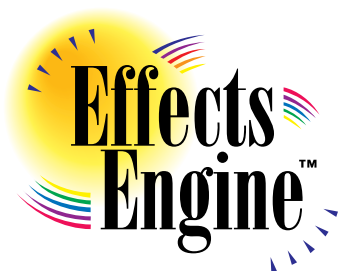
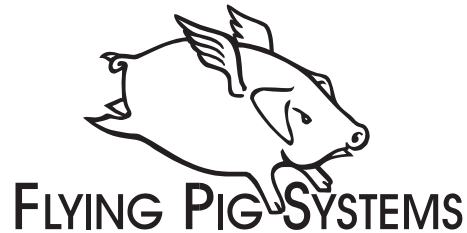


# ***Handbook***

**Version 4.0**

*Featuring the*



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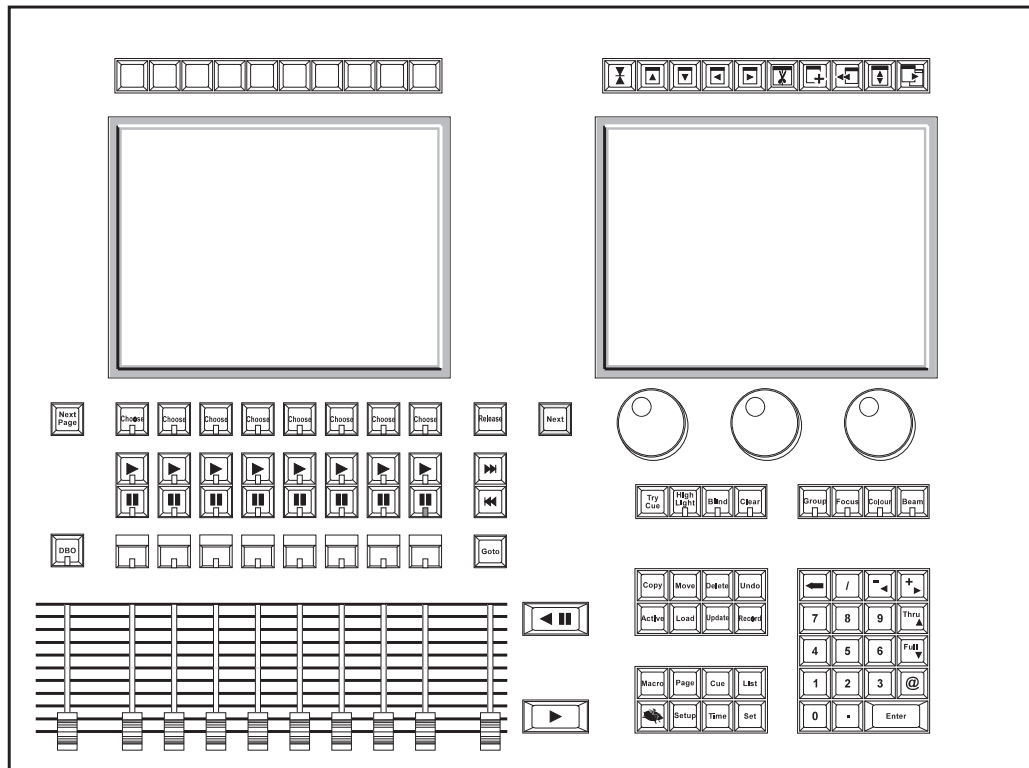
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# Welcome to the **WHOLEHOG II**®



## Introduction

Development of the WHOLEHOG II was driven by the convergence of three formerly separate segments of the lighting world: touring, theatre, and television. As moving lights gain increasing acceptance in the theatre and television communities, designers are finding traditional consoles unsuitable for programming this new technology. At the same time, tours are employing ever-increasing numbers of fixtures—usually a theatrical indulgence—and finding their sheer numbers cumbersome to program with existing touring consoles. What's more, touring LD's now use these fixtures to design more complicated shows requiring the advanced functionality that theatre and television LD's rely on.

To address these issues, we've created a console flexible enough to handle the entire spectrum of lighting design—from complex theatrical shows to unstructured television or touring events. Yet, the WHOLEHOG II remains simple to operate. That's because it retains the original WHOLEHOG's speedy programming system in addition to the keypad access of theatrical and

television consoles. On top of this foundation we've added an array of sophisticated software features to automate mundane and time-consuming programming tasks.

The hardware is just as flexible. User-definable touchscreens can configure the console for any operating style. Plus, SMPTE, MIDI, and DMX In let the WHOLEHOG II connect with virtually any piece of auxiliary equipment.

---

## Operational Overview

### For Original WHOLEHOG Users

While many changes have been made between Hogs I and II, you'll find that the basic WHOLEHOG operating philosophy remains intact. Programming still revolves around the palettes (or presets), but large touch-sensitive LCD's now give access to many more of them at once. In addition, the keypad section is much more powerful, allowing nearly all programming to be accomplished with its buttons.

Cue storage has been completely overhauled with the WHOLEHOG II: instead of storing every programmed parameter in every cue, now only the changes are recorded. This means that a look recorded in one cue will “track” through subsequent cues until explicitly changed again. In other words, the Hog II is a *tracking console*. However, some users may not like the playback implications normally associated with a tracking console; they can choose a non-tracking option from the cuelist options window.

### For Theatre Console Users

The Hog 2 has been designed to be similar in many ways to a traditional theatrical memory console. For example, cues are programmed in much like on a theatre console; the keypad gives access to dimmer levels, fade times, and cue numbers. Plus, the editing keys and programming operations are similar. Playback uses cuelists and multiple part cues, and timing can be split into in and out times.

However, in some respects the WHOLEHOG II is different:

- Multiple cuelists—one on each fader—can be executed at a time. Faders are not submasters; each has the capabilities of a normal theatre console's full playback. (In this manual, we use the term fader and Master interchangeably.) If there's a conflict between the same fixtures or parameters active on multiple cuelists, then priority is usually determined by Latest Takes Precedence (LTP).
- The *Programmer* is the part of the console used to set levels for cues. It accumulates all programming selections until **Record** is pressed. The Programmer overrides output from the cuelists unless **Blind** is pressed.
- An individual fixture is viewed as a fixture and not as a collection of channels. For example, a VL5™ is one fixture with 6 independently controllable parameters. It's not necessary to remember which DMX channels control which parameters; simply refer to pan, tilt, etc.
- Fixtures have meaningful parameter names and level settings, for instance “Blue” instead of 53%.



- Most parameters use LTP, but Intensity channels can operate in both Highest Takes Precedence (HTP) and LTP on different Masters at the same time.

### For Television Users

The WHOLEHOG II's versatility makes it ideal for television applications, where flexibility in unstructured situations is paramount. Up to eight independent cue lists can be run simultaneously on their own Masters, each one with its own active cues and timings. And with an Expansion Wing, 48 cuelists are possible. When working on sets, this allows each set to have its own cue list. Cue lists can be quickly copied from memory onto a fader, or all can be replaced—with crossfading—in one button press by changing the page. This makes it easy to access and reorder programming to cope with running order changes.

Powerful programming functions allow programming changes to be executed quickly; fixtures can be automatically updated in their cues and presets, and snapshots can be taken to combine the output of several cue lists. Plus, palettes, cues, and cue lists can be imported from old shows and incorporated into the current one.

### For Touring Dimmer Console Users

The WHOLEHOG II is a jump from the traditional touring console, but you'll soon find that accessing fixtures on the WHOLEHOG II is as quick as reaching for a fader. And you'll also quickly discover that it's much easier to program moving lights on a console that's been designed to do so from the start.

The differences are the same as for theatrical consoles, but also:

- There are no preset faders for direct access. Instead, use the keypad to select a fixture, and the Palettes or parameter wheels to grab the position, beam or colour parameter you want.
- You set fade times as you program cues. Each parameter in a cue can have its own fade time.
- Masters can control a full cuelist rather than an individual scene or simple chase.

---

## Using the Handbook

### Where to Start

There are a few different ways to approach this Handbook when learning the WHOLEHOG II. If you're a seasoned board operator—or just impatient—jump right to the *Quick Start* section after reading this chapter to create looks right away. Then use the *Index* to quickly find the information you need. There's also a *Frequently Asked Questions* chapter to assist you with responses to the most common questions/problems and a *Extended Key Chart* which summarizes certain function buttons.

For a thorough overview, begin with the *Getting Started* chapter, which shows how to prepare the console for programming. Continue with the following chapters that explain the basics of programming and playback.

## Terminology

The following terms are used on the WHOLEHOG II:

<b>Cue</b>	Tells one or more instruments to change settings for intensity, beam, colour, and/or focus using their delay and fade times. Theatre designers will recognize this term; WHOLEHOG users know this as a “scene,” while others may refer to this as a “memory” or a “look.”
<b>Cuelist</b>	Cues grouped in a specific order to run one after another, or even simultaneously. These may or may not be linked. A chase is one type of cuelist.
<b>Master</b>	The Fader, Go, Pause, Flash, and Choose buttons comprise a Master. One cuelist can run on a Master at a time. Cuelists are not permanently linked to a Master and can be moved to another Master or be stored in the Cuelist Directory without actually residing on a Master.
<b>Page</b>	A group of cuelists residing on the Masters. Pages can be changed, allowing the eight faders to be used for many cue lists. The number of faders can be expanded with the addition of the Expansion Wing.
<b>Parameter</b>	An attribute of a fixture. A PAR can have one attribute: intensity. Moving lights also have pan and tilt and usually several others such as colour and gobo.
<b>ICBF</b>	ICBF stands for Intensity, Colour, Beam, Focus, and is an easy way to keep track of the parameters for an instrument or a group of instruments. <b>Intensity</b> also known as level, or percentage. <b>Colour</b> the colour wheel, the gel string, and colour mixing. <b>Beam</b> the pattern and quality of the light; this includes such specifics as gobo, gobo rotation, sharp or soft edge, iris and diffusion. An <i>open</i> beam is full iris, no pattern, no diffusion, sharp edge. <b>Focus</b> also referred to as position. Indicates the <i>placement of the beam on stage</i> , as opposed to sharp or soft optical focus.
<b>Palette</b>	A stored parameter setting—such as a colour—for one or more fixtures. Fixtures of different types can share a palette. Changing a palette changes all the cues using that palette. A palette is also known as a preset.
<b>Timing</b>	The timing elements used by the Hog II are: <b>Fade Time</b> The time, in seconds or minutes, for a cue to execute a crossfade. <b>In Time</b> The fade time for instruments which are fading intensity <i>up</i> . <b>Out Time</b> The fade time for instruments which are fading intensity <i>down</i> . In time = out time, unless otherwise specified. <b>Delay</b> The time that the console waits before starting a cue’s crossfade. <b>Wait</b> The time a cue will wait to execute after <b>GO</b> is pressed.
<b>Path</b>	The type of crossfade used by a cue or fixture. Path is sometimes known as a dimmer curve or a profile.
<b>Warm Start</b>	When the desk is turned off and then turned back on using the rocker switch by the power input. This leaves the show in the desk.
<b>Cold Start</b>	When the desk is reset using the shielded blue button. This clears the memory completely and removes the show from the desk.

## Symbols and Text conventions used in this Handbook

Different fonts are used in this handbook to indicate different actions:

**This text** for buttons to press on the console.

**This text** for buttons or text appearing on the displays.



**Particularly important information will be shown on a black background with bell.**



**Useful WHOLEHOG II tips will be boxed like this.**

## Symbols on buttons

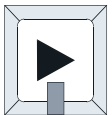
Several of the buttons on the WHOLEHOG II have symbols rather than words:



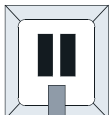
The Flying Pig is a shift key, used in conjunction with other buttons. It's known as **PIG** and is used like the Apple symbol on a Macintosh Computer. It must be held down while pressing another button.



The @ key means “at” and is used for patching and setting levels on the keypad.



The triangle pointing to the right is **Go**.



**Pause** is two bars.



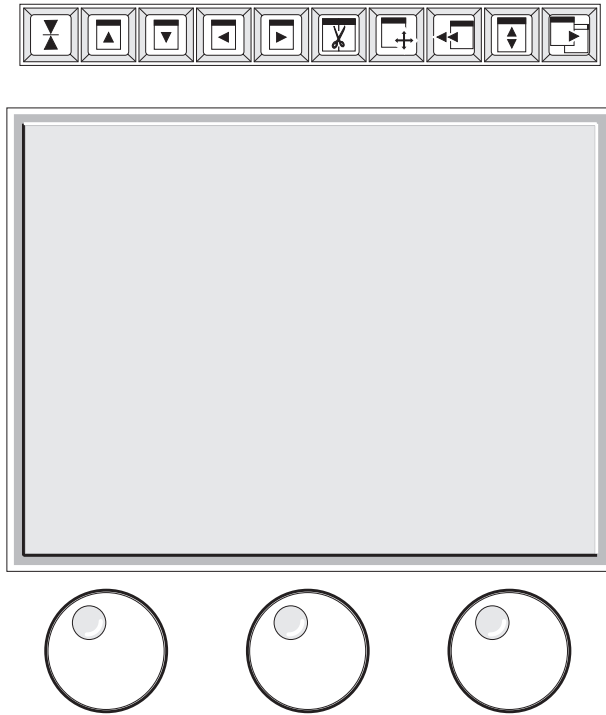
The double triangle to the right is **Skip Forward**.



The double triangle to the left is **Skip Back**.

---

## Using the Touch Screens



The touch screens are a critical part of operating the WHOLEHOG II system and merit special mention. Much of your programming will be accessed directly through the Liquid Crystal Display (LCD) touch screens, but they must be treated with care to ensure a long and healthy life.

A few words on touch screen maintenance:

- Don't touch them with sharp objects. However, if you want to press them with something besides your finger, a pencil eraser is OK and works fine.
- Keep them out of direct sunlight. Exposure to the sun will cause the screens to turn black, which will put them out of commission for several hours while they cool off. To avoid this problem, we advise keeping the console in the shade when working with the WHOLEHOG II outdoors. If the screens become unreadable, use a Microsoft compatible mouse and the external monitors to access displays.
- Beware that some mice also stop working in direct sunlight. Use a black mouse or keep it covered as well.
- The operating temperature range for the screens is 0 to 45 degrees Celsius (32 to 113 Fahrenheit.)
- The console will beep when you press on an LCD button correctly. It gives a different sounding beep if you miss the button. If you're pressing the button

correctly, but a different button is being activated, then the touch screens need recalibrating.

### Recalibrating the Touchscreens

Calibration settings are stored on the console, so normally this is nothing to worry about. To recalibrate, either hit **Backspace** during start up or press **Recalib Touch** in the Control Panel menu. Then touch the upper left corner and the lower right corner of each touch screen. Press **Enter** when finished.

### Setting Contrast

Before starting, you'll also want to set the contrast of the screens, in order to get the best view. To do this, hold down the **Setup** key and rotate the right parameter wheel to adjust the right screen, and the center parameter wheel to adjust the left screen.

### Disabling a Touchscreen







Should a touchscreen ever cease working properly, it may be desirable to turn it off. To do so:

- 1** Move the mouse pointer onto the touchscreen display.
- 2** Simultaneously press **Setup** and a right mouse button click to turn the touchscreen on or off.

---

## Safety Information

Please keep in mind the following safety instructions:

-  ***Do not use the WHOLEHOG if the power cord is damaged or not properly connected to a grounded socket.***
-  ***Protect the system from extremes in temperature and wet weather. Operating temperature range for the console is 0 to 45 degrees Celsius (32 to 113 F).***
-  ***Keep drinks away from the console. More than one console has been destroyed by having a drink knocked into it.***
-  ***Always handle the system with care and use a flight case when moving. Certain components are sensitive to shock and a drop could break them.***
-  ***Only people with electrical expertise should open the front panel. There are exposed power items inside which can shock.***
-  ***An authorized service representative should only undertake repairs. The warranty is void otherwise.***



**Use a soft cloth to clean the console and touch panel from time to time. Don't use cleansers or solvents, as they could take off the paint.**

As long as these instructions are followed, and the system is treated with care, the WHOLEHOG II should last for many years.

---

## Problem Solving

If you're having trouble with the WHOLEHOG II, there are several places to look for answers. If you have a specific question regarding a function or a feature, use the *Table of Contents* or the *Index* to find information on it. If you're not sure where to look, or the console just seems to be acting strangely, look through the *Frequently Asked Questions* section for a problem which matches your own.

### Crashes

As with any software product, crashes do happen on occasion, so while we do everything possible to make sure that they happen rarely, we can't guarantee that they won't happen at all. Please help us eliminate any problems by reporting them back to us.

There are two types of crashes: fatal errors and program faults.

- When a fatal error occurs, the right LCD will say **I'm sorry I've croaked**. Please write down the entire message and what you were doing at the time, such as: "1. Trying to edit a cue list. 2. The cue list was on a template page."
- If you get a program fault, a bunch of information will appear on the display screen. The top line will start with **Fault at** and the second line will say **Trace** with several numbers following. Please write down all of the numbers on the **Trace** line and send them to us along with a description of what you were doing just prior to the crash.

If you've had a crash, reset the console by pressing the blue Reset button on the back of the console (also called a cold start). Do not merely cycle the power; this will not clear corrupted software out of the console's memory. Because your show may have been corrupted by the crash, you'll need to load your most recent backup from disk. This is why it's important to back up to disk *frequently*.

If you have time, try to reproduce the problem by repeating your actions. If you can send us a description of how to repeat the problem reliably, then we are much more likely to be able to solve it rapidly.

### Bugs

A bug makes the console behaves strangely but does not crash. For example, you might find that a function button does not work properly in certain circumstances, but works fine otherwise. This is a bug. If you find bugs in the software, please let us know; the only way we can fix them is if our users tell us about them.

## Reporting Crashes and Bugs

The more information you can give us about the problem, the faster we can sort it out. Please use the following format to report bugs:

<b>Reported By:</b>	Your name.
<b>Your reference:</b>	If you report more than one, please number them.
<b>Software version:</b>	You can find the number in the Control Panel title bar, or the on start up screen.
<b>Build number:</b>	Also found on the Control Panel.
<b>Date:</b>	
<b>Is the Bug repeatable:</b>	Can you reliably reproduce the problem?
<b>Description:</b>	The steps from reset needed to reliably reproduce the problem, or failing that, what you were doing to make the problem happen.

Please fax the bugs reports to +44 (20) 8579 8469 or preferably e-mail them to [support@flyingpig.com](mailto:support@flyingpig.com).

---

## Software Updates

We constantly update the WHOLEHOG II software with new features and enhancements through the Internet. In addition, revised fixture libraries are released as we generate personalities for new instruments.

It's worth checking the Flying Pig web site ([www.flyingpig.com](http://www.flyingpig.com)) periodically to see if there's a more recent version than the one loaded on your console. Software versions come in two types: Beta release and Full release. Beta releases are test versions which are not meant for use on real shows. Once Beta releases are tested and proven reliable, they become Full releases.



***It's a good idea to make a backup copy of the show before upgrading it.***

Software is distributed on floppy disks. Files downloaded from the Internet are compressed using WinZip software.

To ensure that you can take advantage of updates, please complete and return to FPS the registration card that was shipped with your WHOLEHOG II. If you include your e-mail address, we'll notify you when new versions are released.

The URL for Flying Pig Systems is [www.flyingpig.com](http://www.flyingpig.com). Once you've reached the site, download new software by going to the WHOLEHOG II technical page.

Loading an upgrade is simple:

- 1** Insert the new disk into the disk drive.
- 2** Press the blue Reset button on the back panel of the console, while holding down the **Enter** key on the keypad.

- 3** When the menu appears on the touchscreen, press **3**, **Load New Software**.


### **Build Numbers**

Software versions are referred to by build numbers. This is the only way to determine exactly what version of software you're running, since a version can have multiple build numbers. Look at the top of the Control Panel to find the build number.

---

## **Getting Additional Help**

If you have questions or need help, contact your local dealer. They're trained to give you the support you need.

 ***Another good resource is the Light Network—a discussion forum for lighting professionals. There's a dedicated Flying Pig Systems forum here monitored by FPS support personnel: [www.lightnetwork.com](http://www.lightnetwork.com).***

Contact us directly at either the Flying Pig office in London or High End Systems in the US:

**E-mail**      support@flyingpig.com

**England:**   +44 (20) 8579 5665

**America:**    +1 (800) 890 8989



*This chapter gives a quick overview of how the WHOLEHOG II operates. Here you'll find what's minimally required to setup the console, program a cue, and play it back. This chapter is deliberately brief; for a complete explanation of how the console works, start with the next chapter.*

---

## Setup

### Set Up the Console

- 1** Connect the keyboard, mouse, trackball, or monitors to the appropriately marked ports on the back panel. DMX leads should be plugged into the ports marked 1 through 4.
- 2** Plug in the power lead and turn the power switch on.
- 3** If the startup screens says **No show in memory**, press **New Show**.
- 4** Open the Control Panel where you tell the console which items are attached to it: Press the **Setup** button, then press **Control Panel**.
- 5** Once there, select the external items (keyboard, mouse, monitors) you connected to the WHOLEHOG II.
- 6** Close the window.

### Select Fixture Types to Use

- 1** Open the Patch window by pressing the **Setup** button, then **Patch** on the toolbar.
- 2** Press **Add Fixtures** to see the list of available fixture types.

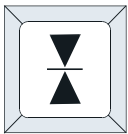
- 3 Select a type like Desk Channels by pressing its button on the touch screen. Or use the cursor keys on the keypad (they share keys with -, +, **Thru** and **Full**) or the **Page Up** and **Page Down** buttons to move the selection box up and down the buttons.
- 4 Press **Set** and use the keypad to type the new quantity (such as 24) into the edit box that appears.
- 5 Press **Enter**.
- 6 Repeat for each fixture type you are using. (In the remainder of this section we'll assume that some moving lights were selected.)
- 7 Press **Okay** to return to the Patch window.

### Patch the Fixtures

- 1 Press **Group** to toggle through a list of the fixtures you selected for use.
- 2 Press the output to patch to. It will turn grey.
- 3 Choose an address for the desk channels; typing **1 Thru 24 @ 1 Enter** patches units 1 through 24 starting at DMX address 1.

### Create Palettes

The Auto Menu function sets up standard palettes for the fixtures you've chosen.



- 1 Press **Auto Menus** on the top patch toolbar followed by **Generate Menus** and the Hog II will create them automatically.
- 2 Press the **Close** button (shown to the left) to close the Patch window.
- 3 Press the **Palettes** button located on the top left corner of the left touchscreen to view the resulting palettes.

---

## Program a Cue

### Select Fixtures

- 1 Select a group by pressing a button in the *Group window*. Or select individual fixtures by typing them in on the keypad. Select a different type by pressing **Group** and then touching it on the toolbar.

### Set Intensity

- 1 Press **@ Full**. This brings the selected fixtures up to 100% intensity.

If you don't want your instruments at full, enter a different percentage on the keypad instead: press **@65 Enter** to program 65% intensity. When choosing a level other than full, you must press **Enter** after your selection.

### Set Focus (Position)

If you've selected moving lights, go ahead and aim the fixtures.

- 1 Type **1 Enter** to select the first fixture in your group.
- 2 Aim the lights—pan and tilt—by moving the center and right parameter wheels.
- 3 To select the second fixture, press **Next**.

### Colour

- 1 Select all fixtures, so that the colour selection applies to them all. Pressing **Select** and then **All** on the toolbar is a quick way to do this.
- 2 Select a colour palette from the Colour Window by pressing it. The lightly colored palettes cannot be used by the group you are working with. Alternatively, press **Colour** and select a colour with the parameter wheel.

### Beam

Beam parameters are changed just like colour ones.

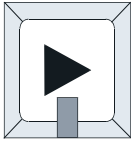
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## Record the Cue

Once a look has been created in the programmer it's easy to record it as a cue. To record cue 1 on the first Playback Master:

- 1** Press **Record**.
- 2** Press the **Choose** button above Playback Master 1.

If you're not going to record any more cues, press **Clear** to empty the contents and prevent it from overriding playback. Alternatively, temporarily hide the programmer contents by pressing **Blind** instead.



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## Playback the Cue

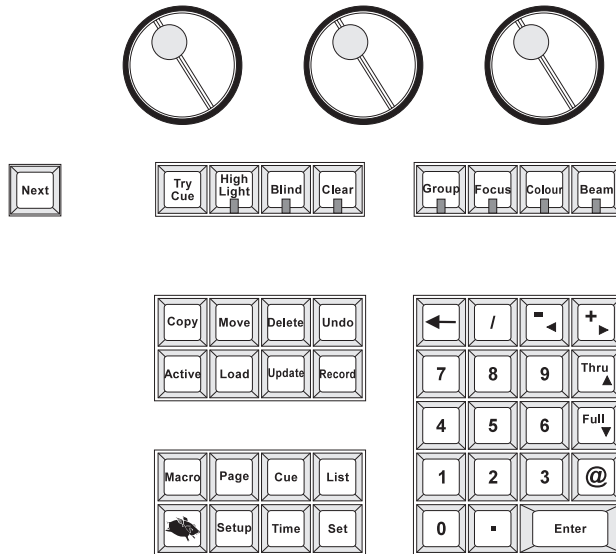
Press the **GO** button (shown to the left) above Playback Master 1. The **Pause** button below it stops playback. To turn off a cue list, first press fader 1's **Choose** button to select it and then **Release**.

# Finding Your Way Around

*This chapter gives an overview of the console's three main sections—the Programmer, the Playback Masters, and the displays—as well as the external items which connect to the console.*

---

## Programmer



The programmer is where you:

- Select fixtures to patch and enter their addresses.
- Select fixtures for programming using the numeric keypad or group buttons.
- Adjust levels using the parameter wheels or palette buttons to create looks on stage, or to record into your own palettes.
- Adjust timing to turn your look into a multipart cue.
- Record cues into cuelists.
- Copy, move, merge, delete, or update cues.
- Park and test DMX channels.

At the top of the programmer are three Parameter Wheels, which control all of a fixture's parameters. They can be used to change pan and tilt values, mix colours, or change gobo settings. The parameter wheel bar at the bottom of the right screen shows what each wheel controls:

Intensity Full	Pan Downstage	Tilt Downstage
----------------	---------------	----------------

The area immediately above each wheel on the screen indicates what parameter the wheel controls and its current value. The four buttons below the wheels—**Group**, **Focus**, **Colour**, and **Beam**—change the type of parameters that the wheels control. Groups and palettes can be accessed instantly by typing a number after pressing one of these buttons (e.g., **Group 6 Enter**).

Also located at the bottom of the right touch screen is the *command line*, which lists the most recent key presses and is a convenient way to keep track of programming selections. Before pressing **Enter**, you can backspace through the command line with the back arrow key to change selections.

Numerous windows are used in conjunction with the programmer, such as:

- Palette menus
- Group menus
- Time editor
- Effects Engine

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## Toolbars

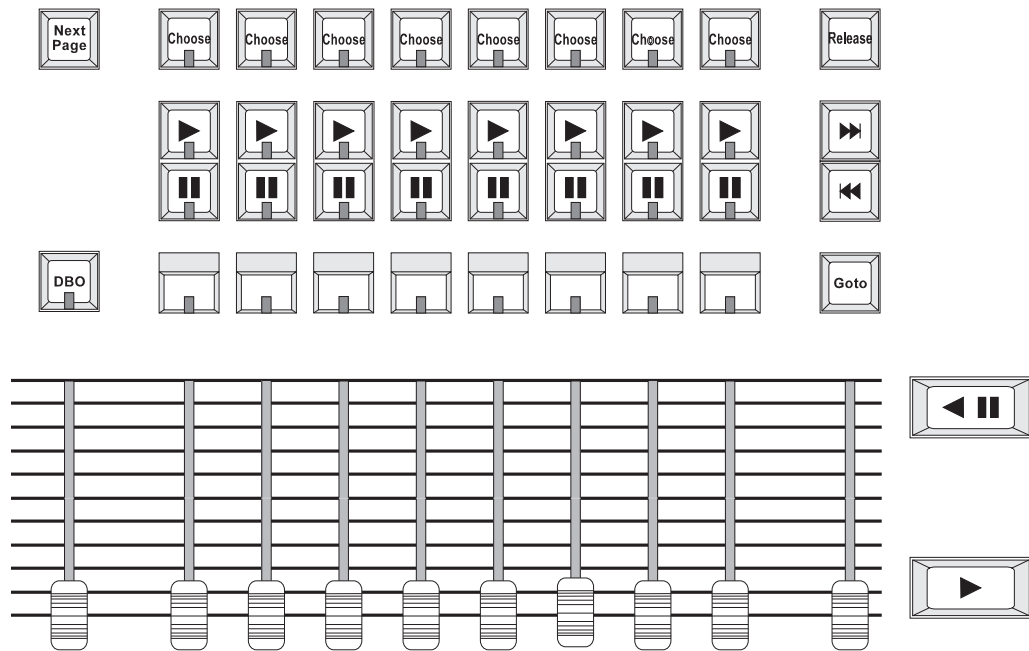
At the bottom of the right display is a long, rectangular window known as the *Toolbar*. It has 10 buttons which work just like regular keys on the console; however, the functions change depending on what's happening. For example, when recording a cue the toolbar will display all of the recording options. The default tool bar looks like this:

Select...	Grouping	Effects	Knock Out	Rem Dim	Park	Flip	Out	+10	-10
-----------	----------	---------	-----------	---------	------	------	-----	-----	-----

Other toolbars appear from time to time depending on what's happening. A Fixture Selection toolbar shows fixtures selected for use on the console. A Recording Options toolbar appears in the middle of recording cues. These and other toolbars are described in the appropriate sections of this Handbook.

---

## Playback Masters



The Playback section consists of:

- Eight Masters: the fader and the bottom button, **Flash**, control the intensity levels. The two middle buttons, **Go** and **Pause**, control cue list activity. The top button, **Choose**, selects the Master for editing purposes, and to links it to the Central controls. The blue LED will light when the Master is *selected*.
- Central controls: the large **Go** and **Pause** buttons function the same way as those immediately above the fader; **Release** removes the master's look from the stage; **Skip Up**, **Skip Down**, move up and down the cues in a cuelist without using the times; **Goto** followed by a cue number starts executing the cuelist from that point; the manual crossfader fades between cues designated as manual.
- Grand Master: the fader and **DBO** have overall control of intensity levels.

While programming it's possible to record a cue on any of the eight playback masters on the console. By default, the programmer records cues to the selected master.

### Cuelist Directory and Pages

Up to eight different cue lists can be active simultaneously and be independently controlled by their own playback masters. However, cue lists are not permanently attached to playback masters; they can be moved or replaced by different cuelists. Every cue list is visible in the Cuelist Directory window, from where they can be moved onto any master. A *Page* remembers which cuelist is assigned to which master; by changing page, you can instantly move different cuelists onto your eight masters.

---

## Windows and Displays

Countless window and displays present detailed information on fixtures, cues, and cuelists as well as control options. They work much like windows you'd find on a Macintosh or PC and can be resized and moved around to suit your needs. Unlike most computers, the WHOLEHOG II has four separate displays—two touch-sensitive screens built into the console and two optional external monitors. Any window can be moved to any of the four displays and be resized to allow up to four different windows on a display at one time.

Windows are used to access and view almost everything on the console, including:

### **Programming**

Type Selection  
Group  
Position  
Colour  
Beam  
Timing  
Effects Engine/Library

### **Setup**

Patch  
Control Panel  
Change Shows

### **Playback**

Cue List  
Cue List Options  
Cue List Directory  
Pages  
Input Controls  
Timecode Controls

### **Feedback**

Programmer Contents  
Stage Output  
Cue List Contents  
Intensity Levels

## **How to Open Windows**

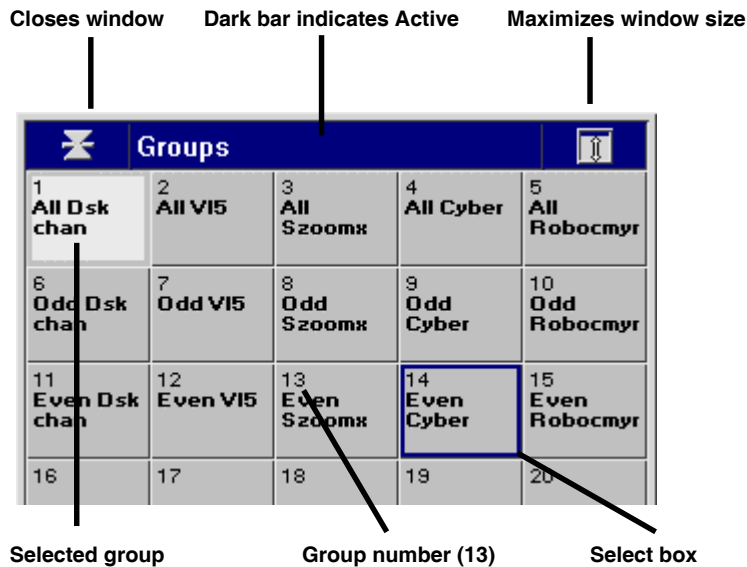
Windows are opened either by pressing a button on the touch screen or by holding down the **PIG** while pressing the relevant function. For example, **PIG** plus **Group** opens the group window.

Once a window is opened, it remains so until shut. Any number of windows can be open at the same time; however some may get buried behind other windows where they can't be seen. To see them again, press the function button (such as **Focus**) again.

## **How to make a Window Active**

When a new window is opened, it becomes the *active* window, indicated by a dark bar along the top. The active window is the one that can be controlled by commands from the keypad. To make a different window active, simply touch any item within it. If you touch only the bar at the top of the window, it will become active without selecting anything. Or, you can press the corresponding function button (such as **Group**) again.



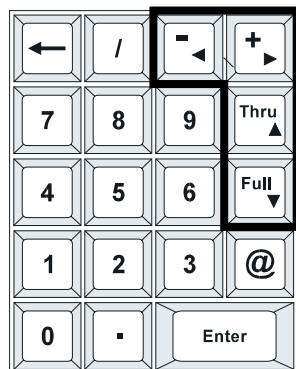


### How to Select Items inside a Window

To select a button on one of the built-in console displays, press it with your finger. The window becomes the active window.

Once a window is active, use the arrows on the keypad (located on the **-**, **+**, **Thru**, and **Full** keys) to move the *Select Box* around within a window. The *Select Box* is a black rectangle that surrounds the item that can be currently chosen with the keypad. Depending on the window, either **Set** or **Enter** selects the item for use or modification.

**⚠ If the command line has something in it, the cursor keys will not work—they will give **-**, **+**, **Thru**, and **Full** instead. Press Clear to empty the command line and try again.**



- Moves left
- +** Moves right
- Thru** moves up
- Full** moves down

## How to Select Items on the External Monitors

To select something on an external monitor, you'll need to use the keypad or a mouse.

Clicking the right mouse button moves the mouse cursor from window to window. The left mouse button selects items on the screens.



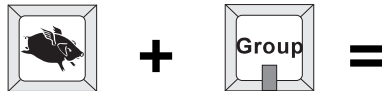
The Window Select button goes through the displays and makes the top window active on each, starting with external display number 1. Press **PIG** along with this button to activate every window on a single display in turn.

---


## Setting Up Views

Because windows are central to Hog II operation, it's worth taking a minute to set up views that give quick access to programming tools and feedback displays. On startup, the consoles displays a variety of default views to use as a starting point. However, experienced operators will often spend a significant amount of time optimizing their views before programming.

To open a window, press and hold the **PIG** and then press the function button for which you'd like to see a display. For example, to see the Group window, press and hold the **PIG** and press **Group** while still holding the **PIG** button down.



A display like this should now appear on the right LCD:

 Groups 				
1 All Dsk chan	2 All VI5	3 All Szoomx	4 All Cyber	5 All Robocmyr
6 Odd Dsk chan	7 Odd VI5	8 Odd Szoomx	9 Odd Cyber	10 Odd Robocmyr
11 Even Dsk chan	12 Even VI5	13 Even Szoomx	14 Even Cyber	15 Even Robocmyr

If the window is empty (no groups are shown), you probably forgot to press **Auto Menus** while patching.

Open up some other windows for programming: Focus, Colour, and Beam. These windows are opened the same way as the Group window: press **Pig** plus the function button. Arrange the windows so they're positioned the way you want to see them.

Pressing a view button adds the windows held in the view to the windows onscreen. Pressing a view button while holding **Pig** replaces the windows currently onscreen with the windows stored in the view. The depth order of the windows is now stored in the view, and windows are recalled in that order.

There are options in the control panel window that can be used to alter how views are stored and recalled. **Save Visible** means that when a desktop view is saved, only the visible windows are stored. If the **Recall Visible** option is set and a desktop view is recalled, any windows which are not visible are closed.

### Moving or Resizing Windows

The windows may be moved or resized using the Window Control buttons above the right touchscreen. These buttons are duplicated in the function buttons F1 through F10 at the top of an external keyboard.

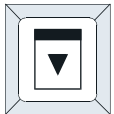
To move or arrange a window, make sure it's active (indicated by a dark bar at the top of the window.) If it's not active, touch its top bar. Then choose one of the following:



To **Close** the window

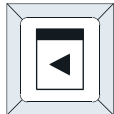


**Page Up**, or hold **PIG** to scroll up by one line

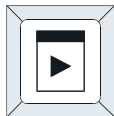


**Page Down**, or hold **PIG** to scroll down by one line

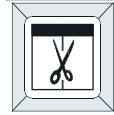
It's also possible to scroll through a window by holding down the **Setup** and turning the left parameter wheel.



