

FROG 2

FROG 2 OPERATING MANUAL



zero[®]888

FROG 2



FROG 2 OPERATING MANUAL

If a portable or temporary three phase mains supply is used to power this desk, we recommend that the desk mains plug is removed before connecting or disconnecting the supply. Serious damage will occur if the desk is connected across two phases.

This equipment is designed for use as a lighting control desk only, and is unsuitable for any other purpose. It should only be used by, or under the supervision of, an appropriately qualified or trained person.

Zero 88 reserves the right to make changes to the equipment described in this manual without prior notice. E & OE.

Federal Communications Commission

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause unacceptable interference in which case the user will be required to correct the interference at the operators expense.

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Introduction	7	Groups.....	77
This Manual.....	7	Group Window	77
Conventions	7	Master Groups.....	78
The Frog 2 Lighting Desk.....	8	Automatic Groups.....	78
Front Panel Controls	10	User Defined Groups	78
The Frog 2 Development Team	16	Naming Groups.....	79
Quick Start Tutorial	17	Copying Groups.....	79
Getting Started	17	Moving Groups	79
Setting Up the Desk	17	Deleting Groups.....	79
Adding Fixtures	18	Programming.....	81
Patching Fixtures.....	19	The Program Window	81
Editing Fixtures	21	Selecting Fixtures	83
Desk Setup.....	23	Controlling Fixture Parameters	84
Saving Shows	24	Tagging Parameters	86
Loading Shows.....	25	Smart Tags	87
Clear Options	25	The Command Line	87
Exiting Setup	25	Record Options Window	88
The Program Window.....	26	Fade and Delay Times.....	92
Controlling Fixtures	27	Wheel Editing Modes.....	95
Cues.....	31	Try Cue Function	97
Palettes	34	Highlight Function	97
User Definable Faders (UDF).....	36	Home Function	98
User Definable Keys (UDK).....	37	Active Key.....	99
Groups	38	Update Options Window	100
Setup	39	Knockout Function	102
Patch.....	40	Park Function.....	102
Adding Fixtures	40	Rem Dim Function	102
Patching Fixtures.....	42	Clear	102
Patch Views	44	Cues, Stacks and Pages	103
Editing Fixtures	46	Cues	103
Auto Menus	55	The Cue Stack Window	104
Absolute Addressing	56	Programming Cues.....	107
Desk Setup.....	57	Naming Cues.....	108
Files.....	66	Editing Cue Output Levels	108
Clear Options	70	Editing Cue Fade and Delay Times ...	109
Network.....	71	Editing Cue Triggers	109

Adding Macros to Cues	110	Macro UDK	139
Playing Back Cues	111	Editing User Definable Keys	140
Copying Cues.....	113	Deleting User Definable Keys	140
Moving Cues	113	Palettes	141
Deleting Cues.....	113	Palette Windows	141
Cue Stacks.....	114	Recording Palettes.....	142
Cue Stack Directory Window.....	114	Naming Palettes	142
Naming Cue Stacks.....	115	Outputting Palettes	142
Copying Cue Stacks.....	115	Copying Palettes.....	143
Moving Cue Stacks	115	Moving Palettes	143
Deleting Cue Stacks.....	115	Deleting Palettes.....	143
Cue Stack Setup Window.....	116	Effects	145
Pages	123	The Effects Palette Window.....	145
Page Window	123	Standard Effects	146
Loading a Page onto the Playbacks..	124	Effect Parameters	147
Naming Pages.....	124	Effect Parameters on the Wheels	148
User Definable Faders (UDFs)	125	Applying Effects	148
The UDF / UDK Window	126	The Effects Window.....	149
The UDF Setup Window.....	127	Recording Effects	150
Group UDF.....	131	Naming Effects	150
Fixture Parameter UDF	131	Applying Effects	150
Cue UDF	131	Outputting Effects	151
Channel Data UDF	132	Copying Effects.....	151
Time UDF.....	132	Moving Effects	151
Override UDF	133	Deleting Effects.....	151
Virtual Playback Master UDF	133	Macros.....	153
Editing User Definable Faders	134	In-Built Macros.....	153
Deleting User Definable Faders	134	The Macro Window.....	155
User Definable Keys (UDKs)	135	Recording a Macro.....	155
The UDF / UDK Window	135	Naming a Macro	156
The UDK Setup Window	136	Running a Macro	156
Group UDK.....	138	Copying a Macro.....	156
Fixture UDK.....	138	Moving a Macro	156
Palette UDK	138	Deleting a Macro.....	156
Cue UDK.....	139	Other Features	157
Channel Data UDK.....	139	Windows	157

Screen Navigation Keys	158	Remote Input	174
Mouse Operation on Windows	158	SMPTE	174
Preview Cue Window	159	MIDI	175
Preview Palette Windows	160	CAN Port.....	175
Preview Group Window	161	Ethernet	175
Preview Page Window	161	USB Ports	175
Preview UDF / UDK Windows	162	Mouse	175
Preview Macro Window	162	External Keyboard	175
Output Window.....	163	External Floppy Drive.....	175
DMX Output Window.....	165	External Storage Devices	176
Active Playback Window	165	AV Port	176
User Views	166	Video Output.....	176
Artnet.....	168	CDRW Drive	176
Software Updates.....	168	Desk Light.....	176
Glossary.....	169	DMX Input.....	177
Technical Specification	173	DMX Output	177
Power Supply	173	Index.....	179
Audio	173		

Introduction



This Manual

This manual describes the operation of the Frog 2 lighting desk. This chapter contains an overview of the capabilities and controls of the Frog 2.

The Quick Start Tutorial chapter is designed to get you up and running with the desk, but is not a substitute for the whole manual. For more detail on each function, this manual is divided into chapters, one for each major area of control.

As the Frog 2 is a complex lighting desk which can be set up in many different ways, the best tool in learning the desk is experience. Through time you will develop your own operating style.

Conventions

Throughout this manual the following conventions are used:

References to front panel controls, buttons and lights appear in capital letters, for example: GRAND MASTER, COLOUR, <UDK3>.

Soft buttons which appear on the touch screen or monitors are displayed as follows: [Desk Setup], [Program Window], [Values].

Introduction

The Frog 2 Lighting Desk

The following section is a summary of the main functions of the Frog 2 lighting desk.

Graphical Interface

The desk operates a graphical interface which is provided by a touch screen in the front panel of the desk and up to two external monitors.

All the setup, programming, playback and output information is displayed graphically on the touch screen and/or the monitor screens.

The desk provides two VGA outputs on the rear panel of the desk. The monitors are used extensively to display information and shortcut buttons.

An optional upgrade for the desk will allow you to connect two touch screens to the VGA outputs to provide you with easier input facilities.

Keys on the front panel enable quick and direct access to the various monitor screens.

Cursor keys on the front panel or external keyboard will allow the user to move around the 'active' screen on the monitor or touch screen.

Command Line

The primary method of programming is via the command line, which is displayed on the touch screen. Commands can be entered using the front panel keys, touch screen, control wheels, external keyboard or by clicking on objects with a mouse.

Control Channels

The desk has 2048 channels of control as standard. These can be assigned and patched as any number of Fixtures.

Fixtures

Fixtures can be a simple generic lamp or colour scroller, moving mirror or moving head intelligent lights (eg Goldenscan, MAC 250), or any other item controllable via a DMX signal. Fixtures of the same type (eg MAC 250) are grouped automatically by the desk, for ease of programming.

On the Frog 2, dimmer channels are a simple fixture with one parameter. Moving heads, moving mirrors, LED and Video systems controlled by DMX are fixtures with multiple parameters. Within the Fixture Library, the Frog 2 is told which channels control which parameters of the fixture. These are then grouped into Position, Colour and Beamshape.

Fixtures can be given a user defined name and number, for ease of reference.

Fixtures can be patched to any of the DMX output channels (1 – 512).

Fixture parameters can be manipulated from within the Program Window, from where they can be added to cues, palettes, User Defined Faders, User Defined Keys, or macros.

Cues, Cue Stacks and Playbacks

The desk allows you to record cues, for use in any of the 1000 user programmable cue stacks. Each cue has a number, name (optional), trigger, a wait time (auto cues) and a set of delay, and fade times. It is possible to give each parameter of each fixture their own individual fade and delay times.

The desk provides 100 pages of playbacks, each page containing 10 playbacks. The 1000 cue stacks are mapped 1:1 with the 100 pages of playbacks.

Groups

The desk provides 200 user definable groups. Automatic groups for each fixture type in the schedule can be generated from the Setup area, if required.

Palettes

The desk provides 200 user programmable palettes for each of the four attributes (Colour, Beamshape, Position and Effects).

User Definable Faders (UDF)

The desk provides 100 pages of 10 User Definable Faders, with associated 'flash' buttons. The User Definable Faders may be assigned to Groups, Cues, single fixture parameters or channel data. They can also be assigned to Time, Override or Virtual Playback Master Fader functions.

User Definable Keys (UDK)

The desk provides 100 pages of 20 User Definable Keys. The User Definable Keys may be assigned to Groups, Fixtures, Palettes, Effects, Cues, or channel data.

Output Processing on the Frog 2 Desk

The Frog 2 has two distinct channel types: **Intensity** channels and **Attribute** channels (colour, beam and position).

The main difference is that Intensity channels can be flashed, are mixed with their source's Master Fader and the GRAND MASTER, and can have distinct Fade Up and Down times.

When you play back a cue, park a channel, or manually manipulate a channel in the Program Window, you give ownership of the channel to that specific area of the desk.

When a channel is owned, the programmed value (or series of values, if it is defined as a chase or effect) is output. However, the previous owner(s) are not forgotten, and go into in a history list.

When a cue is released, it loses it's places in the history, whether it currently owns them or not. The most recent owner in the history will then regain ownership, and hence control the output of that channel.

If a channel is not owned by any source, then it will output zero for an Intensity channel, or it's default value for an Attribute channel.

Introduction

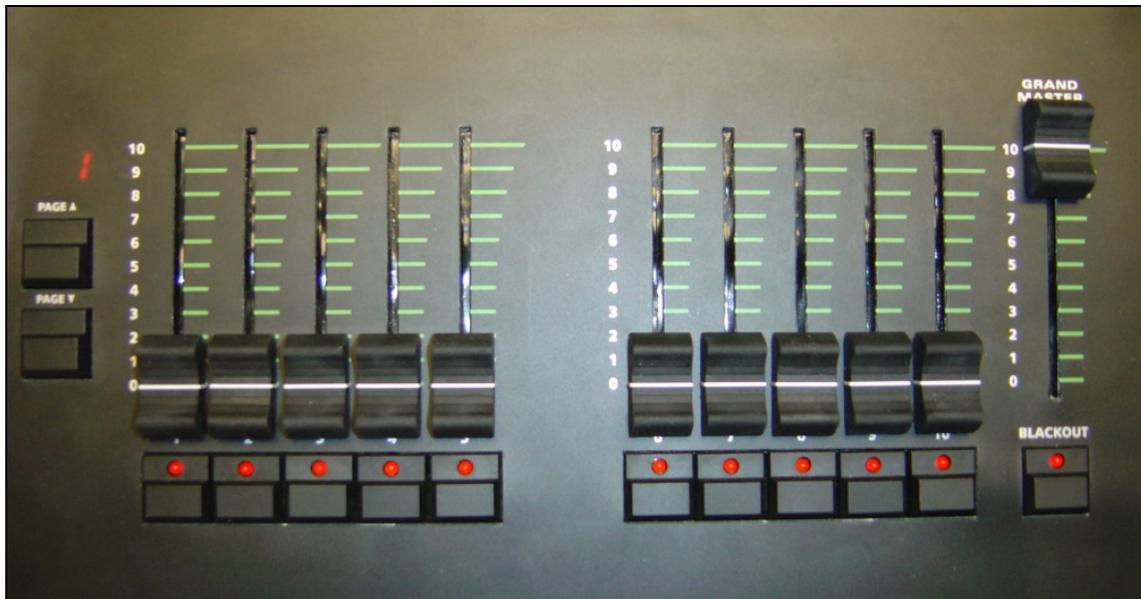
Front Panel Controls



This section of the manual describes the controls and displays on the front panel of the Frog 2 desk. The front panel controls have been divided into the following sections:

- User Definable Faders (UDF)
- Grand Master and Blackout
- Manual Playbacks
- Function Keypad
- Numeric Keypad
- User Definable Keys (UDK)
- Screen Navigation Keys
- Touch Screen
- Group, Attribute, Cursor Keys and Control Wheels

User Definable Faders (UDF)



This section of the front panel contains 100 pages of 10 user definable faders (UDF).

The current page is indicated by the seven segment PAGE Display.

The PAGE UP and PAGE DOWN buttons are used to select the required page of faders.

Pressing the PAGE UP and PAGE DOWN buttons together selects page 1.

Each User Definable Fader has an associated flash button containing a red LED.

The operation of each individual flash button can be set to flash or latch as required.

Grand Master and Blackout

The GRAND MASTER fader controls the final output values of all fixture intensity channels, resulting from the Program Window, Playbacks, User Definable Keys and User Definable Faders. The Grand Master level is displayed on the touch screen and in the task bar of the monitor screens.

The BLACKOUT key reduces the output values of all fixture intensity channels to zero. Pressing the BLACKOUT key toggles between active and not active. The red LED in the BLACKOUT key flashes when blackout is active and BLK is displayed on the touch screen and monitor screens.

Introduction

Manual Playbacks



This section of the front panel contains 100 pages of 10 manual playbacks and virtual playback controls.

The current page is indicated by the seven segment PAGE Display.

The PAGE UP and PAGE DOWN keys are used to select the required page of playbacks.

Pressing the PAGE UP and PAGE DOWN keys together selects page 1.

There are 10 sets of manual playback controls, each of which consists of a MASTER fader, SELECT, FLASH, PAUSE and GO keys.

The RELEASE key is used to release channels being controlled by the currently selected stacks.

The MASTER PAUSE key is used to temporarily pause the currently selected cue stack.

The MASTER GO key is used to step through the cues in the currently selected cue stack or the stacks on the virtual playback.

The SHIFT key is used in conjunction with a number of front panel controls to provide a wide variety of additional functions, for example bringing up windows on monitors.

Function and Numeric Keypads



Function Keypad

The Function Keypad contains 19 labelled function keys. For details of the functionality of the different keys see the relevant sections of this manual. The TRY CUE, HIGHLIGHT, BLIND and CLEAR keys contain a single red LED.

Numeric Keypad

The numeric keys (0 - 9) and the point key (.) are used for entering numeric data (eg group no, palette no, cue no, channel levels, DMX addresses etc.)

The backspace key (←) removes the last instruction entered on the command line.

The slash key (/) is used for separating stack and cue numbers (eg 3/5 = stack 3 cue 5), or fade up/down times (eg 2/5 = fade up 2 seconds, fade down 5 seconds).

The minus key (-) is used for removing items from a list (EXCEPT key).

The plus key (+) is used for adding items to a list (AND key).

The THRU key is used for selecting a range of items.

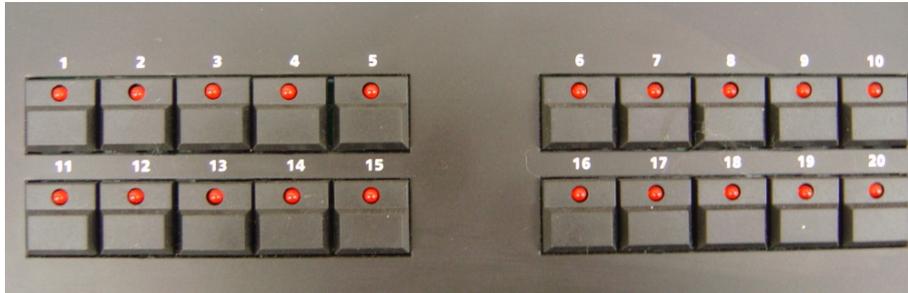
The FULL key is used to set the intensity of the selected fixture(s) to FULL (ie 100%).

The AT (@) key is used when setting intensity levels or DMX addresses.

The ENTER key is used for confirming or completing commands.

Introduction

User Definable Keys (UDK)



This section of the front panel contains 100 pages of 20 User Definable Keys.

The current page is indicated on the seven segment PAGE Display which is found to the left of the User Definable Faders (see earlier in this section).

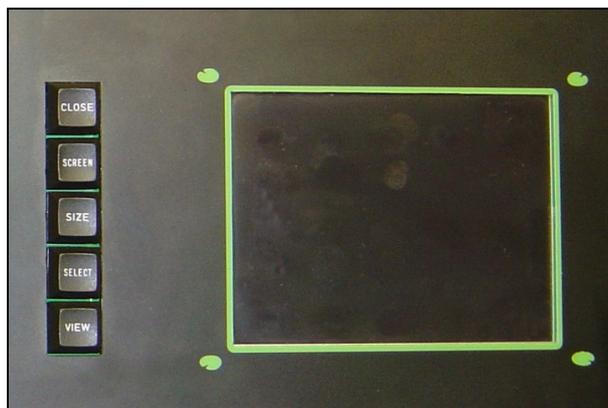
The PAGE UP and PAGE DOWN buttons are used to select the required page.

Pressing the PAGE UP and PAGE DOWN buttons together selects page 1.

Each User Definable Key contains a red LED.

The operation of each User Definable Key can be set to flash or latch as required.

Screen Navigation Keys



This set of keys located to the left of the touch screen are used for selecting, moving, sizing and closing windows on the monitor displays.

The keys are labelled CLOSE, SCREEN, SIZE, SELECT and VIEW.

Touch Screen



The LCD touch screen on the front panel of the desk is used primarily for displaying and selecting commonly used functions.

The Home Screen contains the following soft keys:

[Values/Fade/Delay], [Percent/DMX/Details], [Active Playback Window], [Cue Stack], [Program Window], [Output Window], [Park], [Unpark], [Effects Window], [Knockout] and the shifted wheel editing mode eg [Relative].

Below the soft keys is the Status Line which shows the current fixture group selection (eg All Fixtures), the Virtual Playback Master Level, Grand Master level, Live/Blind/Macro indicator, Memory Meter and Time Value.

Below the Status Line is the Command Line which shows the command syntax as it is entered.

The bottom area of the touch screen shows the wheel assignment data, Override display and clock.

Adjusting and Calibrating the Touch Screen

To adjust the brightness and contrast of the touch screen, hold down the SETUP key.

The first finger wheel then controls the brightness of the touch screen and the second finger wheel controls the contrast of the touch screen.

To re-calibrate the touch screen, press and hold SETUP and press the ENTER key. The screen will then prompt you to press in the top left and bottom right corners.

Introduction

Group, Attribute, Cursor Keys and Control Wheels



The GROUP key is used when selecting or recording groups. Pressing the GROUP key brings up a tool bar on the touch screen containing the Master Groups.

The attribute keys (POSITION, COLOUR, BEAM and EFFECTS) are used when adjusting fixture parameters and also when recording, referencing and outputting palettes and effects. Each of these keys contains a red light, which is lit when the attribute is selected.

The cursor keys (up, down, left and right) are used to move around fields on the touch screen or active monitor screen. These keys are equivalent to the four cursor keys on the external keyboard.

The three control wheels are used for setting and adjusting fixture parameter and other data levels. The parameters that are currently assigned to the control wheels are shown on the bottom section of the touch screen.

The Frog 2 Development Team

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Nigel Upward	Mechanical Design

Quick Start Tutorial

Getting Started

Prior to powering up the desk, it is essential to attach all the peripherals you require. The desk has support for a PS2 or USB Keyboard and Mouse, two VGA monitors (or touch screens) and a desk light (Littlelite) on 3 pin XLR. These must be connected before powering up, as subsequent connection could result in software or hardware malfunctions.

Once you've connected all the peripherals you require, power on the desk using the switch on the rear panel. The external power supply has a separate switch on it, so if you see no immediate response, check you have both power switches set to ON, and that the IEC lead is firmly attached to the external power supply.

When you power on the desk, the desk will run through its power up routine and after a short while you will be presented with the Home Screen as shown in the picture below:



Setting Up the Desk

Before you start programming cues etc, you will need to set up the desk.

Press the SETUP key to display the Setup Window on the touch screen.

Setup is intended to give you access to the core settings for the Frog 2, and you shouldn't need to enter the Setup area during a show. It is, however also used for saving and loading of show files and updating the desk software.

Quick Start Tutorial

Adding Fixtures

Once in the Setup screen, the first task you need to perform is to assign the fixtures in your rig to the desk's fixture schedule. This tells the desk how many of each fixture type you have, allowing the desk to load the correct details into its memory.

Press the [Add Fixtures] key on the touch screen. The Fixture Schedule Window is displayed on the touch screen:



The left hand column in this screen allows you to select the fixture manufacturer.

Scroll down or use the cursor keys to select the required manufacturer (eg MARTIN).

Press the right arrow key to move the cursor to the fixtures into the right hand column.

Scroll down or use the cursor keys to select the required fixture type (eg MAC 250).

Press the SET key to enter the quantity (Qty) field. Enter the quantity of the fixture required, then press the ENTER key.

You can then repeat the above procedure for adding the other fixtures in your rig.

When you have finished adding all of the fixtures you require to the schedule, press the [OK] key. You will then be returned to the Patch area of the setup screen.

Note – Fixture Types

If the fixture type you require is not in the fixture library stored on the desk you can import the fixture type – see Setup chapter for full details.

Patching Fixtures

After adding the fixtures into the schedule, the next step is to patch the fixtures.

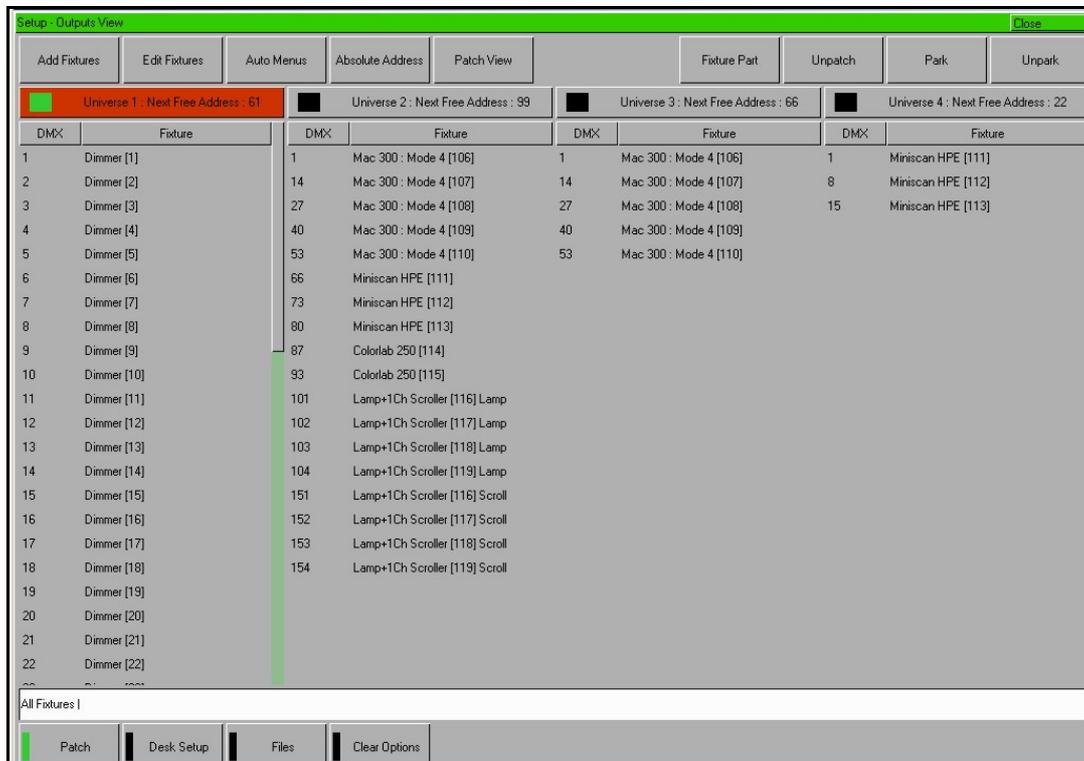
Patching involves telling the desk which fixture is located at which DMX start address.

The Frog 2 has four universes of DMX output, numbered 1 to 4.

It is important to ensure you patch the fixtures to the correct DMX universe.

The patch window can display the patch in three different views on the monitor screen (Outputs, Fixtures and Channels). The default view is the Outputs view (see below).

Select the Outputs view of the Patch Window and select the DMX universe you wish to work on by clicking on the relevant universe in the Patch Window:



Quick Start Tutorial

Patching a Group of Fixtures

To patch an entire group of fixtures (eg All MAC 250s) sequentially from a start address, press the GROUP key, select the group from the tool bar on the touch screen, press the @ key, enter the DMX start address and press ENTER.

For example: GROUP [MAC 250] @ 101 ENTER

Patching Individual Fixtures

To patch individual fixtures (eg the first MAC 500) at a specified start address, press the GROUP key, select the group from the tool bar on the touch screen, select the required fixture, press the @ key, enter the DMX start address and press ENTER.

For example: GROUP [MAC 500] 1 @ 274 ENTER

Patching by Fixture Number

If you have assigned each fixture an individual fixture number in the Edit Fixtures screen, you can omit the group selection part of the command, and simply refer to the fixture(s) by their individual fixture number(s)

For example: 301 @ 146 ENTER

Patching to a Specified Universe

Fixtures can also be patched to a specified universe by including the universe number in the command. For example to patch the MAC 250's to universe 3 starting at DMX address 201, enter the following command:

GROUP [MAC 250] @ 3/201 ENTER

Unpatching Fixtures

If an error is made in patching, the [Unpatch] soft key can be used in place of ENTER to undo a patching command. For example:

GROUP [MAC 250] 1 THRU 5 @ 1 UNPATCH

Editing Fixtures

The Edit Fixtures screen allows you to perform the following functions on the fixtures in the fixture schedule:

- Name individual fixtures
- Assign user fixture numbers
- Edit fixture parameter Default (release) values
- Edit fixture parameter Home values
- Edit fixture parameter Topset values
- Adjust the Pan and Tilt alignment of fixtures
- Patch Functions

Edit Fixtures Screen

Press the [Edit Fixtures] key on the touch screen or monitor. The Edit Fixtures screen is displayed on the touch screen and the monitor:



To make changes to a particular fixture or a complete group of fixtures, first select the fixture group. The name of the group is displayed in the header of the window.

Press the GROUP button until the required group is displayed in the touch screen header. All the fixtures in this group are now displayed in the Edit Fixtures window.

Use the soft buttons [Default], [Home], [Topset] etc to display the required fixture data. Use the cursor keys to move to the individual field to edit or use the ALL row to edit all fixtures in the chosen group. Press SET to enter the field, adjust the value as required then press ENTER.

Once all changes have been made, press the [OK] key to return to the Patch screen.

Quick Start Tutorial

Naming Fixtures

Use the arrow keys to move the cursor to the Name column of the required fixture and then press the SET key. Enter the name of the fixture using the external keyboard, then press the ENTER key.

Numbering Fixtures

Each fixture has its own fixture number. By default, the first fixture in each group is numbered 1, and then sequentially onwards up to the quantity of fixtures in their group.

It is worth taking some time thinking about numbering your fixtures. One method of numbering fixtures would be to give each group of fixtures an individual start number.

The ALL row allows you to make changes which affect the whole group of fixtures.

Use the arrow keys to move the cursor to the ALL row and No column and then press the SET key. Enter the fixture number for the first fixture in the group and press ENTER.

For example – select the MAC 500 fixture group and enter 501 in the All row and No column. The MAC 500 fixtures will be renumbered 501, 502, 503 etc.

Editing Default / Home / Topset Values

Press the [Default] / [Home] / [Topset] key. Use the arrow keys to move the cursor to the required column of the selected fixture and then press the SET key. Enter the required value using the external keyboard or numeric keypad on the front panel of the desk, then press ENTER.

Aligning Fixtures

Press the [Alignment] key. Use the arrow keys to move the cursor to the required column of the selected fixture and then press the SET key. Use the arrow keys to move to the Invert P, Invert T or P/T Swap column of the required fixture and then press the SET key. Use the left and right arrow keys, to toggle between the values. Press the ENTER key.

Patch Functions

Press the [Patch] key. You can now patch, repatch or unpatch the selected fixture(s) or change the fixture type. See Setup section of this manual for full details.

Desk Setup

The Desk Setup function allows you to configure or customise the settings on the desk to your own requirements.

Desk Setup is divided into a number of different sections which are accessed by pressing the corresponding soft button on the touch screen:



A summary of the Desk Setup options is provided below. For details of the various options refer to the Setup chapter in this manual.

- **Displays** - Indicate which monitors are connected; adjust the touch screen timeout, brightness and contrast; re-calibrate the touch screen(s); adjust desk lamp brightness.
- **Peripheral** - Allow mouse or trackball to control pan and tilt parameters; display soft keyboard on the touch screen, wheel sensitivity.
- **Inputs** – Set up SMPTE and MIDI Timecode; CAN; Set Time; Set Date. Assign Remote Switches.
- **Outputs** – Configure DMX universe to DMX output sockets.
- **Behaviour** – Keep parameters separate options; Page Holdover if Active; Confirm Overwrites; UDF and UDK actions; Tie UDF / Playback pages.
- **Default Times** – Set up the default delay and fade times for each attribute (Intensity, Colour, Beamshape, Position) for all new recorded cues.
- **Cue Stack Defaults** – Set up the default options for all new cue stacks including timecode and chase modifiers.
- **Lock** – Lock the desk; change the lock code (PIN).
- **Event Monitor** – Indicates each front panel action (slider movement, key press etc.)

Quick Start Tutorial

Saving Shows

The Frog 2 will save the show automatically to its internal memory at regular intervals.

External backups of the show data can be made to a USB Storage Device (eg memory stick included with your Frog 2) or to recordable CD.

Press the [Files] key on the touch screen or monitor.

Press the [Save Show] key to enter the Save Show screen.

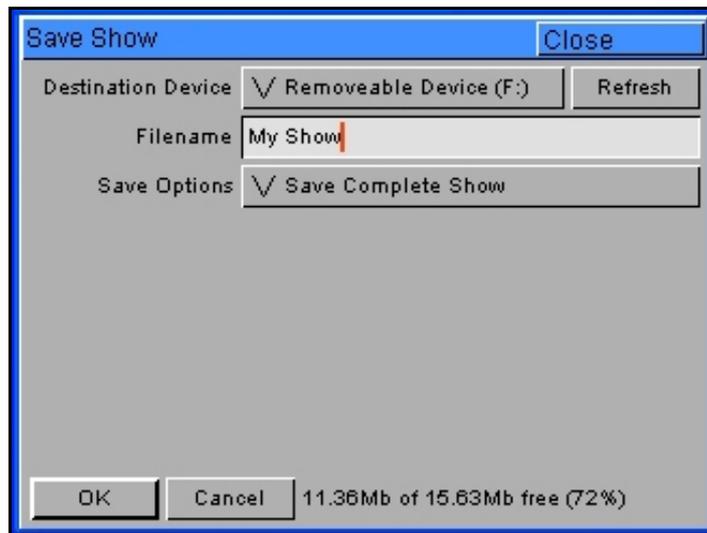
Press the Destination Device key to select the required device.

Type the show name in the Filename box.

Ensure that you have the correct save option selected (default = Save Complete Show).

Press the [OK] key.

After a few seconds, the show will be saved.



Save Show Screen

Loading Shows

Shows can be loaded onto the Frog 2 from either CD or USB Storage Device.

Insert or connect the storage medium containing the show.

Press the [Files] key on the touch screen or monitor.

Press the [Load Show] key to enter the Load Show screen.

Press the Source Device key to select the required device.

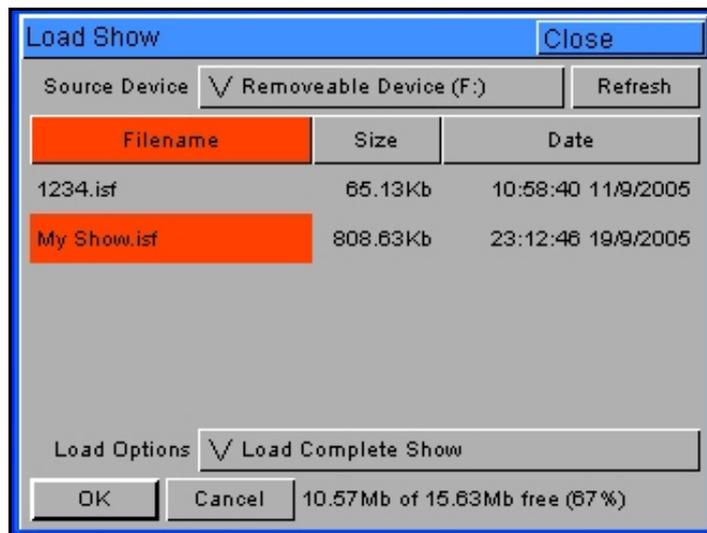
A list of show files on the currently selected storage device appears on the touch screen.

Select the show file you wish to load using the cursor keys.

Ensure that you have the correct Load Option selected (default = Load Complete Show).

Press [OK] key to load the show.

The desk will load the show into its memory and you will be returned to the home screen.



Load Show Screen

Clear Options

This section of Setup allows you to clear (delete) various components which make up the show file (ie cue stacks, groups, palettes, UDF's, UDK's etc.) For full details see the Setup section of this manual.

Exiting Setup

Once you have finished making changes to the setup, press the [Close] key in the top corner of the Setup screen to leave Setup. You will be returned to the Home Screen.

Quick Start Tutorial

The Program Window

The Program Window is central to the programming functionality on the Frog 2 desk.

It is recommended that the Program Window is displayed on one of the monitor screens when programming cues, palettes, UDFs, UDKs etc.

To display the Program Window on the monitor press the [Program Window] key on the touch screen.

As you select fixtures and adjust their parameters with the control wheels, the corresponding information is shown in the Program Window.

The fixture parameter data displayed in the Program Window can then be recorded to cues, palettes, UDF's and UDKs as required.

Values	Percent	Intensity	Smart Tag	Intensity	Pan	Tilt	P/T Spd	Cyan	Magenta	Yellow	Color 1	Color 2	Iris	FrostFX	Prism
Mac 300 : Mode 4 [106]		100		50	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [107]		100		50	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [108]		100		50	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [109]		100		50	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [110]		100		50	50	50	0	0	100	0	0				
My First Scan [101]		100		38		65					61	0	100	0	0
My Second Scan [102]		100		38		65					61	0	100	0	0
Goldenscan HPE [103]		100		38		65					61	0	100	0	0
Goldenscan HPE [104]		100		38		65					61	0	100	0	0
Goldenscan HPE [105]		100		38		65					61	0	100	0	0
Miniscan HPE [111]		47		63		76					0				
Miniscan HPE [112]		47		63		76					0				
Miniscan HPE [113]		47		63		76					0				

The fixtures and their parameter values are shown as a table.

The currently selected fixtures are highlighted in yellow.

Fixture parameters which are tagged have a green background, those that are untagged have a grey background.

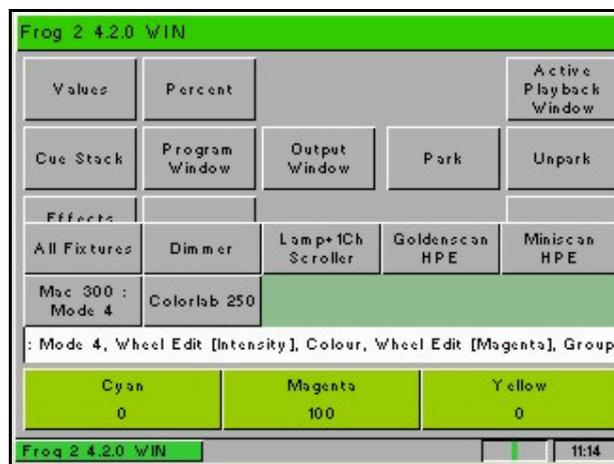
Controlling Fixtures

Once you have added fixtures to the schedule, patched them to the DMX, changed the defaults (if required) and exited Setup you are ready to control the fixtures.

Selecting Fixtures

The simplest way to select a group of fixtures is via the Master Groups which are created automatically when fixtures are added to the schedule.

Press the GROUP button. The Master Groups are displayed in a toolbar above the command line on the touch screen. Select the required group by pressing one of the soft keys on the touch screen.



Homing the Fixtures

The easiest way to see which fixtures in the rig you are controlling is to 'home' them. This will set their position (Pan and Tilt) to 50%, the dimmer to 100% with an open white beam (no gobos or effects).

Hold down the SHIFT key and then press the HIGHLIGHT key. This will send all the fixtures in the selected group to their 'home' values and automatically tag all of the fixture parameters.

Controlling Fixture Parameters

Each fixture type has its own set of parameters (intensity, color, gobo, pan, tilt etc. as defined in the fixture library) which are classified or grouped together in different attributes (Position, Colour, Beam).

Once a fixture, or group of fixtures has been selected, the attribute buttons and control wheels can be used to adjust the parameter output levels as required.

Quick Start Tutorial

Controlling Intensity

The intensity parameter of the selected fixture(s) can be controlled by entering commands directly via the numeric keypad or by using the corresponding control wheel.

