eos™

Lighting Control System
Operations Manual

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Introduction

Welcome to the Eos Operations Manual. This manual is a comprehensive resource for users of the Eos control console. Detailed explanations and examples of the functions of your Eos system are within.

As an alternative to this document, experienced console programmers may wish to view the *Eos Reference Manual (not yet available)* which is a quick-reference resource for those who may be familiar with programming but would like to gain familiarity with the unique features of Eos.

As a supplement to the *Eos Reference Manual*, experienced programmers may also wish to view the *Eos Conversion Chart (not yet available)* which is designed to help identify the Eos features that are different from other lighting control consoles as well as concepts new to Eos, and therefore will direct you to areas of the manual(s) that will be of specific interest to you.

This chapter contains the following sections:

Using this Manual

In order to be specific about where features and commands are found, the following naming and text conventions will be used:

- Browser menus and commands are indicated in **bold text**. For example: In the **File** menu, click **Open**.
- Alphanumeric keyboard buttons are indicated in all CAPS. For example, TAB or CTRL.
- Facepanel buttons are indicated in bold **[brackets]**. For example, **[LIVE]** or **[Enter]**. Optional keys are indicated in **<angle brackets>**, for example, **<Cue>** or **<Sub>**.
- Keys which are intended to be pressed or held simultaneously are indicated with the "and" symbol. For example, **[Next] & [Last]**.
- Softkeys and direct selects are indicated in bold **{Braces}**. A note about **<More Softkeys>**: this command is always indicated as optional, and is only indicated once in an instruction regardless of how many pages of softkeys exist. This is because there is no way to predict what softkey page you are on at any given time. Press **<More Softkeys>** until you find the required command.
- References to other parts of the manual are indicated in *italics*. When viewing this manual electronically, click on the reference to jump to that section of the manual.

Note: *Notes are helpful hints and information that is supplemental to the main text.*

CAUTION: *A Caution statement indicates situations where there may be undefined or unwanted consequences of an action, potential for data loss or an equipment problem.*

WARNING: *A Warning statement indicates situations where damage may occur, people may be harmed, or there are serious or dangerous consequences of an action.*

Please email comments about this manual to: **TechComm@etcconnect.com**

Help from ETC Technical Services

If you are having difficulties, your most convenient resources are the references given in this user manual. To search more widely, try the ETC Web site at www.etcconnect.com. If none of these resources is sufficient, contact ETC Technical Services directly at one of the offices identified below. Emergency service is available from all ETC offices outside of normal business hours.

When calling for assistance, please have the following information handy:

- Console model and serial number (located on back panel)
- Dimmer manufacturer and installation type
- Other components in your system (Unison®, other consoles, etc.)

Americas

Electronic Theatre Controls Inc.
Technical Services Department
3031 Pleasant View Road
Middleton, WI 53562
800-775-4382 (USA, toll-free)
+1-608 831-4116
service@etcconnect.com

United Kingdom

Electronic Theatre Controls Ltd.
Technical Services Department
5 Victoria Industrial Estate
Victoria Road,
London W3 6UU England
+44 (0)20 8896 1000
service@etceurope.com

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Electronic Theatre Controls Asia, Ltd.
Technical Services Department
Room 1801, 18/F
Tower 1, Phase 1 Enterprise Square
9 Sheung Yuet Road
Kowloon Bay, Kowloon, Hong Kong
+852 2799 1220
service@etcasia.com

Germany

Electronic Theatre Controls GmbH
Technical Services Department
Ohmstrasse 3
83607 Holzkirchen, Germany
+49 (80 24) 47 00-0
techserv-hoki@etcconnect.com

Important Concepts

Before using your Eos console, you should read and familiarize yourself with the concepts defined below. These concepts are important for understanding both how your Eos console functions as well as how you, as a programmer, will interact with your Eos to produce a successful show.

You will find that understanding these base level terms and concepts will vastly improve your efficiency with Eos.

Channel

Eos treats fixtures and channels as one and the same. Unlike former ETC consoles where a fixture occupied one channel for each parameter, Eos assigns each fixture a single channel number. Individual parameters are then associated with that channel as additional lines of channel information. As a result, you will notice there is no fixture button on Eos.

Syntax Structure

Instructions are entered into Eos through the command line. When entering data into the console, a certain structure of information is required for Eos to understand what you want it to do. This flow of information, or syntax, must be entered in an order that Eos can understand.

Generally speaking, the order of syntax can be described as:

- What are you trying to affect? (Channel, group)
- What do you want it to do? (Change intensity, focus, pan/tilt)
- Where do you want this information stored? (Cue, palette, preset, submaster)

Naturally other commands will be used in the course of programming your show, but most other functions are modifiers of these three basic steps: modifying the channel(s) you are recording, modifying the action you want it to take, or modifying how and where you want that information stored.

If you assemble your command line with this process (object, action, location) you will be successful with programming Eos.

Enter

Since the command line can receive multiple edits and instructions at once, it is necessary to let Eos know when you are done adding information to the command line. This is done with the “Enter” key. In order to terminate the command line, and therefore produce the results of your instructions, you must press **[Enter]**.

There are some commands which are self-terminating, and therefore do not require “Enter” to be pressed. Some (but not all) of these commands are:

- Out
- +%
- -%
- Level
- Actions from the direct selects self-terminate as well

Parameters and Parameter Categories

Eos divides parameters into four major *parameter categories*: Intensity, Focus, Color, and Beam. Each of these categories has parameters included in them. These are defined in the system settings. By default these are the parameters in each category:

- Intensity . . . . . Intensity only
- Focus . . . . . Pan and Tilt only
- Color. . . . . All color parameters (such as color wheel, CMY, scrollers, and so on).
- Beam . . . . . Any parameter not covered in the other categories.

Tracking vs. Cue Only

Eos is, by default, a tracking console. This means two things. First, tracking relates to how cue lists are created. Once data is in a cue list, it will remain a part of that cue list, at its original setting, until a new instruction is provided.

Secondly, tracking relates to how changes to cue data are handled. Unless otherwise instructed by a Cue Only command, changes to a parameter in a cue will track forward through the cue list until a move instruction (or block command) is encountered.

It is possible to change the default setting of Eos to Cue Only. This prevents changes from tracking forward into subsequent cues, unless overridden with a track instruction.

Eos also has a Cue Only/Track button that allows you to record a cue as an exception to the default setting. Therefore, if console is set to Tracking, the button acts as Cue Only. If console is set to Cue Only, it behaves as a Track button.

Move Instruction

A move instruction is any change to any parameter as dictated by the console. A change to a channel's intensity is a move instruction. A change to a channel's pan or tilt is a move instruction. A change to a channel's color mixing is a move instruction, and so on.

Move Fade

Move Fade is a lighting control philosophy which dictates how cues are played back. Eos adheres to this philosophy.

In a Move Fade system, parameters do not change from their current setting until they are provided a move instruction in a cue or given a new instruction manually.

For example, in cue 1, channel 1 has been given an intensity value of 50%. This value does not change until cue 20, where channel 1 is moved to 100%. Therefore, channel 1 has a tracked intensity value of 50% in cues 2-19. If the user applies a manual intensity value of 25% while sitting in cue 5 (for example), that channel will stay at 25% until Cue 20 is recalled - because 20 is the next cue in which channel 1 has a move instruction.

Cue List Ownership

Eos is capable of running multiple cue lists. In a multiple-cue-list console there is an issue of cue list ownership; in other words, which cue list a channel is receiving instruction from. In Live, a parameter is considered to be “owned” by a cue list when it is receiving its current value from that cue list.

When alternating between cue lists in sequential playback, an active cue list does not necessarily own a channel unless that list has provided a move instruction for that channel. Values that are tracking in a cue list will not be treated as move instructions. For example, in a two-cue-list playback, a channel is sitting in a tracked state in cue list 1 when a cue with a move instruction for that channel is played back in cue list 2. That channel is now owned by cue list 2. Continuing to play back cue list 1 will not grab that channel back, because its levels have been tracking.

Assert may be used as an exception to cue list ownership, thereby ensuring that a cue will assert all tracked values over another cue list’s ownership.

In regards to Move fade, the same logic is applied between cue lists. A channel will not change its value when Go is pressed unless that cue provides the channel a move instruction. If there is no move instruction, the channel will stay at its previous value.

This rule is not followed when executing an out of sequence cue. An out of sequence cue is any cue that is recalled via “Go To Cue”, a Link instruction, or manually changing the pending cue. In general applications, the entire contents of the cue (both moves and tracks) will be asserted on an out of sequence cue.

HTP vs. LTP

HTP (Highest-Takes-Precedence) and LTP (Latest-Takes-Precedence) are terms used to define the output of a channel parameter that is receiving data from multiple sources. Submasters are only capable of controlling HTP intensities. Cues and cue lists can operate as HTP or LTP. Eos' default playback behavior is LTP. This behavior can be changed at a cue or cue list level (see *HTP/LTP, page 169*).

HTP

HTP is only applicable to the intensity of a channel. HTP channels will output the level that is the highest of all channel inputs. HTP channels are also referred to as "pile-on", because as control inputs are added (for example - you may bring up cues and multiple submasters that all have the same channel recorded at various levels), the system calculates which input has the highest level for that channel and outputs that level to the channel. As control inputs are removed (you pull some of the submasters down to zero), the console will adjust the channel level, if required, to the highest remaining level.

LTP

LTP is applicable to any parameter of any channel. LTP output is based on the most recent move instruction issued to the channel parameter. Any new values sent to the channel will supersede any previous values, regardless of the level supplied. If a move instruction is not issued then the channel parameter becomes a tracked value in subsequent cues. With LTP behavior, a value for a channel parameter will not move until instructed to do so (see *Move Fade, page 6*).

Other Reference Materials

Eos Reference Manual (not yet available)

In addition to this Operations Manual, you may also find the **Eos Reference Manual** to be a useful resource. It contains brief, concise explanations of the buttons and features of your Eos console and is a useful resource to users familiar with console programming, but still in need of some direction regarding Eos and its new or unique features.

Eos Conversion Chart (not yet available)

This chart is designed to specifically compare features and terminology used within Eos to other lighting control consoles on the market. Therefore, experienced console programmers, familiar with other console platforms, can reference this chart and identify features that Eos does differently, features that Eos does similarly yet may refer to by a different name, and also entirely new features, unique only to Eos.

The Eos Conversion Chart is also contained in the Eos Reference Manual.

Help System

A keyhelp system is also contained within your Eos console. To access help, press and hold **[Help]** and press any key to see:

- the name of the key
- a description of what the key enables you to do
- syntax examples for using the key (if applicable)

Note: *Keyhelp is included on most tangible action buttons on your Eos console. This includes most softkeys and touchbuttons as well as the traditional keys on the keypad.*

As with hard keys, the press and hold [Help] action can be used with softkeys and touchbuttons as well.

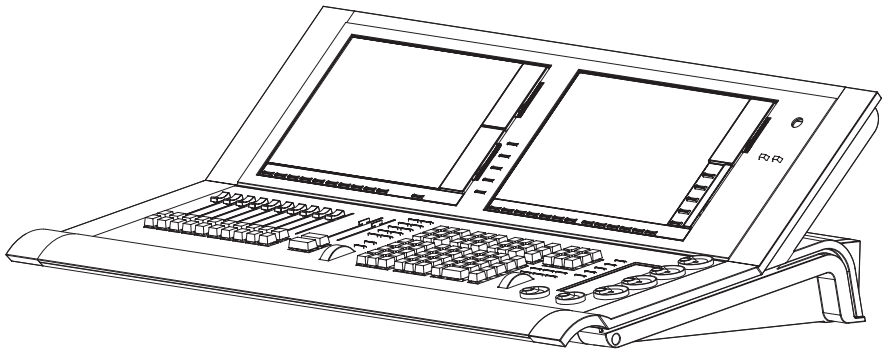
Chapter 1

System Overview

Inside this chapter you will find general descriptions of your Eos console and the various areas of user interface.

This chapter contains the following sections:

System Components



Desk

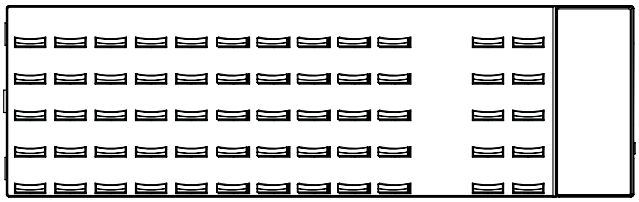
Eos is designed from conception as a conventional and moving light tracking style console for installed systems and touring markets. Total attention to detail across all areas of the system design and architecture allows you the utmost flexibility and customization of use.

Eos facilitates development of a vocabulary for moving light control by designers and programmers. This implementation of simple and uniform syntax for moving light control provides a solid foundation for both experienced and inexperienced moving light users.

Eos incorporates new technology to substantially speed up the programming process. It is the first control system designed with tools individually optimized for everyone who touches the console. Electricians, programmers, operators, and the design team will find features and functions specifically designed to assist them.

Integrated LCD touchscreens are customizable to each user's preference. Button modules overlay the LCD touchscreens and provide tactile feedback of direct selects so the programmer may keep attention on stage and not focused on a screen.

Button Modules



The Eos button module's paired with the multi-region touch screen display's provide you the ability for multiple simultaneous button presses with tactile feedback. The tactile feedback feature allows you to rely on muscle memory to activate the correct button without having to look at the screen. The displays and text under each button change to reflect the required button options for each direct select region.

LCD 1 may be split into numerous sections using Eos button modules and customized views. The top portion of LCD 2 is user-configurable while the bottom portion is reserved for the *Central Information Area (CIA)*.

Button modules are optional use and are not required for operation.

RVI

The remote video interface allows remote interaction with the lighting control system. This can be for display purposes only. Additionally, with a mouse and alpha-numeric keyboard attached, the RVI can be used as a remote programming station. The RVI provides supports for a maximum of two DVI or VGA monitors.

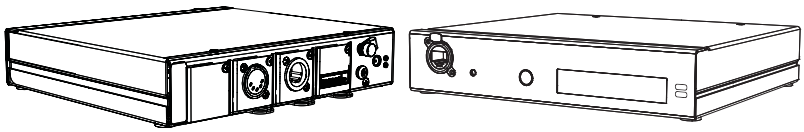
RRFU

The RRFU provides wireless control of key front panel functions.The base station for the RRFU can be networked into the system, or can connect to a desk or remote device using the USB interface.

Lighting Playback Controller

The RPU can be used for main/backup output processor and can be used for primary playback in installations that do not require a control console after initial programming is completed.

Gateways

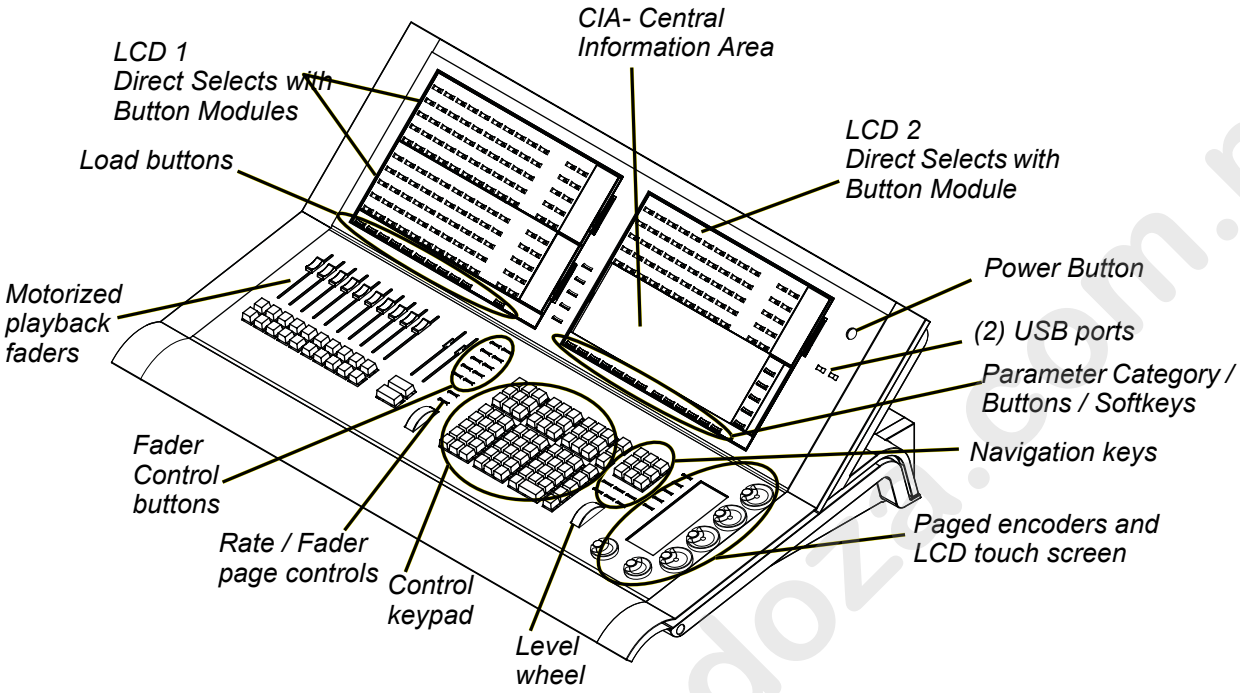


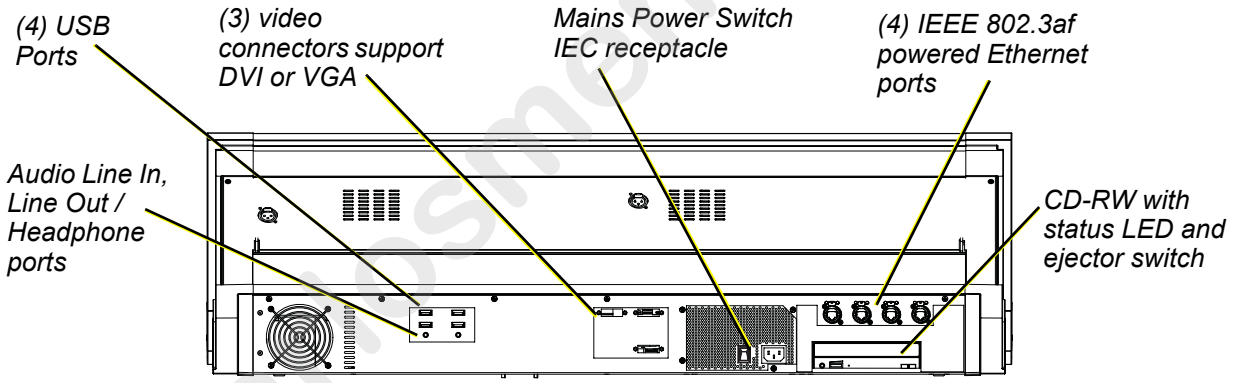
Eos is a fully networked device capable of direct output of both ETCNet2 and ETCNet3. Gateways can be configured to listen to either ETCNet2 or Net3 and provide interface to devices in the lighting rig that do not accept network communication directly. Gateways are provided for DMX/RDM output, show control input and output and analog input and output.