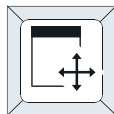
**Page Left**



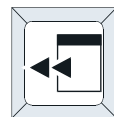
**Page Right**



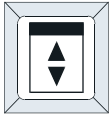
**Split** the active window into two parts. This is helpful for looking at two different parts of the same window at the same time or for locking one half of a window onto a particular cuelist.



**Toggle** the window through one of 9 possible sizes and positions within the display screen.



**Shuffle** the window over to the next display screen. They will move in this order: right touch screen display, left touch screen display, external monitor 1, external monitor 2.



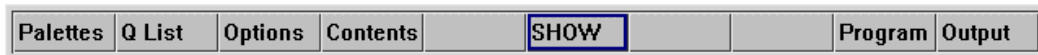
**Maximize** the window size temporarily, or return it to its previous size.

### Saving a View

When you like the arrangement you've set up using the window buttons, save this view on one of the View buttons at the top of the left LCD.


- 1** Press the **Setup** button on the console.
- 2** Press **Save View** on the menu that appears. The View buttons will turn dark.
- 3** Select the View button to save your look on.
- 4** Press **Set**. Enter a name such as "SHOW."

The view buttons will now look like this:



Any time you need access this new view, just touch **SHOW**.

Keep in mind that window options—such as **Track Current** in the Cuelist window and Fixture Type selections in the Output window—will be stored along with the view. This way the window looks identical the next time it's opened.

 ***Before setting up more views, remember to close the previous view's windows, otherwise they will also be recorded in the new view—even if hidden behind another window.***

### Deleting a View

Just record a new view over the top of the old one, and then rename it.

---

## Accessories

The following optional items expand the capabilities of the WHOLEHOG II:

### Monitors

Two additional displays (standard PC monitors up to 1024x768 resolution) can be connected to increase the viewing area to four displays total. This gives more space to expand custom views of cue lists, output, etc.

**Mouse/Trackball**

A port is available for connecting a mouse or a trackball, making it possible to select items on the external display monitors. Also, a mouse or trackball can be used as an alternative for setting pan and tilt values on moving lights.

**Keyboard**

A keyboard can be connected to the WHOLEHOG II to replace the touchscreen keyboard which appears when naming; a real keyboard may be faster to use than the touch screen version.

**Expansion Wing**

The Expansion Wing has an additional 16 playback Masters for users requiring more than 8. It also features 18 faderless masters which operate just like regular Masters, but without fader control.

**Remote**

The Remote is a hand-held device—complete with trackball—that allows updating of focus positions and basic programming.

**Overdrive Box**

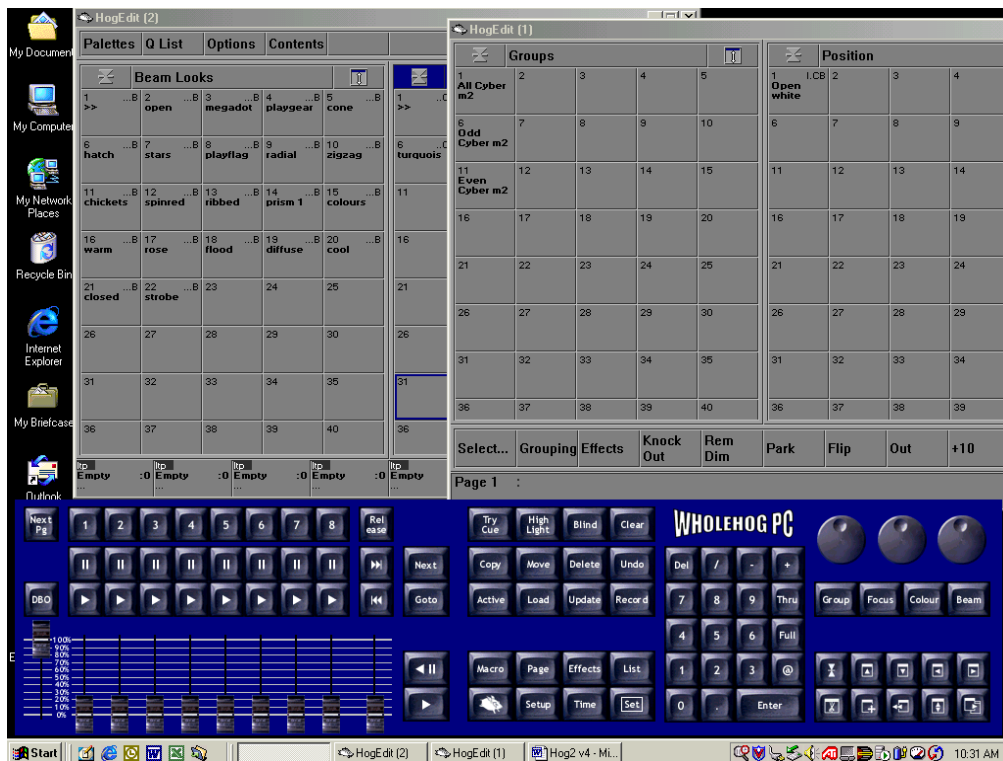
For exceptionally large rigs, the number of channels supported by the Hog2 can be increased to 3,584 channels using Overdrives Boxes.

**Hog Unit**

The Hog Unit is simply the brains of the Wholehog put in a rack mount case. It has no faders or touchscreens, but does have all the functionality of a regular console—plus a 24 hour and astronomical clock. Program your show on a regular console and then leave behind a Hog Unit for playback.

**Hog PC**

The Hog PC software includes a full version of the Wholehog II operating system and a virtual console front panel. The software runs on a Windows PC and allows unlimited editing and creation of shows. Attaching one or more USB interfaces allows Hog PC to output DMX information and function as a lighting controller. Download the software at [www.flyingpig.com](http://www.flyingpig.com).



# Getting Started

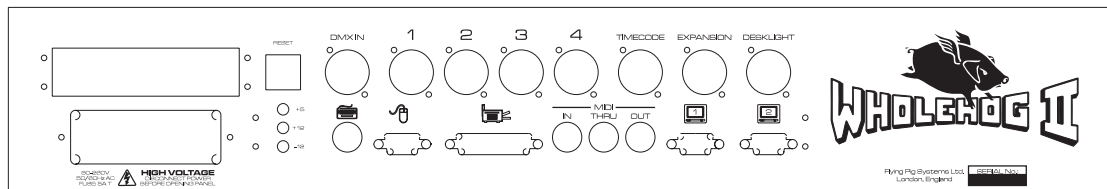
*This chapter covers preparing the console for programming. In general, it only takes four steps:*

- 1** Connect together the accessories, cables, and console.
- 2** Select the fixture types to use.
- 3** Patch them.
- 4** Set up window views (optional).


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## Set Up the Console

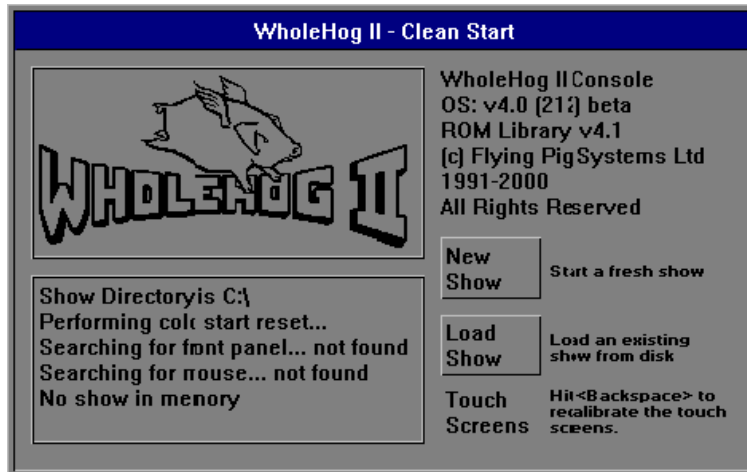
First, connect the keyboard, mouse, trackball, and monitors to the appropriately marked connectors on the back panel. DMX leads should be plugged into the ports marked 1 through 4. These four ports are referred to as the DMX outputs—four outputs times 512 channels equals 2,048 control channels for the console. An additional 1536 channels are possible by using the Overdrive boxes.



Plug in the power lead, making sure the lead is properly grounded and sharing the same ground as the fixtures.

 **As with any DMX system, the console and the fixtures, or the console and an optically isolated buffer box must share the same ground (i.e., be run off the same power), otherwise signal corruption can occur.**

Now turn the power switch on. If there's a show resident in memory, the console is ready for instant use. The start up screen will say **Show loaded**.



If there is no show in memory (which may happen if the battery has become drained), the start up screen will say **No show in memory**, and the **New Show** and **Load Show** buttons. Press **New Show** to create a show from scratch.

### Calibrating and Setting Contrast

Whenever you load a show, the console gives the option to recalibrate the touch screens. Generally, this won't be necessary. However, if the screen buttons don't react properly when pressed, recalibrate the screens following the directions in the touch screen section in *Welcome to the Wholehog*.

If you can't see the screens well—or at all—you may need to adjust the contrast to achieve the best viewing angle. To adjust the contrast:

- 1** Hold down the **Setup** key.
- 2** Rotate the right parameter wheel to adjust the right screen, and the center wheel to adjust the left screen.

---

## Setup Accessories

Since the accessories are optional, you must let the console know which items are attached to it. This is done in the *Control Panel*. Access it by pressing **Setup** and then **Control Panel**.



Control Panel v3.1 [113] Beta									
Lock Edit	Lock All	Change PIN	Recalib Touch	Cuelist Defaults	Default Timing	Bus Devices	Test	Event Monitor	Debug Info
Live Programmer			Display 1:	None		Sensitivities %:			
Trackball does Pan/Tilt			Display 2:	None		Wheels:	100		
Use external keyboard			Backlight off after:	5m		Mouse:	200		
Top left buttons do views						Trackball:	100		
Front reselected windows			Keyboard:	English		Beep Sounds (0 is off)			
Page holdover if Active			Mem Left (kb):	4096		Good:	2		
Confirm overwrite			Full Cues Left:	16384		Bad:	1		
Edits Track Forward			AutoExec Macro:			Keep parameters separate:			
Guard Cuelists						I	F	C	B
Don't Store View			Use 'comment macro' syntax; omit the '>'			Test			
Recall Visible									
Save Visible									
Learn Macro Timing									

### External Displays

If you have attached external monitors to the console, you'll need to specify the display resolution for each in the appropriate box. Select a box and press **Set** to view the list of supported resolutions (640x480, 600x800, and 1024x768).



***It's important to set the monitor resolution correctly. Some monitors will be damaged if they receive the wrong resolution.***

### Mouse/Trackball

Make sure that the mouse or trackball is connected before turning on power to the console. If you also want to control pan and tilt with it, then press the **Trackball does Pan/Tilt** button so that it turns dark gray.

### Keyboard

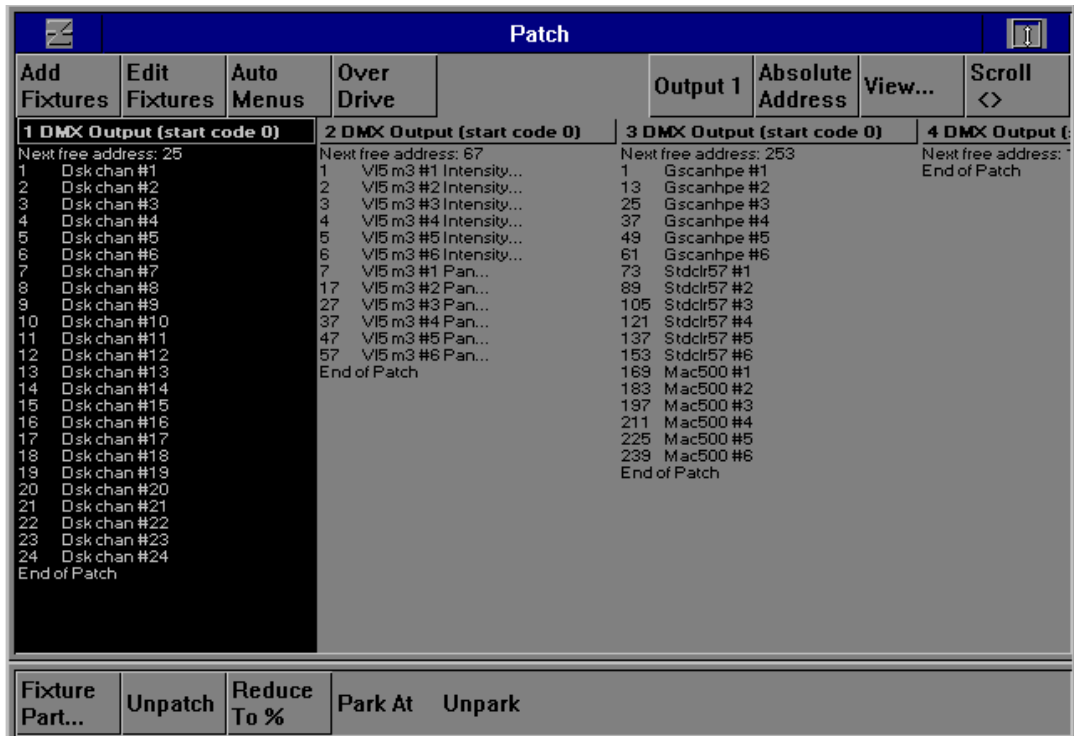
If you're using an external keyboard with your WHOLEHOG II, be sure to press **Use external keyboard** and also to select the proper country setting. Press the keyboard box and then **Set** to enable the cursor keys to scroll to the correct country.

The remaining control panel functions are not essential to getting started, and are covered in the *Customization* chapter.

---

## Fixture Selection and Patching

Open the Patch window by pressing the **Setup** button and then **Patch** on the toolbar. Once this is done, you'll notice that the toolbar has also changed to show patch functions.



### Adding Fixtures to the Schedule

Once you've opened the Patch window, first tell the console how many fixtures of each type you'll be using:

- 1 Press **Add Fixtures** to see a list of the fixture types available. This opens the Change Schedule window.


Change Schedule		
<div> <div>Okay</div> <div>Cancel</div> </div>		
Manufacturer		Fixture Type
Generic	0	Cmy fader
Clay Paky	0	Cmy fader dim
High End	24	Desk channel
Varilite	0	Non dimmable
Cameleon	0	Scroller
Morpheus	0	Scroller dimmer
Martin	0	Strobe dimmer
Coemar		
Optikinetics		
Summa		
Obies		

- 2 Select a type by pressing it on the touch screen. Use the cursor keys on the keypad (they share keys with **-**, **+**, **Thru** and **Full**) or the **Page Up** and **Page Down** buttons to move around the window.
- 3 Press **Set** to change the number of fixtures to be used from 0. Use the keypad to type in the new quantity in the edit box that appears.
- 4 Press **Enter**.
- 5 Repeat for each fixture type to be used.
- 6 Press **Okay** to return to the Patch window.

The fixtures listed in the schedule are all contained in the *Fixture Library*, which has personalities for most major multiparameter fixtures. If you aren't able to find the fixture type you need, see the *Fixture Library Appendix* for information on how to add it.

The examples in this Handbook use the following fixture schedule. You may want to set up your own console this way and follow along.

24 Desk Channels for conventional instruments  
 6 Vari-Lite® VLS™  
 6 High End Studio Color  
 6 Martin MAC 500

 **Desk Channel is the term we use for a single parameter fixture controlling intensity. It can be patched to one or more DMX addresses. It's important to understand that a Desk Channel is not the same thing as a DMX address.**

## Patch Fixtures

Now that you've chosen the fixtures to use, you can patch them. When you're done, the patch window will look like the one shown at the start of this section.

First select the instrument types to patch. Note, this is how you would select fixtures at any time, not just to patch. Patching instruments is a three-stage process:

- 1** Change to the correct type of fixture.  
Press **Group** and press the appropriate fixture button on the toolbar.



- 2** Type **1 Thru 24** to select the 24 desk channels.
- 3** Type **@ 1 Enter** to patch the 24 desk channels consecutively from channels 1 through 24 on DMX output 1.

While the Patch window is open, the **@** key means “patch at address,” rather than the normal “set at intensity.”

 **Keep an eye on the command line to keep track of what you're patching.**

## Patching Multiple Times

Fixtures Can also be patched to multiple locations. For example, typing **11 @ 200 Enter** will patch desk channel 11 to DMX channel 200 of the current output, in addition to its first patch location. Or, **2 @ 301 @ 305 Enter** will patch desk channel 2 to addresses 301 and 305.

## Patching To A Different Output

Any fixture can be patched anywhere on the four outputs. Every time you use the **@** key, it will patch onto the *current output*, indicated by a dark background. To change the current output, press the output on which you'd like to patch. (Unless you're in the *Fixtures* view, in which case you must press the **Output** button.)

If you can't see all of your outputs on the screen, use **Scroll <>** to move back and forth.

### Patching Split Fixtures like VL5s

Let's proceed by patching the VL5's onto the next DMX output (number 2). Simply press the output to select it as the new current output. The background colour on the output will turn dark gray to confirm the change.

VL5s differ from most other fixtures in that they must be patched twice: once for intensity and once for the other parameters. Press **Fixture Part** to toggle between the two. The command line on the display will let you know exactly which part is being patched.

To patch the VL5s:

- 1** Press **Group**, and then press **VL5** on the touch screen.
- 2** Type **1 thru 6 @ 1 Enter** on the keypad. This patches the VL5 intensities to channels 1 through 6.
- 3** Press **Fixture Part** to select the other parameters for patching.
- 4** Type **1 thru 6 @ 7 Enter** on the keypad to patch the rest of the parameters.


This automatically patches all remaining VL5 parameters in the correct order for all 6 fixtures. It is not necessary to patch them individually.

Now patch the rest of the fixtures on output 3:

Patch the Golden Scans @ 1.

Patch the Studio Colors @ 73.

Patch the MAC 500s @ 169.

 **Look at the Next free address line at the top of each output's patch to see which address to patch your next fixture at.**

### Clearing Fixtures from the Patch

To eliminate fixtures from the patch:

- 1** Select the fixtures—just as if you were going to patch them.
- 2** Select the output you want to clear them from.
- 3** Press **Unpatch**. This will remove the chosen fixtures from the selected output.

To clear an entire output, press **Unpatch** while no fixtures are selected (i.e., after you've pressed **Clear**).

To clear only one patch location for a fixture patched to multiple DMX addresses, enter the fixture number followed by @ and the location to unpatch: e.g., **1 @ 25** will unpatch fixture 1 from address 25.

### Auto Menus

It's a good idea to use the Auto Menu function to set up standard palettes for the fixtures to be used. While these palettes may not cover every need, they'll provide a good base to start with. Just press **Auto Menus** on the patch toolbar followed by **Generate Menus** and the Hog 2 will generate them automatically.

It's best to do this only once, after you've set up your schedule with all the fixtures you're likely to use.

---

## Saving and Loading Shows

To avoid any potential loss of programming, save your show periodically and at the completion of every programming session. Shows should be saved on 3.5 inch 1.4 MB HD floppy disks just like those used with a PC. Disks can be formatted in the Change Show window.



**IMPORTANT: Always back up your shows to floppy disk. Do so frequently while programming and always after completing a programming session. Also, we recommend having several sets of backup disks and alternately saving to each one.**

### Saving shows

To save to floppy disk:

- 1** Press **Setup** on the desk.
- 2** Insert a disk into the drive. If it hasn't been formatted yet, the console will do so automatically.
- 3** Press **Save Show**.
- 4** Press **Okay** in confirmation window.

### Battery-Backed RAM

The RAM in the console is battery-backed, so that if you lose power accidentally, your programming will be preserved. The battery will only last a few days when fully charged, so do not rely on it for storing your show. To fully charge the battery, leave the console on for a few days.

# Basic Programming

*This chapter covers the basics of programming. Once you've read it, you should be able to create and record cues.*

This chapter assumes that you have correctly set up the console as covered in the previous chapter.

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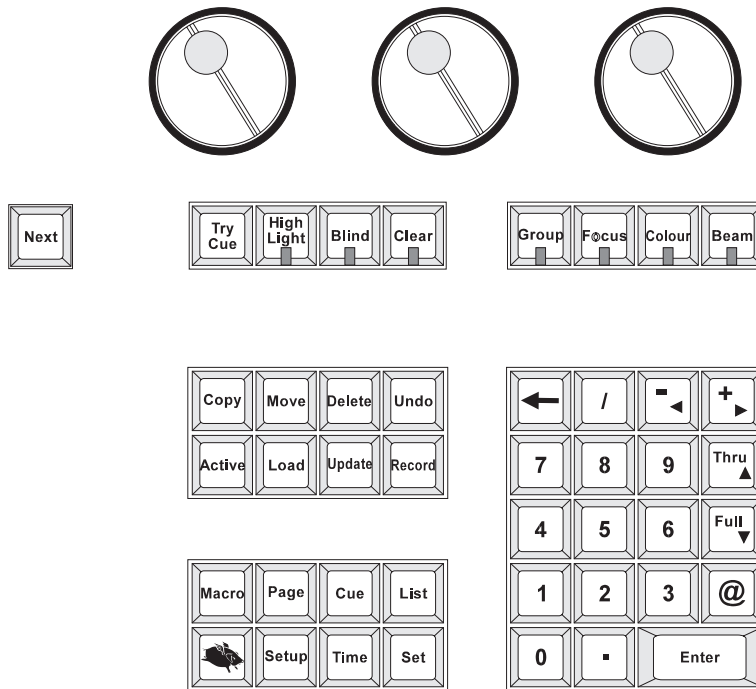
## A Note on Programming

Because the Wholehog II is so flexible, there are often several different ways to accomplish the same thing. Which approach is best for you will be determined by your programming style. Philosophically, the console is a programming tool which adapts to the way you work, and not the other way around.

Most experienced users spend a significant amount of time setting up the console before even programming a single cue. Windows and palettes are arranged to allow quick access; and fixtures are configured to respond appropriately. We suggest that you first learn the console and its options and then start to think about how to put together your show.

---

## Programmer Overview



The Programmer is where cues are created and manipulated. Here, fixtures are selected, levels are set, and commands are executed. Programming is a 3-step process:

- 1 Select** the fixtures or group to program.
- 2 Adjust** the parameter settings in one of 3 ways:
  - **Wheels**
  - **Keypad**
  - **Palettes** (On Displays)
- 3 Record** the cue using **Record** or **Update**.

It's important to remember that the programmer has priority over everything else on the board (with the exception of the Grand Master and the Dead Black Out button). This makes it easy to see what's happening as cues are created. Plus, it makes it possible to quickly grab a fixture during a show and override the playback masters.

---

## Selecting Fixtures

The first step in programming is always to select fixtures.

For example, to select all Desk Channels

- 1** Press the **Palettes** view button to access the main programming windows.
- 2** Press the Group menu button labeled **All desk chan.** It will turn white to indicate that it's selected. If you didn't select these fixtures during setup (previous chapter) and press **Auto Menus**, this group will not exist.

All desk channels are now selected.


Alternatively:

- 1** Type **Group 1 Enter** on the keypad. The Group window does not need to be open for this to work.

Or you can select fixtures individually:

- 1** Type in the numbers you want, e.g. **1 Thru 24**, or **1 Thru 5 + 9 - 3**, or **Group 1 - 13**



 ***You'll notice that after you selected the All Desk Channels group that some of the tiles in the Focus, Colour and Beam windows turned white. This indicates that those palettes are for other fixtures and can not be used with your current selection.***

To program VL5's instead, press the **Group** button to open the Fixture Selection toolbar. Toggle through the choices by pressing **Group** repeatedly or just touch a fixture type. You can also type in the *fixture type* number (determined by the order of the fixtures in the fixture selection toolbar) followed by a slash and the fixture number. For example, **1 / 5** would select Desk Channel 5 (fixture type 1 / fixture number 5.)

### Selecting different types at the same time

You can select different fixture types simultaneously. For example:

- 1** Press **Group**, Press **Desk channel**, type **1 Enter**
- 2** Press **Group**, Press **Cyberlight**, type **1 Enter**

This selects Desk Channel 1 and Cyberlight 1 together. You can also press the **All Desk Channels** and **All Cyberlights** group buttons. Recording different types into one group lets them all be selected with just one button push.

### Deselecting fixtures

If you are still selecting fixtures and haven't adjusted any parameters or pressed **Enter**, you can use the back arrow key to backspace over unwanted groups or fixtures.

Once you have made adjustments:

- Hit **Backspace** to cancel the latest adjustments
- Remove fixtures by selecting them and pressing **Knockout**.
- Deselect Groups by

- 1** Press **PIG** and hold it down.
- 2** Press the group button to deselect

Finally, you can also press **Clear**, but this will also erase any programming you did on previous selections.

### The Keypad functions

The keypad selects fixtures, groups, palettes, and times.

On the keypad, you'll find the following keys in addition to the numbers:

- +** Selects more than one item: **Group 8 + Group 12.**
- Thru** Selects a series of items: **Studio 6 thru 15.**



Backspaces through the previous item on the command line, which shows the most recent selection you have made in the programmer. Selections become deleted as you backspace through them. We call this key **Backspace**.

**Full** Sets the intensity at 100%. It's not necessary to press **Enter** after **Full**, it enters automatically.

**@** Sets an intensity level or a patch location: VL5 **6 @ 40**. Or use the shorthand **@ 4** to indicate 40%.

**/** Used for split fade times and sometimes fixture and cuelist selection: **Time 5 / 7**.

**-** Subtracts one item from a series: fixture **1 thru 10 - 5**.

**Enter** Completes an operation.

The four buttons above the keypad—**Group**, **Focus**, **Colour**, and **Beam**—are used to select specific groups or palettes (like group number 19).

---

## Recording a Basic Cue

In this section we'll program a simple intensity cue.

### Setting Intensity

Select Desk Channels as above, then

**I** Move the left parameter wheel. The labels above the wheels indicate what the wheels control and their current setting.

*OR:*

**I** Press **@ Full** to set to 100%.

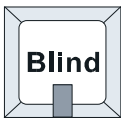
*OR:*

**I** Press **@ 65 Enter**. It is possible to skip the last digit for levels ending in zero. For example, **@ 6 Enter** sets the fixtures to 60%. For 6%, type **@ 06 Enter**.

Select other fixtures and set intensities for them.

Intensities can also be set using the **+10%**, **-10%**, and **Out** keys. (**Out** sets intensity to 0%.)

We will see how to change other parameter types later in this chapter.



### Blind

During programming, the Programmer always has output priority over the rest of the console. If you don't want the programmer to output its contents, press **Blind**. The **Blind** LED illuminates until the button is pressed again, returning the programmer to normal. This is also a handy tool when editing cues while a show is running live; changes can be made without them being visible on stage.

## Recording a Cue

Once a look has been created in the programmer you can record it as a cue. To record cue 1 on the first Playback Master:

- 1** Press **Record**.
- 2** Press the **Choose** button above Master number 1.

Cue 1 has now been recorded on fader 1. The time for cue 1 will automatically be the default time specified in the Control Panel. Don't worry about setting your own times for now.

When cue 1 was recorded on the fader, a cuelist for that cue was automatically created. To see this cuelist, open the cuelist window by pressing **Pig** and **Choose** above fader 1. Note that this also *selects* fader 1, as indicated by a lit blue LED on the **Choose** button. The selected fader becomes the default fader for all cuelist actions.

## Other ways of Recording

- Pressing **Record** followed by **Enter** appends the cue to the end of the cue list on the selected master.
- Pressing **Record** followed by **Choose** appends the cue to the end of the cue list on the chosen master. (This lets a master remain selected while recording cues to another master.)
- Pressing **Record 1.5** and **Enter** inserts a cue numbered 1.5 into the cuelist on the selected master.
- Pressing **Record** and then a cue in the cue list window brings up a confirmation window asking: **Insert Merge** or **Replace**.
- Finally, typing **Record 3/1.5 Enter** inserts cue 1.5 on fader 3.

## Cue numbers

Every cue that's created is given a number and assigned to a cuelist. Numbers can be up to 4 digits to the right of the decimal, such as cue 12.0001. These numbers refer to cues in a specific cuelist, *not the entire console*. So there can be a cue 1 for cuelists 1, 2, and 3, which are completely different and not related in any way. Regardless, it's possible to copy or move cue 1 into any other cuelist.

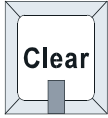
It's important to remember that cuelists are not permanently attached to a Master. Eight new cue lists can be loaded on the faders by changing page. Cuelists can also be copied and moved around just like cues.

Cues can be given text names and have comments attached to them.

## Cue Storage

Although the programmer retains all selections made since pressing **Clear**, *only the parameters which have changed since the last record are recorded into cues*. In most cases, this has no effect on running the show; during playback the console automatically calculates what a cue should look like based on what comes before it in the cuelist. Nevertheless, it's possible to play back cues without this calculation function on (see the *Playback* chapter). There's also an

option to record the entire *state*—not just the changes—to allow for a variety of playback styles. More on these features in the *Cues*, *Cuelists*, and *Pages* chapter.



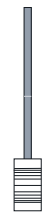
### Clearing the Programmer

The programmer retains everything that's loaded into it until **Clear** is pressed. For example, if you select some dimmers and record them into a cue then select some VL5s, the programmer will contain both fixture types. Once **Clear** is pressed, the programmer becomes empty and the Clear LED turns off.

If you're recording a sequence of cues into a single cue list, it's not necessary to press **Clear** after every cue. Because this is a tracking console, only new programming (changes) are recorded in cues. However, it's possible to use the recording options to capture more information. This can get complicated, so we'll cover these options later.

To restore the most recent contents back into the programmer, press **PIG** plus **Clear**.

🔊 ***It's a good habit to always press Clear before starting to program new cues. This ensures that lingering items from previous unrelated cues won't be included in your new cues.***



---

## A Brief Playback Overview

Let's take a look at the cue we've made. To do so, you'll need to clear the programmer since it has priority over the rest of the console: press **Clear**. Or press **Blind** to stop outputting the programmer contents.

First, bring up the fader on cue 1 to full. The fader acts as a submaster for intensity only. It has no impact on colour, beam, or focus. Now press the **Go** button above Fader 1. The cue fades in with the programmed time. If you didn't see anything happen, make sure that the Grand Master is up.

To freeze the fade at any point, press **Pause**. Pressing it again will fade back to the previous cue.

Press **Release** to deactivate (i.e., turn off, or remove from stage) the chosen cue list. If this isn't working, make sure that the master's blue LED is lit.

To see the cues in a cuelist, press **PIG** and **Choose**.

If you used **Blind** while inspecting the cue, don't forget to turn it off before continuing.

---

## Feedback Displays

Four windows provide useful feedback while programming to help keep track of what the fixtures are doing: Programmer Contents, Output, Levels, and Cue Contents.

## Programmer Contents Window

The easiest way to see what's actually in the programmer is to use the *Programmer Contents* window. It only shows the fixtures and parameters selected in the programmer. Open it by pressing **Setup**, **Open Windows**, and then **Program**.

Programmer												
Values	Fade	Delay	Path									
VI5 m3	Pan	Tilt	X	Y	Z	Magenta	Cyan	Yellow	Focus	Control		
1	Full					70%	25%	0%				
2	Full					70%	25%	0%				
3	Full					70%	25%	0%				
4	Full					70%	25%	0%				
5	Full					70%	25%	0%				
6	Full					70%	25%	0%				
Studio	Pan	Tilt	X	Y	Z	Magenta	Cyan	Yellow	Colour	Focus	Frost	Str
1	Full	Downstage				Magenta						
2	Full	Downstage				Magenta						
3	Full	Downstage				Magenta						
4	Full	Downstage				Magenta						
5	Full	Downstage				Magenta						
6	Full	Downstage				Magenta						

The fixtures and parameters are shown in different colors to indicate their status:

**Blue background** Parameters currently selected in the programmer

**White background** Parameters of selected fixtures that have not been programmed

**Black text** Parameters active in the programmer, but previously recorded.

Pressing the menu buttons at the top of the window shows more information:

### Setting

**Values**

**Fade**

**Delay**

**Path**

### What's Shown

Values programmed for each parameter.

Fade time programmed for each parameter.

Delay time programmed for each parameter.

Crossfade path (profile) programmed for each parameter.

## Output Window

The Output window is also useful while programming. It shows the output of the entire console, not just the programmer, and is accessed by pressing **Setup**, **Open Windows**, and then **Output**. You may want to put the programmer display on one external monitor and output on the other.

Stage Output									
Dsk chan	VI5 m3	Gscanhpe	Studio	Mac500					
Studio	Pan	Tilt	Magenta	Cyan	Yellow	Colour	Focus	Frost	Strobe
1	Full	Downstage	Magenta				focus 7	narrow 5	open
2	Full	Downstage	Magenta				focus 7	narrow 5	open
3	Full	Downstage	Magenta				focus 7	narrow 5	open
4	Full	Downstage	Magenta				focus 7	narrow 5	open
5	Full	Downstage	Magenta				focus 7	narrow 5	open
6	Full	Downstage	Magenta				focus 7	narrow 5	open



The white background in the output window shows what's active in the programmer. The chosen master controls parameters with the dark gray background. If you can't see a certain fixture type, press its button to bring it to the top.

If fixtures or parameters are unpatched or parked, the output window displays "Unpatched" or "Parked" to signify that they have no effect on the output.

### Levels Window

The Levels window is designed for people who prefer to view intensity levels in a standard theatrical format. Color is also shown for fixtures having a single color parameter—most notably scrollers. Fixtures with no intensity channel will not be displayed, so make sure you use the Scroller Dimmer fixture type if you intend to use this screen with scrollers.

Open the window by pressing **Setup, Open Windows,** and then **Levels**.

										Not Fade Away Current Fader 3: Warm color chase / 1											
Values		Fade		Delay		Path		Source		Current Cue		View cue: 1		View Mode: Live.All							
Dsk chan																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Full	Full	Full	Full	Full	Full	Full	Full	Full	Full	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%		
21	22	23	24																		
-	-	-	-																		
VI5																					
1	2	3	4	5	6																
Full	Full	Full	Full	Full	Full																
Szoomx																					
1	2	3	4	5	6																
0	0	0	0	0	0																
white	white	white	white	white	white																
Cyber																					

The Levels Display will show Programmer contents information even when the programmer is blind. Select **Hide Programmer** in order to remove the programmer information.

Information can be viewed in several modes. Press the **View Mode** (upper right) button to access the list of options:

#### Setting

**Live**

**Contents**

#### What's Shown

Active console output. Will not show programmer when in Blind.

Contents of the currently selected master.

<b>Show All</b>	All fixtures, even if they are not programmed on the current master.
<b>Show Active</b>	Only the fixtures in the programmer and on the current master.
<b>Hide Programmer</b>	The effects of the programmer are hidden.
<b>25 Across</b>	Change the format to 25 fixtures across.

A parameter's characteristics are shown by its color:

Color	Background Color	Characteristics
Black	Grey	Parameter is not programmed on the current master.
Grey	White (Shows channel is programmed on selected master)	Settings programmed in a previous cue.
Red		Settings changed in the current cue. For intensity, the level has gone up.
Green		Intensity level has gone down in the current cue.
Black		Settings in the current cue, but unchanged from previous cues.
White	Blue	Settings currently selected in programmer.
White	Dark Grey	Settings touched in programmer, but not currently selected.
Grey	Dark Grey	Setting in programmer, but not touched (won't normally be recorded).

To look at the contents of a different cue:

- 1** Move to the **View Cue** box
- 2** Press **Set**. Note that the view mode will automatically change to *Contents*.
- 3** Type in a cue number, or use the left parameter wheel to scroll through numbers.
- 4** Press **Enter**.

To return to the current cue, press the **Current Cue** button.

The Menu buttons work the same way as the Programmer Window. One additional button, **Source**, shows which Master (or the programmer) is controlling each parameter.

### Cue Contents Window

Press **Contents** in the cuelist window to open the cue contents window:

Current Fader 1: QL 2 / 2: Intro					
Current	<<	>>	Values	Fade	Delay
Dsk chan	Dsk chan				
1 50%	6 50%				
2 Full	7 50%				
3 Full	8 50%				
4 Full	9 50%				
5 Full	10 50%				

This window shows what's programmed in the current cue of a cuelist. If you use **Go** or **Pause**, or **Skip Up** and **Skip Down** to move up or down the cuelist, the window will change to show the new current cue. You can use the <<, >> screen buttons to override this and look at another cue without changing cuelist position. Press **Set** and type a cue number to go directly to it.

Only programmed values are shown in the display; they are displayed in different colors:

- Black**      Programmed in the displayed cue but unchanged from previous cues.
- Red**        Parameters changed from the previous cue; Intensity levels going up.
- Green**      Intensity levels going down from the previous cue
- White**      The level was programmed in a previous cue, and is not changed in this cue

In addition, the programmer contents overlay themselves over this window to aid programming, even when the programmer is in blind:

- White fixture number**      The fixture is selected in the programmer
- Blue background**          The level is set in the programmer
- Grey background**          Not in programmer

Select **Hide Programmer** in order to remove programmer information.