Direct Commands

Intensity levels can be set for a complete group of fixtures using the following commands:

GROUP <select group> @ N ENTER sets the intensity output to N %.

GROUP <select group> FULL ENTER sets the intensity output to 100 %.

Intensity levels can also be set for a single fixture or a number of fixtures within a group. First select the group and then use any of the following commands:

1 @ N ENTER sets the intensity output of fixture 1 to N %.

1 FULL ENTER sets the intensity output of fixture 1 to 100 %.

2 + 3 @ N ENTER sets the intensity output of fixtures 2 and 3 to N %.

2 + 3 FULL ENTER sets the intensity output of fixtures 2 and 3 to 100 %.

5 THRU 10 @ N ENTER sets the intensity output of fixtures 5 to 10 to N %.

5 THRU 10 FULL ENTER sets the intensity output of fixtures 5 to 10 to 100 %.

Using the Control Wheel

The Intensity channel of a fixture can also be adjusted by control wheel.

First select the fixture(s) required as described above and then press the POSITION attribute key (if not already selected). The intensity parameter is assigned to the second finger wheel.

Use the control wheel to adjust the intensity level as required. The output value is shown on the touch screen above the corresponding control wheel.

Tip – No Intensity Output ?

If the intensity output levels do not change when you send any of the above commands to a fixture, or adjust the intensity level using the wheel, check that the GRAND MASTER fader is at full and the BLACKOUT button is off. If the selected fixture(s) have a Shutter parameter, check that the shutter is open. Check that the Highlight key is not selected.

Controlling Colour, Beamshape and Position Parameters

The colour, beamshape and position parameters of the selected fixture(s) are controlled using the control wheels. First select the required fixture(s) and then press one of the attribute keys (POSITION, COLOUR or BEAM).

The corresponding parameters for the fixture are assigned to the control wheels and are indicated on lower part of the touch screen.

In the example below, COLOUR has been selected and the fixture parameters Cyan, Magenta and Yellow are assigned to the three control wheels.

If the fixture has more than three controllable parameters for the selected attribute, pressing the attribute key selects the next group of parameters.



Parameter Values

The fixture parameter values displayed on the touch screen and Program Window can be shown in percentage, DMX or parameter details (if defined in the fixture data).

Press the [Percent] soft button on the touch screen. A drop down menu is displayed with the options Percent, DMX, Details (%), Details (DMX). Select the required option.

For further details on the different display options see page 82.

Quick Start Tutorial

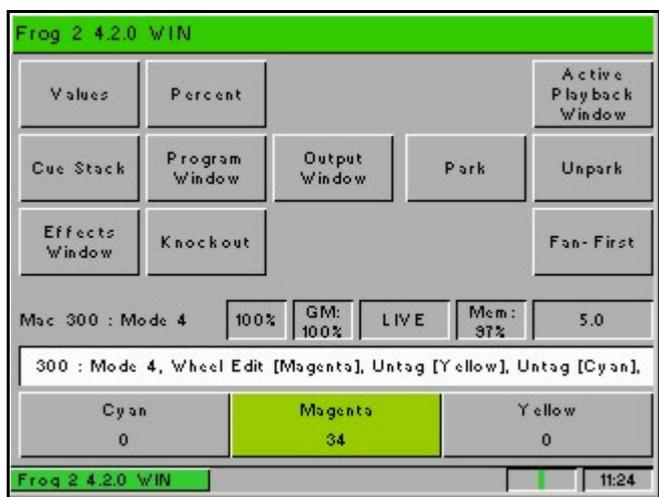
Tagging Parameters

On the Frog 2 desk, fixture parameters must be 'tagged' for them to be recorded when programming cues, palettes, UDF's and UDK's.

The tag status of each fixture parameter is indicated on the touch screen and in the Program Window by it's background colour – grey indicates that the parameter is untagged; green indicates that the parameter is tagged.

If a parameter's value is changed by a command, moving the control wheel or directly in the Program Window, it will be tagged automatically.

It is also possible to tag and untag fixture parameters manually via the touch screen, by pressing on the parameter name.



Cues

Once you have set up a look that you like you can then record that state into a cue.

If you wish to see the cues as they are recorded then display the **Cue Stack Window** on one of the monitor screens. Press the [Cue Stack] key on the touch screen.

Selecting a Cue Stack

Cues can be programmed into any of the 1000 user programmable cue stacks.

Select Page 1 on the playback master section, using the PAGE+ and PAGE- buttons.

Press the Stack SELECT button above the cue stack you wish to program. The LED in the SELECT button illuminates to indicate that it is the active cue stack.

Recording a Cue

To record the tagged parameters into the next available whole cue number on the selected cue stack, simply enter the following command:

RECORD ENTER

If you wish to record the fixture data to a particular cue rather than the next available cue, then enter the following command:

RECORD N ENTER (N = Cue Number)

If you wish to record the fixture data to a particular cue stack and cue number rather than the next available cue on the selected stack, then enter the following command:

RECORD S/C ENTER (S = Stack No, C = Cue Number)

After recording a cue, the command line on the touch screen is cleared, the fixtures remain selected but the parameters are untagged.

Subsequent cues can then be set up and recorded using the same method.

As you become more experienced with the desk, you will find the most efficient way of programming your cues.

Note – Record Options Window

When you press the RECORD key the Record Options Window is displayed on the touch screen. This window allows you to adjust what data is recorded, as required – see the Programming chapter for further details.

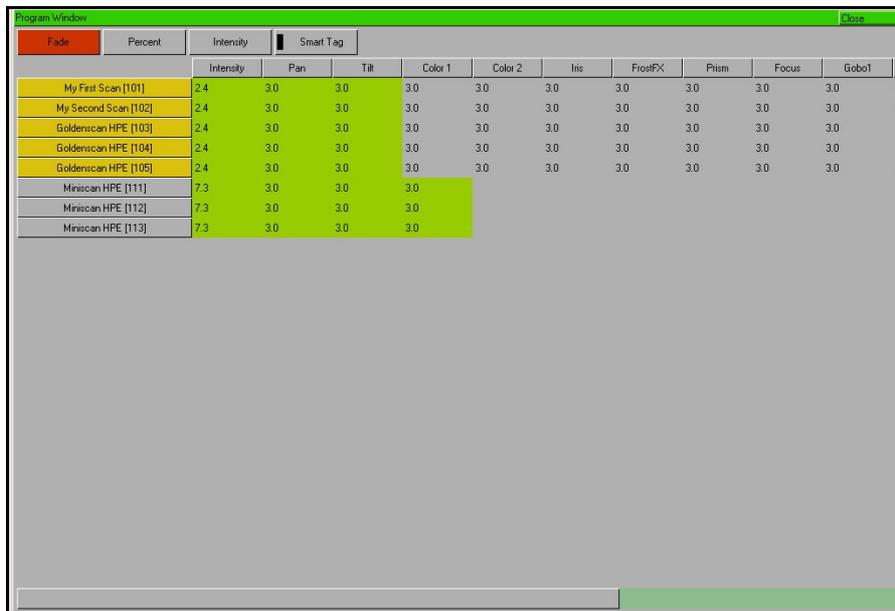
Quick Start Tutorial

Adjusting Fade and Delay Times

As well as the actual output levels recorded in the cue, each fixture parameter also has its own fade and delay times.

Default fade and delay times for Intensity, Colour, Beamshape and Position are defined in Desk Setup, and can be adjusted if required, prior to programming cues.

The parameter fade and delay times are displayed in the Fade and Delay views of the Program Window. To see the fade or delay times for the fixture parameters in the Program Window press the [Values] soft button and then select [Fade] or [Delay] from the drop down menu as required.



Fade	Percent	Smart Tag										
		Intensity	Pan	Tilt	Color 1	Color 2	Isis	FrostFX	Prism	Focus	Gobo1	Gobo2
My First Scan [101]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
My Second Scan [102]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Goldenscan HPE [103]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Goldenscan HPE [104]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Goldenscan HPE [105]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Miniscan HPE [111]	7.3	3.0	3.0	3.0	3.0							
Miniscan HPE [112]	7.3	3.0	3.0	3.0	3.0							
Miniscan HPE [113]	7.3	3.0	3.0	3.0	3.0							

Program Window – Fade View

In the Fade view, the current fade times for each fixture parameter are displayed in table form (see example above).

Fade times can be adjusted using the control wheels, in the same way as the output values, or they can be edited directly in the Program Window.

Use the cursor keys to select a field in the table. Press the SET key, enter the fade time using the numeric keypad or external keyboard, then press ENTER.

Delay times are edited in the same way as fade times.

Note – Fade and Delay Times

The fade and delay times for all parameters programmed in a cue can also be globally edited from the Cue Stack Window. See the Programming chapter for further details.

Editing Cues

To edit a cue, the simplest method is to load it into the Program Window, by entering the following command:

LOAD S/C ENTER (S = Stack Number, C = Cue Number)

This will load the cue into the Program Window and output the programmed DMX values.

You can then select fixtures and make changes to parameter levels and fade and delay times as necessary, in the same way as when recording the cue (see earlier).

To record the changes to the cue, press the UPDATE key.

Naming Cues

Select the required cue from the Cue Stack Window and press the SET key or enter the following command:

SET S/C ENTER (S = Stack Number, C = Cue Number)

Type in the name using the external keyboard and then press ENTER to complete.

Playing Back Cues

Before playing back the programmed cues in a cue stack, it is important to clear the Program Window by pressing the CLEAR button. This removes any unrecorded commands and sends fixtures to their default values, with the exception of the intensity, which is kept at 0%.

To play back the cues in a cue stack in sequence first select the required page of playbacks using the PAGE+ and PAGE- buttons.

Press the GO button for the selected playback, and raise the master fader to full. These commands can be executed in either order, as sometimes a manual fade is desirable.

Pressing the GO button will trigger the start of fades on all parameters, but the intensity channels are mixed with the master fader.

To output the next memory in the stack, simply press the GO button again.

To output a specific memory in the cue stack, use the cursor keys to select the next memory in the Cue Stack Window (indicated with the yellow highlight bar), then press the GO button.

Once you have finished playing back cues, it is important to release the cue stack. This returns all of the affected fixtures to their default values, or to the value they were at before the cue stack was executed. Note that this is a snap function.

Select the cue stack, using the Stack SELECT button, then press the RELEASE key.

Quick Start Tutorial

Palettes

The Frog 2 provides the user with four sets of 200 palettes. The palettes are stored under the nominal headings of Position, Beam, Colour and Effects.

All palettes may contain any combination of Intensity, Colour, Beamshape, Position and Effects parameters. For example, a colour palette may include intensity and colour, a beamshape palette could include beamshape and position etc.

Palette Windows

Each set of palettes has it's own palette window. To display a palette window on the monitor, hold down the SHIFT key and then press the appropriate attribute key (POSITION, COLOUR, BEAM or EFFECTS).

The palette window contains a soft button for each of the 200 palettes. Each soft button contains the following information:

Palette Number (1 - 200), Status Flag (* = unprogrammed), a set of content flags indicating which attributes are programmed in the palette (I = Intensity, C = Colour, B = Beamshape, P = Position, E = Effects) and name, if defined.

Colour Palettes										Close
1 C [White]	2 C [Red]	3 C [Orange]	4 C [Yellow]	5 C [Green]	6 C [Blue]	7 C [Violet]	8 C [Cyan]	9 C [Magenta]	10 C [Pink]	
11 C [Blue]	12 C [Blue 108]	13 C [CTC 5500-2900K]	14 C [Cyan]	15 C [Green]	16 C [Green 206]	17 C [Magenta]	18 C [Orange]	19 C [Pink]	20 C [Pink 312]	
21 C [Red]	22 C [Red 308]	23 C [UV]	24 C [Violet]	25 C [White]	26 C [Yellow]	27 *	28 *	29 *	30 *	
31 C My Goldenscan Palette	32 C Red 308	33 *	34 *	35 *	36 *	37 *	38 *	39 *	40 C Colour 40	
41 C My Goldenscan Palette	42 C Red 308	43 *	44 *	45 *	46 *	47 *	48 *	49 *	50 *	
51 *	52 *	53 *	54 *	55 *	56 *	57 *	58 *	59 *	60 *	
61 *	62 *	63 *	64 *	65 *	66 *	67 *	68 *	69 *	70 *	
71 *	72 *	73 *	74 *	75 *	76 *	77 *	78 *	79 *	80 *	
81 *	82 *	83 *	84 *	85 *	86 *	87 *	88 *	89 *	90 *	
91 *	92 *	93 *	94 *	95 *	96 *	97 *	98 *	99 *	100 *	
Available			Not Available				Unprogrammed			

Colour Palette Window

Recording Palettes

Programming a palette is simple and very similar to recording a cue.

Set up the fixture outputs as required, ensuring that the correct parameters are tagged. To record the data as a colour palette, enter the following command:

RECORD COLOUR N ENTER (N = palette number).

If you wish to record attributes other than the default for the palette, these can be selected on the Record Options Window on the touch screen before pressing the ENTER key.

To record the data as a beamshape, position or effects palette, simply replace the COLOUR part of the above command with BEAM, POSITION or EFFECTS.

Naming Palettes

To assign a name to a palette enter either of the following commands:

COLOUR N SET or SET COLOUR N ENTER

Type in the name using the external keyboard and then press the ENTER key to confirm.

Outputting Palettes

To apply or output a palette - select a fixture or group of fixtures and then enter one of the following commands:

COLOUR N ENTER Snaps the outputs to the palette values

COLOUR N TIME ENTER Fades the outputs in time defined by the Time UDF

COLOUR N TIME X ENTER Fades the outputs in X seconds.

If any of the selected fixtures are not actually programmed in the applied palette, but there are one or more fixtures of the same type that are programmed, the fixture will use the values programmed for the first fixture of the same type.

If the fixture data in the Program Window is then recorded into a cue, UDF or UDK, the desk will record the palette reference rather than the actual parameter value.

Quick Start Tutorial

User Definable Faders (UDF)

The desk provides 100 pages of 10 User Definable Faders, with associated 'flash' buttons.

The user definable faders may be assigned to Groups, Palettes, Cues, fixture parameters or channel data. They can also be assigned to special Time, Override or Virtual Playback Master functions.

UDF / UDK Window

To display the User Defined Faders/Keys Window on the monitor hold down the SHIFT key and press one of the User Definable Fader flash keys.

The User Defined Faders/Keys Window shows information on the current page of User Definable Faders and Keys as shown by the PAGE DISPLAY on the front panel.

Each of the User Definable Faders has a button in the UDF window. Each of these buttons shows the UDF number, the item assigned to the fader and other associated data depending on what is actually assigned to the UDF.

User Definable Faders Setup Window

To display the UDF Setup Window on the touch screen, hold down the SETUP key and then press one of the User Definable Fader flash buttons. This window allows the user to set the various parameters for the individual UDF.

Assigning User Definable Faders

In this quick start guide we will just consider recording channel data to a UDF. For details of the other items that can be assigned to UDF's see the UDF chapter in this manual.

Recording channel data to a UDF is simple – first set up the fixture outputs as required, ensuring that the correct parameters are tagged and then enter the following command:

RECORD <UDF> (<UDF> = press the FLASH button for the required UDF).

Outputting User Definable Faders

The data assigned to a UDF can be output either by raising the fader to full, or by pressing the FLASH button associated with the fader.

The action of the FLASH button can be set to either Flash or Latch in the User Definable Faders Setup Window – see UDF section of manual for further details.

Clearing User Definable Faders

To clear a UDF (ie remove the data assigned to it), enter the following command:

DEL <UDF> (<UDF> = press the FLASH button for the required UDF).

User Definable Keys (UDK)

The desk provides 100 pages of 20 user definable keys.

The user definable keys may be assigned to Groups, Individual Fixtures, Palettes, Cues, or channel data.

UDF /UDK Window

To display the User Defined Faders/Keys Window on the monitor hold down the SHIFT key and press one of the user definable keys.

The User Defined Faders/Keys window shows information on the current page of User Definable Faders and Keys as shown by the PAGE DISPLAY on the front panel.

Each of the User Definable Keys has a button in this window. Each of these buttons shows the UDK number and the item assigned to the key (if the UDK is programmed).

This window is used for information, so that the user can see what is assigned to each UDK on the current page. Selecting a soft button in this window with a mouse is equivalent to pressing the corresponding UDK on the front panel of the desk.

User Definable Keys Setup Window

To display the UDK Setup Window on the touch screen, hold down the SETUP key and then press one of the User Definable Keys. This window allows the user to set the various parameters of the individual UDK – see UDK section of manual for further details.

Assigning User Definable Keys

In this quick start guide we will just look at recording channel data to a UDK. For details of all the other items that can be assigned to UDK's see the UDK chapter in this manual.

Set up the fixture outputs as required, ensuring that the correct parameters are tagged. To record the data to a User Defined Key, enter the following command:

RECORD <UDK> (<UDK> = press the required UDK on the front panel).

Outputting User Definable Keys

The data assigned to a UDK is output by pressing the UDK on the front panel or by clicking on the soft button in the User Defined Faders/Keys Window on the monitor.

The action of the UDK can be set to either Flash or Latch in the User Definable Keys Setup Window – see UDK section of manual for further details.

Clearing User Definable Keys

To clear a UDK (ie remove the data assigned to it), enter the following command:

DEL <UDK> (<UDK> = press the required UDK on the front panel).

Quick Start Tutorial

Groups

The Frog 2 provides 200 user definable Groups.

Groups are most commonly used when selecting fixtures and programming data to be recorded in cues, palettes etc. Groups can also be assigned to User Definable Faders (UDF) and User Definable Keys (UDK).

Group Window

To display the Group Window on the monitor, hold down the SHIFT key and then press the GROUP key.

The Group Window contains a soft button for each of the 200 groups. Each soft button contains: Group Number (1-200), and name (if defined).

Master Groups

As part of the setup process, when fixtures are added to the schedule, the desk automatically generates a Master Group for each different fixture type contained in the schedule. It also creates an additional Master Group containing all the fixtures in the schedule – The ALL FIXTURES group.

The Master Groups are displayed in a toolbar on the touch screen whenever you select the GROUP key. Master Groups are not referenced by Group Number and do not appear in the Group Window.

Automatic Groups

In Setup, there is an option to generate a set of automatic groups based on the fixture types in the schedule. The desk generates a group for each of the Master Groups, plus 'odd' and 'even' groups for each different fixture type in the schedule.

To create the automatic groups, first enter SETUP, press the [Auto Menus] soft key on the touch screen, select the [Create Autogroups] option, then exit Setup.

Automatic Groups are referenced by Group Number and appear in the Group Window.

User Defined Groups

You can create your own groups of fixtures, eg Floor MAC 500's FOH MAC 500's etc.

User defined groups can be all of the same fixture type or any combination of fixture types.

Simply select the fixtures that you wish to be in the group and then enter the command:

RECORD GROUP N ENTER (N = Group Number).

User defined groups are referenced by Group Number and appear in the Group Window.

Setup

Patch

The Patch option allows you to assign fixture types, patch them to the DMX outputs, adjust parameter default, highlight and topset values, adjust fixture alignment values (pan/tilt reverse and swap) and a number of other associated functions.

Adding Fixtures

The first task you need to perform is to assign the fixtures in your rig to the desks fixture schedule. This tells the desk how many of each fixture type you have, allowing the desk to load the correct fixture profile details into its memory.

Press the [Add Fixtures] key on the touch screen. The Fixture Schedule Window is displayed on the touch screen:



The left hand column in this window allows you to select the fixture manufacturer.

Scroll down or use the cursor keys to select the required manufacturer (eg MARTIN).

Press the right arrow key to move the cursor to the fixture list in the right hand column.

Scroll down or use the cursor keys to select the required fixture type (eg MAC 500).

Press the SET key, enter the quantity of the fixture required (eg 4), then press ENTER.

Repeat the above procedure for all the other fixtures in your rig.

When you have finished adding all the fixtures you require to the schedule, press the [OK] key on the touch screen. The touch screen returns to the Patch screen.

User Fixture Types

The Frog 2 desk provides a method for loading fixture types which are not in the fixture library stored on the desk, ie user fixture types which are stored on a memory stick or CD.

Press the [User Fixture] key on the touch screen.

Select the Source Device (Removeable Device or CD). A list of user fixture type files found on the source device is displayed on the touch screen.

Select the required file using the cursor keys or by touch on the touch screen.

Select the [OK] button.

All the fixture types contained in the selected fixture type file are loaded and added to the fixture library on the desk.

Selecting a user fixture type and specifying the number of that type in the fixture schedule is carried out in the same way as for any of the normal fixture types already present in the fixture library on the desk.

User Fixture Types which have been loaded onto the desk are displayed in the Fixture Schedule Window in the same way as normal fixture types in the fixture library. They are displayed in the correct place based on the alphabetical sorting of manufacturer and fixture type and are distinguished by having a green background, for example:

Fixture Schedule			Close
OK	Cancel	User Fixture	
Manufacturer	Fixture Type	Qty	
COEF	Pro Spot 575 LX	1	
COEMAR	Pro Wash 250 LX	0	
COLOR KINETICS	Pro Wash 575 LX	0	
CONTEST	RegoLED	0	
COOLUX	Samurai	0	
....			
162 control channels used, 1886 free.			
PhantomFrog 2	Setup	Fixture Schedul	18:04

Notes – Master Groups, Fixture Library and Fixture Types

For each different fixture type that is assigned, the desk will automatically create a Master Group containing all of that fixture type (eg Dimmers, MAC 500s, Goldenscans etc.).

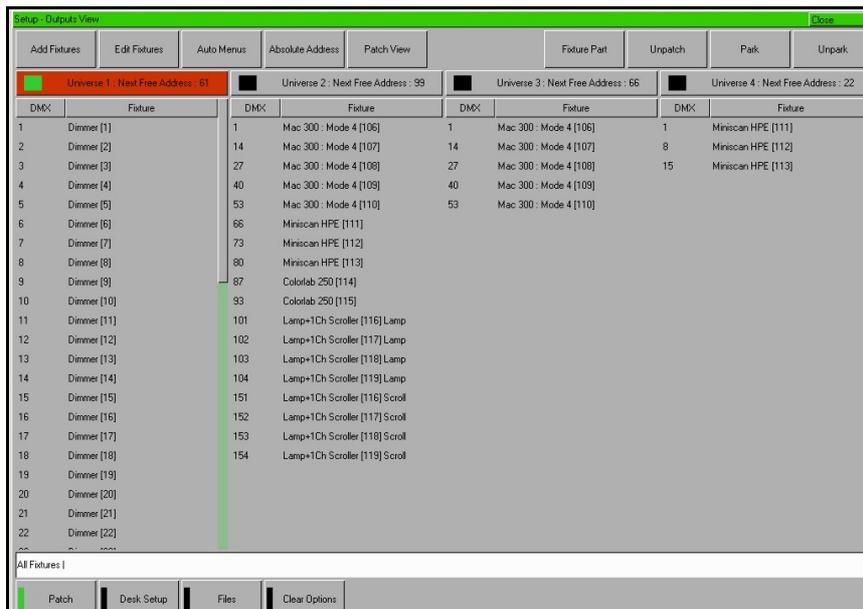
Setup

Patching Fixtures

After adding the fixtures into the schedule, the next step is to patch the fixtures to the DMX outputs. Fixtures can be patched individually or in groups.

The Frog 2 has four universes of DMX output, numbered 1 to 4. There are dual outputs for each universe. It is important to ensure you patch the fixtures to the correct DMX universe.

The Patch Window can display the patch data in three different views on the monitor (Outputs, Fixtures and Channels). The default view is the Outputs view (see below).



Patching a Group of Fixtures

To patch an entire group of fixtures (eg All MAC 250s) sequentially from a start address:

Press the GROUP key, then select the group from the tool bar on the touch screen. Press the @ key, enter the DMX start address and then press the ENTER key. For example:

GROUP [MAC 250] @ 1 ENTER

Patching Individual Fixtures

To patch individual fixtures (eg the first MAC 500) at a specified DMX start address:

Press the GROUP key, select the group from the tool bar on the touch screen. Select the required fixture, press the @ key, enter the DMX start address and then press the ENTER key. For example:

GROUP [MAC 500] 1 @ 274 ENTER

Patching Fixtures by User Fixture Number

If you have assigned user fixture numbers to the fixtures in the Edit Fixtures screen, you can omit the group selection part of the command, and simply refer to the fixture(s) by their individual fixture number(s), for example:

301 @ 146 ENTER (patch fixture number 301 to DMX address 146)

701 THRU 704 @ 66 ENTER (patch fixture numbers 701 – 704 starting at address 66)

Patching Fixtures to a Specified Universe

Fixtures can also be patched to a specified universe by including the universe number in the command. For example, to patch the MAC 250's to universe 3 starting at DMX address 101, enter the following command:

GROUP [MAC 250] @ 3/101 ENTER

Patching Composite Fixtures

Certain fixture types (eg Varilite VL5) are composite fixtures and have to be patched twice, once for the intensity parameter, and once for the remaining parameters. The [Fixture Part] button on the touch screen is used when patching the non intensity part of the composite fixture, for example:

Press GROUP and then select the VL5 button on the toolbar.

Type in the command: 1 THRU 6 @ 101 ENTER. This will patch the intensities of the six VL5's to DMX channels 101-106 on the current DMX universe. The intensity parameter requires a single DMX channel.

Type in the command: 1 THRU 6 [Fixture Part] 107 ENTER. This will patch the remaining parameters of the six VL5's to the current DMX universe starting at address 107.

Unpatching Fixtures

To unpatch a selection of fixtures from a specified universe (Outputs or Channels view) or all universes (Fixtures view):

GROUP [MAC 250] 1 THRU 5 UNPATCH

To unpatch an instance of a fixture from a specified universe (Outputs or Channels view) or all universes (Fixtures view):

GROUP [MAC 250] 1 @ <address> UNPATCH

To unpatch an instance of a fixture from a specified universe and address (all views):

GROUP [MAC 250] 1 @ <universe>/<address> UNPATCH

To unpatch a fixture at a specified address:

UNPATCH <universe>/<address>

To unpatch all fixtures in a universe:

UNPATCH <universe> ENTER

Setup

Patch Views

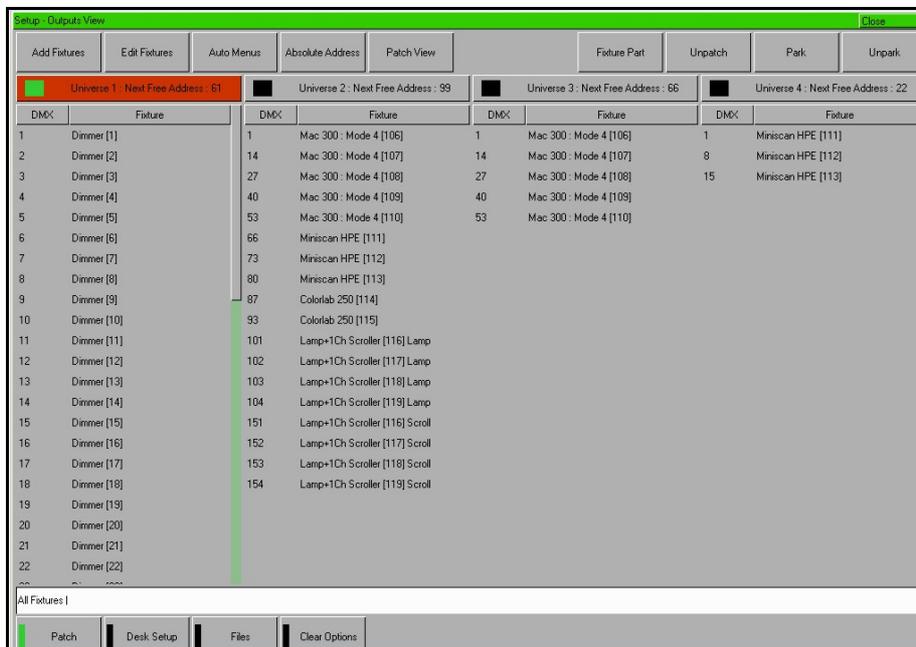
The Patch data can be displayed in three different formats or views in the Patch Window.

Press the [Patch View] key in the Patch Window and then select [Outputs], [Fixtures] or [Channels] from the drop down menu.

The different patch views are described in the sections below:

Outputs View

This is the default patch view and displays the DMX start address for each fixture for each DMX universe, for example:



The screenshot shows the 'Setup - Output View' window. At the top, there are buttons for 'Add Fixtures', 'Edit Fixtures', 'Auto Menus', 'Absolute Address', 'Patch View', 'Fixture Part', 'Unpatch', 'Park', and 'Unpark'. Below these buttons, there are four columns representing DMX universes: Universe 1 (Next Free Address: 61), Universe 2 (Next Free Address: 99), Universe 3 (Next Free Address: 66), and Universe 4 (Next Free Address: 22). Each universe column has a 'DMX' and 'Fixture' sub-column. The table lists 22 fixtures, each assigned to a specific DMX address in each universe. A green vertical bar highlights the 'DMX' column for Universe 1.

Universe 1 : Next Free Address : 61		Universe 2 : Next Free Address : 99		Universe 3 : Next Free Address : 66		Universe 4 : Next Free Address : 22	
DMX	Fixture	DMX	Fixture	DMX	Fixture	DMX	Fixture
1	Dimmer [1]	1	Mac 300 : Mode 4 [106]	1	Mac 300 : Mode 4 [106]	1	Miniscan HPE [111]
2	Dimmer [2]	14	Mac 300 : Mode 4 [107]	14	Mac 300 : Mode 4 [107]	8	Miniscan HPE [112]
3	Dimmer [3]	27	Mac 300 : Mode 4 [108]	27	Mac 300 : Mode 4 [108]	15	Miniscan HPE [113]
4	Dimmer [4]	40	Mac 300 : Mode 4 [109]	40	Mac 300 : Mode 4 [109]		
5	Dimmer [5]	53	Mac 300 : Mode 4 [110]	53	Mac 300 : Mode 4 [110]		
6	Dimmer [6]	66	Miniscan HPE [111]				
7	Dimmer [7]	73	Miniscan HPE [112]				
8	Dimmer [8]	80	Miniscan HPE [113]				
9	Dimmer [9]	87	Colorlab 250 [114]				
10	Dimmer [10]	93	Colorlab 250 [115]				
11	Dimmer [11]	101	Lamp+1Ch Scroller [116] Lamp				
12	Dimmer [12]	102	Lamp+1Ch Scroller [117] Lamp				
13	Dimmer [13]	103	Lamp+1Ch Scroller [118] Lamp				
14	Dimmer [14]	104	Lamp+1Ch Scroller [119] Lamp				
15	Dimmer [15]	151	Lamp+1Ch Scroller [116] Scroll				
16	Dimmer [16]	152	Lamp+1Ch Scroller [117] Scroll				
17	Dimmer [17]	153	Lamp+1Ch Scroller [118] Scroll				
18	Dimmer [18]	154	Lamp+1Ch Scroller [119] Scroll				
19	Dimmer [19]						
20	Dimmer [20]						
21	Dimmer [21]						
22	Dimmer [22]						

Fixtures View

This patch view lists all the fixtures in the schedule together with their alignment data and DMX patch address(es).

The fixtures are listed in group order. Alignment data is only displayed if it has been changed from the defaults. Patch addresses are displayed in the format universe/address in normal addressing mode or simply the address in absolute addressing mode.

Fixture	Alignment			Patch Address
	Invert P	Invert T	Swap P/T	
Dimmer [41]				1/41.
Dimmer [42]				1/42.
Dimmer [43]				1/43.
Dimmer [44]				1/44.
Dimmer [45]				1/45.
Dimmer [46]				1/46.
Dimmer [47]				1/47.
Dimmer [48]				1/48.
Lamp+1Ch Scroller [116]				(2/101, 2/151).
Lamp+1Ch Scroller [117]				(2/102, 2/152).
Lamp+1Ch Scroller [118]				(2/103, 2/153).
Lamp+1Ch Scroller [119]				(2/104, 2/154).
My First Scan [101]				1/101.
My Second Scan [102]				1/113.
Goldenscan HPE [103]				1/125.
Goldenscan HPE [104]				1/137.
Goldenscan HPE [105]				1/143.
Miniscan HPE [111]				2/86, 4/1.
Miniscan HPE [112]				2/73, 4/8.
Miniscan HPE [113]				2/80, 4/15.
Mac 300 : Mode 4 [106]				2/1, 3/1.
Mac 300 : Mode 4 [107]				2/14, 3/14.
Mac 300 : Mode 4 [108]				2/27, 3/27.

Channel View

This patch view shows the fixture type, fixture number and parameter (eg Gobo) patched to each DMX address in each of the DMX universes, for example:

DMX Universe 1 : Next Free Address : 61		DMX Universe 2 : Next Free Address : 99	
DMX	Fixture - Parameter	DMX	Fixture - Parameter
1	Dimmer [1] - Intensity	1	Mac 300 : Mode 4 [106] - Shutter
2	Dimmer [2] - Intensity	2	Mac 300 : Mode 4 [106] - Intensity
3	Dimmer [3] - Intensity	3	Mac 300 : Mode 4 [106] - Cyan
4	Dimmer [4] - Intensity	4	Mac 300 : Mode 4 [106] - Magenta
5	Dimmer [5] - Intensity	5	Mac 300 : Mode 4 [106] - Yellow
6	Dimmer [6] - Intensity	6	Mac 300 : Mode 4 [106] - Color 1
7	Dimmer [7] - Intensity	7	Mac 300 : Mode 4 [106] - Frost
8	Dimmer [8] - Intensity	8	Mac 300 : Mode 4 [106] - Pan - MSB
9	Dimmer [9] - Intensity	9	Mac 300 : Mode 4 [106] - Pan - LSB
10	Dimmer [10] - Intensity	10	Mac 300 : Mode 4 [106] - Tit - MSB
11	Dimmer [11] - Intensity	11	Mac 300 : Mode 4 [106] - Tit - LSB
12	Dimmer [12] - Intensity	12	Mac 300 : Mode 4 [106] - P/T Spd
13	Dimmer [13] - Intensity	13	Mac 300 : Mode 4 [106] - FX1 Spd
14	Dimmer [14] - Intensity	14	Mac 300 : Mode 4 [107] - Shutter
15	Dimmer [15] - Intensity	15	Mac 300 : Mode 4 [107] - Intensity
16	Dimmer [16] - Intensity	16	Mac 300 : Mode 4 [107] - Cyan
17	Dimmer [17] - Intensity	17	Mac 300 : Mode 4 [107] - Magenta
18	Dimmer [18] - Intensity	18	Mac 300 : Mode 4 [107] - Yellow
19	Dimmer [19] - Intensity	19	Mac 300 : Mode 4 [107] - Color 1
20	Dimmer [20] - Intensity	20	Mac 300 : Mode 4 [107] - Frost
21	Dimmer [21] - Intensity	21	Mac 300 : Mode 4 [107] - Pan - MSB
22	Dimmer [22] - Intensity	22	Mac 300 : Mode 4 [107] - Pan - LSB

Setup

Editing Fixtures

The Edit Fixtures screen allows you to carry out the following functions on the fixtures in the fixture schedule:

- Name individual fixtures
- Assign user fixture numbers
- Edit fixture parameter Default (release) values
- Edit fixture parameter Home values
- Edit fixture parameter Topset values
- Adjust the Pan and Tilt alignment of fixtures
- Patch Functions

Press the [Edit Fixtures] key on the touch screen or monitor. The Edit Fixtures screen is displayed on the touch screen:

Name	No	Intensity	Pan	Tilt
ALL		100	50	50
Goldenscan 3	28	100	50	50
Goldenscan 3	29	100	50	50
Goldenscan 3	30	100	50	50
Goldenscan 3	31	100	50	50

To make changes to a particular fixture or a group of fixtures, first select the fixture group by pressing the GROUP button until the required group is displayed in the touch screen. All the fixtures in this group are now displayed in the Edit Fixtures window.

Press the [Default], [Home], [Topset] etc button to display the required data. Use the cursor keys to move to the individual field to edit or use the ALL row to select the alignment, highlight or topset value for all fixtures in the group. Press SET to enter the field, adjust the value as required, then press the ENTER key.

Once all changes have been made, press the [OK] key to return to the Patch screen.

If you make a mistake in Edit Fixtures, or simply wish to revert to the original values from the fixture library then press the [Reset All] key. If you wish to cancel all editing of the fixtures, press the [Cancel] key.

Fixture Numbers

Each fixture in the schedule has its own fixture number. Initially, these fixture numbers are set sequentially within the Master Groups, eg Dimmers 1 - 48, MAC 500s 1 - 20, MAC 600s 1 - 20, etc. You can alter these numbers if required.

It is recommended that you take some time thinking about numbering your fixtures. It is useful to renumber your fixtures to something logical and unique, as this will be how each fixture will then be referenced during programming and playback. A fairly common one is to prefix each fixture type with a number, so for example:

Dimmers 1 - 48 remain as fixture numbers 1 – 48.

MAC 500's 1 - 20 become fixture numbers 501 – 520.

MAC 600's 1 - 20 become fixture numbers 601 – 620.

To renumber a complete group of fixtures, the ALL line can be used.

Use the arrow keys to move the cursor to the ALL row and No column and then press the SET key. Enter the fixture number for the first fixture in the group and press ENTER.

