliche Körperströme

1. Wenn dieses Gerät ohne einen Netzkabelstecker erhalten wurde, ist der entsprechende Netzkabelstecker entsprechend dem folgenden Code anzubringen:
    - Braun - Unter Spannung stehend
    - Blau - Neutral
    - Grün/Gelb - Erde
2. Vor Wartungsarbeiten stets den Netzstecker ziehen.
3. Diese Geräte sind nur zum Einbau in trockenen Lagen bestimmt und müssen vor Regen und Feuchtigkeit geschützt werden.
4. Servicearbeiten sollten nur von Fachpersonal ausgeführt werden. Das Gerät enthält keine wartungsbedürftigen Teile.
5. Dieses Gerät gehört zur Klasse I. Dieses Gerät muß geerdet werden.

22.4 Información Importante De Seguridad

Advertencia: Para Protección Continua Contra Incendios

1. Este equipo debe conectarse a un circuito que tenga una protección máxima contra las sobrecargas de 20 A.

Advertencia: Para La Protección Continua Contra Electrocuciones

1. Si se recibió este equipo sin el enchufe de alimentacion, monte usted el enchufe correcto según el clave siguente:
    - moreno - vivo
    - azul - neutral
    - verde/amarillo - tierra
2. Desconecte el suministro de energía antes de prestar servicio de reparación.
3. Este equipo se adecua a lugares secos solamente. no lo exponga a la lluvia o humedad.
4. Derive el servicio de reparación de este equipo al personal calificado. El interior no contiene repuestos que puedan ser reparados por el usuario.
5. Equipo de Clase I. Este equipo debe conectarse a la tierra.

22.5 Importanti Informazioni Di Sicurezza

Avvertenza: Per Prevenire Incendi

1. Questa apparecchiatura e' da collegarsi ad un circuito con una protezzione da sovraccarico massima di 20 amperes.

Avvertenza: Per Prevenire Le Scosse Elettriche

1. Se questa apparecchiatura è stata consegnata senza una spina del cavo di alimentazione, collegare la spina appropriata del cavo di alimentazione in base ai seguenti codici:
    - marrone - sotto tensione
    - blu - neutro
    - verde/giallo - terra
2. Disinnestare la corrente prima di eseguire qualsiasi riparazione.
3. Questa apparecchiatura e' da usarsi in ambienti secchi. Non e' da essere esposta ne alla pioggia ne all' umidita'.

4. Per qualsiasi riparazione rivolgersi al personale specializzato. L' utente non deve riparare nessuna parte dentro l' unita'.
5. Aparecchio di Classe I. Questa apparecchiatura deve essere messa a terra.

22.6 Vigtig Sikkerhedsinformation

Advarsel: Beskyttelse mod elektrisk chock.

VIGTIGT! LEDEREN MED GUL/GROEN ISOLATION MAA KUN TILSLUTTES KLEMME MAERKET ⏚ ELLER ⏚.

Section 23: **Upgrading and Care of the Console**

23.1 **Updating Software**

23.1.1 **Updating the Console Software**

To install a software upgrade from a CD-ROM:

1. Restart the console.
2. When the Start window appears, press the Software button, located on the bottom of the right-hand screen.
3. Hinge up and forward the leather arm rest at the front of the console. Insert the CD-ROM into the drive below.
4. Choose CD-ROM from the displayed list.
5. Select the software version to confirm the upgrade.
6. The console will continue with the upgrade without further interaction. Note that this may take several minutes. After it finishes the upgrade, the console will restart.

To upgrade software from an fpspkg file downloaded from the Flying Pig Systems Ltd. website (www.flyingpig.com):

1. Check that the file has a name like gut_x.x.x._(Build xx).fpspkg, or gut_x.x.x._Beta_(Build xx).fpspkg if its a beta release.
2. Copy the file to a CD-ROM or Zip disk.
3. Continue as above, selecting CD-ROM or Zip as the source of the upgrade file, as appropriate.