---

## Selecting Focus, Colour, and Beam

Continuing with our example, let's create a new cuelist that controls the Intensity, Focus, Colour, and Beam of Studio Colors.

First press **Clear** to empty the programmer to make sure that the desk channels don't get included in the new cue. Then press the **Choose** button above Master number 2 to select it as our programming destination.

Start by selecting the **All Studio** group and set them to **Full**.

### Focus

Typing **1 Enter** selects the first Studio. Its positional focus—pan and tilt—can now be adjusted with the center and right parameter wheels. Note it's also possible to attach a trackball and use it to control pan and tilt, but the trackball option must be selected in the Control Panel.

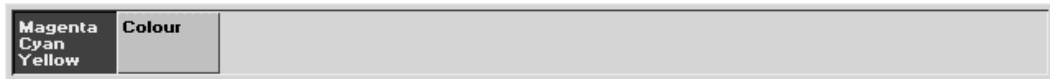


To select Studio number 2, press **Next**. Adjust its focus settings and then press **Next** again to select the next Studio. Continue this cycle until all of the Studios have been focused.

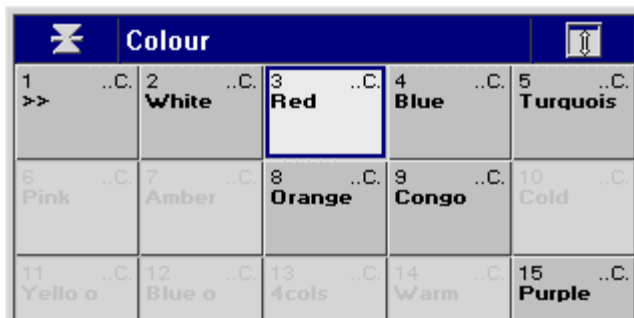
## Colour

Reselect all the Studios by pressing **All** on the toolbar. Press **Colour** to make the parameter wheels swap to controlling colour. If at any time you want to go back to adjusting focus parameters, simply press **Focus** to return the focus parameters to the wheels.

The parameter wheels are now ready to mix a colour for all the Studios. It's also possible to access a colour wheel setting with the parameter wheels. Since there are four colour parameters on the Studio, there's not room for them on one set of parameters wheels. Pressing **Colour** activates the Parameter Selection toolbar; use it to toggle between the color mixing parameters and the color wheel.



Alternatively, let's select the **Red** palette from the colour window to put the colour wheel in its red setting. The palettes that are not faint are the ones that can be used by the Studios. All we need to do is touch **Red** with our finger. Alternatively, we can type **Colour 3 Enter**.



To deselect palettes, hold **PIG** and then touch the palette.

As you can see, there are several ways to set parameter levels:

- Wheels
- Keypad
- Palettes

## Beam

Beam parameters include such things as iris, gobos, gobo-rotators, and edges. To access them on the wheels, press **Beam**. Fixtures such as Cyberlights have a number of beam parameters, so it's necessary to press **Beam** several times to scroll through all of them:

Gobo Gobo 2 Fx/prism	Gobo 2 <> Iris Focus	Frost Zoom Strobe	Control Speed	
<b>Beam</b>				
Gobo: stars		Gobo 2: ?		Fx/prism: ?

Beam parameters are adjusted the same way as colour parameters: i.e. using the wheels, keypad, or palettes on the touchscreens.

You may notice that with some fixture types, like Cyberlights, there's more than one wheel for Gobo, and that one of these is followed by this symbol: <>. This indicates a gobo rotator. The > and < signs on the parameter settings point in the direction that the gobo will rotate.

Other parameter symbols include >> and << for wheel rotation direction and + for split colours.

Once you're happy with the cue, record it: press **Record** and then **Enter**.

### Linked parameters

In contrast to focus and colour, only the adjusted beam parameters were recorded in the cue. While it usually doesn't make sense to record pan without tilt or magenta without cyan and yellow, beam parameters are best recorded separately. Regardless, these default settings can be overridden if necessary in the Control Panel by pressing the appropriate **Keep Parameters Separate** option, allowing a pan chase to be programmed independently of a tilt chase.

### Saving a Show

Now try saving your show to disk:

- 1** Press the **Setup** key.
- 2** Insert a 3.5" 1.44MB floppy disk into the drive at the rear of the console.
- 3** Press **Setup** and **Save Show**.
- 4** Press **Yes** to confirm that you'd like to save.




**Remember to SAVE OFTEN.**

## Recording Cues with Time

Usually you'll want to use a fade or delay time other than the default. This is easily accomplished by pressing **Time**:

- 1** Select fixtures and set levels.
- 2** Press **Time 3 Enter** to select a fade time of 3 seconds.
- 3** Press **Record** to record the cue on the selected Master.

When **Time** is pressed, a window opens showing all the parameters for the programmed fixtures, like this one for the Super Scan Zoom:

 Programmer Times			
Parameter(s):	Fade:	Delay:	Path:
ALL	3s	0s	-
Intensity	3s	0s	-
Focus	3s	0s	-
Colour	3s	0s	-
Beam	3s	0s	-
Gobo	3s	0s	-
Gobo 2	3s	0s	-
Fx/prism	3s	0s	-
Gobo 2 <>	3s	0s	-
Fx/prism<>	3s	0s	-
Iris	3s	0s	-
Focus	3s	0s	-
Frost	3s	0s	-
Zoom	3s	0s	-

The **All** line in this window sets times for all parameters.

### Creating a Multipart Cue

The Programmer Times window allow quick creation of multipart cues. Use the **Intensity**, **Focus**, **Colour**, and **Beam** lines to set fade and delay times for all parameters of those types, or enter time settings for a specific parameter. Simply type the number directly into the box; *it's not necessary to press Set*. Below these lines, times can be entered for specific parameters.

Once you're done adjusting the times, press **Enter** to close the **Time** window.

 ***To keep the Time window permanently open, press Pig and Time. You'll still need to press Set before editing time.***

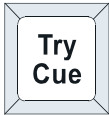
### Different Times For Different Fixtures

If different fixtures need different times, repeat selecting fixtures and setting times, for as many different times as you need. For example, to create a peel off where fixtures move from a point, one by one:

- I** Create the starting position and record it as a cue.

- 2 Select fixture 1, press **Time Right Arrow 1 Enter** to give it a delay time of 1 second. The **Right Arrow** key is located on the **+** key and moves the entry box to the Delay column.
- 3 Press **Next Time Right Arrow 2 Enter**.
- 4 Continue for all fixtures.
- 5 Record this as the second cue.

Alternatively, this can be programmed in one step by using **Fan** on the delay time.



### Check Your Cue Before You Record

You don't have to record a cue to see how the timing will work out.

Press **Try Cue** to fade out the programmer (note this is an alternative to the snap change of **Blind**).

Press **Try Cue** again to fade the cue in with time.

### Changing Timing After Recording

After recording, it's possible to adjust a cue's time in the cuelist window with the **Time** button. However, to set different times on individual parameters—and not one time for the entire cue—it's necessary to first **Load** the cue back into the programmer.

### Split Timing

Split timing means that when the cue executes, fixtures whose intensities are going up ("In" fixtures) will have different timing to those fixtures whose intensities are going down ("Out"). So a split time has both an In time and an Out time.

Use **/** to enter a split fade time. For example, **2/4** would have an in time of 2 seconds and an out time of 4 seconds. **/** can also be used to enter a split delay time or path.

### Specifying Minutes

Hold the **PIG** key plus **.** to get minutes. Time values can have up to 2 decimal places of precision (e.g., 5.11 seconds).

### Changing The Default Cue Times

You can change the default times for fade and delay in the Control Panel window. The console will automatically use these for your cues unless you make a change while programming. See *Customization*.

# Groups and Palettes

In addition to the groups and palettes created by **Automenus**, you can create custom ones for your own needs. These may be combined with one another or manipulated in any way. This chapter shows you how to do this.


---

## Creating and Modifying Groups

You can make your own groups for quick fixture selection. A group can include any number of fixtures and any combination of fixture types.

To create a fixture group:

- 1** Select the fixtures for the group, such as **Robo1220 cmyr 1 thru 3 Enter + Superzoom x 1 thru 3 Enter.**
- 2** Press **Record**.
- 3** Select the destination by pressing an empty space in the Group window. (Or type in a destination group number: **Group 13 Enter**.)

 **Groups are recorded with fixtures ordered in the sequence they're selected in the programmer. This ordering controls how fanning and effects are applied to fixtures.**

### Naming a Group

To give the group a name:

- 1** Press **Set**.
- 2** Type in a name, like Stage Right, on the keyboard that pops up
- 3** Press **Enter**.

### Changing an existing Group

To remove fixtures from a group or combine fixtures into a group:

- 1** Select the desired fixtures to add or remove
- 2** Press **Record**. The programmer toolbar will be replaced by the Options toolbar.

- 3 Choose an option from the Options toolbar: **Merge** to combine fixture into the destination or **Remove** to eliminate them from the destination.



- 4 Select the group to be changed.

You can also use **Load** and **Update** to modify a group

- 1 Press **Load**, followed by the group you want to change.
- 2 Either **Knockout** existing fixtures, or select new ones.
- 3 Press **Update**.

---

## Creating and Modifying Palettes

Palettes are a useful programming tool giving quick access to parameter levels. There are three types of palettes: Focus, Colour, and Beam. Focus palettes are also referred to as preset focuses.

Why are palettes useful?

- They're a quick way to retrieve common positions or colour mixes.
- They automatically update: any change in the original palette will be automatically reflected in all cues that use it.
- They can be named properly. These names appear across all display types.

Like groups, palettes can be made from any combination of fixture types. For example, a Red palette could contain red for scrollers, VL5's, Cyberlights, Super Scans, and Roboscan 1220's, assuring that colours match every time.

To create a palette:

- 1 Select fixtures and adjust the parameters to include in the palette.
- 2 Press **Record**.
- 3 Press the destination palette location. (Or type in a destination palette number: **Focus 21 Enter**.)
- 4 To name: press **Set**, type in a name, and press **Enter** to name the palette.

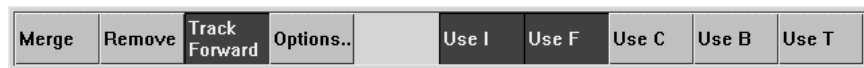
If you create a palette with one fixture, this setting will apply to all of the fixtures of that type. Otherwise, each fixture will receive its own value.

### Masking

When palettes are recorded, the programmer automatically filters out parameters that are not appropriate to that palette type. For example, if intensity is at full when creating a focus palette, the intensity will not be included.

However, it's possible to override this masking if you want to record intensity into a Focus palette, for instance. To override masking:

- 1** Select fixtures and adjust the parameters to include in the palette.
- 2** Press **Record**. You will see that the programmer toolbar is replaced by the Edit Options toolbar.
- 3** Press the **Use I** and **Use F** buttons so that they are dark gray. That means that Intensity and Focus will not be masked.



- 4** Press the destination palette location.

### Embedded Palettes

It's possible to create a palette that is comprised of other palettes. One particularly useful application for this feature is with focus palettes. Often stage looks are built up from many individual focuses. Embedded palettes make putting multiple fixtures in their own focus positions as simple as one button press.

To make this more concrete, let's say we created a palette using the following palettes:

Fixture 1	Drums
Fixture 2	Singer
Fixture 3	Bass
Fixture 4	Keyboard
Fixture 5	Guitar

The name of this new palette—not the names of the underlying palettes—will appear on all screens and reports. To see what the underlying palettes are after creating an embedded palette, **Load** the palette into the Programmer and look at the Programmer contents display.

Embedded palettes let us recycle existing palettes (Drums, Singer, etc.), so we don't have to create this new look from scratch. This not only saves work while programming, but reduces the number of focuses to be updated.

## Modifying Existing Palettes

There are two ways to modify a palette: 1) use **Record** with either the **Merge** or **Remove** option or 2) use the **Load** and **Update** buttons.

The first method works just like modifying groups:

- 1** Select the fixtures you want to change and set the new parameters. (If you are removing parameters, touch the ones to be removed.)
- 2** Press **Record**.
- 3** Choose an option: **Merge** to combine them with the destination or **Remove** to eliminate them from the destination.
- 4** Select the destination palette.

**Merge** combines the programmer contents with the destination cue. If there's a conflict, the information in the programmer has priority. It's possible to merge into multiple palettes simultaneously: select the destination palettes numerically on the keypad or hold down **Record** while pressing them in the palette window.

**Remove** deletes selected fixtures and parameters from a palette. It is parameter specific: if the palette has *all* parameters for a VL5 but only Intensity has been altered in the programmer, only the Intensity parameters are wiped out, while the other parameters remain in the palette.

In the second method, the item to modify is first selected:

- 1** Press **Load**.
- 2** Select the palette to modify.
- 3** Select the fixtures and modify their parameter settings as though you were setting them up in the programmer in the first place. Use **Knockout** or **Undo** to remove unwanted programming.
- 4** Press **Update**.

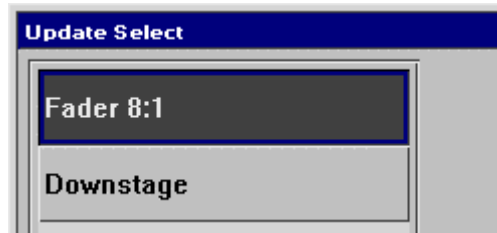
## Modifying Palettes while running a Show

While running a show, you can override fixtures using the programmer. If you want to store the new settings permanently, you can use the auto update feature to identify what programming was overridden and thus where to store the changes. For example:

- 1** Hit **Go** on several Playback Masters with cuelists.
- 2** Grab some fixtures and modify their settings.



- 3 Hit **Update**. The command line will show **Auto Update**. A window will pop up showing all the cues and palettes that have been overridden. Note, the current cue of the *selected* master will always be selected by default. If the window does not pop up, then either you have not made any adjustments in the programmer, or you already had something loaded.
- 4 Press the items you want updated, followed by **Enter**.



This method is useful when playing back a cuelist during a show and a preset focus position needs updating. You need only select the fixtures to modify and adjust their pan and tilt settings. Once **Update** is pressed, the update window shows the fixtures' preset focus and lets you select them for immediate updating.

Cues can also be modified this way.

### Random Notes on Palettes

When you record a palette, the parameters automatically reference the new palette. This saves having to reselect the palette before recording into a cue.

If **Live Programmer** is on and the programmer is empty, the selection defaults to the palette's contents.

---

## Manipulating Groups and Palettes

Groups and palettes are flexible items that can be moved, copied, or deleted at will. Note: all of the following edit functions also work for cues, cuelists and pages.

### Copying and Moving

To copy or move a palette (or group) to a new location:

- 1 Press **Copy** (or **Move**).
- 2 Press the item to copy.
- 3 Press the new location for the item.

To copy or move multiple items, use this syntax:

- 1** Press **Copy** (or **Move**) and hold it down.
- 2** Select the items to copy (these must all be in the same window)
- 3** Let go of **Copy** (or **Move**).
- 4** Press the new location.

Alternatively, you can use the keypad. For example: **Copy Colour 5 thru 12 Enter 20 Enter**.

### Merging Groups or Palettes

Palettes (or Groups) can be combined with one another by selecting the **Merge** option:

- 1** Press **Copy**. The Options toolbar will have opened on top of the programmer toolbar
- 2** Select the item to merge
- 3** Press **Merge** (or **Remove**) from the Options toolbar, and apply any masking options that might be necessary.
- 4** Press item to merge into.

Again, it is possible to Merge multiple items at a time by using the hold **Copy**, or the keypad, syntax. It is not possible to merge a Group into a Palette. Where there is conflict between what's in the programmer and what's in the cue, the programmer takes priority.

### Deleting Groups and Palettes

To delete a group or palette:

- 1** Press **Delete**.
- 2** Press the palette to be deleted.
- 3** Press **Enter**.

*OR:*

- 1** Press **Delete** and keep holding it down.
- 2** Press the palette to be deleted.
- 3** Let go of the **Delete** button.

# Cues, Cuelists, and Pages

*This chapter covers the console's organizational elements: cues, cuelists, and pages. In this chapter you'll learn how to edit, copy, and work with all three items.*

Cues are the fundamental building block of the consoles. Each cue can contain programmed levels and different fade and delay for every parameter of every fixture. Cue numbers are specific to a cuelist, so there can be as many cue 1's as there are cuelists.

Cuelists are how cues are organized. To be played back, cuelists must reside on a Master. However, they can be stored in the Cuelist Directory when not in use.

A cuelist on a Master has the functionality of an entire traditional theatrical lighting controller; an entire show's programming can be placed in one cuelist, under the control of one Master. To achieve this flexibility, cuelists are designed so that:

- Each cue can have many different times and timing can be overridden on the fly.
- Cuelists can run many cues simultaneously.
- Cues can be triggered manually, via a macro, after a delay, or by timecode.
- Cuelists can contain loops and links, or be setup as chases.
- The fader and buttons can be customized to tailor playback operation to your exact needs.

Eight masters together make up a page. Cuelists can belong to one, none, or many pages. Changing pages loads a new set of cuelists to the Masters.

---

## Cuelist Window

The cuelist window shows what's going on in a cuelist. Here, timing is modified, options are selected, and cue contents are examined. To open a cuelist's window, hold down the **PIG** and press **Choose** for the desired Master.

CurrentFader 1: QL 1									
Follow Current	Learn Timing	Insert Mark	Insert Link	Insert Macro	Options..	Contents	Unblock..	Renumber	Dump Text
Wait:	Cue:		Fade:	Delay:	Path:		Comment:		
	1	Setup	0s,2s	0s	-				
>> >H 62	2	Intro	2s	0s	-			Call Spots	
>0.84s	2.1	Mark	1s	0s	-				
	3	Opening	6s,8s	0s	-			>>G2	
	4	Effect	0s	0s	-				
Follow	4.01		2s	0s	-			Copy of Cue 4	
Follow	4.2		2s	0s	-				
Follow	4.21		2s	0s	-				
Follow	4.3	Link	Cue 4.01	Count					
	5	Song	8s	0s	-			>>S2:G3	
5s	5.1		3s	0s	-				
	6	End	0.20s	0s	-				
Manual	7	Fade Out	0s	0s	-			>>R2	

### Window Layout

The wait column of the cuelist window shows the wait time for cues, and also indicates the current playback state of cues. As we'll see in the next section, this column is used to change Wait times.

As cues execute, the cues in this column turn white to indicate they are active. In addition,

- >> symbol denotes the current cue.
- **R** denotes a crossfading cue along with a number showing the percentage of the fade completed.
- **H** denotes a halted cue.
- Pending cues have a countdown to when the cue will execute.

The Cue column shows the cue number and any name associated with the cue. This column of buttons also select cues during edit operations.

To change a cue number:

- 1 Select it by pressing it or moving the cursor box over it.
- 2 Press **Set**.
- 3 Type in the new number, followed by **Enter**.

Cue numbers can have up to 4 digits to the right of the decimal (e.g., 1.0001).

To change a cue name, type in a name instead of a number.

The Fade, Delay, and Path columns show timing characteristics for the cues in your cuelist. Timing can be edited directly using these columns. Special cues such as Link cues or Mark cues use these columns for other purposes.

The comments column is used for attaching comments to cues. Move the cursor box or press the desired button, press **Set** and type in your comment.

## Cue Timing

There are three timing elements for every cue: one wait time, and one or more fade and delay times.

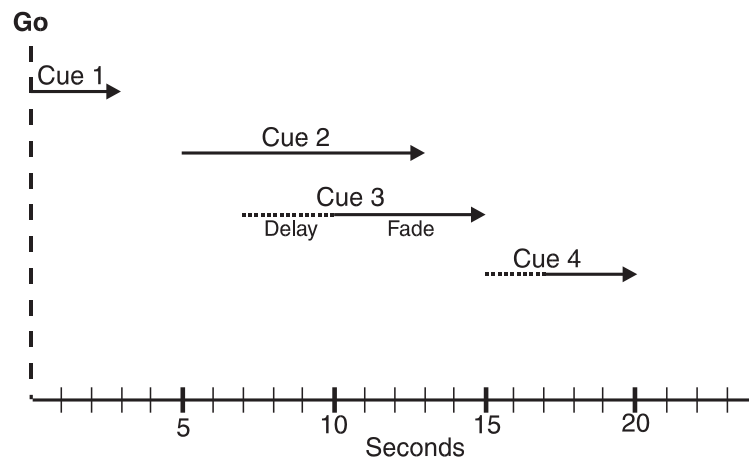
The wait time is the time between pressing the **Go** button and when the cue begins to execute.

The delay time is the time in between the cue starting (after its wait has elapsed) and the crossfade starting. The fade time is crossfade duration.

The reason there is a distinction between wait and delay time is that the wait time schedules the execution of a cue inside a cuelist, whereas the delay time(s) schedule the execution of fades on different parameters within a cue. A cue can have multiple delay times, while it will only have one wait time.

If you're feeling confused about waits, delays, and fades look at the following cuelist and then compare it with the diagram below to see how the cues will react.

Wait:	Cue:	Fade:	Delay:	Path:	Comment:
>>	1	3s	0s	-	
5s	2	8s	0s	-	
2s	3	5s	3s	-	
Follow	4	3s	2s	-	



## Setting the Wait Time

The wait time can only be adjusted using the cuelist window. There are five options for a wait time

- Halt** Represented by an empty wait box: the cuelist stops executing cues and waits for **Go**.
- Wait** The cuelist waits this time after starting the previous cue before starting this one.
- Follow On** The cue starts immediately after the previous one has ended.
- Manual** The cue starts when the manual crossfader is moved from its end stop, and the cue crossfade time will be ignored. Instead, the crossfade will be controlled by the crossfader. Make sure that the master is selected.
- Timecode** This is discussed in the MIDI and Timecode chapter.

To change a wait time, select a cue's wait box and press **Set**. The following options appear on the toolbar:

Time Code	Halt	Follow On	Manual	Minutes	
-----------	------	-----------	--------	---------	--

Enter a wait time by typing the number and pressing **Enter**. If the time is in minutes, press **Minutes** after typing the number, or press **Pig + .** Timecode can be entered by typing in a frame number, distinguished by using a **/** to indicate 00/00/01.00. Otherwise, pick on option from the toolbar and press **Enter**.

## Changing Several Cues at Once

You can select several cues to change at once.

- 1** Press the start of the selection.
- 2** Hold **Pig** and press the end of the selection (if necessary, you can scroll the window to find the ending position first). You can change the end point if you want, as long as you are still holding the **Pig** key.

*OR:*

- 1** Using the cursor keys, move the cursor box to the start of the selection.
- 2** Hold **Pig** and move the cursor to the end of the selection. As long as the **Pig** key is held, you can grow or shrink the selection using the cursor keys.

This range selection syntax can be used throughout the entire console.

### Setting the Fade and Delay times

Fade and delay times can be adjusted by selecting the appropriate boxes, pressing **Set**, and typing in a new time. Again, several cues can be adjusted at once by selecting several boxes together. Times can have up to two decimal points of precision.

However, if different times are assigned to different parameters, the cue must be loaded back into the programmer for modification with the Time window.

It's possible to enter split fade or delay times (and split paths) to give different values to the fixtures whose intensities are coming up or going out in a cue. Use the **/** to enter a split time. For example, entering 2/3 in the fade window gives a 2 second fade to the fixtures going up (the "in" time) time and a 3 second fade to those going out (the "out" time.)

### Learn Timing

You can automatically setup cue wait times by using the **Learn Timing** function. While it's turned on, every time you press the master's **Go**, the console will store the correct wait time for the cue. If timecode is running, it will store the current timecode frame instead.

The function only overrides empty (i.e., Halt) wait boxes—not preexisting wait settings.

### Cuelist Window - Changing Values

Cue values in the cuelist window can now be adjusted using the left hand wheel. This works for wait times, cuelist numbers, delay and fade times, loop durations, etc.

- 1** Move to the column of the cue you want to edit.
- 2** Press Set to edit the value.
- 3** Move the wheel.
- 4** Press Set or Enter to confirm the new value.

This will work with range selections. If you adjust a range of timecode wait times, they will still be adjusted relatively (ie you can shift a range of cues forwards or backwards in time).

---

## Manipulating Cues

### How to Select Cues During Edit Operations

Cues are selected like Groups or Palettes. After pressing the **Record**, **Copy**, **Move**, or **Load** button:

- 1** Open the cuelist window by pressing **Pig** + **Choose** and press the cue button.

*OR:*

- 2** Type in the cue number on the keypad.

When you type in a number, the console assumes you are referring to cues in a cuelist on the selected playback master (the one with the **Choose** LED lit). The **/** key can be used to select cues on other masters. For example, typing **2/3 Enter** would select playback master 2, cue 3.

### Modifying Existing Cues

The technique is the same as for modifying palettes:

- 1** Use **Record** along with **Merge** or **Remove**

*OR:*

- 2** Use **Load / Update**

*OR:*

- 3** Use **Update** without **Load** (Auto Update)

The first method uses the **Record** button in a similar manner to the way cues are created in the first place:

- 1** Select fixtures and adjust parameters.
- 2** Press **Record**.
- 3** Press **Merge** or **Remove** on the toolbar.
- 4** Select destination.

**Merge** combines the programmer contents into the destination cue. If there's a conflict, the information in the programmer has priority. It's possible to merge into multiple cues simultaneously: select the destination cues on the keypad or hold down **Record** while pressing the cues in the cuelist window.

**Remove** deletes selected fixtures and parameters from a cue. It is parameter specific: if the cue has *all* parameters for a VL5 but only Intensity is altered in the programmer, only the Intensity parameters are wiped out, while the other parameters remain in the cue.

The second method uses **Load** to bring the cue into the programmer where it can be modified directly, before updating back to the original cue.

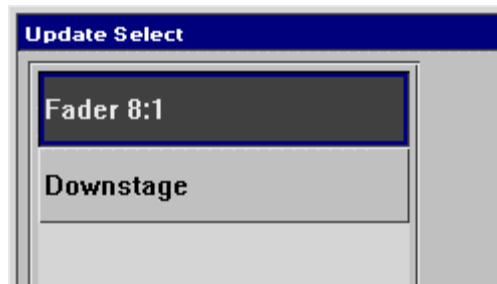
- 1** Press **Load**.
- 2** Select the cue to modify.
- 3** All fixtures in the cue are automatically selected and ready for instant modification. To only modify some fixtures, just select them normally and only they will be changed.
- 4** Press **Update** to record the changes.

The third method uses **Update** on its own. **Load** must *not* be pressed for this to work.

- 1** Select fixtures and adjust parameters.



- 2** Hit **Update**. The command line will show Auto Update. A window will pop up showing all the cues and palettes that have been overridden. Note, the current cue of the “selected” master will always be selected by default. If the window does not pop up, then either you have not made any adjustments in the programmer, or you already had something loaded.
- 3** Press the items you want updated, followed by **Enter**.



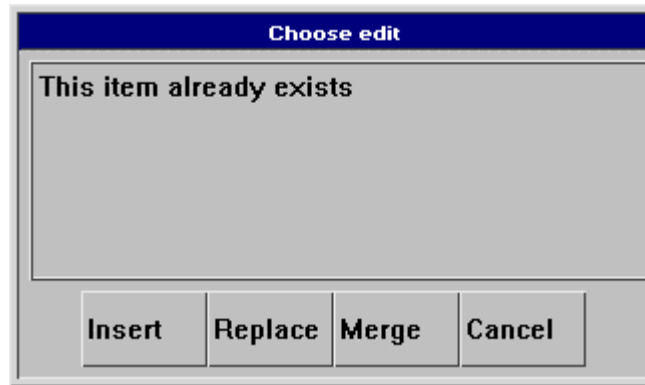
This method is a convenient way of adjusting programming while in a live environment.

### Copying, Moving, and Deleting Cues

Cues are copied, moved, and deleted with the same commands used elsewhere on the console.

To copy or move a cue:

- 1** Make sure that the cue’s cuelist window is the active window.
- 2** Press **Copy** or **Move**.
- 3** Select the source cue (in the cuelist window).
- 4** Press the destination. The cue will be inserted just before the pressed destination if **Insert** is pressed when the following window appears.



To select multiple items, hold down **Copy** while selecting several cues. Or use the keypad to select a range of cues, just like selecting multiple fixtures: **Copy 1 Thru 4 Enter to 12**.

Like with Palettes, you can use **Copy** in conjunction with the Options toolbar to **Merge**, **Remove** or **Use IFCBT** while copying cues.

To delete a cue:

- 1** Press **Delete** and keep holding it down.
- 2** Press the cue to be deleted.
- 3** Let go of the **Delete** button.

*OR:*

- 1** Press **Delete**.
- 2** Select the cue.
- 3** Press **Enter** to confirm.

### **Copying and Moving Cues between Cuelists**

Cues can be copied or merged from one cuelist to another. This can be either a few select cues or the entire cuelists. Both the source and destination cuelists must be on Masters for this to work.

First, select the source in one of three ways:

- 1** Open source cuelist window.
- 2** Press and hold **Copy** or **Move**.
- 3** Press source cues in window, or type cue numbers on keypad.
- 4** Release **Copy** or **Move**.

*OR:*

- 1** Press and release **Copy** or **Move**.

- 2 Type Fader number / Start Cue number  
**Thru** end cue number

Note: Pressing **Thru** without an End Cue number selects to the end of the cuelist.

*OR:*

- 1 Press and release **Copy** or **Move**.
- 2 Press the Fader **Choose** button.
- 3 Type Fader number / Start Cue number  
**Thru** End Cue number.

Then, select the destination in one of three ways:

- Type Fader number / Cue number **Enter**.
- Open the destination cuelist and press the destination cue.
- Press the destination **Choose** button to append.

Cuelists can be combined by using the **Merge** option on the options toolbar. Make sure to press **Merge** *before* selecting the source. If the selected destination has more cues than the source, the source cues will repeat themselves until the end is reached. If the reverse is true, then merging will cease once the end of the destination is reached.

---

## Special Cues

### Mark

A Mark cue is a setup cue inserted prior to the cue it marks. It contains the position, colour, and beam settings of the original cue it marks, but only for fixtures that are not active on stage at the time the mark cue is executed. This means that a mark cue will never change what is seen on stage, but it simply presets all the non-intensity parameters for doused fixtures, so that they are at the correct value when the next cue executes.

Pressing **Insert Mark** (from the Cuelist Window) inserts a mark cue in front of the *current* cue—the one with >> in the wait box.

### Loops and Links

Links are used to create loops, or to interrupt the normal flow of a cuelist by jumping to a different point. Note that the cuelist loops back to the first cue by default, so that there is no need to add a link back to 1 at the end of a cuelist.

Pressing **Insert Link** inserts a link cue after the *current* cue. The fade and delay columns change to Link to Cue and Duration. In the cue box, enter the cue number to link to. In the Duration column, either enter the number of times to perform the link or the amount of link time. Make sure to enter a decimal when setting a time value to distinguish it from a count.

Timecode can also be entered into the Duration field. Entering zero will leave the field blank, which means that the link (or loop) will always occur until **Go** is pressed again. There are cuelist options to control exactly how this occurs.

A link cue has its own wait time. When a link is taken, the console uses that wait time instead of the wait time of the cue that it's linking to.

In the example at the beginning of the chapter, cue 4.3 is a link cue designed to perform a loop back to cue 4. Cue 4 has a wait time of Halt, but this is ignored when the loop occurs—the follow of the link cue is used instead.

You can also specify a duration time or a timecode exit point for loops. Move to the link cue's Duration column, and enter either a time (e.g. 10.0) or a timecode frame 2/13/12.00. The loop will now exit when the timecode frame is reached, or the time has elapsed from the start of the loop.


## Cuelist Directory

Every cuelist is stored in the cuelist directory window. Open the window by pressing **PIG** and **List**:

Cuelist Directory				
1 The Show	2 Shutter Chase	3 Ballyhoo	4 Warm color chase	5 Cool color chase
6 Sweeps	7 Kelp	8 Special	9 Peel off	10 Mayhem!
11	12	13	14	15

Any cuelist can be accessed at any time from this window. The same cuelists can be used in multiple locations throughout a show. (See *Pages* section below)

Cuelists can be selected, copied, moved, and deleted, just like groups, palettes and cues. To merge a cuelist, see the *Manipulating Cues* section.

 ***It's possible to directly record to cuelists in the cuelist directory. Pressing Record followed by a button in the cuelist directory will record a cue onto that cuelist. If the button does not contain a cuelist then a blank cuelist is created, and a cue is recorded into it.***

### Naming Cuelists

Cuelists cannot be named via the Master itself. You must find the cuelist in the cuelist directory and name it there.

### Deleting Cuelists

To delete a cuelist permanently on all pages, delete it in the cuelist directory window. To only remove it from the Master, hold **Delete** while pressing the Master's **Choose** button; the cuelist will gone from the Master but still resident in the cuelist directory window.

---

## Pages

Pages are a useful way to organize programming. They let cuelists be grouped and loaded quickly onto the Masters with one button press. For concert design, shows are often organized with one song per page. When the set list arrives before each show, it's a simple matter of moving the pages around so they reflect the running order. To see the available pages, press **PIG** and **Page**.

Pages										
Save Activity	Clear Page	Set as Template	No Template							
1 Not Fade Away	2 Under cover	3 Tumblin' Dice	4 Live With Me	5 Rocks Off	6 You Got Me Rockin'	7 Sparks Will Fly	8 Shattered	9 Memory Motel	10 Out of Tears	
11 Beast of Burden	12 Let It Bleed	13 Brand New Car	14 All Over Now	15 Honky Tonk Woman	16 Before They Make Me	17 The Worst	18 Love Is Strong	19 Monkey Man	20 I Go Wild	
21 Start Me Up	22 It's Only Rock and Roll	23 Street Fightin' Man	24 Brown Sugar	25 Jumpin' Jack Flash	26	27	28	29	30	

### What Is a Page?

Cuelists are *not* stored on masters. The masters merely reference cuelists in the cuelist directory; the referencing details are stored in a page.

When you change page, the masters receive new reference information, and hence all the cuelists on all masters change instantly.

The same cuelist can be used several times within a page or on several pages. The number in the upper right corner of each cuelist button in the cuelist directory window shows the number of times the cuelist is used in pages.

### Changing Page

There are three ways to change pages:

Press **Next Page**. (To move backwards through the pages, hold the **PIG** and press **Next Page**.)

Type **Page** number **Enter**.

Press the desired page button in the Page window.

The page is now the *current page*. Any changes you make as to which cuelists are on which masters will now affect this page.

### Creating a New Page

To create a page, just press an empty page button, or press **Page** and an unused page number. As elsewhere, you can name pages using **Set**.

## Modifying a Page

Change to the page to be modified, and either record cues into a brand new cuelist or add an existing cuelist to the page. New cuelists are automatically added to the cuelist directory and to the current page.

To add a existing cuelist to the page:

- 1** Press **Move** or press **Copy**
- 2** Select the cuelist by pressing its button, or using the keypad.
- 3** Press the **Choose** button for the desired Master.

*Moving* a cuelist onto a page does *not* make a new cuelist; any changes made to it will also affect all other uses of that cuelist in other pages.

When a cuelist is moved to multiple masters in the same page, the second and successive moves actually create hidden copies of original cuelist. These hidden copies get re-synced with the original cuelist on a page change. Changes may not appear on all cuelists until this happens. Any edits which are performed on the hidden cuelists however will always be applied to the original cuelist.

When a cuelist is *copied* onto a Master, a brand new cuelist is made with no links to any other pages. Any changes made to it will not affect other pages (unless, of course, the new cuelist is subsequently moved onto a master in another page).

To delete a cuelist from the page, but retain it in the cuelist directory window for future use:

- 1** Press **Delete**
- 2** Press the **Choose** button for the Master the cuelist is sitting on.
- 3** Press **Enter**.

This will delete the cuelist from the page, but the cuelist will still be located in the cuelist window for future use.

## Clearing a Page

Press **Clear Page** in the Page Window. Note: this does not delete any cuelists.

## Page Holdover

When changing page, the console automatically releases the cuelists from the old page. To temporarily hold over the cuelist on faders while changing Page, hold down the faders' **Choose** buttons while changing page. To indicate a holdover, the cuelist name above the master is highlighted.

To have all active cuelists hold over without having to press **Choose**, select **Page holdover if Active** in the Control Panel.

To remove the holdover, release the Master and the cuelist for the new page will now appear. If you didn't hold **Choose** while changing page, the Master will also release if the cuelist becomes fully overridden.

### Crossfading Between Pages

It is possible to crossfade straight from one page's look to another just by changing page. This is done by storing in the incoming page which masters must be activated on this page change (i.e., which masters have **Go** pressed automatically).

- 1** Change to the incoming page.
- 2** Press **Go** on some masters, so that the looks you want to change to are now active.
- 3** Press **Save Activity**.

Now when you change to this page, the looks will be put on stage automatically. You can now use the **Next Page** button as a "Go" button for the first cue on the incoming page.

To turn off activity, change to the page and press **Save Activity**.

### Template Pages


A template page allows you to specify cuelist(s) that will appear in every page, without you having to move that cuelist into all the pages. It's useful when operating a master cuelist for playback with different specials on each page. Or use it to store handy manual control cuelists.

To setup a template page

- 1** Create the page as normal.
- 2** Make the page current.
- 3** Press **Set As Template** in the Page window

A **T** will appear on the page button to indicate that it has been loaded as a template page.