Example: Select the MAC 500 fixture group and enter 501 in the ALL row and No column. The MAC 500 fixtures will be renumbered 501, 502, 503 etc.

Notes – Fixture Numbers

If a fixture number is not globally unique, ie another fixture exists with the same fixture number in a different Master Group, then a "" is displayed after the fixture number.*

One advantage of renumbering fixtures so they all have a unique fixture number is that they can be entered directly when programming, without having to select a group first, for example, 501 + 502 would select the first two MAC 500 fixtures in the example above.

Naming Fixtures

The Fixture name defaults to the fixture type (eg MAC 500). Fixtures can be renamed by the user, if required (eg Left MAC 500, Centre MAC 500, Right MAC 500).

Use the arrow keys to move the cursor to Name column and then press the SET key. Enter the name of the fixture using the external keyboard, then press ENTER.

Setup

Editing Default Values

The Default values for fixture parameters are the values that are output when the fixture is released.

The Default values are initially taken from the fixture profile data stored in the fixture library in the desk. They are set to values that will produce an open white beam (no gobos or effects) at a central position (Pan and Tilt at 50%).

These values can be edited on an individual fixture or group basis as required.

Use the arrow keys to move to the required column of the selected fixture and then press the SET key.

Enter the required value using the external keyboard or numeric keypad on the front panel of the desk, then press ENTER.

Editing Home Values

The Home values for fixture parameters are the values that are output when the fixture is homed or highlighted.

The Home values for fixture parameters are taken from the fixture profile data stored in the fixture library in the desk. They are initially set to values that will produce an open white beam (no gobos or effects) at a central position (Pan and Tilt at 50%).

These values can be edited on an individual fixture or group basis as required.

Use the arrow keys to move to the required column of the selected fixture and then press the SET key.

Enter the required value using the external keyboard or numeric keypad on the front panel of the desk, then press ENTER.

Editing Topset Values

The Topset values for all fixture parameters are initially set to 100%.

These values can be edited on an individual fixture or group basis as required.

Use the arrow keys to move to the required column of the selected fixture and then press the SET key.

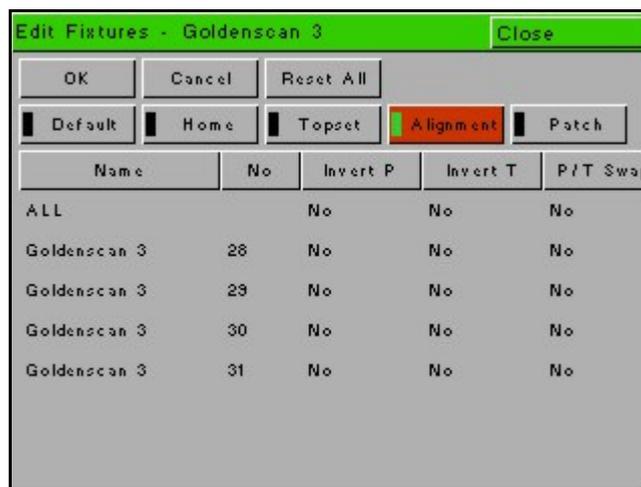
Enter the required value using the external keyboard or numeric keypad on the front panel of the desk, then press ENTER.

Aligning Fixtures

The Frog 2 desk is capable of making adjustments to your fixtures to take into account their rigging position.

Inverting Pan and Tilt

It is possible to invert Pan and Tilt independently for each fixture. This can be particularly useful if you've rigged Front of House fixtures the opposite way around to those onstage, for example:



Use the arrow keys to move the cursor to the Invert P or Invert T column of the required fixture and then press the SET key. Use the left and right arrow keys to toggle between the values Yes and No. Select the required value and then press the ENTER key

Now any adjustments you make to the parameter you changed will be inverted in the DMX outputs, making all your fixtures move in the same direction relative to the wheels.

Swapping Pan and Tilt

If a fixture is rigged on its side, you may also wish to Swap the Pan and Tilt parameters. In this function, any values defined for Pan will be output on the Tilt channel(s), and any values defined for Tilt will be output on the Pan channel(s).

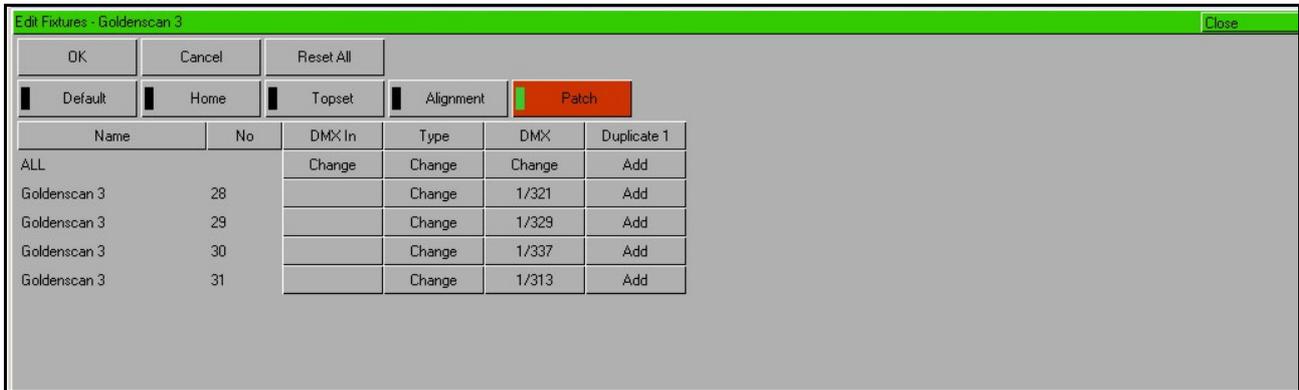
Use the arrow keys to move the cursor to the P/T Swap column of the required fixture and then press the SET key. Use the left and right arrow keys to toggle between the values Yes and No. Select the required value and then press the ENTER key.

Setup

Patch Functions

The Patch functions under Edit Fixtures allow you to patch, repatch and unpatch selected fixtures. It is also possible to patch a fixture to more than one DMX address in one or more universes. These additional patch addresses are known as duplicates.

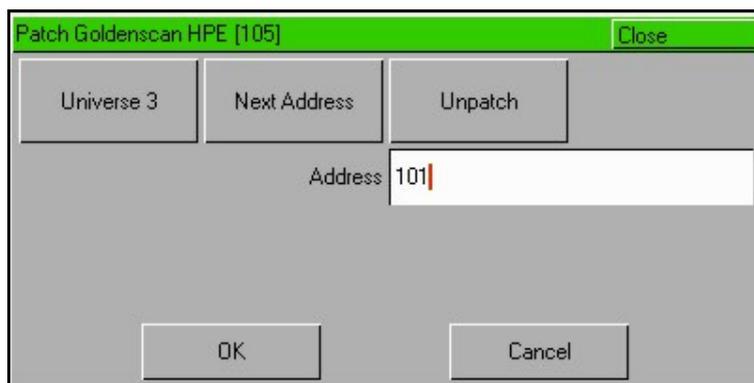
Select the fixture(s) to be edited. Click on the [Patch] button in the Edit Fixtures Window.



The patch table shows the DMX-In assignment (if assigned) and the DMX address(es) that each of the selected fixtures are currently patched to. If a fixture has not yet been patched to the DMX output then the corresponding DMX column will show 'Add'. In the example above – Fixture numbers 101 to 105 are patched to DMX universe 2 address 1, 13, 25, 37 and 49 respectively.

Patching Fixtures

Move the cursor to the DMX column for the required fixture and press the ENTER key. A Patch Fixture(s) popup window is displayed on the monitor screen, for example:



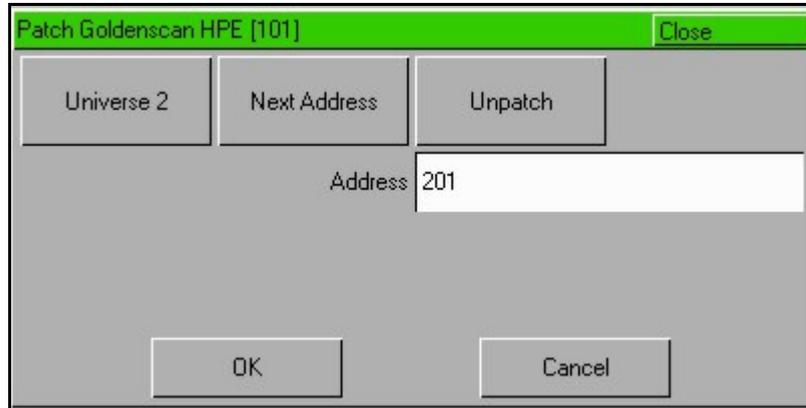
Select the required Universe by clicking on the [Universe] button and selecting the universe from the drop down menu.

Enter the required DMX address in the Address field provided or press the [Next Address] button to automatically pick up the next available patch address in the selected universe.

Press the [OK] button to complete the patching operation or the [Cancel] button to cancel.

Adding Duplicates

Move the cursor to the Duplicate 1 column for the required fixture and press the ENTER key. The Patch Fixture popup window is displayed on the monitor screen:



Select the required Universe by clicking on the [Universe] button and selecting the universe from the drop down menu.

Enter the required DMX address in the Address field provided or press the [Next Address] button to automatically pick up the next available patch address in the selected universe.

Press the [OK] button to complete the patching operation or the [Cancel] button to cancel.

To patch further duplicates for the selected fixture move the cursor to the Duplicate 2 Column, Duplicate 3 column etc and repeat the above procedure.

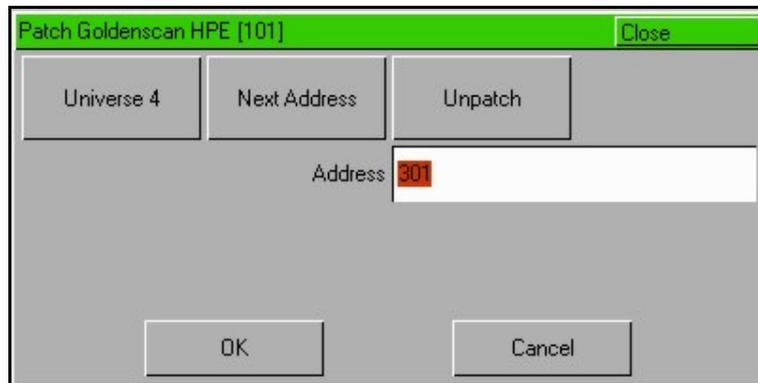
When duplicates are patched for the selected fixture(s) additional columns are added to the Edit Fixtures table (one column per duplicate address) as shown in the following example:

Name	No	DMX In	Type	DMX	Duplicate 1	Duplicate 2	Duplicate 3	Duplicate 4	Duplicate 5
ALL		Change	Change	Change	Change	Change	Change	Change	Add
Goldenscan 3	28		Change	1/321	1/482	2/407	2/431	4/421	Add
Goldenscan 3	29		Change	1/329	1/488	2/413	4/427	Add	
Goldenscan 3	30		Change	1/337	1/494	2/419	Add		
Goldenscan 3	31		Change	1/313	1/500	2/425	Add		

Setup

Repatching Fixtures

Move the cursor to the DMX or Duplicate n column for the required fixture and press the ENTER key. The Patch Fixture popup window is displayed on the monitor screen with the current patch address in the DMX Address field:



Select the required Universe by clicking on the [Universe] button and selecting the universe from the drop down menu.

Enter the required DMX address in the Address field provided or press the [Next Address] button to automatically pick up the next available patch address in the selected universe.

Press the [OK] button to complete the patching operation or the [Cancel] button to cancel.

Unpatching Fixtures

Move the cursor to the DMX or Duplicate n column for the required fixture and press the ENTER key. The Patch Fixture(s) popup window will be displayed on the monitor screen with the current patch address in the DMX Address field, for example:

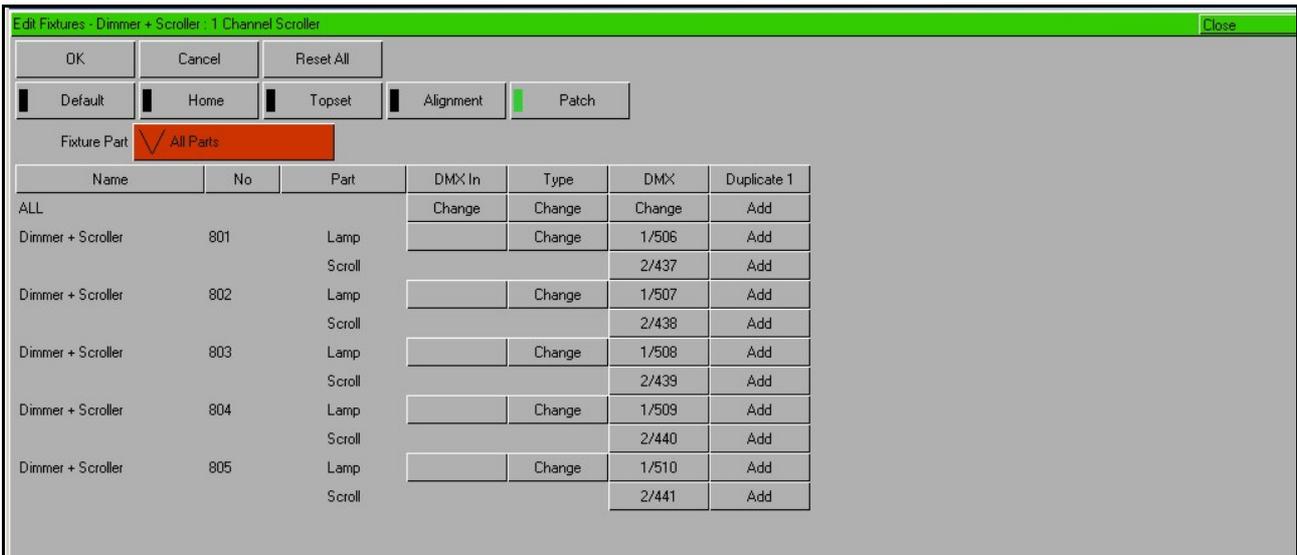


Press the [Unpatch] button. A confirmation popup window will be displayed. Select the [Yes] button to confirm the operation.

Multi-Part Fixtures

For multi-part fixtures (eg Lamp + Scroller) the different parts of the fixture are displayed on separate lines in the Edit Fixtures patch table.

There is an additional column (Part) which shows the part name of the multi-part fixture and a [Fixture Part] button that selects which part of the fixture is displayed on the screen (eg All Parts, Lamp, Scroll).



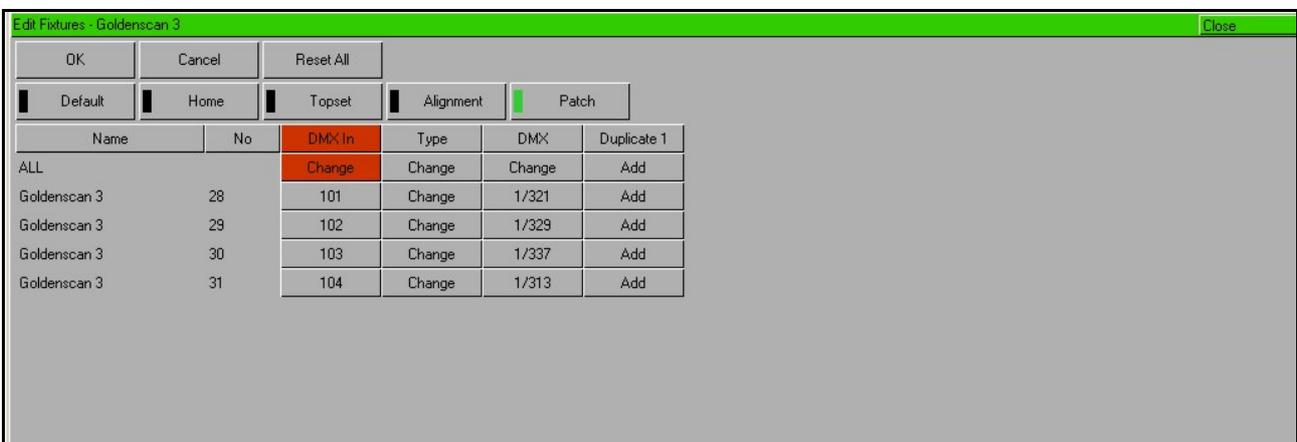
DMX In Field

The DMX-In field in the patch table shows the DMX In address assigned to the fixture.

The DMX In channel is used to control the brightness (intensity) parameter of the fixture.

This field may be blank (ie no DMX In control) or a value between 1 and 512.

Clicking on an entry in the DMX In column allows you to change the DMX In address assigned to the corresponding fixture.



Setup

Changing Fixture Type

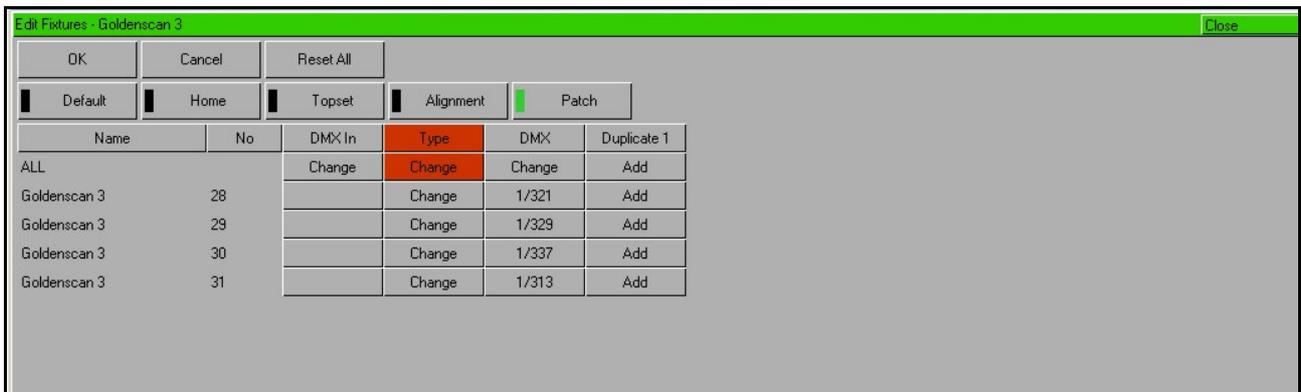
This patch function allows you to swap one fixture type for another.

Individual fixtures or groups of fixtures may be changed in a single operation.

The desk attempts to clone the programmed data for the swapped fixture(s) in memories, submasters and palettes as far as possible.

Parameters in the new fixture type that were not present in the original fixture type are left unprogrammed.

Select the fixture(s) to be changed. Go to the [Type] column in the window:



Select the [Change] button for the required fixture or the [Change] button in the ALL row to change the type of all the selected fixtures.

Select the Manufacturer, Fixture Type and Mode (if applicable) using the MFKs or via the popup window on the monitor and confirm the change type operation.

Auto Menus

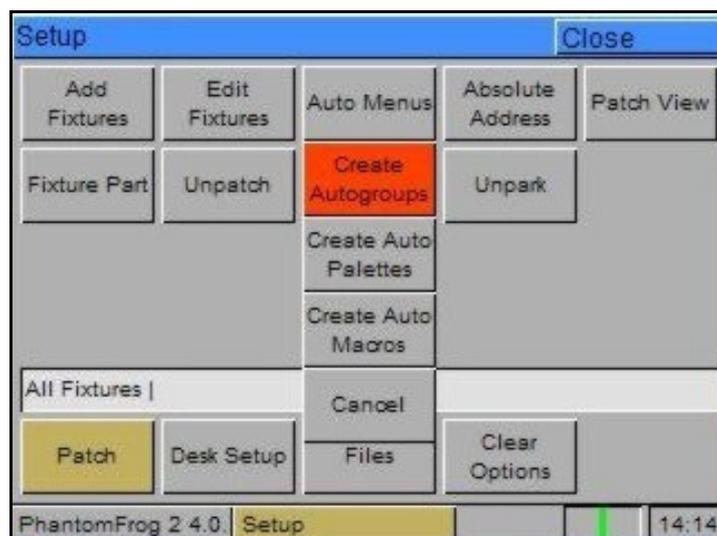
This Setup option generates automatic items based on the fixture schedule.

Auto Groups

This function generates a group for each of the Master Groups, plus 'odd' and 'even' groups for each different fixture type in the schedule.

Press the [Auto Menus] key on the touch screen or monitor.

Select the [Create Autogroups] option from the drop down menu.



Auto Palettes

When the [Create Auto Palettes] option is confirmed the desk generates a number of colour, beamshape and position palettes for each moving fixture type in the fixture schedule and a number of standard effects palettes, as described below.

Colour Palettes

The desk provides the following standard colour palettes: White, Red, Orange, Yellow, Green, Blue, Violet, Cyan, Magenta and Pink.

Fixtures with colour wheel(s) - The desk compares the RGB values specified for each colour on the colour wheel of the fixture with the RGB values of the standard colours listed above. The desk generates an auto palette for those which are within a certain tolerance of the standard colour.

In addition to the above, the desk generates an auto palette for each colour available on every colour wheel in the fixture. These palettes are labelled with the stock colour names as supplied by the manufacturer.

Fixtures with CMY or RGB colour mixing – The desk generates auto palettes for all of the standard colours listed above.

Setup

Beamshape Palettes

The beamshape auto palettes generated by the desk are based on the gobo wheel and shutter parameters of the fixture in the schedule as follows:

Gobo Wheel(s) – An auto palette for each Gobo present on each gobo wheel in the fixture. Naming syntax is Gobo 1/1 ... Gobo 1/N (first gobo wheel), Gobo 2/1 .. Gobo 2/N (second gobo wheel etc).

No Gobo – This auto palette sends all the 'Gobo' parameters to their default values.

Shutter - Two auto palettes (Shutter Open and Shutter Closed).

Position Palettes

The desk generates a single Home Position palette which sets the Pan and Tilt parameters to a value of 50%.

Effects Palettes

The desk generates a number of standard effects (see Effects chapter for details).

Absolute Addressing

Pressing the [Absolute Address] key on the Patch screen toggles between normal and absolute addressing. This allows DMX patch addresses to be specified absolutely in the range 1 – 2048.

In the Outputs and Channel views the universes are displayed as normal, but the DMX addresses are replaced by the corresponding absolute addresses:

Normal Addressing Mode	Absolute Addressing Mode
Universe 1 – DMX channels 1 - 512	DMX channels 1 – 512
Universe 2 – DMX channels 1 - 512	DMX channels 513 – 1024
Universe 3 – DMX channels 1 - 512	DMX channels 1025 - 1536
Universe 4 – DMX channels 1 - 512	DMX channels 1537 – 2048

Desk Setup

The Desk Setup function allows you to configure or customise the settings on the desk to your own requirements.

The Desk Setup function is divided into a number of different sections which are accessed by pressing the corresponding soft button on the touch screen:



A summary of the Desk Setup options is provided below.

- **Displays** - Indicate which monitors are connected; adjust the touch screen timeout, brightness and contrast; re-calibrate the touch screen; adjust desk lamp brightness.
- **Peripheral** - Allow mouse or trackball to control pan and tilt parameters; display soft keyboard on touch screen.
- **Inputs** – Set up SMPTE and MIDI Timecode; CAN; Set Time; Set Date. Assign Remote Switches.
- **Outputs** – Configure DMX universes to DMX output sockets.
- **Behaviour** – Keep parameters separate options; Page Holdover if Active; Confirm Overwrites, UDF Action, UDK Action, Tie UDF/Playback Pages.
- **Default Times** – Set up the default delay and fade times for each attribute (Intensity, Colour, Beamshape, Position) for all new recorded cues.
- **Cue Stack Defaults** – Set up default options for all new cue stacks including timecode and chase modifiers.
- **Lock** – Lock the desk; change the lock code (PIN).
- **Event Monitor** – Indicates each front panel action (slider movement, key press etc.)

To make a change to any of the settings in Desk Setup, use the cursor keys to select the required option and press SET. Use the arrow keys to select between different options or enter the required value for numeric fields. Press ENTER to confirm the change.

Setup

Displays

Press the [Displays] key on the touch screen. The various options are shown in the centre of the touch screen:



The Displays options are summarised below:

- **Monitor Display 1 Enabled** - Yes or No.
- **Monitor Display 2 Enabled** – Yes or No.
- **Screen Timeout (mins)** – This is the time after which the touch screen back light and monitor screen(s) will be turned off if the desk has not been used.
Range = 0 – 99 minutes; Zero = No Timeout; Default = 20 minutes. If the timeout period is reached the touch screen backlight and monitor screen(s) will be turned off. To restore the touch screen back light and monitor screen(s), press the touch screen or any key on the front panel of the desk.
- **Touch Screen Brightness** – Range = 0 –100%, Default = 100%.
- **Touch Screen Contrast** – Range = 0 – 100%, Default = 50%.
- **Touch Screen Calibration** – Press the [Calibrate] soft key and follow the instructions on the touch screen.
- **Click on Press** – Audible click on touch screen. Range = Yes or No; Default = Yes.
- **Desk Lamp Brightness** – Range = 0 –100%, Default = 100%.
- **Monitor 1 Calibration** – Calibration of touch screen monitor 1. Press the [Calibrate] soft key and follow the instructions on the monitor screen.
- **Monitor 2 Calibration** – Calibration of touch screen monitor 2. Press the [Calibrate] soft key and follow the instructions on the monitor screen.

Peripheral

Press the [Peripheral] key on the touch screen. The various options are shown in the centre of the touch screen:



The Peripherals options are summarised below:

- **Mouse Controls Pan/Tilt** - Options Yes/No; default = No. If the mouse or trackball is set to control pan and tilt parameters, this will only take effect when fixtures are selected and the Position attribute is selected. In this situation, the mouse pointer is removed temporarily from the corresponding monitor screen. In all other situations, the mouse or trackball operation will remain unaffected.
- **Soft Keyboard on Touch Screen** - Options Yes/No; default = Yes. A soft keyboard will be displayed on the touch screen during naming operations.
- **Wheel Sensitivity** – Adjusts the sensitivity of the control wheels. Range 0% (least sensitive) to 100% (most sensitive); default = 50%.

Setup

Inputs

Press the [Inputs] key on the touch screen. The various options are shown in the centre of the touch screen:



The Inputs options are summarised below:

- **SMPTE Timecode** – Disabled, 24, 25 or 30 frames per sec.; Default = Disabled.
- **MIDI Timecode** – Disabled, 24, 25 or 30 frames per sec.; Default = Disabled.
- **CAN** – Disabled, iCAN or Chillinet; Default = Disabled.
- **Set Time** - Press the [Set Time] key on the touch screen. The Set Time Window is displayed on the touch screen. Enter the correct time in the field provided and then confirm by selecting the [OK] button.
- **Set Date** - Press the [Set Date] key on the touch screen. The Set Date Window is displayed on the touch screen. Enter the correct Day, Month and Year in the fields provided and then confirm by selecting the [OK] button.
- **Remote Switches** – Each of the six remote switches can be configured to Disabled, Go to Cue or Macro. If the action field is set to Go to Cue or Macro, then an additional field is displayed allowing you to enter the stack/cue or macro number as appropriate.

Outputs

Press the [Outputs] key on the touch screen. The various options are shown in the centre of the touch screen:



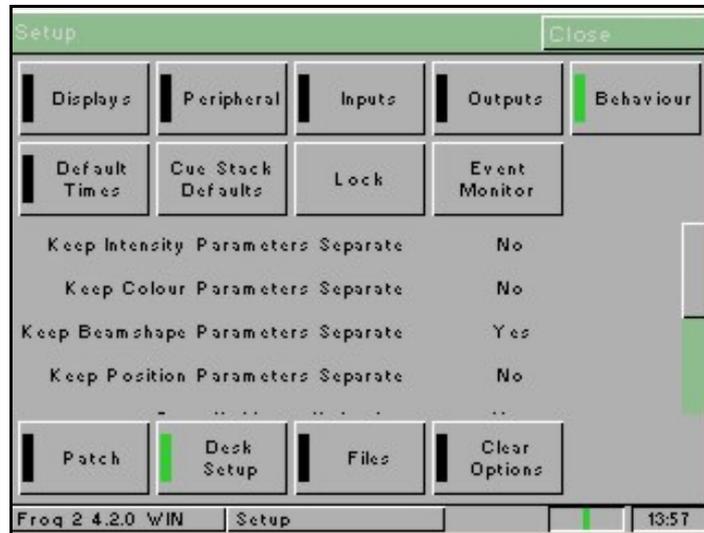
The Outputs options are summarised below:

- **DMX Output 1** – Disabled, DMX Universe 1, DMX Universe 2, DMX Universe 3, DMX Universe 4; Default = DMX Universe 1.
- **DMX Output 2** – Disabled, DMX Universe 1, DMX Universe 2, DMX Universe 3, DMX Universe 4; Default = DMX Universe 2.
- **DMX Output 3** – Disabled, DMX Universe 1, DMX Universe 2, DMX Universe 3, DMX Universe 4; Default = DMX Universe 3.
- **DMX Output 4** – Disabled, DMX Universe 1, DMX Universe 2, DMX Universe 3, DMX Universe 4; Default = DMX Universe 4.

Setup

Behaviour

Press the [Behaviour] key on the touch screen. The various options are shown in the centre of the touch screen:



The Behaviour options are summarised below:

- **Keep Intensity Parameters Separate** – Yes/No, default = No.
- **Keep Colour Parameters Separate** – Yes/No, default = No.
- **Keep Beamshape Parameters Separate** – Yes/No, default = Yes.
- **Keep Position Parameters Separate** – Yes/No, default = No.

If the options above are set to 'Yes' then each individual parameter in that attribute will be tagged separately (eg in a CMY fixture, if Cyan is adjusted, only Cyan will be tagged). If the attribute is set to 'No' then as soon as one parameter in that attribute is adjusted, all the parameters in that attribute will be tagged automatically (eg in a CMY fixture, if Cyan is adjusted, then Cyan, Magenta, Yellow and any other colour parameter for the fixture will be tagged automatically).

- **Page Holdover if Active** – Yes/No, default = Yes. If this option is set to 'Yes' active cue stacks are not released when the page is changed. Selecting the stack and hitting RELEASE or taking the fader to zero will release the cue stack.
- **Confirm Overwrites** – Yes/No, default = Yes. When this option is set to 'Yes' a confirmation window will appear on the touch screen and monitor screen when overwriting a cue, palette, effect, macro etc.
- **UDF Action** – Flash/Latch, default = Flash. The default action of the UDF flash keys.
- **UDK Action** - Flash/Latch, default = Flash. The default action of the UDK's.
- **Tie UDF/Playback Pages** – Yes/No, default = No. If this option is set to 'Yes' the page numbers for the UDF/UDK's and playbacks will be tied.

Default Times

Press the [Default Times] key on the touch screen. The various options are shown in the centre of the touch screen:



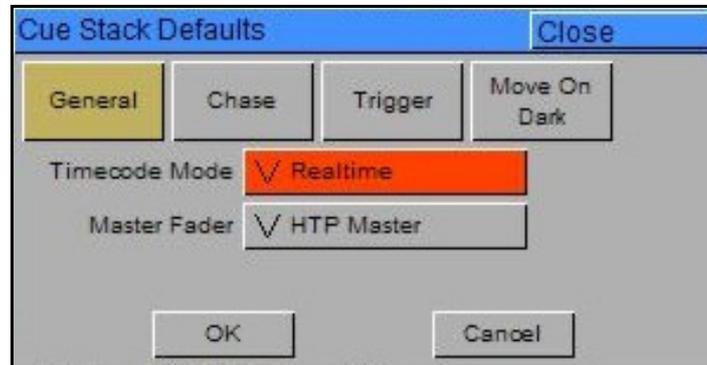
The Default Times options are summarised below:

- **Intensity Delay Up** – Range = 0 – 99:59.9, Default = 0.
- **Intensity Delay Down** – Range = 0 – 99:59.9, Default = 0.
- **Intensity Fade Up** – Range = 0 – 99:59.9, Default = 3 seconds.
- **Intensity Fade Down** – Range = 0 – 99:59.9, Default = 3 seconds.
- **Colour Delay** – Range = 0 – 99:59.9, Default = 0.
- **Colour Transition** – Range = 0 – 99:59.9, Default = 3 seconds.
- **Beamshape Delay** – Range = 0 – 99:59.9, Default = 0.
- **Beamshape Transition** – Range = 0 – 99:59.9, Default = 3 seconds.
- **Position Delay** – Range = 0 – 99:59.9, Default = 0.
- **Position Transition** – Range = 0 – 99:59.9, Default = 3 seconds.

Setup

Cue Stack Defaults

Press the [Cue Stack Defaults] key on the touch screen. The various options are shown on the touch screen under four main sections (General, Chase, Trigger and Move on Dark):



General Options:

- **Timecode** – Range = Real Time, SMPTE, MIDI, CD; default = Real Time.
- **Master Fader** – Range = HTP Master, Manual Fader (1 Way), Manual Fader (2 Way); default = HTP Master.

Chase Options:

- **Chase Drive** – Range = Auto, Bass, Manual, Beat; default = Auto.
- **Chase Direction** - Range = Forward, Backward, Bounce, Random.
- **Chase Speed** – Range = 0 – 200 bpm.
- **Chase Fade** – Range = 0 – 100%; default = 0.
- **Chase Shots** – Range = 0 – 255; default = 0.

Trigger Options:

- **Trigger on Raise** – Range = Enabled or Disabled; default = Disabled.
- **Trigger Level** – Range = 0 – 100%; default = 5%.

Move on Dark Options:

- **Move on Dark** – Range = Enabled or Disabled; default = Disabled.
- **Delay** – Range = 0 – 99:59.9; default = 3 seconds.
- **Fade** – Range = 0 – 99:59.9; default = 1 second.

Lock Functions

Press the [Lock] key on the touch screen. A drop down menu is displayed on the touch screen. The menu options are summarised below:

- **Lock All** – This option locks all the functionality on the desk. It will not be possible to do anything on the desk until it is unlocked using the current lock code.
- **Change PIN** – This option allows the user to change the lock code (PIN) for the desk. The lock code (PIN) is a four digit number (0000 – 9999). The lock code can be entered via the numeric keypad on the front panel, or external keyboard. The default lock code for the desk is 0000.
- **Cancel** – Closes the menu.

Event Monitor

Press the [Event Monitor] key on the touch screen. The Event Monitor screen is displayed on the touch screen and the monitor screen(s).

Key presses, fader movements and wheel movements are displayed on the touch screen.

Press the [Close] button on the touch screen to return to the Desk Setup screen.

Setup

Files

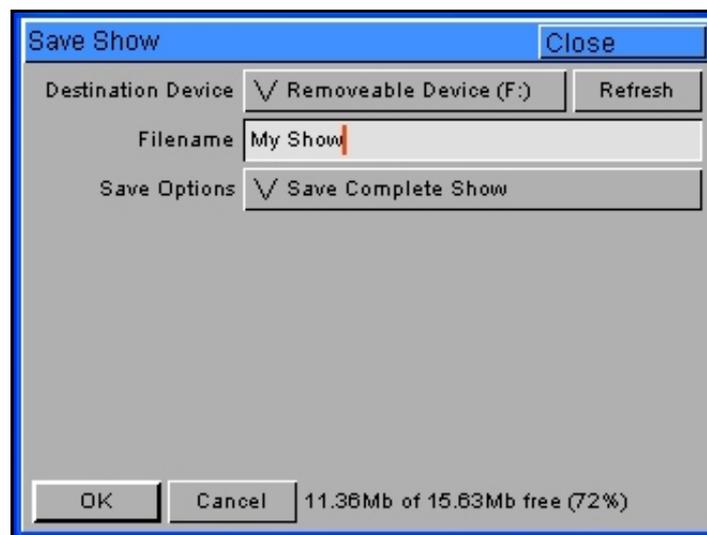
This section of Setup allows you to save and load show files and to load or clear User Fixture Types (UFT).

Saving Shows

To save a copy of your show, you first need a storage media. The Frog 2 is supplied with a 32mb USB flash memory stick, although other storage media may be used with the console. Connect your media to the USB port on the desk (any port will do). If using an external floppy drive, remember to insert a floppy disk into the drive.

Press the [Files] key on the touch screen.

Press the [Save Show] key on the touch screen. The Save Show window is displayed on the touch screen:



Select the desired storage device by pressing the [Destination Device] key. This cycles through all the available devices; select the one you require.

Select the Filename field and enter a name for the show file. This name will be used as the file name on the destination device, so ensure it is unique and easily identifiable.

Select the [Save Complete Show] box and toggle it until it displays the option you require. The Frog 2 allows you to save just the Setup, the Setup and Palettes, or the Complete show.

Press the [OK] button to save the show.