- Net3 to DMX/RDM gateways are provided with a maximum of four outputs, which can be male, female, or terminal strip.
- Show Control Gateway supports MIDI In/Thru and Out and SMPTE In.
- I/O Gateway supports 12 analog inputs, 12 SPDT contact closure outputs and RS-232 serial protocol.

Desk Geography

Below is a diagram of the Eos console with references made to specific areas of use. The terms and names for each area and interface are used throughout this manual.





Terminology

Central Information Area (CIA)

The Central Information Area (CIA) is the central place to configure, setup, and receive feedback for the console. The CIA is a context-sensitive extension of the command keypad, used for access to non-intensity parameter controls, the browser, the color picker, setup and patch functions. The command line, selected cue and status information are also displayed here.

The command line is structured in a syntax specific to Eos (example: Source/Modifier/Action/Target/Modifier). The message and status line displays the show name and label, show status, network indicator and status, current user and time stamp, etc. The browser menu is provided for access to file functions, setup, patch, utilities, printing and display of record target lists.

Direct Selects

Direct selects provide touch screen access to channels, groups and all record targets. The direct selects may be configured to access 50 of any selected target, or two groups of 20. Paging controls are provided.

Button Module

Button modules are available in a 50 button array for use with the direct selects. Button modules provide you with tactile feedback of each button press. The module is transparent allowing the text and graphics from the LCD to repaint each button to meet your viewing needs. Up to three button modules may be installed on the console, two on LCD 1 and one on the top of LCD 2, above the CIA.

Power Button

The power button on the front of the control desk is used to shut down and power up the Eos console. A separate power switch, located in the rear panel of the console, can be used to disconnect power from the console's internal components.

WARNING: ***Before servicing the Eos control console, you must switch off the power from the rear of the console and disconnect the power cord completely.***

USB Ports

Two USB ports are provided on the front of the desk to connect any USB storage device. An additional four USB ports on the rear panel of the desk connect peripherals such as an alpha-numeric keyboard, printer, or pointing device.

Touch Screen LCD's

Eos is designed with two internal 15" LCD touch screen displays. Each LCD may be used to display show data, with a touch-screen interface, or they may be used as direct selects, with or without the button modules.

Motorized Faders

One dedicated main playback and ten configurable motorized faders are provided. The faders may be configured as playbacks, submasters, masters or grand masters. Thirty pages of playbacks are provided. The lower section of LCD 1 shows fader status information and provides a load button for each fader.

Encoders and Parameter LCD

Encoders and an associated touch screen for control of non-intensity parameters are provided on the lower right of the Eos desk. The two larger encoders at the bottom are dedicated for pan and tilt control. The remaining four encoders on the right are pageable controls, which are populated on the LCD with the parameters used in your show.

Fader Control Buttons

Fader control buttons are provided for easy local control of fader behavior. Control buttons include: Manual Override, Spread, Release, Off, Assert, Go to Cue 0, Stop Effect, Freeze, Filter and Timing Disable. Individual faders are provided with immediate controls including: Go, Stop and Back.

Playback/Submaster Page

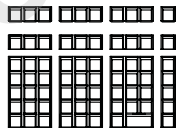
Rate and Fader Page buttons are provided for use with the faders assigned as playbacks or submasters.

Load

Load buttons are located above the faders and provide a means to load the selected cue to the associated fader or place special conditions on that fader.

Control Keypad

The control keypad area is functionally divided into four sections, including record targets, numeric keypad, modifiers, and special function controls.



Level Wheel

Proportionally adjusts intensity for selected channels.

Navigation Keypad

Used for quick access to the Live and Blind displays, tab selection, location, paging and navigation.

Parameter / Category Buttons

Parameter buttons are used in conjunction with the Central Information Area. When certain functions need to be accessed, a group of related parameters will populate in the parameter category display.

IEEE Ethernet 802.3af

Power over ethernet standard for connection of network gateways and accessory devices.

Desk Capacities

Output Parameters

- 4,000 outputs / DMX channels
- 8,000 outputs / DMX channels

Channel Counts

- 4,000 channels
- 5,000 channels

Cues and Cue Lists

- Up to 99 cue lists
- Up to 10,000 cues

Record Targets

- 1,000 Groups
- 1,000 x 4 Palettes (Intensity, Focus, Color and Beam)
- 1,000 Presets
- 1,000 Effects
- 1,000 Macros
- 1,000 Snapshots

Faders

- 1 dedicated Master Playback, with Go and Stop/Back
- 10 paged motorized faders x 30 pages of control
    - a maximum of 30 configurable playbacks, with Go and Stop/Back
    - a maximum of 200 configurable submasters, with Bump and Solo
    - up to three configurable grand masters, with Blackout and Blackout Enable

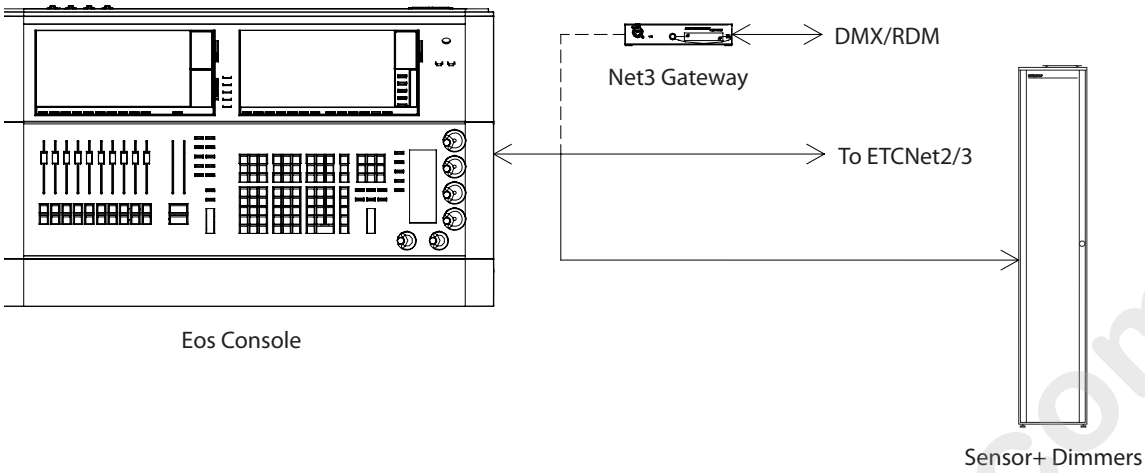
Chapter 2

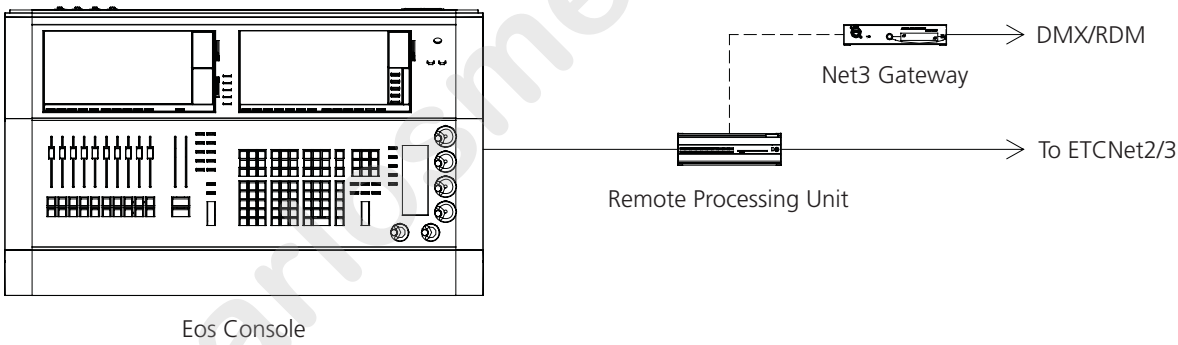
System Installation

This chapter describes the placement of Eos in a few lighting system risers. It also details connection of the various components of your Eos hardware.

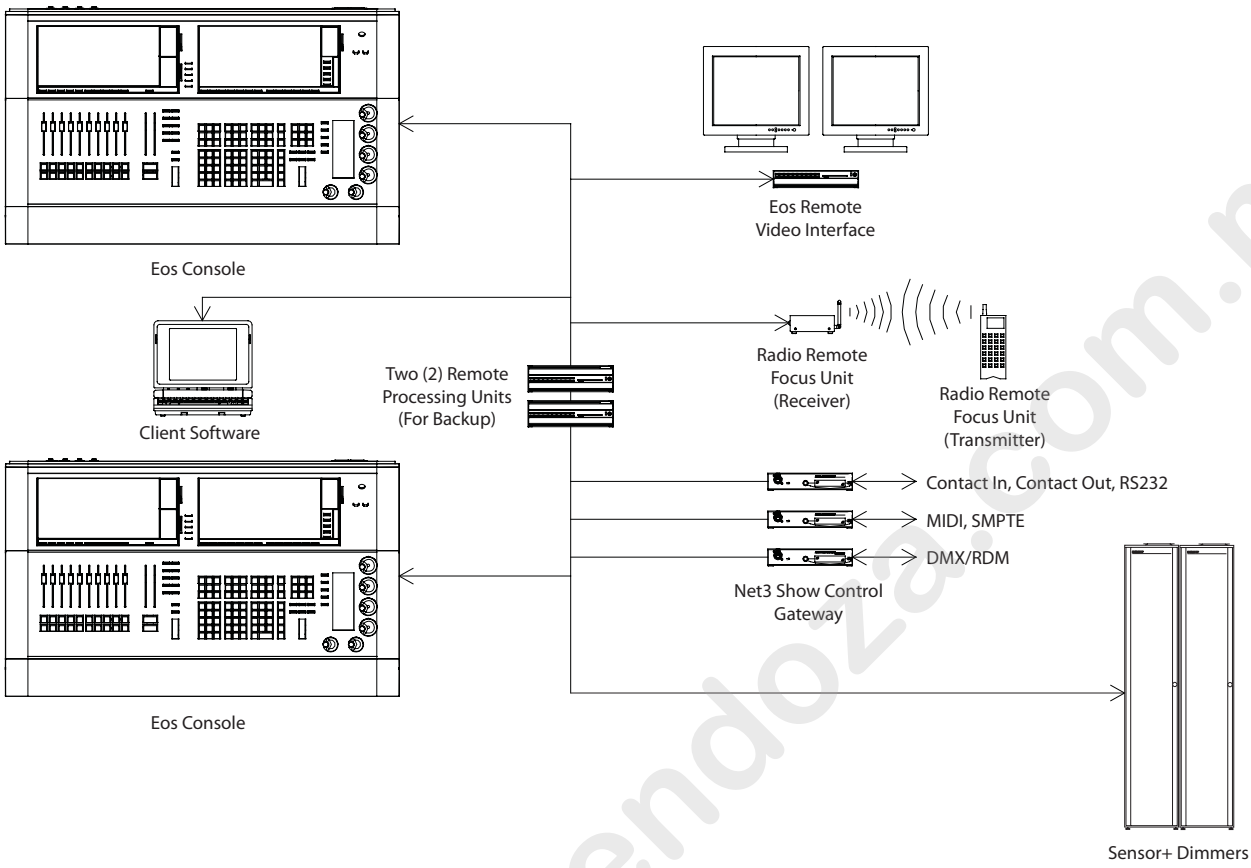
This chapter contains the following sections:

Basic System Risers





Large System Riser



Chapter 3

System Basics

This chapter explains the base level procedures for setting up, navigating, and understanding how to work with your Eos console.

This chapter contains the following sections:

Power

Power up the console

Step 1: Attach the power cable to the IEC connector on the rear of the console. Attach the opposite end of the power cable to a standard Type A 120v outlet.

Step 2: Press the I/O switch (I is “on”) next to the IEC connector on the rear of the console to turn power on. This will provide power to all internal electronics.

Step 3: Press the round button, in the top right corner of the unit beneath the Eos logo. The button LED will illuminate blue to indicate the console is running. The console will boot up into the Eos environment.

Step 4: Press “Let’s Begin” on the CIA touchscreen. The Eos system is now ready for use.

Power down the console

Step 1: After saving your show (see below), in the browser menu, select **[File]**<**[Exit Eos]**. A dialogues box opens asking you to confirm.

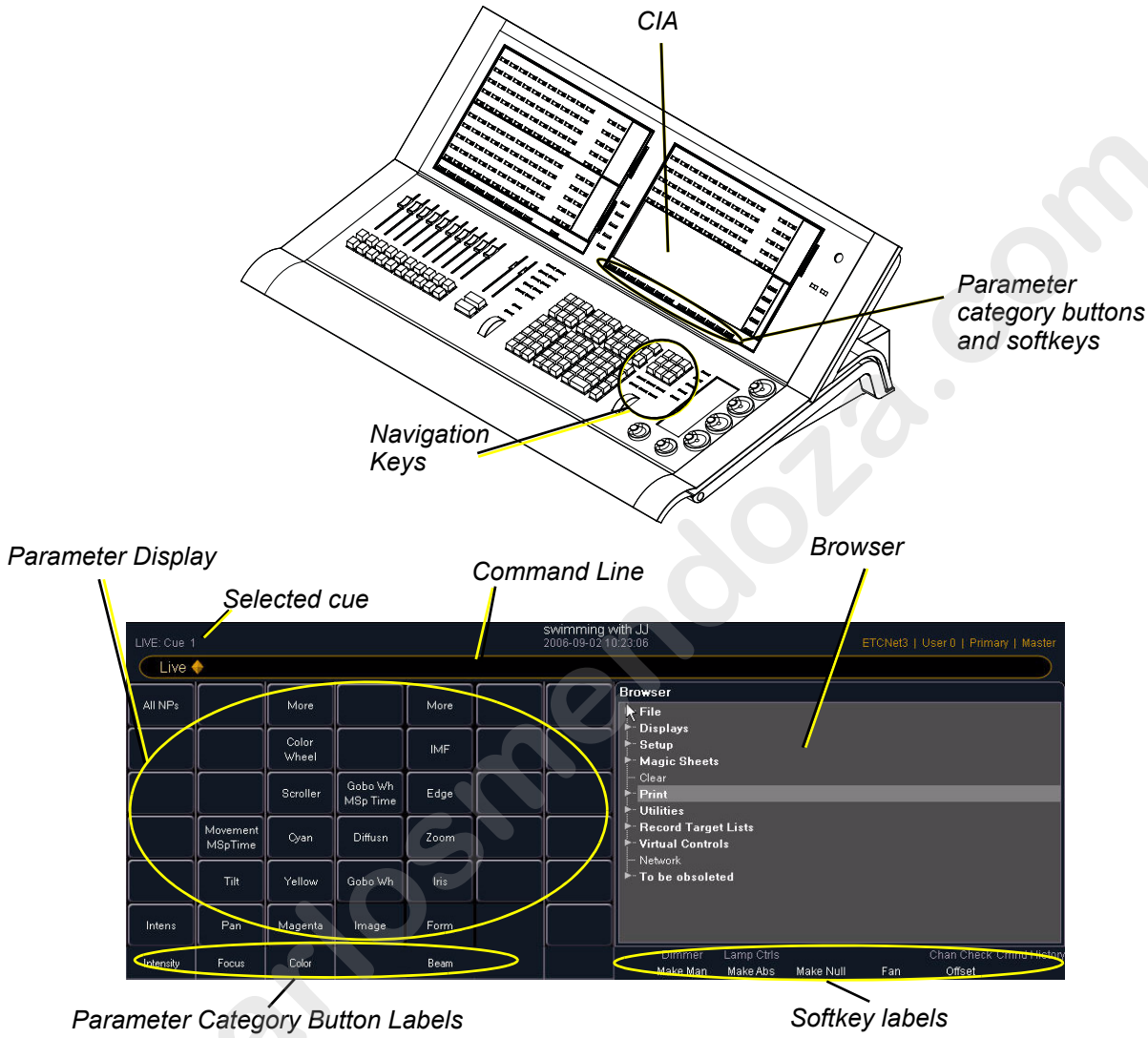
Step 2: Confirm this command by pressing “yes” in the dialog box. The Eos application will close and you will enter the Eos shell.

Step 3: Press “Shutdown” in the Eos shell. The console will power down and the blue power LED will go out.

Note: *Eos is a persistent storage console. Therefore if you shut down your system without saving the show file, you will return to the same place in your show when you reboot.*

The Central Information Area (CIA)

The Central Information Area (CIA) is the lower portion of the central LCD on your Eos console. by default, the CIA consists of three primary areas: the command line, the parameter display, and the browser. Softkeys are also contained within the CIA.



The Command Line

This is the area in the central LCD where commands appear when entered. When in Live, this line is bordered in gold. When in any blind display, the command line is bordered in blue.

Parameter Display

This display shows the parameters available for patched channels. It is also where you can select which parameters to view in the Live and/or Blind displays. The parameter display will dynamically change depending on the channel (fixture) selected and its applicable parameters.