If you now change to a different page, you should still see the template page's cuelists appearing. If both the normal page and the template page are using the same master, the normal page will override the template page.

 ***Make sure that the normal pages do not have cuelists set up on the Masters where the template cuelists reside. The cuelists on the normal pages will override, except where an override is intended.***

To turn off the template page, press **No Template** at any time.

---

## Other Cuelist Window Functions

### Cuelist Options

The button opens the Cuelist Options window, which customizes cuelist behavior and is described in the Playback chapter.

### Follow Current

On the cue list menu bar you'll find **Follow Current** which toggles in and out of “screen lock” mode like on a PC. Screen lock holds the current cue on the screen as you go through the list

### Renumber

Press **Renumber**, then type the range to renumber and then **Enter** to automatically renumber cues to whole numbers.

Use **Move** to move a cue to a different location.



# Advanced Programming

*This chapter describes more sophisticated programming functions. It starts by explaining tracking. Understanding the logic behind tracking is crucial if you are to master the Wholehog.*

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## Tracking

The Wholehog II is a *tracking* console—meaning it only saves programmed changes and not entire states. This concept directly impacts how you need to program your show; not understanding how tracking works can lead to confusion and mistakes.

Normally when recording a cue, only the parameters which have changed since the last record are included in the new cue. For example, if only the pan and tilt wheels are touched before recording, the cue won't contain information for intensity, colour, or any other non-focus parameter.

This system has several advantages. From a technical perspective, cue storage is extremely efficient and less memory is consumed, since programmed values are not repeated throughout a cuelist. This means that in order to change a range of cues, only the first one needs to be modified. The advantages of tracking extend to playback. Multiple cues can be simultaneously executed, which would not be possible if cues held entire states. Also, some shows are programmed with only one parameter type in each cue or sequence, allowing them to be combined with each other in different ways to achieve a wide selection of looks. In other situations, a single parameter override needs to be manually triggered from a different Master at varying points during a show. This would not be possible if the console always stored values for each parameter.

### Common Problems

Unfortunately, this system can occasionally be confusing to those used to a different approach on another lighting console. Sometimes recorded cues sometimes don't appear the same during playback as they did while in the programmer. This problem usually has one of two causes:

**1) Active cues on the playback masters while recording.** The look on stage is a combination of the programmer and the playback masters, but only what's in the programmer is recorded in the cue. Later, when the cue is played back, it will look different if the cues that were active while recording are now turned off.

**2) Active cues during playback outputting values for parameters not included in the recorded cue.** If a Cyberlight is programmed with only intensity, colour, and focus information, an iris setting will not be included in the cue. If this cue is activated after another cue has put the same fixtures in a tight iris, the iris will remain tight even though it was open when recorded. This is because no information was programmed for iris since it was not touched.

### An Example of Tracking

Looking at an example will help make sense of tracking.

Let's program three cues with Desk Channels (or dimmers) as in the following diagram:

Cue	Action	Cue Contents					Output				
		1	2	3	4	5	1	2	3	4	5
1	1 @ Full	FL					FL				
2	2 @ 50		50				FL	50			
3	3+5 @ 80			80		80	FL	50	80		80

The first column is the cue number. The second column shows what programming activity takes place in that cue (assuming **Enter** and **Record**). The third column (Cue Contents) shows what actually is recorded in the cue. The fourth column (Output) shows the resulting state of the cuelist as the cues are executed. This assumes that **Maintain State** has been kept as the default setting in the cuelist options window.

Only the items that are programmed since the last record actually get recorded in the cue (unless one of the other recording options described below is used). As cues are executed in a cuelist, the console automatically calculates the output *state* for that point in the cuelist. If **Maintain State** is deselected, output will be the same as the programmed cues:

Cue	Action	Cue Contents					Output				
		1	2	3	4	5	1	2	3	4	5
1	1 @ Full	FL					FL				
2	2 @ 50		50					50			
3	3+5 @ 80			80		80			80		80

 **The Cue Contents window is helpful for showing what's actually in a cue versus what results from Maintain State.**

## Recording and Editing Options

Just because the Wholehog II is a tracking console doesn't mean that you're stuck with this style of operation.

Several options on the pop-up toolbar let you control exactly what gets included in each cue.



### Default Recording Behavior

When recording cues in the default manner, the console decides what will be recorded into the destination cue in using the following rules:

*Adjusted Parameters*      These are always recorded, regardless of whether the fixture is currently selected

<i>Old Recorded Parameters</i>	Parameters which are present in the programmer but have not been modified since the last record operation are only recorded into the destination cue if they are not already present with the same value in the cuelist state (in others words, only if an <b>Unblock</b> operation would not remove them).
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**Note:** This is a change to the default behavior in version 2 software. In v2 old recorded parameters would only be recorded if the destination cuelist was different from that of the previous record operation.

### Using State

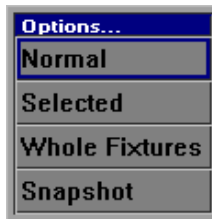
The *state* of a cuelist refers to what it is currently outputting—the result of all the cues executed so far during playback. The **State** option controls how much information is included during cue manipulation:

<i>When recording cues</i>	Pressing <b>State</b> records all parameters in the programmer (adjusted or previously recorded) regardless of whether they are in the state of the destination cuelist.
<i>When copying cues</i>	Pressing <b>State</b> copies the entire state of the cuelist up to the point of the selected cue, not just the cue. This corresponds to the sum of all the cues up to and including the selected cue.
<i>When loading cues</i>	Pressing <b>State</b> loads the cuelist state into the programmer.

Pressing **State** again returns the programmer to act in the default manner.

### Record Options

After **Record** is pressed, pressing the **Options** button on the toolbar gives four further



choices:

<b>Normal</b>	Records parameters in the default way detailed above.
<b>Selected</b>	Records parameters of currently <i>selected</i> fixtures (which may not be all fixtures currently in the programmer) in the default way, and ignores programming for unselected fixtures.
<b>Whole Fixture</b>	Records <i>all</i> parameters of fixtures with any adjusted parameters, even though some parameters may have not been adjusted.
<b>Snapshot</b>	Records a snapshot of the entire output, as though <b>Active Enter</b> had been previously used.

## Unblock

Whenever State or an abnormal record option is used, parameters will often repeat settings programmed in earlier cues. These are known as hard commands. Hard commands are also created during the normal course of programming. Sometimes these hard commands are deliberately included, but sometimes they are the byproduct of cue manipulation. To eliminate unwanted hard commands, use **Unblock** (Cuelist window toolbar):

- 1** Press **Unblock** on the cuelist toolbar.
- 2** Select the cues to unblock.
- 3** Press **Enter**.

 ***Eliminating unnecessary hard commands is a good way to reduce the show size and save memory.***

## Track Forward

This button appears on the edit toolbar and is used after **Record**, **Copy**, **Delete** or **Update** and has two settings:

- On** The button is dark grey. When **Maintain State** is on, the cue tracks its changes through the subsequent cues during playback until there's a change programmed. This is the normal programming mode.
- Off** This puts the console in **Cue Only** mode. Changes apply to one cue only. The following cue is modified so that the changes are undone in it. This function does not work if the cue being created or edited is the last cue in the list.

If you press the **Track Forward**, the change will stay for one edit operation only. It will revert to the default setting for the next operation.

## Merge and Remove

Use these options after **Record** and **Copy** to combine cues rather than insert new cues.

## Masking

As we've seen, it's possible to filter out Intensity, Focus, Colour, Beam, or Time settings by pressing the relevant Mask buttons (**Use IFCBT**) on the toolbar while recording. For example, if all parameters for a fixture are selected in the programmer and only **Use C** is pressed after **Record**, only color information will be included in the cue.

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## More on Selecting Fixtures

### Select Menu

Pressing **Select** on the toolbar, gives the following selection buttons:



The **All**, **Odd**, and **Even** buttons act on the selection already in the programmer. **All** selects all fixtures currently in the programmer. **Odd** and **Even** select the odds and evens of the most recently selected fixtures in the programmer. For example, to select the even fixtures from your backlight truss:

- 1** Select the group.
- 2** Press **Even** on the Programmer toolbar.

**Prev** reselects the previous Programmer selection.

**Invert** captures the fixtures *not* chosen in the previous selection. For example, if all VL5's are first loaded in the programmer and **Odd** is pressed, pressing **Invert** selects the evens.

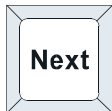
**Only** selects the intersection between two groups. For example:

- 1** Select a group containing fixtures 1 through 3.
- 2** Press **Select...** and then **Only**.
- 3** Select a group containing fixture 2 through 6.
- 4** Fixtures 2 and 3 will now be selected in the Programmer.

**None** selects nothing, but leaves all of the information currently in the programmer intact.

**Random** shuffles the order of the current selection, and leaves it selected.

**Calibrate** is used with XYZ programming.

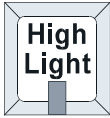


### Next

Pressing **Next** automatically selects the next fixture. If nothing is selected in the programmer, or a single fixture is selected on the command line, then **Next** cycles through all of the fixtures for the currently selected fixture. If no user numbers have been allocated then **Next** will cycle through every fixture of each fixture type in turn. If every fixture has been allocated a unique user number then **Next** will cycle through them in numerical order.

Pressing **PIG** plus **Next** moves back to the previous fixture.

When using a trackball or mouse to aim fixtures, the left button works as **Next** and the right as Previous.



### Highlight

**Highlight** temporarily brings the currently selected fixture to 100% intensity and an open beam, without this information being stored in the cue. It's useful for updating preset focuses or for focusing a specific instrument in the middle of a cue.

Highlight remains active until turned off by pressing **Highlight** again.

It's possible to adjust the default Highlight settings by creating a custom highlight palette. To do this:

- 1** Create a palette with fixtures in the desired highlight settings.
- 2** Select this palette.
- 3** Press **Set** twice.
- 4** Select the **Highlight** option.

Highlight settings for fixtures can also be adjusted in the Edit Fixtures window.

---

## More on Adjusting Levels

### Fine Wheel Movement

Some fixtures have 16 bit resolution for parameters like pan, tilt, and gobo rotation. In order to access the fine level of resolution, hold **Pig** while turning the parameter wheels. The levels will be adjusted at the finest setting possible. Note that although the parameter wheels generally work at 8 bit resolution, all crossfades in the Hog 2 are performed at full 16 bit resolution.

### Flip

**Flip** rotates a moving-head instrument so that it hits the same point on stage, but from the other end of its movement range. To achieve this, select the instruments you want to flip and press **Flip**.

### Remainder Dim

When **Rem Dim** on the Programmer toolbar is pressed after a fixture selection, all other fixtures will receive an intensity value of 0.

### Other Toolbar Items

**Out** sets the intensities of selected fixtures to 0.

**+10** increases the intensities of selected fixtures by 10%.

**-10** decreases the intensities of selected fixtures by 10%.

---

## Manipulating Programming

These functions make it easy to access and manipulate existing programming.



### Take a Snapshot of Live Output

Pressing **Active** followed by **Enter** takes a “snapshot” of the console’s current output and loads this into the programmer. For example, if four cues are active with their faders at various levels, **Active** will combine the states of all the cues. This can then be recorded as a cue anywhere on the console.

To use **Active**:

- 1** Set the look you want with the Masters.
- 2** Press **Active**.
- 3** Press **Enter**.

### Conditional Snapshots

You can also use **Active** to load a subset of the console’s output. For example, to pull into the programmer all fixtures that are currently red, press **Active**, the red palette, and then **Enter**. This syntax can be used with fixtures, groups, and palettes.

Grab parameters of a certain type for fixtures selected in the programmer by holding **Active** and pressing the appropriate key: **Group** (for intensity), **Focus**, **Colour**, or **Beam**.

Hold **Active** and move a parameter wheel to grab that parameter for fixtures selected in the programmer.

**Active @ 50** grabs all fixtures with intensity of at least 50%. Substitute any other number for 50.

To force values into all parameters for the selected fixtures in the programmer, press **Pig** and **Active**. This works just like using the **Whole Fixture** option upon recording. If the parameters are not controlled by any cues, then this will be the default setting from the fixture library.

### Extract Values from Cues into the Programmer

To extract fixture settings from a cue and load them into the programmer:

- 1** Select the fixtures.
- 2** Hold **Pig** and press **Load**. The command line shows **Extract**.
- 3** Choose the cue from which to extract the settings.

Extract leaves the data in the cue in tact. It is not removed as part of the command.

Masking commands (covered in the *Groups and Palettes* chapter) can be used to with Extract to filter out undesired parameter types.

### Copying Values from One Fixture to Another (Clone)

The Clone function copies parameter and timing information from one fixture to another—even fixtures of different types.

To Clone information from source fixtures to the destination:

- 1** Select the *destination* fixtures in the programmer.
- 2** Press **Pig** and **Copy**.
- 3** Select *source* fixtures.
- 4** Press **Enter**.

Both the source and destination fixtures must be present in the programmer while cloning.

The standard Edit Toolbar is used to control what is cloned. For example, select **Use T**, and deselect all the others (**Use IFCB**) to clone timing only.

Clone can be used with overlapping sets of source and destination fixtures. For example, if you have set up a staggered fade on Cybers 1>10, and want to reverse the order in which it occurs:

- 1** Select **Cyber 1 Thru 10**.
- 2** Press **Pig** and **Copy**.
- 3** Press **Use T** only.
- 4** **Cyber 10 Thru 1**.

Clone also works with XYZ programming, so that you can copy a position to any number of lights (as long as they are all calibrated).

And Clone works across different fixture types, as long as the types have some parameters in common, e.g. **Cyber 1 Thru 10** Clone From **Gscan 1**



***Note that Clone cannot be used to grab information from running cuelists – first use Active, and then Clone to different fixtures.***

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## Fan



***Don't overlook this feature! It's extremely powerful, but easy to miss because it doesn't have a dedicated button.***

### Fanning Parameters over a Range

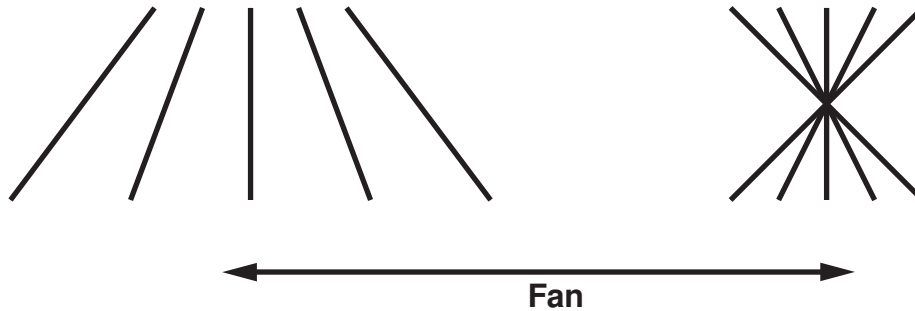
You can *Fan* several fixtures at once to create symmetrical looks. When used with pan and tilt, fixtures placed in a line will be aimed so their beams fan evenly or form a fan or a knot.

To use Fan:

- 1** Select the fixtures to program.
- 2** Press and hold **Set**.
- 3** Use the center and right parameter wheels to pan and tilt, opening and closing the fan.



Fanning Pan on five fixtures in a row might yield beams like this:



Although originally intended for pan and tilt, *Fan* can also be used elsewhere:

- To create a nice rainbow effect across colour mixing fixtures.
- To evenly spread delay or fade times for a set of fixtures.
- To stagger the offset of effects using the Effects Engine.

### Using Fan with Time

Timing can be staggered in the programmer time window just like any parameter. Press **Set** and move the left hand wheel or enter the timing from the keypad. In addition, **1 Pig Thru 10** will evenly spread timing from 1 to 10 across the fixtures.



***Don't overlook this feature! It can instantly generate awesome effects which would otherwise be laborious to produce.***

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## Removing Programming

### Canceling Modifications

If you change your mind about a level adjustment, press the

**backspace** key before pressing **Enter**. The current selection and any changes you just made will be canceled.

### Removing Fixtures from the Programmer

The knockout function removes selected fixtures and their programming from the programmer:

- 1** Select the fixture(s).
- 2** Press **Knockout**.

### Undoing Parameters of a Certain Type

You can knock out parameters of a certain type by holding **Undo** and pressing the appropriate key from **Group** (for intensity), **Focus**, **Colour**, and **Beam**.



## Undoing Individual Parameters

Holding **Undo** while moving a parameter wheel knocks out any programming for that parameter out of the programmer.

---

## Path

**Path** is the type of crossfade a cue, a fixture, or a parameter executes; it defines how a cue will change over time. Paths are also known as profiles. Path settings can be changed in the Cuelist and Programmer Times windows. The following paths are available:

<u>Path</u>	<u>Description</u>
Linear	Smooth, proportionate fade over time
Start	Snap change at the beginning of the cue
End	Snap change at the end of the cue
Damped	Slower crossfading at the beginning and end of a cue
Brake	Slower crossfading at the end of a cue
Speed Up	Slower crossfading at the beginning a cue
Under	The fade first goes in the opposite direction of its destination
Over	The fade overshoots its destination and then returns to it
Shake	Chaotic, sawtooth fade over the course of the cue.

Default paths for fixtures are set in the fixture library.


 ***If a fixture's parameter—like a color wheel—**isn't** crossfading correctly, it could be that the path is set to Start or End. This is changeable in Edit Fixtures.***

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## Programming with XYZ Coordinates

Instead of using pan and tilt values for fixtures, it's possible to program positions in 3 dimensional space using XYZ stage coordinates. Why is this useful? Let's say you wanted to aim 100 fixtures at a specific point on stage. Normally, you'd have to adjust the pan and tilt positions for those 100 lights individually—a long and tedious process. In contrast, with the XYZ system, all you have to do is enter the XYZ coordinates on the parameter wheels and the lights will go there instantly. Likewise, if you need to nudge the lights up a bit—maybe so they hit the top of a mike stand—you only need to adjust the Z parameter wheel and all the lights will move there together.

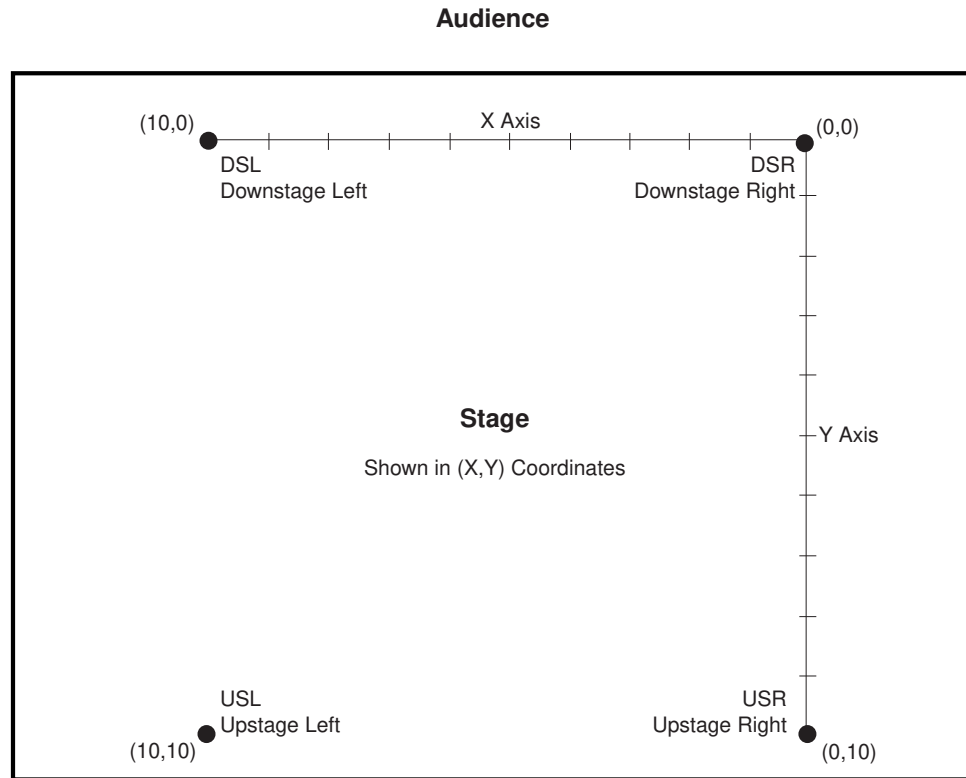
If you're in a touring situation, then the XYZ system can eliminate the daily task of updating preset focuses. Instead, just recalibrate the lights and all focus palettes created with XYZ coordinates will now be adjusted for the new venue.

 ***Fixture library version 3.0 or higher must be used for the XYZ system to work. Also, not all fixtures have necessary 3D space information. See the Fixture Library Appendix to adapt an old library or calibrate a fixture.***

## Calibration

The XYZ system must first be calibrated before use. This process is simply a matter of aiming every fixture at each of four calibration points. Accuracy is quite important, so you may want to iris down the fixtures when aiming, if possible.

The map below shows the X and Y coordinates mapped onto a stage. Z is the height above the stage.



To calibrate fixtures:


- 1** Choose 4 points of a rectangle on stage which correspond to the diagram above. The bigger the rectangle, the better.
- 2** Create four focus palettes—one for each point:

USR	Upstage Right	X=0	Y=10
USL	Upstage Left	X=10	Y=10
DSR	Downstage Right	X=0	Y=0
DSL	Downstage Left	X=10	Y=0

- 3 Aim all moving lights at each one of the four points and record them into the respective palette.
- 4 Select each of the four focus palettes in turn, press **Set** twice and then chose the appropriate identifier (e.g., Cal USR).
- 5 Press **Calibrate** on the **Select** menu.
- 6 Press **Focus** twice to change the parameter wheels to X, Y, and Z controls for programming in 3D space.

### Recording Cues with XYZ

XYZ information can only be recorded into palettes, and **not** into cues. Therefore, it is advised to record all XYZ information first as preset focus palettes, and then record these into cues, so that the cues are updated when the fixtures are recalibrated.

 ***When manipulating yoke lights in the programmer using XYZ, be aware that at the point where tilt is at 50%, any value of pan is valid the fixture may flip temporarily. However, this problem will only be during programming since during playback all fades are performed on the pan and tilt parameters. This problem is more pronounced the faster the fixture is being moved.***

When a cue is loaded for editing, the XYZ parameters are untouched, even though it is using an XYZ palette. This is correct, and avoids the temptation to modify XYZ in the cue and press update (which would just copy the hard pan and tilt values to the cue, and break its reference to the palette).

 ***To modify an XYZ position, load and update the palette, not the cue.***

### Recalibration

If fixtures are moved, they'll need to be recalibrated to ensure proper performance. In a touring environment, every fixture will need to be recalibrated every time a new venue is reached. In order for this process to work properly, it's important that the four points be in the same position relative to the stage elements.

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## Grouping

Pressing **Grouping** on the Programmer toolbar will group together fixtures in the designated parts during fanning. For example, pressing 3 **Part** means:

<u>Fixture</u>	<u>Movement during fanning</u>
1,4,7,...	all go one way
2,5,8,...	all stay still
3,6,9,...	all go the other way

---

## Parking

Sometimes it's useful during programming to put a fixture in a setting and leave them there indefinitely. When fixtures are selected and **Park** (Programmer toolbar) is pressed, these fixtures will be "parked" at their existing levels. Cues can be programmed and playback occur, but these fixtures will remain where they are. Think of it as a super-high priority setting on the console.

If any parameters are touched, then only they get parked or unparked. If no parameters are touched, then all parameters of selected fixtures are parked or unparked.

Press **Pig** and **Park** to unpark.

Parked channels are labeled **Parked** in the Output display and the Patch window and Patch **Channels** window.



***The Grand Master does not affect parking. Fixtures parked at full will remain there even when the Grand Master is at 0%.***

---

## DMX Test Mode

To bring up a specific DMX channel in the Programmer, use the DMX Test Mode. It works just like selecting an extra fixture type.

To enter DMX Test mode, press the **Group** button to display a list of the available fixture types, and select the last item in the menu: **DMX Test**. The normal syntax for fixture selection, highlighting and adjustment now controls DMX channels instead of fixtures. For example **1 Thru 10 @ FULL** puts DMX channels 1 thru 10 to full. You can also park/unpark DMX channels in the same way as parking/unparking fixtures.

To change the DMX Output, press **Group** and the menu displays the available outputs (1-4, or more if you are using overdrive). Alternatively, select **Absolute Addressing** in the Patch window to refer to all outputs simultaneously (e.g. 1 Thru 2048).

Use the Patch window instead of the programmer window to see what is programmed: open the Patch window, and choose **View...** then **Channels**.

To return to normal fixtures mode, press **Group** and select the last menu item: **Fixtures**.



# Effects Engine

*This chapter covers the Effects Engine both in summary and in detail. Users who do not need to create custom effects should read the initial sections and then skip to the next chapter.*

The Effects Engine is a way of creating dynamic effects very quickly. You can use it to make circle effects, ballyhoos, shutter chases, fluctuating rainbows, and many more.

Previously, to make a dynamic effect, you had to create each static look first, turn them into a chase, and finally run the cuelist to obtain the effect. Now, only a few button pushes will create the same effects within the programmer for recording into a single cue.

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## Using the Effects Library


The WHOLEHOG II comes with a library of prerecorded effects to make programming as simple as pressing a button. For example, to create a circle chase:

- 1** Select the fixtures for the effect and put them in the desired intensity and colour settings.
- 2** Press **Pig** and **Effects**.
- 3** Press **Circle** in the Effects Library window.

A circle chase is generated for the fixtures. Now press **Ballyhoo** (and some of the other effects) to see what it does. If you have trouble finding them, try scrolling down the Effects window.

### Recording Effects

To record this look as a cue, just press **Record** as you normally would. A single cue will be created. To modify an effect after it's recorded, load it back into the programmer.

 ***It's possible to crossfade from one effect to another while running a cuelist. e.g., a circle effect can smoothly crossfade to a ballyhoo.***

### Adjusting Rate, Size, and the Center Point

The rate and size for an effect can be adjusted quickly with the left and center parameter wheels.

Certain effects—like circles—use a parameter setting as the center point (or base value). The center point will be the programmer's setting for that parameter when the effect is recorded. To change the center point, press **Effects** to turn it off, change the parameter setting, and press **Effects** again. If a palette is used as the center point, then the effect will change to reflect changes in the palette.



**Press parameters in the left column of the Effects Engine window to control which ones are controlled by the wheels.**

### Offset

Offset refers to where in an effect cycle a fixture begins the effect. A single effect can have many looks by using different offsets. Many of the preprogrammed effects in the Effects window have several permutations with different offsets depending on the number of fixtures.

### Fanning Effects

A quick way to evenly spread the offsets across a range of fixtures is to fan them; hold *Set* while turning the Offset wheel. This can generate some interesting looks. Fan also works on rate and size

### Turning off the Effects Engine

Simply close the Effects window. The parameter wheels will return to normal once **Focus**, **Colour**, or **Beam** are selected.

If you just want to turn one component of an effect off:

- 1** Select the fixtures.
- 2** Move to the row of the parameter to be cleared, and position the entry box on the table column.
- 3** Press **Set**, and choose **<none>** from the list of tables.

### Color and Gobo Wheels

The Effects Library contains preprogrammed profiles for specific fixture color and gobo wheels.



**Real-time effects take up 8 times more memory than a normal static look. This means that you would be able to store 8 times fewer cues than normal, if all cues were made up of effects. Keep this in mind when planning your show.**

---

## Making Custom Effects

It's also possible to create effects from scratch if the Effects Library doesn't have what you need. Effects are usually transferable from one fixture type to another (provided they have the same parameter names), so an effect created on an Intellabeam can be used on a Cyberlight.



Effects Engine						
Parameter(s):	Table:	Rate:	Size:	Offset:	Setting:	Combo:
ALL		0	0	0	1:1	Use Base,...
Intensity	-					
Pan	Sine	0	0	0	1:1	Use Base
Tilt	Cosine	0	0	0	1:1	Ignore Base
Magenta	?					
Cyan	?					
Yellow	?					
Focus	?					

To make your own effect:

- 1** Select your fixtures.
- 2** Press **Effects** on the programmer toolbar.
- 3** Select one of the boxes labelled **Table** next to the parameter you want to apply an effect to.
- 4** Press **Set**. A window will pop up, allowing you to chose different types of effect, as listed below.
- 5** Do the same to other parameters.
- 6** Adjust the rate, size, and offset either selecting a parameter and using the wheels or by moving to the boxes next to a parameter and pressing **Set** (to adjust just that parameter) and typing in a new number.
- 7** Select other fixtures, and set more effects. There are no restrictions on effect combinations within a cue.
- 8** Record to a cue using the normal syntax.

These are some of the possible effect tables that appear in the Effects Engine window.

<u>Table</u>	<u>Effect</u>
Sine	Standard wave movement
Cosine	When combined with sine on the other focus parameter, makes up circle movements

<b>Step</b>	Gives snap changing on / off
<b>Sawtooth</b>	Gives faded on / off
<b>Ramp</b>	A ramp with a snap return at the end
<b>Spiral</b>	Used to make spiral effects
<b>Tan</b>	Spiky effects
<b>Random</b>	Various random effects


 **Custom effect tables are created in the Curve Editor window.**

The Effects Engine window shows the setting of the *first* fixture in your selection (like the parameter wheels do for normal values). This means that you may see no effect details in the window even though some fixtures have effects programmed. If you select several fixtures with different settings, you will need to use the **Next** key to step through the values.

Moving the parameter wheels adjusts rate, size and offset settings in proportion across parameters and fixtures. That means, that if you had a figure of eight effect (where tilt is double the rate of pan), then increasing the rate with the wheel will increase the rates in proportion so that the figure eight is maintained. Similarly, if you select two fixtures with different rates, and then move the rate wheel, the fixtures' rates will be adjusted in proportion. You can achieve the same result by editing the setting boxes in the 'All' (i.e. all parameter) row.

All changes made to the settings in the **All** row are relative to the current value *in the box*. So if you select a fixture, and want to change its offset by 50%, you must add another 50% to the current setting.

In contrast, the edit boxes for rate, size and offset for a specific parameters allow you to make absolute adjustments. That means if you select several fixtures with different values for a box, editing it will force all selected fixtures to the new value.

 **Sometimes the console may not be able to synchronise all your effects in the programmer correctly (if they have come from many different sources). To resynchronise, turn Blind on and off.**

### Base Values

Most of the effects that are provided on a new show disk are *relative*. This means that they expect to be added to a base value.

You set the base value just like setting up a normal value, using the parameter wheels or by choosing a palette. This can be done before or after you have selected an effect.

You can remove the base value from the effect by changing the **Combo** column against a parameter from "Use Base" to "Ignore."

### Part Setting

The **Part Setting** option automatically spreads any effect across groups of fixtures. You can also select the effect to run as a one shot effect.

To choose a part setting:

- 1** Open the Effects Editor window.
- 2** Move the entry box to the **Setting** column. The **All** row will affect all effects on selected fixtures. Other rows will affect only the effect on the corresponding parameter.
- 3** Press **Set** and select a new setting from the list. New tables and offsets are automatically calculated to achieve the new part setting.

One Shot mode is selected the same way as choosing a part setting (one shot options are at the bottom of the list). Once the effect has run, you can test it again in the programmer by turning blind on and off.

### Effects Library

Custom effects can be stored in the Effects Library. Use either the pre-prepared effects from a new show, or record your own. Effects Libraries can be merged from other shows. This way, it's possible to build up a personal library of effects which are used from show to show.

To store a new effect:

- 1** Create the effect as above.
- 2** Press **Record**, and mask out any unwanted parameters (e.g. intensity in a movement effect).
- 3** Choose an Effects palette.

The new effect button will store the effects and any base values you set up. An IFCB indicator will show what has been stored.



***Effects in the effects library do not automatically update like palettes in a cue.***



# Playback

*This chapter covers playback of programmed cues.*

The WHOLEHOG II is designed for maximum playback flexibility:

- Powerful timed playback of cuelists for theatrical shows. They can be controlled manually or fully integrated with timecode inputs from tape or MIDI, or triggered via MIDI show control.
- Simultaneously operation of multiple independent cuelists for unstructured shows.
- Quick access to fixtures, cues, and cuelists. Use of the DMX Input and Expansion Wing features increases the number of available Masters.
- An instant and crossfading page changing system simplifies page changing to one button push, and allows set list changes at the last minute.



---

## Masters

The Masters are the bank of faders and buttons located below the left touchscreen. Each Master has the power to control a complete cuelist, a single chase, or a single cue; all of them can be run simultaneously or in any combination.

Each Master includes four buttons and a fader. The buttons are, from top to bottom:

- Choose** Used to select the Master during programming operations. Pressing it otherwise selects the Master. The selected Master is the one controlled by the Central Controls. It is also the master that is the default destination for programming operations, e.g. **Record**.
- Go** Press **Go** to start a cue fading and start the cuelist executing cues (running). If the cuelist is already running, press it to skip cues or to exit from loops.
- Pause** Freezes any crossfading cues, and stops the cuelist from running. Pressing **Go** will resume fading and execution of cues. Once a cuelist is stopped, pressing **Pause** again fades backwards through the cuelist.
- Flash** Bumps the cuelist's intensity to full. You can configure the cuelist so that its intensity is controlled in an HTP or LTP fashion.
- Fader** Fades the cuelist's intensity. You can configure the cuelist so that its intensity is controlled in an HTP or LTP fashion.

### Alternate Actions

Holding down the choose button while using a Master's controls will give different actions:

- Choose + Go** Step to the next cue without fading and without starting the cuelist running.
- Choose + Pause** Step back to the previous cue without fading.
- Choose + Flash** Activates the master. This is like pressing **Go**, but the cuelist does not start executing cues, and stays on the same cue. Use it to reassert a master that's been overridden.
- Choose + Fader** Manually crossfades all the cuelist's programmed parameters.

---

## Central Controls

Masters can be linked to the Central controls by

- 1** pressing a master's **Choose** button, so that it is the *selected* master.

*OR*

- 2** by holding any number of **Choose** buttons. Those masters will be linked to the Central Controls while the **Choose** button(s) are held down.

The Central Controls consist of: **Release**, **Skip Forward** and **Back, Goto**, the manual crossfader, and the large **Go** and **Pause** buttons.



### Turning Off a Fader—Releasing

Pulling down a fader only forces programmed intensities to 0%. To release *all* parameters of the selected fader so that they have no effect on output, press **Release**.

To release all faders at once, press **PIG** plus **Release**.

When releasing a master it's normal to select it first (i.e., press its **Choose** button). However, sometimes it may not be desirable to change the selected master—for instance, keep a master's cuelist display visible. (The cuelist display always shows the cuelist on the selected master.)

To release a master's cuelist without selecting it:

- 1** Press and hold down **Choose** on the master to be released.
- 2** Press **Release**.
- 3** Let go of **Choose**.



### Goto

To jump straight to a cue, and start the cuelist running:

- 1** Press **Goto**.
- 2** Enter the cue number to jump to, say **45**, or just press its button.
- 3** Press **Enter** to execute a fade to the destination. The console will use the time of the incoming cue.

### Skip Forward and Back

These buttons skip forward and back through the cuelist on the selected master without fading.

### Go and Pause

These buttons work exactly like those on the Master; they're just bigger and are easier to reach.

---

## Manual Crossfading

There are several methods to manually execute a crossfade.

### Designate a cue as Manual

The fader in the Central Controls manually controls the crossfade from one cue to another within a cue list when a cue's wait time is set to **Manual**.

To start the crossfade, make sure the crossfader is at an end stop, then move the fader. Until the crossfader reaches the end, it's possible to fade the cue in and out.

### Manual Override

It's also possible to take control of a crossfade without presetting it as manual wait in the cuelist window. Bring a crossfade under manual control by holding the relevant **Choose** button and

moving the manual crossfader (not the master's own fader). This halts the present fade and its remaining duration will correspond to the length of the manual fader. Once the fade is completed the master is returned to its normal state, as if no interference had taken place.

The manual fader must start at an end-stop for this operation. However, moving the fader to an end-stop while holding **Choose** will halt the cue and place it under manual control immediately. Once the fade is halted and under manual control it is not necessary to hold the choose button.

This operation will take control of fades that are running or halted, or if there are no running fades it will initiate the next crossfade, under manual control. Pressing the **Go** button in either case will return the fade to its original automatic timing, and it will complete over its remaining duration.

Masters with manual fades in progress have their **Pause** (red) indicator solidly lit, and their **Go** (green) indicator flashing. It is not possible to start another manual fade while one is in progress. However, it is possible to run a manual fade on a master other than that currently selected by holding the appropriate choose button.

### Manual Crossfades between Masters

To crossfade between two or more masters:

- 1** Make sure that the incoming master's fader is at 0. Hold down the **Choose** button of the incoming master.
- 2** Pull down the faders of the outgoing master(s). At this point, NO fades will occur.
- 3** Move up the incoming master's fader. This will now perform the crossfade between the outgoing masters and the incoming master.
- 4** Release **Choose** on the incoming master


---

## Overriding Programmed Timing

Timing can be overridden by holding down a Master's **Choose** button and turning one of the three parameter wheels:

- Console Rate** on the right wheel changes the rates of all fades across the whole console regardless of the **Choose** button pressed.
- Cuelist Rate** on the center wheel adjusts fade rates on that Master only. This setting remains until changed again.
- Single Q Rate** on the left wheel adjusts the time for the current fade (either in progress or at the **Go**) and is automatically reset to 100% when that fade completes. Thus, the override will not effect other fades or masters.