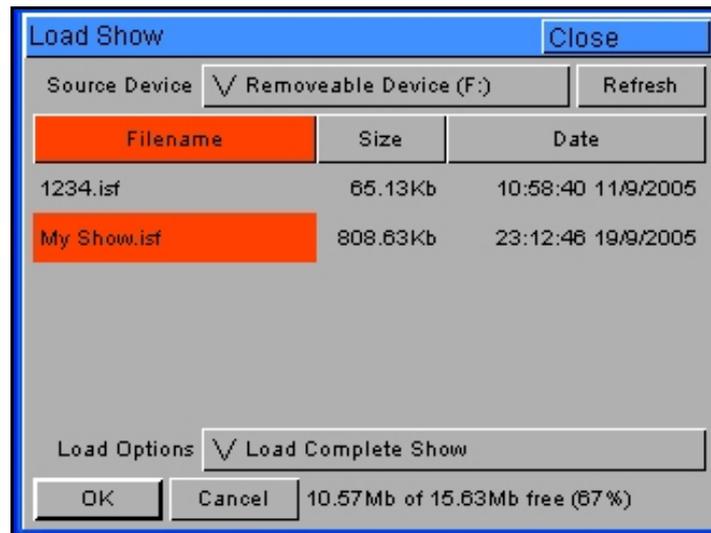
Loading Shows

To load a show, connect the storage media to the USB port on the desk (any port).

If you're using an external floppy drive, remember to insert the floppy disk into the drive.

Press the [Files] key on the touch screen.

Press the [Load Show] key on the touch screen. The Load Show Window is displayed on the touch screen:



Select the storage device by pressing on the [Source Device] toggle box. This will cycle through all the available devices, so select the one you require.

Select the required show from the list of available shows displayed.

Select the [Load Complete Show] box and toggle it until it displays the option you require. The Frog 2 allows you to load just the Setup, the Setup and Palettes, or the Complete show.

Press the [OK] button to load the show.

Note – Loading Shows

Loading a show file will clear any existing show data from the desk so ensure that you have backed up your previous show before you load another one onto the desk.

Setup

Loading User Fixture Types

The desk provides a method for loading fixture types which are not in the fixture library stored on the desk, ie user fixture types which are stored on a memory stick or CD.

Press the [Load UFT] soft key on the touch screen.

Select the Source Device (Removeable Device or CD) as required. A list of UFT files found on the source device is displayed on the touch screen.

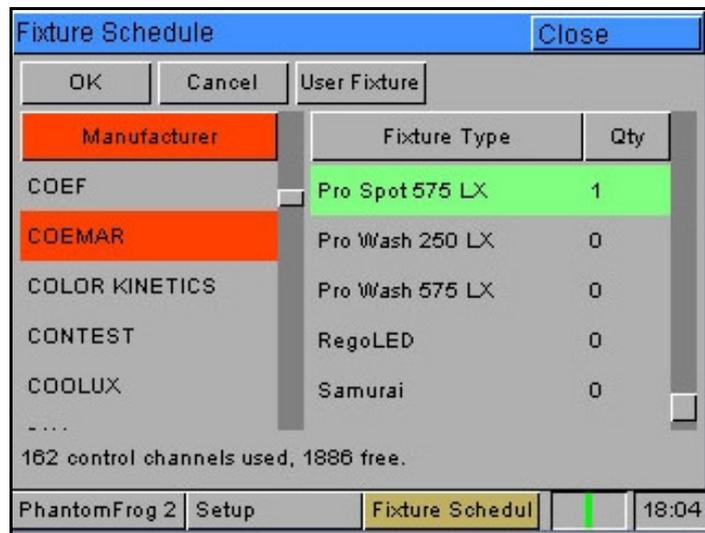
Select the required file using the cursor keys or by touch on the touch screen.

Select the [OK] button.

All the fixture types contained in the selected UFT file are loaded and effectively added to the fixture library on the desk.

Selecting a user fixture type and setting the number of that type in the fixture schedule is performed in the same way as for any of the normal fixture types already present in the fixture library on the desk.

User Fixture Types which have been loaded onto the desk are displayed in the Fixture Schedule Window in the same way as fixture types in the fixture library. They appear in the schedule based on the alphabetical sorting of manufacturer and fixture type and are distinguished by having a green background, for example:



Fixture Schedule			Close
OK	Cancel	User Fixture	
Manufacturer	Fixture Type	Qty	
COEF	Pro Spot 575 LX	1	
COEMAR	Pro Wash 250 LX	0	
COLOR KINETICS	Pro Wash 575 LX	0	
CONTEST	RegoLED	0	
COOLUX	Samurai	0	
...			
162 control channels used, 1886 free.			
PhantomFrog 2	Setup	Fixture Schedul	18:04

Clearing User Fixture Types

The desk provides a method for clearing all the user fixture types which have been loaded onto the desk.

Press the [Clear UFT] soft key on the touch screen. A confirmation window is displayed.

Press the [Yes] soft key to clear the UFT's on the desk.

Desk Information

When the [Desk Information] key is selected a screen is displayed containing information on the various software, firmware and BIOS installed in the desk as follows:

- Co-Processor BIOS
- Co-Processor Firmware
- LCD BIOS
- LCD Firmware
- Main Processor BIOS
- Main Processor Operating System
- Desk Software
- Serial Number
- Fixture Library

Update Desk Software

This option allows you to update the operating software on the desk.

Copy the .upd file to a USB memory stick from your PC. Start the desk normally, and plug the USB memory stick containing the update into the desk. If you wish to save your show do so now as it will be cleared as part of the update process.

Press SETUP, then press the [Files] key on the touch screen.

Press the [Update Desk Software] key on the touch screen. You will be presented with a list of the .upd files found on the USB memory stick.

Select the required file and then press the [OK] button on the touch screen.

Select the [Yes] button on the two confirmation popup windows that are displayed.

The update will now begin. Do not disconnect the power to the desk while this is occurring.

When the update is complete, the desk will prompt you to power-cycle the desk.

Update Fixture File

This option allows you to update the Fixture Library file on the desk.

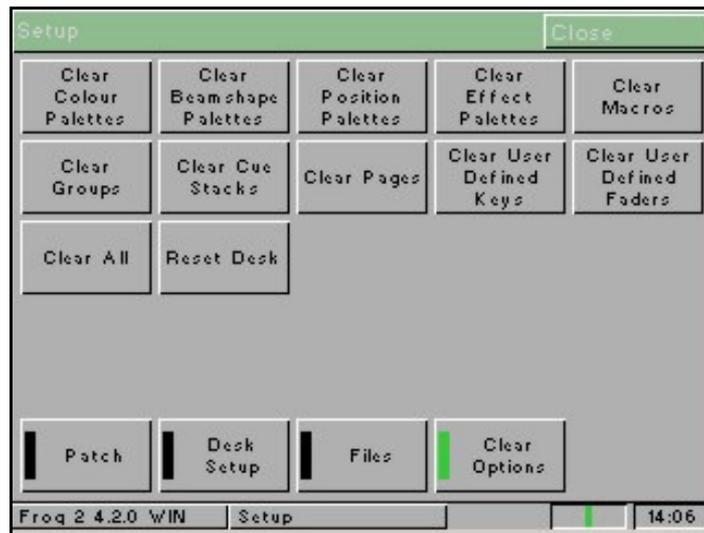
Insert a memory stick containing the Fixture Library file into one of the USB ports on the desk. Press SETUP, press the [Files] key on the touch screen, then press the [Update Fixture File] button. The desk searches for the update file on the memory stick. Follow the instructions shown on the touch screen.

Setup

Clear Options

This option allows the user to clear (delete) various components of a show (eg palettes), the whole show, or reset the desk back to factory defaults.

Press the [Clear Options] key on the Setup screen. The various clear options and other functions are displayed on the touch screen as shown below:



Clear Options and Reset Desk

Select the required option. A confirmation window is displayed on the touch screen. Select the [Yes] button to confirm the clear option.

A summary of the Clear Options is given below:

- **Clear Colour Palettes ... Clear User Defined Faders** - Clears the specified items only from the show data in the desk.
- **Clear All** – Clears all of the above items from the show in the desk, but does not clear the Patch or change any of the Setup options.
- **Reset Desk** – Performs the **Clear All** operation, clears the Patch and resets all the Setup options to factory defaults.

Network

ArtNet

This option allows you to set up the various parameters associated with transmitting the DMX output from the desk over Ethernet.

Currently only the ArtNet standard is supported on the desk but other protocols may be added in due course.

Press the [Network] key on the Setup screen. The [ArtNet] option is selected automatically.

A network connection between the Frog 2 and an ArtNet supportive device is required in order to utilise the ArtNet facilities of the console. This network connection can take many forms, but most commonly a Crossover Cat-5 cable or a network hub and two straight wired Cat-5 cables can be used.

Devices receiving ArtNet must be located in the same subnet and IP range as the transmitting console. For Capture, it is suggested you set the computer IP address to 2.0.0.#. Once the computer IP address is set, start up the console and computer.

The following table summarises the ArtNet options:

Transmit ArtNet	Enables or Disables ArtNet transmission.
Network Switch	2 or 10. ArtNet allows two separate network IP ranges. Most people use 2.0.0.x
Subnet	The penultimate number in the 2.0.0.x IP range. Used for multiple ArtNet networks on a single network.
Universe x Port	Each port can be allocated a separate port, or be disabled. This port must be matched with the ArtNet receiving device (Light Converse, etc).
Light Converse Integration	Allows additional functionality to be used with Light Converse (eg bi-directional patching, fixture selection etc.)

Setup

Light Converse Visualisation

Light Converse visualisation software will talk directly to the Frog 2 desk using Artnet for bidirectional communications.

Using this method it is possible to move your fixtures on Light Converse and see the effects on the desk, or highlight the fixtures on the visualisation when they are selected on the desk. If Light Converse and the Frog 2 are on the same Artnet connection, this bidirectional communication will be initiated automatically.



Zero Wire

Zero Wire DMX is a wireless DMX transmission system from Zero 88. The system can be output directly from the console via the [Network] options in Setup, and can then be routed via a Wireless Access Point to Zero Wire DMX boxes which decode the signal to DMX for linking to fixtures and dimmers, etc.

In the Zero Wire setup page there are a host of options, which enable each DMX Universe on the desk to be routed to an IP address with a unique Universe number (see below).

For more information, see the Zero wire DMX user manual, which can be found on the Zero 88 website.

Select the required option eg [Transmit Zero Wire]. The MFKs change to display the corresponding options or a numeric keypad. Use the MFKs to select the option or enter a numeric value as appropriate. The following table summarises the Zero Wire options:

Option	Range	Default	Notes
Transmit Zero Wire	Yes or No	No	
Advanced options	Yes or No	No	
IP Address		192.168.1.1	
Subnet Mask		255.255.255.0	Advanced Option
Default Gateway		0.0.0.0	Advanced Option
Universe 1 Universe	Disabled, 1 - 10	1	
Universe 1 Target		192.168.1.255	Advanced Option
Universe 2 Universe	Disabled, 1 - 10	2	
Universe 2 Target		192.168.1.255	Advanced Option
Universe 3 Universe	Disabled, 1 - 10	3	
Universe 3 Target		192.168.1.255	Advanced Option
Universe 4 Universe	Disabled, 1 - 10	4	
Universe 4 Target		192.168.1.255	Advanced Option

Setup

Remote

Select the [Remote] option. The MFKs and monitor window display the various Remote options which are summarised in the following table:

Option	Range	Default	Notes
Enable Remote	Yes or No	Yes	
Enable Security	Yes or No	No	Only available when Enable Remote = Yes
Password		frogx	Only available when Enable Security = Yes

Capture

The Capture visualiser has now been integrated with the Leap Frog 48/96 desk software:

Select the [Capture] option. The MFKs and monitor will then display the Capture options which are summarised in the following table:

Option	Range	Default	Notes
Enable CITP	Yes or No	No	
Use DHCP Address	Yes or No	Yes	
IP Address			The IP address to use if Use DHCP Address is set to No
Subnet Mask			The Subnet Mask to use if Use DHCP Address is set to No

Once a connection with Capture is established the Leap Frog can be selected as a DMX source and your show can be visualised from Capture.

WYSIWYG

The WYSIWYG visualiser has now been integrated with the Leap Frog 48/96 desk software:

Select the [WYSIWYG] option. The MFKs and monitor will then display the WYSIWYG options which are summarised in the following table:

Option	Range	Default	Notes
Enable WYSIWYG	Yes or No	No	
Use DHCP Address	Yes or No	Yes	
IP Address			The IP address to use if Use DHCP Address is set to No
Subnet Mask			The Subnet Mask to use if Use DHCP Address is set to No

See the Zero 88 Consoles and WYSIWYG Notes for further information on setting up the WYSIWYG link.

Setup

Groups

The Frog 2 provides 200 user definable Groups. Groups are most commonly used when selecting fixtures and programming data to be recorded in cues, palettes etc. Groups can also be assigned to User Definable Faders (UDF) and User Definable Keys (UDK).

Group Window

To display the Group Window on the monitor, hold down the SHIFT key and then press the GROUP key:

Groups										Close
1 [All Fixtures]	2 [All - Dimmer]	3 [All - Goldenscan HPE]	4 [All - Miniscan HPE]	5 [All - Mac 300 : Mode 4]	6 [All - Colorlab 250]	7 [Odd - Dimmer]	8 Miniscans	9 All the Scans	10 [Even - Dimmer]	
11 [Odd - Goldenscan HPE]	12 [Even - Goldenscan HPE]	13 [Odd - Miniscan HPE]	14 [Even - Miniscan HPE]	15 [Odd - Mac 300 : Mode 4]	16 [Even - Mac 300 : Mode 4]	17 [Odd - Colorlab 250]	18 [Even - Colorlab 250]	19 *	20 *	
21 *	22 *	23 K-Nine's Miniscans	24 *	25 *	26 *	27 *	28 Miniscans	29 *	30 *	
31 *	32 *	33 *	34 *	35 *	36 *	37 *	38 *	39 *	40 *	
41 *	42 *	43 *	44 *	45 *	46 K-Nine's Miniscans	47 *	48 *	49 *	50 *	
51 *	52 *	53 *	54 *	55 *	56 *	57 *	58 *	59 *	60 *	
61 *	62 *	63 *	64 *	65 *	66 *	67 *	68 *	69 *	70 *	
71 *	72 *	73 *	74 *	75 *	76 *	77 *	78 *	79 *	80 *	
81 *	82 *	83 *	84 *	85 *	86 *	87 *	88 *	89 *	90 *	
91 *	92 *	93 *	94 *	95 *	96 *	97 *	98 *	99 *	100 *	
Programmed					Unprogrammed					

The Group Window contains a soft button for each of the 200 groups. Each soft button contains the following data: Group Number (1-200) and name, if defined.

Unprogrammed groups are indicated by a "*" next to the group number.

Groups

Master Groups

As part of the setup process, when the user adds fixtures to the schedule, the desk automatically generates a Master Group for each different fixture type contained in the schedule. It also creates an additional Master Group containing all the fixtures in the schedule – The All Fixtures group.

Master Groups are not referenced by Group Number and do not appear in the Group Window.

The Master Groups are displayed in a toolbar on the touch screen whenever the user selects the GROUP key while in the Patch Screen or Program Window:



Automatic Groups

In Setup, there is an option to generate a set of automatic groups based on the fixture types in the schedule. The desk generates a group for each of the Master Groups, plus 'odd' and 'even' groups for each different fixture type in the schedule.

To create the automatic groups, first enter SETUP, then press the [Auto Menus] soft key on the touch screen. Select the [Create Autogroups] option, then exit Setup.

Automatic Groups are referenced by Group Number and appear in the Group Window.

User Defined Groups

In addition to the Master Groups and Automatic Groups, you can also create your own groups of fixtures, eg Floor MACs Left Stage Movers etc. User defined groups can be all of the same fixture type or any combination of fixture types.

Simply select the fixtures that you wish to be in the group and then enter the command:

RECORD GROUP N ENTER (N = Group Number).

Naming Groups

To set the name of a user defined group, select the required group from the Group Window and press the SET key or enter one of the following commands:

GROUP N SET or SET GROUP N ENTER

Type in the name of the group using the external keyboard and then press ENTER.

Copying Groups

To copy a group, enter the following command:

GROUP N COPY P ENTER (Copies Group N to Group P)

Moving Groups

To move a group from one location to another, enter the following command:

GROUP N MOVE P ENTER (Moves Group N to Group P)

Deleting Groups

To delete a group enter one of the following commands:

GROUP N DELETE or DELETE GROUP N ENTER.

Groups

Programming

This section of the manual covers the basic functionality of programming which involves selecting fixtures, adjusting one or more of their parameters to the required values, and then recording the information into a cue, palette, effect, UDF or UDK.

The Program Window

The Program Window is central to the programming functionality on the Frog 2 desk.

It is recommended (but not mandatory) that the Program Window is displayed on one of the monitor screens when programming cues, palettes etc.

To display the Program Window press the [Program Window] key on the touch screen.

As fixtures are selected and their parameters adjusted, the corresponding information is shown in the Program Window, for example:

Program Window Close													
Values	Percent	Intensity	Smart Tag										
			Intensity	Pan	Tilt	P/T Spd	Cyan	Magenta	Yellow	Color 1	Color 2	Iris	FrostFX
Mac 300 : Mode 4 [106]		100	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [107]		100	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [108]		100	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [109]		100	50	50	0	0	100	0	0				
Mac 300 : Mode 4 [110]		100	50	50	0	0	100	0	0				
My First Scan [101]		100	38	65					61	0	100	0	0
My Second Scan [102]		100	38	65					61	0	100	0	0
Goldenscan HPE [103]		100	38	65					61	0	100	0	0
Goldenscan HPE [104]		100	38	65					61	0	100	0	0
Goldenscan HPE [105]		100	38	65					61	0	100	0	0
Miniscan HPE [111]		47	63	76					0				
Miniscan HPE [112]		47	63	76					0				
Miniscan HPE [113]		47	63	76					0				

Program Window – Values View

Programming

Program Window – Values View

In the Program Window, when the [Values] option is selected, the fixtures and their parameter values are shown as a table.

The currently selected fixtures are highlighted in yellow.

Fixture parameters which are tagged have an green background, untagged parameters have a grey background.

When the [Percent] soft button is selected a drop down menu is displayed with the following options:

- **Percent** – When this option is selected all the fixture parameter values are displayed as percentages (ie 0 – 100% for both 8 bit and 16 bit parameters).
- **DMX** - When this option is selected all the fixture parameter values are displayed as DMX values (ie 0 - 255 for 8 bit parameters or 0 - 65535 for 16 bit parameters).
- **Details (%)** – When this option is selected the fixture parameter values will be displayed as the parameter detail names (eg Red, Gobo 1) where they are defined in the fixture data. If parameter details are not defined, the window will show the actual numerical values in %.
- **Details (DMX)** – When this option is selected the fixture parameter values will be displayed as the parameter detail names (eg Red, Gobo 1) where they are defined in the fixture data. If parameter details are not defined, the window will show the actual numerical values in DMX (0-255 or 0 – 65535).

Program Window - Fade View

When the [Fade] option is selected on the touch screen or the Program Window, the fade times of the fixture parameters are displayed in the Program Window.

Program Window - Delay View

When the [Delay] option is selected on the touch screen or the Program Window, the delay times of the fixture parameters are displayed in the Program Window.

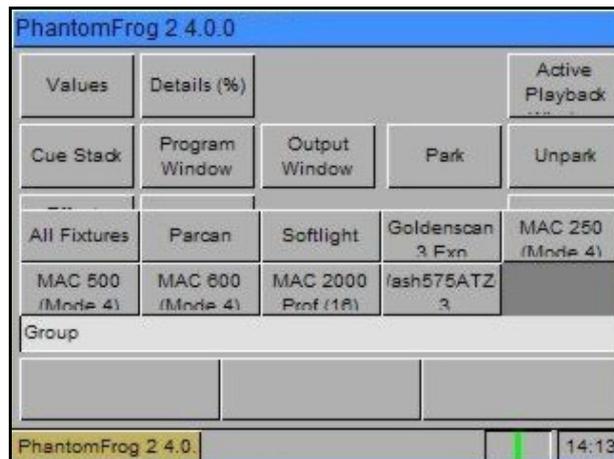
Program Window - Intensity View

When the [Intensity] button in the Program Window is selected, only the intensity parameters of the fixtures in the programmer are displayed.

Selecting Fixtures

Before fixtures can be controlled by the desk they need to be selected.

The simplest way to select a group of fixtures is via the Master Groups toolbar. Press the GROUP button. The Master Groups toolbar is displayed above the command line on the touch screen:



Select a group by pressing one of the soft keys on the toolbar. All the fixtures in the chosen group are now selected and are displayed in the Program Window.

To select an individual fixture or a number of fixtures from the group, type in their fixture numbers followed by ENTER, for example:

- 1 ENTER (selects fixture 1)
- 2 + 3 ENTER (selects fixtures 2 and 3)
- 5 THRU 10 ENTER (selects fixtures 5,6,7,8,9, and 10)

Alternatively, you can use the right and left cursor keys to select the next or previous fixture respectively within the selected group of fixtures.

If you have defined unique fixture numbers for the fixtures in the desk, then those numbers can be used directly to select fixtures without having to select a group first.

For example, if the MAC 500's have been given fixture numbers 501 – 520, then the following commands could be used:

- 501 ENTER (selects the first MAC 500 fixture)
- 502 + 503 ENTER (selects the second and third MAC 500)
- 511 THRU 520 ENTER (selects the last 10 MAC 500 fixtures)

Programming

Controlling Fixture Parameters

Each fixture type has its own set of parameters (intensity, colour, gobo, pan, tilt etc.) which are classified or grouped together in different attributes (Position, Colour, Beam).

Once a fixture, or group of fixtures has been selected, the attribute buttons and control wheels can be used to adjust the parameter output levels as required.

Controlling Intensity Parameters

The intensity (or brightness) parameter of the selected fixture(s) can be controlled by entering commands directly via the numeric keypad or by using the control wheel.

Intensity levels can be set for a complete group of fixtures using the following commands:

GROUP <select group> @ N ENTER (sets the intensity output to N %)

GROUP <select group> FULL ENTER (sets the intensity output to 100 %)

Intensity levels can also be set for a single fixture or a number of fixtures within a group. First select the group and then use any of the following commands:

1 @ N ENTER (sets the intensity output of fixture 1 to N %)

1 FULL ENTER (sets the intensity output of fixture 1 to 100 %)

2 + 3 @ N ENTER (sets the intensity output of fixtures 2 and 3 to N %)

2 + 3 FULL ENTER (sets the intensity output of fixtures 2 and 3 to 100 %)

5 THRU 10 @ N ENTER sets the intensity output of fixtures 5 to 10 to N %)

5 THRU 10 FULL ENTER sets the intensity output of fixtures 5 to 10 to 100 %)

The Intensity channel of a fixture can also be controlled using a wheel. Select the fixture(s) required as described above and then press the POSITION attribute key (if not already selected). The intensity parameter (dimmer) is assigned to the second finger wheel.

Use the control wheel to adjust the intensity level as required. The output value is shown on the touch screen above the corresponding control wheel.

Note – Intensity on the Wheels

The Intensity parameter for a fixture is displayed in Position wheel group 1 alongside the Pan and Tilt parameters.

Note – No Intensity Output ?

If the intensity output levels do not change when you send one of the above commands to a fixture, or adjust the intensity level using the wheel, check that the GRAND MASTER fader is at full and the BLACKOUT button is off. If the selected fixture(s) have a Shutter parameter, check that the shutter is open.

Controlling Colour Parameters

The colour parameters of the selected fixture(s) are controlled using the control wheels.

First select the required fixture(s) and then press the COLOUR key.

The colour parameters for the fixture are assigned to the control wheels and are indicated on the lower part of the touch screen.

If the fixture has more than three controllable parameters for the selected attribute, pressing the attribute key will select the next group of parameters.



Controlling Beamshape Parameters

The beamshape parameters of the selected fixture(s) are controlled using the control wheels.

First select the required fixture(s) and then press the BEAM key.

The beamshape parameters for the fixture are assigned to the control wheels and are indicated on the lower part of the touch screen.

If the fixture has more than three controllable parameters for the selected attribute, pressing the attribute key will select the next group of parameters.

Controlling Position Parameters

The position parameters of the selected fixture(s) are controlled using the control wheels.

First select the required fixture(s) and then press the POSITION key.

The position parameters for the fixture are assigned to the control wheels and are indicated on the lower part of the touch screen.

If the fixture has more than three controllable parameters for the selected attribute, pressing the attribute key will select the next group of parameters.

Programming

Copying Fixture Data

You can copy fixture data from a programmed cue or from another fixture in the Program Window. The data for all fixture parameters can be copied, or just those for a particular attribute by using the following commands:

1 @ S/C ENTER	Copies all the fixture parameter values from the cue S/C to fixture 1.
1 COLOUR @ S/C ENTER	Copies the colour fixture parameter values from cue S/C to fixture 1.
1 COPY 2 ENTER	Copies all the fixture parameter values from fixture 1 to fixture 2.
1 BEAM COPY 2 ENTER	Copies the beamshape parameter values from fixture 1 to fixture 2.
1 COPY 2 THRU 10 ENTER	Copies all fixture parameter values from fixture 1 to fixtures 2 to 10.
1 COPY GROUP N ENTER	Copies all fixture parameter values from fixture 1 to the fixtures in group N.

Tagging Parameters

On the Frog 2 desk, fixture parameters must be 'tagged' for them to be recorded when programming cues, palettes, UDF's and UDK's.

The tag status of each fixture parameter is indicated on the touch screen and in the Program Window by it's background colour as follows: grey = untagged; green = tagged.

If a parameter's value is changed by a command, moving the control wheel or directly in the Program Window, it will be tagged automatically.

You can also tag and untag fixture parameters manually via the touch screen, by pressing the parameter name. The corresponding command is displayed in the command line of the touch screen, for example Tag [Cyan].

Smart Tags

There is a [Smart Tag] button displayed in the Program Window:

The screenshot shows a window titled "Program Window" with a "Close" button in the top right corner. Below the title bar is a header row with columns: "Values", "Percent", "Intensity", and a red "Smart Tag" button. The main table has the following columns: "Intensity", "Pan", "Tilt", "Color 1", "Color 2", "Iris", "FrostFX", "Prism", "Focus", "Gobo1", "Gobo2<>", and "G2<<". There are five rows of data, all with an Intensity of 0. The data is as follows:

	Intensity	Pan	Tilt	Color 1	Color 2	Iris	FrostFX	Prism	Focus	Gobo1	Gobo2<>	G2<<
Goldenscan HPE [101]	0	50	91	49	0	68	44	0	0	0	0	0
Goldenscan HPE [102]	0	50	91	49	0	68	44	0	0	0	0	0
Goldenscan HPE [103]	0	50	91	49	0	68	44	0	0	0	0	0
Goldenscan HPE [104]	0	50	91	49	0	68	44	0	0	0	0	0
Goldenscan HPE [105]	0	50	91	49	0	68	44	0	0	0	0	0

In normal desk operation, only those channels which are tagged in the Program Window will be recorded into the cue, UDF, UDK or palette.

Smart Tags remove the need for you to work out which channels should or shouldn't be tagged in a state. As such, they can be used to build states using submasters and other playback elements.

When the RECORD key is pressed the state on stage is what will be recorded, regardless of whether or not a dimmer channel or fixture parameter is tagged in the Program Window.

Put simply, with Smart Tags enabled, you no longer have to think about Tracking. The desk will insert whatever tracking is required to make your show work - including ignoring fixtures whose intensity is set to 0% to enable Move On Dark to fully function.

To switch on Smart Tags – click on the [Smart Tag] button in the Program Window.

Use Smart Tags in combination with Cue Only to create inserted cues that don't affect the rest of the cue stack, for example an added blackout in the middle of a scene.

The Command Line

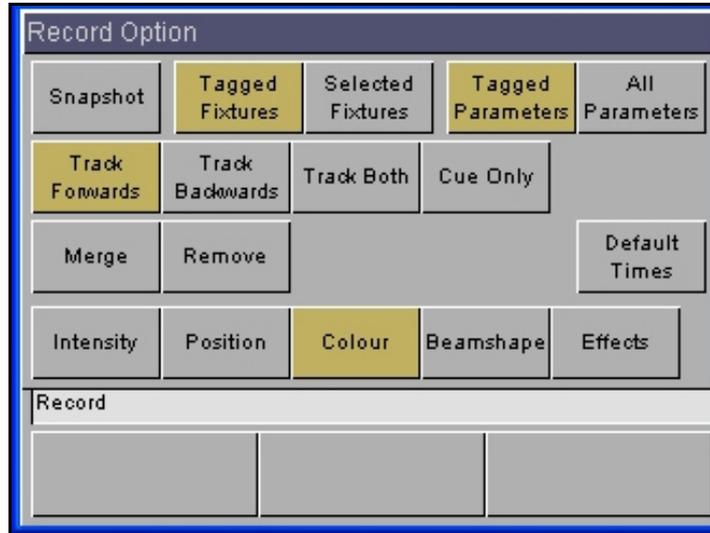
All commands (intensity commands, wheel movements, manual tagging etc) are recorded and displayed on the command line of the touch screen.

The commands may be undone, one at a time using the backspace key (←) on the numeric keypad. Each press of the backspace key undoes one command until you reach the original group selection command.

Programming

Record Options Window

After setting up the required data in the **Program Window** and pressing the RECORD key the **Record Options Window** is displayed on the touch screen. This window contains a number of soft keys to allow you to select what and how the information will be recorded:



Data Selection Options

The top row of buttons are the data selection buttons. The default setting for these buttons is [Tagged Fixtures] and [Tagged Parameters] selected as shown in example above.

By using various combinations of these buttons as described below you can determine what data will be recorded.

Snapshot

When [Snapshot] is selected – the [Snapshot] button turns green and the remaining buttons on the top row are 'greyed out' and no longer accessible. All the attribute selection buttons on the bottom row turn red and are no longer available. All parameters of all fixtures will be recorded. Pressing [Snapshot] again will return the data selection and attribute selection buttons to their previous states.

Tagged Fixtures / Selected Fixtures

These two buttons are mutually exclusive and providing that [Snapshot] has not been selected they determine which fixtures will be recorded.

If [Tagged Fixtures] is selected (as shown above), all the fixtures in the Program Window will be recorded. If [Selected Fixtures] is chosen, only the selected fixtures in the Program Window will be recorded.

Tagged Parameters / All Parameters

These two buttons are mutually exclusive and providing that [Snapshot] has not been selected they determine which parameters are recorded. The relevant fixtures will be determined by the [Tagged Fixtures] and [Selected Fixtures] buttons.

If [Tagged Parameters] is selected (as shown above), only the tagged parameters of the relevant fixtures in the Program Window will be recorded.

If [All Parameters] is selected, all parameters of the relevant fixtures in the Program Window will be recorded. All the attribute selection buttons on the bottom row will turn red and not be editable.

Tracking Options

The second row of buttons are the tracking options [Track Forward], [Track Backward], [Track Both] and [Cue Only]. These options are only applicable and accessible when the data is being recorded into a cue.

These four options are mutually exclusive, with the default option being [Track Forward] as shown above. An example of each tracking option is given below:

CUE 1	CUE 2	CUE 3	CUE 4	CUE 5	CUE 6	CUE 7	CUE 8	CUE 9	CUE 10
Green	*	*	*	*	*	*	*	*	Blue
Green	Blue								

The first row of data shows the program state of the colour parameter (* = untagged parameters). The second row of data shows the output when the cue is played back. If Cue 6 is edited and the colour changed to **Red**, the results of the different tracking options are as follows:

Track Forwards – The edited cue only affects later cues in the stack.

CUE 1	CUE 2	CUE 3	CUE 4	CUE 5	CUE 6	CUE 7	CUE 8	CUE 9	CUE 10
Green	*	*	*	*	Red	*	*	*	Blue
Green	Green	Green	Green	Green	Red	Red	Red	Red	Blue

Track Backwards – The edited cue affects earlier cues in the stack, where the change is tracked back to the last time the colour parameter was programmed. The outputs of cues after the edited cue are not affected (the cue after the edited one is changed to ensure this).

CUE 1	CUE 2	CUE 3	CUE 4	CUE 5	CUE 6	CUE 7	CUE 8	CUE 9	CUE 10
Red	*	*	*	*	*	Green	*	*	Blue
Red	Red	Red	Red	Red	Red	Green	Green	Green	Blue

Programming

Track Both – The edited cue affects both earlier and later cues. The change is tracked back to the last time the colour parameter was programmed:

CUE 1	CUE 2	CUE 3	CUE 4	CUE 5	CUE 6	CUE 7	CUE 8	CUE 9	CUE 10
Red	*	*	*	*	*	*	*	*	Blue
Red	Blue								

Cue Only – The changed values are only output in the edited cue; the outputs of previous and later cues are not affected. The cue after the edited one has to be reprogrammed to ensure this:

CUE 1	CUE 2	CUE 3	CUE 4	CUE 5	CUE 6	CUE 7	CUE 8	CUE 9	CUE 10
Green	*	*	*	*	Red	Green	*	*	Blue
Green	Green	Green	Green	Green	Red	Green	Green	Green	Blue

Merge and Remove Options

These two buttons allow the user to merge or remove the specified data from existing cues, palettes, UDFs or UDKs as opposed to the default action of overwriting the existing data. These two buttons are mutually exclusive, with the default state of both being 'off'.

If [Merge] is selected the button turns green and the data will be merged into the destination cue, palette UDF or UDK.

If [Remove] is selected the button turns green and the data will be removed from the destination cue, palette UDF or UDK.

Default Times

This button determines what happens to the parameter fade and delay times after the specified data has been recorded. The default state of this button is 'off'.

If [Default Times] is selected the button turns green and after the data has been recorded the fade and delay times are reset to their default values as defined in Desk Setup.

If [Default Times] is not selected the fade and delay times will be kept at their current values as displayed in the Fade and Delay views of the Program Window.

Attribute Selection Bar

The fourth row of buttons is the **Attribute Selection Bar** and indicates which parameters will be recorded for each of the different attributes (Intensity, Position, Colour, Beamshape and Effects).

Pressing each of the soft buttons on the touch screen cycles round the three options for that attribute, except when they are forced to red (see below). The options are indicated by the background colour as follows:

Grey	Green	Red
No Parameters	Tagged Parameters	All Parameters

When [Snapshot] or [All Parameters] are selected – all the attribute buttons are forced to red and are no longer editable.

When recording data to cues, UDFs or UDK's - the attribute selection bar initially shows green (tagged) for each attribute in which one or more parameters of that attribute are tagged and grey (none) for those attributes where no parameters are tagged.

When recording data to palettes - the attribute selection bar shows green (tagged) for the attribute being recorded and none (grey) for all the other attributes. You can change this selection as required before saving the data to the palette.

For example – Select some moving fixtures and set the intensity to full, the colour wheel to blue and the gobo wheel to the desired gobo. To save the intensity, colour and gobo data to a Beamshape palette enter the command RECORD BEAM N .. the Attribute Selection Bar shows the following:

Intensity	Position	Colour	Beamshape	Effects
-----------	----------	--------	-----------	---------

Press the [Intensity] and [Colour] buttons to change their state to tagged:

Intensity	Position	Colour	Beamshape	Effects
-----------	----------	--------	-----------	---------

Complete the record operation by pressing the ENTER key.

Programming

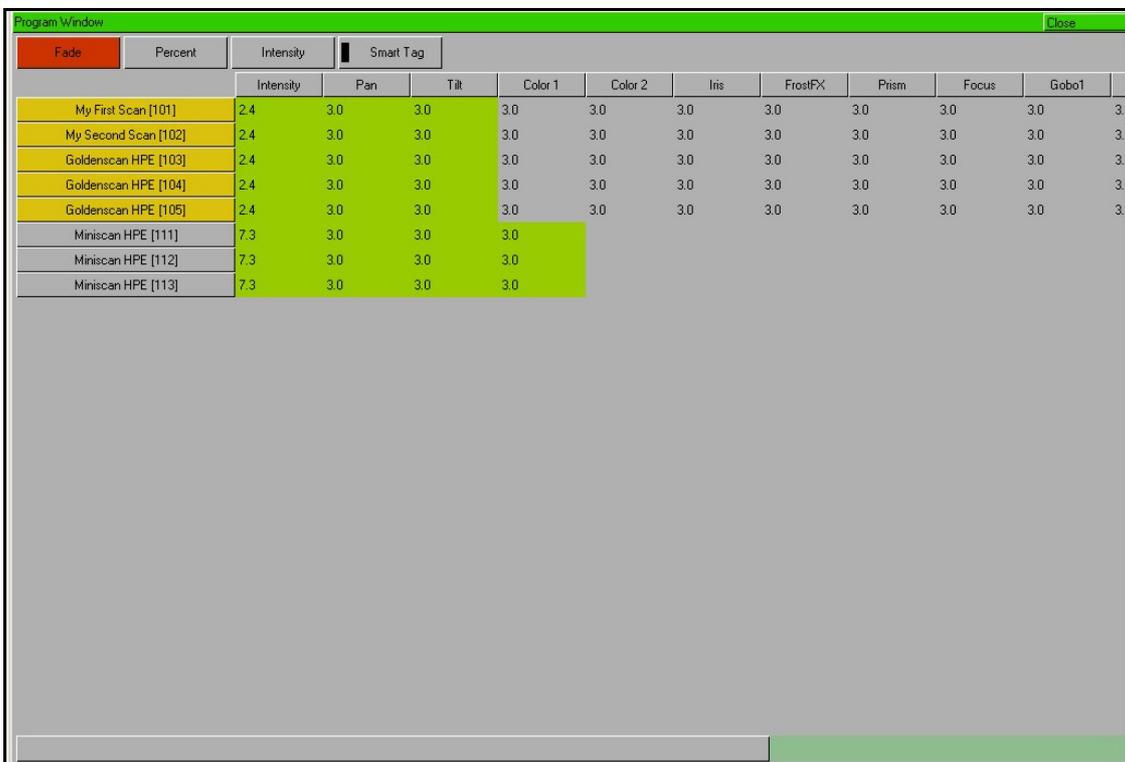
Fade and Delay Times

As well as the actual output levels, each fixture parameter also has its own fade and delay times which are recorded when the channel data is recorded into a cue or directly as channel data onto a UDF or UDK.