Parameter Category Button Labels

These labels correspond to the windowed buttons directly beneath them. They indicate the four categories of parameters (Intensity, Color, Focus, and Beam - IFCB).

Browser

The browser is the interface for numerous functions including saving a show, loading a show, changing settings, viewing record target lists, opening displays and many other functions.

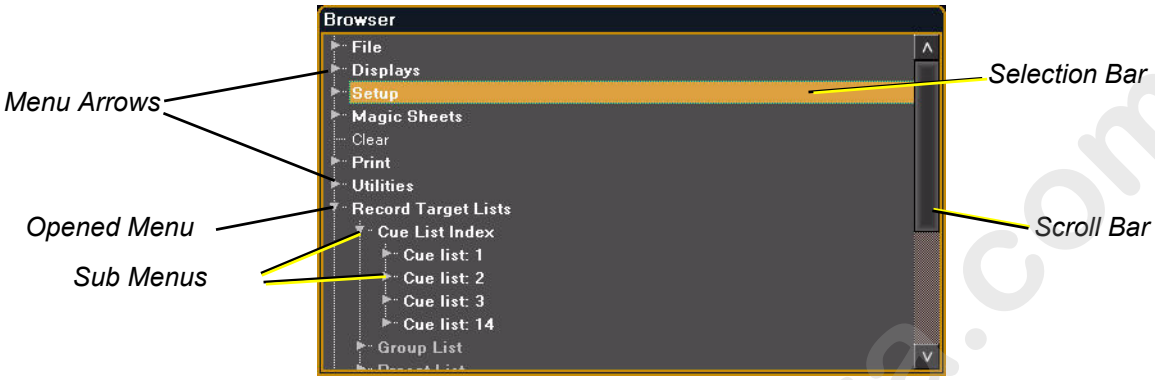
Softkey Labels

These labels correspond to the softkeys located directly beneath the browser. The labels are context sensitive, therefore they repaint to display softkeys relevant to the display or command you are working with. The white labels on the bottom row indicate the active softkeys. The gray labels in the top row indicate the second page of available softkeys, available by pressing the “More SK” button to the right of the CIA.

Using the Browser

To use the browser, you must first draw focus to it by pressing anywhere in the browser area of the CIA. If the browser is not visible, press the [Displays] key and then the {Browser} softkey to open the browser.

When focus is on the browser, the window border highlights in gold. The paging keys will now control selection in the browser.



- Use the arrow keys to move the selection bar up and down the list.
- When the bar highlights the desired menu, press **[>]** to open the menu.
- Continue pressing **[>]** to open submenus.
- When you arrive at a non-menu item, press **[Select]** to open that item.
- If you wish to close an item, press the **[<]** key to retract the menu by one level.
- To draw focus to the browser at any time, press any area within it.

Display Control and Navigation

The Live/Blind display is open as tab 1. The playback status display is always open as tab 2. Neither of these displays can be closed.

Other displays are numbered as they are opened. Tab numbering is useful for navigating to views.

Opening and Closing Displays

Displays can be opened and closed in different ways, depending on the display. Many displays are accessible from the browser, while other displays are accessible from the softkeys. These displays are primarily those that use the CIA for display and editing purposes.

From the Browser

Open and navigate the browser as described in *"Using the Browser" , page 25*. When you open a new display (such as the cue list index, group list, or patch) and it is posted in a tab view, it will open on monitor 2. If the display does not open as a tab view (such as setup or the browser) it will open in the CIA.

Again, any time you wish to return to the browser, simply press [Displays] and then {Browser} and it will be made available.

From the Hardkeys

You can open list views of any record targets by double-pressing the key for the desired record target.

From the Softkeys

To open any displays that have direct softkey access, press [Displays]. The softkeys will repaint to display:

- Effect Status
- Color Picker
- Patch
- Setup
-
- Browser

Any of these softkeys will open the indicated display with a single press.

Closing Displays

To close any display, select the display by using the [Tab] key. When the desired display is active, press **[Escape]** to close it.

Selecting Displays

When a display is selected, the screen is highlighted in a gold border and the display name (such as “1. Live Channel”) will be in gold as well. When a display is not selected, there is no border and the tab name is grey.

If a display is already open, it can be selected in the following ways:

- Press **[Tab]** to change focus from the currently selected tab to the tab immediately to the right. If no tabs are to the right, the selection moves to the first tab on the left of all available monitors.
- Press **[Tab] & [**n**]**, where “n” represents the tab number of the desired tab.
- Press **[Live]** or **[Blind]** to automatically bring live/blind into focus.
- Double press a record target button (such as [Preset] or [Submaster]) to either open the associated display or select it if it is already open.

Moving Displays

To move the active display from one monitor to another, press and hold the [Tab] key and use the arrow keys to move the display in the direction of the desired screen. One press of the left or right page keys will move the display to the next screen in that direction. To move it back, press the opposite arrow key.

Scrolling within a Display

By default the page keys will advance/retreat a display by one page per press. However, to scroll through displays you may press the **[Scroll Lock]** key. The LED on the button illuminates red when in scroll lock mode.

Scroll lock is a toggle state. When scroll lock is first pressed:

- **[Page ↓]** - scrolls table, spreadsheet and channel views down
- **[Page ↑]** - scrolls table, spreadsheet and channel views down
- **[Page →]** - scrolls table and spreadsheet views right
- **[Page ←]** - scrolls table and spreadsheet views left
- **[➡]** or **[↑]** or **[→]** or **[←]** in table and spreadsheet views, increments the page by one cell for each press, as appropriate to the direction of the arrow pressed, if applicable

Expanding Displays

[Expand] allows a tab to be viewed across multiple external monitors.

To expand a display to an adjacent monitor, press **[Expand] & [→]** or **[Expand] & [↑]**.

To collapse an expanded view press **[Expand] & [←]** or **[Expand] & [↓]**.

Note: *Please note that you must have a minimum of two (2) external monitors attached to your Eos to use the [Expand] feature.*

If the display you are expanding is at the right most position, the display will expand onto the first (or left most) monitor.

Graphical User Interface (GUI) Display Conventions

Eos relies on many traditional ETC indicators which you may be familiar with, as well as some new ones. This section identifies the graphical and colorful conventions used in Eos to indicate conditions to you.

Indicators in the live/blind display

This is the live/blind summary view.

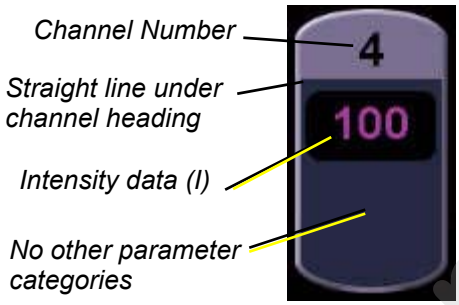
Note: *The color and text conventions described below apply regardless of the format of live/blind being used (see "Using [Format]" , page 36).*

Summary view has been chosen to illustrate the conventions in these examples, however these conventions are consistent through all available formats.

Conventionals

Most of the channels in the above image are conventional channels (intensity is the only available parameter).

Conventionals have a straight line beneath the channel number. They also display only the top field, intensity, as no other parameters are available on a conventional channel.

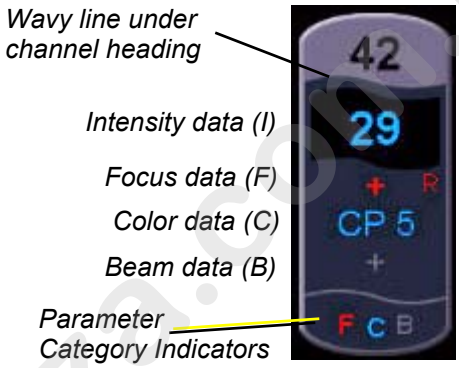


Moving Lights

Several channels in the image are moving lights (possessing more parameters than only intensity).

Moving light channels have a wavy line beneath the channel number as well as parameter category indicators at the bottom of the channel.

This view also has additional data fields beneath intensity (F, C, B). This information can be suppressed by pressing **[Params]** and any parameter category (Color, Focus, or Beam) in the CIA. Doing so will leave only the intensity field and FCB indicators at the bottom of the channel.



Color indicators

Eos uses color to indicate the selection state and move information about channel/parameter levels.

Channel numbers/channel headers

Unselected *Selected*

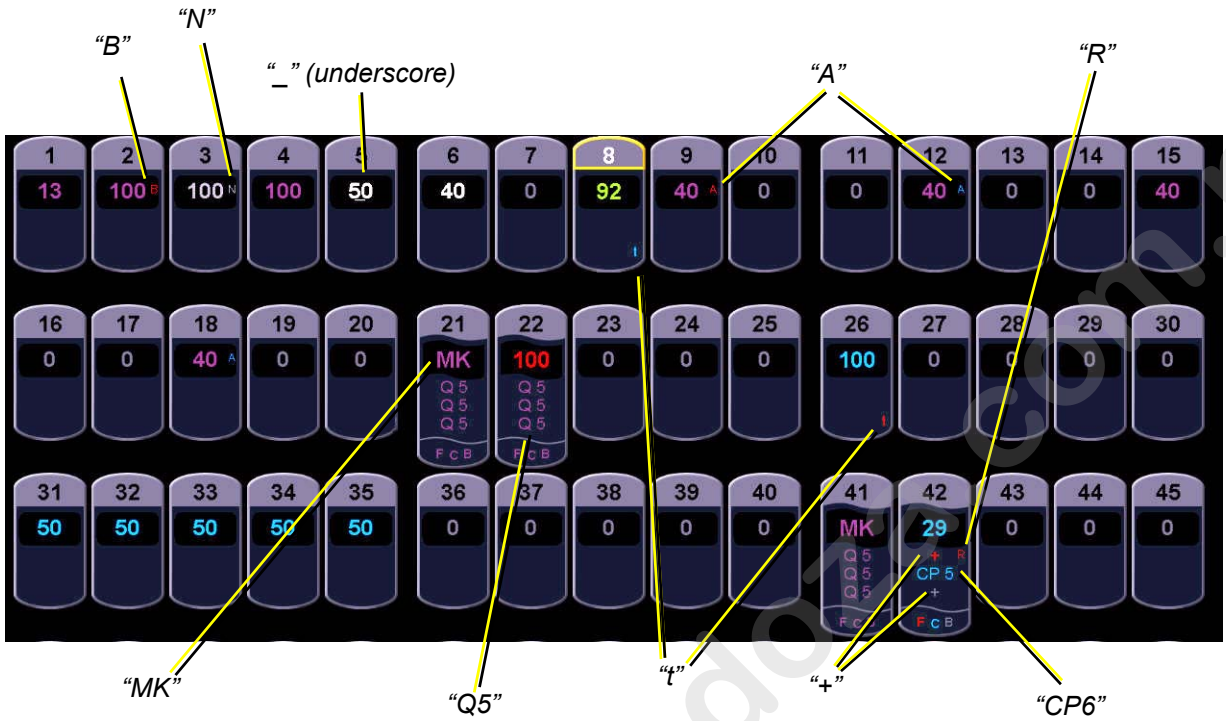
- **Black** . . . . . Unselected channel number.
- **White** . . . . . Selected channel number.
- **Gray header** . . . . . Unselected channel header.
- **Gold outline** . . . . . Selected channel header.

Channel/parameter levels

- **Red**. . . . . Manual Data, this data has not been recorded.
- **Blue** . . . . . The intensity value is higher than in the previous cue. Non-intensity parameters (NPs) are in blue when any move instruction has occurred.
- **Green** . . . . . The intensity value is lower than in the previous cue. Also used in reference marking to indicate a channel has just marked.
- **Magenta** . . . . . The recorded value is a tracked value, unchanged from a previous cue.
- **White** . . . . . The value is blocked.
- **Gray** . . . . . Default or the value is a null value (from either {Make Null} or a filter). When nulled, a gray “n” appears next to the value.

Text Indicators in live/blind

Please note examples of text indicators in the following graphic:



Color conventions listed above apply to text indicators as well. Therefore red indicates a manual change that must be stored, otherwise it will be lost and so on.

- **_** . . . . . Underlined value (white) indicates a system-applied block (also called an auto-block).
- **+** . . . . . Found in place of parameter data. Indicates that not all parameters in that category are at the same level. This indicator is found only in the summary view.
- **A**. . . . . Indicates the channel or parameter is asserted.
- **B**. . . . . Always red. Indicates the channel or parameter is manually blocked (not an autoblock). This block must be stored.
- **IP, FP, CP, BP** . . . . . Indicates that the value is referenced to a palette (Intensity, Color, Focus, or Beam). This text is followed by a number, indicating which palette is being referenced.

- **MK** . . . . . Indicates the channel is marked for a later cue. The cue number is indicated in the other categories (see “Q” below).
- **N**. . . . . Indicates the value is null (from either {Make Null} or a filter).
- **Pr** (not shown) . . . . . Indicates that the value is referenced to a preset. This text is followed by a number, indicating which preset is being referenced.
- **Q**. . . . . Found in the non-intensity categories of a marked channel. The “Q” is followed by a number Indicating which cue the mark is in preparation for.
- **R**. . . . . Indicates a manual reference override. Manual changes have been made that override a previously stored reference (such as to a palette or preset). Once recorded, the reference will be broken. If updated, the referenced target will be updated as well.
- **t** . . . . . The channel has discrete (parameter/category-specific) timing.

Indicators in the playback status display

Color indicators

- Gold . . . . . any item (cue, list, page) highlighted in gold indicates “current”
- Dark Gray . . . . . cue is not yet played back
- Light Gray . . . . . cue has been played back and is no longer active
- Green . . . . . submaster is an additive submaster.
- Red . . . . . submaster is an inhibitive submaster or grandmaster.

Text indicators

- + ... indicates that there is discrete timing within the associated cue
- * . . . . . indicates the cue has an allfade command
- A or a . . . . . indicates an asserted cue. “A” indicates the entire cue is asserted. “a” indicates a channel or parameter assert only.
- B or b . . . . . indicates a blocked cue. “B” indicates the entire cue is blocked. “b” indicates a channel/parameter block only.
- F1 - F10 . . . . . indicate faders numbered 1-10 on the console.
- F5 . . . . . indicates a follow time associated with the cue (in this case, 5 seconds).
- H4 . . . . . indicates a hang time associated with the cue (in this case 4 seconds).
- L2 . . . . . indicates a cue list number (in this case, list 2).
- S1 . . . . . indicates a submaster number (in this case, sub 1).

Note: *For more details on information contained in the playback status display, see playback status display below.*

Using [Format]

Some displays have multiple formats. When the display is first opened, it opens in its default view. The default view for Live/Blind is channel summary, with only intensity displayed. When the default format has been changed, those new settings will be used whenever the display is changed back to that format.

Live and Blind share formatting. When you change from one format to another format, you are always working with the same format until you change it. The exception to this is blind spreadsheet, which is only available in blind. When you are working in spreadsheet, when you go to live you will be working with the table or summary view, based on which one you were last using.

Summary Data View

The summary view displays the largest number of channels of any of the formats. Below you can see channels 1-60 are shown. This format is best used to see large numbers of channels' intensity data and/or parameter category data. Individual parameters are not visible in this view

By default, the summary view shows only intensity, with FCB (Focus, Color, Beam) data suppressed. FCB icons will appear at the bottom of the channel area for channels that have those parameters patched to them.

You may include focus, color, or beam data in the summary view by holding down the **[Params]** key and pressing any parameter category key. This displays all categories.