 ***Note that the percent value relates to the length of the fade. So 200% means that all times will be twice as long as what their programmed values, and 50% means that all times will be half as long.***

---

## Master Precedence

Because the console can simultaneously run eight separate cuelists—more with the expansion wing or virtual masters), there is possible conflict over which master actually has control of a parameter. In order to decide which master has control, the console applies the following rules:

### **For Focus, Colour And Beam Parameters:**

The console uses Latest Takes Precedence (LTP). This means, the most recently activated masters will override earlier masters. (Note: Only the specific conflicting parameters are overridden; non conflicting parameters on the earlier masters will be left untouched.)

Releasing overriding masters will return the overridden parameters back to the control of the old masters.

Masters which are fully overridden (i.e., all programmed parameters have been overridden by other masters) are released automatically. This is called stomping.

The Programmer always has priority over the Playback Masters. (Remember, you can press **Blind** to suspend Programmer output).

### **For Intensity Parameters:**

By default these are also controlled by LTP, but you can set cuelist options to make a master work in a Highest Takes Precedence (HTP) fashion. In this case the console will output, for a particular intensity channel, the highest programmed value of all the HTP masters and the highest priority LTP master.

Cuelist options exist for fully customizing the priority scheme for a cuelist. See the Cuelist Options section in this chapter.

 ***The Levels window is a good way to determine what Master is controlling a fixture.***

### **What is an Active Master?**

An active Master is a master that has had **Go** pushed, has been manually faded up, or has been activated using **Choose + Flash**.

Masters, once activated, remain active until fully overridden or manually released. Partially overridden masters are still active, and thus still control the remaining, non-overridden parameters. Cuelist options customize overriding.

### **Playback Master LEDs**

The Masters' LEDs give feedback as to the active and override status of a master.

<u>LED</u>	<u>Solid</u>	<u>Flashing</u>
<b>Go</b>	Executing Crossfade	Crossfading, but fully overridden
<b>Pause</b>	Controlling Colour, Beam or Focus Parameters	All CBF overridden, or no CBF
<b>Flash</b>	Controlling Intensity	All I overridden, or no I

### Default Values

When no playback masters are active, and nothing is selected in the Programmer, the console will output the default values for each parameter. These values may be modified in the Edit Fixtures window.

### Grand Master

The Grand Master is the overall intensity control for the entire console. Most often, it's simply left at full. Only intensity parameters are controlled by the Grand Master; it has no impact on colour, beam, or focus.

### DBO

This button sits above the Grand Master and stands for Dead Black Out. When pressed, it immediately brings all intensity levels to 0%, where they'll remain as long as the button is held down.

Release **DBO** to immediately restore light to the stage.

---

## Customizing Playback with Cuelist Options

Press **Options** to open the cuelist Options window for customizing Master response.

**Current Fader 1: The Show**

**Flash Button Action:** Swaps + Go +Release **Chase** **Manual Fade:** 2s **Set to Default**

**Fader Action:** Use HTP Inhibitive + Go when off 0 Crossfade IFCB

**Chase:** Normal **Chase**

**Chase Direction:** Up Down Rand Bwnc

**Rate:** 80 **Fade %:** 100

**Priority:** High Priority Persist on override Release on next Go

**Action of Go while Running:** Start next, skip loop Start next, exit loop at end **Restart** Stop at next

**Chase Options:** Stop on last Release on last Stop on first Release on stop

**Advanced Options:** Add Blank First Cue Reset when released **Maintain State** ...but not in jumps

All these options are stored in the cuelist. If you change to a different cuelist (by changing page, for example), the option settings may change and the Master will behave differently.

Indicators will appear above the Masters on the LCD for important options to show what has been set.

### Flash Button Action

**Flash** buttons are the clicky buttons in the first row above the faders, and are used for bumping Intensity on and off. They can be set up to operate one of the following ways:

- Swaps** If not pressed, the console runs in an additive mode. If selected, pressing the **Flash** button forces all other master's intensities to 0%.
- +Go** Pressing the **Flash** button will also press **Go**.
- +Release** Releasing the **Flash** button releases the entire cuelist.

### Fader Action

Faders are used for controlling Intensity levels. Intensity from different masters is combined together according to the options set for each cuelist:

- Use HTP** Unless this item is selected, the console runs intensities in LTP.
- +Go when off 0** **Go** is also pressed automatically as soon as the fader is moved from zero.
- Crossfade ICBF** All parameters crossfade when the fader is brought up.

### Action of Go While Running

These options determine what happens when the **Go** button is pressed while a cuelist is already executing cues.

- Start next, skip loop** Starts next cue immediately. Or, if the cuelist is in the middle of a loop, it goes immediately to the first step after the loop.
- Start next, exit loop at end** Starts next cue immediately. Or, if the cuelist is in the middle of a loop, it completes the loop before moving on.
- Restart** The cuelist starts again at the first cue.
- Stop at next** Finishes fading the current cue, and stops at the next cue. In contrast, **Pause** freezes the current cue instantly.

### Manual Fade

This is the fade time used by the cue list for all manual operator activity, namely

- Releasing.
- Jumping to different parts of the cuelist using **Goto**.
- Using **Pause** to go backwards.

This fade time is also used for fading operations where no other appropriate time exists, namely fades for jumps inside a cuelist, where the parameters are not in the immediate next cue (i.e., the fade time used for resetting the 'state').

### Priority

Latest Takes Precedence cuelists can be prioritized manually to prevent certain masters overriding others. If there is a conflict between two cuelists sharing the same priority level, then normal LTP rules apply.

**High Priority** For high priority. Use this to make sure that something won't get overridden.

**Release on next Go** For low priority. The cuelist releases automatically when another fader is activated, even if not fully overridden.

In normal operation, the console automatically releases masters that have been fully overridden (a process called 'stomping'). This is to make it easier for you to see what is actually active. However, in certain circumstances this is inconvenient, so it is possible to prevent this from occurring.

**Persist on override** Prevents the cuelist from getting stomped. This way, you can return to looks on this master when other masters are released.

### Advanced Options

Further options help get the cuelist to respond the way you would like.

**Add blank first cue** Inserts an empty cue at the start of the cue list, as a safe place for the cuelist to rest before starting, or after the last cue in the list has been executed. This is useful when you want to start with the first cue, but don't want to have to release the master to do so. This function is turned on automatically when timecode is used.

**Reset when released** Resets the cuelist to the first cue when released. Normally, the cuelist will remain on the current cue, and will restart there if you press **Go** again.

**Maintain state** The cuelist automatically outputs the cumulative effect of all its cues (the state), even though only changes are recorded in cues. If this option is not selected, then only the information specifically programmed in each cue will be output when that cue is active.

**...but not in jumps** If **Goto** or a link cue is used to jump to a new cue, the state will not be recalculated to reflect the state at the new position (i.e., the cues in between the old cue and the cue jumped to will be ignored.).

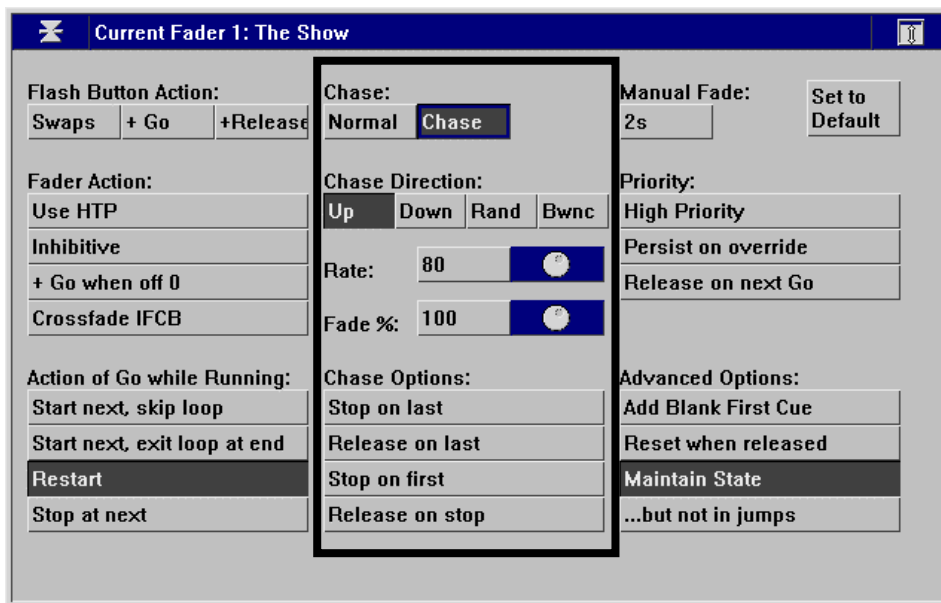
---

## Chases

Chases are simply cuelists with different timing settings. Each chase step is a normal cue.

To create a chase:

- 1 Record a series of steps just like you would to create a cuelist.
- 2 Open the cuelist *options window* by first opening the cue list window and then pressing **Options**.
- 3 In the Chase section, press **Chase**. Your cuelist has now been turned into a chase.



### Chase Timing


A chase plays back its steps (cues ) using beats per minute (BPM) to control the rate, and crossfade % to control the amount of fade between steps.

There is no upper limit on rate nor crossfade %. A crossfade of 0% means that the chase will snap change. Chases crossfading at 100% will fade smoothly from step to step, with no intervening stationary time. A crossfade of 200% means that only half the crossfade will be completed before moving onto the next step.

To adjust rate and crossfade:

- 1 Hold down the master's **Choose** button. The parameter wheel display will change to show **Rate** and **Fade %** (the right wheel becomes the rate thruster, a console-wide rate control).
- 2 Adjust the left and center parameter wheels.

Or, timing can be adjusted by typing settings into the timing boxes in the options window:  
**Rate**, **Fade%**.

 ***Cues inside a chase do not have to have simple default fade and delay times. You can adjust them parameter by parameter as though they were a normal cue.***

### Chase settings

In the *options window*, you can select the chase direction:

<b>Up</b>	The chase runs from the first to the last step.
<b>Down</b>	The chase runs from the last to the first step.
<b>Rnd</b>	(Random) The chase randomly picks the next step.
<b>Bwnc</b>	(Bounce) The chase runs from the first step to the last, then back to the first, etc.

Normally the chase loops continuously. To change this:


<b>Stop on last:</b>	Executes the chase once and then stops.
<b>Release and stop:</b>	Runs the chase once and then automatically releases it upon completion.
<b>Stop on first:</b>	Runs the chase once and then returns to step one and stops.
<b>Release on stop:</b>	Releases the chase when <b>Pause</b> is pressed.

---

## Virtual Masters

Virtual masters are masters that run from the cuelist directory and have no buttons or fader. They default to working at full intensity.

Virtual masters are created and assigned as needed. Users can have an almost unlimited number of virtual masters all running different cuelists.

 ***The more things the desk tries to do at once, the slower its response will get. If too many cuelists are all running at once then the desk might not respond quickly enough to more important functions such as sending DMX!***

To replay a cuelist on a virtual master, the cuelist must not be loaded on any other master. Then:

- 1** Press **Pig** and **List** to bring up the cuelist directory.
- 2** Press and release the macro's entry in the directory.

**OR:**

- 1** Press **List**.
  - 2** Type the number of the cuelist and press **Enter**.
- OR:**
- 1** Press **Pig** and **List** to bring up the cuelist directory.
  - 2** Press and hold the cuelist's entry in the directory.
  - 3** The **Go**, **Halt**, **Forward**, **Backwards**, and **Release** buttons of the central controls can now be used to control the cuelist.

You will see that the **x0** in the top right hand corner of the cuelist button changes to **VM**. This signifies that the cuelist has been connected to a virtual master. To the left of this will be a couple of other characters. An **H** signifies that the cue has halted and is waiting for a go press, an **R** signifies that the cue is running. A plain number signifies the progress through the cue as a percentage, a number preceded by a **Q** signifies the cue that the cuelist is on.

Cuelist Directory			
1 H Q1 VM Q List 1	2 x1 Q List 2	3 x1 Q List 3	4
11	12	13	14

You can only run one copy of a cuelist on a virtual master at once. If you push the button in the cuelist window a second time it does NOT allocate the cuelist to another virtual master. Cuelists are only connected to a virtual master if they are not connected to another master of any type. Pushing the button in the directory window when the cuelist is connected to a master (of any type) has the same effect as if the cuelist were connected to a normal master and you pushed go.

Pushing and holding the virtual cuelist's button mimics the action of holding the down the **Choose** button on a normal master. When the **Choose** button is held down, the central controls can be used, including the manual fader. To release a cuelist attached to a virtual master, users should choose the master by pushing and holding its button in the cuelist directory and then press **Release**.

### Control Panel Options

Pushing and releasing the cuelist's button mimics the action of pressing the **Go** button on a normal master. Since this is easy to do accidentally, there is a **Guard Cuelists** option in the Control Panel window to turn this functionality off. With this option enabled the cuelist can still

be run from the command line or by choosing the cuelist and pressing the large **Go** button in the middle of the desk.

When a cuelist running on a virtual master is released the virtual master disappears. Cuelists that are stomped get released. If the virtual master that a cuelists is running on keeps disappearing it is probably because it is being stomped by another cuelist. Selecting the **Persist On Override** option will prevent stomped cuelists from being released. Virtual Masters disappearing at the end of a cuelist is similar. If the **Stop Release On End** option is selected, the cuelist will be released once it reaches its end, de-selecting this option will keep the cuelist connected to the virtual master.

### Editing Virtual Cuelists

Virtual Cuelists are edited just like normal ones: Press **Pig** and push a button in the cuelist directory to open a cuelist window for that cuelist. Since the cuelist is not necessarily connected to a master, some of the options may be unavailable.

It is possible to insert Mark, Link and Macro cues into virtual masters. If the cuelist is active, then the cue is inserted at the current cue, the one with **>>** in the wait box. If the cuelist is not active then the cue is inserted at the selected cue, the one with the outline around it. Mark cues are inserted before the cue, link and macro cues are inserted after the cue.



There are two type of macros. Comment macros are placed in the cuelist comment box and trigger activity on the console. Recorded macros allow a sequence of screen and button presses to be recorded for later playback.

---

## Comment Macros

The macro commands are typed into the comments box of a cue using **Set**. They execute when the cue starts. If you don't have a cue at an appropriate point, record a blank cue.

The available commands are:

<b>G</b>	<b>Go</b>	G2 to Go the second Master.
<b>S</b>	<b>Pause</b>	S2 to pause the second Master.
<b>R</b>	<b>Release</b>	R4 to release Master 4.
<b>P</b>	<b>Page</b>	P12.1 to change to page 12.1 (Use the page numbers shown in the page window buttons
<b>T</b>	<b>Goto</b>	G6 to goto cue 6 on currently selected master
<b>C</b>	<b>Choose</b>	C5 chooses master 5
<b>V</b>	<b>View</b>	V1 selects the first view
<b>J</b>	<b>Release</b> (virtual)	Releases a virtual cuelist.
<b>K</b>	<b>Release</b> (macro)	Releases a macro.
<b>L</b>	<b>Go</b> (virtual)	Mimics a Go push on a virtual cuelist.
<b>M</b>	<b>Go</b> (macro)	Mimics a Go push on a macro.
<b>I</b>	<b>Tcode</b>	Starts timecode.
<b>H</b>	<b>Tcode</b>	Stops timecode.
<b>F n</b>	<b>Reset n</b>	Resets timecode option 1, 2, or 3, where n is the number

To distinguish the macro from a normal comment, it is preceded by **>**. Multiple macro commands can be separated on the same line by **:**. A range can be triggered using **>**.

For example, **>G2 : G4** triggers the **Go** buttons on Playback Masters 2 and 4. **>G4 >7** triggers the **Go** buttons on Playback Masters 4through 7. To trigger DMX masters, insert a **D**, e.g. **>GD1**

---

## Recorded Macros

Recorded macros are series of macrocues that store keypresses and other actions that the user may perform, such as mouse clicks and touchscreen presses. When the cue is executed, the

keypress or action is regenerated. Macro cues are stored in cue lists and can be freely mixed with link and mark cues that normally comprise cue lists.

### Recording Macros

Keypresses can be recorded interactively. Keypresses are always recorded into cue lists in the macro directory. To begin recording keypresses:

- 1** Press **Record**.
- 2** Press **Macro**.
- 3** Press one of the blank entries in the macro directory

*OR:*

- 1** Press **Record**.
- 2** Press **Macro**.
- 3** Type in the number of a blank macro cue list and press **Enter**.

The console will beep and the phrase **Record** appears on the left hand side of the command line bar on the right touchscreen to signify that recording has commenced.

All subsequent button presses will be recorded into the cue list. If the **Learn Macro Timing** option in the Control Panel window is set then the time interval between the previous and current button press will also be recorded.

Only one macro can be recorded at a time, the console will not allow you to record another macro if a macro is already being recorded.

### Stopping Recording

To stop recording:

- 1** Press and hold **Pig**.
- 2** Press **Record**.

There will be another beep to signify that the console has stopped recording and the indicator on the command line bar returns to displaying the current page.

To see the cue list that has just been recorded press and hold **Pig**, then press **Macro**. The macro window will appear. While still holding **Pig** press the entry that has just been recorded, and a cue list window will appear that contains the macro cues that have just been recorded.

Move list to pages									
Follow Current	Learn Timing	Insert Mark	Insert Link	Insert Macro	Options..	Contents	Unblock..	Renumber	
Wait:	Cue:	Type:					Comment:		
	1	Load View		Macro 1					
Follow	2	Wait For...		Empty...					
	3	Push Move							
Follow	4	Release Move							
Follow	5	Touchscreen		Down, 1		24 47			
Follow	6	Touchscreen		Move, 1		28 54			
Follow	7	Touchscreen		Up, 1		28 54			
Follow	8	Touchscreen		Down, 0		600 458			
Follow	9	Touchscreen		Up, 0		600 458			
Follow	10	Push Choose		0 7		0 0			
Follow	11	Release Choose		0 7		0 0			
Follow	12	Wait For...		Empty...					
	13	Wait For		Empty					

### Appending To A Macro Cuelist

To append to a macro:

- 1** Press **Record**.
- 2** Press **Macro**.
- 3** Press the button corresponding to the cuelist that is to be appended to.

*OR:*

- 1** Press **Record**.
- 2** Press **Macro**.
- 3** Type the number of the cuelist that is to be appended to.

You cannot append to a macro that is being played.

You cannot append to a macro if you are already recording a macro.

### Replaying Macro Cuelists

Pressing and releasing an entry in the macro directory will run it. Or:

- 1** Press **Macro**.
- 2** Type the macro number.
- 3** Press **Enter**.

Macros automatically have an option set that stops and releases them once the end of the list is reached. This makes them ready to be re-run.

### Editing Macro cues

Pressing **Set** while over a macro cue will bring up different editing menus depending upon which column is selected, and which type of cue is being edited.

Pressing **Set** while in the column labeled **Type** brings up a list of key presses that macros can record and replay. At the very bottom of this list are a couple of entries that perform more complex functions that are difficult or impossible to do with keypresses. These are described in the additional functions section.

With some buttons it is important to know whether the button is being pushed or released. **Pig** is a good example of this; it is important to know when the **Pig** key is pushed and released since it changes the way other buttons operate. Some buttons in the type column have **Push** and **Release** next to them. Pushing **Set** twice on the type column brings up a small menu that can be used to alter the push and release attributes.

Other entries have coordinates and numbers in the two columns to the right. Pressing set over these brings up an edit box that allows you to change their value. Some entries comprise of two values, both values should be entered into the edit box separated by a space. The original values will not be updated if the new values are not understood.

### ...but I didn't press that button!

The macro recording code adds a couple of additional cues automatically.

- It will automatically record a **Load View** into the first cue, so that when a macro is run the windows are set up in the correct places for touch screen presses and mouse clicks. This means that the windows that are currently onscreen will be lost, if the macro does not contain any touch screen presses or mouse clicks then the **Load View** cue can be removed. If additional key presses are appended then another **Load View** cue will be recorded at the point where appending started. The **Don't Store View** option in the control panel window can be used to disable the automatic recording of desktop views.
- **Wait For, Empty...** cues are added after key presses which initiate complex tasks, eg. a load view operation, or a record operation. The complex tasks take a small amount of time to complete, the **Wait For** command waits for the task to complete before proceeding with the next cue in the cuelist. The subsequent cue in the cuelist will automatically be set to a **Halt** cue.
- Extra cues may also be added at the end of the cuelist to release any keys which were still being pushed when recording stopped. Typically this is the **Pig** key since the pig key has to be held in order to stop recording.

### Additional Functions

- **Load View** displays a desktop view. When editing the load view cue you are presented with a menu containing the currently stored views. The view that is selected is copied into the cue, so it remains the same even if the original desktop view is re-recorded. It is

not possible to directly copy a view stored in a macro cuelist back onto one of the view buttons. Try running the cuelist so that the view stored with it is loaded onto the screen and then record this onto the desired view button.

- **Wait For** is used to wait for processes that take a substantial period of time. The **Wait For** cue adds the cuelist to a list of cue lists that are waiting, and once the process that is being waited for has finished a **Go** press is sent to the cuelist. The macro recording cue automatically sets up the subsequent cue to be a **Halt** cue, although there is no reason why the immediately subsequent cue has to be the **Halt** cue. If the **Go** button is pressed at any time then the cuelist proceeds as normal, and is removed from the waiting list.
- **Message** pops up a warning box. The text used in the warning box is taken from the comment field of the cue.
- **Beep** produces a beep, a menu allows you to choose between a good beep or a bad beep.

### Warnings On The Use Of Macros



*While macros provide users with increased functionality, they can also cause severe problems if misused, even causing the console to lock up. It is therefore recommended that you have a recent backup of the show at all times.*

Avoid recording key press sequences which leave the desk in an unstable state when replayed. For example:

If the sequence **Record, Macro, X, Enter** is included in a macro, when that macro is run it will start a macro recording and leave it recording once the macro has completed. You may not notice that there is a macro recording for quite a while, and all the time it is recording every key press made.

Macros have no intelligence, avoid recording sequence that accesses items that are likely to be moved or deleted. For example:

Consider the sequence where a cuelist is opened by holding **Pig** and touching the cuelist directory, some edit operations are then performed on this cuelist. The cuelist is then deleted from the cuelist directory, and the macro replayed. No cuelist window will be created since the cuelist no longer exists, and all of the subsequent edit operations will occur on whatever it was below, possibly altering the contents.

When opening a window it will appear in the position in which it was last used. This means that unless the window is open when the macro is recorded, there is no guarantee that it will open in the right place when the macro is replayed. For example:

Consider recording a sequence with a blank set of screens. The group window is opened and a couple of buttons are touched, then recording is stopped. Move the group window to the other touch screen and close it. When the macro is replayed the group window will get opened on the other touch screen, but all of the touch screen presses will still be on the original touch screen.

Users may also find that macro cuelists run faster than the desk can keep up with. This problem tends to manifest itself as keypresses being missed out when replaying the macro cuelist. Adding a short wait time in place of the **Follow On** command will solve this problem. The size of the wait required varies depending upon the number things the desk is trying to do at once, and the complexity of the task initiated by the preceding keypress, but times of no more than half a second usually suffice.



***Macros are platform specific; you can not transfer them between different console types.***

# Customization

*This chapter covers all the functions in the Control Panel window which let you customize the WHOLEHOG II's settings to fit your requirements.*

To open the Control Panel window, press **Setup** followed by **Control Panel**.

**Control Panel v3.1 (113) Beta**

Lock Edit | Lock All | Change PIN | Recalib Touch | Cuelist Defaults | Default Timing | Bus Devices | Test | Event Monitor | Debug Info

**Live Programmer**

Trackball does Pan/Tilt

Use external keyboard

Top left buttons do views

Front reselected windows

Page holdover if Active

Confirm overwrite

Edits Track Forward

Guard Cuelists

Don't Store View

Recall Visible

Save Visible

Learn Macro Timing

Display 1: None

Display 2: None

Backlight off after: 5m

Keyboard: English

Mem Left (kb): 4096

Full Cues Left: 16384

AutoExec Macro:

Sensitivities %:

Wheels: 100

Mouse: 200

Trackball: 100

Beep Sounds (0 is off)

Good: 2

Bad: 1

Keep parameters separate:

I F C B

Use 'comment macro' syntax; omit the '>'

Test

## Programming Defaults and Settings

### Keep parameters separate

The WHOLEHOG II treats certain parameters as a group; for example, it normally makes sense to record colour mixing parameters (Cyan, Magenta, and Yellow) as a group. However, many times you don't want a parameter such as Beam recorded as a group. If it were, you couldn't have a gobo chase operating simultaneously with an iris chase. The default is Beam parameters recorded independently, and others grouped.

### Live Programmer

The programmer crossfades to new palette selections using the default time.

<b>Trackball does Pan/Tilt</b>	Allows a mouse or trackball to set pan and tilt values without having to press <b>Focus</b> and use the parameter wheels. You cannot use the on screen mouse with this option turned on.
<b>Use external keyboard</b>	If you've plugged in a keyboard, use this button to prevent the internal keyboard from popping up. Remember to also select the country type.
<b>Top left buttons do views</b>	The tool buttons above the left LCD can trigger the views on the view menu below, or they can activate the menu buttons on the right LCD.
<b>Front reselected windows</b>	When this button is selected, windows that have been covered up by others will resurface when their function button is pressed.
<b>Page Holdover if Active</b>	Active cuelists are not released during a page change when selected.
<b>Confirm overwrite</b>	Confirmation window appears when copying over a cue.
<b>Edits track forward</b>	Defaults the console to tracking mode when selected. Otherwise, the default is Cue Only.
<b>Guard Cuelists</b>	Prevents virtual cuelists and macros from executing when pressed in the cuelist directory.
<b>Don't Store View</b>	Disables the automatic recording of desktop views in macros.
<b>Recall Visible</b>	When a desktop view is recalled, any windows which are not visible are closed.
<b>Save Visible</b>	Only the visible windows are stored when a desktop view is saved
<b>Learn Macro Timing</b>	Records in macros the time interval between button presses.
<b>Cuelist Defaults</b>	Press this menu button to open a window to set the default option settings for all new cue lists. The window layout and function is identical to the normal cue list Options window.
<b>Default Timing</b>	Unless you enter a different time while programming, all cues will automatically use these times.

### **AutoExec Macro**

Macros entered in this box will execute when the console is turned on. Use the same format as cuelist macros.



***The autoexec macro should not have a > character at the start.***



---

## Hardware Control

### Recalibrating the Touch Screens

Generally, it's not necessary to recalibrate the screens each time you start up the console, but if the buttons on the touch screens don't respond properly, this should solve the problem.

To calibrate the touch screens:

- 1** Press **Recalib Touch** on the Control Panel menu.
- 2** Touch the upper left corner and then the lower right corner of each screen.
- 3** Press **Enter**.

If the screens are functioning so badly that you cannot even select the buttons, the screens can be recalibrated on power on, by pushing **Enter** while the banner screen is still open.

### Setting the LCD Contrast

To set the contrast on the LCD screens, hold down **Setup**, and move the right parameter wheel to set the right contrast, and the center parameter wheel to set the left screen.

### Controlling the LCD Backlighting

Unfortunately, the backlighting on the HOG II will not last forever and will die out after a certain amount of use. If the LCD screen is dark, and setting the contrast makes no difference, the backlighting has expired and needs to be replaced. Contact your local dealer.

To make the backlighting last as long as possible, you can set them to turn off when the console is on but hasn't been used for sometime. Think of this like a screen saver on a PC.

**Backlight off after:** Set the time after which the backlighting turns off if the console hasn't been used. If you use 0, they will never turn off. To specify minutes, add an **m** using **Pig + .**

To restore the backlighting once it has turned off, press any button on the console. **Pig** is a good one if you don't want anything else to happen.

### External Keyboard

The console can use any IBM AT keyboard.

**Keyboard** Set your keyboard to the correct country configuration.

### External Displays

**No. external displays** Sets the number of external displays hooked up to the console. If you're only using one display, make sure it's plugged into connector 1 on the back.

### Event Monitor

This is a helpful hardware troubleshooting window. It monitors the activity transmitted by every button press and fader slide. For example, it's a useful way to determine if your faders are out of trim. It also shows MIDI events, and DMX input frames being received.

To close the event monitor window, hold **PIG** and press **Enter**.

Note that the Event Monitor window strips the terminating F7h byte off when displaying received MSC messages.

### Sensitivities

Sensitivities to movement can be set in the control panel for both the parameter wheels and the trackball. Press the entry boxes after **Wheels** and **Mouse/Tball**.

### Bus Devices

When using an Expansion Wing or remote, set it up here.

---

## Console Locking

There are two locking options: **Lock Edit** which just locks the programming and editing functions, and **Lock All**, which locks everything.

To lock the console:

- 1** Press **Lock Edit** or **Lock All**
- 2** A prompt will appear asking you for your PIN (personal identification number)
- 3** Press **Enter** to lock

With **Lock Edit**, the menu button will be dark to indicate that the lock is on. To unlock, press it again and enter your PIN.

With **Lock All**, then a warning window will appear indicating that the console is locked. There is an entry box for entering your PIN to unlock.

The default PIN number is 0. To change this, press **Change PIN**.

Once the console is locked, there is no way to get back in to your show without knowing the PIN number. If you've locked yourself out, try resetting the console and reload the last saved version of your show.



***If you use the locking feature, make sure you remember your number.  
There's no way to access your show otherwise.***

---

## Memory Control

Before performing an operation, the console checks to see if it has enough memory. If memory is running low, it will give a beep and an alert saying **Not enough memory**. In some instances, you may not have enough memory to save your show—in this situation, you will have to delete items until you have enough memory. In low memory situations, playback may also get disabled. User alerts will tell you when this has happened. Again, to restore playback, delete unessential programming.

To help prevent low memory situations, a memory counter in the control panel shows the total memory left. Also shown is the corresponding number of full cues you can program. Note: a full cue is a cue with all channels programmed—much larger than a typical cue—so the full cue number will always understate the number of cues left.

 **Periodic cold starts (resets) can help regain memory space.**

---

## Options File

A variety of esoteric options can be set in the `moreopts.txt` file in the setup directory of a show disk. It can be edited using any standard text editor.

Current options supported are:

### MIDI Step Back

To enable MIDI output from cue comments on stepping back, set `MIDI_step_back = 1`. 0 is the default = 0.

### Page Reload

Set `ignore_same_page = 1` to prevent a page reload if you change to the page that you are already on (default = 0).

### Postpone HTP Assert

When this option is on (i.e. `postpone_htp_assert = 1`), then an incoming HTP master will only assert itself on a page change if:

- The outgoing master was also an asserted HTP master, or
- The slider is pulled to 0 and then moved up again, or
- **Go** is pressed

For example, this would be used to stop a master unexpectedly jumping to full, if the fader is up and you change pages from an LTP cuelist to an HTP one.

If the option is off or not specified, an incoming HTP master will automatically assert itself.

This option affects the behavior of all masters, and cannot be set on a master by master basis.

### Key Repeat

If you hold down cursor and scroll keys, the keys will now repeat. Adjust the settings with (values in hundredths of a second):

`delay_before_repeat = 20`

`repeat_interval = 5`



### Disable Release Key Action

Pressing the **Release** key on its own releases the current Master. There is a new option to disable this, so that you have to press **Choose** or **Pig** in combination with **Release**.

release\_needs\_choose = 0     **Release** works as normal, on its own or in combination with  
Choose or Pig  
release\_needs\_choose = 1     **Release** only works in combination with **Choose** or **Pig**

# Advanced Setup

This chapter covers advanced setup functions—such as patching options, parking, fixture talkback, etc.—not covered in the *Getting Started* chapter.

				Patch					
Add Fixtures	Edit Fixtures	Auto Menus	Over Drive		Output 1	Absolute Address	View...	Scroll <>	
1 DMX Output (start code 0)				2 DMX Output (start code 0)		3 DMX Output (start code 0)		4 DMX Output (start code 0)	
Next free address: 25				Next free address: 67		Next free address: 253		Next free address: 253	
1 Dsk chan #1				1 V15 m3 #1 Intensity...		1 Gscanhpe #1		End of Patch	
2 Dsk chan #2				2 V15 m3 #2 Intensity...		13 Gscanhpe #2			
3 Dsk chan #3				3 V15 m3 #3 Intensity...		25 Gscanhpe #3			
4 Dsk chan #4				4 V15 m3 #4 Intensity...		37 Gscanhpe #4			
5 Dsk chan #5				5 V15 m3 #5 Intensity...		49 Gscanhpe #5			
6 Dsk chan #6				6 V15 m3 #6 Intensity...		61 Gscanhpe #6			
7 Dsk chan #7				7 V15 m3 #1 Pan...		73 Stdcl57 #1			
8 Dsk chan #8				17 V15 m3 #2 Pan...		89 Stdcl57 #2			
9 Dsk chan #9				27 V15 m3 #3 Pan...		105 Stdcl57 #3			
10 Dsk chan #10				37 V15 m3 #4 Pan...		121 Stdcl57 #4			
11 Dsk chan #11				47 V15 m3 #5 Pan...		137 Stdcl57 #5			
12 Dsk chan #12				57 V15 m3 #6 Pan...		153 Stdcl57 #6			
13 Dsk chan #13				End of Patch		169 Mac500 #1			
14 Dsk chan #14						183 Mac500 #2			
15 Dsk chan #15						197 Mac500 #3			
16 Dsk chan #16						211 Mac500 #4			
17 Dsk chan #17						225 Mac500 #5			
18 Dsk chan #18						239 Mac500 #6			
19 Dsk chan #19						End of Patch			
20 Dsk chan #20									
21 Dsk chan #21									
22 Dsk chan #22									
23 Dsk chan #23									
24 Dsk chan #24									
End of Patch									
Fixture Part...	Unpatch	Reduce To %	Park At	Unpark					

## Different Patch Views

In addition to seeing the first DMX address for each fixture, there are two other views that show patch information. Pressing **View...** opens a window with 3 options: **Fixtures**, **Outputs**, and **Channels**. The default window shown above is the *Outputs* view. Press **Scroll <>** to view outputs not shown.

The *Fixtures* view lists all of the fixtures selected on the console along with their alignment and patch location(s). For example, the [3] 81 shown after **Superzoom x 6** indicates that it is patched to address 81 on output 3. This information is useful when a fixture is patched to multiple locations.

To select a new output while in the *Fixtures* view, you'll need to press the **Output** button.

Patch			
Add Fixtures	Change Numbers	Auto Menus	Over Drive
Fixture:	Alignment:	Patching:	
VI5 #1		Intensity	[2] 1
VI5 #2		Pan	[2] 7
VI5 #3		Intensity	[2] 2
VI5 #4		Pan	[2] 14
VI5 #5		Intensity	[2] 3
VI5 #6		Pan	[2] 21
Szoomx #1		Intensity	[2] 4
Szoomx #2		Pan	[2] 28
Szoomx #3		Intensity	[2] 5
Szoomx #4		Pan	[2] 35
Szoomx #5		Intensity	[2] 6
Szoomx #6		Pan	[2] 42
Cyber #1	Pan	Swap	[3] 1
Cyber #2	Pan	Swap	[3] 17
Cyber #3	Pan	Swap	[3] 33
Cyber #4	Pan	Swap	[3] 49
Cyber #5	Pan	Swap	[3] 65
Cyber #6	Pan	Swap	[3] 81
Robocmyr #1	Tilt		[3] 101
Robocmyr #2	Tilt		[3] 121
Robocmyr #3	Tilt		[3] 141
Robocmyr #4	Tilt		[3] 161
Robocmyr #5	Tilt		[3] 181
Robocmyr #6	Tilt		[3] 201
			[3] 301
			[3] 318
			[3] 335
			[3] 352
			[3] 369
			[3] 386

The *Channels* view shows the patch location for every parameter of every fixture including its profile setting.

### Absolute Addressing mode

Pressing **Absolute Address** lets you patch fixtures to addresses 1 through 2048 instead of the output number plus addresses number 1 through 512. For example, to patch on output 2 address 1 you type **@513** in absolute addressing mode. All displays show absolute addresses in this mode.

### Proportional Patching

DMX Channels can have their output reduced by a percentage:

- 1** Select DMX Channels
- 2** Press **Reduce to %**
- 3** Use the keypad to type in a percentage.  
**Full** will have no effect.

To remove a proportional patch, either:

- Unpatch the DMX Channel and then re-patch it.

*OR*

- Select **Reduce** to % 100.

*OR*

- Set Profile to **Use Default**. This uses settings established in the Edit Fixtures window.

## Edit Fixtures

Pressing **Edit Fixtures** in the Patch window opens a spreadsheet with which you can customize various parameters on a fixture by fixture basis.