23.1.2 **Clean Install**

You may occasionally need to do a 'clean install' of the software, which completely replaces the software rather than just upgrading parts that have changed in the new release. We don't recommend this unless you have been having problems with the console and you have been advised to do a clean install by our support staff. To do a clean install:

1. First ensure that your show data is backed up onto Zip disk. This can be done from the Show Manager window (Setup ⟶ Shows).
2. Restart the console, holding down the Pig key until a boot menu appears.
3. Place the software CD-ROM in the console's drive and close it.
4. Use the Up and Down arrow keys to select the CD-ROM option on the menu, and then press Enter.
5. The installation will occur without further user interaction. Note that it will take several minutes to complete.

Important
Before installing new software, ensure that your show data is backed up. A clean install will erase all show data.

Occasionally it may also be necessary to update the console's BIOS, which is the software stored in memory that starts the console up. This can also be done by selecting an option from the boot menu which will read the BIOS from a CD-ROM. You should only do this when explicitly instructed and care should be taken to follow all directions, as an improper BIOS installation can leave the console unusable.

23.1.3 Updating the DMX Processor Software

Normally, updating the console software will also update the software of connected DMX Processors. If necessary, you can update the software manually:

1. Setup ⟶ Network : open the Network window.
2. In the list of network devices, check the box to the left of DMX Processors that you want to update. and press Software Update.
3. The console will update the software, and the DMX Processors will re-appear in the list after a couple of minutes.

Sometimes, if the console and DMX Processor are running different software versions, the console may not recognise the DMX Processor on the network. To overcome this, you can force the DMX Processor to update its software from the console:

1. Turn off the mains power to the DMX Processor. Check that it is connected to the console on the network.
2. Turn the DMX Processor back on, while holding down the ⏎ key.
3. The DMX Processor will download its software from the console.

23.2 Touch Screens

The touch panels and liquid crystal displays (LCDs) require some care in use to ensure their longevity:

- Do not allow sharp objects to come into contact with the screen. Objects such as the eraser end of a pencil can provide an alternative to fingertips.
- If you need to clean the screens, use a soft, dry, lint-free cloth; don't use any solvents, chemical or abrasive cleaners.
- The LCD operating temperature must be between 0 and 45 degrees Celsius (32 to 113 Fahrenheit).

- You should keep the LCDs out of direct sunlight. Too much exposure to the sun may cause the screens to turn black, requiring several hours to cool and return to normal. If this happens you can use *External Monitors (Reference, 5.1.3)* and the *Trackball and Wheels (Reference, 5.1.5)* instead. To avoid this, use the Wholehog III in the shade when programming outdoors.

23.3 **Front Panel Care**

The front panel needs no particular care to ensure longevity over and above the obvious. You can clean it with a soft, dry, lint-free cloth; don't use any solvents, chemical or abrasive cleaners. Do not allow fluids, dirt, or other doubtful substances to come into contact with the console.

In the event of fluid getting into the console disconnect mains power immediately and consult your nearest service agent. Some contact details are shown in the front of this manual.

Section 24: **Servicing**

This console must be serviced by qualified personnel. The information in this section is intended to assist qualified personnel only. For information on the care of the console, see *Upgrading and Care of the Console (Appendices, Section 23)*.

24.1 **Replacing Touch Panels**

Caution
Always shut down and disconnect the mains power before removing the front panel.

Damaged touch panels are easily replaced:

1. With the LCD box in the vertical position undo the six screws using a 4mm allen key.
2. Carefully remove the LCD panel and Soft Key strips.
3. With the LCD box in the horizontal (flat) position undo the four thumbscrews of the panel to be changed.
4. Unplug the touch panel cable from the central PCB.
5. Very carefully lift off the touch panel leaving the Soft Key PCBs in place.
6. Replace with a new touch panel making sure the panel is pushed to the *right* for correct alignment.
7. Replace and gently tighten the thumbscrews and re-connect the cable ensuring correct pin alignment.
8. With the LCD box back in the vertical position fit the LCD panel and Soft Keys.
9. Replace and tighten the six screws starting with the centre pair.
10. Calibrate the touch panels. See *Calibration (Reference, 5.1.2)*.