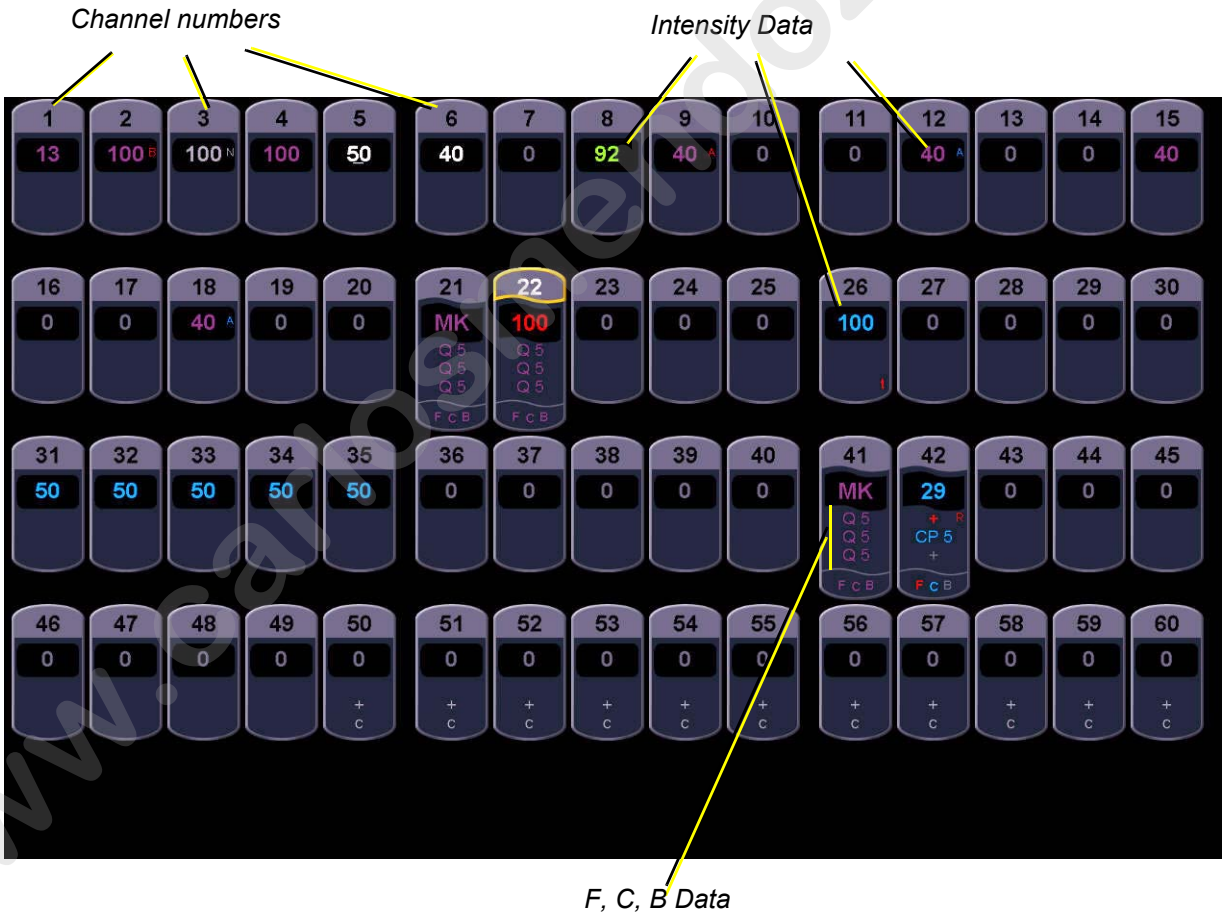
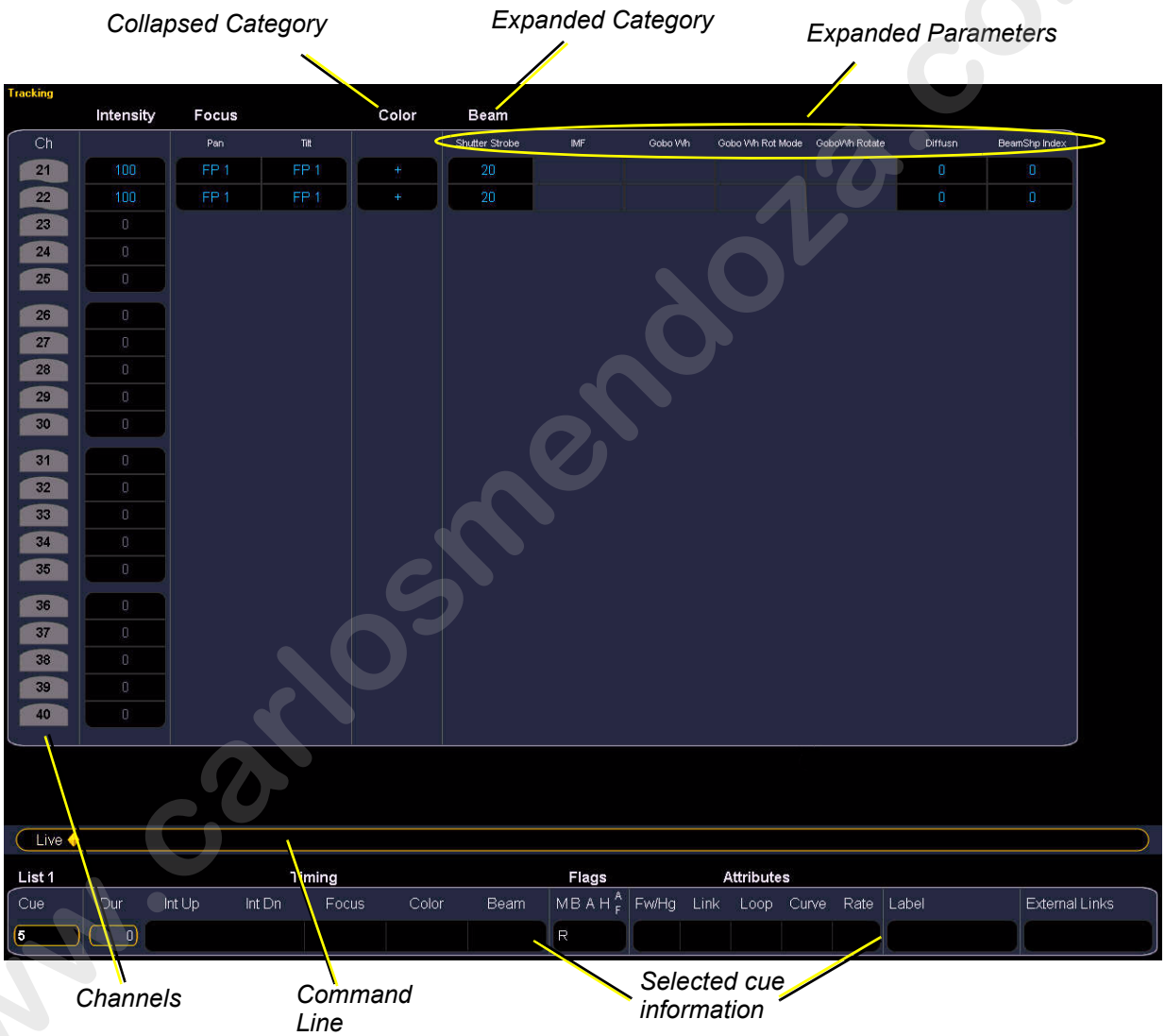


Table Data View

Table view is available in live or blind. In live, table view displays all output channel data. In blind, it shows one record target at a time. It shows a smaller range of channels on the vertical axis and parameter data along the horizontal axis. Parameter categories are always visible in this format, summarizing the category instruction. Individual parameters can be suppressed or expanded as needed to provide a more detailed view.

To hide/reveal all parameters of a certain category from view you may press and hold **[Params]** and then press the parameter category button of the parameters you wish to affect. All parameters for that category will be suppressed/expanded, depending on the current view.

To hide/reveal only certain parameters, press and hold **[Params]** and then press the parameter buttons of the appropriate parameters in the CIA. The parameters will expand/suppress depending on the current view.



Spreadsheet (Blind Only)

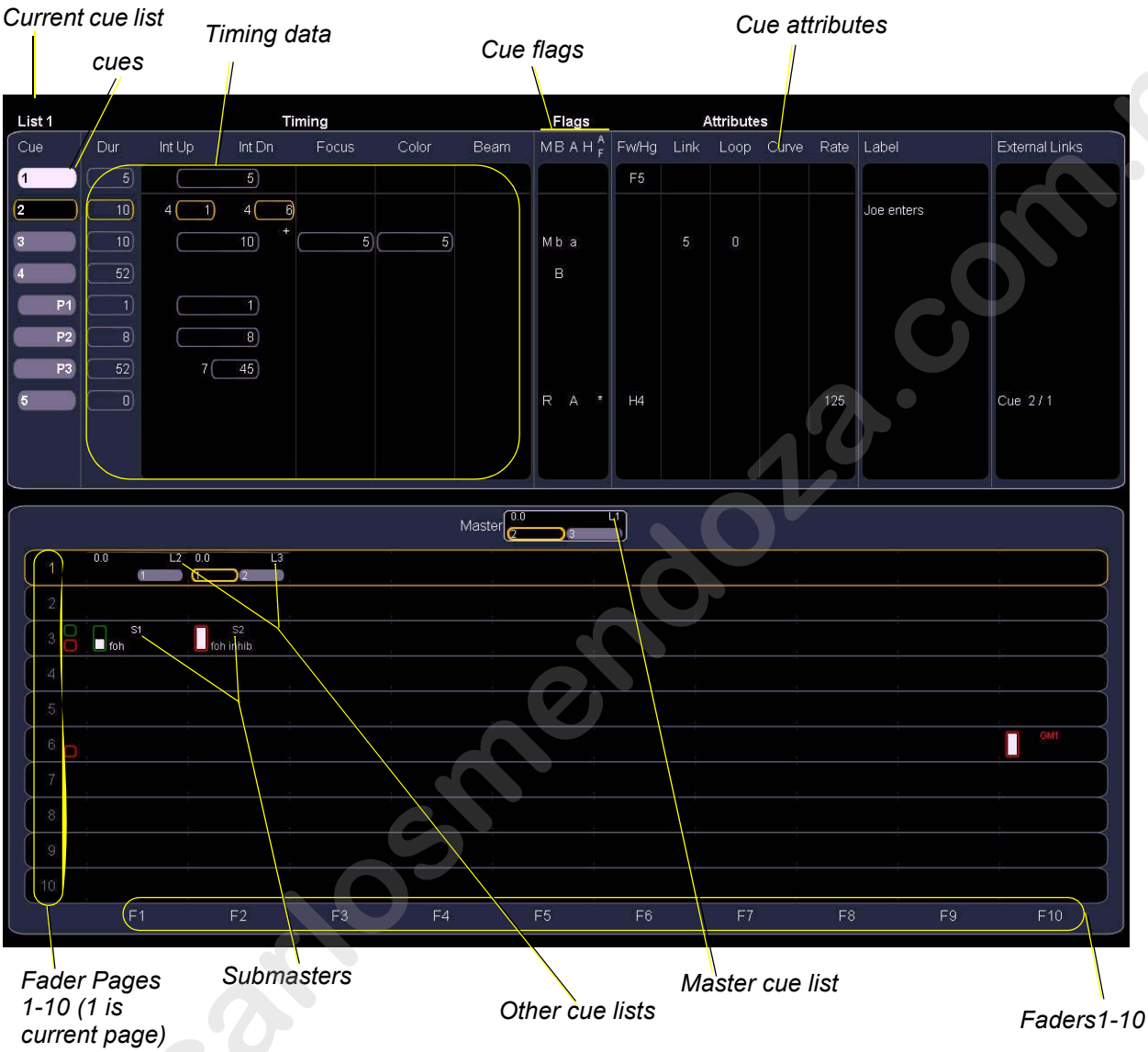
Spreadsheet format is available only in blind mode. It is useful for viewing channel data and data trends for multiple cues, submasters, palettes, or presets at one time. Cues are displayed on the vertical axis and channel/parameter data is visible on the horizontal axis.

Since this is a blind-only view, changes made in this view are immediate and do not require a record or update.

As with table view, spreadsheet format grants you the ability to expand/suppress parameter data for specific parameters. Unlike table view, you cannot collapse parameters using the parameter category buttons. Only specific parameters can be expanded/suppressed, by holding **[Params]** and pressing the desired parameter buttons in the CIA.

Playback Status Display

The playback status display allows you to view a range of cues in the current cue list, all cue attributes for those cues, and a view of the fader configurations for 10 pages of 10 faders each (for a total of 100 visible faders.



[Data] Key

Pressing and holding [Data] allows you to view the values behind any referenced or marked data. [Data] exposes the next lower reference level. So if you view a palette reference and press [Data], the absolute data will be displayed instead. If you are viewing a preset, absolute or palette data will be displayed, depending on what is contained in the preset.

[Time] Key

Pressing and holding [Time] allows you to view discrete timing data behind any channel. [Time] exposes channel or parameter specific timing for any channels in the current cue. If no discrete timing is recorded for a channel or parameter, a “--” is displayed, meaning that the channel/ parameter follows the timing specified for the cue.

Using Flexichannel

Flexichannel (use of the [Flexi] key) allows you to view only channels meeting a certain criteria in the live/blind display, therefore removing unwanted data from view. Flexichannel has several available states which include allowing you to view only:

- All channels
- All patched channels
- All show channels (any stored data in the show file)
- Active channels
- Selected channels
- Moved channels

In flexi mode, any selected channels are always included in the view.

To change flexi modes in the live/blind display, press **[Flexi]** to cycle through the views listed above.

Setting Up the Touchscreens

Direct Selects

You have considerable flexibility in how you organize your direct selects. They may be arranged to display one of several different types of data.

To choose which information to view:

Step 1: Press the **Select** button for any block of direct selects. You will be offered the following choices to view: Channels, Groups, Intensity Palettes, Focus Palettes, Color Palettes, Beam Palettes, Presets, Macros, and Effects.

Step 2: Press the button for the data you wish to view and the associated direct selects will populate with any recorded information of that type. If there is no recorded information of that type the block of buttons will remain empty but will populate with data of that type as it is recorded.

You can increase/decrease the size of any set of direct selects by pressing the **{20/50}** button, which will change the display between one set of 50 buttons and two sets of 20 buttons. Or you may press the **{100}** button to expand to one full screen set of 100 buttons. press it again to switch back to the previous view.

You may also press the {**Expand}** button (located beneath the {Select} button) to expand the set to full screen. Press {**Expand}** again to return the set to its previous size.

Using Direct Selects

Direct selects allow access to a number of controls, including a channel select display. If there are more items than can be viewed at once, you may view subsequent pages by using the page buttons ([Page ↑], [Page ↓]) by the direct selects.

Channels are highlighted when selected. Channel selection is generally an additive process, if channels 1-5 are selected, pressing **{Channel 6}** adds channel 6 to the selection, leaving channels 1-5 also selected.

It is possible to double hit a channel button. This selects that channel and deselects any previously selected channels.

When using the button module, pressing and holding a channel button while pressing another channel button selects those two channels *and* all in between. This behavior is not supported when channel selects are used on the touch screens without the module.

- **{Channel 1}** - adds channel 1 to currently selected channels, if not currently selected.
- **{Channel 1} {Channel 10}** - adds channels 1 and 10 to currently selected channels.
- **{Channel 1} & {Channel 10}** - adds channels 1 thru 10 to currently selected channels (*if button modules are used*).
- **{1} {1}** - selects channel 1, deselects all other channels.
- **[Page ↓]** - pages direct selects down by one page.
- **[Page ↑]** - pages direct selects up by one page.

Encoders

The encoders are one of two ways to control the non-intensity parameters (NPs) of moving lights. The bottom two encoders are always in control of pan and tilt respectively from left to right.

The top four encoders are identified by the encoder LCD window, just to the left of the encoder wheels.

Encoder Navigation

Use the encoder page buttons (located to the left of the encoder LCD) to choose which parameters are mapped to the encoders. There are four usable buttons: Color, Shutter, Image, and Form. Pressing any of these will change the parameters controlled.

Some fixtures have more parameters than can be displayed on one encoder page. To view the other pages, simply press the page button to scroll through the pages.

Encoder Touchscreen

Each encoder's touchscreen area will display the name of the parameter it controls, display stepped limits (if any) and also a {Home} button which allows you to set that parameter to it's default position.

The encoder touchscreen allows you to cycle through parameter steps (if available). You can also home any parameter. Some buttons that may be available on the touchscreen are:

- Min
- Max
- Next
- Last
- Home
- Mode

Buttons like {Next} and {Last} are used to step through parameters (such as colors in a color scroller) one step at a time. {Min} and {Max} allow you to send a parameter to its minimum or maximum limit with one press.

{Mode} allows you to switch between modes of a parameter (if any exist); for example, an indexed rotating gobo wheel. One mode allows you to change the indexed position of the wheel. Press **{Mode}** and now the same encoder controls the rotation of the chosen gobo.

The touchscreen also indicates when the respective encoders are in coarse or fine mode, which you can toggle between by pressing the encoder. Press it again to return to the original mode.

Using Softkeys

Many of Eos' features and displays are accessible from the softkeys, which are located in the bottom right area of the CIA.

Remember the use of the [Displays] button to the right of the CIA. This button offers softkeys that access the following displays:

- Effect Status
- Color Picker
- Patch
- Step
- Browser

Each of these displays offers its own specific softkeys of relevance.

Context Sensitive Softkeys

Softkeys are context sensitive and will change depending on a number of factors including: the active display, the current command in the command line, the active record target and so on. Eos always repaints the softkeys to coincide with your current action.

To get the full use of features on your Eos system, be sure to familiarize yourself with the softkeys that become available as you program your show.

Changing Softkey Pages

When there are more relative softkeys than the six available softkey buttons, both gray and white softkey labels will be visible. The white labels on the bottom row of the label window indicate the active softkeys. The gray labels in the top row indicate the second page of available softkeys.

To access the second page of softkeys, press the **[More SK]** button. To access the previous softkeys, press **[More SK]** again.

Chapter 4

Managing Show Files

This chapter explains how to create, open, and save your show files. Each of these operations are accomplished through the Browser area in the CIA.

Open the Browser by touching within the Browser area in the CIA to bring focus or press **[Displays]** and then select the **{Browser}** softkey.

This chapter contains the following sections:

Create a New Show File

To create a new show file, navigate within the browser to: File> New> and press **[Select]**.

You will be prompted for confirmation that you want to clear the current show file, press **[Enter]** to create a new “untitled” show or press any other key to decline and return to the current loaded show.

Open an Existing Show File

To open an existing Eos show file, navigate within the browser to: File> Open> and press **[Select]**.

Eos provides you with multiple locations to retrieve an Eos show file (.esf) including:

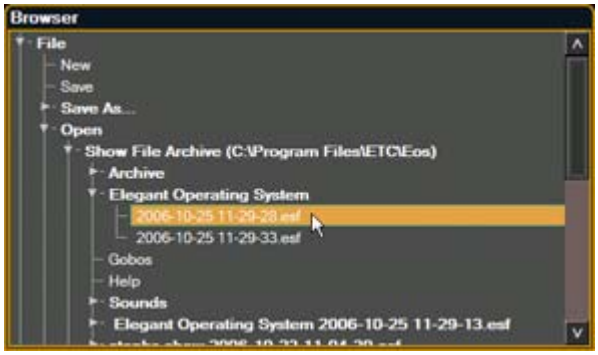
- Show File Archive - This is the default storage location for show files when a show file is created and saved. Notice that for each show file created, there is a hierarchy to the folder list including your show file with a time stamp (formatted year-month-day hour-minute-seconds) suffix for each time the show was saved. This allows you the ability to open the latest version or an earlier version if desired.
- File server - Remote Processing Unit, if one is connected. When there is no file server connected, it will not display in the Browser.
- USB (F:) device - When a USB device is connected and an Eos show file (.esf) is available on the device, you will notice the USB is displayed in white text and is expandable. When the USB device is connected and no Eos show file is loaded on the device, you will notice the USB (F:) is displayed in a grey color and is not selectable.
- CD (E:) drive - When a CD is loaded and an Eos show file (.esf) is available on the CD, you will notice the CD is displayed in white text and is expandable. When the CD is loaded and there is no Eos show file (.esf) on the CD, you will notice the CD (E:) is displayed in grey and is not selectable.