The default fade and delay times for Intensity, Colour, Beamshape and Position are defined in Desk Setup, and can be adjusted if required, prior to programming cues.

The parameter fade and delay times are displayed in the Fade and Delay views of the Program Window.

Press the [Fade] or [Delay] key on the touch screen or Program Window, as required.



The screenshot shows the 'Program Window' interface with the 'Fade' view selected. The table displays the following data:

	Intensity	Pan	Tilt	Color 1	Color 2	Iris	FrostFX	Prism	Focus	Gobo1	Gobo2
My First Scan [101]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
My Second Scan [102]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Goldenscan HPE [103]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Goldenscan HPE [104]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Goldenscan HPE [105]	2.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Miniscan HPE [111]	7.3	3.0	3.0	3.0							
Miniscan HPE [112]	7.3	3.0	3.0	3.0							
Miniscan HPE [113]	7.3	3.0	3.0	3.0							

Program Window – Fade View

After selecting the required fixtures, the parameter fade times can be adjusted using the control wheels, in the same way as the output values, or they can be edited directly in the Program Window.

Use the cursor keys to select a field in the table. Press the SET key, enter the fade time using the numeric keypad or external keyboard, then press ENTER.

Delay times are edited in the same way as fade times.

Fade Time Commands – Program Window

The following commands can be used to set the fade times for the selected fixtures in the Program Window:

TIME X ENTER	Sets the fade times for all fixture parameters to X seconds
TIME U/D ENTER	Sets the intensity fade up and fade down times to U and D seconds respectively.
TIME COLOUR X ENTER	Sets the fade times for all colour parameters to X seconds
TIME BEAM X ENTER	Sets the fade times for all beamshape parameters to X seconds
TIME POSITION X ENTER	Sets the fade times for all position parameters to X seconds.
TIME U/D COLOUR X BEAM Y POSITION Z ENTER	Sets the intensity fade up and fade down times to U and D, the colour fade times to X, the beamshape fade times to Y and the position fade times to Z.

Fade Time Commands – Recording Cues

When recording a cue - fade times can be specified in the command syntax for all fixture parameters, individual attributes or combinations of attributes as follows:

RECORD (CUE) S/C TIME X ENTER	Sets the fade times for all fixture parameters to X seconds.
RECORD (CUE) S/C TIME U/D ENTER	Sets the intensity fade up and fade down times to U and D seconds respectively.
RECORD (CUE) S/C TIME COLOUR X ENTER	Sets the fade times for all colour parameters to X seconds.
RECORD (CUE) S/C TIME BEAM X ENTER	Sets the fade times for all beamshape parameters to X seconds.
RECORD (CUE) S/C TIME POSITION X ENTER	Sets the fade times for all position parameters to X seconds.
RECORD (CUE) S/C TIME U/D COLOUR X BEAM Y POSITION Z ENTER	Sets the intensity fade up and fade down times to U and D, the colour fade times to X, the beamshape fade times to Y and the position fade times to Z.

Programming

Fade Time Commands – Editing Cues

The following commands can be used to globally edit the fade times of parameters in existing cues:

S/C TIME X ENTER	Sets the fade times for all fixture parameters to X seconds.
S/C TIME U/D ENTER	Sets the intensity fade up and fade down times to U and D seconds respectively.
S/C TIME COLOUR X ENTER	Sets the fade times for all colour parameters to X seconds
S/C TIME BEAM X ENTER	Sets the fade times for all beamshape parameters to X seconds.
S/C TIME POSITION X ENTER	Sets the fade times for all position parameters to X seconds.
S/C TIME U/D COLOUR X BEAM Y POSITION Z ENTER	Sets the intensity fade up and fade down times to U and D, the colour fade times to X, the beamshape fade times to Y and the position fade times to Z.

Note – Fade and Delay Times

The fade and delay times for all parameters programmed in a cue can also be globally edited from the Cue Stack Window.

Wheel Editing Modes

The desk provides a number of wheel editing modes which are user selectable and apply when editing several fixtures at the same time. For each attribute there is an unshifted and a shifted wheel mode.

The unshifted wheel mode is applied when the control wheel is moved. The shifted wheel mode is applied when the SHIFT key is held down and the wheel is moved.

The shifted wheel mode for the currently selected attribute is displayed on the touch screen. To change the editing mode, press the soft key on the touch screen, and then select the required edit mode from the options displayed in the popup menu.

The different wheel editing modes are described below:

Absolute Mode

When several fixtures are selected and a fixture parameter is adjusted using a control wheel, the adjusted parameter for all the selected fixtures goes to the same absolute value. For example – Select fixtures 1 – 5 and adjust a parameter:

Fixture Parameter	Fixture 1	Fixture 2	Fixture 3	Fixture 4	Fixture 5
Original Value	30	20	40	10	50
New Value	15	15	15	15	15
Change in Value	-15	-5	-25	+5	-35

Relative Mode

When several fixtures are selected and a fixture parameter is adjusted using a control wheel, that parameter on each of the selected fixtures will increase or decrease by the same amount from its original value. This mode is most often used for adjusting position parameters (pan and tilt) For example:

Fixture Parameter	Fixture 1	Fixture 2	Fixture 3	Fixture 4	Fixture 5
Original Value	10	20	30	40	50
New Value	15	25	35	45	55
Change in Value	+5	+5	+5	+5	+5

Programming

Fan First Mode

When several fixtures are selected and a fixture parameter is adjusted using a control wheel, that parameter on each of the selected fixtures will increase or decrease by a different amount from their original values, depending on the fixture number. The value of the first selected fixture will be locked. Example – Fan-First Mode (Fixture 1 locked):

Fixture Parameter	Fixture 1	Fixture 2	Fixture 3	Fixture 4	Fixture 5
Original Value	10	10	10	10	10
New Value	10	15	20	25	30
Change in Value	0	+5	+10	+15	+20

Fan Middle Mode

When several fixtures are selected and a fixture parameter is adjusted using a control wheel, that parameter on each of the selected fixtures will increase or decrease by a different amount from their original values, depending on the fixture number. The value of the middle selected fixture will be locked. Example – Fan-Middle Mode (Fixture 3 locked):

Fixture Parameter	Fixture 1	Fixture 2	Fixture 3	Fixture 4	Fixture 5
Original Value	50	50	50	50	50
New Value	40	45	50	55	60
Change in Value	-10	-5	0	+5	+10

Fan Last Mode

When several fixtures are selected and a fixture parameter is adjusted using a control wheel, that parameter on each of the selected fixtures will increase or decrease by a different amount from their original values, depending on the fixture number. The value of the last selected fixture will be locked. Example – Fan-Last Mode (Fixture 5 locked):

Fixture Parameter	Fixture 1	Fixture 2	Fixture 3	Fixture 4	Fixture 5
Original Value	50	50	50	50	50
New Value	30	35	40	45	50
Change in Value	-20	-15	-10	-5	0

Fan V Mode

When several fixtures are selected and a fixture parameter is adjusted using a control wheel, that parameter on each of the selected fixtures will increase or decrease by a different amount from their original values, depending on the fixture number.

The value of the middle selected fixture will be locked. The fixtures either side of the middle fixture will be set to the same values to create a 'V'. Example – Fan V Mode (Fixture 3 locked):

Fixture Parameter	Fixture 1	Fixture 2	Fixture 3	Fixture 4	Fixture 5
Original Value	50	50	50	50	50
New Value	70	60	50	60	70
Change in Value	+20	+10	0	+10	+20

Try Cue Function

Whenever a cue is recorded or loaded into the **Program Window**, the current state of the outputs is stored as a reference.

If the user changes the look in the **Program Window**, pressing the TRY CUE key once will take the outputs back to the previous recorded output state. The LED in the key is lit.

Pressing the TRY CUE key again plays back the new look back over the corresponding times (default or recorded times depending on what data was in the **Program Window**). While the outputs are fading the LED in the TRY CUE key flashes, and when the fade is complete the LED goes out.

Highlight Function

The Highlight function provides a quick method of locating a fixture (or fixtures) and then allowing the position to be adjusted without tagging any of the other parameters. This can be particularly useful when creating position palettes (see later).

Select the required fixture(s) and then press the HIGHLIGHT key. This will set all the outputs of the currently selected fixtures, except for Pan and Tilt to their highlight values (defined in Edit Fixtures). The light in the HIGHLIGHT key is lit.

While a fixture is highlighted only the Pan and Tilt parameters can be edited using the wheels. Adjust the pan and Tilt values as required, and then press the HIGHLIGHT key again to un-highlight the selected fixture(s). The other fixture parameters will return to their previous output levels and the light in the HIGHLIGHT key goes out.

Programming

Home Function

The Home function provides a quick method of setting fixture parameters to their 'home' position, ie brightness to full, colour to white, no gobo, no prisms, shutter open, pan/tilt to mid-position etc. The homed parameters are automatically tagged.

Select the fixture(s) required, then enter one of the following commands:

SHIFT HIGHLIGHT	(homes all fixture parameters; removes all effects)
COLOUR 0 ENTER	(homes colour parameters; removes colour effects)
BEAM 0 ENTER	(homes beamshape parameters; removes beamshape effects)
POSITION 0 ENTER	(homes position parameters; removes position effects)
EFFECTS 0 ENTER	(removes all effects)

Active Key

The ACTIVE key is used in conjunction with other keys to 'pull' various channel data into the **Program Window**, where 'pull' means that the current output level is displayed in the Program Window, the channel is tagged, and the fixture is selected.

The following commands are available:

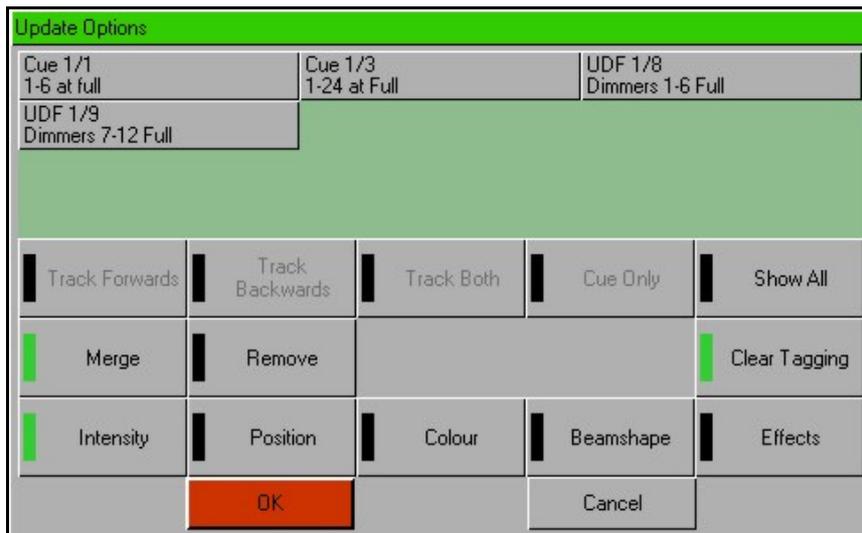
ACTIVE ENTER	All channels owned by the playbacks, UDF and UDK get 'pulled' into the Program Window
ACTIVE <UDF>	All channels owned by the specified UDF get pulled into the Program Window.
ACTIVE <UDK>	All channels owned by the specified UDK get pulled into the Program Window.
ACTIVE 0 ENTER	All Fixtures currently outputting 0% for their <u>intensity</u> channel will have their active channels pulled into the Program Window.
ACTIVE X ENTER	All Fixtures currently outputting $\geq X$ % for their <u>intensity</u> channel will have their active channels pulled into the Program Window.
ACTIVE COLOUR X ENTER	All channels currently outputting colour palette X will be pulled into the PW.
ACTIVE BEAM X ENTER	All channels currently outputting beamshape palette X will be pulled into the PW.
ACTIVE POSITION X ENTER	All channels currently outputting position palette X will be pulled into the PW.
ACTIVE EFFECTS X ENTER	All channels currently outputting effects palette X will be pulled into the PW.

Programming

Update Options Window

After setting up data in the Program Window and pressing the UPDATE key, **or** after loading an item (cue, palette, UDF or UDK) into the Program Window, adjusting parameter values or times and pressing the UPDATE key, the **Update Options Window** is displayed on the touch screen and both monitor screens.

The **Update Options Window** contains a number of soft keys that allow you to select what, how and where the information will be updated. This window is very similar in both style and operation to the Record Options Window. Example:



Source Options

The top section of the window contains one or more source option buttons. There is a soft button for each source that may be updated by the user. Each source may be independently selected or deselected by pressing the soft button. When a source is not selected the button is grey. When a source is selected the button is green.

In the case where an item (cue, palette, UDF or UDK) has been loaded into the Program Window, parameter values or times adjusted and the UPDATE key pressed, the **Update Options Window** contains the loaded item as the only source option. This option is automatically selected.

Show All Button

By default, the source options displayed in the Update Options Window are restricted to those items that have channels affected by the changes made in the programmer (Program Window).

If the [Show All] button is selected, **all** the currently outputting sources, regardless of channel ownership will be displayed, allowing you to update items that did not previously have control of the updated channels in the programmer.

Tracking Options

Below the source options section there is a row of buttons containing the tracking options [Track Forward], [Track Backward], [Track Both] and [Cue Only]. These options are only applicable and accessible when a cue (or cues) are selected.

These four options are mutually exclusive, with the default option being [Track Forward]. When an option is selected the button turns green. The tracking options work in the same way as they do in the **Record Options Window**.

Merge and Remove Options

These two buttons allow you to merge or remove the specified data in the programmer from existing cues, palettes, UDFs or UDKs. These two buttons are mutually exclusive.

If [Merge] is selected the button turns green and the data will be merged into the selected cue, palette UDF or UDK.

If [Remove] is selected the button turns green and the data will be removed from the selected cue, palette UDF or UDK.

Clear Tagging

This button determines what happens to the parameters in the Program Window after the update operation is performed.

If the [Clear Tagging] button is selected (green) then the parameters will be untagged after the update operation.

If the [Clear Tagging] button is not selected (grey) then the parameters will remain tagged after the update operation.

Attribute Selection Bar

The Attribute Selection Bar indicates which parameters will be recorded for each of the different attributes (Intensity, Position, Colour, Beamshape and Effects).

When the Update Options Window is displayed - the attribute selection bar initially shows green (tagged) for each attribute in which one or more parameters of that attribute are tagged in the Program Window and grey (none) for those attributes where no parameters are tagged.

Pressing each of the soft buttons cycles round the three options for that attribute. The current option is indicated by the background colour of the button as follows:

Grey = No Parameters; Green = Tagged Parameters; Red = All Parameters.

OK and Cancel Buttons

Press the [OK] button to update the selected source options.

Press the [Cancel] button to close the Update Options Window without updating any items.

Programming

Knockout Function

The [Knockout] key releases the selected fixtures completely from any running cue stacks, UDF's, UDK's or the Program Window.

To knockout a fixture, select the fixture(s) and press the [Knockout] key on the touch screen.

Park Function

A 'parked' fixture is one for which all its DMX output values are frozen, and cannot be adjusted, until such a time as the fixture is unparked.

In the Program Window and Output Window a parked fixture is indicated by having the text [PK] displayed in front of the fixture name, for example [PK] MAC 500 [501].

To Park a fixture, select the fixture and press the [Park] key on the touch screen. Whilst a fixture is parked, it is still possible to modify the values associated with the fixture in cues, palettes etc but the output values from the desk will not change.

To unpark a fixture select it and press the [Unpark] key on the touch screen. The unparked fixture will jump to its currently defined parameter levels.

Rem Dim Function

A Rem Dim (Remainder Dim) function which is often helpful when focussing lamps and fixtures is provided on the desk. The function works as follows:

Select the fixture(s) required. Hold down the SHIFT key and press the FULL key.

If the selected fixture(s) intensity level is 0%, it is set to 100% and tagged.

If the selected fixture(s) intensity level is > 0%, it is tagged and remains at that level.

All unselected fixtures have their intensity level tagged and set to 0%.

Clear

As soon as any changes are made to the outputs in the Program Window, the LED in the CLEAR key is lit, to indicate that fixture parameters have been changed.

Pressing the CLEAR key once clears all the commands in the command line except for the fixture selection.

Pressing the CLEAR key a second time clears the fixture selection from the Program Window.

Cues, Stacks and Pages

The desk provides a total of 1000 user programmable **Cue Stacks**.

Each of these 1000 cue stacks, can be programmed with up to 999 cues.

An entire Cue Stack can be converted to run as a Chase, if required.

There are 100 pages of playbacks available. Each page contains 10 playbacks.

The 100 pages of playbacks are automatically assigned to the 1000 cue stacks in numerical order (ie Page 1 contains cue stacks 1 – 10, Page 2 has cue stacks 11 – 20, up to Page 100 which has cue stacks 991 – 1000).

Cues

The **Cue** is the basic element for storing fixture parameter levels and times, which can then be played back via a number of different mechanisms.

Cues are recorded into memory stacks (or stacks) and may also be assigned to User Defined Faders (UDF) or User Defined Keys (UDK) as required.

A cue may be numbered from 1 – 999. You can also insert up to 99 cues between each whole cue number (eg 1.1, 1.2, 1.3 ... 1.99 may be inserted between cues 1 and 2).

Cues are referenced by their stack number and cue number separated by a '/' (eg 1/1 is stack 1 cue 1, 2/3 is stack 2 cue 3, 23/12 is stack 23 cue 12).

Cues can be triggered by a number of different methods (GO button, automatically after a specified wait time, Real Time, SMPTE Time, MIDI Time, CD Time or macro).

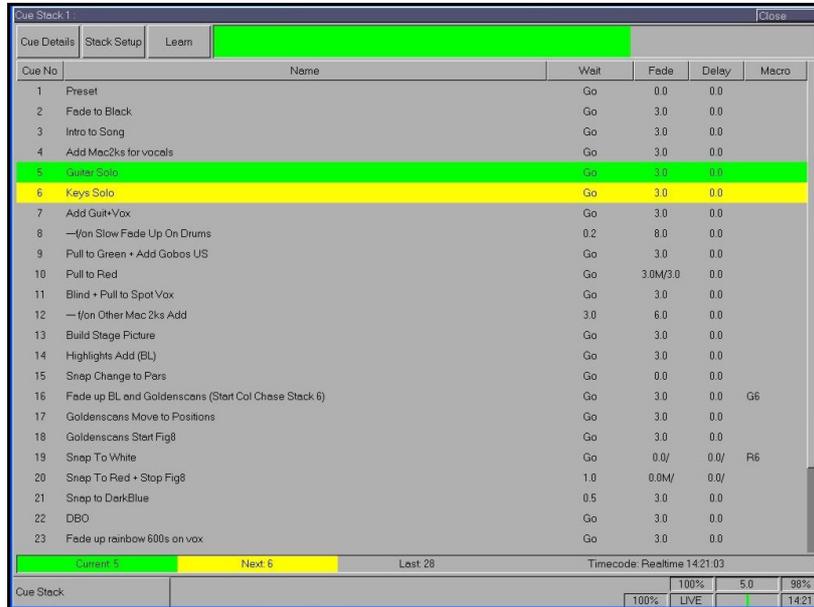
Cues may contain macros which are run automatically when the cue is triggered.

Cues may also be named, edited, copied, moved and deleted.

Cues, Stacks and Pages

The Cue Stack Window

Press the [Cue Stack] soft key on the touch screen to display the Cue Stack Window on one of the monitor screens:



The Cue Stack Window shows the contents of an individual Cue Stack. The cue stack number and name (if defined) are displayed in the header. The cues programmed in the cue stack are listed in numerical order.

For each cue in the stack the following information is displayed:

- Cue Number
- Name (if defined)
- Wait – Indicates the cue trigger and Wait, Real Time, SMPTE, MIDI or CD time.
- Fade – The fade up and fade down times for the cue.
- Delay - The delay up and delay down times for the cue.
- Macro – One or more macros which run automatically when the cue is triggered.

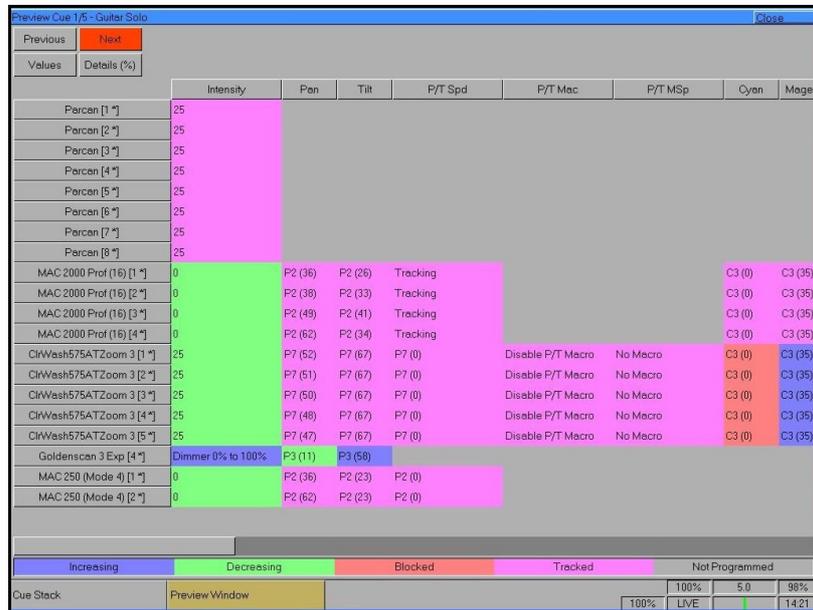
Once the Cue Stack Window is displayed on the monitor screen, selecting a different cue stack using the stack SELECT keys on the front panel or via the Cue Stack Directory Window will display that cue stack in the window.

An information bar at the bottom of the Cue Stack Window shows the Current, Next and Last cue numbers, and the Timecode, framerate (if applicable) and the current time, eg

Current: 23	Next: 24	Last: 49	Timecode: Realtime 17:18:56
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Cue Details Button

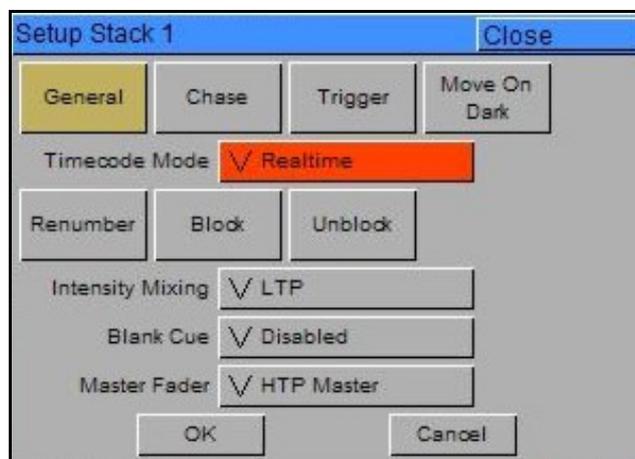
Pressing this soft button is the equivalent of entering the command VIEW S/C ENTER and displays the **Preview Cue Window** for the selected cue on the monitor screen:



The **Preview Cue Window** shows what is programmed into the specified cue on a fixture by fixture basis. It is the same format as the **Program Window** and shows the parameter values, fade and delay times for each fixture parameter that is recorded in the cue.

Stack Setup Button

Pressing this soft button is the equivalent of entering the command STACK N SETUP and displays the **Cue Stack Setup Window** on the touch screen. The Cue Stack Setup Window shows the control parameters for the individual cue stack:



Cues, Stacks and Pages

Learn Button

Pressing the [Learn] button in the Cue Stack Window sets the cue stack into learn mode.

When the desk is in learn mode the text “LEARN” on a light blue background is displayed in the LIVE/BLIND/MACRO box on the touch screen and monitor screens.

The GO button for the playback is used to set the timings for each of the cues in the cue stack as follows:

- The first press of the GO button sets the first memory to a ‘GO’ trigger.
- Each subsequent press of the GO button sets the time from the last GO as the wait time for the cue.
- Once the stack has been completed, learn mode is disabled.

To stop the stack from learning at a time other than after the last cue, simply press the [Learn] button.

Programming Cues

Once you have set up a look that you like, by selecting fixtures and adjusting their parameters as described in the previous chapter, you can then record that state into a cue. To see the cues being recorded it is recommended that the **Cue Stack Window** is displayed on one of the monitor screens.

Selecting a Cue Stack

Cues on the Frog 2 can be programmed into any of the 1000 cue stacks.

Select the required page using the PAGE+ and PAGE- buttons.

Press the Stack SELECT button above the cue stack you wish to program. The LED in the SELECT button is lit to indicate that it is the active cue stack.

Recording a Cue

Having selected a cue stack into which to program your cues, as described above, ensure that your stage look is correct and all the required fixture parameters have been tagged.

To record the tagged parameters into the next available cue on the selected cue stack, simply enter the following command:

```
RECORD ENTER
```

To name the cue at the time of recording simply enter the command:

```
RECORD SET <enter name of cue> ENTER
```

If you wish to record the fixture data to a particular cue in the selected stack, rather than the next available cue, then enter the following command:

```
RECORD N ENTER      (N = Cue Number)
```

If you wish to record the fixture data to a particular cue stack and cue number, rather than the next available cue on the selected stack, then enter the following command:

```
RECORD S/C ENTER    (S = Stack No, C = Cue Number)
```

After recording a cue, the command line on the touch screen is cleared, the fixture parameters are automatically untagged, but the fixtures remain selected.

Subsequent cues can then be set up and recorded in a similar way.

As you become more experienced with the desk, you will find the most efficient way of programming cues into cue stacks.

Note – Programming Cues

The Frog 2 desk operates primarily as a tracking console. This means that if a parameter is programmed in one cue, it will track through all subsequent cues until it is programmed to do something else. If you program cue stacks sequentially, you shouldn't have to worry too much about tracking, as long as you ensure that you tag any parameters you wish to be recorded in the cue you are working on.

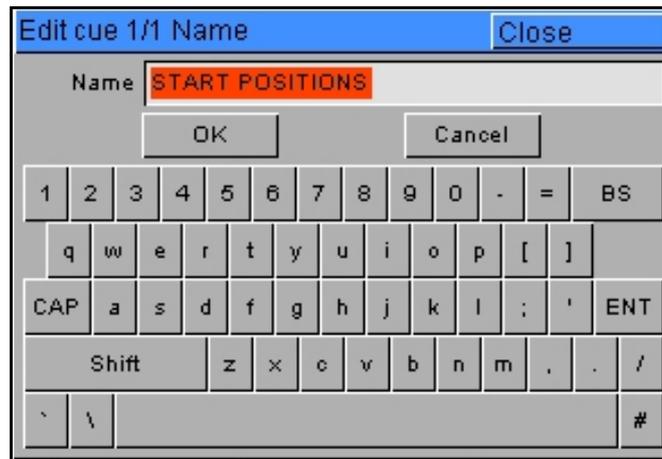
Cues, Stacks and Pages

Naming Cues

Select the cue in the **Cue Stack Window** and press the SET key. Type in the required name using the external keyboard and then press ENTER to complete.

or

Enter the command CUE S/C SET or SET CUE S/C ENTER. The Edit Cue Name popup is displayed on the touch screen (see below). Type in the required name using the external or on-screen keyboard and then press the [OK] button to complete.



It is also possible to name a cue at the same time as it is being recorded by entering the following command: RECORD S/C SET

The Edit Cue Name popup is displayed on the touch screen (see above). Type in the required name using the external keyboard and then press the [OK] button to complete.

Editing Cue Output Levels

In order to edit a cue you first need to load it into the Program Window, by entering the following command:

LOAD S/C ENTER (S = Stack Number, C = Cue Number)

This loads the cue into the programmer and outputs the programmed DMX values. You can then select fixtures and make changes to the parameter output levels as necessary, in the same way as when recording the cue initially (see earlier).

To record the changes to the same cue press the UPDATE key.

The Update Options Window is displayed – see Programming chapter for further details.

Editing Cue Fade and Delay Times

Editing fade times and delay times is carried out in the same way as editing the cue output levels, ie load the cue into the Program Window, adjust the times as necessary, then record the data back into the cue using the UPDATE key – see previous section.

The fade and delay times can also be globally edited from the **Cue Stack Window**. Select the fade or delay field in the window, press the SET key, enter the required time(s) and then press ENTER to complete.

Editing Cue Triggers

By default, programmed cues have a GO button trigger. Cues can also be triggered automatically or at a specified start time (Real Time, SMPTE, MIDI or CD time).

The cue trigger and the wait time or start time, as appropriate, are displayed in the Wait column in the **Cue Stack Window**.

By entering or clearing the data in the Wait column, you can choose both the cue trigger and the corresponding wait or start time as follows:

Select the Wait field for the cue in the **Cue Stack Window** and press the SET key.

Enter the required data, as described in the table below and then press the ENTER key.

Cue Trigger	User Operation	Data in Wait Column
GO	Clear the data using the ← key.	Go
Automatic	Enter the wait time in minutes, seconds and tenths using the '.' as a delimiter.	The Wait time in the format: mm:ss.t
Real Time	Enter the start time in hours, minutes and seconds using the '/' as a delimiter.	The start time in the format: R hh:mm:ss
SMPTE	Enter the start time in hours, minutes, seconds and frames using the '/' as a delimiter.	The start time in the format: S hh:mm:ss:ff
MIDI	Enter the start time in hours, minutes, seconds and frames using the '/' as a delimiter.	The start time in the format: M hh:mm:ss:ff
CD	Enter the track number and start time in minutes, seconds and tenths using the '/' as a delimiter.	The start time in the format: CDtt-mm:ss.t

Note – Real Time, SMPTE, MIDI and CD Time Cue Triggers

A cue stack cannot have a mixture of real time, SMPTE, MIDI and CD time triggers.

*Each cue stack has it's own 'time code' which can be set to Real Time, SMPTE Time, MIDI Time or CD Time (default = Real Time) via the **Cue Stack Setup Window**.*

Cues, Stacks and Pages

Adding Macros to Cues

The desk provides a number of in-built macros relating to the control of cues and cue stacks. These macros are used as commands to allow a cue to trigger another event elsewhere on the console (see Macros chapter for full details).

Macro commands are entered as a text string in the Macro column of the Cue Stack Window as follows:

Move the cursor to the Macro column of the required cue and press the SET key.

Type in the text for the required macro(s) and then press the ENTER key.

The syntax for the various in-built macros is defined in the Macros section of the manual.

Multiple macro commands can be entered using the colon as a delimiter, for example, G2:S3:C4.

Playing Back Cues

Before playing back the programmed cues in a cue stack, it is important to clear the **Program Window** by pressing the CLEAR button. This clears out any unrecorded commands and sends the fixtures to their default values, with the exception of the intensity parameters, which are kept at 0%.

Selecting the Cue Stack

Select the required page of playbacks using the PAGE+ and PAGE- buttons, then press the Stack SELECT button above the cue stack you wish to play back. The LED in the SELECT button is lit to indicate that it is the active cue stack.

Selecting Cues

Use the cursor keys to select a cue or enter one of the following commands:

CUE N ENTER selects cue N as the next cue on all stacks that are selected and running.

CUE S/C ENTER selects cue C on stack S provided that stack S is running.

Outputting Cues

To play back the cues in a cue stack in sequence:

Raise the stack master fader to full. Press the GO button for the selected playback.

To output the next cue in the cue stack, simply press the GO button again.

To output a specific cue in the cue stack, use the cursor keys to select the next cue in the **Cue Stack Window** (indicated with the yellow highlight bar), then press the GO button or enter the following command: S/C ENTER.

Other commands to trigger a specific cue are as follows:

CUE N GO triggers cue N on the stack associated with the local GO button pressed.

CUE N MASTER GO triggers cue N on all selected and virtual stacks.

To snap to the next cue in the cue stack (ie ignore all timing information in the cue) hold down the SHIFT key and press the GO button.

The red LED in the GO button is on when the stack is outputting and flashes when the outputs are fading between cues.

Cues, Stacks and Pages

Using the Pause Key

If at any time you wish to pause the cue stack when it is running, press the PAUSE key below the playback master fader.

After the initial press of the PAUSE key, subsequent presses will step backwards through the cue stack using the current cue fade times.

To continue running the cue stack, press the GO key.

Holding down SHIFT and pressing the PAUSE key will snap to the previous cue.

Playing Back Several Cue Stacks

To play back more than one cue stack at the same time - select the required cue stacks by holding down the SHIFT key and pressing the Stack SELECT buttons above all the stacks you wish to play back. The red lights in the SELECT keys indicate the selected stacks.

To play back all the selected stacks at the same time, press the MASTER GO key.

To snap to the next cue in each of the selected cue stacks (ie ignore all timing information in the cue) hold down the SHIFT key and press the MASTER GO button.

Releasing the Cue Stack

Once you've finished playing back cues, it is important to release the cue stack(s). This returns all of the affected fixture parameters to their default values, or to the value they were at before the cue stack was executed.

Select the cue stack, using the Stack SELECT button, then press the RELEASE key.

If you wish to release several stacks at the same time, select them by holding down the SHIFT key and pressing the Stack SELECT button above all the stacks you wish to release, then press the RELEASE key.

To release all cue stacks – hold down the SHIFT key and press the RELEASE key.

Virtual Playback Functions

To place a cue stack on the virtual playback so that it can be triggered using the MASTER GO button on the front panel enter the command: STACK N ENTER.

The command syntax also allows combinations of stacks to be placed on the virtual playback, eg STACK 12 + 23 ENTER; STACK 31 THRU 35 ENTER.

The stack(s) on the virtual playback can be released by specifying the stack number(s) in the release command, eg STACK 2 RELEASE, STACK 11 + 12 RELEASE, STACK 31 THRU 34 RELEASE.

The command SHIFT RELEASE releases all cue stacks on the virtual playbacks as well as those on the physical playbacks.

Copying Cues

To copy a cue to another cue in the same cue stack or a different cue stack enter the following command:

S1/C1 COPY S2/C2 ENTER (copies stack S1 cue C1 to stack S2 cue C2).

To copy a range of cues to another location enter the following command:

S1/C1 THRU C2 COPY S2/C3 (copies stack S1 cues C1 through to C2 to stack S2).

Moving Cues

To move a cue to another cue in the same cue stack or a different cue stack enter the following command:

S1/C1 MOVE S2/C2 ENTER (moves stack S1 cue C1 to stack S2 cue C2).

To move a range of cues to another location enter the following command:

S1/C1 THRU C2 MOVE S2/C3 (moves stack S1 cues C1 through to C2 to stack S2).

Deleting Cues

To delete a single cue enter the command:

S/C DELETE or DELETE S/C ENTER.

To delete a range of cues enter the following command:

DELETE S/C1 THRU C2 ENTER.

Note – Deleting Cues

Since the Frog 2 desk is a tracking based console, deleting a cue from a cue stack could possibly affect other cues in that stack. Think carefully about whether you need to make any changes to subsequent cues in order to maintain the state(s) required.

Cues, Stacks and Pages

Cue Stacks

The Frog 2 desk provides 1000 user programmable cue stacks. A programmed cue stack contains one or more programmed cues. The 1000 cue stacks are assigned to the 100 pages of playbacks. Cue stacks can be setup, named, copied, moved and deleted.