24.2 **Replacing Faders**

Caution
Always shut down and disconnect the mains power before removing the front panel.

Damaged or dirty faders are easily replaced:

1. Remove the parameter wheel knobs using a 2mm allen key to loosen the grub screws.
2. Pull off the fader knobs and position the faders at 50%.
3. Undo the four screws with a 4mm allen key, and carefully lift off the front panel. Note that the front panel is intentionally

concave.

4. Gently unplug the fader's flying lead and lift the fader to unclip it from the PCB.
5. Clean fader if required. See *Cleaning Faders (Appendices, 24.3)*
6. Fit the new fader in place ensuring that it sits completely flat against the PCB; *this is crucial*.
7. Reconnect the fader flying lead and position the fader at 50%.
8. To re-assemble, follow steps 3 through 1.

24.3 Cleaning Faders

Faders are often unnecessarily discarded when all they need is a clean:

1. Remove the dirty fader. See *Replacing Faders (Appendices, 24.2)*.
2. Undo the top crosshead screw (furthest from the flying lead) using a small Philips screwdriver.
3. Remove the top end cap.
4. Very carefully slide the whole mechanical assembly out from the other, bottom end.
5. Very carefully slide the track assembly out from the bottom end.
6. Wipe tracks and wipers with a dry, clean tissue. Do *not* use solvents.
7. Re-insert track assembly.
8. Very carefully re-insert mechanical assembly.
9. Fit top end cap and replace and tighten screw.
10. Replace the cleaned fader. See *Replacing Faders (Appendices, 24.2)*.

24.4 Replacing the Trackball

Caution
Always shut down and disconnect the mains power before removing the front panel.

To replace the Trackball:

1. Remove the front panel. See *Replacing Faders (Appendices, 24.2)* steps 1 to 3.
2. Lift track ball out of its bezel.
3. Unplug the cable assembly from the trackball PCB
4. Reconnect and replace new trackball.

Important
The only occasion on which the front panel PCB itself needs to be removed is to access the mass storage devices underneath; a procedure beyond the scope of this manual.

Section 25: **Getting Help**

If you are having problems with the Wholehog III, try the trouble shooting guide below. If you cannot rectify the problem, or you think that it is because the console is not working as it should, please contact <support@flyingpig.com>, following the guidelines in *Reporting Problems with the Console (Appendices, 25.2.1)*.

25.1 **Troubleshooting**

25.1.1 **The console isn't talking to the DMX Processors**

1. Check the network cabling. If the DMX Processor is connected directly to the console then an RJ45 **cross-over** cable needs to be used. If the DMX Processor is connected via a **switch** or **hub** then normal (non-crossover) RJ45 cables need to be used. The Link light will be lit on the DMX Processor if the correct connection has been made.
2. Check the network settings. The DMX Processor and console both need to be on the same subnet.
3. Check the port setting. The DMX Processor and console both need to be on the same Port Number. See *Network Settings (Reference, 5.4.1)* and *Configuring the Network (Reference, 5.3.3)*.
4. Check the software. The DMX Processor and console both need to be running the same version of the software; see *Updating the DMX Processor Software (Appendices, 23.1.3)*.

25.1.2 **The console doesn't start, or shuts down shortly after switching it on**

1. If a software update has failed the console can get into a state where it either fails to start properly, or it goes immediately to the shutdown screen. A full re-install will be necesssary; see *Clean Install (Appendices, 23.1.2)*.

25.2 **Reporting Problems**

We welcome feedback on both the console and the manual as an essential part of our development process. When reporting problems with the console (known as "bugs") it is important that the information provided be as clear and detailed as possible so that we have the best chance to help you. Please follow the guidelines below.

25.2.1 **Reporting Problems with the Console**

Please include the following information in your bug report:

1. The network configuration of system.

- How many consoles
- How many DMX Processors and MIDI/Timecode Processors.
- What sort of routers/hubs are being used.
- Other PC's or applications (eg. Artnet, ETCNet, Quake servers, Web Servers, etc.) that are sharing the same network.