Open the desired location:

- To open a show file from the Show File Archive, navigate within the Browser to: File> Open> Show File Archive and press **[Select]**.
- To open a show file from the file server, navigate within the Browser to: File > Open> File Server> and press **[Select]**.
- To open a show file from a USB device, navigate within the Browser to: File> Open> USB (F:) and press **[Select]**.
- To open a show file from a CD, navigate within the Browser to: File> Open> CD (E:) and press **[Select]**.

Select the specific show file

- Navigate within the specified storage location and select the desired show file you wish to open, press **[Select]**.
- If the selected show has multiple time stamps, navigate to the desired revision and press **[Select]**.



Eos loads the selected show to the desk including the correct mapping for direct selects, etc.

Saving an Existing Show File

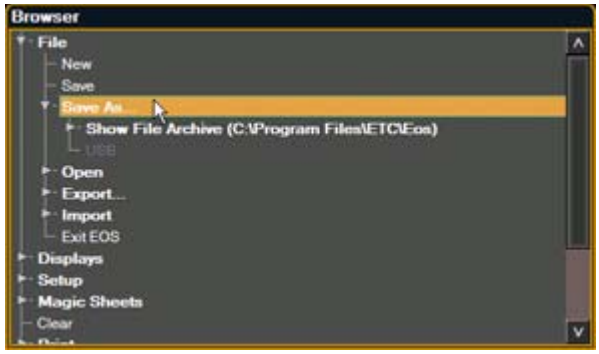
To save an existing Eos show file, navigate within the browser to: File> Save> and press **[Select]**.

The Show File Archive is the default storage location for show files when a they are saved. The new time stamp located beneath the show file name on the CIA will be the on screen indication that the show file has been saved.

All previous saves are stored in the Show File Archive with the time stamp following the file name.

Using Save As

To save an existing Eos show file to a different location or with a different name, navigate within the Browser to: File> Save As> and press **[Select]**.



Eos provides you with three locations to save an Eos show file (.esf) including the Show File Archive, the File Server (if connected) or a USB device.

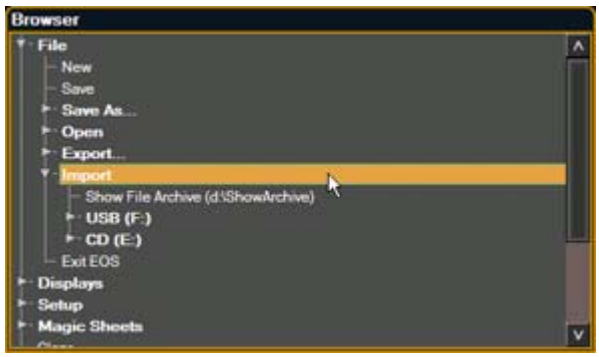
Navigate to the desired storage location and press **[Select]**. When using “Save As” to save the show file to a specific location, the alphanumeric keypad will display on the CIA. Name the show file and press **[Enter]**. The show file will be saved in the specified location with the show file name you have specified with a time stamp suffix.

Importing Show Files

Eos supports the import of standard USITT Ascii show files including Obsession 2, Express, and Expression 2x/3, when created as an output of the offline editor for the related product. Eos also supports Emphasis Ascii files as an output of the Emphasis control system.

You have the option of importing standard USITT Ascii show files (.asc) from the Show File Archive, a File Server (if connected), a USB device or a CD.

To import an Ascii show file, navigate within the Browser to: File> Import> and press **[Select]**.



Navigate to the desired storage location and press **[Select]**. When using import, Eos displays only the available Ascii (.asc) files. Navigate to the specific Ascii file and press **[Select]**.

Exporting a Show File

Export your Eos show file to a standard USITT ASCII show file using the export feature.

To export your Eos show file in Ascii format, navigate within the Browser to: File> Export> and press **[Select]**

You have the option of exporting your show file in Ascii format to the Show File Archive, to a File Server (if connected) or to a USB device.

Navigate to the desired storage location and press **[Select]**. The alphanumeric keypad will display on the CIA, name the show file and press **[Enter]**. The file will be saved in the specified location with the file name you have specified and a ".asc" file extension.

Deleting a File

Eos provides you with the ability to delete show files and ascii files from the Show File Archive and the File Server from within the Browser.

To Delete an Eos Show File (.esf)

Navigate within the Browser to: File> Open and press **[Select]**. Navigate to the desired show file and press **[Delete]**. Press **[Enter]** to confirm or any other key to abort the deletion process.

To Delete an Ascii Show File (.asc)

Navigate within the Browser to: File> Import and press **[Select]**. Navigate to the desired show file and press **[Delete]**. Press **[Enter]** to confirm or any other key to abort the deletion process.

Chapter 5

Patch

Patching is very simple in Eos. The extensive fixture library paired with the CIA touch screen interface make patching your show a simple task.

Eos treats fixtures and channels as one and the same, meaning each fixture is assigned a single control channel number. Individual parameters of that fixture, such as intensity, focus, color, and beam are also associated with that same channel number but as additional lines of channel information.

You are required to enter only the simplest data to patch a device and begin programming your show, such as the channel number, the device type and address or port and offset. Although, when you provide more information and detail in the patch, you will have more detailed control and improved query functions during operation.

One or more of the same type device may be patched to a single channel. For example you may want to patch a group of dimmers to the same channel. In addition you may patch multiple device types to the same channel for building compound or accessorized fixtures. For example a Source Four® with a color scroller and a gobo changer may be patched to a single channel.

This chapter contains the following sections:

Displays

To begin patching your show, you must first open the patch display. You may open the patch display from the CIA or the Browser menu.

To open the Patch display from the CIA:

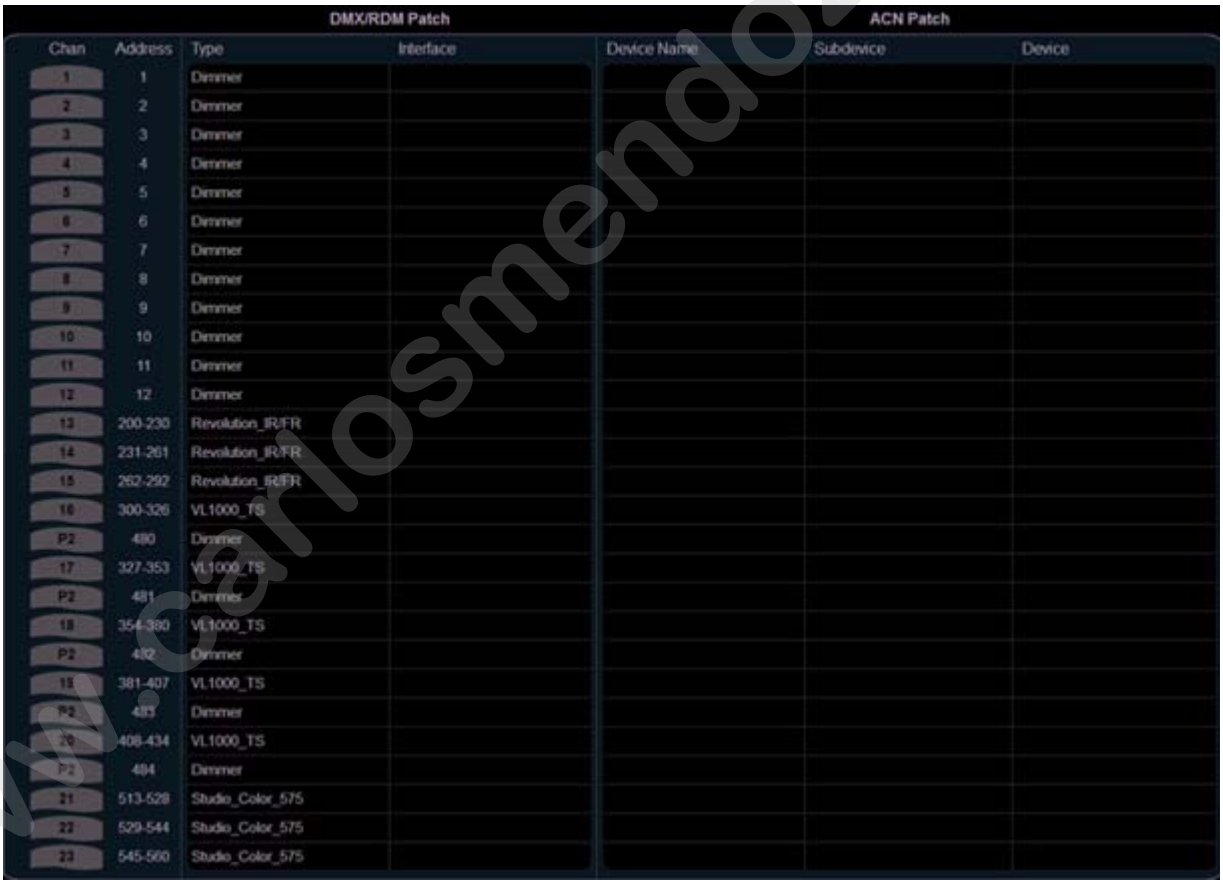
Step 1: Press the **[Displays]** button located to the right of the CIA.
Step 2: Locate and select the **{Patch}** softkey.

To open the Patch display from the Browser:

Step 1: Bring focus to the Browser by touching within the Browser window. Notice the Browser is highlighted with a gold box to indicate it is the focus.
Step 2: Using touch, your pointing device (mouse), or the navigation arrows on the control keypad, locate and expand the **Displays** submenu.
Step 3: Select **Patch** either by touching the “Patch” text twice, similar to double clicking, or bring focus to “Patch” and press **[Select]** from the control keypad, or use your pointing device to double click.

The patch display will open on an external monitor and the CIA will repaint with patch controls.

By default, the patch displays channels on the X axis and the device attributes on the Y axis. In this view the channels are sorted numerically with the DMX address in the second column. In the “patch by channel” display, the command line entry defaults to selecting channels.



You can change the patch display to sort by DMX address with the channel indicated in the second column by pressing **[Format]**. Notice that when the patch is sorted by DMX address, the command line changes its entry default to “Address”. To specify a channel in this mode, use the {Channel} key located in the CIA or press **[At]** after the DMX address entry.

Create and Edit Patch

Select Channel, Set Device Type and Output Address

Each field identified in the patch display is also displayed in the CIA as a button. You have the option to select the fields using the arrow keys from within the Patch display and edit using the control keypad or from the CIA using the buttons provided.

Selecting Channels

You may select channels for patching and editing using the keypad, using the {Offset} feature or the direct selects.

Keypad

Channels may be selected using the keypad following all of the same selection rules as defined in *"Basic Manual Control" on page 81*. You may use the [+] and/or [-] and [Thru] keys to make specific channel selections. When channels are selected, the patch display will page to the channels and highlight them in gold with black text. After selecting the channel or group of channels, you may set each of the attributes beginning with the device type, followed by the starting address. *See "{Patch} Display and Settings" on page 60.*

Note: *When patching conventional dimmers, it is not necessary to specify the device type. This is assumed.*

Direct Selects

Channels may be selected using the direct selects, following selection methods outlined in manual control. Reference *"Select Channels From the Direct Selects" on page 84*.

Status in the Patch Display

The first column in the patch display provides a status indicator to advise you when a channel requires your attention.

- "!" is displayed next to a channel number when there is a problem with the patch or to indicate there is an error.

Display Pages in Patch

Softkeys available for use while in patch include {Patch}, {Attributes}, {Database}. Pressing any of these softkeys opens a paged view of the patch display and redraws the CIA to an expanded view of fields related to the paged selected.

When creating and editing your patch, page through each of these softkey's individually to set more specific data about your selected device. The {Offset} softkey displayed is used for channel selection in patch. Reference *"Using {Offset} in Patch" on page 64* for more information on use.

{Patch} Display and Settings

The {Patch} page is the default paged displayed when patch is open and includes all of the fields that require your data entry before controlling the device in the lighting system. The {Patch} page in the CIA includes “Channel”, “Address”, “Type” and “Interface”.

- **{Channel}** - In the patch display, all channels are displayed in numerical order. When multiple devices are patched to the same channel, the channel number is only displayed in the first row, additional devices are indicated with part extensions (example P2) on the next row of the table.
  - Select the channel number using the control keypad or the direct selects.
- **{Type}** - It is not necessary to specify “type” when patching dimmers, as Eos assumes this as a default. To specify a specific device type for your selected channel, press the {Type} button from the CIA.
  - The two columns on the left side of the CIA are pagable and show manufacturer names by acronym. The four columns to the right of the manufacturer’s list are pagable devices that are available from the selected manufacturer for patching.
    - Selecting a specific manufacturer repaints the device columns with all devices that are available from that manufacturer for patching. After the selection is made, the fixture/device type will be placed on the command line after the channel number, in the box beneath the {Type} button in the CIA and in the “Type” box for that channel in the patch display.

Note: Notice the two softkeys {Show} and {Manfctr} located beneath the Eos fixture library in the CIA. These softkeys provide you with the option of showing only the library of fixtures/devices that are already patched in the show {Show} or all fixtures/devices available in the library sorted by manufacturer {Manfctr}.

- **{Address}** - A required entry field for any device. You may use the [At] key rather than the [Address] button.
  - Use the keypad to define the starting DMX address for the device (from 1 to 32767) or a port and offset value.

Note: *Press and hold the **[Data]** key to show the complimentary value. For example if you have entered address value 514, the complimentary value would be port and offset value 2/2.*

  - You may select any start address and it is not necessary to specify an output range. Eos draws this information from the library data. If you wish to leave a larger output footprint than required by the library, use [Offset]. See *"Using {Offset} in Patch" on page 64*.
  - If you specify a start address that conflicts with other channels already patched, the conflicting channels will be unpatched.
- **{Interface}** - An optional field used to specify what network interface should be used for the output. When the field is left blank, the data is output on both EDMX and ACN. You may choose EDMX only, ACN only, or specify ACN gateway.

To patch a generic dimmer:

[1] [At] [5] [Enter] - patches dimmer output 5 to channel 1.

[1] [Thru] [2] [4] [At] [1] [Enter] - patches dimmer outputs 1 through 24 to channels 1 through 24.

To patch a moving light:

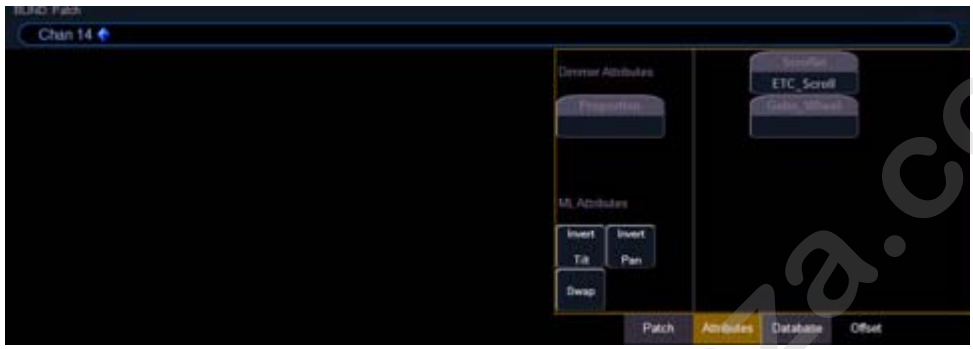
[2] {Type} {ETC} {Revolution IR/FR} [At] [1] [1] [Enter] - patches an ETC Revolution fixture with address 11 to channel 2.

{Attribute} Display and Settings

The {Attributes} page provides you with optional fields for additional information and details about the configuration of your rig. Attribute settings include “Label”, “Proportion”, “Invert Pan”, “Invert Tilt” and “Swap”.

When the selected device includes a color scroller, a {Scroller} button will display in the CIA, when the selected device includes a color wheel and/or a gobo wheel a {Color Wheel} and/or {Gobo Wheel} buttons will display in the CIA.

Select the attribute button from the CIA and use the keypad to set the attribute value. Alternatively you may press the [Select] key and use the arrow keys to navigate within the patch display to the attribute but settings are made using the keypad.

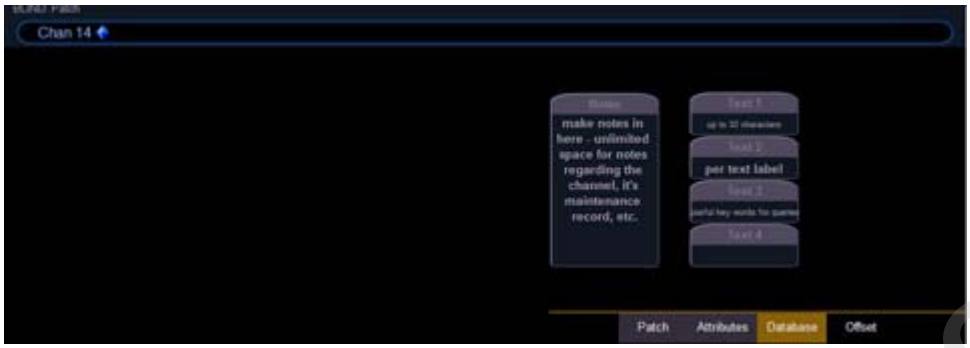


- **{Label}** - An optional user definable alphanumeric label. You can use the {Label} softkey button on the CIA or the [Labe] button on the facepanel of the desk to display the alphanumeric keypad on the CIA.
  - **[1] [At] [5] {Label} <**S4 house right**> [Enter]** - patches dimmer output 5 to channel 1 and labels channel 1 “S4 house right”.
- **{Proportion}** - A dimmer attribute to set a modifier for the intensity of the device. If the patch limit is set at 90% (for example), the actual output will always be 10% lower than the specified intensity parameter, as impacted by the various output masters. This value is set numerically in a range of 0% to 200%.
  - **[1] [At] [5] {Attributes} {Proportion} [1] [2] [5] [Enter] -** patches dimmer output 5 to channel 1 and applies a 125% proportion.
  - **[1] [At] [5] {Attributes} {Proportion} [0] [Enter]** - removes the applied proportion from channel 1.
- **{Invert}** - A moving light attribute used to invert the output of pan, tilt, or both. Select either the {Invert Tilt} or the {Invert Pan} button on the CIA.
  - **[2] {Type} {ETC} {Revolution IR/FR} [At] [1] [1] {Attributes} {Invert Pan} [Enter]** - patches an ETC Revolution fixture with address 11 to channel 2 and inverts the output of pan.