Edit Fixtures								
Okay		Reset All						
Fixture	User Num	Intensity	Tilt	Alignment		Colour		
		Profile	Offset	Invert Pan	Invert Tilt	Swap Axes	Default	Highlig
ALL	1,...	linear	88	Normal	Normal	Normal	white	white
Studio color575	1*	linear	88	Normal	Normal	Normal	white	white
Studio color575	2*	linear	88	Normal	Normal	Normal	white	white
Studio color575	3*	linear	88	Normal	Normal	Normal	white	white
Studio color575	4*	linear	88	Normal	Normal	Normal	white	white
Studio color575	5*	linear	88	Normal	Normal	Normal	white	white
Studio color575	6*	linear	88	Normal	Normal	Normal	white	white

Opening the spreadsheet displays all fixtures belonging to the currently active type. Use the **Group** button to move through each type in the schedule. Columns are displayed relating to user number, intensity profile, tilt offset (if relevant) and all slotted parameters which have labels that may be edited (e.g. gobo and color wheels).

Press **Set** in the appropriate cell to make a change. Select a range of cells by holding **Pig** and cursoring down or clicking the endpoint of the range. Alternatively, selecting the **All** row selects all the fixtures of the current type.

### User Numbers

It's possible to give fixtures custom unit numbers, instead of using the default system that starts the first unit of each type with 1. This allows fixtures to be numbered continuously across types. For example, VL5 unit numbers could start at 25. Doing so eliminates having to select fixture types.

Custom numbers do not have to be continuous. For example, VL5s could be numbered 25 through 30, 40 through 44, and 48.

When a range of fixtures is selected, subsequent cells are assigned consecutive values. Two fixtures of the same type may not share the same user number. An asterisk next to a number indicates it is shared by fixtures of another type.

## Fixture Alignment

Occasionally it's necessary to hang a moving light upside down or sideways. To have all of the fixtures moving in the same direction regardless of how they're hung, use the alignment functions.

**Invert Pan** and **Invert Tilt** make the pan and tilt parameters respond in reverse of how they normally would, and should be used for fixtures hung in reverse orientation to the others.

**Swap Axes** swaps the pan and tilt parameters for sideways-hung fixtures. The *Channel View* shows any inverted channels using a ~; swapped axes fixtures will have pan and tilt in reverse order.

## Intensity Profiles / Dimmer Curves

Profiles or dimmer curves can be set for DMX Channels: The available profiles are:

<u>Profile</u>	<u>Description</u>
Linear	An even, proportionate fade throughout the cue
IES square law	Mildly accelerated in the first half of the fade.
Slow bottom	The fade is proportionately slower at the beginning.
Fast bottom	The fade is proportionately faster at the beginning.
Fast top	The fade is proportionately faster at the end.
Non dimmable	Binary, On/Off setting
Preheat 5%	Stays at 5% for 5% of the fade time before starting.
Preheat 10%	Stays at 10% for 10% of the fade time before starting.

To turn off a profile, select the fixture/DMX Channel and choose the **Use Default** profile.

## Defaults and Labels

Names for parameter ranges and default values for parameters can be set in the right columns of the spreadsheet. Ranges which do not appear in automenus have a # next to the heading.

---

## Automenus

Pressing **Automenus** in the Patch window opens a window which allows you to specify options for menu generation.

<b>Number of palettes per row</b>	For preferred alignment in different windows, e.g. the Hog has 5 palettes on each row for vertical half-screen windows, 10 for full-screen windows.
<b>Replace existing automenus</b>	Removes all previous groups and palettes generated by automenus, whether or not they would be overwritten. Note that if you have manually edited a group or palette in any way, it will not be deleted.



<b>Groups max repeat value</b>	Specify the maximum repeat value for groups, e.g. 2 generates all, even and odd, 3 generates even, odd, 1,4,7, 2,5,8, etc.
<b>Generate intensity palettes</b>	Specify whether you wish intensity palettes to be generated, and if so in what increment (eg 10%, 20%, etc)
<b>Separate palettes by type</b>	Specify whether you wish to group all common range labels together in a single palette for all types (e.g. “red”), or keep them separate (e.g. “Cyber m2 red”, ”Gscan HPE red”, etc). If you select the former option you can also specify which type to take the palette order from.

Note that Automenus incorporate any changes made in the Edit Fixtures window, so that if range labels are swapped or changed, the palettes will reference the new ranges (However, automenus must be regenerated to take account of any subsequent modifications).

---

## Fixture Talkback

Using Fixture Talkback, the Wholehog II can automatically detect the presence of fixtures attached to DMX ports 2-4, interrogate them for useful information, and remotely change menu panel settings—such as the fixture patch address. Check with Flying Pig or the fixture manufacturer to see which fixtures currently support this protocol.



***DMX Port 1 on the Hog does not support Fixture Talkback. Fixtures on this output will not appear in the Talkback window***

The window is accessed by pressing **Fixture Talkback** on the Setup toolbar. It displays a spreadsheet showing data on all the fixtures that the Hog has located. Select a range of fixtures by clicking on the first desired row in the fixture column, holding down **Pig** and (after scrolling if required) clicking on the last fixture row you wish to select. Any information appropriate to the action you are performing, such as scan progress or fixture errors, will appear in the top right of the window. Editable cells will change colour. Set a new value by pressing **Set** and then type in a new entry.

Fixture Talkback									
Rescan Rig	Scan	Highlight	Add And Patch	Auto Menus					
Fixture	User Num	Output	Patch Address	Lamp Status	Lamp Hours	Power Hours	Software Version	Fixture ID	Errors
Color pro hx-i		2	1	Off	53 h	55 h	B23a	005200A4	None
Color pro hx-i		2	10	On	55 h	56 h	B23a	9047208D	None
Color pro hx-i		2	19	On	54 h	56 h	B23a	317C62F8	None
Color pro hx-i		2	28	Off	57 h	60 h	B23a	CF099E12	None
Color pro hx		2	37	Error	223 h	330 h	B23a	95C32B85	None
Color pro hx		2	46	Strike	217 h	225 h	B23a	7AD8F5B1	None
Color pro fx		2	55	Strike	201 h	362 h	B23a	59ACB359	None
Color pro fx		2	64	???	235 h	286 h	B23a	E55DCABA	None
Color pro fx		3	173	On	62 h	76 h	B23a	D2A5A54A	None
Color pro fx		3	220	On	65 h	102 h	B23a	BF217E42	None
Color pro hx		4	100	On	109 h	157 h	B23a	2C925924	None
Color pro hx		4	200	???	112 h	251 h	B23a	DBE3B7C6	None

**User Num** The user number of the fixture used in programming. If the located fixture matches one in the current show (i.e. same fixture type, output and patch address) it is assigned that user number, otherwise the entry is blank. For fixtures present in the show, the user number can be changed just as in the Edit Fixtures window.

**Output** The DMX output on which the fixture was found.

**Patch Address** The current patch address of the fixture.

**Lamp Status** Whether the fixture lamp is off, striking, on, or has an error. This is useful for detecting fixtures that have developed problems.

**Lamp Hours** Total time the lamp has been struck.

**Power Hours** Total time the fixture has been powered up (but not necessarily struck).

**Software version** The fixture's current software version – useful for knowing which fixtures need new software uploading.

**Fixture ID** The fixture's unique Talkback ID (this cannot be edited).

**Errors** Number of errors encountered for this fixture. Clicking on this cell will display any found errors in the area above the spreadsheet.

### Scanning the Rig

The rig is scanned automatically every time you open the Fixture Talkback window. You may rescan at any time by pressing the **Rescan Rig**. The **Scan** button does not search for new fixtures but instead refreshes all information for the currently selected fixture(s).

## Highlighting Fixtures

To make identifying fixtures on a large rig easier, the **Highlight** feature causes the currently selected fixture(s) to strobe their intensity and circle their pan and tilt (if they support movement). The feature can be toggled on/off by pressing the **Highlight** button.

## Patching Fixtures

The **Add and Patch** button automatically adds the selected fixtures to the schedule and patches them to their current patch addresses on the appropriate output. Once a fixture is patched, it will be matched in the show and a default user number will be assigned. This can all be changed, if so desired. Any fixture, whether in the show or not, can have a new patch address assigned by pressing **Set** on the cell and typing in a new value. If the fixture is present in the show, its show patch address will automatically be updated at the same time.

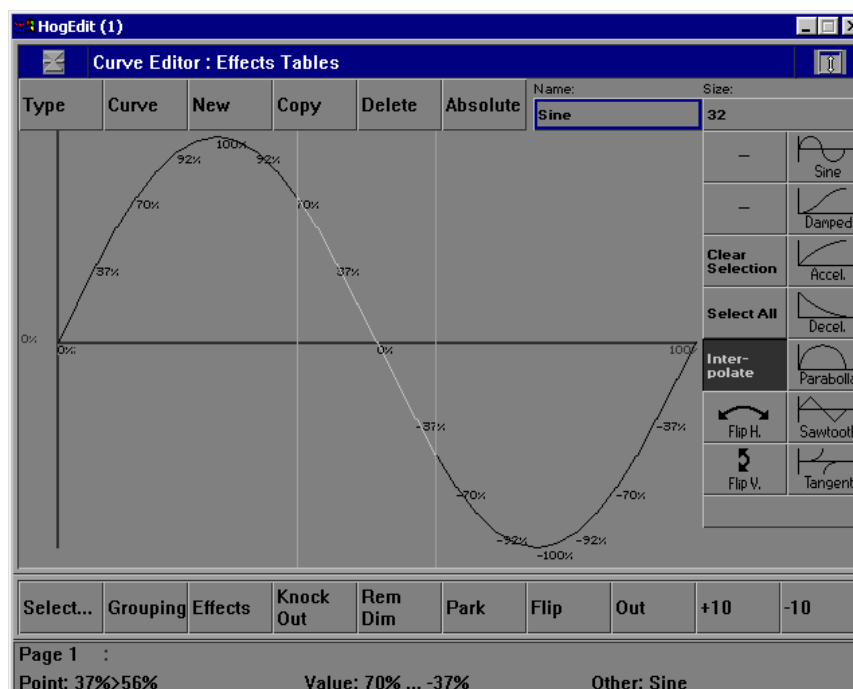
## Fixture Errors

Any errors encountered when polling a fixture for information (e.g. sensor fault, light out, etc) can be viewed by clicking on the error cell for the desired fixture. An error text message can then be viewed in the display region just above the spreadsheet.

---

## Curve Editor

The curve editor allows users to create and edit the various curves used by the Hog—including effects tables, dimmer profiles, and crossfade paths. Press **Setup** followed by **Curve Editor** to open the window:



The toolbar across the top of the window performs operations on curves, such as selecting the curve that is currently being edited, creating new curves, and renaming curves.

The toolbar on the right hand side contains a number of tools to manipulate the curve.

The main part of the window displays a graphic representation of the curve; the currently selected portion is highlighted in white.

The parameter wheels are also set up to select and manipulate the curve.

### Selecting and Manipulating Points

The left wheel is used to select points. Winding the wheel moves the selection along the curve, holding down the **Pig** key and turning the wheel alters the size of the selection. Selected points are shown in white. The start and end of the selection are displayed above the wheel.

The middle wheel is used to alter the value of all of the points in the selection. If no other keys are held, all of the points hold their relative positions as they move up and down. If **Pig** is held down while the wheel is moved, then all of the points snap to the value of the start point and follow that. If **Set** is held down then the points have a fanned movement with points further to the right moving quicker. The value of the start and end points is displayed above the wheel.

The right wheel performs a custom tool action. The current tool is displayed above the wheel and can be changed by selecting another tool from the toolbar on the right side of the window. All of the custom tools need more than two points to be selected before they will have any effect. If the wheel is wound on its own then the tool will apply relative to the original positions of the points. If **Pig** is held down whilst the wheel is moved then the tool applies itself based around the value of the start point. If **Set** is held down then the tool has a fanned action, with points further to the right being affecting by the tool more than those on the left. The tool buttons all have graphical pictures to show a thumbnail of what the tool will do.

The touchscreens or a mouse can also be used to change the selection. Pressing or touching will set the start of the selection, holding down the **Pig** key and touching will set the end of the selection.

The curves are updated as they are modified. This makes it possible to have a fixture that is repeatedly running a crossfade between two points using a custom crossfade path. As the path is manipulated the movement during the crossfade will reflect the modifications that have been made to the crossfade path.

### Other tools

There are several other buttons in the right toolbar. They are **Flip Horizontally** and **Flip Vertically**. The two flip tools flip the curve about its horizontal and vertical axis respectively.

The **Clear Selection** button resets the size of the selection to just a single point, and the **Select All** button selects all of the points.

The **Select All** button selects all of the points in the curve.

The final button, **Interpolate**, is only available when manipulating effects tables. It controls whether the desk interpolates between points. By turning interpolate off you create step effects, eg. snapping between the slots of a colour wheel, by turning it on you create smooth transitions.

### The Parser Box

Below the bank of toolbuttons is a text entry box. This takes text of the format "x>y@a>b" and applies it to the curve. Where x and y are the start and end points of the selection that you wish to modify and a and b are the values that the selection should be interpolated between.

If Absolute mode is turned on, then the values used in the text should be in absolute values for both the points selection and the interpolation values, otherwise they should be percentages. The values will be clipped to the maximum extents of the curve that is being manipulated. The start of the selection must always be to the left (lower) than the end of the selection.

Ranges do not need to be specified, i.e. "x@a" will set point x to value a. Similarly, "x>y@a" will set all of the points between x and y to value a.

### Main Toolbar

The main toolbar is across the top of the window.

The **Type** button allows you to change between the type of curves that can be edited. The three different types are Crossfade Paths, Dimmer Profiles and Effects Tables.

The **Curve** button allows you to change between all of the different curves in the desk that are of the current type.

The **New** button creates a new curve and selects it ready for editing. The new curve will always be linear.

The **Copy** button create a copy of the currently selected curve. The copy is then selected ready for editing.

The **Restore / Delete** button. This button changes depending upon the curve you are editing. If you are editing one of the built in Crossfade Paths or Dimmer Profiles then the button will display "Restore", pressing the button will restore the curve to its original settings. If you are editing a new curve or and effects table then the button will display **Delete**, pressing the button will prompt you for confirmation since deleting the curve will remove any references to it in your programming.

The **Name** box allows you to rename the curve by selecting the box and pressing the **Set** key.

The final box is dual purpose. For crossfade paths it displays the Return Path that should be used when releasing a crossfade, pressing the button will bring up a list of all the crossfade paths and allow you change the setting. For effects tables the button displays the Size of the table, pressing the button will allow you to change the table to a number of pre-defined sizes. Reducing the size of the table will prompt for confirmation.

The **Absolute** button toggles whether the displays above the wheels show absolute values or percentages.

### Using Custom Curves

The interface for using custom curves has not changed. To use crossfade paths press set over the path column in either the timing window, or a cuelist window, the list will display all of the custom paths that have been created. To use dimmer profiles press set over the profile column in the fixture editing spreadsheet (the fixture editing spreadsheet is accessed via the patch window). To use effects tables press set over the table column in the effects window.

### **Saving & Merging**

When saving back to pre-v4.0 builds any custom curves are reset to the default curve.

When merging curves the curves are always appended to the curves that currently exist in the desk.

# ***Saving and Merging Shows***

*This chapter explains how to use floppy disks to save shows and combine shows from two separate consoles.*

---

## **Saving a Show**

To save a show:

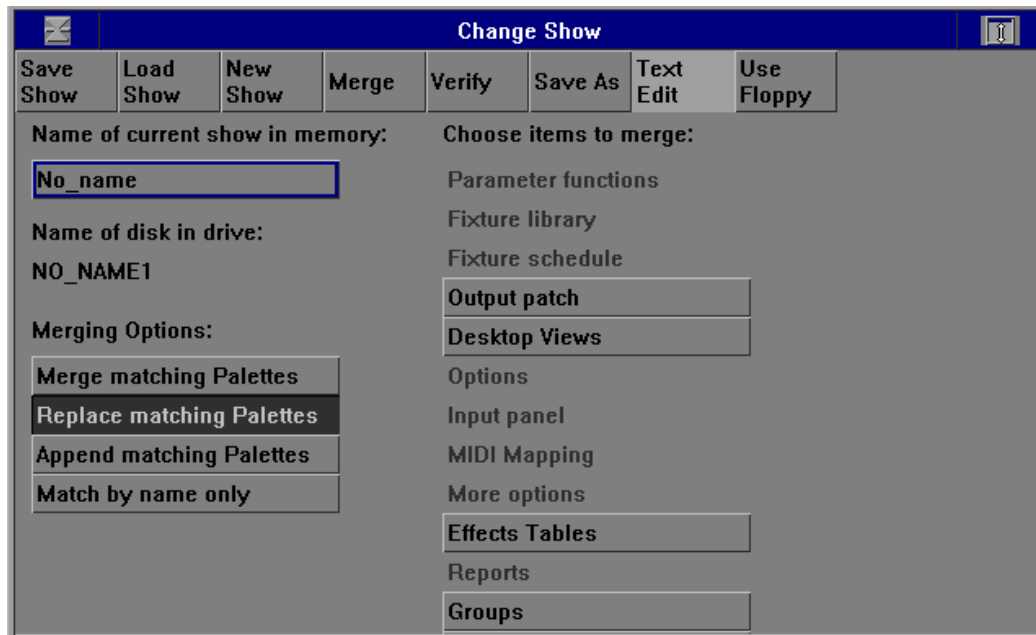
- 1** Press **Setup**. You will see the usual setup toolbar.
- 2** Insert a standard 1.44 MB 3 1/2 floppy disk into the disk drive on the back panel.
- 3** Press **Save Show**.
- 4** Press **Yes** to confirm the save. A progress window will open and list the items it's saving as it goes along. 'Save Finished Okay' appears when everything has been copied to the disk. You may need more than one floppy disk: an alert box will open to prompt you to change disks.

---

## **Change Show Window**


More advanced floppy disk functions are accessed through the Change Show window, opened from the **Setup** toolbar.

When you open the window, it automatically tries to read the catalogue information off a disk in the disk drive. If none is present, you will get an error message. This can be ignored safely. It is okay to open the window without a disk in the drive.



Note that the **Save Show** command is identical to the one in the Setup toolbar.

### Changing to a Different Show

 ***If you change to a different show, make sure that you have saved your current show, since you will lose all of its programming.***

To load a different show from floppy, insert the first disk of the show and press **Load Show**. The console will ask you to confirm that it is okay to eradicate the current show. Then a progress window will open that lists each item as it is loaded. **Load Finished Okay** appears when everything has been loaded successfully.

### Naming a Show

To avoid mixing up disks and accidentally overwriting a different show, give your show a name before saving it.

To name a show, touch the box under **Name of current show** and type in a name.

The floppy disks on which the shows are saved are labeled with this name plus a number. The number refers to the disk number, in case your show spills over onto more than one disk. If you ever need to change a disk's label (such as when using a show downloaded from the Internet), use a Windows PC (File Manager), or DOS (label a: ), or a Mac.

### Format

To format a disk, insert it into the drive and press **Format**.





***It's a good idea to periodically reformat your disks. Disks can periodically develop bad sectors; reformatting can spot this and prevent you from losing data.***

### Verify

If you'd like to be sure that your show has been properly saved to disk, turn on the **Verify** option. When it's on, the console checks the disk while saving to confirm accuracy of the save. Saving in this mode takes about twice as long as a normal save.

### Save As

Shows can be saved as previous versions. Note that features not supported in the older version will not be saved. In a few special cases (such as macro cues stored within a normal cuelist) the show will be saved, but the problem data will be discarded.



***It is recommended that a show is also saved normally. A show saved as a previous version may not retain all features of your show.***

---

## Zippping and Unzippping Shows

Flying Pig uses WinZip software to electronically distribute software. The same software can also be used to send a show disk to another user or to Flying Pig for support purposes. A copy of the software can be obtained from [www.winzip.com](http://www.winzip.com).

When zippping up a show:

- Check the *recursive folders* and *save extra folder* info boxes

When unzippping a show:

- Check the *use folder names* box

Unzip to a temporary directory on your hard drive, and then copy just the show files and folders to the top level of a blank floppy disk. This avoids putting any long file names from the zipped files' path onto the show disk.



***Remember to label the disk with the show name (In Microsoft Windows, the label is changed in Properties), otherwise the disk won't be read. The default name used by the console is no\_name1.***

---

## Merging Shows

Using the Change Show window, you can select items from a different show and merge them into your current show.

To merge items into your new show

- 1** Insert the floppy containing the show you are merging *from* into the disk drive.
- 2** Open the Change Show window. If you do this before inserting a disk, the change show window will not show what is in your disk, so it will not be possible to pick items for merging.
- 3** Pick items for merging from the merge list at left. Hold down **Pig** to pick multiple items. Note, the palettes will be selected automatically as soon as you pick something that depends on them. You can deselect them by continuing to hold **Pig** and toggling them off.
- 4** Press **Merge**. A progress window will open to show you the progress of the merge.

Merged groups and palettes do not replace existing groups and palettes, even if they have the same name.

If you merge in a cuelist, but don't merge in associated palettes, you have to make absolutely sure that the cuelist has been programmed using the palettes that are already programmed in the machine. If the console cannot find a palette when it merges in a cuelist, it will ignore all programming associated with that palette.

### How to Combine a Show That Has Been Programmed on Two Consoles

There are two approaches:

- Split the programming into fixtures. e.g. one console does dimmers, while the other does Cyberlights. To merge, save the Cyberlights component to disk, add the Cyberlights to the dimmer console's schedule, then merge all the Cyberlight palettes, cuelists, and pages into the dimmer console.
- Split the programming between cuelists. For this to work, each console must start with the same setup *and palettes*. This is best done by setting up and making palettes on one console, then saving to disk and loading onto the other console. From then on, parallel programming of cues and cuelists can occur. When you come to merge back into one console, just select cuelists to merge. Do not merge the palettes back, since you will end up duplicating existing palettes, with some cuelists using one set, and the merged cuelists using the other.

### Merging Shows


This window now contains options which let you specify the way palettes are merged when two shows are merged together. In addition, the automatic selection of palettes when you select other items has been removed.

When a palette from the show on floppy disk matches an existing palette in the console's show, one of the following happens, depending on the option selected:

<b>Merge matching Palettes</b>	Information from the palette on disk and the palette in memory is merged together. The palette information from disk takes precedence if they clash.
<b>Replace matching Palettes</b>	Information for the palette in memory is completely erased, and the information from the palette on disk is put in its place.
<b>Append matching Palettes</b>	The palette on disk is appended at the end of the palette directory. The existing palette in memory is left untouched.

Normally, palettes are matched on the basis of their names. So if a palette in the show on disk has the same name as a palette in the show in memory, they will be matched together.

Obviously this won't work if you have different palettes in the same show with the same name (e.g. two palettes called "Red"). If this is the case, you can try turning off the option **Match by Name Only**. The console will then match palettes if they have the same name AND they both came from the same original show – i.e., a show which was saved onto two disks, then each disk was loaded, edited and saved separately, and now the two are being merged back together again.

 **Don't turn off Match by Name Only if you are trying to merge palettes that come from different shows.**

Summary of Merge Action:

Parameter Functions	Not merged
Fixture Library	Not merged
Fixture Schedule	Not merged
Output Patch	Patch on disk replaces existing patch
Desktop Views	Views on disk replace existing views
Options	Not merged
Input Panel	Not merged
MIDI Mapping	Not merged
More Options	Not merged
Effects Table	Effect Tables on disk appended to existing tables
Reports	Not merged
Groups	Groups on disk appended to existing groups
Palettes (Positions, Colours, Beam Effects)	Merged according to options
Cuelists	Cuelists on disk appended to cuelist directory
Pages	Pages on disk appended to existing pages
Effects Library	Effects on disk appended to existing Effects

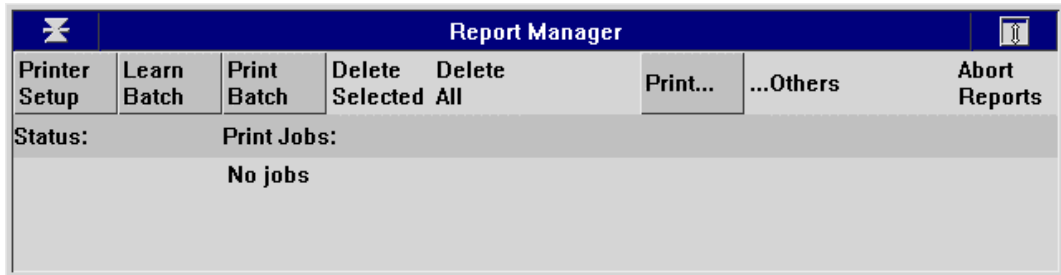
Note: When merge an output patch from one show into another, fixtures must be present in the schedule of the show into which you are attempting to merge. If a fixture is not present or would overwrite an existing patch it is ignored.



# Reports

The console can output reports about various parts of a show to a printer or a file.

To access the Report Manager, press **Setup** and **Reports**.



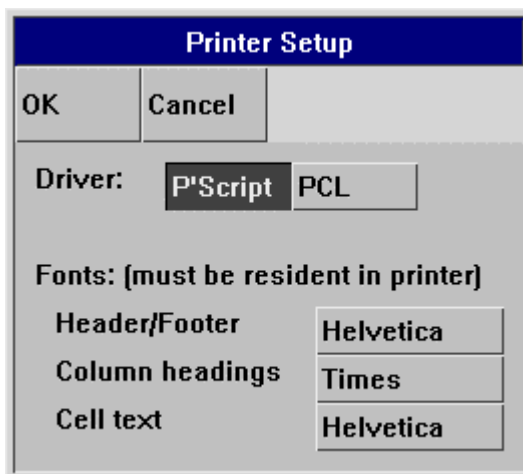
## Printers Supported

The Hog 2 supports any printer that uses either PostScript (level 2) or PCL (level 5) as its command language. The printer must also contain some internal scaleable fonts for the Hog to use.

Connect the printer to the port on the back of the console.

## Printing a Report

After opening the Report Manager window, the first step is to setup the console with information about your printer. Press **Printer Setup**. The following window will appear:



- 1 Choose which printer driver to use, PostScript or PCL.

- 2 Choose some internal resident fonts for the three parts of the report. Check your printer manual for which fonts are available. Many printers print a self-test page which lists all the resident fonts.

 **The Hog only uses fonts which are 'resident' in your printer**

- 3 When finished setting up, press **OK**.

Now the console is ready to print a report. Press **Print...** and then choose a report in one of the following two ways:

For cues, cuelists, palettes etc. that are usually selectable on the command line, select them in the same way as when you edit. For example, to print a cuelist:

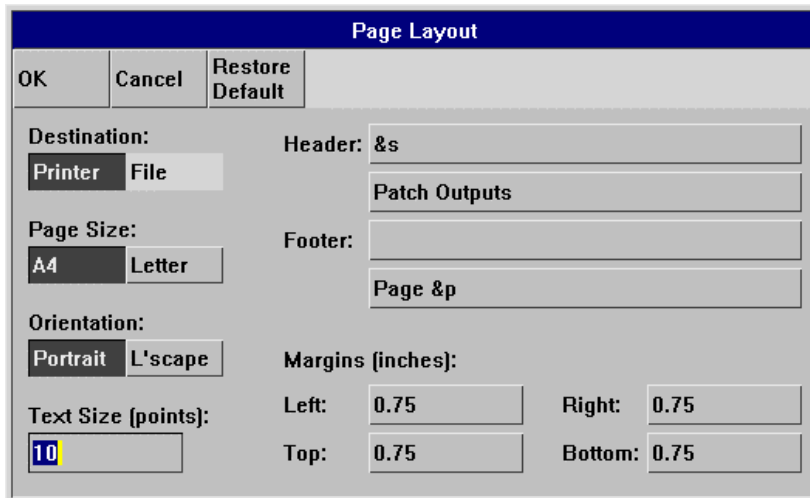
- 1 Press **Print...**
- 2 **List** (to display the cuelist directory)
- 3 Select the cuelist in the window
- 4 Press **Enter**.

For items that aren't available on the command line, press **Print...**, and then the **...Others** button. This opens up a window from which various reports can be selected (e.g. patch reports).

Some items have a few report options associated with them. In these cases, a window will appear asking you which type of report you want.

### Layout Window

Next, a page layout window will appear. Setup the page size, orientation, margins etc. as you would with a normal computer. You can also type in header and footer text.



Page Layout			
OK	Cancel	Restore Default	
Destination:		Header: &s	
<b>Printer</b> File		Patch Outputs	
Page Size:		Footer:	
<b>A4</b> Letter		Page &p	
Orientation:		Margins (inches):	
<b>Portrait</b> L'scape			
Text Size (points):		Left: 0.75	Right: 0.75
10		Top: 0.75	Bottom: 0.75

The following three codes can be used inside the header and footer text to print specific information:

**&n**      Name of the item that is being printed  
**&s**      Show Name  
**&p**      Page number

Once you are happy with the page layout, press **OK**. Alternatively, you may abort the whole process by pressing **Cancel**.

The report will now appear as a Print Job in the Reports window, showing its status as it prints. You may cancel printing at any time by pressing **Cancel Printing**.

### Report Formats

The following reports are currently available:

<b><u>Report</u></b>	<b><u>What it Prints</u></b>	<b><u>Press Print... and then ...</u></b>
<b>Cuelist directory</b>	A list of all cuelists with the number of pages each is used in.	Press <b>List</b> and <b>Enter</b> .
<b>Cuelist</b>	Same information as the Cuelist window	Choose a cuelist from the cuelist directory, press <b>Enter</b> and then choose <b>Cuelist</b> when asked for the report type.
<b>Cue Contents</b>	Cue Contents	<ol style="list-style-type: none"> <li>1. Select a cuelist from the cuelist directory, press <b>Enter</b> and then choose <b>Cue Contents</b> when asked for the report type, <i>OR</i></li> <li>2. Select individual cues from a cuelist window and then press <b>Enter</b>.</li> </ol>
<b>Groups</b>	Groups	<ol style="list-style-type: none"> <li>1. Press the <b>Group</b> button and <b>Enter</b> to print all groups, <i>OR</i></li> <li>2. Press <b>Pig</b> and <b>Group</b> to open the group directory, select individual groups to print, then press <b>Enter</b>.</li> </ol>
<b>Pages</b>	Pages	<ol style="list-style-type: none"> <li>1. Press the <b>Page</b> button and <b>Enter</b> to print all pages, <i>OR</i></li> <li>2. Press <b>Pig</b> and <b>Page</b> to open the page directory, select individual pages to print, then press <b>Enter</b>.</li> </ol>
<b>Palette Directory</b>	A list of all palettes in the directory with the number of cues each is used in.	Press <b>Focus</b> , <b>Colour</b> or <b>Beam</b> then <b>Enter</b> .
<b>Palette Usage</b>	For each selected palette, a list	Select palettes from one of the palette

<b>Summary</b>	of fixtures that are used.	directories, press <b>Enter</b> and then choose <b>Summary</b> when asked for the report type
<b>Palette Usage Detail</b>	A list of all fixtures, and which cues they are used in with the selected palette.	As for Palette Usage Summary, but choose <b>Detail</b> .
<b>Patch Fixtures</b>	A list of all fixtures, with their alignment details, and patch addresses.	Press ... <b>Others</b> and choose <b>Patch Fixtures</b> .
<b>Patch Outputs</b>	A list of all output addresses, with the fixtures that use them.	Press ... <b>Others</b> and choose <b>Patch Outputs</b> .

### Creating a Batch of Reports

As well as printing reports to the printer immediately, you may create a *batch* of reports, that can be stored and then printed all in one go. This feature is useful for printing a standard set of reports at different stages of programming a show, without having to individually select them all every time.

To create a Batch, press **Learn Batch** in the Reports window. The view will change from the current Print Jobs, to the reports in the Batch (probably empty if this is the first time you've used it).

To store reports in the Batch, just select them as usual, pressing **Print...** etc.. Instead of going to the printer, you will see them appear in the window. You can select print jobs and delete them, or delete all jobs from the Batch using the buttons **Delete Selected** and **Delete All**.

To go back to viewing the current Print Jobs, press **Learn Batch** again.

To print the batch at any time press **Print Batch**. This copies all the jobs from the Batch into the print queue, and leaves them in the Batch so they can be used again.

### Troubleshooting

If the printer does not do anything, check that it has paper, that is properly connected, switched on, and on-line. You may need to press **Abort Reports** and start again.

If the printer produces garbled output, check that you have selected the correct driver in the Printer Setup window, and that your printer is fully capable of supporting it.

If the printer produces text, but it is badly aligned, or does not appear in the correct font, then it is likely that the fonts you selected in the Printer Setup window are not resident inside your printer. Check your printer's manual for which fonts are available.

You may encounter the error message "The printer is not responding. Either Sort it, or Abort it". Check that the printer is fully ready to print - that it has paper, and is properly connected, switched on, and on-line. Once you have solved the problem press **Sort** to continue printing.

### Cue Contents Reports

Values have the following formats depending on their meaning:



<b>Format</b>	<b>Example</b>	<b>Meaning</b>
normal	5%	normal parameter value in cue
italics	<i>Open white</i>	palette name (may be spread across several parameters)
brackets	(Full)	hard command (i.e. repeated value)
grey	Full	tracked value from previous cues
>	>5%	decreasing intensity value
<	<Full	increasing intensity value

Timing is shown by splitting the cues into parts. Each part has different timing information displayed in the left-hand column as delay, fade, and path (e.g. “0s F:3s P:End”).

The first part of a cue includes any tracking information. Subsequent parts in the same cue show new parameter values only.

You can choose whether or not to show tracking and timing information with four cue contents options. When you select a cuelist to print, the following options will be given:

<b>Full Contents</b>	Timing and tracking information is shown
<b>Tracking Contents</b>	Tracking information is shown, but not timing
<b>Timing Contents</b>	Timing information is shown, but not tracking
<b>Simple Contents</b>	No tracking or timing information is shown



*The following accessories increase the functionality of your console.*

---

## Expansion Wing

The Expansion Wing has an additional 16 playback Masters for users requiring more than 8. It also features 18 faderless Masters which operate just like regular Masters, but without fader control.

To use it, connect the Wing to the expansion port with a standard DMX cable.

When you turn the Wing and the console on, the Wing should show **Searching for Console** in the top right display. Once the console has detected the Wing, the Wing displays will change to show the normal Master displays.

It is safe to disconnect the Wing while playing back. The Console will spot that it is missing and bring up an option window. If you intend to recover the connection, select **Ignore** which does nothing, or **Release** which removes the effects of the masters from the stage (until you are able to recover the connection).

If you don't want to use the wing, select **Remove**.



***When an Expansion Wing is used on its own, a terminating resistor should be plugged into its Expansion Out connector.***

## Control Panel

In the Control Panel Window, use the **Bus Devices** button to access the controls for the Wing.

The contrast entry box (and left wheel) lets you enter a contrast value between 0 and 7.

Use the **Remove Wing** button to remove Wing masters if you previously chose not to scrub them when the Wing connection was lost.

## Numbering

The masters on the Wing are numbered from 9 to 42. Use these numbers when accessing the masters numerically, or when writing macros that act upon the masters.

## Using with a Backup Console

The Wing buttons and faders can be sent via MIDI to a backup slave console. See the MIDI section for a description of the MIDI notes used, and how to customise them.

Provided that you setup MIDI before you plug the Wing into the master, then you do not need another Wing on the slave. It will behave as though it did have a Wing attached.

 **DMX Masters are not available while the Wing is in use.**

## Remote

The Remote is a hand-held device—complete with trackball—that allows updating of focus positions and basic programming. It connects to the console using standard 5-pin DMX cable.

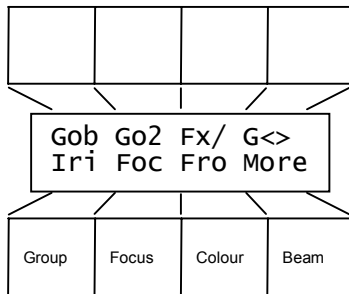
Menu items are selected using the 4 buttons above the LCD (for menu items on the top line) and the **Group**, **Focus**, **Colour** and **Beam** buttons (for menu items on the second line) below it.

The main menu just uses the top line of the display.

Normally it has items: **+10**, **-10**, **Full**, **Undo**

With the pig key held down it has: **Flip**, **Knockout**, **Park**, **Unpark**

The Type and Wheel menus use both lines of the screen. For example, press **Beam** to see a list of all available beam parameters, and then press any of the top eight buttons to select which parameter is controlled by the trackball. In the following example, pressing **Group** would select Iris.



The Rigger's Remote has two buttons which are not on the main console:


**Fan** Press once to switch on fan mode, move the trackball, and then press again to switch off. This is equivalent to holding down **Set** on the main console

**Ortho** Orthogonal mode forces the Rigger's Remote to only accept trackball movements along one axis at a time. For example, this means that you can adjust Pan without moving Tilt.

Update only works on the Rigger's Remote if you have loaded an object.

The rest of the Rigger's Remote is exactly the same as the main console. For example:

- Record, load and update cues or palettes using the normal command line syntax.
- Press **Group** and select **DMX** to enter DMX Test mode. Press **Group** and select **Fixt** to return to fixtures mode.

 **The Rigger's Remote does not allow two people to work simultaneously on the console, because the command line is shared between them.**

## Locking The Remote

An option has been added to the Bus Devices window (accessible through the Control Panel toolbar) to lock the remote. When the remote is Locked it will display **Locked By Desk** in the LCD panel, and pressing buttons will not affect the command line on the desk. This means that the remote can be left connected during a performance without fear of someone knocking it and selecting something on the command line.