2. The piece of hardware that exhibited the problem, including the version number of the software being used.
3. The actions taken that induce the problem in the first place, including whether the problem is repeatable using the same actions.
4. The symptoms of the problem.

Once a problem has been reported it will often be necessary for the support team at Flying Pig Systems Ltd. to clarify some of the details and obtain additional information. Typically this ends up with a request for a copy of the show, so a backup of the show should be saved to either a Zip disk or a writeable CD and transferred to a PC where it can be mailed to <support@flyingpig.com>.

25.2.2 Reporting Problems with the User Manual

Please include the following information in your bug report:

1. The nature of the problem:
   - Missing information.
   - Incorrect information.
   - Unclear or ambiguous information.
   - Unable to find information in the index.
2. The section number where the problem is.
3. The version number of the manual. You can find this under 'Revision History' at the start of the manual.

25.2.3 About Software Version Numbering

The software version number is made up of two or three parts: the major version number, the minor version number and in the case of beta software the issue number. For example:

1.1 beta issue 4

The major number is used to indicate significant changes in the functionality of the software.

When a beta build is initially released it will have an issue number of 1. As we fix any problems we will make subsequent releases which will have incrementing issue numbers. When a build is deemed to be show safe the beta and issue number suffixes are dropped and the build is know purely by it's major and minor version numbers.

The minor version number is incremented when new features are added to an existing build. When the minor version number is incremented the issue number gets reset to 1 and the cycle of working through the beta issues begins again until the build is again considered show safe and the beta suffix dropped.

25.2.4 About Beta Status Software

Software builds marked as beta contain new features which are unproven in a show situation. They should not be regarded as "Show-safe" since there may be problems with the software. Once the features have been proven then the beta monicker is dropped and the software can be considered "show-safe".

Flying Pig Systems Ltd. does however recommend that people try the beta code in non-critical situations since it is only the act of end-users trying newer software and telling us that it works that moves the software out of it's beta status.

Glossary

1

10 Base-T

An older flavour of Ethernet, that is slower (10 MBits per second) than the 100 Base-T used by Wholehog III components. If connected to other equipment that only supports this flavour, then Wholehog III components will automatically detect this, and run their Ethernet connections at this slower speed. However this is not the recommended way to set up your network.

See Also: 100 Base-T.

100 Base-T

A flavour of Ethernet, that supports data rates of up to 100 MBits per second. All Wholehog III components support this flavour of Ethernet, and comply with all relevant standards, so networking equipment designed for 100Base-T should be compatible with the Wholehog III.

See Also: 10 Base-T.

A

@ button

Means 'at' and can be used for setting levels or patching via the keypad.

abstraction layer

The Wholehog III separates ('abstracts') the user from the details of how fixtures work. For example, most values are expressed in real world values such as degrees of rotation, rather than DMX values.

accessories

Extensions to the console or network can range from expansion wings, to DMX Processors.

See Also: expansion wing, widget, DMX Processor.

address

See: DMX address

attribute

See: parameter

automated light

See: fixture

B

beam

The distribution and quality of the fixture's beam. Such qualities may be changed through the introduction of parameters such as gobo, gobo rotation, soft or sharp edges, iris and diffusion.

See Also: gobo, iris, diffusion.

button

An on-screen control operated by clicking with the mouse or trackball, or directly by pressing then on the touch screens. In this manual the word 'key' is reserved for hardware buttons on the console's front panel.

blocking cue

A blocking cue prevents changes made to earlier cues from tracking through to later cues.

See Also: tracking.

board

See: console

booting up

See: start up

brightness

See: intensity

C

cell

A single rectangle in a spreadsheet, containing a value.

See Also: spreadsheet.

chase

A series of cues, that run automatically, connected with link and delay attributes.

See Also: cue, cuelist.

chroma

See: hue

colour

Fixture colour, achieved through colour wheel, gel string or colour mixing. A colour mixed may have three attributes intensity, hue and saturation.

See Also: intensity , hue, saturation.

command line

A method of entering information into the programmer, using the numerical keypad and the @ button.