- **{Swap}** - A moving light attribute used to exchange pan and tilt levels. Select the **{Swap}** button on the CIA.
  - **[2] {Type} {ETC} {Revolution IR/FR} [At] [1] [1] {Attributes} {Swap} [Enter]** - patches an ETC Revolution fixture with address 11 to channel 2 and swaps the pan and tilt levels.
- **{Scroller}** - An attribute used to change the default scroll loaded in a scroller in a moving light. Select the **{Scroller}** button on the CIA to display the Scroller Picker with available scrolls for your selected device. *See "Using the Picker" on page 68.*
  - **[2] {Type} {ETC} {Revolution IR/FR} [At] [1] [1] {Attributes} {Scroller} [Enter]** - patches an ETC Revolution fixture with address 11 to channel 2 and opens the Scroller Picker in the CIA for scroll selection.
- **{Gobo Wheel}** - An attribute used to change the default gobo wheel loaded in a moving light. Select the **{Gobo Wheel}** button on the CIA to display the Wheel Picker with available gobo options for your selected device. *See "Using the Picker" on page 68.*
  - **[3] {Type} {ETC} {Revolution SWW/IR} [At] [4] [5] {Attributes} {Gobo Wheel} [Enter]** - patches an ETC Revolution fixture with address 45 to channel 3 and opens the Wheel Picker in the CIA for gobo wheel selection.
- **{Color Wheel}** - An attribute used to change the default color wheel loaded in a moving light. Select the **{Color Wheel}** button on the CIA to display the Wheel Picker with available options for your selected device. *See "Using the Picker" on page 68.* "More" as displayed in the Patch display, indicates additional parameter properties for the selected device, such as the color and gobo wheels.
  - **[4] {Type} {VariLite} {VL2000 Spot Standard} [At] [1] [5] [0] {Attributes} {Color Wheel} [Enter]** - patches a VariLite VL2000 Spot fixture with address 150 to channel 4 and opens the Wheel Picker in the CIA for color wheel selection.

{Database} Display and Settings

The {Database} page provides you with additional fields for entry of information that can be used by the “Query” function. *See “Using [Query]” on page 194.* These fields include {Notes} and {Text 1} through {Text 4}.



- **{Text}** - Text fields are used to provide up to four data fields about any channel or group of channels. These fields can be anything that you think is important about a channel, such as the type of fixture (Revolution), its location (FOH) or other characteristics of the channel (such as gel R80). You may use the alphanumeric keypad on the CIA, or an externally connected device, to provide up to 30 characters of key words about the device for later query as needed.
  - **[3] {Type} {ETC} {Revolution SWW/IR} [At] [4] [5] {Database} {Text 1} <**4th fixture FOH right**> [Enter]** - patches an ETC Revolution fixture with address 45 to channel 3 and adds text to the channel.
- **{Notes}** - Provides you the ability to attach an alphanumeric note to a channel or group of channels. Select the {Notes} button on the CIA to display the alphanumeric keypad. You may type a label or any length of note regarding your channel in this space.
  - **[3] {Type} {ETC} {Revolution SWW/IR} [At] [4] [5] {Database} {Notes} <**this fixture is a backup to channel 15 for front of house right / new lamp installed on 10/4/06**> [Enter]** - patches an ETC Revolution fixture with address 45 to channel 3 and adds text to the channel.

Using {Offset} in Patch

Using the {Offset} feature in patch allows you to force a numerical offset between the starting address of channels in patch. This feature is useful when you have configurable devices in your show such as a Source Four Revolution which has option slots for additional devices (scrollers, indexing pattern wheels, etc.). A fully configured S4 Revolution requires 31 DMX slots.

- **[1] [Thru] [5] {Type} {**Source Four Revolution**} [At] [1] {Offset} [3] [1]** - fixtures will be patched with a patch address offset of 31 channels, allowing you to have proper space within the patch for a given fixture type regardless of configuration or personality.
- **[1] [Thru] [2] [0] {Offset} [2] {Type} {**Source Four Revolution**} [At] [1] {Offset} [3] [1]** - selects every other channel in the list and patches them with an offset of 31 channels.

Patching a Dimmer

Tutorial

Step 1: To patch a dimmer you must first open the patch display. You may open the patch display from the CIA or the Browser menu.

Step 2: Enter a channel number from the control keypad.

- When typing any number from the control keypad, and patch is in default channel mode, channel is assumed and is placed on the command line.

Note: Alternatively, when patch is in address mode, DMX address is assumed and is placed on the command line. Channel mode and address mode are toggled using the [Format] key in the partch display.

- Alternatively you can use the [+], [-] and [Thru] keys to make your channel selection to patch more than one dimmer in once command.
  - **[1] [Thru] [5] [0] [At] [1] [Enter]** patches dimmer outputs 1 through 50 to channels 1 through 50.

Step 3: Enter the DMX address or addresses.

- You may press **[At]** and enter the DMX address using the control keypad. The DMX address may be entered in standard format ([1] [0] [2] [5] [Enter]) or by using the port and offset value ([3] [/] [1] [Enter]).
- Multiple dimmers may be patched to a channel in a single command. For example, **[1] [0] [At] [1] [0] [5] [+] [2] [0] [5] [+] [3] [0] [5] [Enter]** would create channel 10 address 105 and two additional channel parts (P2 and P3) for dimmers addressed 205 and 305..

Note: *You may choose to stop data entry at this point and begin programming your show. To do this press **[Enter]** from the keypad. Otherwise you may continue to provide additional information about the fixture/device being patched for more detailed control of your fixtures/devices.*

Step 4: To select a device interface, press **{Interface}**.

- This displays three selectable buttons labeled [ACN], [EDMX], and [All]. Select an interface for the selected device. Once your selection is made, the command line will populate with the correct interface after the address and the command line will terminate.

Patching Moving Lights

The process of patching moving lights requires more detail than patching a dimmer. Specific information is required for more advanced control of the features that moving lights offer.

Tutorial

Step 1: To patch a moving light you must first open the patch display. You may open the patch display from the CIA or the Browser menu.

Step 2: Enter a channel number or multiple numbers from the control keypad.

- When typing any number from the control keypad, and patch is in default channel mode, channel is assumed and is placed on the command line. You can use the [+], [-] and [Thru] keys to make your channel selection.
  - example: **[1] [0] [1] [Thru] [1] [1] [0]**

Note: Alternatively, when patch is in address mode, DMX address is assumed and is placed on the command line. Channel mode and address mode are toggled using the [Format] key in the patch display.

Step 3: Select a device type from the fixture library.

a: Press **{Type}** from the CIA to display the fixture library. The two columns on the left are pagable and show manufacturer names by acronym.

b: Use page keys to scroll the list of manufacturers. Selecting a manufacturer repaints the device columns with all devices from that manufacturer that are available for patching.

c: Scroll through the list and make your device selection. After the selection is made, the fixture/device type will be placed on the command line after the channel number and displayed in the box beneath the Type button.

Note: Notice the two softkeys {Show} and {Manfctr} located beneath the CIA. These softkeys provide you with the option of showing only the library of fixtures/devices that are already patched in the show {Show} or all fixtures/devices available in the library sorted by manufacturer {Manfctr}.

Step 4: Enter a starting DMX address for the selected channel or group of channels.

- You may press **[At]** and enter the DMX address using the control keypad. The DMX address may be entered in standard format ([1] [0] [2] [5]) or by using the port and offset value ([3] [/] [1]).

Note: *You may choose to stop data entry at this point and begin programming your show. To do this press **[Enter]** from the keypad. Otherwise you may continue to provide additional information about the fixture/device being patched for more detailed control of your moving lights.*

Step 5: To select a device interface, press **{Interface}**.

- This displays three selectable buttons labeled {ACN}, {EDMX}, and {All}. Select an interface for the selected device. Once your selection is made, the command line will populate with the selected interface after the address. The command line will terminate.

Step 6: Select the **{Attributes}** softkey to set detailed moving light attributes.

- {Invert Pan} and {Invert Tilt}, {Swap}, {Scroller}, {Gobo Wheel} and {Color Wheel} when applicable, are selectable from this page.
    - If your moving light includes parameters such as a color scroller or gobo wheel and you have custom gels or non-standard pattens installed, use the Scroller/Wheel Picker and the Editor to modify the device patched. *See "Using the Scroller/Wheel Picker and Editor" on page 68.* The more accurate your patch data is including accurate colors and patterns installed, will provide you with better and more useful programming and operating.

Step 7: Select the **{Database}** softkey to specify notes and keyword text related to your selected channel for reference and future queries.

- Pressing the **{Notes}** and/or a **{Text}** button enables the alphanumeric keypad on the CIA. Pressing **[Enter]** after entry returns the CIA to the Database page.

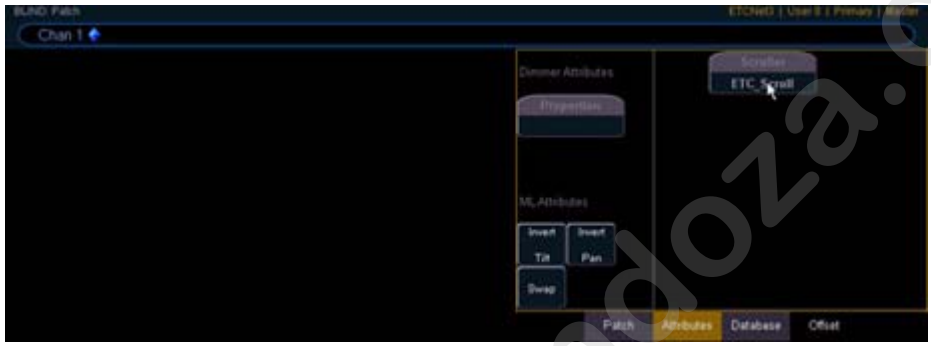
Using the Scroller/Wheel Picker and Editor

The scroller and wheel picker allows you to configure what set of scroll, color wheel and/or gobo wheel are loaded in each fixture using standard manufacturer offereings. Alternatively you may create your own customized scrolls / wheels using the editor to match the actual device installed in your fixture. When you use the encoders for moving light control, you will find the little extra effort and time you spend creating an accurate patch a worthwhile endeavor.

Using the Picker

Default color and pattern media for your selected fixture, as determined in the fixture library, is displayed in the {Attributes} page. Only the media attribute that is available for your selected fixture will display.

In the sample image below, the selected channel (1) is a Source Four® Revolution® with a color scroller. If your selected channel included a color wheel and two gobo wheels, each device would be represented in the display with a selectable button.



Select the attribute for the channel to open the picker.

The picker displays on the left half of the CIA when you select the specific attribute ({Scroller}, {Color Wheel} or {Gobo Wheel}). The picker displayed is directly related to the attribute selected (the scroll picker will display when {Scroller} is pressed, the color wheel picker will display when {Color Wheel is displayed, etc.).

Select the scroll / wheel type.

The picker displays with two columns of buttons used to select the standard scroll or wheel type for the selected channel. The default selection is the wheel as shipped from the manufacturer for the selected fixture type (derived from the fixture library). Displayed left of the standard scroll/wheel selection is a list of each color/gobo as they are installed in the selected device (frame by frame). When the color or pattern image is available, it will display next to the frame name.

In the graphic above, {ETC Scroll} is the default scroll for the ETC Source Four Revoluation selected. The list of gel colors as they are installed in the scroll are displayed to the left with a color chip for easy reference. Selecting any other type, such as {Martin Scroll}, redraws the frame list to match.

The softkeys displayed beneath the picker are {Clear}, {New}, {Copy}, {Edit} and {Delete}.

- {Clear} - clears the selection type from the selected channel in the picker.
- {New} - creates a new scroll or wheel and provides additional softkeys to enable the Editor. Reference *"Using the Editor"*.
- {Copy} - makes a copy of the currently selected scroll / wheel type, which then can be edited using the Editor. Reference *"Using the Editor"*.
- {Edit} - used to edit a selected frame only from a scroll or wheel that you have created.
- {Delete} - used to remove a selected frame only from a scroll or wheel that you have created.

Using the Editor

The editor is used to create new or edit copied scrolls and wheels. While in the picker display, you can create a new scroll or wheel by pressing the {New} softkey or make a copy of an existing scroll or wheel by selecting the source, then pressing the {Copy} softkey.

The editor does not limit how many frames you can add to the scroll or wheel for the selected fixtured. Keep in mind that the fixture has its own limitations. For instance, a Source Four Revolution color scroller is limited to 20 frames. If you have created a custom color scroll with 30 frames, the Source Four Revolution will only provide you access to the first 20 frames in your scroll. This same concept applies to wheels as well.

When using the editor, the following softkeys are available for use:

- {Insert} - inserts a new frame above the selected frame.
- {Delete} - removes the selected frame
- {Edit} - changes the selected frame
- {Done} - returns to the picker display
- {Label} - displays the alphanumeric keypad on the CIA so you can label the new scroll or wheel.

Creating a New Scroll or Wheel

If a new wheel is created, {new wheel} is selected and displays as a button beneath the standard manufacturer offerings. The frame list will be empty with only “New” displayed in frame 1.

To select a color or pattern for the specific frame in the scroll/wheel, select the {New} text to display the available gel, color, gobo and effect media selections.

Manufacturer List

Manufacturer catalog

cataloged media (sorted numerically)

The media selection includes the following softkeys:

- *{Gel}, {Color}, {Gobo} and {Effect} - each will display available media selections as they are cataloged by the associated scroll or wheel manufacturers*
- *{Open} - places the frame in Open White*
- *{Cancel} - cancels the media selection and returns to the frame editor.*

When a manufacturer is selected from the manufacturer list, the catalog selection redraws to display only the selected manufacturer offerings. When a catalog is selected, the media will display in the last three columns of the editor. Making a media selection returns the display to the new wheel frame list where additional frames can be added to the scroll or wheel using the {New} frame button.

Editing a Copy of a Scroll or Wheel

If a copy has been made of an existing standard scroll or wheel, the copied scroll or wheel will display as {new wheel} beneath the standard manufacturer offerings. The frame list will include an exact duplicate of the copied selection.

To make a change to a frame you must first select the frame then press {Edit} to display the media selection. Alternatively, you can insert a new frame above a selected frame using the {Insert} softkey.

For example, to insert a new frame in between existing frames 2 and 3, select frame 3 and press the {Insert} key. The media selection will display.

Manufacturer List *Manufacturer catalog* *cataloged media (sorted numerically)*

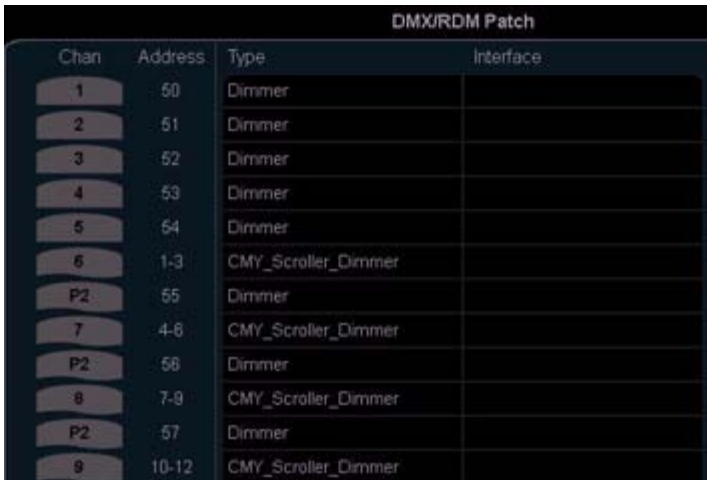
The media selection includes the following softkeys:

- *{Gel}, {Color}, {Gobo} and {Effect} - each will display available media selections as they are cataloged by the associated scroll or wheel manufacturers*
- *{Open} - places the frame in Open White*
- *{Cancel} - cancels the media selection and returns to the frame editor.*

When a manufacturer is selected from the manufacturer list, the catalog selection redraws to display only the selected manufacturer offerings. When a catalog is selected, the media will display in the last three columns of the editor. Making a media selection returns the display to the new wheel frame list where additional frames can be edited to the scroll or wheel.

Changing the Patch View

By default, Patch is displayed in a sequential channel view. While in the channel patch view, any numeric entry from the keypad is assumed to be a channel.



You may change this to a sequential DMX address view by pressing the **[Format]** button. While in address patch view, any numeric entry from the keypad is assumed to be a DMX address.

Pressing the **[Data]** key at any time, in either patch view, displays the DMX address port and offset value.

Chapter 6

Setup

This chapter describes the processes involved in changing your system settings to meet your preferences. It also covers advanced setup functions as well.

This chapter contains the following sections:

Opening Setup

To enter the setup screen, press **{Displays}>{Setup}**.

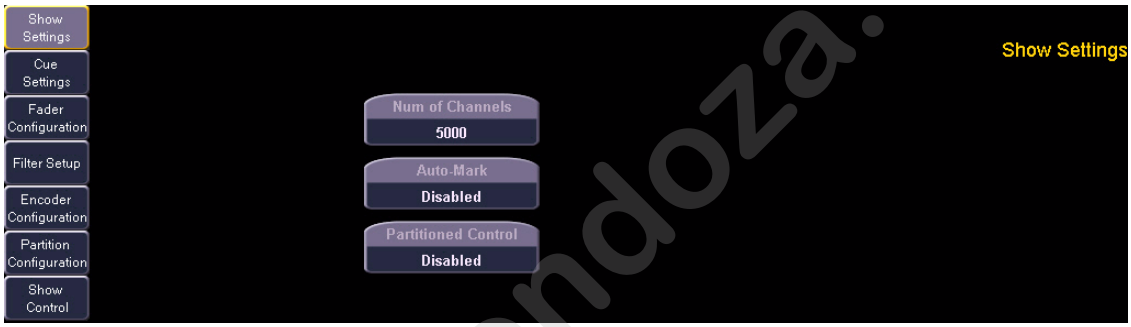
The CIA will repaint to display the setup screen and the softkeys will change to display the various subcategories of setup. Eos defaults to display show settings, however if you have changed the view to another subcategory, Eos will remember the view you were in when you return to setup.