Cue Stack Directory Window

To display the **Cue Stack Directory Window** on the monitor hold down the SHIFT key and press the STACK key:

Cue Stack Directory										Close		
1 Pg 1 Pb 1 DEMO SHOW START	2 Pg 1 Pb 2 RED PARCANS	3 Pg 1 Pb 3 MINIMACS	4 Pg 1 Pb 4 44-47 CHASE	5 Pg 1 Pb 5 DEMO MAIN LOOP	6 Pg 1 Pb 6 MAC 250 STUFF	7 Pg 1 Pb 7 MAC 500 STUFF	8 Pg 1 Pb 8 SCROLLER	9 Pg 1 Pb 9 COEMAR STUFF	10 Pg 1 Pb 10 PARCAN 5 SHOTS			
11 Pg 2 Pb 1 MAC 250 MOD	12 Pg 2 Pb 2 MAC 250 MOD	13 Pg 2 Pb 3	14 Pg 2 Pb 4	15 Pg 2 Pb 5	16 Pg 2 Pb 6 MM MOD CHASE1	17 Pg 2 Pb 7 MM MOD CHASE2	18 Pg 2 Pb 8 MM MOD CHASE3	19 Pg 2 Pb 9 SCANNERS MOD.CH	20 Pg 2 Pb 10 SCANNERS MOD.CH			
21 Pg 3 Pb 1 1-12 CHASE	22 Pg 3 Pb 2 13-24 CHASE	23 Pg 3 Pb 3 25-36 CHASE	24 Pg 3 Pb 4 37-48 CHASE	25 Pg 3 Pb 5 TRIGGER CHASES	26 Pg 3 Pb 6 DEMO SHOW 2	27 Pg 3 Pb 7 MAC 250 STUFF	28 Pg 3 Pb 8 MINIMAC CHASE	29 Pg 3 Pb 9 MAC 500 STUFF	30 Pg 3 Pb 10 44-47 CHASE			
31 Pg 4 Pb 1	32 Pg 4 Pb 2 250 MOD SHUT	33 Pg 4 Pb 3	34 Pg 4 Pb 4 44-47 CHASE	35 Pg 4 Pb 5	36 Pg 4 Pb 6 MAC 250 STUFF	37 Pg 4 Pb 7	38 Pg 4 Pb 8	39 Pg 4 Pb 9	40 Pg 4 Pb 10 PARCAN 5 SHOTS			
41 Pg 5 Pb 1 grant	42 Pg 5 Pb 2	43 Pg 5 Pb 3	44 Pg 5 Pb 4	45 Pg 5 Pb 5	46 Pg 5 Pb 6	47 Pg 5 Pb 7	48 Pg 5 Pb 8 MINIMAC MOD. GN	49 Pg 5 Pb 9	50 Pg 5 Pb 10			
51 Pg 6 Pb 1	52 Pg 6 Pb 2	53 Pg 6 Pb 3	54 Pg 6 Pb 4	55 Pg 6 Pb 5	56 Pg 6 Pb 6	57 Pg 6 Pb 7	58 Pg 6 Pb 8	59 Pg 6 Pb 9	60 Pg 6 Pb 10 MAC 600 COLOR			
61 Pg 7 Pb 1 250 MOD DIMMER	62 Pg 7 Pb 2	63 Pg 7 Pb 3 250 MOD SHUT	64 Pg 7 Pb 4	65 Pg 7 Pb 5	66 Pg 7 Pb 6	67 Pg 7 Pb 7	68 Pg 7 Pb 8	69 Pg 7 Pb 9	70 Pg 7 Pb 10 COEMAR STUFF			
71 Pg 8 Pb 1	72 Pg 8 Pb 2	73 Pg 8 Pb 3 MAC 250 MOD	74 Pg 8 Pb 4 MM MOD MAN	75 Pg 8 Pb 5 MM MOD AUTO	76 Pg 8 Pb 6	77 Pg 8 Pb 7	78 Pg 8 Pb 8	79 Pg 8 Pb 9 MAC SHUTTER	80 Pg 8 Pb 10 PARCAN 5 SHOTS			
81 Pg 9 Pb 1 MM AND MAC 250	82 Pg 9 Pb 2 MAC 250 MOD	83 Pg 9 Pb 3 MAC 250 MOD	84 Pg 9 Pb 4 ANOTHER MINIMAC	85 Pg 9 Pb 5 FADE TIME TESTS	86 Pg 9 Pb 6	87 Pg 9 Pb 7 NODDING MAC'S MOV	88 Pg 9 Pb 8	89 Pg 9 Pb 9	90 Pg 9 Pb 10 PARCAN 5 SHOTS			
91* Pg 10 Pb 1	92* Pg 10 Pb 2	93* Pg 10 Pb 3	94* Pg 10 Pb 4	95* Pg 10 Pb 5	96* Pg 10 Pb 6	97* Pg 10 Pb 7	98* Pg 10 Pb 8	99* Pg 10 Pb 9	100* Pg 10 Pb 10			
Chase			Programmed				Unprogrammed					
Cue Stack Directory										100%	5.0	45%
												23.23

Each of the 1000 cue stacks has a soft button in the window. Each of these buttons shows the cue stack number, program status (* = unprogrammed), playback page and fader reference (eg Pg 2 Pb 3) and name, if defined. The window is colour coded to make identification of programmed stacks and chases easier.

A cue stack can be selected by clicking on the soft button with the mouse or by selecting it using the cursor keys and pressing ENTER. The Playback changes to the appropriate page and the LED in the corresponding stack SELECT button is lit.

Naming Cue Stacks

To assign a name to a cue stack enter either of the following commands:

STACK N SET or SET STACK N ENTER.

Type in the required name using the external keyboard and then press the ENTER button to complete.

Copying Cue Stacks

To copy a cue stack from one location to another enter the following command:

STACK N COPY P ENTER (copies stack N to stack P).

Moving Cue Stacks

To move a cue stack to another location enter the following command:

STACK N MOVE P ENTER (moves stack N to stack P).

Deleting Cue Stacks

To delete a single cue stack enter either of the following commands:

STACK N DELETE or DELETE STACK N ENTER.

To delete several cue stacks or a range of cue stacks enter the following commands:

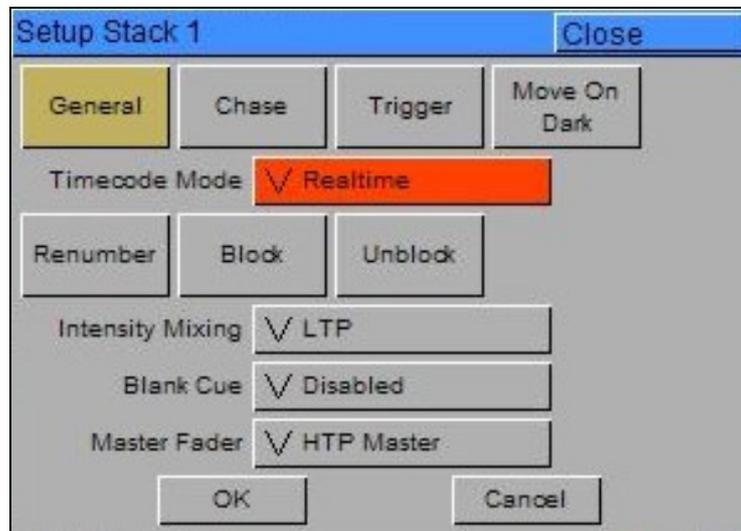
DELETE STACK A AND B ENTER

DELETE STACK A THRU N ENTER

Cues, Stacks and Pages

Cue Stack Setup Window

The control parameters for an individual cue stack are adjusted via the **Cue Stack Setup Window**. To display the Cue Stack Setup Window on the touch screen press the [Stack Setup] key in the Cue Stack Window or enter the command: STACK N SETUP.



General Options

Select the [General] button in the Cue Stack Setup Window. The various options are described below:

Timecode

Select the Timecode field. Use the left or right arrow keys or the soft key on the touch screen to select the required Timecode (Real Time, SMPTE, MIDI or CD) as required.

Renumber

This option allows the user to renumber all the programmed cues in the cue stack.

Press the [Renumber] soft key. This brings up the Renumber Cues dialogue box on the touch screen.

Enter the required Start Number and Increment in the fields provided and then select the [OK] button in the window.

Block

When this option is selected, all the cues in the cue stack are changed into block cues, ie programs and tags all the parameters at the values they would normally be output at when the cue is played back. For example:

Block	Cue 1	Cue 2	Cue 3	Cue 4	Cue 5	Cue 6	Cue 7	Cue 8
Before	Red	*	*	Green	*	Blue	*	*
After	Red	Red	Red	Green	Green	Blue	Blue	Blue

Unblock

When this option is selected, any parameters that are recorded at the same value as in the previous cue are untagged, ie turns block cues into tracked cues. For example:

Unblock	Cue 1	Cue 2	Cue 3	Cue 4	Cue 5	Cue 6	Cue 7	Cue 8
Before	Red	Red	Red	Green	Green	Blue	Blue	Blue
After	Red	*	*	Green	*	Blue	*	*

Intensity Mixing

This option determines whether the intensity parameters programmed in the cues are mixed HTP (highest takes precedence) or LTP (latest takes precedence).

Blank Cue

It is possible to insert a Blank Cue at the beginning of a cue stack by setting the Blank Cue option to Enabled in the Cue Stack Setup Window.

A Blank Cue is the same as the first programmed cue in the cue stack, but with all the fixture intensity parameters set to zero. A blank cue is referred to as Cue 0 (zero).

Cues, Stacks and Pages

Master Fader

The operation of the MASTER fader for a cue stack is defined in the Cue Stack Setup Window and may be one of the following options:

- **HTP Master** – Simply controls the maximum level of the programmed HTP channels. Cues are triggered via the GO key. This is the default option.
- **Manual Fader (2 Way)** – Press the GO button to activate the playback. The next cue in the cue stack is automatically loaded when the fader reaches either end of it's travel (0% or 100%). Moving the fader creates a dipless cross-fade between the two cues. The fader controls the HTP levels; the LTP channels are triggered when the fader is moved from the end stop and then fade according to the times in the incoming cue.
- **Manual Fader (1 Way)** - Press the GO button to activate the playback. The next cue in the cue stack is automatically loaded when the fader reaches zero. The fader controls the HTP levels; the LTP channels are triggered when the fader is moved from zero and then fade according to the times defined in the incoming cue.

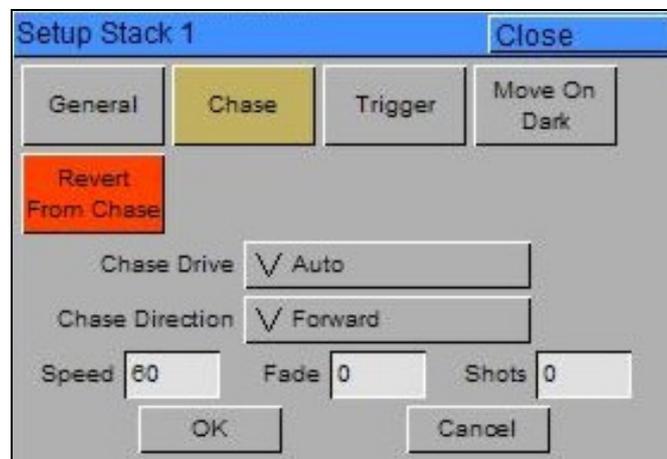
Chase Options

Select the [Chase] button in the Cue Stack Setup Window.

Turn Into Chase

To turn the cue stack into a chase - select the [Turn into Chase] key on the touch screen. Additional buttons and fields are then displayed in the window to allow you to adjust the Chase modifiers . The modifiers determine how the chase is output, what drives the chase, it's direction, speed, how it fades between steps and how many times it runs.

To adjust the chase modifiers, select the required field, then choose an option or enter a numeric value, as appropriate. Press the [OK] button to complete the cue stack setup.



Drive

This modifier determines what triggers each step (cue) of the chase when it is running:

- **Auto** – The chase runs automatically at the defined Speed.
- **Bass** – Each step is triggered by a bass beat on the audio input on the desk.
- **Manual** – Each step is triggered by pressing the GO button on the front panel.
- **Beat** - Use the GO button to set or modify the beat when playing back the chase.

Direction

This modifier determines which order the steps (cues) are output when the chase is run:

- **Forward** – The steps are output in increasing numerical order (eg 1,2,3,4,5).
- **Backward** – The steps are output in reverse order (eg 5,4,3,2,1).
- **Bounce** – Alternates between forwards and backwards (eg 1,2,3,4,5,4,3,2,1).
- **Random** – The steps are output in a random order.

Cues, Stacks and Pages

Speed

The Speed modifier determines how fast the chase runs (range 0 – 200 bpm).

When the Speed is set to zero, the chase runs according to the delay and fade times that are programmed into each step (cue) in the chase.

When the Speed is set to a value between 1 and 200, the chase runs at the corresponding number of beats per minute (bpm). All the fade and delay times that are programmed in the steps (cues) are ignored and the transition between each step (cue) is determined by the Fade modifier (see below).

Fade

The Fade modifier determines how the outputs 'fade' between the steps (cues) when the speed is set between 1 – 200 bpm.

When the Fade is set to 0% the outputs snap between each step of the chase.

When the fade is set to 100% the outputs fade continuously between each step.

When the fade is set between 0 - 100% the outputs will spend that percentage of the time fading, and the rest of the time at the programmed level for the step.

The Fade modifier affects all fixture parameters programmed in the cues.

Shots

The Shots modifier determines how many times the chase will run after being triggered.

When Shots is set to zero, the chase runs continuously.

When Shots is set to a value between 1 and 255, the chase runs the specified number of times and then stops on the last step.

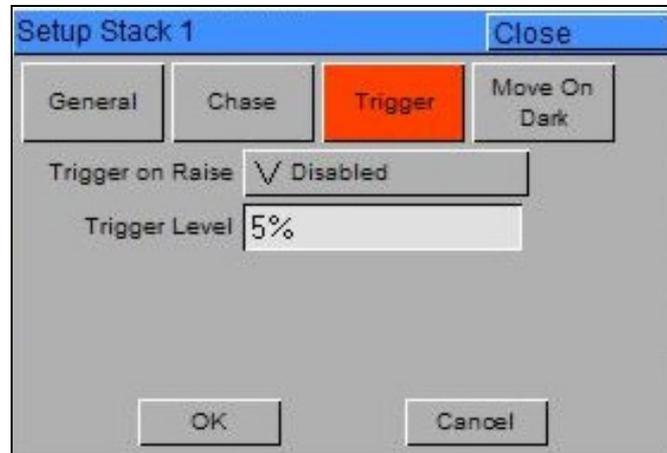
Note – If the Direction modifier is set to Random, then one 'shot' is defined as outputting N steps, where N is the total number of steps (cues) in the cue stack.

Revert From Chase

To return a cue stack from a chase to a normal cue stack, press the [Revert From Chase] button in the Stack Setup Window.

Trigger Options

Select the [Trigger] button in the Cue Stack Setup Window:



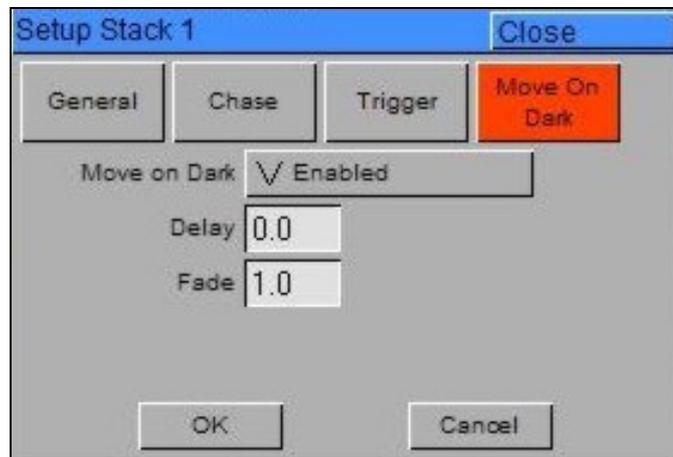
The various options are described below:

- **Trigger on Raise** – Enabled or Disabled (default = Disabled)
- **Trigger Level** – Range 0 – 100% (default = 5%).

Cues, Stacks and Pages

Move on Dark Options

Select the [Move on Dark] button in the Cue Stack Setup Window.



The various options are described below:

- **Move on Dark** - Enabled or Disabled (default = Disabled)

When this function is enabled for the cue stack – whenever a fixture goes black (ie it's intensity falls to zero, or the shutter is closed), the desk software will look ahead in the cue stack to see what values the colour, beamshape and position parameters are next programmed at for that fixture.

It will then output those values shortly after the fixture has gone black (according to the delay and fade times set in the window). When the fixture comes back on again in a later cue, the colour, gobo, position etc. will already be at their correct values and just the intensity will fade up or the shutter open.

- **Delay Time** – Range 0 – 99:59.9 (default = 3 seconds)
- **Fade Time** – Range 0 – 99:59.9 (default = 1 second)

Pages

The Frog 2 desk provides 100 pages of playbacks; each page containing 10 playbacks.

Page Window

To display the **Page Window** on the monitor hold down the SHIFT key and press the PAGE key:

1	2	3	4	5	6	7	8	9	10
1 DEMO SHOW1									
11 SWEET CHILD OF MINE	12	13	14	15	16	17	18	19	20
21	22 TWO LITTLE DUCKS	23	24	25	26 *	27 *	28 *	29 *	30 *
31 *	32	33	34 *	35 *	36 *	37 *	38 *	39 *	40 *
41 *	42	43 *	44	45 *	46 *	47	48 *	49	50 *
51 *	52 *	53 *	54 *	55	56 *	57 *	58 *	59 *	60 *
61 *	62 *	63 *	64 *	65 *	66 *	67 *	68 *	69 *	70 *
71 *	72 *	73 *	74 *	75 *	76 *	77 *	78	79 *	80 *
81 *	82 *	83 *	84 *	85 *	86 *	87	88 *	89 *	90 *
91 *	92 *	93 *	94 *	95 *	96 *	97 *	98 *	99	100 *

Each of the 100 pages has a soft button in the window. Each of these buttons shows the page number, program status (* = unprogrammed) and name, if defined.

A playback page can be selected by clicking on the soft button with the mouse or by selecting it using the cursor keys and pressing ENTER, or by entering the command PAGE N ENTER.

The desk software automatically assigns the 1000 programmable cue stacks to the 100 pages of playbacks (ie page 1 has cue stacks 1 - 10, page 2 has cue stacks 11 - 20 ... page 100 has cue stacks 991 – 1000).

The cue stacks assigned to the playback faders on a particular page can be seen by displaying the **Preview Page Window** on the monitor by entering the following command:

VIEW PAGE N ENTER.

Cues, Stacks and Pages

Loading a Page onto the Playbacks

To load a page of cue stacks onto the physical playback faders do one of the following:

- Use the mouse to click on the required page in the **Page Window**.
- Select the required page in the **Page Window** with the cursor keys and press ENTER.
- Enter the command PAGE N ENTER.
- Use the PAGE UP or PAGE DOWN keys on the front panel.

The seven segment PAGE display changes to indicate the selected playback page.

Naming Pages

Select the page in the **Page Window** and press the SET key, or enter the command PAGE N SET or SET PAGE N ENTER.

Type in the required name using the external keyboard and then press the ENTER button to complete.

User Definable Faders (UDFs)

The Frog 2 provides 100 pages of 10 User Definable Faders (UDF), each with an associated 'flash' button.

The page number is displayed in the seven segment PAGE display to the left of the bank of User Definable Faders. Page 100 is displayed as "00".

Each of the User Definable Faders may be assigned to one of the following items:

- **Group** (Master Group, Automatic Group or User Defined Group) – controls the intensity (brightness) parameters of the fixtures in the group.
- **Fixture Parameter** – controls an individual fixture parameter (eg Dimmer, Colour Wheel, Gobo Wheel, Shutter, Pan, Tilt etc.)
- **Cue** – outputs the fixture data programmed in the cue.
- **Channel Data** – controls the fixture data programmed directly onto the fader.
- **Time** – controls the internal Time value used when applying palettes over a time.
- **Override** – controls the internal Override value which affects the speed of fades globally on the desk.
- **Virtual Playback Master** – acts as a master fader for the intensity channels in cue stacks assigned to the virtual playback.

User Definable Faders

The UDF / UDK Window

To display the **User Definable Faders / Keys Window** on one of the monitor displays, hold down the SHIFT key and press one of the User Definable Fader ‘flash’ buttons:



This window shows information on the current page of User Definable Faders and User Definable Keys.

Each of the 10 UDF’s has a button in this window. Each of these buttons shows the UDF number and information on the item assigned to the UDF (if any).

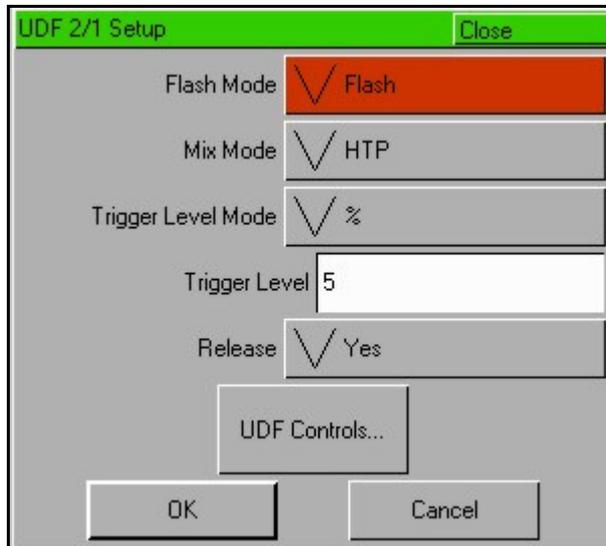
If a UDF or UDK is active on one or more pages, the relevant page numbers are displayed in the lower part of the button.

A green background indicates that the UDF/UDK is active on the current page; a pale green background indicates that the UDF/UDK is active on another page. Example:

1 Channel Data Latch, HTP, 0%, Release PARCANS 37-48 Pages: 21, 22,23	2 Cue 1 / 2, Latch, HTP, 10%, Release, BLUE WASH Pages: 2, 3	3 Colour Palette 16 MAC 250 GREEN	4 *	5 *
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The UDF Setup Window

To display the **UDF Setup Window** on the touch screen and monitor, hold down the SETUP key and then press one of the UDF 'flash' keys:



This window allows you to adjust a number of parameters for the selected User Definable Fader. The UDF Setup Window only contains the options that are relevant to the item that is assigned to the UDF. These options are summarised in the table below:

UDF Item	Flash Mode	Trigger Level Mode	Trigger Level	Mix Mode	Release
Group	Flash / Latch	Not Applicable	Not Applicable	LTP /LTP Mix / Inhibitor	Not Applicable
Fixture Parameter	Not Applicable	Not Applicable	Not Applicable	LTP /LTP Mix / Inhibitor	Not Applicable
Channel Data	Flash / Latch	% or DMX	0 - 100 or 0 - 255	HTP or LTP	Yes or No
Cue	Flash / Latch	% or DMX	0 - 100 or 0 - 255	HTP or LTP	Yes or No
Time	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Override	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Virtual Playback Master	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

User Definable Faders

Flash Mode

If the Flash Mode is set to **Flash** - the corresponding data assigned to the UDF is output instantly on pressing the UDF flash button and faded out or released instantly on releasing the UDF flash button.

If the Flash Mode is set to **Latch** - The first press is equivalent to raising the fader from zero to full. The second press is equivalent to lowering the fader from full to zero. Subsequent button presses then toggle between the two states.

The LED in the flash button indicates the state of the button (on or off). When the outputs are fading up or down, the LED in the button flashes.

A Cue assigned to a UDF uses the fade times programmed in the cue data. The times for the cue data can be displayed and edited as required via the **Preview UDF Window** or by loading the UDF into the **Program Window**. Note – if you edit the fade times for the cue, this will also affect the output of the cue in the relevant cue stack on the playbacks.

Channel Data assigned to a UDF uses the fade times programmed with the channel data in the **Program Window**. The times for the channel data can be displayed and edited as required via the **Preview UDF Window** or by loading the UDF into the **Program Window**.

Trigger Level

The Trigger Level applies to the Colour, Beam, Position and Effects parameters that are programmed in the channel data or cue assigned to the UDF.

Each assigned UDF with Channel Data or Cue Data will have it's own trigger level defined (0 – 100% if percentage or 0 – 255 if DMX).

The initial trigger level is defined as the position of the physical fader when the flash button is pressed to assign the channel data or cue to the UDF. The trigger level may be adjusted as required via the **UDF Setup Window**.

Mix Modes

A number of Mix Mode options are available depending on the item that is assigned to the UDF (see table above).

- **HTP** - Highest Takes Precedence. Applies to intensity channels in channel data or cue data UDF's only.
- **LTP** - Latest Takes Precedence.
- **LTP Mix** - Using the fader you need to match the current DMX output for the parameter. Once the output level has been 'picked up', you can then adjust the level up or down using the fader.
- **Inhibitor** - When a Group or Fixture Parameter UDF is set up as an Inhibitor it will act like a variable topset (ie a peak output limit) on the fixture parameter or the intensity parameters of the group assigned to that UDF.

The UDF will inhibit the output levels as soon as the fader is moved, and stay inhibiting throughout its existence (ie until the mix mode is changed to LTP or LTP Mix or the UDF is deleted).

Fixture parameters that are being inhibited are displayed in inverse (orange on black background) in the Program Window and Output Window.

Release

This UDF setup option applies to Channel Data and Cue UDF's only.

If the Release option is set to Yes then the fixtures will be released when the fader is brought down to zero.

If the Release option is set to No then the fixtures will NOT be released when the fader is brought down to zero.

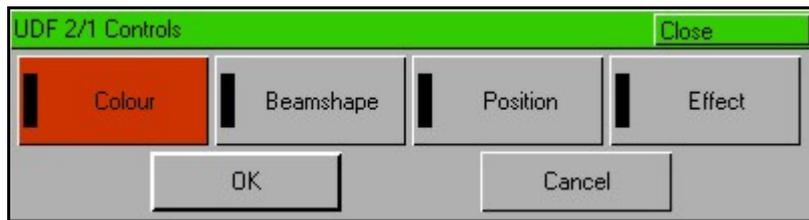
The fixtures being controlled by the UDF can be released by setting their values in the Program Window or by triggering another LTP command from elsewhere on the console or by holding down the RELEASE key and pressing the corresponding UDF flash key.

User Definable Faders

UDF Controls ...

This option in the UDF Setup Window allows you to select which attributes (colour, beamshape, position and effects) are controlled by the physical position of the fader, rather than being triggered at the LTP trigger level and then fading according to their programmed fade times. This option applies to **Channel Data** and **Cue** UDF's only.

Press the [UDF Controls ...] button in the UDF Setup Window. A separate popup window is displayed allowing you to select which of the attributes are to be controlled by the fader.



Each of the attribute buttons (Colour, Beamshape etc.) is independent and when pressed toggles between selected and not selected. The 'light' in the button is lit when the attribute is selected.

Notes –UDF Controls ... (Fade CBPE) Operation

In the UDF Setup Window, there are four attribute options which may be selected or deselected independently as required.

Moving the UDF up crossfades the attribute types which are selected relative to the fader position, instead of using the trigger point and corresponding fade time. Any Intensity channels which are programmed into the UDF data will always be controlled by the level of the fader.

Therefore, if you program a UDF with colour, beamshape and position data, but set the UDF Controls to Position and Colour, the following will happen.

When the UDF is raised - At the Trigger Level, the Beamshape parameters will crossfade in their programmed time(s). As the fader travels upwards, the programmed position and colour channels will crossfade to their programmed values, relative to the level of the fader (eg at 50%, the position and colour channels will be 50% of the way between their old values and the ones programmed into the submaster).

When the UDF is lowered - As the fader travels downwards, the programmed position and colour channels will crossfade from their programmed value, relative to the level of the fader (eg at 50%, the position and colour channels are half way between the value on the sub and the one which the value previously came from). When the fader reaches 0%, the non-Fader Controlled channels (in this case, Beamshape), will be released and return to their previous source or default value if no other source exists.

Group UDF

The Group UDF is used for controlling the intensity (brightness) parameters of the fixtures in the assigned group.

To assign a Group to a UDF enter either of the following commands:

GROUP [Master Group] RECORD <UDF> (Master Group)

GROUP N RECORD <UDF> (Automatic or User Defined Group)

Where <UDF> represents pressing the actual UDF flash button on the front panel.

When the UDF is raised, all the fixtures in the group will take the intensity of the fader.

The Flash button controls the intensity of the fixtures in the assigned group.

Fixture Parameter UDF

The Fixture Parameter UDF is used to control an individual fixture parameter via the fader.

This enables you to take control of a particular part of a fixture (eg the shutter channel).

To assign a Fixture Parameter to a UDF, enter the following command:

SHIFT [Parameter] RECORD <UDF>

Where [Parameter] indicates touching the required fixture parameter on the touch screen and <UDF> represents pressing the actual flash button on the front panel.

The UDF will now control the output level of the assigned fixture parameter.

Cue UDF

The Cue UDF is used to output the fixture data programmed in an individual cue.

To assign an individual cue from a cue stack to a UDF enter the following command:

S/C RECORD <UDF>

where S is the cue stack number, C is the Cue number and <UDF> represents pressing the actual flash button on the front panel.

The fixture data programmed in the cue is output by raising the fader or pressing the 'flash' button. The fixture data is released when the fader is lowered or the 'flash' button is released.

User Definable Faders

Channel Data UDF

The Channel Data UDF allows the user to record fixture parameter (channel) data, with associated fade times, set up in the **Program Window** directly onto a UDF.

To assign channel data to a UDF, first set up the fixture parameter data in the **Program Window**, in the same way as programming a cue or palette, ensuring that all the required fixture parameters are tagged.

Then enter the following command: RECORD <UDF>

Where <UDF> represents pressing the actual flash button on the front panel.

UDF's which have been assigned to channel data can also be named if required by entering the following command: SET <UDF>

Type in the required name using the external keyboard and then press ENTER to complete. Note that only channel data UDFs can be named – all the other UDFs obtain their names directly from the item that is assigned to them.

The channel data is output by raising the fader or pressing the 'flash' button. The channel data is released when the fader is lowered or the 'flash' button is released.

Time UDF

It is possible to assign a UDF to become a **Time** fader. This allows you to set a default time when applying palettes. The actual Time value is related to the position of the Time UDF and is summarised in the following table:

Time Fader Value	Meaning
0%	Time = 0
1% – 99%	Increasing time (non-linear scale)
100%	Time = 11 minutes 30 seconds

To assign Time to a UDF enter the command: TIME RECORD <UDF>

Where <UDF> represents pressing the actual flash button on the front panel.

It is possible to assign more than one Time UDF. This allows you to have a Time fader on several different pages if required.

There is an internal level stored for the Time value, which is displayed in the status bar on the touch screen and at the bottom of the monitor screen(s).

The Time fader(s) work in an LTP manner, ie whenever any Time fader is moved, the internal level is updated to the new level.

To adjust the Time value, simply move the Time fader to the required level.

Override UDF

It is possible to assign a UDF to become an Override fader. This allows you to change the speed of fades globally on the desk. The actual override value is related to the position of the Override UDF and is summarised in the following table:

0%	Fades stopped
1% - 49%	Decreases fade rates (1 = slowest)
50%	Default value = Real Time
51% – 99%	Increases fade rates (99 = fastest)
100%	Fades instantaneous (snap)

To assign Override to a UDF enter the command: SHIFT TIME RECORD <UDF>

Where <UDF> represents pressing the actual flash button on the front panel.

It is possible to assign more than one Override UDF. This allows you to have an Override fader on several different pages if required.

There is an internal level for the Override value, which is displayed in the status bar on the home screen of the touch screen and at the bottom of the monitor screen(s).

The Override fader(s) work in an LTP manner, ie whenever any Override fader is moved, the internal level is updated to the new level.

To adjust the Override value, simply move the Override fader to the required level.

Virtual Playback Master UDF

The Virtual Playback Master Fader is a special UDF that acts as a master fader for the intensity channels in the cue stacks that are currently assigned to the virtual playback.

To assign the Virtual Playback Master Fader to a UDF enter the following command: STACK RECORD <UDF>.

It is possible to assign more than one Virtual Playback Master fader. This allows you to have a Virtual Playback Master fader on several different UDF pages, if required.

There is an internal level for the Virtual Playback Master which is displayed in the status bar on the home screen of the touch screen and at the bottom of the monitor screen(s).

The Virtual Playback Master fader(s) work in an LTP manner, ie whenever any Virtual Playback Master fader is moved, the internal level is updated to the new level.

When the last Virtual Playback Master UDF is deleted the internal Virtual Playback Master level is reset to it's default value of 100%.

User Definable Faders

Editing User Definable Faders

To edit a UDF enter the following command: LOAD <UDF>.

This allows you to load the contents of the UDF into the Program Window, adjust the programmed channel levels and times as required and then save the data back into the original UDF by pressing the UPDATE key.

Note - This function only applies to UDFs which have been assigned to channel data or a cue. In the case of a cue, you effectively load the cue into the Program Window, modify it and update it.

Deleting User Definable Faders

Individual UDF's can be deleted (cleared) by entering the following command:

DEL <UDF>

Where <UDF> represents pressing the actual flash button on the front panel.

User Definable Keys (UDKs)

The Frog 2 desk provides 100 pages of 20 User Definable Keys (UDKs). The page number is displayed in the seven segment PAGE display to the left of the bank of user definable faders. Page 100 is displayed as “00”. Each of the User Definable Keys may be assigned to any one of the following items:

- Group (Master Group, Automatic Group or User Defined Group)
- Individual Fixture
- Palette (Colour, Beamshape, Position or Effects)
- Macro
- Cue
- Channel Data

The UDF / UDK Window

To display the **User Definable Faders / Keys Window** on one of the monitor displays, hold down the SHIFT key and press one of the User Definable Keys:



This window shows information on the current page of User Definable Faders and User Definable Keys. Each of the 20 UDK's has a button in the window. Each of these buttons shows the UDK number and information on the item assigned to the UDK (if any).

User Definable Keys

The UDK Setup Window

To display the **UDK Setup Window** on the touch screen, hold down the SETUP key and then press one of the User Defined Keys:



This window allows the user to adjust a number of parameters for the selected User Definable Key (UDK).

The UDK Setup Window only contains the user options that are relevant to the item that is assigned to the UDK. The options available are summarised in the table below:

UDK Item	Flash Mode	Mixing Mode	Release
Group	Not Applicable	Not Applicable	Not Applicable
Fixture	Not Applicable	Not Applicable	Not Applicable
Palette	Not Applicable	Not Applicable	Not Applicable
Channel Data	Flash or Latch	HTP or LTP	Yes or No
Cue	Flash or Latch	HTP or LTP	Yes or No
Macro	Not Applicable	Not Applicable	Not Applicable

Flash Mode

The Flash Mode option is only applicable to UDK's containing Channel Data or Cue Data.

If the Flash Mode is set to **Flash** - the corresponding data assigned to the UDK is output instantly on pressing the key and faded out or released instantly on releasing the key.

If the Flash Mode is set to **Latch** - The first press results in the 'on' action. The second press results in the 'off' action. Subsequent button presses will then toggle between the two states.

The LED in the UDK indicates the state of the key (on or off). When the outputs are fading up or down, the LED in the UDK flashes.

Palettes are output instantly on pressing the UDK.

A Cue assigned to a UDK uses the fade times programmed in the cue data. The times for the cue data can be displayed and edited as required via the **Preview UDK Window** or by loading the UDK into the **Program Window**. Note – if you edit the fade times for the cue, this will also affect the output of the cue in the relevant cue stack on the playbacks.

Channel Data assigned to a UDK uses the fade times programmed with the channel data in the **Program Window**. The times for the channel data can be displayed and edited as required via the **Preview UDK Window** or by loading the UDK into the **Program Window**.

Mixing Mode

Mixing Mode (HTP or LTP) is only applicable to intensity channels in UDK's containing Channel Data or Cue Data.

The intensity channels in the data are mixed either HTP or LTP.

Release

This setup option applies to Channel Data and Cue UDK's only.

If the Release option is set to Yes then the fixtures will be released when the UDK is released and the intensity (brightness) data has faded to zero.

If the Release option is set to No then the fixtures will NOT be released when the UDK is released.

The fixtures being controlled by the UDK can be released by setting their values in the Program Window or by triggering another LTP command from elsewhere on the console or by holding down the RELEASE key and pressing the UDK on the front panel.

User Definable Keys

Group UDK

The Group UDK is used for selecting a group. To assign a Group to a UDK, enter either of the following commands:

GROUP [Master Group] RECORD <UDK> (Master Group)

GROUP N RECORD <UDK> (Automatic or User Defined Group)

Where <UDK> represents pressing the actual UDK on the front panel.

When the UDK is pressed, the group assigned to the UDK is selected.

Fixture UDK

The Fixture UDK is used for selecting an individual fixture. To assign a fixture to a UDK, enter either of the following commands:

GROUP [Master Group] F RECORD <UDK> (Master Group)

GROUP N ENTER F RECORD <UDK> (Automatic or User Defined Group)

Where F is the fixture number of the required fixture and <UDK> represents pressing the actual UDK on the front panel.

When the UDK is pressed, the fixture assigned to the UDK is selected.

Palette UDK

The Palette UDK can be used as an alternative method of outputting a palette for the currently selected fixtures. To assign a palette to a UDK, enter one of the following commands:

COLOUR N RECORD <UDK>

BEAM N RECORD <UDK>

POSITION N RECORD <UDK>

EFFECTS N RECORD <UDK>

Where <UDK> represents pressing the actual UDK on the front panel.

The palette assigned to the UDK is applied to the selected fixtures when the UDK is pressed.

Cue UDK

The Cue UDK is used to output the fixture data programmed in an individual cue.

To assign an individual cue from a cue stack to a UDK enter the following command:

(CUE) S/C RECORD <UDK>

where S is the stack number, C is the Cue number and <UDK> represents pressing the actual UDK on the front panel.

The fixture data programmed in the cue is output by pressing the UDK. The fixture data is released when the UDK is released. If the UDK action is set to Latch, then the outputs will fade according to the fade times programmed in the cue.

Channel Data UDK

The Channel Data UDK allows you to record fixture parameter (channel) data, with associated fade times, set up in the **Program Window** directly onto a UDK.

To assign channel data to a UDK, first set up the fixture parameter data in the **Program Window**, in the same way as programming a cue, ensuring that all the required fixture parameters are tagged.

Then enter the following command: RECORD <UDK>

where <UDK> represents pressing the UDK on the front panel.

UDK's which have been assigned to channel data can also be named if required by entering the following command: SET <UDK>

Type in the required name using the external keyboard and then press ENTER to complete. Note that only channel data UDKs can be named – all the other UDKs obtain their names directly from the item assigned to them.