See Also: programmer.

console

The user interface of a lighting control system. The Wholehog III console forms the central hub of a sophisticated show control network. This may include other Wholehog III desks, expansion wings, external devices, offline editors and visualisers, along with dimmers and fixtures.

See Also: off line editor, visualiser, expansion wing.

console identifying number

The number that identifies the console when it is operating as part of a network.

conversion curve

A curve that defines the relationship between the plotted parameter value and the DMX value sent to the dimmer or fixture. Conversion curves are like dimmer curves or profiles on other consoles, and should not be confused with paths. Conversion curves are properties of the fixture, while the path is a property of a cue.

See Also: path .

crossfade

A transition between two cues, one replacing the other.

cross-over cable

When you connect two Wholehog III components (or computers) together directly, you need to use a special type of Ethernet cable called a cross-over cable. This is different from the normal type of Ethernet cable used with hubs and switches (see below). We supply a cross-over cable with each console and DMX Processor.

See Also: Ethernet.

cue

A look on stage, achieved through the manipulation of fixture parameters recorded as part of a cue list. A cue requires a trigger, either manual or automatic, and has attributes such as fade, wait and delay times.

See Also: scene, fade time, wait time, delay time.

cuelist

A group of cues that run in a specific order consecutively, or even simultaneously. These may be automatically linked to form a chase, or manually triggered. A cuelist is run from a master.

D

default value

A parameter value which has not been adjusted by the user. This value is set by the fixture's Library, and may not always be zero. For example, the default value of Shutter Open/Strobe Off may be 100%.

See Also: touched value, tracking.

delay time

The time the console waits before starting a cue's crossfade.

See Also: wait time, crossfade, path .

desk

See: console

desk channel

Single conventional lights that only have intensity control via a dimmer are defined as desk channels by the Wholehog III. By contrast, automated lights are referred to as fixtures.

See Also: fixture.

DHCP

Dynamic Host Configuration Protocol is a way for a computer to ask a master computer on a network to assign it an IP address when it connects. Many existing networks are configured this way, and the Wholehog III supports this system. You should talk to the administrator of the network you want to connect to to find out more.

See Also: Ethernet, IP address.

diffusion

A parameter that effects the beam quality, allowing a softening or stretching of the beam. Not to be confused with beam focus where the beam edge is adjusted.

digital IO

The ability to control or input electrical digital signals from switch closures. For example, an input may originate from a motion sensor or footswitch; an output may trigger a sound effect.

dimmer Curve

See: conversion curve

directory

A window which displays palettes, scenes or groups.

See Also: palette.

DMX

See: out time

DMX address

A number between 1 and 512 that identifies a controllable parameter of a fixture. Each fixture or group of dimmers has a 'start address', the first of the range of DMX addresses that it uses.

DMX universe

A single DMX output with 512 channels is known as one DMX universe. The Wholehog III network may support many universes each with fixture addresses between 1 and 512.

See Also: DMX Processor.

DMX Processor

A nineteen inch, rack mounted network node that distributes 1 or 4 DMX outputs. There may be many DMX Processors within a lighting control network.

See Also: node.

down Time

See: out time

E

editor

A window for editing the contents of cues, scenes, groups or palettes.

See Also: programmer.

effects engine

The Wholehog III effects engine provides the opportunity to create movement sequences. The engine contains library shapes, whilst allowing for custom effects to be created.

encoder wheel

See: parameter wheel

Ethernet

A defined way of connecting computer equipment together. It comes in a variety of flavours.

See Also: 10 Base-T, 100 Base-T, IP address, hub.

expansion wing

A Wholehog III accessory that extends the number of masters available to the operator.

See Also: master.

F

fade time

Time in which fixtures crossfade between the parameter levels of two cues - one incoming, one outgoing.

See Also: split fade, in time, out time.

fixture

Lantern, instrument, lamp or moving light unit. In this manual the word fixture is used to refer to automated lights, as opposed to `conventionals' which are usually controlled by dimmers and assigned to the Wholehog III as desk channels.

fixture library

A data file that contains details of a fixture's parameters, required so that the Wholehog III `understands' how the fixture works and what it can do. The fixture libraries are an important part of making the console's abstraction layer work.