The setup subcategory softkeys are:

- Show
- Desk
- Security
- RVI
- Manage

Show

When you select the {Show} softkey, the CIA repaints to display the following screen:



The buttons on the left are the setting categories within show setup. The show setup categories are:

- Show settings
- Cue settings
- Fader configuration
- Filter setup
- Encoder configuration
- Partition Configuration
- Show Control

Show Settings

Press {Show Settings} to enter this category.

Three fields will be available to you: {Num of Channels}, {Auto-Mark}, and {Partitioned Control}. To change the setting for any of these fields, press the field in the CIA to activate it. If the field requires data, enter it from the keypad. If the field is a toggle state, one press of the button will switch the field to its other state.

{Num of Channels}

You may use this field to alter the number of channels in your Eos to the number of channels in your system. You cannot exceed the maximum number of channels in your Eos system. Enter the number of channels for your system using the keypad.

{Auto-Mark}

This toggles the Automark settings for your Eos (see *Using Mark, page 159* for more information).

{Partitioned Control}

This feature will be available in a future release.

Cue Settings

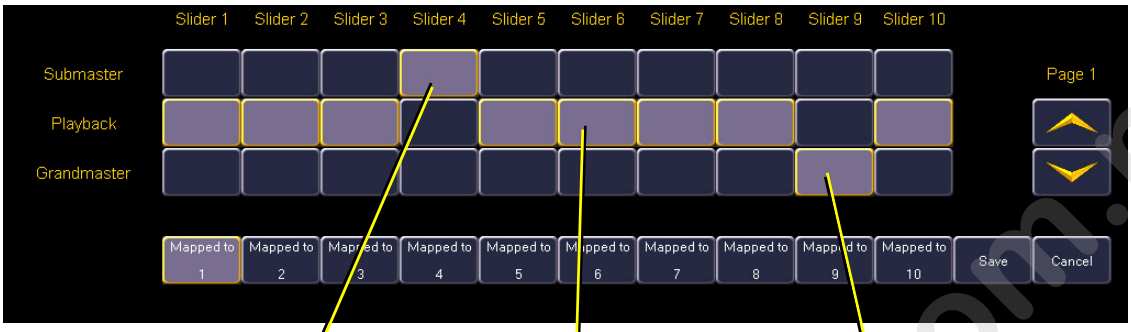
This screen allows you to set the default times for the various parameter categories of your Eos system. To change a time, touch the parameter category button in the CIA and enter the desired time on the keypad.

The categories for which you may set default times are:

- Intensity Up
- Intensity Down
- Focus
- Color
- Beam
- Multipart Cue - this feature will be available in a future release.

Fader Configuration

This screen allows you to specify what your faders are assigned as: playbacks, submasters, or grand masters.



Defined as Submaster *Defined as Playback* *Defined as Grandmaster*

To change the configuration of any fader, use the **{Page}** buttons to access the fader page you wish to alter. For the desired fader, press the appropriate button (playback, submaster, or grandmaster) for the configuration you desire. When you are done making changes, press **{Save}.**

To leave this screen at any time without saving changes, you must press **{Cancel}**.

Mapped to...

This button is used to specify the action target of any fader. It allows you to define the fader target that a slider is assigned to. Mapping is specific to the type of fader configuration (playback, submaster, or grandmaster).

Submaster - A maximum of 200 submasters can be recorded. {Mapped to} defines the submaster number that will be controlled by the specified slider. If a submaster slider is mapped to 10, when submaster 10 is recorded it will appear on that slider.

Grand master - A maximum of 3 grandmasters may be assigned. Grand masters can be assigned to control only certain channels. {Mapped to} defines the grandmaster number (1-3) that will be controlled by the specified slider. If a grand master slider is mapped to 2, when grandmaster 2 is assigned control of channels it will appear on that slider.

Playback - A maximum of 30 playbacks can be assigned. {Mapped to} can allow you have the same playback appear on multiple pages. To change the mapped location of any playback, press the **{Mapped to}** button for that slider and type the number you wish to assign it to.

For Example:

You want cue list 5 to appear as the last fader on every fader page.

In fader configuration, on each fader page assign one slider per page as a playback and map it to 10.

When you load cue list 5 to fader 10. On any page that has a fader mapped to playback 10, cue list 5 will be loaded to that fader.

Note: *Specifying a {Mapped to} location does not specify the cue list that will be loaded to that playback. Cue lists can be assigned to any playback. {Mapped to} simply allows you to place that playback on a certain page.*

Filter setup, Encoder configuration, Partition Configuration, and Show Control settings will all be available in a future release.

Desk

This setup softkey accesses the settings for the Eos console. Two setting buttons are available in desk settings: {Record Defaults} and {Manual Control}.

{Record Defaults}

This screen enables you to change general record defaults as well as change the default parameter category times associated with certain actions ([Back], [Go to Cue], and [Assert]).

To change the setting for any of these fields, press the field in the CIA to activate it. If the field requires data, enter it from the keypad. If the field is a toggle state, one press of the button will switch the field to its other state.

Auto Playback

When enabled, this feature ensures that when a cue is recorded, Eos will treat it as though you have just played it back and are now in that cue. This field is a toggle state between enabled and disabled. The default is “Enabled”.

Track

This field allows you to switch between tracking and cue only modes (see *Tracking vs. Cue Only, page 5*). The default is “Tracking”.

Record Confirm

This setting allows you to enable/disable the confirm action when recording over a previously recorded target. The default is “Enabled”.

Auto Save

This setting allows you to toggle the auto save function of your Eos. When enabled, Eos will automatically save the show file based on the auto save interval (see below). The default is “Disabled”.

System Blocks

This setting enables/disables system-applied blocks. When enabled and a channel level is changed to match the channel level in the succeeding cue, Eos will apply a block to the channel levels in the succeeding cue, thereby preserving the move instruction (see *Block, page 147*).

When disabled, the value in the subsequent cue will be changed to be a tracked value and the move instruction will be removed. The default is “Enabled”.

Delete Confirm

This field allows you to enable/disable a required confirmation before any delete command. The default is “Enabled”.

Auto Save Interval

This setting defines the frequency of auto saves (when they are enabled). Time can be entered in seconds (30) or minutes and seconds (10:30). Use the keypad to enter times and verify in the command line that the timing value appears as you intended.

Back Time, Go To Cue Time, Assert Time

Each of these features allow you to change the respective feature response times based upon parameter category. Each parameter category (Intensity Up, Intensity Down, Focus, Color, and Beam) may have a specific time for each feature. The default for all times in these features and categories is 5 seconds.

{Manual Control}

This desk setting button gives you access to the Eos manual control settings.

Manual Time

In this section you may change the default times for manual changes to appear in live. Times can be set for each parameter category (Intensity Up, Intensity Down, Focus, Color, and Beam). You may use the [Thru] key to enter a value for all categories.

- ***{Int Up} [Thru] [9]***

The default for each of these is 0 seconds.

Manual Control

This section allows you to specify the values for certain buttons used in manual control. To change any value, touch the appropriate button in the CIA and use the keypad to enter a new value.

Highlite - This feature will be available in a future release.

Level - This sets the level for the [Level] key. Any value between 0-100 may be entered. The default is 100.

Plus % - This sets the level for the [+%] key, which will increase the selected channel by the set percentage. Any value between 0-100 may be entered. The default is 10%.

Minus % - This sets the level for the [-%] key, which will decrease the selected channel by the set percentage. Any value between 0-100 may be entered. The default is 10%.

Sneak Time

In this section you may change the default times for sneak commands to appear in live. Times can be set for each parameter category (Intensity Up, Intensity Down, Focus, Color, and Beam). You may use the [Thru] key to enter a value for all categories.

- ***{Int Up} [Thru] [9]***

The default for each of these is 5 seconds.

Security

This feature will be available in a future release.

RVI

This feature will be available in a future release.

Manage

This feature will be available in a future release.

Chapter 7

Basic Manual Control

Eos provides you with many different ways to navigate and command your control channels including the control keypad and the direct selects. This chapter identifies the many basic ways you can select channels and manipulate show data within Eos.

This chapter contains the following sections:

Selecting Channels

Eos provides many different interactive ways to channels, including the control keypad, direct selects and touch screen access. Eos makes it possible to select channels by one method and add to the selection using other methods.

Channels are deselected when any action is taken on the keypad that is unrelated to manual control, such as recording groups and cues, or updating a record target, etc. Alternatively you may press **[Clear]** after a terminated command line to clear the channel selection.

Select Channels From the Keypad

The keypad defaults to selecting channels, therefore no channel key is required. Channels may be selected on the control keypad using the [+] and/or [-] and [thru] keys for consecutive or non-consecutive channel selection.

The following examples illustrate the various methods and features available when selecting channels from the control keypad:

- **[n] [Enter]** - selects channel n
- **[n] [+] [z] [Enter]** - selects non-consecutive channels n and z
- **[n] [thru] [z] [-] [s] [Enter]** - selects a range of channels n through z, except channel s
- **[n] [thru] [z] [Enter]**- selects channels n through z
- **[-] [z] [Enter]** - removes channel z from the current selection list

Note: *You may use [+] and/or [-] multiple times to add or remove multiple channels from the selection. [Thru] lists may be entered in ascending or descending order.*

[Next] and [Last]

The [Next] and [Last] buttons increment and decrement channel selection. If only one channel is selected, [Next] increments the channel selection to the next sequential channel in the list, while [Last] decrements the channel selection by one.

Select channel 10 then change the selection to channel 11 using the [Next] key:

- ***[1] [0] [Enter]***

Notice in the Live Channel display, channel 10 is selected with a gold outline around the entire channel and the channel number is indicated in bold white.

- ***[Next]***

Notice channel 11 is now selected with a gold outline and bold white channel text while channel 10 is no longer selected.

If there is no specific channel selected when [Next] or [Last] is pressed, channel 1 is selected. When a group of channels is selected pressing [Next] or [Last] selects the first channel in the channel list.

For Example:

Channels 11 through 20 are selected:

- ***[Next]***

Notice channel 11 through 20 are still the selected channel list but channel 11 has focus.

Select Channels From the Direct Selects

Direct selects provide one-touch selection of channels, groups, palettes, presets, effects and macros. Eos provides the ability to display 20, 50, or 100 channel array's on direct select displays with paging buttons provided for easy scrolling. *See "Using Direct Selects" on page 43.*

Place any of the direct selects in Channel mode by pressing **{Select}** followed by the **{Channels}** button. Once the channel selects are displayed on the direct selects, channels can be selected simply by pressing the channel select button. The command line will show the appropriate channel and the selected channel will be displayed in the direct selects with a gold highlight and bold white channel number.

Channel selection using the direct select panel is an additive process. To deselect all other channels and select only one channel double-click that channel button.

For Example:

If channels [1] [Thru] [5] are selected from the keypad, pressing **{Channel 6}** from the direct select channel display adds channel 6 to the current channel selection.

If channels [1] [Thru] [5] are selected from the keypad, pressing **{Channel 6} [Channel 6}** deselects channels 1 through 5 and selects channel 6.

The following examples illustrate the various methods and features available to select channels using the direct selects:

- **{Channel 1}** - adds channel 1 to the currently selected channels, if not currently selected.
  - This is similar to pressing [+] [1] [Enter] from the keypad. However if channel 1 were currently selected when you pressed {Channel 1}, this would deselect channel 1 from the channel selection.
- **{Channel 5} {Channel 6}** - adds channels 5 and 6 to the current channel selection.
  - This is similar to pressing **[+] [5 [+] [6] [Enter]** from the keypad.
- **{Channel 5} {Channel 5}** - selects channel 5 and deselects all other channels.
  - This is the same as pressing **{Channel 5}** when the previous command line is terminated.

Button Modules

When using the button module, pressing and holding a channel button while pressing another channel button selects those two channels and all channels in between, similar to using the [Thru] command from the keypad.

Note: *This feature is not supported when channel selects are used on the direct select touch screens without the button module.*

Offset

{Offset} is a feature used select a range of channels from a broader initial range of channels. For the offset feature to function, you must first select a group of channels, then press **{Offset}**. When {Offset} is pressed, the softkeys change to the following: {Even}, {Odd}, {Reverse} and {Random}. These keys, along with the numeric keys from the keypad are used to create channel offsets.

The following examples illustrate how offset works:

- **[1] [thru] [10] {Offset} {Even} [Enter]** - selects channels 2, 4, 6, 8, 10
- **{Channel 1} & {Channel 9} {Offset} {Reverse} [Enter]** - from the direct selects, using the button module, this selects channels 1 through 9 but displays them in a reverse order. This order can be used temporarily or it may be stored to a Group.
- **[1] [thru] [2] [0] {Offset} [3] [Enter]** - from the selected group, this syntax would select channels 1, 4, 7, 10, 13, 16, 19 which is an offset of every third channel from the selection.
- **{Group 5} {Offset} {Random} [Enter]** - selects all channels in Group 5 and places them in random order. This selection may be used only temporarily or it may be recorded to a new Group.
- **[1] [thru] [2] [0] {Offset} {Even} {Random} [Enter]** - selects all even channels within the range and puts them in random order.

Setting Intensity

Channel intensity may be manually entered from the keypad, set with the intensity palette, if programmed, or set with the **[**level wheel**]**. Pressing **[At]** after channel selection assumes an intensity value will be added to the selected channels. You may also use the [Full] button to bring the selected channels to their full intensity or you may use the [Out] button to fade the intensity out.

Use the [Level], [+%] and [-%] keys to affect the intensity value of selected channels. Each of these keys are set at a specific value established in the **Setup** (*{Manual Control}, page 79*).

- [Level] is set by default to full (100% intensity).
- [+%] and [-%] are each set by default value of 10 points.

The following examples illustrate the various methods and features available for setting intensity:

- **[1] [+] [3] [At] [5] <0> [Enter]** - selects non-consecutive channels 1 and 3, and sets an intensity level of 50%.
- **[1] [thru] [5] [-] [4] [Full] [Enter]** - selects a range of channels 1 through 5, except channel 5, and sets the intensity to Full.
- **[1] [thru] [8] [At] [+] [3] [Enter]** - adds three “points” (30) to all intensities in the channel selection. If they were at 50, they will now be at 80. If channels 1, 3 and 5, were at 30 and 4 was at 50, they would be 60% and 80% intensity, respectfully.
- **[5] [thru] [8] [At] [/] [3] [Enter]** - scales the intensities of the selected channels in the list down 3 “points” (30) of their current values.
- **[1] [thru] [4] [At] [/] [1] [3] [0] [Enter]** - scales the intensities of the selected channels in the list up 30% of their current values. If channels 1 through 4 were at 40% intensity, this would scale them up an additional 30% of that value to 52% intensity.
- **[2] [+] [5] [**level wheel**]** - roll the wheel up for greater intensity or down for less intensity.
- **[1] [Level]** - selects channel 1 and sets it to the default level as established in **Setup**.
- **[Group] [9] [Out]** - selects all channels in Group 9 and sets the intensity values for those channels to zero. The exception would be if any channels in Group 9 were parked or captured.

When channels are selected, pressing any of the direct manual keys ([At], [Full], [Level], etc.) allows you to continue modifying the selected channels from the command line and encoders without having to reselect them.

For Example:

- ***[1] [thru] [5] [Full] [Enter]***

Note that the selected channels are displayed in the Live tab with a gold highlight, bold white channel text and red manual data. You may continue to modify channels 1 through 5 since they are still selected and displayed on the command line.

- ***[-%] [-%]***

This command would reduce the intensity of channels 1 through 5 by 2 points (-20) of the full intensity. This command is self-terminating.

- ***[at] [7] [5] [Enter]***

You can continue editing the selected channels so long as the channels are selected and represented in the command line. You can recall the last selected channels for further editing using the **[Select Last]** command.

Manual Control of Non-intensity Parameters (NPs)

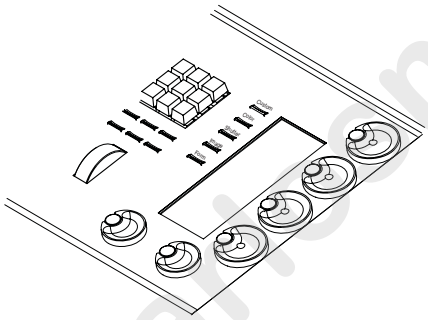
Non-intensity parameters can be set with a variety of controls including the control keypad, buttons on the central information area (CIA) and the encoders.

The parameters are arranged into categories including Intensity, Focus, Color and Beam. Each parameter category are represented with buttons at the bottom of the CIA display. These buttons allow you to select the entire collection of all parameters within that category in one button press. Alternatively, you can select a single parameter from a category for a selective store.

Beam has three subcategories which correspond to the way the encoders are mapped including {Image}, {Form}, and {Shutter}. These subcategories are represented with direct select buttons on the CIA. Pressing these buttons allows you to select all parameters with those subcategories.

Within the CIA, in the upper left corner, notice the {All NPs} button. When pressed, this collects all non-intensity parameters and readies them for further editing.

Setting Non-intensity Parameters with the Encoders



Encoders provide a quick method to adjust current values for non-intensity parameters. The bottom two encoders always control pan and tilt functions. The four vertical encoders are pageable using the five encoder page buttons near the encoder LCD.

The five encoder page buttons are: [Custom], [Color], [Shutter], [Image] and [Form].

Form, Image and Shutter are subcategories within the broader parameter category of Beam.

- **Custom** - allows mapping of up to four user defined parameters on multiple pages.
- **Color** - includes all color mixing controls (CMY, RGB, HS), as well as scrollers, color wheels and color effects.
- **Shutter** - includes all of the framing devices for the luminaire.
- **Image** - includes anything that drops into the gate, such as gobos, effects, etc.
- **Form**- includes parameters that affect the quality or size of the light output, such as edge, zoom, iris, IMF, frost, etc.