## Connection

The Rigger's Remote plugs into the console's Expansion connector—connected with a fully wired 5-pin cable. The connections are:

Pin1	Data ground/cable shield
Pin2	Data complement
Pin3	Data true
Pin4	Power ground
Pin5	Power 24V DC @375/205mA with/without custom low power Littlelite.



***Items other than the remote should NOT be plugged into the remote cable since the cable carries power. Use of this cable with other equipment could result in their failure.***

Screened twin twisted pair cable with one pair for data and the other for power will suffice. The maximum cable length is 1000 metres.

When the Rigger's Remote is used with an Expansion Wing it is the Wing that provides the power. In either case, the 24V DC supply is protected by a 1A FAST fuse.

The Rigger's Remote terminates the line and thus an additional terminating resistor is not required.



***The Rigger's Remote is supplied with a custom low power Littlelite. Standard high power Littlelites should not be used as they require too much power and may cause the unit to malfunction.***

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## Overdrive

For exceptionally large rigs, the number of channels supported by the Hog2 can be increased to 3,584 channels. This is achieved by modifying an output (via software) so that it sends two times as many channels than normal DMX. To maintain the refresh rate, a special Flying Pig Systems protocol is used. Then, by plugging the output into an Overdrive unit, 2 DMX channels can be obtained from the one modified output.



***This feature only works when the console is connected to an Overdrive Unit.***

To configure an output for use with Overdrive:

**1** Select the Output (e.g. output 2)

**2** Press **Overdrive**

You will now see two outputs (2a and 2b). You can use all the patch functions on these two outputs as per normal.

To turn off overdrive, select either of the outputs, and press **Overdrive** again.

You can run up to 3 Overdrive outputs at once. Output 1 cannot be overdriven.



***The Overdrive Unit does not increase the memory available nor the power of the console's processor. Therefore, as a result of the increase in channel load, expect a decrease in the number of cues that can be programmed, and reduction in the response time and refresh rate of the console.***

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## Hog Unit

The Hog Unit is simply the brains of the Wholehog put in a rack mount case. It has no faders or touchscreens, but does have all the functionality of a regular console—plus a 24 hour and astronomical clock. Program your show on a regular console and then leave behind a Hog Unit for playback.

A complete manual for the Hog Unit accompanies it.

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## Hog PC

The Hog PC offline editing software includes a full version of the Wholehog II operating system and a virtual console front panel. The software runs on a Windows PC and allows unlimited editing and creation of shows. Attaching one or more USB interfaces allows Hog PC to output DMX information and function as a lighting controller.

Download the software at [www.flyingpig.com](http://www.flyingpig.com). View the accompanying Read Me file for more information.

# MIDI, Timecode, and DMX In

*This chapter covers the use of MIDI, timecode, and DMX Inputs. These features are accessed through the Input Panel window*

To open the Input Panel window, press **Setup** and **Input Panel**.

Inputs Control Panel										
TCode Controls	24 Hr Clock	Midi In	MSC Out	Notes Out	Serial Out	Show Dmx	Dmx Capture	Dmx Trigger	Dmx Masters	
Tape/Midi TimeCode		Midi Control Panel			DMX Input Control					
Source:	Tape		Show Control:		Capture / Merge					
Format:	EBU 25		Device Id		0	Map using output:		1		
			Format Id: 1,2,3		1	Merge onto master:		8		
Jump after /frms:	15		Notes:		DMX Submasters					
Regenerate for: blank off, 0 cont	Off		Tx Chan		1	Number (max 24):		0		
			Rx Chan		0	DMX Trigger				
Reset 1:	00/00/00.00		(1..16, 0 is 'omni')		Start channel:					1
Reset 2:	00/00/00.00									
Reset 3:	00/00/00.00									

## Timecode

The Hog2 can receive all forms of Linear Time Code (LTC), as well as timecode from MIDI. It has programmable error correcting features. The console can also simulate timecode to help with programming when the timecode tape is not ready.

### Setting up the console to read Timecode

Before using timecode, the console must be configured to accept timecode:


- 1 Press **Setup**.
- 2 Press **Input Panel** to bring up the options window for timecode input.
- 3 Press **TCode Controls** to open up the toolbar for timecode controls.

- 4 Select a Source and Format: **Timecode** or **MIDI**; **SMPTE 30**, **EBU 25**, **Film 24**, **NTSC 30**. (Numbers indicate frames per second.)
- 5 If the timecode source is a tape, connect the tape output to the timecode input. If the timecode is MIDI, connect the MIDI to the MIDI Input.
- 6 Press **TCode** to turn timecode reading on and off.

TCode	Source	Reset 1	Reset 2	Reset 3	Tape Rgen Off	None ? 00/00/00.00	00/00/00.00
-------	--------	---------	---------	---------	------------------	-----------------------	-------------

When timecode is being read correctly, the frame number at right should change smoothly. The indicator panel shows the timecode source (Tape, MIDI, Sim, Err or None) and the format detected.

The frame number on the left is the raw value read before error correcting is applied.

 **To ensure trouble-free operation, the timecode source and receiver must share same ground.**

### Timecode Error Correction

Should timecode signal drop out, automatic generation of timecode will continue for the amount of time selected in the **Regenerate For:** entry box. If you enter 0, regeneration will be continuous.

Bad timecode tapes will have drop outs that look like timecode jumps to the console. Increase the value in the **Ignore Jumps for:** entry box to reduce the sensitivity of the console to jumps in timecode signal.

### Simulating Timecode

To simulate timecode from a certain frame, choose the right-hand frame number in the LTC Controls, and type in the starting number. Then press **Simulate** to start. **Reset** returns the value to 00/00/00.00.

To select the format to simulate, choose a format in the Inputs Control Panel. “Drop Frame” is labeled **NTSC**.

### Programming Timecode into Cuelists

Timecode functionality is built into the normal cue list timing structure (wait), making it very easy to run programmed cues to timecode. Any cue list active on a master on the console can receive timecode.

To setup a cuelist to use timecode, program the cuelist as normal, but instead of using normal cue wait times, use timecode frame numbers:



- 1** Select a cue wait box.
- 2** Press **Set**.
- 3** Enter a timecode number in the form hh/mm/ss/.ff, e.g. 1/0/10.02, or 0/0.5  
You need to use at least one slash / for the console to interpret it as a timecode value.
- 4** Press **Enter**. The console automatically turns on the **Add Blank Cue** option when you use timecode, to prevent the cuelist from wrapping around at the end.

You don't have to use timecode frames for the waits of all the cues. You can mix them with normal wait times, follows and halts. This is useful to avoid having to synchronize every cue to frame times. Instead, the first cue can be synchronized, and then subsequent cues set with normal wait times relative to the first.

Loops can be triggered with timecode, but do NOT put timecode inside the wait fields of a loop. To exit a loop at a certain point in timecode, put the appropriate value in the delay column of the link cue.

Instead of entering numbers by hand, it's possible to use the **Learn Timing** function to enter them automatically, editing manually later for fine tuning. Simply turn on the function and press the **Go** button to signal when cues are meant to execute. Only cues set to Halt (Wait is blank) will receive values.

### Timecode Behavior

When **TCode** and **Simulate** are both off in the LTC control bar, cues using timecode waits will act as if they used **Halt**. This prevents timecode from having any effect. This is useful for testing your programming without timecode, using the **Go** buttons only.

### Editing a Range of Timecode Values

You can move a range of cues' timecode frames by selecting the cues, and then editing one frame. All the other selected cues will then move by the same amount.

### Playing back with Timecode

To playback cuelists under timecode control:

- 1** Press **Tcode**
- 2** Start the tape running, or press **Simulate**.
- 3** Press **Go** on the playback master. This is needed since the operator still has overall manual control.

Cues will now be triggered by timecode.

## Rewinding

There is no need to do anything to the master when rewinding the tape. When you start playing timecode again, all active masters will reposition their cuelists to the correct position in the cuelist.

## Hour-less Timecode Frames

You can setup timecode frames which trigger every hour. To do this:

- 1** Choose the cue, or range of cues (or link cue count field)
- 2** Press **Set**
- 3** Enter in the frame using a ‘.’ instead of an hour, e.g. “./12/30.20”, or “./3”.

It will be displayed like “./12/30.20”.



***Do not try and mix normal frames and hour-less frames in the same cuelist, since it will prevent the hour-less frames from working properly.***

---

## MIDI

MIDI (or Musical Instrument Digital Interface) is a communications protocol originally developed to connect electronic musical instruments together in a standardised way. Although developed for the music industry, MIDI does not transmit music directly. It is a means of sending control instructions. As such, it has found many applications, principally within the entertainment industry, where one piece of electronic equipment needs to control another.

The console fully supports the MIDI protocol and can use MIDI in several distinct ways to control, or be controlled by, a second console, or other electronic equipment.

### A brief explanation of MIDI:

The MIDI hardware interface consists of three ports. The IN connector receives MIDI data from another devices’ MIDI OUT. The OUT connector transmits data that the console itself has generated. The THRU connector is a direct relay of the data received by the IN connector—this allows multiple devices to be chained together all responding to a MIDI signal originated by a single MIDI OUT.

It is a basic concept of MIDI that multiple devices can be chained together to receive the data transmitted by a single controlling device. In such a system, some mechanism is needed so that pieces of data can be addressed to particular receiving devices. In MIDI this mechanism is known as *channels*. Each device in a MIDI chain can be set to transmit and receive on specific MIDI channels (there are 16 available), or to receive on all channels, known as *omni*.

The channels on which the console sends and receives MIDI are set in the Input Panel of the console. The default setting for MIDI notes is to transmit on channel 1 and to receive all channels (*omni*).

Specific information on how a MIDI message is actually composed is included in the manual section on MIDI Serial Output.

---

## MIDI Notes

The console can send and receive MIDI messages corresponding to all actions on the console. The messages defined for transmitting musical notes are used, as the terminology of switching notes on and off is also appropriate for key presses on the console.

In practice this functionality is used in two distinct ways. It can be used to slave together **identical** consoles so that one tracks all operations of the other. Alternatively another piece of standard MIDI equipment can trigger specific operations on the console, or vice-a-versa.

Which “note” corresponds to which console operation is defined in the file setup\midimap.txt on the show disk. This file can be viewed and edited on a PC. The default file is suitable for slaving consoles together, but if connecting another piece of MIDI equipment to the console, the user may need to edit the file. The structure of this file is explained below.

### Console Slaving

A second console can be set-up as a tracking redundant backup. You should only slave together identical consoles running identical shows.

- 1** Connect a standard MIDI cable from the MIDI Out of the designated master console to the MIDI In of the slave console.
- 2** To make sure they start from the same point, reset both consoles and load identical software and an identical show onto both machines.
- 3** Close all windows so that both Hogs have the same display.
- 4** Open the input panel on both and make sure that the two consoles agree on which Midi channel is being used.
- 5** Select **Notes Out** from the Input Panel on the master console.
- 6** Select **Midi In** on the slave console. It will now track the master console fully.

It is possible to set-up the master/slave connection going both ways. This means that actions on either console will take effect on both (rather than just the slave tracking the master). This is achieved by connecting from MIDI Out of one console to MIDI In of the other, and then with a second cable doing the same in the other direction. Then **Notes Out** and **Midi In** are selected on both consoles.



***When operating in this fashion it must be remembered that both machines are acting in unison, effectively one console. It is not possible for two users to work independently on each console***

### Interfacing with other MIDI equipment

Other MIDI equipment can also receive and transmit the messages used to represent console operations.

To trigger the console from a piece of MIDI equipment:

Select **Midi In** from the Input Panel, and make sure that the console and the MIDI equipment agree on which channel is being used under **Notes: Rx chan** (setting the console to channel 0 puts it in *omni* mode, so that it responds to all channels).

To trigger other midi equipment using the console:

Select **Notes Out** from the Input Panel, and set the Midi channel to the correct channel for the receiving equipment under **Notes: Tx chan**.

When using the console with other MIDI equipment you may want particular MIDI notes to relate to particular console operations. As an example, one might want to use the keys of a MIDI keyboard to act as **Go** buttons. In this case the default mapping of console operations to MIDI messages will not be suitable and you should edit it on a PC. The following section explains the format of this file.

### Changing the Notes Messages

A Midi *note on* message carries two pieces of data. The first specifies the note, and the second specifies a velocity with which that note is struck. Console operations can be represented in MIDI by a specific note, in which case the velocity is set to a default 63. Alternatively, a logical group of console operations may be assigned to a single note, and the velocity data is used to identify a specific operation within that class.

The default mapping of console operations to MIDI notes uses this second format as it enables a very large number of possible operations to be represented in a compact and logical way. Some console operations, such as presses on the touch screen and fader moves, require additional information than a simple on and off message. In these cases a different type of MIDI message known as a controller is used to send the value of the fader, or the co-ordinate on the touch screen. By default, console actions are mimicked using low MIDI note numbers and MIDI controllers.

Here is the default midimap.txt file from a Wholehog 2 show disk:

```
version = 30
; NB: MIDI Note & Controller numbers range from 1 to 128
group_menu = note:1
position_menu = note:2
colour_menu = note:3
beam_menu = note:4
```

```

macro_menu = note:5
page_menu = note:6
choose = note:7
go = note:8
halt = note:9
flash = note:10
fader = note:11
lh_tool = note:12
rh_tool = note:13
keypad = note:14
wheel = note:15
touchpanel = note:16
others = note:17
coord_x = controller:1
coord_y = controller:2
fader_val = controller:65
wheel_val = controller:66
ext_keys = note:18
func_keys = note:19

```

The format of these lines, assigning classes of operation to particular notes, is:

```
<operation_type> = <message_type>:<note_value>
```

e.g. if fader 3's go button is pressed then, according to the above file, a *note on* event for note #8 with a velocity of 3 is transmitted. When the key is released, a *note off* event for note #8, velocity 3 is transmitted. (In actuality the MIDI message data would be note #7 and velocity 2—for although in the midimap file counting starts from 1, the actual values sent by MIDI will be 1 less, starting from 0).

You can assign specific actions to a specific note, using the syntax:

```
<operation_type>:<index> = <message_type>:<note_value>
```

For example, to assign fader 3's go button to a unique note (such as middle-C) you could add the line `go:3 = note:72`. In this case a *note on* for note #72 will be sent when that button is pressed, and a corresponding *note off* sent when it is released. (64 is the default note-on velocity for unique button assignments). In the same way an input of *note on* for note #72 will trigger a go for fader 3.

A particular note value cannot appear more than once in the midimap file, otherwise an alert will be generated. So each note can either be assigned a class of operations (e.g. Go), or a single unique operation (e.g. Go:3). However it is possible to assign particular **Go** buttons (for example) to specific notes and still have the class of **Go** buttons assigned to another note.

The classes of console events that can generate MIDI and their map file name are listed below:

## Wholehog 2

Choose buttons  
Go buttons  
Halt buttons  
Flash buttons  
Faders  
Tool buttons above  
right hand lcd  
Numeric keypad  
Parameter wheels  
Next page button  
DBO button  
Release button  
Step up  
Step down  
Main stop  
Main go  
Tool buttons above  
left hand lcd  
Touchpanels pressed  
  
  
  
  
  
  
  
  
  
  
ASCII keys (external  
keybrd)  
Function keys  
(external keybrd)  
All other buttons (see  
table below)

## Map file name

choose  
go  
halt  
flash  
fader (preceded by value sent by fader\_val)  
rh\_tool  
  
keypad  
wheel (preceded by value sent by wheel\_val)  
next\_page  
dbo  
release  
skip\_up  
skip\_down  
main\_stop  
main\_go  
lh\_tool  
  
touchpanel (preceded by X and Y coords sent  
by coord\_x, coord\_y)  
group\_menu (for all menus, index 21 & 22  
are the scrollup & down keys)  
position\_menu  
colour\_menu  
beam\_menu  
macro\_menu  
page\_menu  
ext\_keys  
  
func\_keys  
  
others

The following are used to encode continuous values, and precede other messages as listed above:

coord\_x  
coord\_y  
fader\_val  
wheel\_val

Note that a number of possible map file names do not appear in the current default file. This is because a number of special buttons, such as **Go** of the Central Commands, are now including in the *others* class. The old functionality is retained for backwards compatibility however, and can be used if desired.

The possible MIDI messages that you can map to are:

Map file name	Index	Console events which can be mapped to the MIDI event
note	note number, e.g. 'note:34'	All button events
polyatouch	note number, e.g. 'polyatouch:34'	All button events
controller	controller number, i.e. 1 > 32 [14 bit] & 65>128 [7 bit]	Value events
progchange	program number	All button events
pitchwheel	none	Value events
chanatouch	none	Value events

Controllers 33 to 64 are the LSB parts of controllers 1 to 32, so are unavailable.

Console button events can only map to MIDI notes, polyphonic aftertouch and program change (note that fader and touchpanel are also button events as they refer to which fader or touchpanel was used, the actual values are sent separately).

Continuous values (like a fader position) can only be sent via a controller, pitch wheel or channel aftertouch. In addition, coord\_x & coord\_y must be mapped to a 14 bit controller, i.e. controller 1 to 32 or pitchwheel.

All console numbering in the midimap file starts at 1 rather than 0, e.g. use fader 1, not fader 0. However when interfacing to other MIDI equipment the user should be aware that actual values transmitted in MIDI will be 1 less than those which appears in the midimap file. The same is also true of velocity values. Fader 31 is the manual crossfader (hog2) and fader 32 is the grand master.

The range of fader master numbers extends to encompass the external DMX fader masters and rockwing fader masters as well. To map DMX faders use fader:33 to fader:56 and for Expansion Wing faders use fader:57 to fader:90.

Some keys cause events to occur when they are released as well as when they're pressed - if a single key is mapped to a note then the console will respond to either a note off or a zero velocity to release the key. If a key that needs a release message is mapped to a non-releasable midi event (like program change) then a warning will occur when the show disk is loaded.

### Others

Set	others:1	Time	others:35
Setup	others:2	Blind	others:36
Slash	others:3	Try cue	others:37
Dec	others:4	Pig	others:44
Minus	others:5	Next page	others:45
Plus	others:6	DBO	others:46
Thru	others:7	Release	others:47
At	others:8		
Full	others:9		
Backspace	others:10	<b>Hog2 Specific</b>	
Enter	others:11	Goto	others:34
		Skip up	others:48

Group	others:12	Skip down	others:49
Position	others:13	Main stop	others:50
Colour	others:14	Main go	others:51
Beam	others:15	Activate	others:52
Active	others:17		
Next	others:20		
Copy	others:21		
Move	others:22		
Delete	others:23		
Undo	others:24		
Clear	others:25		
Load	others:26		
Update	others:27		
Record	others:28		
Macro	others:29		
Page	others:30		
Cue	others:31		
List	others:32		
Highlight	others:33		

For example, to map the **Record** key to middle C then the midimap.txt entry would be  
others:28 = note:72.

---

## Midi Serial Output

Custom Midi messages can now be output using a cue's comment box. You can use this to trigger equipment that cannot receive Midi Notes or Midi Show Control.

To use Midi Serial Output:

- 1** Open the Input Panel Window.
- 2** Press "serial out" to turn serial out on. It can be used in conjunction with "Notes Out" or "Msc Out".
- 3** Open the cuelist window, and move the cursor to the cue which is to output the message.
- 4** Edit the comment box and type in a midi message as described below.

This message will now be output whenever the cue is executed or on Step forward. On step backwards, the midi message will be output provided midi\_step\_back = 1 in the moreopts.txt file (see below).



## Composing Midi Messages

Use '/' to indicate that the following comment is a midi message. Then type in the message numerically:

Any number preceded by a '.' is decimal.

Any number preceded by a space or another two digit hex number is hex.

For example:

/a0b0c0                      outputs hex bytes a0, b0, c0  
/90.14.12                    outputs hex 90 followed by decimal 14 and decimal 12  
/90.14.12 90.5.6            outputs hex 90, decimal 14, 12, hex 90, decimal 5, 6.

## Reference Table

The following table gives the structure of the more common MIDI messages. The status byte is given in hexadecimal format and, for those messages which are channel specific, 'n' represents the channel number (which can be between 0 and F hex).

Message	Status (in Hex)	Data 1	Data 2
Note off*	8n	Note number	Velocity
Note on	9n	Note number	Velocity
Polyphonic aftertouch	An	Note number	Pressure
Controller	Bn	Controller number	Value
Program change	Cn	Program number	
Channel aftertouch	Dn	Pressure	
Pitch wheel	En	Least Significant Byte	Most Significant Byte
System exclusive (start)	F0	Manufacturer's code	Data,(Data),...
System exclusive (end)	F7		
Timecode - Quarter Frame	F1	Data	
Realtime – Active sensing	FE		
Realtime – Timing Clock**	F8		

A *note on* message with a velocity of 0 is defined as having the same meaning as *note off*. The console does not use this message and ignores it completely. All other messages received (and on a channel the console is receiving if *omni* is not set) are shown in the Event monitor window when it is open.

**Example:** a *note on* message on channel 1 for note #72 with velocity 64 would consist of 3 bytes, "90 47 3f" in hex. As a comment macro this would be "/90473f" or "/90.71.63"



**The channel numbers that appear in the input window, and the note and index values that appear in midimap.txt and which are quoted are all one greater than the actual MIDI data. This is because the midi values begins at zero rather than at one.**

MIDI Show Control and WYSIWYG Autofocus commands are achieved by means of system exclusive messages.

---

## MIDI Show Control

A complete description of MIDI Show Control is beyond the scope of the Handbook; here we'll give an overview of how MSC is handled by the Wholehog. For more information on MSC, we suggest reading other books like John Huntington's *Control Systems for Live Entertainment* or the latest MIDI Show Control recommended practice from the MIDI Association.

MSC messages contain a device id and a format number. Make sure that you setup these numbers in the window entry boxes correctly.

MSC has been implemented on the console to send *absolute* messages (i.e., not depending on current cue positions, arrangement of cuelists on masters, or keys being held). This means that the greatest playback accuracy can be achieved, even if manual overriding leads to cuelists being in the wrong place or out of order.

The following is an implementation chart for seeing how console actions lead to transmitted MSC commands:

Console Action	MSC Command	Data Description
<i>Console actions which MSC commands can reproduce exactly:</i>		
Activate (choose+go)	Open cue list	1B Q_list
Go	Go	01 Q_number Q_list
Go - Skip	Go	01 00 Q_list
Go - Resume	Resume	03 Q_number Q_list
Goto	Go	01 Q_number Q_list
Pause - Stop	Stop	02 Q_number Q_list
Release	Go Off	0B Q_number Q_list
Step Up	_+	11 Q_list
Step Down	Standby_-	12 Q_list
Page Change	Open Cue Path	1D Q_path
Grand Master / DBO	Set	06 7E 01 value
Rate Thruster	Set	06 7F 01 value
<i>Console actions which MSC commands can not reproduce exactly:</i>		
Move Fader ( <i>Choose button held ignored</i> )	Set	06 0..7 00 value
Pause - Back	Standby_- ( <i>no MSC command for fade backwards</i> )	12 Q_list

Q\_list            is the cuelist decimal number  
 Q\_number        is the cue decimal number  
 Q\_path          is the page decimal number

These items should be expressed in hex format ASCII codes.

Note: cues which are triggered automatically via wait times or follow do not cause an MSC command to be sent.

The following is an implementation chart showing how received MSC Commands map onto console actions:

MSC Command	Data Description	Console Action
For a command expecting a Q_list, if none is sent then the cuelist on the 'selected' master is assumed.		
Go	01 Q_number Q_list	Goto cue
	01 00 Q_list	Press Go
Stop	02 Q_number Q_list	Halt cuelist (cue ignored)
	02 00 Q_list	Halt cuelist
Resume	03 Q_number Q_list	Resume cuelist (cue ignored)
	03 00 Q_list	Resume cuelist (cue ignored)
Set	06 FE 01 value	Grand master move
	06 FF 01 value	Rate thruster move
	06 0..7 00 value	Fader move
Standby_+	11 Q_list	Step Up
Standby_-	12 Q_list	Step Down
Open Cue List	1B Q_list	Activate cuelist
Open Cue Path	1D Q_path	Change page
Reset	0A	Ignored - use Open Cue Path
All other MSC commands are ignored		

## DMX Input

DMX Input functions are accessible through the Inputs Control Panel.

There are three modes of operation controlled by three menu buttons in the Inputs Control Panel: DMX Capture, DMX Trigger, and DMX Masters. When any of the modes is active, you can use the 'Show DMX' button to open a diagnostic window. (DMX Merge is not implemented yet).



***Only DMX Capture will show the whole frame correctly. The other two modes only read the bytes they need, so that the Show DMX window will be erroneous.***

## Show DMX

Dmx Input Frame															
Dmx Start Code				0				Signal okay							
1:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
17:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
33:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
49:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
65:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
81:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
97:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
113:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
129:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
145:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
161:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
177:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
193:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
209:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
225:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
241:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
257:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
273:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
289:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
305:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
321:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
337:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
353:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
369:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
385:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
401:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
417:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
433:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
449:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
465:	FF	0	0	0	80	80	0	FF	80	FF	FF	FF	0	0	0
481:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### DMX Capture

This mode reads in each frame, and converts it to fixture parameter settings using the patch on one of the outputs as a conversion map. The captured frame appears in the programmer so you can then record it.

If you start with the programmer clear when you turn on DMX Capture, then all the fixtures in the mapping output will be captured. If you start with a selection, then only the selected fixtures will be captured.

### DMX Trigger

To trigger a cue, use the first ten addresses as a binary number. A zero level corresponds to digit 0, any other level represents 1. Bit 0 of the number is at address 10. Bit 9 is at address 1. Thus, any cue trigger up to 1023 can be sent. Once a non-zero number is read, the cue with that number on the current master will be triggered.

### DMX Masters

This mode allows you to use the DMX console as an extension to the Hog 2 masters.

To setup:

- 1 Specify the number of masters in the DMX Submasters box.

- 2 Patch enough preset faders, or program submasters, on the DMX console, so that adjacent faders control consecutive DMX bytes, starting at address 1.
- 3 Then, set the fader master level so that full fader on the DMX console gives the value hex E3 on the corresponding channel (check using Show DMX window). Keep the flash master so that it outputs hex FF. If it is not possible to separate fader and flash levels, avoid bringing the fader to above a point that outputs hex E3.
- 4 Turn on DMX Masters mode.

You can now treat the DMX console masters *exactly* as though they were real masters:

Use the DMX flash button as **Choose** and **Flash**. For your convenience, cuelists on DMX masters will have the **Flash+Go** option already set so you can **Go** cues. Also, the DMX flash button will act only as **Choose** during edit operations, and you will hear a beep to confirm the edit.

Use the DMX fader as the fader.

If you turn off DMX Masters mode, or reconfigure the number of masters while in DMX Masters mode, you will lose the cuelist to master assignments. You will not lose cuelists programmed on the DMX masters, since they will still be accessible through the cuelist directory window.

---

## 24 Hour Clock

This feature is supported on the Hog Unit, Hog PC, Hog 1000, and Hog 500.



# Frequently Asked Questions

*If you're having difficulty figuring out how to do something or why the console is behaving the way it is, look through the following section to find a problem that matches your own.*

---

## Hardware

### **The mouse has stopped working.**

Mice are sensitive to sunlight or strong light, as they have internal optical encoders. Ambient light can screw up the encoders. Move your mouse out of the light, or use a black mouse.

### **The faders won't bring my cues up to 100% intensity.**

You'll need to adjust the trim pots. To do this:

Open the front of the console, and look for two blue plastic towers located on the front panel circuit board, between the circuit board and the metal work. They're located between the large **Go** button and the **PIG** key.

Use a small screwdriver to adjust the right trim pot until the fader gives full range. There is no need to touch the left one. Use the **Event Monitor** in the **Control Panel** to check levels.

If this doesn't work, the fader itself is most likely defective. Try cleaning the fader with a dry cloth. Do NOT use any cleaning fluids. They will make it worse.

### **I have to reload a show from disk every time I turn on the power.**

It's likely that the battery is not fully charged. Leave the console powered on for two days to give the battery a chance to fully recharge.

### **Buttons are getting pressed automatically on the touch screen even though I'm not touching them.**

Debris has most likely gotten stuck in between the touch screens and the metal work. Slide a piece of paper in between the two to dislodge the debris. Another possibility is that a key on the external keyboard is stuck.

### **The screens are black and I can't see anything.**

Try pressing Setup and turning the center and right parameter wheels to adjust the contrast.

### **During dinking the DMX signal drops causing a flicker in the instruments. Can that be fixed?**

This will eventually be corrected with software modifications.

### **When I powered back up my console: all LED's flash, LCD screens black, I couldn't tell if there was backlighting.**

Continuous flashing of all LEDs means that the processor board has not started correctly. Try pressing the blue reset button with the power on. If the condition persists, contact your dealer

**The left hand touch screen contrast adjustment keeps going through its full range on its own. On boot up from cold it takes around 20 seconds per cycle after a few minutes it only takes 3/4 seconds.**

A hardware bug with earlier consoles which has now been corrected. Can also lead to power on problems (console locks up with blank touch panels) due to software bug in EPROM. Contact your dealer to arrange for modification.

**My console seems to have slowed down. What's going on?**

Here's a list of things which slow the console down:

- Using Overdrive boxes
- Having lots of windows open (watch out for ones hidden beneath others in views).
- Running lots of HTP masters.
- Not doing a cold start and fresh reload from disk often (eg once a day).
- Large Cuelists with backwards loops.

---

## Setup

**What's the best way to handle scrollers?**

We highly recommend using the scrolldim fixture type. This links the scroller and the dimmer together for easy handling. It also means that the two show up together logically on displays like Levels.

**The console is sending out erratic DMX.**

Make sure the fixtures and the WHOLEHOG II are receiving power from the same source.

**I've patched my fixtures, but they aren't responding as they should (or they're not responding at all).**

There are a few things worth checking:

- Make sure the grand master is up.
- Make sure **Blind** is not on.
- Make sure the protocol is set correctly in the patch window.
- Make sure the switches and addresses on the fixtures are set correctly. Consult Appendix A for further information on this.
- Make sure the console is properly grounded and that it's on the same power source as the fixtures.
- Test the cabling. Use a DMX tester and work your way down the data line from the console to the fixtures.

Make sure the fixtures have the correct EPROM's on board.

**I'm trying to patch, but the fixtures don't show up in the patch window after I press Enter.**

Make sure that the patch window is active.



**How do I access a fixture that's not shown in the schedule?**

See the Fixture Library chapter to learn how to set it up yourself or contact your dealer for further assistance.

**I've lost my PIN. How do I get back into my show.**

Press the Reset button and reload the show.

**I can move my VL5's, but I can't get any Intensity.**

Make sure that you've also patched the Intensity.

**How can I have my color changer display my color in steps instead of %. OR: How do I get DMX values to appear on the parameter wheels?**

Change its settings in the fixture library.

**My patch screen is no longer working.**

The patch window only works while sitting on the right LCD. This way, you can keep it open for reference purposes elsewhere and not affect it when selecting fixture for programming.

**If I type desk channel 1 @ Full while the patch window is open the offending item gets patched to 100.**

This isn't a bug. Full is interpreted as 100, whether the patch window is open or not.

**When you go into the Control Panel and change the keyboard to US, the English disappears.**

It's still there; you just need to use the cursor keys to scroll the list back up

---

## **Disks and Fixture Library**

**Are show disks recorded on an early version of software compatible with later versions of software?**

Yes. Note, really old shows (ie v1.0 shows) will have the old looping scheme converted to the new link cues. You will see a user alert when this occurs. The timing conversion may not be perfect, so will need checking.

**Are show disks recorded on a later version of software compatible with earlier versions of software?**

Yes: Use Save As.

**In my library file, why does Douser = b still allow the channel to be controlled on the fader?**

Because you probably still had it set as htp8bit. All HTP parameters are fader controlled.

**How do I change fixtures so that they fade colour wheels?**

Use the Edit Fixtures window to change the path. You can also use the time window to override on a cue by cue basis

---

## **Programming**

**When I touch a button on the touch screen either a different button is selected or nothing gets selected at all.**

Recalibrate the touch screens in the Control Panel.

**How do I only grab fixtures in a certain colour (beam, etc)?**

Press **Active**, then select the constraint (such as a palette or parameter setting), and then **Enter**. All active fixtures of that type will be loaded into the programmer.

**I recorded a cue, but nothing appeared in the cue list.**

Make sure the desired cuelist was chosen.

**I have selected Cybers & VL5 groups. When I select a colour, the Cybers change, but VL5's don't.**

You pressed a palette that only contained information for the Cybers.

**My I-beams or Cybers will not respond to colour or gobo timing, even though I'm using the M speed.**

Make sure the fixtures are set to the correct personality setting.

**I'm trying to create a palette with ICBF in it, but I only get color (or focus or beam)?**

Adjust the Masking settings while recording.

**If I program colour mix channels, the colour wheel gets programmed as well even though I didn't touch it**

All the colour parameters are linked; recording one records the others. You can unlink them by using the control panel **Keep params separate** option. If you do unlink them, watch out! People usually become confused by forgetting to touch all the wheels when recording looks. Undo will also release undesired parameters.

**My color changer will not crossfade to the new color even though I've put timing on the cue.**

The color parameter may be set to snap change in the Edit Fixtures window.

**If I change a cuelist on one page, will it change on the other pages.**

Yes.

**If I change the cuelist option settings, does this apply to all cuelists or just this one?**

Just the one being changed. The options are specific to each cuelist. To change settings for new cuelists, use the control panel **Cuelist defaults** function.

**How do I track parameter information through a series of cues?**

Use **Copy** or **Record** with the **Merge** option selected and then select the destination cue range. Masking can be useful in these situations to quickly eliminate unwanted parameters.

**How can I copy a palette created for x amount of lights to another light if I decide to add it to the patch afterwards.**

When making the palette, make sure that you specify for one fixture only. All fixtures will then use this value, as will all additional fixtures added later (of same kind).

**How do I knock out individual parameters from a Q or a pallet?**

Load cue/palette, select the fixture, hold **Undo**, move the relevant parameter wheel, **Update**, **Enter**.

**How do I remove fixtures from a cue?**

Load the cue, select the fixtures, press **Knockout**, press **Update**.

**How do I remove a fixture from a cuelist?**

Select the fixtures to remove, press **Pig** and **Active** to grab all parameters, record with the **Remove** option, select all cues in the destination cuelist.

**Can I give a cuelist a name?**

Yes. Go to the cuelist window. Select the cuelist. Press **Set**. Type in the name. Press **Enter**.

**Do I have to keep pressing Back space after Set to erase what's already there.**

No. Just start typing and the old items get wiped out.

**If I accidentally hit Update, how do I get rid of it?**

Press **Backspace**.

**Do I need to press the @ before Full, i.e., 6 Full.**

You can hit **Full** straight off, provided that that you've just done a selection. If not, the command line is empty, and the **Full** button is interpreted as cursor down.

**Is there a way (besides using the open white palette) to record values into all parameters?**

Select lights, **PIG + Active** grabs all parameters of selection. Or Record with 'Everything'

**How I can change the Open White parameters.**

Either edit the palette itself or edit the parameter default values in the library file.

**Move Choose syntax does not move a cuelist from one fader to another. It gets copied instead.**

This is correct. Actually, it doesn't get copied, it gets *referenced* again. It is as though you had "moved" from the cuelist directory in the first place.

**When I merge in new times to my cue, the times don't get changed**

You need to merge values and times at the same time. You cannot currently merge time on its own. Also, make sure you turn off the time mask when you do the merge.

**When do you see the Update Dialogue box?**

If you override lights in the programmer without first pressing **Load**, and hit **Update**, it gives you a window of things to change.

**How can I tell which Masters are controlling which fixtures?**

Open the Levels window and press **Source**.

**The Fan and Effects are working in a strange manner.**

Check to make sure that the groups on which you're using the effects weren't created using a fixture order different from what's desired.

**How do I get the programmer to crossfade to a new palette I select?**

Turn on the **Live Programmer** option in the Control Panel

---

## Playback

**How am I supposed to cope with only 8 faders? I'm used to have 20 or more.**

The **Save Activity** functions allows the 8 faders to accomplish a lot more than might seem possible at first glance. This is because it's possible to instantly crossfade to an entire new set of

looks on the incoming page. Because it's so fast, it's easy to hop around to a lot of different pages.

If this is still not satisfactory, use Virtual Masters to access more cuelists or use an expansion wing.

**My timing seems all screwed up and the actual fade time is not what I have entered in the cues.**

Check to make sure that the rate override and thruster settings are at 100%.

**I created a chase on my fader, but want to adjust the rate on the fly.**

Hold down **Choose** on the chase's Master and dial the parameter wheels.

**Can I release a fader without it getting selected in the process.**

Yes, press and hold **Choose** for the fader to be released then **Release**.

**I have an Intensity Only cue on a fader, but nothing happens when I bring up the fader.**

If it's an LTP fader, you must press **GO** first. Otherwise, set it to be HTP. Also, make sure that the **Add blank first cue** option is off.

**My cues are playing back differently than how I programmed them.**

This is likely a State problem. See the Summary of *Editing Options* section in the *Cues, Cuelists, and Pages* chapter.

**I've recorded a cue to a fader, but when I advance to the next cue it stays in the same look.**

Try clearing the programmer.

**I have only one page. How do I create more?**

Press an empty page in the page window.