See Also: abstraction layer.

focus

The position of the light beam of a fixture within space, or the surface it hits. Not to be confused with the beam edge quality.

function

See: parameter

G

gobo

Image placed within the optical system of the fixture, projected onto lit object. Also known as a pattern.

graphical user interface

A way of displaying information, and allowing the user to work with it, in a visual form. Most personal computers use a GUI with windows, buttons and a pointer.

See Also: command line.

group

A way of storing and recalling a selection of fixtures quickly.

GUI

See: graphical user interface

H

hard command

See: hard value

hard value

The output of a master running a cuelist is a mix of hard and soft parameter values. Hard values are those that are in the current cue, while soft values are those that have tracked through from previous cues.

See Also: tracking.

Hog Edit

A PC based program that allows the editing of show information. With the use of a DMX Processor, Hog Edit can output this information to visualisers, lighting consoles or fixtures.

See Also: widget, visualiser.

HTP

Highest Takes Precedence. In this system of operation, the highest value set for a parameter is the one that applies. A fixture can be in cues on two masters, and the highest level of the two will be the one seen. HTP is only relevant to intensity parameters where the idea of `highest' has meaning.

See Also: LTP.

hub

When you want to connect more than two Wholehog III components (or computers) together, then you need a special piece of equipment to allow them to interconnect called an Ethernet Hub or Ethernet Switch. Note that when connecting a Wholehog III component to a hub or switch you should use a normal Ethernet cable and *not* a cross-over cable like the one we supply.

See Also: Ethernet.

hue

The colour (pigment) element of colour notation.

See Also: saturation, intensity .

I

I-Wheel

The I-Wheel on the right hand side of the console is used to control fixture intensity.

in time

The time of the fade up of the incoming cue during a crossfade. All fixtures that are increasing in intensity will come up over this time.

See Also: split fade, path , fade time.

inhibitive master

A master that sets a maximum level on a group of fixtures. If the master is at 80%, then the fixtures will never come above 80% in the console's output.

instrument

See: fixture

intelligent light

See: fixture

intensity

Fixture brightness, expressed as a percentage. Also part of the HSB method of defining colour.

See Also: hue, saturation.

IP address

On an Ethernet network, each Wholehog III component has an address, called an IP address, used to identify it. You can usually use the default addresses, but if you are connecting to an existing network you may need to specify a different address, according to how your network is configured.

See Also: Ethernet.

iris

Variable mask placed within the optical system of the fixture, allowing the conical beam size to be manipulated. Not to be confused with zoom.

See Also: zoom.

K

key

A physical button on the console's front panel. This manual reserves the word 'button' for buttons that appear on screen.

knocking out

See: knockout

knockout

Knocking out is the process of removing fixtures from the programmer window, so that they will not be recorded into cues.

L

level

See: intensity

look

A stage lighting 'picture', usually created in the Programmer. Once you have created a look you may record it as a scene or cue.

See Also: cue, scene.

LTP

Latest Takes Precedence. In this system of operation, the most recent instruction to set the value of a parameter is the one that applies. A cue run on one master can take control of fixtures set by a cue in another master.

See Also: HTP.

luminaire

See: fixture

M

master

A master comprises of Go, Pause, Flash and Choose buttons, as well as a fader. One cuelist maybe run upon one master at one time. Cuelists need not be permanently stored on specific Masters and may reside in the cuelist directory.

See Also: cuelist.

mask

A method of selecting information that is specific to a palette, fixture, cue, scene or group, when recording, making selections, editing or programming. Typical masks are the parameter masks: Intensity, Position, Colour and Beam.

memory

See: cue

MIDI

Musical Instrument Digital Interface. The Wholehog III can work with two types of MIDI: MIDI machine code, and MIDI timecode. Allows communication of musical notes, programmes and timing data between electronic instruments and other devices such as lighting consoles.

See Also: timecode, show control.

modifier

A key that is used in conjunction with other keys or buttons, to change the effect that it has. For example, the Pig key.