The channel data is output by pressing the UDK. The channel data is released when the UDK is released. If the UDK action is set to Latch, then the outputs will fade according to the fade times programmed in the channel data.

Macro UDK

The Macro UDK is used to run the user defined macro assigned to the UDK.

To assign a user defined macro to a UDK enter the following command:

MACRO N RECORD <UDK>

where N is the macro number and <UDK> represents pressing the actual UDK on the front panel.

The macro is run by pressing the UDK.

User Definable Keys

Editing User Definable Keys

To edit a UDK enter the following command: LOAD <UDK>.

This allows you to load the contents of the UDK into the Program Window, adjust the programmed channel levels and times as required and then save the data back into the original UDK by pressing the UPDATE key.

Note - This function only applies to UDKs which have been assigned to channel data or a cue. In the case of a cue, you effectively load the cue into the Program Window, modify it and update it.

Deleting User Definable Keys

Individual UDK's can be deleted (cleared) by entering the following command:

DEL <UDK>

Where <UDK> represents pressing the actual UDK on the front panel.

Palettes

The Frog 2 desk provides you with four sets of 200 palettes. The palettes are stored under the nominal headings of Position, Beam, Colour and Effects.

Palettes may contain any combination of Intensity, Colour, Beamshape, Position or Effects parameters. For example, a colour palette may include intensity and colour, a beamshape palette could include beamshape and position etc.

Palette Windows

Each set of palettes has it's own palette window. To display one of the palette windows on the monitor, hold down the SHIFT key and then press the appropriate attribute key (POSITION, COLOUR, BEAM or EFFECTS).

The palette window contains a soft button for each of the 200 palettes. Each soft button contains the following information:

Palette Number, content flags that indicate the attributes that are programmed in the palette (I = Intensity, C = Colour, B = Beamshape, P = Position, E = Effects) and name.

Example Colour Palette Window shown below:

Colour Palettes										Close
1 C [White]	2 C [Red]	3 C [Orange]	4 C [Yellow]	5 C [Green]	6 C [Blue]	7 C [Violet]	8 C [Cyan]	9 C [Magenta]	10 C [Pink]	
11 C [Blue]	12 C [Blue 108]	13 C [CTC 5500-2900K]	14 C [Cyan]	15 C [Green]	16 C [Green 206]	17 C [Magenta]	18 C [Orange]	19 C [Pink]	20 C [Pink 312]	
21 C [Red]	22 C [Red 308]	23 C [UVI]	24 C [Violet]	25 C [White]	26 C [Yellow]	27 *	28 *	29 *	30 *	
31 C My Goldenscan Palette	32 C Red 308	33 *	34 *	35 *	36 *	37 *	38 *	39 *	40 C Colour 40	
41 C My Goldenscan Palette	42 C Red 308	43 *	44 *	45 *	46 *	47 *	48 *	49 *	50 *	
51 *	52 *	53 *	54 *	55 *	56 *	57 *	58 *	59 *	60 *	
61 *	62 *	63 *	64 *	65 *	66 *	67 *	68 *	69 *	70 *	
71 *	72 *	73 *	74 *	75 *	76 *	77 *	78 *	79 *	80 *	
81 *	82 *	83 *	84 *	85 *	86 *	87 *	88 *	89 *	90 *	
91 *	92 *	93 *	94 *	95 *	96 *	97 *	98 *	99 *	100 *	
Available			Not Available			Unprogrammed				

Palettes

Recording Palettes

Programming a palette is simple and similar to recording a cue. Set up the fixture outputs as required, ensuring that the correct fixture parameters are tagged, and then enter the following command:

RECORD COLOUR N ENTER (N = palette number).

To record the fixture data as a beamshape, position or effects palette, simply replace the COLOUR part of the command with BEAM, POSITION or EFFECTS respectively.

Hints on Recording Palettes

If you wish to record attributes, other than the default one for the type of palette being recorded, then select the required attributes on the Record Options Window on the touch screen before pressing the ENTER key.

When creating Position palettes, use the HIGHLIGHT key to grab a fixture in open white. Set the position as required, then turn the HIGHLIGHT off before recording the palette. This way you won't have to untag the intensity of each fixture.

Naming Palettes

Palettes can be named, either as a separate operation or as part of the recording process, by entering one of the following commands:

COLOUR N SET

SET COLOUR N ENTER

RECORD COLOUR N SET

Type in the name using the external keyboard and then press ENTER to complete.

Outputting Palettes

Select a fixture or group of fixtures and then enter one of the following commands:

COLOUR N ENTER Snaps the outputs to the programmed palette values.

COLOUR N TIME ENTER Fades the outputs in time defined by the Time UDF.

COLOUR N TIME X ENTER Fades the outputs in X seconds.

If any of the selected fixtures are not actually programmed in the applied palette, but there are one or more fixtures of the same type that are programmed, the fixture will use the values programmed for the first fixture of the same type.

If the fixture data in the **Program Window** is then recorded into a cue, UDF or UDK, the desk will record the palette reference number rather than the actual parameter values.

Copying Palettes

To copy a palette from one location to another, enter one of the following commands:

COLOUR N COPY P ENTER (Copies Colour Palette N to Colour Palette P)

BEAM N COPY P ENTER (Copies Beam Palette N to Beam Palette P)

POSITION N COPY P ENTER (Copies Position Palette N to Position Palette P)

EFFECTS N COPY P ENTER (Copies Effects Palette N to Effects Palette P)

As all palettes have the same data structure and may contain fixture parameter data from any combination of attributes, it is also possible to copy a palette from one attribute to another, for example:

COLOUR 2 COPY BEAM 5 ENTER (Copies Colour Palette 2 to Beam Palette 5)

Moving Palettes

To move a palette from one location to another, enter one of the following commands:

COLOUR N MOVE P ENTER (Moves Colour Palette N to Colour Palette P)

BEAM N MOVE P ENTER (Moves Beam Palette N to Beam Palette P)

POSITION N MOVE P ENTER (Moves Position Palette N to Position Palette P)

EFFECTS N MOVE P ENTER (Moves Effects Palette N to Effects Palette P)

When a palette is moved to a new location, any cues that referenced the original palette will now reference the new location of the palette.

As all palettes have the same data structure and may contain fixture parameter data from any combination of attributes, it is also possible to move a palette from one attribute to another, for example:

COLOUR 2 MOVE BEAM 5 ENTER (Moves Colour Palette 2 to Beam Palette 5).

Deleting Palettes

To delete a palette, enter one of the following commands:

COLOUR N DELETE or DELETE COLOUR N ENTER

BEAM N DELETE or DELETE BEAM N ENTER

POSITION N DELETE or DELETE POSITION N ENTER

To delete a range of palettes, enter the following command:

DELETE COLOUR A THRU B ENTER

When a palette is deleted, any cues that previously referenced the palette are updated to contain the actual values that were stored in the palette.

Palettes

Effects

The Frog 2 desk provides a powerful effects generator with a number of standard effects. By applying various mathematical functions (sine, cosine, ramp etc) to the outputs of different fixture parameters and adjusting the size, speed and offset values, a wide range of movement and other effects can be generated quickly and easily.

The Effects Palette Window

To display the **Effects Palette Window** on the monitor, hold down the SHIFT key and then press the EFFECTS key.

The Effects Palette Window contains a soft button for each of the 200 effects palettes. Each soft button contains the following information:

Effect Number, a set of content flags indicating which attributes are programmed in the effect palette (I = Intensity, C = Colour, B = Beamshape, P = Position, E = Effects) and name, if defined.

Effects Palettes										Close
1 E [Circle]	2 E [Square]	3 E [Step Square]	4 E [Triangle]	5 E [Figure 8]	6 E [Vert. Line]	7 E [Horiz. Line]	8 IE [Fly In]	9 IE [Fly Out]	10 IE [Mark On]	
11 IE [Mark Off]	12 IE [Chaser]	13 IE [Fader]	14 IE [Smooth]	15 CE [Red Step On]	16 CE [Green Step On]	17 CE [Blue Step On]	18 CE [Red Step Off]	19 CE [Green Step Off]	20 CE [Blue Step Off]	
21 CE [Red Fade]	22 CE [Green Fade]	23 CE [Blue Fade]	24 CE [Red Rainbow]	25 CE [Green Rainbow]	26 CE [Blue Rainbow]	27 CE [Rainbow]	28 BE [Iris Step On]	29 BE [Iris Step Off]	30 BE [Iris]	
31 BE [Focus]	32 E my big circle	33 *	34 *	35 *	36 *	37 *	38 *	39 *	40 *	
41 Circle	42 E my big circle	43 *	44 *	45 *	46 *	47 *	48 *	49 *	50 *	
51 *	52 *	53 *	54 *	55 *	56 *	57 *	58 *	59 *	60 *	
61 *	62 *	63 *	64 *	65 *	66 *	67 *	68 *	69 *	70 *	
71 *	72 *	73 *	74 *	75 *	76 *	77 *	78 *	79 *	80 *	
81 *	82 *	83 *	84 *	85 *	86 *	87 *	88 *	89 *	90 *	
91 *	92 *	93 *	94 *	95 *	96 *	97 *	98 *	99 *	100 *	
Available			Not Available				Unprogrammed			

Effects

Standard Effects

The Effects Palette Window contains the following standard effects which are generated by selecting the [Create Auto Palettes] option from the [Auto Menus] option in Setup:

Circle	Pan = Sine, Tilt = Cosine.
Square	Pan = Sawtooth, Tilt = Sawtooth + 90
Step Square	Pan = Step, Tilt = Step + 90
Triangle	Pan = Ramp, Tilt = Sawtooth + 90
Figure 8	Pan = Sine*2, Tilt = Cosine
Vert. Line	Pan = None, Tilt = Sine.
Horiz. Line	Pan = Sine, Tilt = None.
Fly In	Intensity = Mark On, Pan = No Effect, Tilt = Ramp
Fly Out	Intensity = Mark On, Pan = No Effect, Tilt = RampInv
Mark On	Intensity = Mark On
Mark Off	Intensity = Mark Off
Chaser	Intensity = Step + 270
Fader	Intensity = Sawtooth + 270
Smooth	Intensity = Sine + 270
Blue Step On	Cyan = Mark On, Magenta = Mark On, Yellow = None
Red Step On	Cyan = None, Magenta = Mark On, Yellow = Mark On
Green Step On	Cyan = Mark On, Magenta = None, Yellow = Mark On
Blue Step Off	Cyan = Mark Off, Magenta = Mark Off, Yellow = None
Red Step Off	Cyan = None, Magenta = Mark Off, Yellow = Mark Off
Green Step Off	Cyan = Mark Off, Magenta = None, Yellow = Mark Off
Blue Fade	Cyan = Sawtooth, Magenta = Sawtooth, Yellow = No Effect
Red Fade	Cyan = No Effect, Magenta = Sawtooth, Yellow = Sawtooth
Green Fade	Cyan = Sawtooth, Magenta = No Effect, Yellow = Sawtooth
Blue Rainbow	Cyan = Sawtooth + 90, Magenta = Sawtooth, Yellow = No Effect
Red Rainbow	Cyan = No Effect, Magenta = Sawtooth, Yellow = Sawtooth + 90
Green Rainbow	Cyan = Sawtooth + 90, Magenta = No Effect, Yellow = Sawtooth
Rainbow	Cyan = Sawtooth+ 90, Magenta = Sawtooth + 180, Yellow = Sawtooth
Iris Step On	Iris = Mark On
Iris Step Off	Iris = Mark Off
Iris	Iris = Sine
Focus	Focus = Sine

Effect Parameters

The following effect parameters are generated by the standard effects and may also be applied to any fixture parameter as required via the **Effects Window**:

Parameter	Range	Default	Notes
Function	None, Sine, Cosine, etc.	None	The function that is applied to the individual fixture parameter – see full list below.
Speed	- 100 to +100	0	The Speed parameter also determines the direction of movement effects
Size	0 – 100	0	
Offset	0 – 100	0	

Sine	Sine wave
Cosine	Cosine Wave (Sine + 90deg)
Sine + 180	Sine Wave offset by 180deg
Sine + 270	Sine Wave offset by 270deg
Sine*2	Two sine waves in a single cycle
Step	Snap On and Off (On for half cycle, off for other half)
Step + 90	Step offset by 90deg
Step + 180	Step offset by 180deg
Step + 270	Step offset by 270deg
Sawtooth	0% - 100% over first half of Cycle, 100% - 0% over second half
Sawtooth + 90	Sawtooth offset by 90deg
Sawtooth + 180	Sawtooth offset by 180deg
Sawtooth + 270	Sawtooth offset by 270deg
Ramp	0% - 100% over entire cycle (snaps back to 0%)
Ramp + 90	Ramp offset by 90deg
Ramp + 180	Ramp offset by 180deg
Ramp + 270	Ramp offset by 270deg
RampInv	100% - 0% over entire cycle (snaps back to 100%)
Mark On	0% for first and last 5% of cycle then snaps to 100% for rest of cycle
Mark Off	100% for first and last 5% of cycle then snaps to 0% for rest of cycle

Effects

Effect Parameters on the Wheels

When the effect wheel groups are active (ie the EFFECTS LED is lit), the effect parameters are assigned to the control wheels as follows:

	Thumb Wheel	First Finger Wheel	Second Finger Wheel
Wheel Group 1	Speed	Size	Offset
Wheel Group 2	Speed	Size	Rotation

If you apply different effects to different parameters of the fixtures (e.g. Rainbow and Circle) you can use the Speed wheel to control the speed of all the effects in one go.

At any time you can reload the cue into the Program Window and modify the speed of all the effects in that cue by selecting the effects wheel group and moving the Speed wheel.

Note – Rotation

Rotation cannot be done on a per parameter basis, and can only be applied to the Pan and Tilt parameters together. Therefore the Rotation parameter can be adjusted via the control wheel, but is not displayed in the Effects Window.

Applying Effects

When applying one of the standard Intensity, Colour, Iris or Focus effects, the base value of the parameter is automatically changed to 50% to allow the effect to work correctly. For these effects the size parameter is set to 100% as the default.

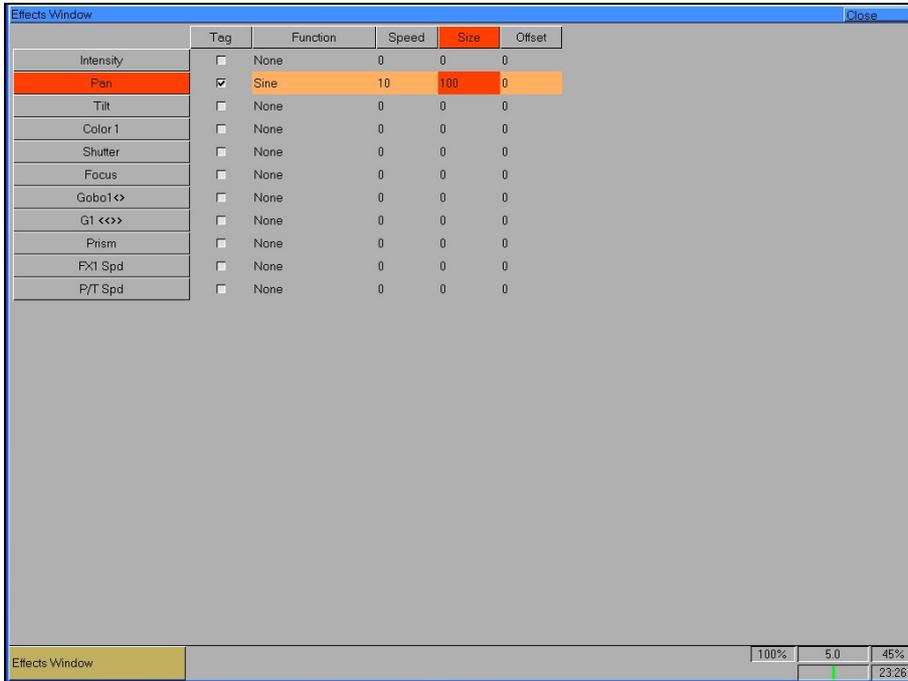
Apart from the effects specified above the default values of the effect parameters for the standard effects are Speed = 25, Size = 20, Offset = 0, Rotation = 0.

Automatic fanning of offset or any other effect parameter across fixtures is not done. Should fanning of an effect parameter be required, hold down the SHIFT key and use the control wheel to apply the selected fan function onto the wheels in the same manner as fanning any other parameter value.

Pressing the BLIND key twice synchronises the effects while programming.

The Effects Window

The **Effects Window** displays the Effect Parameters for each parameter of the selected fixture(s). To display the Effects Window on the monitor screen press the [Effects Window] soft key on the touch screen. Adjusting any of the effect parameters using the control wheels is reflected in the Effects Window.



	Tag	Function	Speed	Size	Offset
Intensity	<input type="checkbox"/>	None	0	0	0
Pan	<input checked="" type="checkbox"/>	Sine	10	100	0
Tilt	<input type="checkbox"/>	None	0	0	0
Color 1	<input type="checkbox"/>	None	0	0	0
Shutter	<input type="checkbox"/>	None	0	0	0
Focus	<input type="checkbox"/>	None	0	0	0
Gobo1<>	<input type="checkbox"/>	None	0	0	0
G1 <<>>	<input type="checkbox"/>	None	0	0	0
Prism	<input type="checkbox"/>	None	0	0	0
FX1 Spd	<input type="checkbox"/>	None	0	0	0
P/T Spd	<input type="checkbox"/>	None	0	0	0

Effects Window 100% 5.0 45% 23.26

The **Effects Window** also allows you to edit the effect parameters of individual fixture parameters directly. The fixture parameters (eg Pan, Tilt, Cyan, Magenta, Yellow etc) are listed down the left hand side of the table and the effect parameters (Function, Speed, Size and Offset) across the top of the table.

To adjust an effect parameter, select the required field using the mouse or cursor keys and press the SET key. Use the cursor keys to select the required Function, or enter the required numerical value for Speed, Size or Offset, then press the ENTER key.

Function – This parameter determines the mathematical function that is applied to the output value of the fixture parameter. See earlier for full list of available functions.

Speed – This parameter determines the speed of the effect and also the ‘direction’ of movement effects (eg Circle), where -100 is the fastest speed anticlockwise, 0 is stop, and +100 is the fastest speed clockwise.

Size – This parameter defines the magnitude of the effect (range 0 – 100).

Offset – This parameter determines the offset into the effect when it is triggered.

Effects

Recording Effects

Programming an effect palette is similar to recording other palettes.

Set up the fixture outputs as required, ensuring that the correct fixture parameters and/or effect parameters are tagged (see note). A common method of recording an effect is to apply one of the standard effects, adjust the affect parameters as required using the wheels or Effect Window and then record this as a new effect palette.

Enter the following command:

RECORD EFFECTS N ENTER (N = effect palette number).

If you wish to record other attributes (eg Colour), these should be selected on the Record Options Window on the touch screen before pressing the ENTER key.

Note - Tagging – Values and Effects

For each fixture parameter there are two tag states that are recorded - one for the parameter value, and one for the set of effects parameters. Therefore, a single fixture parameter may have none, one or both tag states set allowing for nothing tagged, value only tagged, effect parameters only tagged and both tagged. This allows you to record an effect with or without a base value for the corresponding fixture parameter.

Naming Effects

Effects can be named, either as a separate operation or as part of the recording process by entering one of the following commands:

EFFECTS N SET

SET EFFECTS N ENTER

RECORD EFFECTS N SET

Type in the name using the external keyboard and then press ENTER to complete.

Applying Effects

To apply an effect (either a standard effect or a user defined effect) select a fixture or group of fixtures and then enter the following command:

EFFECTS N ENTER

If any of the selected fixtures are not actually programmed in the applied effect palette, but there are one or more fixtures of the same type that are programmed, the fixture will use the values programmed for the first fixture of the same type.

Outputting Effects

Select a fixture or group of fixtures and then enter one of the following commands:

EFFECTS N ENTER	Snaps the outputs to the programmed palette values.
EFFECTS N TIME ENTER	Fades the outputs in time defined by the Time UDF.
EFFECTS N TIME X ENTER	Fades the outputs in X seconds.

Copying Effects

To copy an effect palette from one location to another, enter the following command:

EFFECTS N COPY P ENTER Copies Effect N to Effect P.

As all palettes (including effects) have the same data structure and may contain fixture parameter data from any combination of attributes, it is also possible to copy palettes from one attribute to another, for example:

EFFECTS 2 COPY BEAM 5 ENTER Copies Effect Palette 2 to Beam Palette 5.

Moving Effects

To move an effect from one location to another, enter one of the following commands:

EFFECTS N MOVE P ENTER Moves Effect N to Effect P.

When an effect is moved to a new location, any cues that referenced the original effect palette will now reference the new location of the palette.

As all palettes have the same data structure and may contain fixture parameter data from any combination of attributes, it is also possible to move effects from one attribute to another, for example:

EFFECTS 2 MOVE BEAM 5 ENTER Moves Effect 2 to Beam Palette 5.

Deleting Effects

To delete an effect, enter one of the following commands:

EFFECTS N DELETE or DELETE EFFECTS N ENTER

To delete a range of effect palettes, enter the following command:

DELETE EFFECTS A THRU B ENTER

When an effect is deleted, any cues that previously referenced the effect are updated to contain the actual values that were stored in the effect palette.

Effects

Macros

The Frog 2 desk provides a number of in-built macros and 200 user programmable macros. The user interface provides mechanisms for recording, naming, running and deleting user definable macros.

In-Built Macros

The desk provides a number of in-built macros as follows:

Playback Macros

These macros are used as commands in cue stacks to allow a cue to trigger an event elsewhere on the console:

GX	Go playback X on the current page.
GP/F	Go playback F on Page P.
SX	Pause playback X on the current page.
RX	Release playback X on the current page.
PX	Change the current page to X.
TS/C	Trigger (Go) Stack S Cue C.
CX	Choose playback X (turn the select LED on for playback X).
NC	Go to Cue C in the same cue stack (does NOT trigger the cue).
NS/C	Go to Cue C in cue stack S (does NOT trigger the cue).

Don't Move on Dark Macros

These macros are used to prevent parameters moving on dark for a particular cue;

DM	Don't move on dark - All Parameters
DMB	Don't move on dark – Beamshape Parameters
DMC	Don't move on dark – Colour Parameters
DMP	Don't move on dark – Position Parameters
DMBC	Don't move on dark – Beamshape and Colour Parameters
DMBP	Don't move on dark – Beamshape and Position Parameters
DMCP	Don't move on dark – Colour and Position Parameters

Macros

CD Player Control Macros

The following in-built macros are used to control the CD player:

DPT	Play track T starting at the beginning of the track. Stop at end of track.
DPT+	Play track T starting at the beginning of the track and play to the end of the CD.
DPT - M.S.T	Play track T starting at M.S.T into the track (minutes, seconds, tenths). Stop at end of track.
DPT - M.S.T+	Play track T starting at M.S.T into the track (minutes, seconds, tenths) and play to the end of the CD.
DS	Stop (Pause) the CD player.
DR	Resume playing the CD from the current position.

Examples...

DP5	Play track 5; stop at the end of track 5.
DP5 +	Play track 5; stop at the end of CD.
DP7 – 1.5	Play track 7 starting at 1.5 seconds into the track; stop at end of track.
DP7 – 2.30.0	Play track 7 starting at 2 minutes 30 secs into the track; stop at end of the track.
DP7 – 2.30.0 +	Play track 7 starting at 2 minutes 30 secs into the track; stop at end of the CD.

Note - Setting and Editing the In-built Macros

Move the cursor onto the Macro field in the **Cue Stack Window** and press the **SET** key.

A window appears on the touch screen containing a soft keyboard allowing macros to be set or edited. They may also be entered via an external keyboard.

Macro commands are entered as a text string, and multiple commands can be concatenated using the colon as a delimiter, for example, "G2:S3:C4:T3/4".

The Macro Window

To display the **Macro Window** on the monitor, hold down the SHIFT key and then press the MACRO key.

The Macro Window contains a soft button for each of the 200 user programmable macros. Each soft button contains the following information:

Macro number (1 – 200), program status (* = unprogrammed) and name (if defined).

Macro										Close
1 [Reset]	2 [Lamp On]	3 [Lamp Off]	4 *	5 *	6 *	7 *	8 *	9 *	10 *	
11 *	12 *	13 *	14 *	15 *	16 *	17 *	18 *	19 *	20 *	
21 *	22 *	23 *	24 *	25 *	26 *	27 *	28 *	29 *	30 *	
31 *	32 *	33 *	34 *	35 *	36 *	37 *	38 *	39 *	40 *	
41 *	42 *	43 *	44 *	45 *	46 *	47 *	48 *	49 *	50 *	
51 *	52 *	53 *	54 *	55 *	56 *	57 *	58 *	59 *	60 *	
61 *	62 *	63 *	64 *	65 *	66 *	67 *	68 *	69 *	70 *	
71 *	72 *	73 *	74 *	75 *	76 *	77 *	78 *	79 *	80 *	
81 *	82 *	83 *	84 *	85 *	86 *	87 *	88 *	89 *	90 *	
91 *	92 *	93 *	94 *	95 *	96 *	97 *	98 *	99 *	100 *	
Programmed					Unprogrammed					

Recording a Macro

To record a macro enter the command: RECORD MACRO N ENTER.

The live/blind box on the touch screen and monitor(s) displays "MACRO" on a green background while the macro is being recorded and reverts back to it's normal live/blind indication on completion of the macro recording.

Type in the series of key commands from the front panel (Note - the MACRO key cannot be recorded as part of the macro).

Press the MACRO key to complete the recording.

Macros

Naming a Macro

To name a macro enter the following command:

MACRO N SET or SET MACRO N ENTER.

Type in the required name using the external keyboard (or keyboard mimic on the touch screen) and then press ENTER to complete the operation.

Running a Macro

To run a macro click on the macro in the **Macro Window** or use the cursor keys to select a macro in the Macro Window and press the ENTER key.

Macros may also be run by entering the command: MACRO N ENTER.

Copying a Macro

To copy a macro from one location to another enter the command:

MACRO N COPY P ENTER. (Copies macro N to macro P)

Moving a Macro

To move a macro from one location to another enter the command:

MACRO N MOVE P ENTER. (Moves macro N to macro P)

Deleting a Macro

To delete a macro enter either of the following commands:

MACRO N DELETE or DELETE MACRO N ENTER

To delete a range of macros enter the following command:

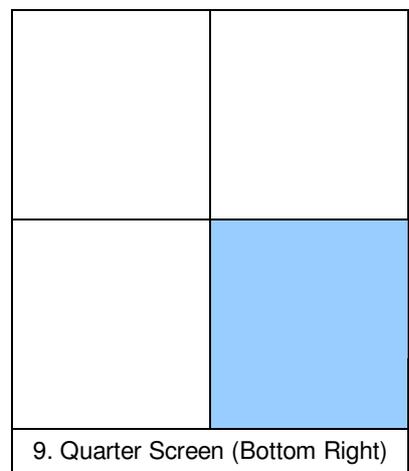
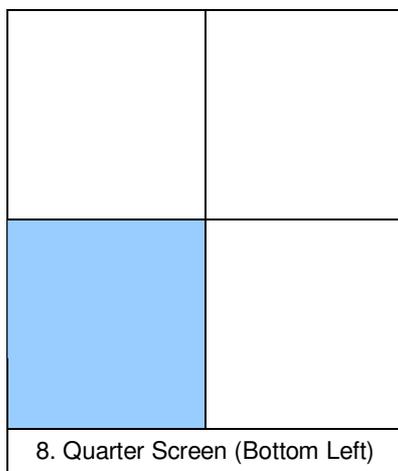
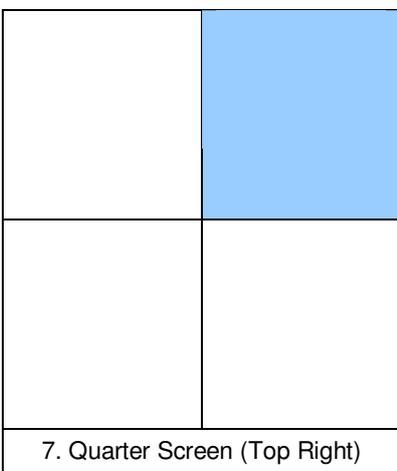
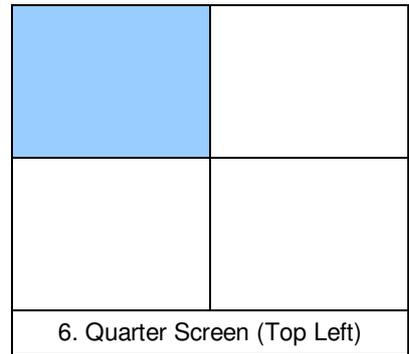
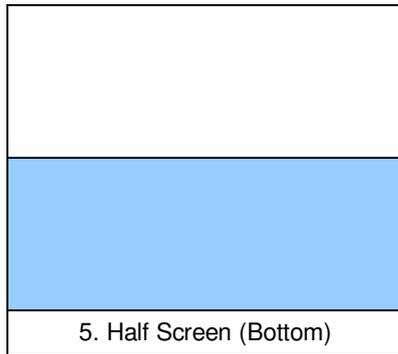
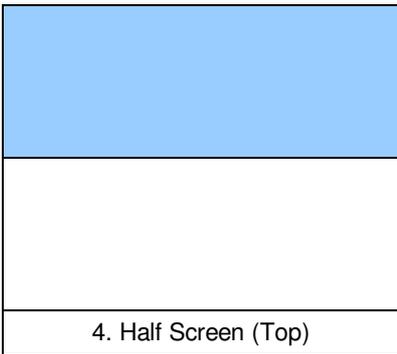
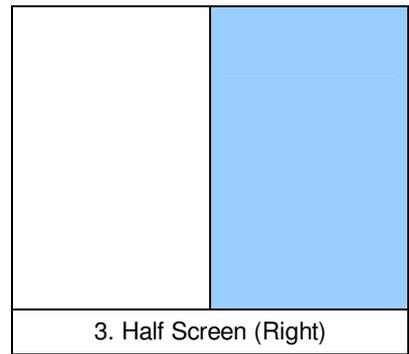
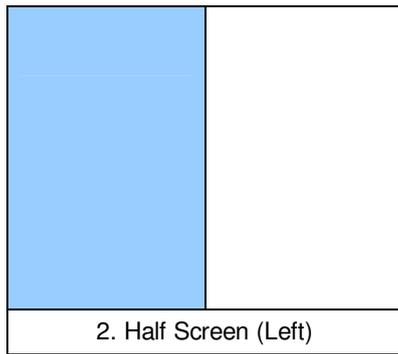
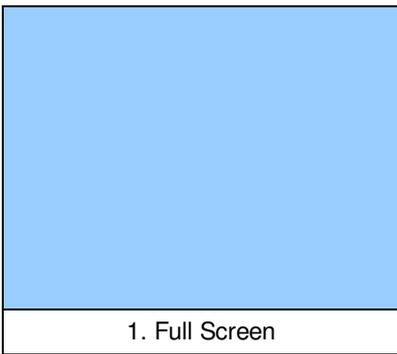
DELETE MACRO A THRU B ENTER

Other Features

Windows

The Frog 2 allows you to display a number of different windows on the touch screen and monitor screen(s) and to open, select, move, resize and delete windows, as required.

A window displayed on a monitor can be full-size, half-size or quarter-size, and can be displayed in a number of different positions, as illustrated below:



Other Features

Screen Navigation Keys

The five screen navigation keys to the left of the touch screen are used for selecting, moving, sizing and closing windows on the monitor displays as follows:

- **CLOSE** - Closes the selected (active) window.
- **SCREEN** - Moves the selected (active) window to the other monitor display or touch screen.
- **SIZE** - Resizes the selected (active) window by cycling through the display options.
- **SELECT** - Selects a window by cycling through the windows on the touch screen and monitor displays. Holding down the SHIFT key and pressing SELECT cycles through the windows in the reverse order.
- **VIEW** - Used in the command syntax for user view functionality and also for displaying various Preview windows (see later this section for details).

Position Palettes					Beamshape Palettes					
1 P MM HOME	2 P MM FRONT HIGH	3 P MM FRONT LOW	4 P MM TWO SIDES H	5 P MM CENTRE H	1 CB mm beam home	2 B MM GLASS	3 B MM RING	4 B MM SPOTS	5 B MM ATOM	
6 P MM CEN/SIDE	7 PE MM BIG W	8 *	9 *	10 *	6 B mm gobo 5	7 B MM PINK/WHITE	8 B mm slow rot	9 B mm fast rot	10 B mm strobe	
11 *	12 *	13 *	14 *	15 *	11 B MACS STROBE	12 CB GLASS ROTATE	13 B RING ROTATE	14 ICBE	15 BE MAC 250 HOME	
16 *	17 *	18 *	19 *	20 *	16 ICBE	17 *	18 *	19 *	20 *	
21 IBPE	22 ICP	23 CP	24 PE	25 CBP	21 *	22 *	23 *	24 *	25 *	
Colour Palettes					Effects Palettes					
1 C mm white	2 C mm purple	3 C mm orange	4 C mm pink	5 C mm cyan	1 E Circle >	2 E Circle <	3 E Ellipse >	4 E Ellipse <	5 E Square >	
6 C mm blue	7 C mm yellow	8 C mm green	9 C mm red	10 C mm col scroll	6 E Square <	7 E Qued >	8 E Qued <	9 E Triangle >	10 E Triangle <	
11 C 250 WHITE	12 C 250 YELLOW	13 C 250 CYAN	14 CE 250 PINK	15 C 250 GREEN	11 E Figure 8 >	12 E Figure 8 <	13 *	14 *	15 *	
16 C 250 PURPLE	17 C 250 RED	18 C 250 ORANGE	19 *	20 C 250 COL SCROLL	16 *	17 *	18 *	19 *	20 *	
21 C 500 WHITE	22 C 500 PURPLE	23 C 500 RED	24 C 500 MAGENTA	25 C 500 GREEN	21 IPE MACS NODDING	22 CBP MM YELLOW SEARCHLIGHT	23 CBP	24 ICBE	25 ICBE	
Position Palettes		Colour Palettes		Beamshape Palettes		Effects Palettes		100%	5.0	45%
									23:26	

Monitor Display with Four Windows

Mouse Operation on Windows

You can also use a mouse to navigate around the various windows on the monitors. At the bottom of the monitor display is a bar where shortcut buttons appear for all the windows on that screen. Click on these buttons to force the windows to come to the front of the view.

Right clicking with the mouse switches the mouse pointer between the monitor outputs.

Preview Cue Window

The contents of a programmed cue can be seen by displaying the **Preview Cue Window** on the monitor. Click on the [Cue Details] soft key in the **Cue Stack Window** or enter the following command:

VIEW S/C ENTER (S = stack number, C = Cue number)

The Preview Cue Window is the same format as the Program Window and shows what is programmed in the specified cue on a fixture by fixture basis.

As with the Program Window there are three different views allowing the user to see the parameter values, fade times or delay times.

The [Previous] and [Next] buttons can be used to view the cues in sequence.

Preview Cue 1/5 - Guitar Solo										
Previous		Next								Close
Values		Details (%)								
	Intensity	Pen	Tilt	P/T Spd	P/T Mac	P/T MSp	Cyan	Mag		
Parcan [1 *]	25									
Parcan [2 *]	25									
Parcan [3 *]	25									
Parcan [4 *]	25									
Parcan [5 *]	25									
Parcan [6 *]	25									
Parcan [7 *]	25									
Parcan [8 *]	25									
MAC 2000 Prof (16) [1 *]	0	P2 (36)	P2 (26)	Tracking			C3 (0)	C3 (35)		
MAC 2000 Prof (16) [2 *]	0	P2 (36)	P2 (33)	Tracking			C3 (0)	C3 (35)		
MAC 2000 Prof (16) [3 *]	0	P2 (49)	P2 (41)	Tracking			C3 (0)	C3 (35)		
MAC 2000 Prof (16) [4 *]	0	P2 (62)	P2 (34)	Tracking			C3 (0)	C3 (35)		
ClrWash575ATZoom 3 [1 *]	25	P7 (52)	P7 (67)	P7 (0)	Disable P/T Macro	No Macro	C3 (0)	C3 (35)		
ClrWash575ATZoom 3 [2 *]	25	P7 (51)	P7 (67)	P7 (0)	Disable P/T Macro	No Macro	C3 (0)	C3 (35)		
ClrWash575ATZoom 3 [3 *]	25	P7 (50)	P7 (67)	P7 (0)	Disable P/T Macro	No Macro	C3 (0)	C3 (35)		
ClrWash575ATZoom 3 [4 *]	25	P7 (46)	P7 (67)	P7 (0)	Disable P/T Macro	No Macro	C3 (0)	C3 (35)		
ClrWash575ATZoom 3 [5 *]	25	P7 (47)	P7 (67)	P7 (0)	Disable P/T Macro	No Macro	C3 (0)	C3 (35)		
Goldenscan 3 Exp [4 *]	Dimmer 0% to 100%	P3 (11)	P3 (68)							
MAC 250 (Mode 4) [1 *]	0	P2 (36)	P2 (23)	P2 (0)						
MAC 250 (Mode 4) [2 *]	0	P2 (62)	P2 (23)	P2 (0)						

Increasing	Decreasing	Blocked	Tracked	Not Programmed
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Cue Stack	Preview Window	100%	5.0	98%
		100%	LIVE	14:21

The fixture parameter data in the window is colour coded to identify level changes between previous cues and the cue you are viewing. For the first cue in the stack, the values are coded relative to the highlight values of the fixture parameters:

- Blue** The parameter is programmed and it's value has increased.
- Green** The parameter is programmed and it's value has decreased.
- Red** The parameter is programmed at the same value as previous (blocked).
- Magenta** The parameter is not programmed in this cue and it's value has tracked from a cue earlier in the cue stack.