**When I change pages all my cues fade out. How can I hold a few over?**

Hold **Choose** while changing page for the cuelists to hold over.

**Can I run cuelists from the cuelist directory window?**

Yes, they can be run on a virtual master.

**When I change pages, my cuelists get released even though they're on a template.**

Make sure you haven't re-recorded your template cuelists into your normal pages. If so, the template gets continually overridden by new pages.

**I can't get Save Activity to work.**

Save Activity only works on current page.

**When I'm playing back a long cuelist, the page does not scroll automatically when I hit the GO.**

Turn on the **Follow Current** option on cuelist display.

**I'm unable to scroll through a cuelist. It always jumps back to the top of the list.**

Turn off the Track/Current option

**I really need a way to jump to any point with in my cue list and continue on from there.**

Try **Goto 100 Enter**. Make sure the master is selected.

**I have a chase Master running strobe chases. If Q8 then goes on my main Master it seems to dim all the fixtures and change their position focus. Why does it do this? Q8 does not have any Trackspot data in it at all.**

This is because you have the cuelist option **Maintain state** on, and **...but not in jumps off**. When **but not in jumps** is off, the cuelist will reassert its state on cue execution (in case parameters have been overridden by other masters). The Trackspots may not be in the cue 8, but they are in earlier cues, and it is this that causes the problem. To prevent this, turn **but not in jumps** ON.

**I have cues 1 to 3 looped each with part times (delays on fixtures 1s,2s,3s,4s). Q4 is a dead blackout of all lights involved in Q1->3. When you hit GO (to jump out and go to Q4), they all blackout for a second then the delays kick in and you can see them counting down in the loop above. The problem is the lights come on when they should be happily sitting in the Black Out of Q4.**

Currently, the console does not check to see if a cue with a delay is overriding a cue later on in the cuelist. This will be corrected. Meanwhile, either make sure the cues are done, or get last cue to trigger another cuelist for the black out via a comment macro.

**A fixture's intensity is at full no matter where the fader is**

Check the settings in the Edit Fixtures window. Looks at the Levels display to see what's controlling it. Make sure the fixture is not parked.

**How can I trigger (with SMPTE) a Halt on a running chase or loop?**

You can use the cuelist macro commands on another SMPTE cuelist to start & stop chases

**Hitting Go to exit a loop zaps fade time of other running cues. How do I stop this?**

You can fix this problem by turning on the **...but not in jumps** cuelist option.

**I can't get Learn Timing to work with Simulate in SMPTE.**

Learn timing will only replace wait times that are currently set to Halt (blank in the cuelist).

This is to allow you to build up the timing over several passes, and not have your previous work eradicated every time.

---

## Windows/Navigating

**The Keypad arrows don't work.**

Make sure there's nothing on the command line. Otherwise, the console thinks you want to use the keys on the keypad for thru, full, etc.

**Pressing PIG plus an item no longer gives me the window.**

This could be because the last time the window was open, it resided on an external monitor. If the monitor has been removed since then, the window will open on a monitor that isn't there.



Press the shuffle window button, , to bring it back to an available display.

Be sure that the correct number of external displays is set in the control panel to avoid windows going to displays that aren't there.

**I can't get anything to show up on my external displays.**

Make sure that the displays are set in the Control Panel.

**Track Current is no longer on whenever I re-open the cuelist window.**

Resave the cuelist view with **Follow Current** on.

**Sometimes when recalling a saved view, the screen will only halfway overwrite the previous screen. Once it starts, it continues to happen even when resaving the view. This seems to be more common when saving the Cue list screen (pig+choose).**

The second view was recorded with the cuelist views over the palettes. When the view is used, all windows get opened, but the last window is set to front. In this case, this happens to be one of the palette windows you had hidden beneath the cuelist window.

Solution: only record the windows you need. Make sure hidden windows are closed, rather than just hidden.

**I save a view with a window full size (filling up the whole screen), but it's only half size when I recall it with the View button.**

Make sure to size the window with the toggle button and *not* Maximize

**Page Up and Down don't work in the programmer times window.**

They won't work due to the entry box being open. They do work if the time window is locked open with pig key.

# Extended Key Chart

This chapter gives a quick reference to keystroke commands.

---

## Pig functions

The chart below shows what happens when **PIG** is pressed in combination with other items:

<b>.</b>	Minutes
<b>Active</b>	Puts values into all parameters for currently selected fixtures in programmer
<b>Beam</b>	Opens Beam palette window.
<b>Clear</b>	Restores programmer to its previous state before <b>Clear</b> was pressed.
<b>Color</b>	Opens color palette window.
<b>Choose</b>	Opens cuelist window for selected Master.
<b>Copy</b>	Clone
<b>Effect</b>	Opens effects library window.
<b>Focus</b>	Opens focus palette window.
<b>Group</b>	Opens group selection window.
<b>List</b>	Opens cuelist library window.
<b>Load</b>	Extract
<b>Next</b>	Goes backwards
<b>Next Page</b>	Goes backwards
<b>Park</b>	Unpark touched attributes in Programmer. If none touched,unparks selected fixtures
<b>Page</b>	Opens page window.
<b>Release</b>	Releases all Playback Masters
<b>Time</b>	Keeps the Time window from closing after each entry
<b>Thru</b>	Makes <b>Thru</b> work in the Programmer Time window
<b>Page Up/Down</b>	Scrolls one line at a time.
Parameter Wheels	Fine movement for parameters larger than 8 bit.
Palettes and Groups	Deselects chosen palettes and groups.
Built-in keyboard	Shift.
Cuelist Selection	Selects range.

---

## Setup functions

**Setup** also has special functions when used with other items:

Right Parameter Wheel	Scrolls up and down a window
Center Parameter Wheel	Adjust left touchscreen contrast
Left Parameter Wheel	Adjust right touchscreen contrast

---

## External Keyboard Shortcuts

When using the keyboard, the letter keys obviously let you type names, which may be easier than using the touch screens to name items. The following also duplicate console keys

<b>F1</b>	Group	<u>Function Keys (F1, etc) +</u>	
<b>F2</b>	Position	<b>Shift</b>	Toolbar Buttons
<b>F3</b>	Colour	<b>Tab</b>	Window Controls
<b>F4</b>	Beam		
<b>F5</b>	Macro	<u>Where x is a Master #:</u>	
<b>F6</b>	Page	<b>Shift + x</b>	Choose x
<b>F7</b>	Effects	<b>Tab + x</b>	Go x
<b>F8</b>	List	<b>` + x</b>	Stop x
<b>F9</b>	Time		
<b>A</b>	Active	<b>]</b>	Main Go
<b>B</b>	Blind	<b>[</b>	Main Stop
<b>C</b>	Clear	<b>Z</b>	Release
<b>D</b>	Delete	<b>J</b>	Skip Up
<b>G</b>	Goto	<b>K</b>	Skip Down
<b>H</b>	Highlight	<b>;</b>	Next Page
<b>L</b>	Load	<b>G</b>	Goto
<b>M</b>	Move		
<b>N</b>	Next	<b>+</b>	Plus (+)
<b>O</b>	Undo	<b>-</b>	Minus (-)
<b>P</b>	Copy	<b>*</b>	Thru
<b>Q</b>	Try Q	<b>/</b>	Slash (/)
<b>R</b>	Record	<b>'</b>	At (@)
<b>S</b>	Setup	<b>\</b>	Full
<b>T</b>	Time	<b>Numlock</b>	Set
<b>U</b>	Update	<b>Backspace</b>	Backspace
<b>X</b>	Thru	<b>Enter</b>	Enter

**Ctrl** Pig







# Fixture Library

The console uses *fixture library* files to configure fixtures for use on the console. These files contain information such as the number and types of channels and to display them.

The operating software contains a ROM Library that updated with each new release. However, if you need to change fixture parameters or add a new fixture not contained on the ROM file, then you'll need to write a new personality and load it into the console. This file is called “\_lib.lib”. Below is a detailed layout of how to do this.

---

## Writing a Fixture File

The “\_lib.lib” file contains all of the information the console needs to determine how the different fixtures work. It contains a version command and then a count of the number of the number of fixtures specified in the file. Then follow a number of fixture specifications that are started with a fixture command—all of the commands up until the next fixture command pertains to that fixture. Each fixture contains a name, manufacturer, product ID and a number of parameters. Each parameter starts with a parameter command; all subsequent commands up until the next parameter command belong to that parameter. A parameter contains a type, default, highlight and one or more ranges.

The following is a dissection of a typical \_lib.lib file, and the commands found therein:

### **Version = 0**

This needs to be zero so that the desk recognizes the file as a library file. Shows saved to disc also contain \_lib.lib files but these have a non-zero version command and should not be edited.

### **Count =**

Number of units in the \_lib.lib file.

### **fixture =**

Name of the fixture. This label will be displayed in the output/cue contents window when you select the unit. Therefore this label should be kept to a maximum of 8 characters. ***NB: spaces are not permitted in the label.***

### **manufacturer =**

Unique product code. Check [www.flyingpig.com](http://www.flyingpig.com) for a current listing. If uncertain, use 99. This will appear in the fixture schedule as User Manu.

### **product =**

Unique product number. Check [www.flyingpig.com](http://www.flyingpig.com) for a current listing.

Both `manufacture =` and `product =` references a unique number that then defines what type of fixture it is and also who makes it. This is most useful when a fixture has more than one mode and is still called the same thing. This table can be found in the appendix.

**name =**

The Name of the Fixture. This should be between 1 and 15 characters long. This appears in Add Fixtures menu list when you select units to be patched. If you use spaces then these will count as a character. If you do use more than 15 characters then the name will be truncated and can cause problems when trying to merge shows.

**yoke =**

The console will assume that a fixture is a mirror unit unless it's told otherwise. If the fixture is a yoke light then the line, `yoke = yes` should be added after the fixtures name and before any parameter listings. The console needs to treat yoke lights slightly differently from mirror fixtures since a yoke light can often point at the same location via two separate pan and tilt DMX values.

**output = dmx**

This should be placed before any parameters that you may need to keep separate when patching. So if the intensity needs to be patched away from the other parameters then this will separate it out. Output = dmx only needs to be added where you need to define a split in the parameters for patching purposes. If the unit does not require the parameters to be separated then this line only needs to be before the start of the first parameter.

If the intensity is the first channel on the fixture then below is how you would start the file.

```
output = dmx
    Parameter = intensity
    Default = 0
    Range = 0, 255 %
```

Then

```
output = dmx
    Parameter = pan
```

Then carry on as normal.

**constant = 0**

This line is optional and can be added when a channel on the fixture has no purpose or has been reserved for future use. It pads out the channel allocation so that when patching all the parameters line up correctly with channels. Any constant value between DMX values 0 and 255 is permitted.

**parameter =**

`parameter =` specifies the name of the parameter. The desk will look in `function.txt` to see if a parameter of that name already exists and what kind it is. If the desk doesn't have any other reference to the parameter then it assumes that it is a "beam" parameter, unless it is explicitly given a kind using the "`kind =`" command

**kind =**

`kind =` is used to define the type of parameter. This is used when a parameter is not found in `functions.txt` and is not a beam parameter. If you needed to tell the console that `funnycol` is a colour parameter (for example) then all you need to do is add the line `kind = c` after the `parameter = funnycol` line. The syntax for this can be: `kind = i,f,c,b` or `x`. The letters

represent Intensity, Focus, Colour and Beam respectively.  $\times$  is used for parameters that are needed but you don't want to appear in the displays.

#### **default =**

The default is where the fixture sits when it is powered up. If no parameter is recorded into a cue or held in the programmer then each channel will stay in the position that has been set as default. With most fixtures that is 50/50 for pan and tilt, 0 for intensity and whatever value corresponds to open for colour and beam parameters. The fixture will also return to its default position if a parameter is moved and then [clear] is pressed. Again only if it's not active in a cue.

#### **highlight =**

Give the value to be outputted when "highlight" is pressed. This can be overridden by editing the highlight palette. This applies to all parameters except Pan and Tilt.

#### **crossfade =**

Default crossfade path. 0 is Linear. 1 is snap change at start. 2 is snap change at end. This is the crossfade path that will be used when the parameter is recorded into a cue.

#### **type =**

Specifies the control method and resolution.

Channel Type	Description
htp8bit	8 bit highest takes precedence
htp16bit	16 bit highest takes precedence
ltp8bit	8 bit latest takes precedence
ltp16bit	16 bit latest take precedence.

Highest takes precedence is generally used for fader controlled parameters such as intensity. It will look at all the cuelists that are trying to control it and select the one with the highest value. All HTP attributes will be under the control of the Grand Master and cuelist faders.

Latest takes precedence is used for focus, beam and colour parameters. It will take it's value from the last cuelist that tried to control it.

8 bit channels take up just a single channel. 16 bit parameters take up two successive channels; they are usually used for Pan and Tilt.

*When entering the type do not include any spaces in the name. ie "ltp8bit" rather than "ltp\_8\_bit"*

#### **range =**

The syntax for the range command is:

**range =** (DMX value range start), (DMX value range end) , (label) , (modifiers)

For 8 bit parameters, the DMX values can be anywhere between 0 and 255. For 16-bit parameters the DMX values can be anywhere between 0 and 65535. If the DMX value range end is not given then the desk assumes that the range only exists for the given start value.

Label details the text that will be displayed above the wheels when the wheel is within the specified DMX range, it should be no longer than 8 characters and must not include spaces. If the % symbol is used as a label then the desk treats range slightly differently; it will show how far the encoder is through the range as a percentage. Therefore if you write “**range = 50, 75, %**” then this will show on the encoder what is between ranges 50 and 75 in the DMX range and this will show as a percentage.

There are two optional modifiers that can be added after the label, they are `noauto` and `centre`. `Noauto` means that the range will not appear in the palettes that the desk can generate automatically. `Centre` means that the desk will goto the middle of the range when it is selected.

Usually a number of range commands are used to describe the different ranges that exist on a parameter, eg. for a colour wheel with 6 colours including open white then you would expect to see 6 range commands, one for each colour.

Ranges do not have to follow the order that they are listed within the DMX spec. So this will enable you to group the common ranges together.

```
Eg: range = 10, orange
     range = 50, aqua
     range = 20, mauve
```

Now when you move the encoder it will display orange, aqua and green in that order, whilst the DMX channel will jump from 10 to 50 then back to 20.

***Ranges must not overlap.***

```
Eg: range = 0, 120, %
     range = 100, a
     range = 130, b
```

In this example, the first two ranges clash with each other so the desk doesn't know whether it should be displaying a percentage value, or the label “a”.

When writing library files try to make the ranges as simple as possible. So instead of,

```
Range = 206, stop, noauto
Range = 210, <<slow, noauto
Range = 215, <<med, noauto
>>, centre
Range = 220, <<fast, noauto
Range = 225, >>fast, noauto
Range = 230, >>med, noauto
Range = 235, >>slow, noauto
```

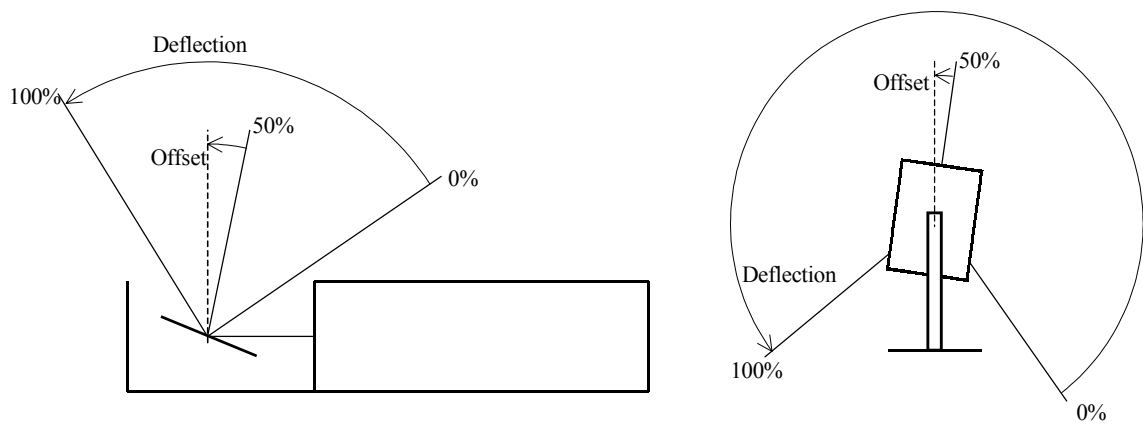
DO

```
Range = 207, 235,
```

---

## X Y Z Information

In order for X Y Z to function, lines need to be added to the Pan and Tilt Parameters.



These lines go between `type` and `range`. Below is a diagram showing how to measure the required items for XYZ to work correctly.

#### **Pan and Tilt Deflection**

the angle the beam moves between min and max DMX, i.e. Deflection is the total angle over which the beam can be directed.

#### **Pan Movement** (normal or inverted)

if increasing pan moves the head or mirror clockwise when looking out from the lamp, the direction is normal otherwise its inverted.

#### **Tilt Movement** (normal or inverted)

for a mirror light the diagram above shows the normal direction; for a yoke light, trial and error is the best policy!

#### **Tilt offset**

the angle shown in the above diagram, given in degrees. Offset is the difference between “straight down” and where the fixture sits when it’s tilt parameter is set to 50%. For mirror fixtures, “straight down” is classed as perpendicular to the optical path that all of the fixtures lens lie in. For moving head fixtures “straight down” is classed as the axis that the head pans around.

Deflection and offset need to be added to the Pan and Tilt parameters for XYZ to work. With Pan you just need to add deflection and with tilt you need to add deflection and offset. These lines are added after the `type = line`.

#### **movement = invert**

When this line is added it will reverse the range information. So if you have a range that is 0, 255, % and the default is 0, with the `movement = invert` line it will set the default to 255. This is only used for Pan and Tilt attributes and colour mixing.

---

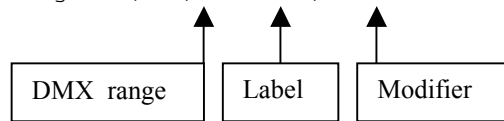
## Auto Menus

Palettes are created when you patch in a fixture and then select “auto menu.” This then places the main features of the unit onto the 4 palettes of the HOGII. So if you then look at the screen after patching you will see all the colours in that unit on the colour palette, the gobos on the beam palette and so on. What the Hog does is to look and see if units share any common items. So if two different fixtures are patched and both of them have red on their colour wheel then it will only need to make one red colour palette. This matching is done by name, so it is important that if you want items to appear in automenus that they use exactly the same name.

The **AutoMenus** option in the patch window uses the library information to compile palettes for the fixtures you select. With the cloning feature it is important that labels are standard so that there is no conflict between fixtures. You can select parameters not to “auto” by adding a modifier at the end of the range label. This is also a good guard against unuseful ranges.

Noauto or centre are modifiers. “noauto” is used to stop the label being added to the palette when auto menus are created. “centre” is used to center the range to the middle for things such as split colour. It will default to the centre of the range.

ie Range = 0, 23, randomsr, noauto



A palette will be generated for every “range” entry in a library that:

- Is for a parameter of type “beam” or “colour”
- Has a valid label, ie not blank or %
- Does not have noauto set

The value stored in the palette will be the minimum of the range unless “centre” is specified.

---

## Common Abbreviations in Labels

Labels should be no more than 8 characters long. If you use spaces in labels then this will count as a character space and will be part of the 8 characters. In order to keep them short the following abbreviations are commonly used:

<>	Rotate. To be used with colour or gobos.
>> or <<	Continuous spin ie Spinning wheels
lt or dk	Use instead of “Light” and “Dark”
+	The plus symbol is used to indicate a value partway between two slots. Use this for split colours. These inbetween ranges should be marked ‘noauto’ since only the full colour positions are required in the automenus.
Mod	Mode
*	Is used to signify that the parameter is controlled by MSpeed or timing values.



---

## Colour Labels

The labels used for the colours on a colour wheel need to be kept consistent, as when the console makes the colour palettes it will look and see if different fixtures have the same colours and then merge them all into one palette. For example, if you patch a Studio Spot and a Mac500 it will look and see that they both have Red and instead of making a palette for the S/Spot and one for the Mac they share the same Red Palette. This becomes very important when trying to clone and merge.

### Standard Colour Labels

white	cyan	cto(1/2, qtr, full. Add before)
magenta	yellow	warm
red	green	cold
blue	pink	orange
amber	congo	uv (only if true uv)
turquoise	purple	aqua
indigo	ctb	mauve

Any colour with the prefix “light”: use “lt”

ie ltgreen : ltblue etc

Do not use filter numbers after the colour. eg: blue108 green106

Deep purples should be labelled indigo or congo not uv unless the unit can achieve true ultra violet

### Full Colour Mixing

If the fixture has subtractive colour mixing ie. dichroics then it should use the Cyan, Magenta and Yellow parameters labeled as CMY regardless of the names the manufacturer use to describe the system. The `movement = invert` command can be used to alter the way the channels work so that all fixtures act in a uniform manner. If the fixture uses an additive colour mixing system ie. a red lamp, a blue lamp and a green lamp then its parameters should be labeled Red, Green and Blue.

---

## Gobo Labeling

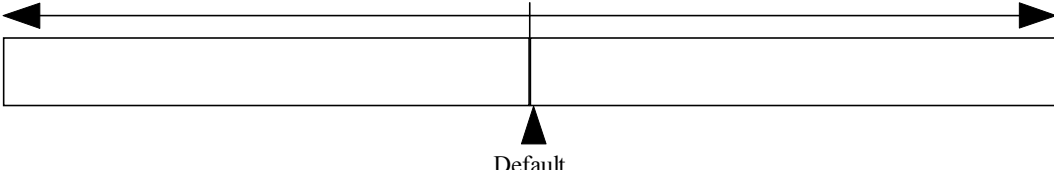
When adding labels to Gobo Parameters it is important to keep a consistency going. This helps to create sensible auto menus. Fixed gobos should be named using the manufactures defaulted names. If an operator wants to change these then that can be achieved in the *Edit Fixtures* window on the console. This rule can also be applied to Prisms and Frost effects.

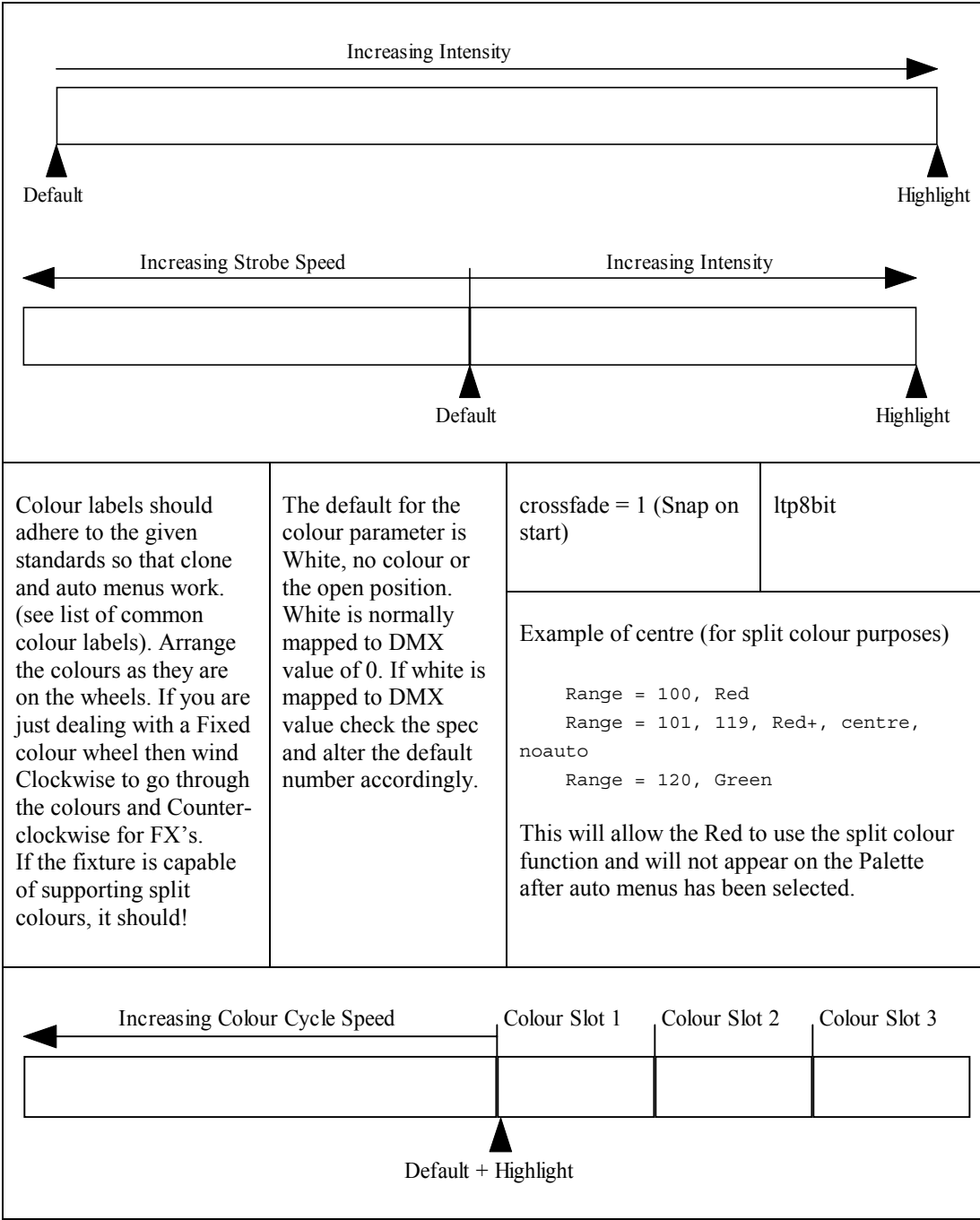
If the gobos or prisms or frosts can be removed and replaced with other types or styles then they should be labeled as Gobo1, Gobo2 or Prism1, Frost1 etc. Then they can be renamed to suit in the *Edit Fixtures* window.

All Labels must be no longer than 8 Characters and contain no spaces.

## Parameter Reference Table

This table is designed for easy reference to each parameter, and what default, crossfade and type to use when writing a library file. There will always be one or two fixtures that do not follow the rules and in that case common sense should be used.

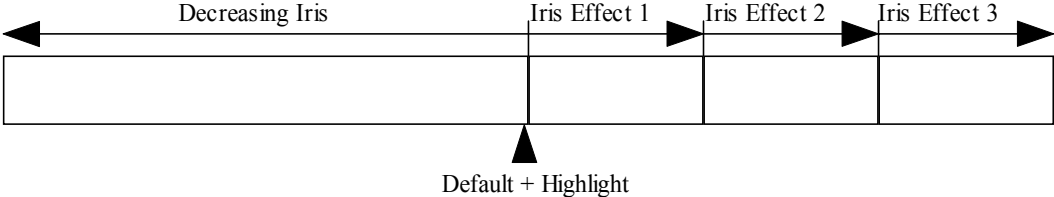
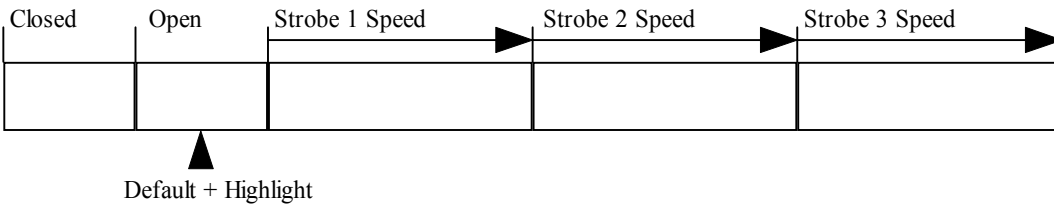
	<b>Description</b>	<b>Default</b>	<b>Crossfade</b>	<b>Type</b>
<b>Pan and Tilt</b>	Pan and Tilt can take up either 2 channels (8bit). Or 4 channels (16bit). 16bit just means that there are pan and tilt fine channels. This makes for smoother movement and a much better degree of control.	If the unit is of 8bit resolution then the default value will be <b>128</b> (half of 255), on a 16bit unit it will be <b>32768</b> . (half of 65535)	crossfade = 0 (linear )	ltp8bit or ltp16bit
				
<b>Intensity</b>	<p>From the start point winding the encoder clock-wise should increase the light output.</p> <p>If the intensity channel also controls strobe or other effects functionality then winding counter clockwise should access the strobe range. The further counter clockwise the strobe is wound the quicker the fixture should strobe.</p>	<p>The default should be DMX value 0, if the channel just has intensity on it.</p> <p>If the channel is shared with the strobe attribute then the default should be the lowest DMX value of the intensity range.</p>	crossfade = 0 (linear)	Intensity parameters are almost always htp8bit. So that the faders have control of the intensity attribute.



**Colour Mixing**

NB: There are some fixtures that have colour mixing wheels with one or two fixed colours on the end of the wheels. If this is the case then treat the colour mixing as CMY and tag the fixed colours onto the end of the range.

<p>If colour mixing is subtractive, i.e. dichroics, then the attributes should always be labelled as CMY regardless of what the manufacturer states in their publicity. If colour mixing is additive, i.e. red, green and blue lamps, then the attributes should be labelled as RGB. Wind clockwise to access CMY or RGB starting from White (0% should then be white).</p>	<p>The default for the colour parameter is White, no colour or the open position. White is normally mapped to DMX value of 0. If white is mapped to DMX value check the spec and alter the default number accordingly.</p>	<p>crossfade = 0 (linear)</p>	<p>ltp8bit</p>
<div><div><div>Increasing Colour</div><div></div></div><div>Default + Highlight</div><div><div>Increasing Colour</div><div>Slot Colour 1</div><div>Slot Colour 2</div><div>Cycle Effect</div></div><div>Default + Highlight</div></div>			

<b>Iris</b>	Winding encoder counter clockwise should close the iris. Iris strobes or other effects (such as pulse) that share this should be clockwise of the default point. If the effects have a speed component, they should increase in speed the further clockwise the encoder is turned.	Default should be Iris open with no effects.	crossfade = 0 (linear)	ltp8bit or ltp16bit.
				
<b>Strobe</b>	Strobe should wind clockwise to increase speed. The first position Counter Clockwise from the default position should be closed, and any effects should be counter clockwise after that.	Default is open	crossfade = 1 (snap on start)	ltp8bit To prevent faders from altering the strobe rate, do not set strobes as htp8bit.
				

**Timing  
(MSpeed)**

Timing values should be specified as discrete ranges rather than a percentage parameter so that the users can see the exact time assigned to the fixture, or fixture parameter group. Turning the encoder clockwise will always increase the time taken for the movement. Timing parameters should always be beam parameters, if units have colour timing (eg Vari\*lite) then this attribute should be a beam parameter and not a colour parameter.

The default here should be the Manufacturers recommended setting. This value will be listed in the unit's manual and thus will differ when writing different personalities. Label the default "xfade" and use noauto with all the other ranges.

crossfade = 1  
(snap on start)

ltp8bit

Example of the correct layout for M-Speed Parameters

```
Range = 0, xfade  
Range = 255, 0.15s, noauto  
Range = 253, 0.17s, noauto  
range = 252, 0.19s, noauto
```

**Control**

Control is dependent on what features there are on the unit. For all control functions (such as lamp on lamp off reset etc) wind counter clockwise.(Home or Reset should be one turn counterclockwise)For any other attributes such as modes, wind clockwise.

Default here should be "Idle"

crossfade=1  
(snap on start)

ltp8bit

**Gobo / Prism  
Select**

Winding the encode clockwise from the start point cycles through the different types of gobo or prism.

If the parameter also controls effects then these should be counter-clockwise from the default. Effects, which affect a single gobo, should be first grouped together by effect type. Effects, which affect the wheel as a whole, should be the furthest counter clockwise from the start point.

Default here is no gobo or prism

crossfade = 1 (snap)

ltp8bit

Gobo 1	Gobo 2	Gobo 3	Gobo 4	Gobo 5	Gobo 6



Default + Highlight

Wheel    Wheel  
Spin    Cycle

←	←	Shake 3	Shake 2	Shake 1	Spin 3	Spin 2	Spin 1	Open	Gobo 1	Gobo 2	Gobo 3



Default + Highlight

**Gobo / Prism  
Rotate**

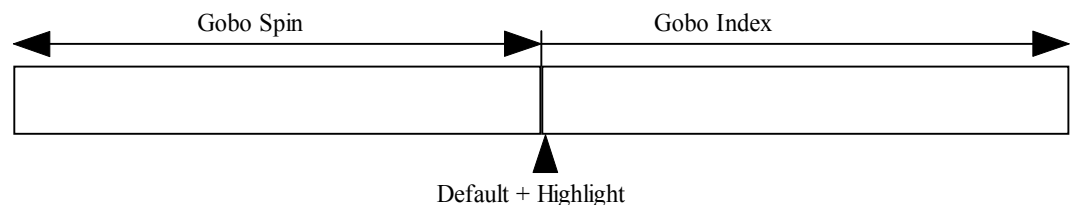
Some fixtures (eg. Clay Pakys) have separate gobo select and rotate parameters.

Winding clockwise should change the index position of the gobo.  
Winding counter clockwise should access the gobo spin speed, the centre modifier should be used so that the user goes straight to the centre and can then wind clockwise for increasing clockwise spin, or counter clockwise for increasing counter clockwise spin.

Default is no spin.

crossfade = 1  
(snap on start)

ltp8bit

**Zoom / Focus**

Wind clockwise to zoom wide Counter-clockwise to zoom narrow. For focus wind clockwise to focus nearer to the object and counter clockwise to focus further away. For a pictorial representation see the Iris function.

Default is “open” for zoom and “50%” for focus.

crossfade = 0  
(linear)

ltp8bit

---

## Reporting Errors in the Library

Any errors and omissions to the library need to be mailed to [support@flyingpig.com](mailto:support@flyingpig.com).



Any corrections to library files that are submitted to support need to be accompanied by a list of changes and a brief description of why the changes have been made. This procedure will enable the support team to evaluate the changes and keep track of what alterations have been made.

Corrections should be submitted as one fixture per file and also one error correction per file. Therefore if a fixture has two errors logged against it, the corrections need to be submitted separately.

---

## Loading the File

There are two ways to add a fixture to the library:

Use an old library disk from version 2 shows. Add the file as normal and increase the count number by one.

Save a clean show to disk and open up the Library folder. Open the \_lib.lib file and paste in the text of the new fixture file. Increase the count at the top of the file by one.



# Hardware Notes

## **There are six LEDs on the processor board inside the console which indicate:**

- LED1     On: Processor in reset or failed start-up self test  
          Off: Processor normal
- LED2     On: Processor accessing system bus  
          Off: Processor not accessing system bus
- LED3     - Flashes @ 16Hz under normal operation to indicate refresh DMA interrupt service  
          - Strokes position of bit 0 under processor fault condition
- LED4     - Irrelevant under normal operation  
          - Strokes fault code under processor fault condition
- LED5     On: Flash VPP (12V programming supply) on  
          Off: Flash VPP off
- LED6     On: VCC (5V supply) on  
          Off: VCC off

## **There are also four DIP switches (that should not be altered):**

- SW1     On: Processor reset (identical to back panel button)  
          \*Off: Processor running
- SW2     \*On: 2Mb Flash memory fitted  
          Off: 1Mb Flash memory fitted
- SW3     On: Processor in black box  
          \*Off: Processor in console
- SW4     On: Power fail flag set  
          \*Off: Power fail flag clear

## **Timecode**

3pin XLR used to receive linear timecode signal:

- PIN1     Audio ground/shield - isolated from digital ground unless JP2 moved
- PIN2     Audio -ve (link to ground or move JP1 for unbalanced)
- PIN3     Audio +ve

Use balanced audio @ 0dB for optimum results

JP1 & JP2 are jumpers on back panel circuit board

## **MIDI**

5pin DIN used to receive & transmit MIDI signal:

- PIN1     not used
- PIN2     Digital ground
- PIN3     not used
- PIN4     Data -ve
- PIN5     Data +ve

NOTE: MIDI cables are wired 1:1 - purchase/make dedicated cables as audio cables will not work

### **Desklight**

3pin XLR used to power desklight:

PIN1	0V
PIN2	0V
PIN3	12V fused - F1: 1A FAST on back panel circuit board

### **Ports (x4)**

5pin XLR used to transmit & receive RS485 signal, typically DMX512:

PIN1	Ground
PIN2	Transmit data -ve
PIN3	Transmit data +ve
PIN4	Receive/transmit data -ve (ports 2-4 only)
PIN5	Receive/transmit data +ve (ports 2-4 only)

JP3/5/7 & JP4/6/8 select second data pair function (full or half duplex with repeater control) by port

### **DMX Input**

5pin XLR used to receive RS485 signal, hardwired DMX512 on port1:

PIN1	Ground
PIN2	Receive data -ve
PIN3	Receive data +ve
PIN4	not used
PIN5	not used

### **Expansion**

5pin XLR used to receive/transmit RS485 expansion signal + provide remote power:

PIN1	Ground
PIN2	Data -ve
PIN3	Data +ve
PIN4	0V
PIN5	24V fused - F2: 1A FAST on back panel circuit board

### **RS232/Parallel/VGA Wiring as IBM PC standard**

### **Mains**

90-250V 50-60Hz AC

Fuses - 2x 250V 5A T in IEC connector housing

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