See Also: Pig key.

moving light

See: fixture

multicast

A network protocol or language that computers use to talk to each other over Ethernet. The Wholehog III uses this standard protocol, which means that it can safely be connected to other networks of computers and will not interfere with them. For show-critical situations we recommend running the Wholehog III on its own independent network.

See Also: Ethernet.

N

node

Network nodes are items of equipment connected to the network. Consoles, DMX Processors and PCs are all nodes.

See Also: DMX Processor, console.

O

off line editor

See: Hog Edit

out time

The time of the fade of the outgoing cue during a crossfade. All fixtures that are decreasing in intensity will go down over this time.

See Also: split fade, path , fade time.

P

page

A preset arrangement of cuelists residing on the Masters. Pages can be changed allowing the ten masters to be used by many cuelists.

palette

A stored parameter setting, such as focus, for one or more fixtures. Fixtures of

different make or type may share the same palette.

See Also: directory, sequence palette.

parameter

A controllable property of the light produced by a fixture. For example a fresnel has one attribute: intensity. Moving fixtures have pan and tilt parameters and perhaps colour, beam shape, and so on.

parameter wheel

A wheel that facilitates the control of fixture parameters. Parameter Wheels are fixture sensitive: once loaded from the fixture library, parameters are allocated logically to the wheels.

patch

The assignment of DMX addresses to fixtures.

See Also: DMX.

patch point

The set of information that defines where a fixture is patched, including DMX address, DMX universe, and DMX Processor. Some fixtures have multiple patch points.

See Also: DMX, DMX address, universe, DMX Processor.

path

A way of defining the way that a parameter changes during a fade. You could set a path that makes the fixture parameter snap to its final value at the start of the fade, for example. Paths should not be confused with conversion curves; paths are the properties of a cue, while a conversion curves is the property of a fixture.

See Also: fade time, conversion curve.

pattern

See: gobo

peripherals

See: accessories

Pig key

The Flying Pig symbol button is a modifier key, and may be used in conjunction with other keys to alter their function.

playback

See: master

point number

A number with a decimal point. Cues are initially given whole numbers, but a point number in order can be used to insert a cue: cue 2.5 between 2 and 3 for example. Such a cue is known as a point cue.

plotting

The process of recording cues for playing back latter.

See Also: programmer.

port number

On a computer network, the port number defines a particular type of network traffic. In the case of a Wholehog III network, each show running on the network has its own port number, so that a console can identify and connect to a particular show.

position

See: focus

preset

See: palette

profile

See: conversion curve

programmer

A window where cue and scenes maybe created or edited. The programmer takes priority over all commands sent to a fixture elsewhere in the console.

R

rate

See: fade time

Rate Wheel

The centre-sprung wheel on the left hand side of the console used for adjusting fade rates.

rig zone

A zone defined as part of the rig, such as front of house or all overhead wash lights.

See Also: zones.

remainder dim

Used after selecting a fixture or group of fixtures, setting all remaining fixtures to a zero intensity level.

S

saturation

The amount of pigment in colour notation.

See Also: hue, intensity .

scene

A single stage look that does not have the attributes of a cue and is not part of a cuelist. A scene can be loaded onto a master, or triggered by a go button.

See Also: cue, cuelist.

selection order

The order in which the user selects fixtures into the programmer or editor. The Wholehog III remembers this and can apply fanning, or effects according to a fixture's place in the sequence. The sequence is recorded as part of groups and palettes.

See Also: group, palette.

sequence palette

A palette that records parameter values for a sequence of fixtures, rather than specific ones. For example, applying to every 5th and 10th fixture repeatedly across the rig, regardless of fixture type and number.

See Also: palette.

server

See: show server

shape generator

See: effects engine

show server

The Wholehog III that 'owns' a show. Other consoles may join the show, but the original console that created the show will remain the show server.

show control

Subset of MIDI used in the entertainment industry for integrated control of lighting, sound and stage automation.

slot

A discrete step in a parameter's range, such as the position of a gobo wheel.