Other Features

Preview Palette Windows

The contents of a palette can be seen by displaying the **Preview Colour Palette Window**, **Preview Beamshape Palette**, **Preview Position Palette** or **Preview Effects Palette** on the monitor by entering the following command:

VIEW <attribute> N ENTER (<attribute> = COLOUR, BEAM, POSITION or EFFECTS)

The Preview Palette Windows are the same format as the Program Window and show what output levels are programmed in the specified palette on a fixture by fixture basis.

The [Previous] and [Next] buttons can be used to view the palettes in sequence.

	Intensity	Pan	Tilt	P/T Spd	P/T Mac	P/T MSp	Cyan	Magenta	Yellow	Color 1	Co
MAC 500 (Mode 4) [1 *]										Blue	
MAC 500 (Mode 4) [2 *]										Blue	
MAC 500 (Mode 4) [3 *]										Blue	
MAC 600 (Mode 4) [1 *]							100	100	0		
MAC 600 (Mode 4) [2 *]							100	100	0		
MAC 600 (Mode 4) [3 *]							100	100	0		
MAC 600 (Mode 4) [4 *]							100	100	0		
MAC 600 (Mode 4) [5 *]							100	100	0		
MAC 600 (Mode 4) [6 *]							100	100	0		
MAC 600 (Mode 4) [7 *]							100	100	0		
MAC 600 (Mode 4) [8 *]							100	100	0		
MAC 600 (Mode 4) [9]							100	100	0		
MAC 600 (Mode 4) [10]							100	100	0		
MAC 600 (Mode 4) [11]							100	100	0		
MAC 600 (Mode 4) [12]							100	100	0		
MAC 2000 Prof (16) [1 *]							100	100	0		
MAC 2000 Prof (16) [2 *]							100	100	0		
MAC 2000 Prof (16) [3 *]							100	100	0		
MAC 2000 Prof (16) [4 *]							100	100	0		
CirWash575ATZoom 3 [1 *]							100	100	0		
CirWash575ATZoom 3 [2 *]							100	100	0		
CirWash575ATZoom 3 [3 *]							100	100	0		
CirWash575ATZoom 3 [4 *]							100	100	0		

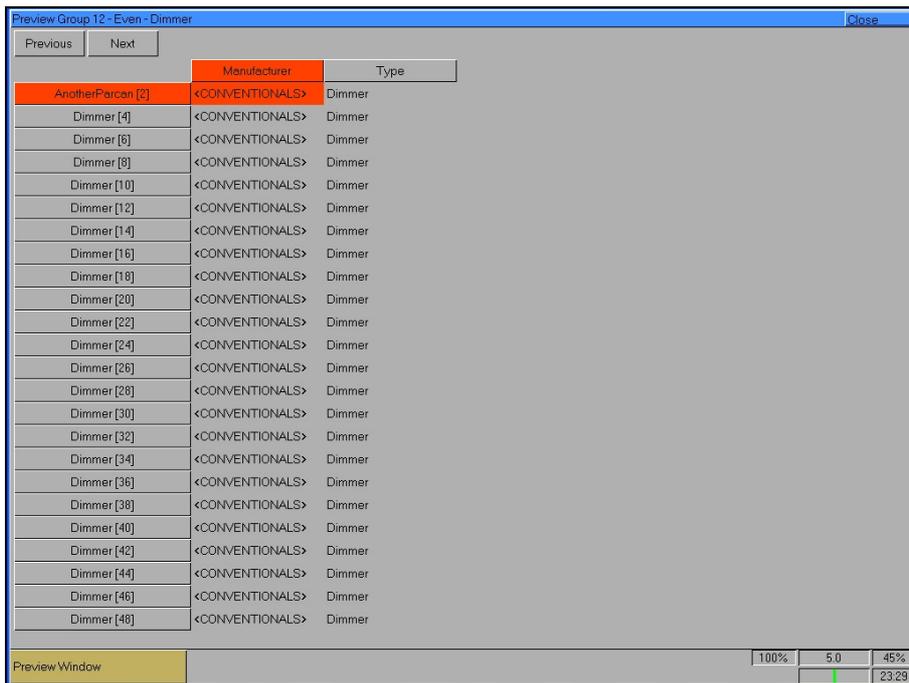
Cue Stack Preview Window 100% 5.0 98%
100% LIVE 14:22

Preview Group Window

The contents of a group can be seen by displaying the **Preview Group Window** on the monitor by entering the following command: VIEW GROUP N ENTER.

The Preview Group Window lists all the fixtures that are contained in the selected group in the form of a table, displaying the fixture name, user fixture number, Manufacturer and Fixture Type.

The [Previous] and [Next] buttons can be used to view the groups in sequence.



Preview Page Window

The cue stacks assigned to the playback faders on a particular page can be seen by displaying the **Preview Page Window** on the monitor by entering the following command:

VIEW PAGE N ENTER

For each fader on the page that has a cue stack assigned, this window displays the cue stack number and name (if defined).

The [Previous] and [Next] buttons can be used to view the pages in sequence.

Other Features

Preview UDF / UDK Windows

The contents of a programmed UDF or UDK can be seen by displaying the **Preview UDF Window** or **Preview UDK Window** on the monitor by entering the following commands:

VIEW <UDF> (where <UDF> is the flash key for the UDF to be previewed)

VIEW <UDK> (where <UDK> is the UDK to be previewed)

The Preview UDF and Preview UDK Windows show what is programmed in the specified UDF or UDK on a fixture by fixture basis.

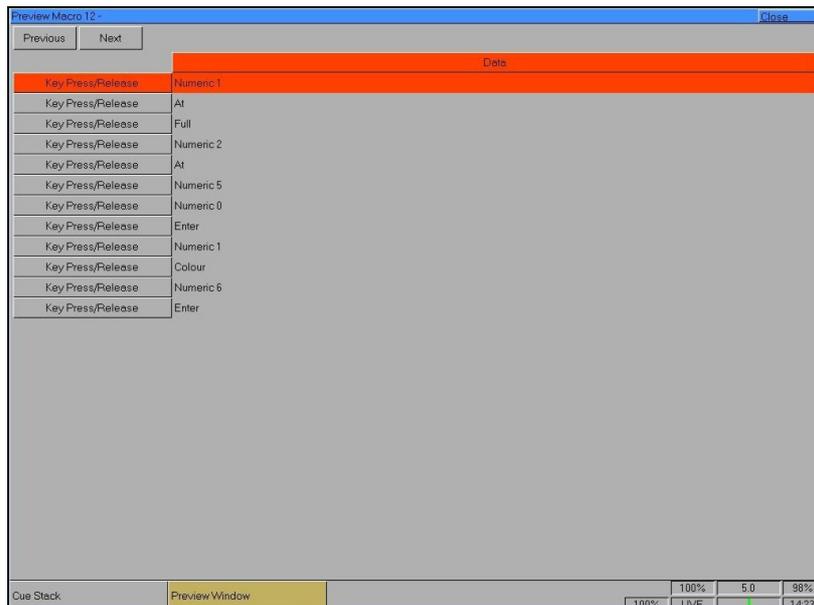
The [Previous] and [Next] buttons can be used to view the UDF's or UDK's in sequence.

Preview Macro Window

The commands programmed into a user defined macro can be seen by displaying the **Preview Macro Window** on the monitor by entering the following command:

VIEW MACRO N ENTER

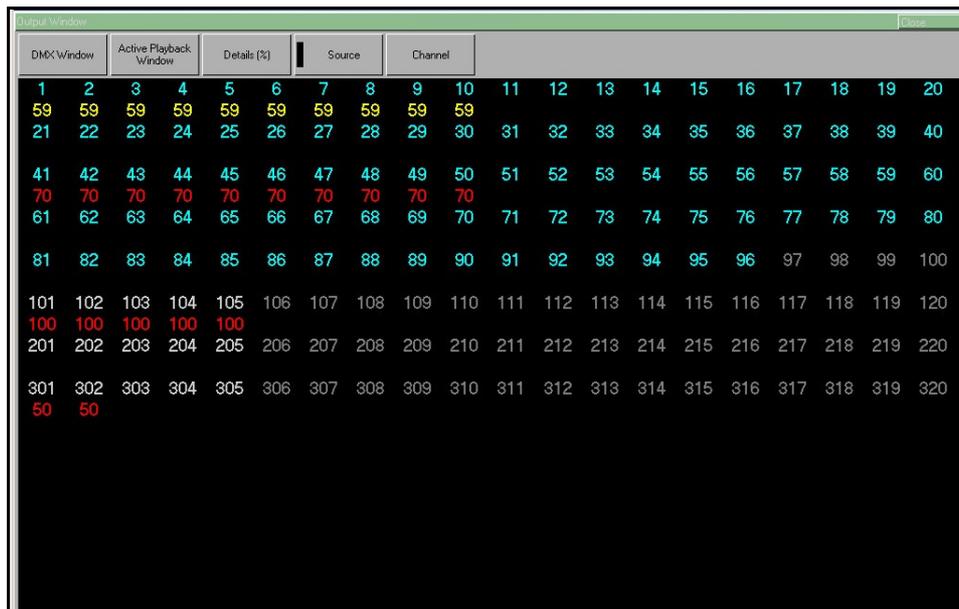
The [Previous] and [Next] buttons can be used to view the macros in sequence.



Output Window

The **Output Window** displays the outputs which are coming from all areas of the desk (Programmer, Cue Stacks, UDF's or UDK's). The outputs can be viewed as DMX values, Percentage values or parameter Details as in the **Program Window**.

To display the **Output Window** press the [Output Window] key on the touch screen:



There are a number of soft buttons at the top of the Output Window which determine the format of the output data as follows:

When the [Percent] soft button is selected a drop down menu is displayed with the following options:

- **Percent** – When this option is selected all the fixture parameter values are displayed as percentages (ie 0 – 100% for both 8 bit and 16 bit parameters).
- **DMX** - When this option is selected all the fixture parameter values are displayed as DMX values (ie 0 - 255 for 8 bit parameters or 0 - 65535 for 16 bit parameters).
- **Details (%)** – When this option is selected the fixture parameter values will be displayed as the parameter detail names (eg Red, Gobo 1) where they are defined in the fixture data. If parameter details are not defined, the window will show the actual numerical values in %.
- **Details (DMX)** – When this option is selected the fixture parameter values will be displayed as the parameter detail names (eg Red, Gobo 1) where they are defined in the fixture data. If parameter details are not defined, the window will show the actual numerical values in DMX (0-255 or 0 – 65535).

Other Features

Source

When the [Source] button is selected, the Output Window displays the source of the output data rather than the actual output values as follows:

- **P** Programmer (Program Window)
- **C S/C** Cue (Stack Number / Cue Number)
- **UDF P/N** User Defined Fader (Page / Number)
- **UDK P/N** User Defined Key (Page / Number)
- **PARKED** The fixture has been parked
- **D** Default value of the parameter

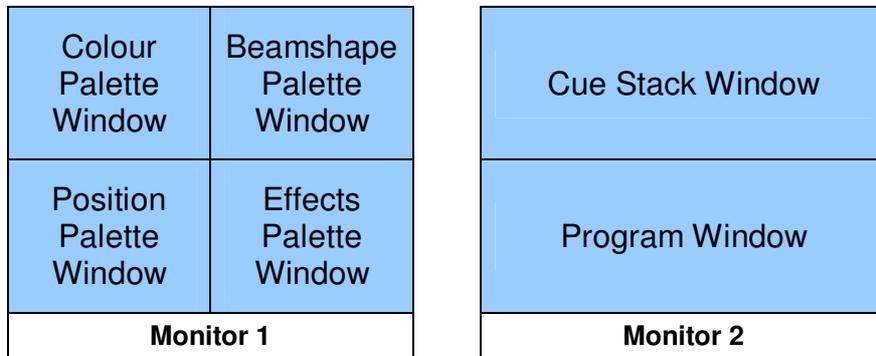
Channel / Fixture / Intensity Views

There are three different views of the Output Window (Channel, Fixture and Intensity). Click on the [Channel] button and select the required view from the drop down menu.

Other Features

User Views

The Frog 2 desk provides the facility to save up to 5 user defined views. A User View defines the configuration of the windows displayed on the two monitors, for example:



User View Toolbar

Press the VIEW key to bring up the **User View Toolbar** on the touch screen. Each of the User Views has a soft button which shows the view number and name (if defined). Unprogrammed views have a * next to the view number. For example:

View 1 K-Nine's View	View 2 CBPE Palettes	View 3 Cue Stack/DMX PW/Outputs	View 4 *	View 5 *
----------------------------	----------------------------	---------------------------------------	----------	----------

Recording a User View

Set up the monitor displays with the required windows. Press the RECORD key, then the VIEW key and then press the corresponding soft key in the **User View Toolbar** on the touch screen. Select the [Record All] or [Record Visible] option as required.

If the selected view contains a recorded view an overwrite warning message is displayed allowing you to confirm the overwrite or cancel the operation.

Alternatively, you can enter one of the following commands:

RECORD VIEW N ENTER	Records the window configuration into view N.
RECORD VIEW N SET	Allows naming of view N at the time of recording.

Naming a User View

It is possible to name a user view by entering one of the following commands:

VIEW N SET or SET VIEW N ENTER.

Type in the required name using the external keyboard (or keyboard mimic on the touch screen) and then press ENTER to complete the operation.

Recalling a User View

Any of the recorded user views can be recalled by pressing the VIEW key and then pressing the corresponding soft key on the **User View Toolbar** or by entering the command: VIEW N ENTER.

Deleting a User View

To delete a user view enter either of the following commands:

VIEW N DELETE or DELETE VIEW N ENTER.

Other Features

Artnet

The Frog 2 is capable of outputting its DMX data over Ethernet, using the Artnet standard. Artnet is a protocol created by Artistic Licence to transmit multiple universes of DMX over a standard Ethernet connection. The Frog 2 transmits all 4 universes via Ethernet.

Software Updates

When software updates become available for the Frog 2, announcements will be posted on the Zero 88 Product Support Forum which can be accessed via the Zero 88 website.

Zero 88 consoles have a long history of user-inspired development. If you have any questions on the operation of the desk, bug reports or a suggestion for a feature which is not currently included in the Frog 2 or any of our other Frog range of consoles, visit the Zero 88 Product Support Forum and make a post.

The screenshot shows the Zero 88 website's forum interface. At the top, there is a navigation bar with the Zero 88 logo and the tagline "FROM LIGHTING DESIGN TO LIGHTING INNOVATION". Below the navigation bar, there is a search bar and a list of subforums. The main content area displays a table of "Product Support Subforums" with columns for Forum, Topics, Replies, and Last Post Info.

Forum	Topics	Replies	Last Post Info
Frog 2 Information, questions, suggestions etc relating to the Frog 2 console. Subforums: Software Releases , How do I.....? , Suggest a Feature , Phantom Frog 2 , Beta Test	107	261	Jul 26 2007, 10:18 AM In: Manual By: Pipo
Leap Frog 48/96 Information, questions, suggestions etc relating to the Leap Frog 48 and Leap Frog 96 consoles. Subforums: Software Releases , How do I.....? , Suggest A Feature , Bugs & Errors , Hints and Tips , Phantom Leap Frog 48/96 , Beta Test	15	21	Aug 17 2007, 07:52 PM In: Desk crash & Deleting chas... By: Kresten Bager
Frog Range The Frog Series: Frog, Fat Frog, Leap Frog, Mambo Frog, Bull Frog and Frog Box. Subforums: Software Releases , How do I.....? , Suggest a Feature , Bugs & Errors , Hints and Tips , Frog Box & Frog Screen , Phantom Frog , Beta Test	1,319	5,067	Today, 11:43 AM In: Moving Fixtures Problem On Fat... By: Kirkup xp
Illusion Range Illusion 120/240 and Illusion 500 desks Subforums: Software Releases , How do I.....? , Suggest a Feature , Bugs & Errors , Beta Test	170	333	Jul 18 2007, 06:46 PM In: the difference between 120 n 5... By: m1ndy9876
Other Zero 88 Products Zero 88 products excluding Frogs and Illusions can be found in here.	206	475	Yesterday, 10:59 PM In: Betapack1

Glossary

This section of the manual contains a list of terms used with the Frog 2 desk:

Active	A key used in conjunction with other keys to 'pull' various channel data into the Program Window .
Alignment	A function in Setup which allows the user to invert pan and/or tilt or swap pan/tilt parameters for individual fixtures.
ArtNet	A free networking standard from Artistic Licence.
Attribute	A group of fixture Parameters. On the Frog 2 these are Colour, Beam, Position and Effects.
Auto Group	A group that is automatically created by the desk.
Auto Palette	A colour, beamshape, position or effect palette that is automatically created by the desk.
Blind	Modifying the program data within the desk without affecting the outputs.
Blackout	This key sets the outputs of all fixture intensity channels to 0%.
Brightness	See Intensity .
CD-RW	A rewritable CD, or a rewritable CD drive. 650mb of information can be stored on a CD.
Chase	A complete cue stack can be turned into a chase. A chase is a series of cues which are played back automatically. A Chase has a number of modifiers which determine how it runs.
Command Line	The area of the touch screen which displays commands as they are entered by the user. Commands can be entered using front panel keys, soft keys, control wheels, external keyboard or mouse.
Control Wheel	The three control wheels on the desk are used to adjust fixture parameter and other data levels. The parameters assigned to the control wheels are shown on the touch screen.
Cue	The basic element for storing fixture parameter levels and times. Cues can be played back via manual or virtual playbacks or they can be assigned to UDF's or UDK's .
Cue Stack	See Stack .
Details	An option on the Program, Preview and Output Windows which allows the user to see fixture parameter values as text descriptions rather than percentage or DMX values.
Direction	The Chase modifier which determines which order the steps are output when a Chase is run.

Glossary

DMX-512	Standard communications protocol for moving heads and dimmers. 512 channels of control are digitally multiplexed and sent down a cable to fixtures, which listen for their specific data, according to their start address.
Drive	The Chase modifier which determines what triggers each step.
Effect	A mathematical function (sine, cosine, ramp etc) which can be applied to one or more fixture parameters. The Frog 2 desk provides a number of standard effects.
Ethernet	Networking.
Fan Modes	When controlling multiple fixtures, the ability to spread the data relative to a start point, so that some fixtures values change upwards, whilst others change downwards. This can be used to create visual effects such as rainbows or arches with a line of fixtures.
Fixture	A parameter or combination of parameters all found within the same unit, for example a Mac 500 or a Parcan.
Flash	Pressing the flash button results in a temporary increase in brightness of the output. The intensity channels are sent to their programmed value when the Flash button is pressed. This is a temporary action which is removed when the button is released. Flash buttons can also be set to operate in Latch mode.
Flashdisk	A USB device with storage capabilities. The Frog 2 is supplied with a 32mb USB Flashdisk.
Full	Key that sets the Intensity of the selected fixture(s) to 100%.
Grand Master	This fader on the front panel controls the final output values of all fixture intensity channels.
Group	A collection of fixtures. Groups can be Master Groups , Auto Groups or User Defined Groups .
Highlight	A function which automatically puts a fixture into Open White, No Gobo, Shutter Open and the Dimmer at 100%. This function can be turned on or off via the HIGHLIGHT key. Parameters which are Highlighted are not tagged. Highlight is most often used for editing the position of a fixture.
Home	Fixtures are said to be at "Home" when their pan and tilt are at 50% with an open white beam at full intensity. The shortcut for Home is SHIFT + HIGHLIGHT. Homed parameters are tagged automatically.
Intensity	How bright a fixture is. Also known as Brightness or Dimmer .
Jump	An instruction in a cue memory which tells the cue stack to select another cue as the next one. This is used to bypass cues without deleting them.
Knockout	A soft key on the touch screen that releases the selected fixtures from any running cue stack, UDF , UDK or Program Window .

Latch	A function of UDF Flash buttons and UDKs, which enables them to have a two stage action. The first press to activate (on), a second press to deactivate (off).
Macro	A series of commands, triggered from a single button press or activated when a cue is triggered.
Master Group	A Group of fixtures that is automatically generated by the desk based on the fixture schedule. Master Groups are displayed in a toolbar on the touch screen when the GROUP key is pressed.
Modifiers	A number of parameters which determine how a Chase is output. Chase modifiers are Drive, Direction, Speed, Fade and Shots.
Node	An area of the desk which can have possession over the parameters of fixtures.
Override	A special User Defined Fader (UDF) that can speed up or slow down fades globally on the desk.
Page	A set of 10 Playbacks. The Frog 2 has 100 pages of playbacks.
Park	The function that freezes a fixture's DMX output values.
Patch	The fixture schedule which shows what fixtures are assigned and what DMX output addresses they are patched to.
Palette	Programmed fixture data, normally of a single Attribute which is used in programming Cues, UDF's and UDK's. Palettes are nominally grouped into the attributes Colour, Beamshape, Position and Effects.
Parameter	An individual function within a fixture, controlled by one or more DMX channels (Dimmer, Colour, Gobo, Focus, Pan, Tilt etc).
Playback	An area within the desk for playing back cues in sequence. The Frog 2 desk has 10 playbacks, which can be on any of 100 pages. Each playback has its own Go, Pause and Flash buttons, as well as a master level fader.
Pause	A method of temporarily halting a cue stack that is running.
Program Window	The window on the monitor that shows selected fixtures and parameters which have been changed (tagged).
Release	Remove control of parameters from a playback, UDF or UDK to allow another area of the desk to regain control of the parameters.
Shift	A key on the front panel which is used in conjunction with a number of other front panel keys to provide a wide range of additional functions, for example, opening windows on the monitor screens.
Shots	The Chase modifier which determines how many times a Chase will run after being triggered.
Speed	The Chase modifier which determines how fast a Chase runs.
Stack	A stack (or cue stack) is a group of cues in sequence. On the Frog 2 desk, there are 1000 user programmable Cue Stacks.

Glossary

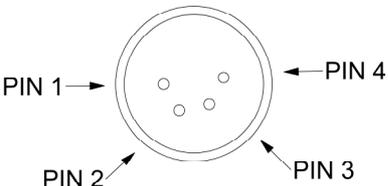
Tagging	The method of marking parameters to be programmed. Only Tagged parameters are recorded. Tagged parameters are shown in orange on the touch screen and Program Window.
Trigger	The method by which a Cue is output. Triggers can be set to GO button, automatic, Real Time, SMPTE Time, MIDI Time or CD Time.
Touch Screen	The screen built into the Frog 2 desk which displays buttons for user selection. This is full colour.
Try Cue	A function that allows you to see the transition from a previous state to the current state before recording the data into a cue.
UDF	User Defined Fader. The top bank of faders on the Frog 2, which can be defined as a number of options, according to user preference.
UDK	User Defined Key. The bank of buttons top right of the control surface which can be assigned as a number of different functions.
Unpark	The function that unfreezes a fixture's DMX output values.
USB	Universal Serial Bus. A standard for the transfer and storage of information.
VGA	Video Graphics Array. The monitor outputs on the back of the Frog 2 output as Super-VGA.
Zero 88	The manufacturer of the Frog 2 desk.

Technical Specification

Power Supply

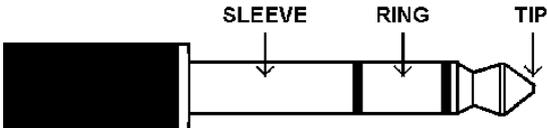
A separate inline transformer with 4 pin male XLR connector on the desk. The desk is fitted with a power on/off switch on the back panel and one on the power supply itself.

- Mains Voltage 90 – 253 VAC
- Mains Frequency 47 – 63 Hz
- Mains Inlet Connector CEE22
- Power Consumption < 20 W

Connector	Pin Number	Power
	1	0V
	2	+5V DC @ 10 A
	3	+12V DC @ 3 A
	4	Not Connected
	Shell	GND

Audio

The desk has three audio ports on the rear panel (line in, line out and sound to light input) as stereo ¼ inch jack sockets.

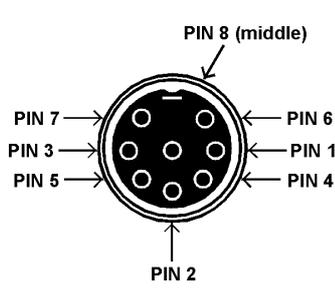
	Connections	
	Tip	Left Channel
	Ring	Right Channel
Sleeve	0V Signal Ground	

Technical Specification

Remote Input

An 8 pin DIN connector providing 6 remote switches (common ground). Short pin to 0v to simulate a button push.

Warning – Do NOT connect anything to the undefined pin.

Socket	Pin Number	Remote Switch
	1	Switch 6
	2	Switch 1
	3	Switch 2
	4	Switch 3
	5	Switch 4
	6	Switch 5
	7	Not Used
	8	0V Common Ground

SMPTE

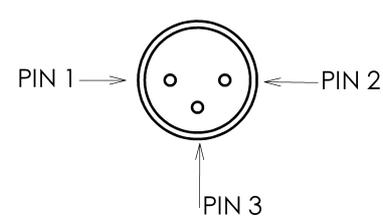
3 pin XLR input and output.

Output 0dBm.

Input 0dBm +/- 10dBm.

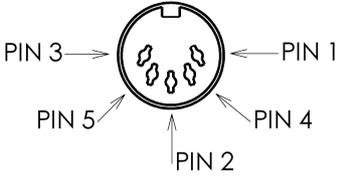
47 kOhm input impedance.

Maximum 50V RMS.

Connector	Pin Number	Description
	1	Signal Ground
	2	Output
	3	Input

MIDI

2 x 5 pin DIN connectors providing MIDI input and MIDI thru.

Connector	Pin Number	MIDI Input	MIDI Thru
	1	Not Used	Not Used
	2	Not Used	Signal Ground
	3	Not Used	Not Used
	4	Opto Isolated Input	Output
	5	Opto Isolated Input	Output

CAN Port

The desk also has a CAN port and is capable of supporting iCAN or ChilliNet messages.

Ethernet

The desk is fitted with an RJ45 Ethernet port and is capable of supporting the Artnet Ethernet standard.

USB Ports

Two external USB ports are fitted on the sloping part of the front panel. These support the USB 1.1 standard.

Mouse

Mini DIN connector (PS/2) and USB 1.1.

External Keyboard

Mini DIN connector (PS/2) and USB 1.1.

External Floppy Drive

If required, an external floppy drive can be connected to the desk, via USB 1.1.

Technical Specification

External Storage Devices

The primary method of storage for the Frog 2 is via USB Memory Sticks (also known as Flash Disks or Mass Storage Devices). These can be connected via the USB 1.1 ports.

AV Port

The desk also has a 9 pin D-type RS232/RS485 internally selectable – for future use.

Video Output

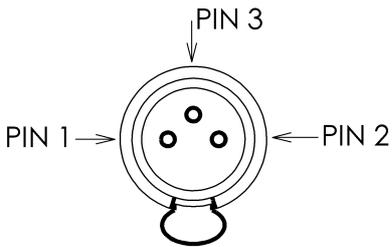
2 x 15 pin D connector, XGA resolution output.

CDRW Drive

The desk is fitted with a 52x32x52x speed CDRW drive fitted as standard.

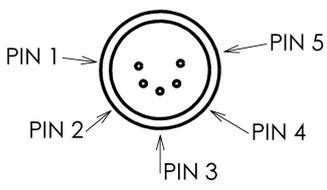
Desk Light

3 pin XLR socket, 12V dimmable under processor control, maximum 5W.

Connector	Pin Number	Description
	1	Not Connected
	2	0V
	3	+12V

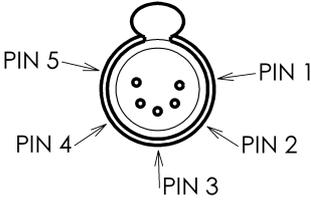
DMX Input

5 pin XLR, not isolated, with voltage protection. Data on channels 1 - 512 only.

Connector	Pin Number	DMX Output
	1	Signal Ground (0V)
	2	DMX Drive Complement (1-)
	3	DMX Drive True (1+)
	4	Not Connected
	5	Not Connected

DMX Output

Four DMX universes each consisting of dual 5 pin XLR, isolated, with voltage protection and data output indicator. Data on channels 1 – 512 only.

Connector	Pin Number	DMX Output
	1	Signal Ground (0V)
	2	DMX Drive Complement (1-)
	3	DMX Drive True (1+)
	4	Not Connected
	5	Not Connected

Technical Specification

Index

A

Absolute Addressing.....	56
Active Key.....	99
Active Playback Window.....	165
Adding Fixtures.....	40
Artnet.....	168
At Key.....	13
Attribute Keys.....	16
Audio Ports.....	173
Auto Groups.....	55
Auto Menus.....	55
Auto Palettes.....	55
AV Port.....	176

B

Beam Key.....	16
Blackout Key.....	11
Blank Cue.....	117

C

CAN Port.....	175
CDRW Drive.....	176
Chase.....	119
Chase Modifiers.....	119
Direction.....	119
Drive.....	119
Fade.....	120
Shots.....	120
Speed.....	120
Clear Key.....	102
Clear Options.....	70
Colour Key.....	16
Command Line.....	87
Control Channels.....	8
Control Wheels.....	16
Conventions.....	7
Cue Stack Directory Window.....	114
Cue Stack Setup Window.....	116
Blank Cue.....	117
Block.....	117
Chase Options.....	119
Intensity Mixing.....	117
Master Fader.....	118
Move on Dark Options.....	122
Renumbering Cues.....	116
Timecode.....	116

Trigger Options.....	121
Unblock.....	117
Cue Stack Window.....	104
Cue Details.....	105
Learn Mode.....	106
Stack Setup.....	105
Cue Stacks.....	114
Copying a Cue Stack.....	115
Deleting a Cue Stack.....	115
Moving a Cue Stack.....	115
Naming a Cue Stack.....	115
Releasing a Stack.....	112
Selecting a Stack.....	107
Turning into a Chase.....	119
Cues.....	103
Adding Macros.....	110
Copying a Cue.....	113
Deleting a Cue.....	113
Editing Delay Times.....	109
Editing Fade Times.....	109
Editing Output Levels.....	108
Editing Triggers.....	109
Moving a Cue.....	113
Naming a Cue.....	108
Playing Back Cues.....	111
Programming Cues.....	107
Recording a Cue.....	107
Cursor Keys.....	16

D

Desk Information.....	69
Desk Light.....	176
Desk Setup.....	57
Behaviour.....	62
Cue Stack Defaults.....	64
Default Times.....	63
Displays.....	58
Event Monitor.....	65
Inputs.....	60
Lock Functions.....	65
Outputs.....	61
Peripherals.....	59
DMX Input.....	177
DMX Output.....	177
DMX Output Window.....	165

Index

E

Editing Fixtures	46
Alignment	49
Change Type.....	54
Default Values.....	48
Fixture Names.....	47
Fixture Numbers.....	47
Home Values.....	48
Patch Functions.....	50
Topset Values	48
Effects.....	145
Applying an Effect	150
Copying an Effect.....	151
Deleting an Effect.....	151
Effect Parameters.....	147
Effects Palette Window	145
Effects Window	149
Moving an Effect.....	151
Naming an Effect.....	150
Outputting an Effect.....	151
Recording an Effect.....	150
Standard Effects.....	146
Using Control Wheels.....	148
Effects Key.....	16
Effects Palette Window	145
Effects Window	149
Enter Key	13
Ethernet	175
External Floppy Drive.....	175
External Keyboard	175
External Storage Devices	176

F

Fade Time Commands	
Editing Cues.....	94
Program Window.....	93
Recording Cues.....	93
Files	66
Clearing User Fixture Types.....	68
Loading Shows.....	67
Loading User Fixture Types	68
Saving Shows	66
Fixtures	8
Frog 2 Development Team	16
Front Panel Controls.....	10
Full Key.....	13
Function Keypad.....	13

G

Glossary.....	169
---------------	-----

Grand Master.....	11
Graphical Interface	8
Group Key.....	16
Group Window	77
Groups.....	77
Automatic Groups	78
Copying Groups	79
Deleting Groups	79
Group Window	77
Master Groups	78
Moving Groups.....	79
Naming Groups.....	79
User Defined Groups	78

H

Highlight Function	97
Home	98

K

Knockout.....	102
---------------	-----

L

Loading Shows	67
Lock Functions.....	65

M

Macro Window	155
Macros.....	153
CD Player Control Macros.....	154
Copying a Macro	156
Deleting a Macro	156
Don't Move on Dark Macros.....	153
In-Built Macros	153
Macro Window	155
Moving a Macro.....	156
Naming a Macro.....	156
Playback Macros.....	153
Recording a Macro	155
Running a Macro.....	156
Manual Playbacks.....	12
Master Go Key.....	12
Master Pause Key	12
MIDI	175
Mouse	175
Move on Dark	122

N

Network.....	71
Capture	74
Light Converse	72

Remote.....74
WYSIWYG75
Zero Wire73
Numeric Keypad13

O

Output Window163
Source.....164

P

Page Window.....123
Pages.....123
Loading a Page onto Playbacks.....124
Naming Pages.....124
Page Window123
Palette Window.....141
Palettes.....141
Copying a Palette.....143
Deleting a Palette.....143
Moving a Palette.....143
Naming a Palette.....142
Outputting a Palette.....142
Palette Windows.....141
Recording a Palette.....142
Park Function.....102
Patch.....40
Patch Views44
Channel View45
Fixtures View.....45
Outputs View.....44
Patch Window.....19
Patching Fixtures42
Position Key16
Power Supply.....173
Preview Cue Window.....159
Preview Group Window161
Preview Macro Window162
Preview Page Window.....161
Preview Palette Windows160
Preview UDF Window162
Preview UDK Window.....162
Program Window81
Delay View82
Fade View82
Intensity View82
Values View82
Programming81
Active Key99
Beamshape Parameters.....85
Clear.....102
Colour Parameters85

Controlling Fixture Parameters.....84
Copying Fixture Data86
Fade and Delay Times92
Highlight97
Home Function.....98
Intensity Parameters84
Knockout Function102
Park Function102
Position Parameters.....85
Program Window.....81
Record Options Window.....88
Rem Dim Function102
Selecting Fixtures.....83
Tagging Parameters.....86
Try Cue97
Wheel Editing Modes95

Q

Quick Start Tutorial17
Adding Fixtures18
Clear Options25
Controlling Fixtures27
Cues.....31
Desk Setup.....23
Editing Fixtures21
Getting Started17
Groups38
Loading Shows.....25
Palettes34
Patching Fixtures19
Program Window.....26
Saving Shows24
Setting up the Desk.....17
User Definable Faders36
User Definable Keys37

R

Record Options Window88
All Parameters.....89
Attribute Selection91
Data Selection.....88
Default Times90
Merge.....90
Remove.....90
Selected Fixtures88
Snapshot.....88
Tagged Fixtures88
Tagged Parameters89
Tracking Options89
Release Key12
Remote Input174

Index

Reset Desk	70
S	
Saving Shows	66
Screen Navigation Keys.....	158
Close Key	158
Screen Key.....	158
Select Key	158
Size Key	158
View Key	158
Setup	39
Setup Window.....	39
Shift Key	12
SMPTE	174
Software Updates	168
T	
Technical Specification	173
Thru Key	13
Touch Screen	15
Calibration	15
Command Line.....	15
Home Screen	15
Status Line	15
Wheel Assignments.....	15
Try Cue.....	97
U	
UDF Setup Window	127
Flash Mode	128
Mix Mode.....	129
Release	129
Trigger Level	128
UDF Controls	130
UDF/UDK Window	126
UDK Setup Window	136
Flash Mode	137
Mixing Mode.....	137
Release Mode	137
Update Key	100
Update Options Window	100
Updating Desk Software	69
Updating Fixture Library.....	69

USB Ports	175
User Definable Faders.....	125
Channel Data UDF	132
Cue UDF	131
Deleting a UDF.....	134
Editing a UDF	134
Fixture Parameter UDF	131
Group UDF.....	131
Override UDF	133
Time UDF.....	132
Virtual Playback Master UDF	133
User Definable Keys	135
Channel Data UDK.....	139
Cue UDK.....	139
Deleting a UDK	140
Editing a UDK.....	140
Fixture UDK.....	138
Group UDK.....	138
Macro UDK.....	139
Palette UDK	138
User Fixture Types	41
User Views.....	166
Deleting a User View.....	167
Naming a User View	167
Recalling a User View	167
Recording a User View.....	166
User View Toolbar.....	166
V	
Video Output.....	176
Virtual Playback	112
W	
Wheel Editing Modes.....	95
Absolute Mode	95
Fan First Mode	96
Fan Last Mode	96
Fan Middle Mode	96
Fan V Mode.....	97
Relative Mode	95
Windows	157
Mouse Operation.....	158



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