SMPTE

A form of time code that can be used to synchronise the operation of various controllers, for example synchronising lighting to video playback.

Soft Key

The Soft Keys are the row of keys above and below the touchscreens. They mimic the function of toolbars docked along the edge of the screens.

See Also: toolbar.

soft parameter value

See: tracked value

speed

See: fade time

split fade

A crossfade where the incoming and outgoing cues have different times, causing an imbalanced or dipped fade profile.

See Also: crossfade, in time, out time.

spreadsheet

A way of displaying values in a grid. Wholehog III editor windows use a spreadsheet to display parameter values.

start up

The process that the console goes through when it is first powered on.

submaster

Masters that are in submaster mode can be used to 'mix' already recorded states. Unlike submasters on other consoles, submasters cannot be used for live playback; you should use ordinary masters for this.

See Also: master.

superuser

The top level profile user within the console's security structure. Similar to a system administrator, the superuser has the power to reconfigure the desk and importantly control the access levels of other users.

switch

See: hub

system zone

See: hub

T

TCP/IP

A network protocol or language that computers use to talk to each other over Ethernet. The Wholehog III uses this standard protocol, which means that it can safely be connected to other networks of computers and will not interfere with them. For show-critical situations we recommend running the Wholehog III on its own independent network.

See Also: Ethernet.

toolbar

A long, thin window with a series of buttons, that generally sits along the top or bottom edge of the screens. When in this position, a toolbar is said to be 'docked'.

See Also: Soft Key.

touch screens

The two LCD screens on the console, which display and allow the user to select information from them.

touched value

A parameter value that has been set or edited by the user. Values which are not touched will remain at their default value.

See Also: default value, tracking.

timing

Cues have several values that control timing: fade, wait, delay and path.

See Also: fade time, wait time, delay time, path .

timecode

A method of synchronising the console with other playback sources, such as music, video or film. The Wholehog III supports MIDI and SMPTE timecode.

See Also: MIDI, SMPTE.

tracked value

The output of a master running a cuelist is a mix of hard and tracked parameter values. Hard values are those that are in the current cue, while tracked values are those that have tracked through from previous cues.

See Also: tracking.

tracking

A method of dealing with cuelists, that does not record information in a cue unless it is a change from the previous cue. This allows multiple cuelists to be running at the same time without them interfering with each other.

See Also: hard value, tracked value, touched value, default value.

U

UDP

A network protocol or language that computers use to talk to each other over Ethernet. The Wholehog III uses this standard protocol, which means that it can safely be connected to other networks of computers and will not interfere with them. For show-critical situations we recommend running the Wholehog III on its own independent network.

See Also: Ethernet.

universe

See: DMX universe

up time

See: in time

usb

Universal Serial Bus: a means of connecting computer peripherals such as keyboards and mice. The Wholehog III also uses USB to connect expansion wings.

See Also: expansion wing.

V

virtual master

A means of running a cuelist without having it attached to a physical maser on the console.

See Also: cuelist, master.

visualiser

A real-time computer rendering package, that allows the programmer to create their lighting virtually before getting to the venue.

See Also: wysiwig.

W

wait time

The time between the previous cue being triggered and the current one being run automatically. Not to be confused with the delay time.

See Also: delay time.

widget

A device that allows the connection of accessories to the console or PC via USB. Such accessories may range from input control panels to DMX outputs.

See Also: universe, usb.

wysiwig

A visualisation package by Cast Lighting that can be used in conjunction with the console to pre-programme lighting, before getting to the venue.

Z

zip disk

Zip disks are like a floppy disk, but with a much higher capacity. They can be used to store, back up, and transfer show files.

zip drive

The Wholehog III has a drive to read and write zip disks.

zones

Enable the lighting rig or specific groups of fixtures to be controlled by specific operators and their consoles. Zones give more efficient plotting of large rigs, for example allowing concurrent plotting of stage and audience lighting states. This function can also be used when operating lighting over several interlinked environments, for example in a theme park ride or in an architectural environment.

zoom

Allows the size of beam/ image to be adjusted whilst maintaining its focus.

See Also: iris.

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D

E

T