The LCD to the left of the encoders displays the parameters the encoders are controlling and provides additional information about the current status of those parameters. Encoder pages populate with the parameters that are required by the fixtures in the show's patch. When you access a parameter page, controls that are not available for your current channel selection set are suppressed from the LCD display. This suppression provides clear indication of what functions are available for your selected fixtures.

The information displayed in the encoder LCD is only as accurate as the patch information you have provided. For example, when you are working with color scrollers, the standard color frames the manufacturer supplies are what will be displayed for scroller controls, unless you have created a custom scroll for the selected channel in patch using the Scroll Editor.

During operation, when you select that channel and adjust the scroller encoder, the current frame of the new scroll you have created in patch, including its actual color name and color chip if available as a graphic, will display in the associated encoder LCD. *See "Creating a New Scroll or Wheel" on page 70.*

The encoder pages display differently depending on the channels selected. Below are scenarios to explain some of the possible operating conditions:

- Parameters that are in the show patch but that do not apply to the selected channels are suppressed. The parameter name will continue to display in a diffused grey color but all other controls for that parameter will not be selectable.
- When a channel or group of channels are selected with some parameters that are similar but others that are not, any of the following may occur:
  - parameters that are shared by the selection set are displayed with all selections available for edit and control.
  - parameters that are available to only some of the selected channels, but not all of the channels, are displayed in a diffused grey color. This condition displays all of the available controls but with a clear indication that not all of the selected channels can achieve these parameters. You may use these controls but the channels that do not support the relative parameters will not respond to the actions.
  - parameters that none of the selected channels share are displayed in diffused grey color, only with the parameter name but no additional controls are selectable.
- When you access a parameter page, the encoder wheels will automatically load and display the first page that has a valid parameter for the channel selection set.

Encoder LCD Touchscreen

The encoder LCD touchscreen displays the active parameter category loaded on the encoders, as selected by the page buttons. Each encoder has an associated control section in the LCD that provides visual indication of:

- the parameter it controls.
- the current setting (value) of the parameter.
- and the current mode if the encoder controls more than one function.

For Example:

The graphic to the right indicates the encoder LCD displaying a page of Color parameters for a High End Systems, Studio Spot 575watt luminaire.

- Encoder wheel 1 is controlling Saturation
- Encoder wheel 2 is controlling Hue
- Encoder wheel 3 is controlling Color Wheel 2.
- Encoder wheel 4 is controlling Color Wheel 1.
- Encoders 5 and 6 are controlling Pan and Tilt respectively.

encoder wheel 1

encoder wheel 2

encoder wheel 3

encoder wheel 4

Pan *Tilt*

Pressing **[Color]** page button again loads the encoders with other color parameter options when they are available.

Next to the parameter name is indication of “coarse” or “fine” control. Default is coarse control. You may toggle between the two by pressing the center of the encoder itself.

- coarse control - provides larger changes for non-segmented parameters and advances/decrements full frames for segmented parameters. The encoder is clutched in this mode, meaning you will feel each frame change distinctly.
- fine control - provides unlimited, high granularity control. When used in this mode the encoder is not clutched, allowing you smooth and detailed control.

A series of buttons are included in each of the four encoders sections of the display including {Home}, {Last} and {Next} or {Min} and {Max}, and depending on the type of parameter a {Mode} softkey may display. Each array of buttons associated with the encoder wheels serve similar purpose regardless of the parameter being controlled. Reference *Encoder Controls, page 91* for details of use.

The “E” as displayed beneath the parameter name indicates that this parameter has “Expanded” functions. When this area of the touchscreen is pressed, the touch screen repaints to display all the media options available for the specific wheel.

For Example:

Continuing with the previous example, touch the encoder LCD somewhere near the “E” as displayed in Color Wheel 2 (encoder wheel 3).

The encoder LCD will repaint with all color media available for the the selected device.

Select any of the available media options, then touch the text “EXPANDED” to close the expanded display and return to the encoder page.

Encoder Controls

Within the encoder touchscreen you will find specific control buttons for each encoder include {Home}, {Min} and {Max} or {Next} and {Last}, and sometimes {Mode}.

Home

Each parameter has an associated {Home} key in the encoder LCD. This allows you the ability to access any parameter and return it to its default position. Additionally, the control keypad has a [Home] key located below [Sneak]. The [Home] key on the control keypad is a channel level instruction, meaning the entire luminaire will return to its home position unless you modify the instruction by selecting specific parameters on the CIA.

The following examples illustrate use of these two keys, both from the control keypad and the encoder LCD:

- **{Home}** - when pressed from the encoder LCD, only the specific parameter of the selected channels will return to its home position.
- **[1] [Home] [Enter]** - homes all parameters of channel 1. When this command overrides playback data, it results in a manual value for the associated parameters. When this command is an override of only manual data, it does not result in manual data, instead it responds the same as sneaking manual levels.
- **[1] [All NPs] [Home] [Enter]** - homes only the non-intensity parameters of channel 1.
- **[1] [Color] [Home] [Enter]** - homes all of the color data for channel 1.

Min and Max

{Min} and {Max} are displayed when the parameter is linear, such as a shutter. Use these keys to set a minimum and a maximum setting for a parameter.

Next and Last

{Next} and {Last} are displayed when the parameter is segmented such as a fixed gobo or color wheel or a color scroller. Use these keys to increment or decrement in full frames.

Mode

The {Mode} key is provided to select different modes for the encoder wheel such as rotate, index, or special effects.

- When more than two modes are available, the {Mode} key, when pressed repeatedly, advances through the various modes. Each mode will display beneath the current parameter setting.
- When only two modes are available, the alternate mode is indicated instead of a {Mode} key. Toggling that button switches the encoder wheel to the alternate mode.

Flip

The {Flip} button, as displayed in the Pan/Tilt section of the encoder LCD, is used to flip the unit into its exact same position, just from the other direction.

Multiple Encoder Control

When parameters require more than one encoder for full control, the encoder LCD provides indication that the encoders are related to each other by name. Typically, additional modes will load on other pages but will reference the master parameter unique name. Multiple instances of a device in a single channel (such as two fixed gobo wheels or two color wheels, etc.), each device will load on separate encoders.

Form Control

Form is the collection of parameters that mainly affect the look of the beam edge including the iris, edge, IMF, frost, etc., except shutter controls and image (gobo) controls that are placed in the gate of the beam.

When the form encoder page button is activated the LED will illuminate and the encoders automatically populate with the “Form” parameters as specified in the show patch. If there are more parameters in the show patch than will fit on the first page of the encoders, press the **[Form]** encoder page button again to page through the remaining parameters in the category.

The form parameters may include:

- **Edge** - controls the hard/soft qualities of a spot luminaire, some fixtures may call this focus, but Eos represents this as the edge parameter. The edge encoder provides two buttons, [Hard] and [Soft], which set the selected luminaire to its hardest (sharpest) edge or its softest edge. These values are set to the system default value for the selected luminaire, but may be modified as required on a per fixture basis.
- **Iris**, **Zoom**, **Strobe and IMF**- each parameter have in/out, narrow/wide, and fast/slow settings. Iris and Zoom also have programmable limits, called in/out and narrow/wide respectively. The strobe mode setting varies based on the fixture type. IMF (internal media frame for use with the ETC® S4® Revolution™ luminaire is located on the second page if there are also strobe functions in the show.

Image Control

Image is the collection of parameters that affect the contents of the beam (gobo, prism, effect wheels, etc.).

This graphic represents a luminaire with two gobo wheels and an effects wheel.

E" is present for parameters that have "Expanded" frame tables for selection. When pressed, the display repaints with an image (if available) of what is in the various slots for your selection.Pressing the top right corner of the expanded display will close expanded mode and maximizes the standard encoder display for the encoder page button selected.

Shutter Control

The [Shutter] button pages to shutter controls, if there are any fixtures with framing devices patched. Each of the four vertical encoders controls a different frame and toggles between frame position and angle.

- **Position** - determines how far in and out of the beam the blade travels.
- **Angle** - determines the angle that the blade sits in the beam.

Different fixtures control shutters in different ways. Eos provides you standardized use of all shutters through patch.

Press the **[Beam]** encoder page button once again to access the additional shutter controls and rotation attributes of the shutter assembly, if appropriate to the selected fixtures.

Color Control

Depending upon the specific device, color can be established manually with the encoders using:

- CMY color mixing
- hue and saturation color mixing
- by selection from a color wheel

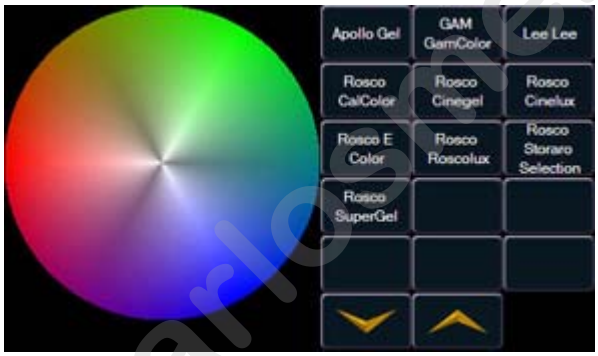
Alternatively you may specify color by using the hue and saturation (HS) color picker.

It is also possible to set non-intensity parameter data with direct entry via the control keypad and using the parameters on the CIA. This method allows you to provide matching values for each parameter.

- **[1] [At] [4] <0> {Cyan} [5] [5] [Enter]**

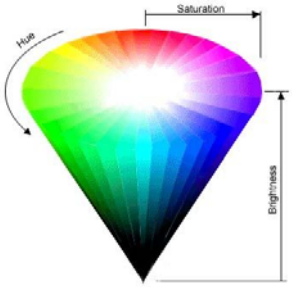
Color Picker

Press the **[Displays]** button and select the **{Color Picker}** from the softkeys to display the color picker in the CIA.



Within the color picker displayed in the CIA, notice the columns of buttons to the right. These buttons are manufacturer catalogs of gels. To display a specific manufacturers catalog of gels, press the specific manufacturer/catalog and select the desired gel from the selection.

When channels are selected and a specific gel is selected, the color picker will indicate a dot on the color picker which represents the selected fixture(s). The dot provides you with a visual indication of the color each fixture can accommodate, closest to the gel selected. This tool is most useful when color matching between different fixture types to maintain an even field of color. Alternatively you could use a pointing device and select the color from the picker.



What is Hue and Saturation?

Hue is the actual color. It is measured in angular degrees around the cone starting and ending at red = 0 or 360 (so yellow = 60, green = 120, etc.).

Saturation is the purity of the color, measured in percent from the center of the cone (0) to the surface (100). At 0% saturation, hue is meaningless.

Brightness is measured in percent from black (0) to white (100). At 0% brightness, both hue and saturation are meaningless.

Encoders

When both CYM and RGB mixing systems are present in the lighting rig, they take priority in the encoder mapping, followed by fixed wheels, then scrollers. A CMY color mixing fixture may not be placed in RGB mode, nor can and RGB fixtures be placed in CMY mode.

- When the mechanism is a fixed color wheel or a color scroller, you can use the encoder to select the desired slot. Alternatively, pressing the **{E}** expands the display to include a button for each slot or frame indicated with both a location number (example #5) and a label (example Rosco R80). If the mechanism is a fixed wheel or a color scroller, pressing **{E}** displays where the slot/frame can be accessed by a single button press. The specific colors within the scroller or wheel are specified in patch. *See "Creating a New Scroll or Wheel" on page 70.*

Setting Parameters with the Keypad

When the CIA is placed in parameter mode, all parameters of selected channels may be given numeric values through the keypad. Linear devices can be provided instructions from 0-100, pan and tilt are controlled from -270 to 270 and -135 to 135 respectively. Saturation controls are represented from 0 to 360 and Hue controls are represented from 0 to 100.

When no channels are selected, the CIA shows all of the parameters that are available in the rig. When channels are selected, the CIA condenses to show only the parameter that are appropriate to the selection set. If channels are selected that have different device types, such as spot and wash lights, the CIA will show all of the parameters available with the parameters that are not available to all channels greyed out.

The following examples illustrate how to set parameter values with the keypad:

- **[5] {Iris} [5] {Zoom} [6] [5] {Edge} [5] [Enter]** - sets channel 5 with an iris value of 50%, a zoom value of 65%, and an edge value of 50%.

Lamp Controls

Lamp control functions allow you to execute control functions of selected fixtures such as calibrate, douse lamp, strike lamp and reset. Each fixture type has its own set of lamp control options which are available to you when you select the fixture from Live and press the {Lamp Cntrls} softkey.

For Example:

- ***[1] [1] [Enter] {Lamp Controls}***

The buttons on the right side of the lamp controls screen alter the information that is displayed for the selected channel. The selected button is highlighted in gray.

The {Current Values} displays detail of the channels usage in cues, if the channel is inhibited by a submaster, and details the current information that the channel is receiving.

The {Background Values} displays the same channel usage in cues detail, and includes information that is being sent to the channel, but not adhered to since another source has ownership of the selected channel.

The {Patch Info} displays patch information about the selected channel. The additional {Edit Patch} button that is displayed on this page not available for use in this release.

The {Advanced Control} displays any lamp controls associated with the selected channel. If the channel is a conventional (intensity-only) fixture, no parameters will be displayed. When the selected channel is an automated luminaire, options specific to the fixture type will display for use.

Pressing any of these parameter control buttons will affect the selected fixture immediately.

Press the [Next] or [Last] button to move through the channel list displaying the new channel details in the lamp controls dialog.

Exit the lamp controls display by pressing **[Displays]**.

Using [+%] and [-%]

Use [+%] and [-%] keys to incrementally change parameter values. By default, the [+%] and [-%] keys are assigned a value of 10. This may be changed in **Setup**. These keys automatically terminate the action when pressed.

Channel Intensity

When channels are selected, pressing **[+%]** increments the intensity level by 10. Alternatively, you may press **[-%]** to decrement the intensity level by 10. You may use these keys to consecutively to "add to" or "subtract from" the intensity level.

For Example:

Select channels 1 through 10 and set them to an intensity level of 45% from the keypad.

- ***[1] [thru] [1] [0] [at] [4] [5] [Enter]***

Change the intensity level to 65% using the **[+%]** key, which is set to its default value of 10 points in the Setup menu.

- ***[+%] [+%]***

Non-intensity Parameters

The [+%] and [-%] keys may be used to incrementally adjust non-intensity parameters as well.

For Example:

Select channels 1 through 10 and set them to an intensity level of 45% from the keypad.

- ***[1] [thru] [1] [0] [at] [4] [5] [Enter]***

From the CIA, select **[Pan]** and set it to 125. Select **[Tilt]** and set it to 45.

- ***{Pan} [1] [2] [5] {Tilt} [4] [5] [Enter]***

Assume you wanted to change the iris but you aren't exactly sure how much. Use the **[+%]** and/or **[-%]** keys to incrementally adjust the iris Live mode.

- ***{Iris} [-%] [-%]***

Remainder Dim

[Rem Dim] temporarily provides a zero intensity to all channels except those that are currently selected, those that are parked, or those with intensity contributions from submasters. Remainder dim is a temporary operation that, once cleared, returns the stage to its previous state. You may use the following command for remainder dim:

- **[Next]** and **[Last]**- moves through the channel list, selecting new channels, sets them to their previous level and sets the previous channel out.
- **[Rem Dim] [Enter]** - sets all non-selected channels to zero
- **[Rem Dim]**- clears the rem dim function and returns the stage to its previous state

While in remainder dim mode, using the [Next] and [Last] buttons progress you through the channel list, selecting the next highest (or last) channel in the list and setting it to its previous value and setting the non-selected channel out. Pressing **[Rem Dim]** again releases all channels from rem dim mode and restores the stage to its previous state. Using the [Next] and [Last] buttons releases the current selected channel from remainder dim mode and sets its intensity to zero, while selecting the next or last channel and continuing rem dim operation.

For Example:

Assume channels 5 through 9 are selected and set at an intensity level of 50% and channels 10 through 15 are selected and set at an intensity level of 70%. Select channel 9 and dim the remaining channels.

- ***[9] [Rem Dim] [Enter]***

Channel 9 is set at an intensity level of 50% and all remaining channels are dimmed to a zero intensity level.

- ***[Next]***

Selecting [Next] changes the channel selection to channel 10 which is set at an intensity level of 70%, the level set in the previous state, and all remaining channels including channel 9, are dimmed to a zero intensity level.

[Rem Dim] can be used in Groups including the use of **[Next]** and **[Last]** buttons to progress through the channels within the selected group.

For Example:

Assume you have Group 1 selected (includes channels 1 through 10) with an intensity value of 50%, Group 5 selected (includes channels 11 through 20) with an intensity value of 70%, and Group 7 selected (includes channels 21 through 30) with an intensity value of 100%

- ***[Group] [1] [at] [5] [Enter]***
- ***[Group] [5] [at] [7] [Enter]***
- ***[Group] [7] [at] [Full] [Enter]***

Select only Group 1 and dim the remaining Groups using the **[Rem Dim]** feature.

- ***[Group] [1] [Rem Dim] [Enter]***

Channels 1 through 10 are selected with an intensity value of 50%, and all remaining channels are at a 0 intensity. You may progress channel by channel through the selected group (Group 1, channels 1 through 10) using the **[Next]** or **[Last]** key. Each press of the [Next] or [Last] key cycles you through only the channels of the selected group.

To clear rem dim mode and reset the stage to its background state press:

- ***[Rem Dim]***

Sneak

The **[Sneak]** command (when a destination is not provided) removes manual changes from selected channels and allows the channels to *sneak* back to their background states (cue or submaster instruction, if any).

If there is no background state from the playbacks, the channel parameters will be set to their home position. The sneak command follows the manual timing defaults established in **Setup**, unless a timing value is provided with the command.

The sneak command can be combined with a specific destination and with a specific timing value. When there are no playback instructions active for the parameters, they are reset to the default state. The following examples illustrate the various methods and features available to select channels using the direct selects:

- **[**channel list**] [Sneak] [Enter]** - releases manual control, setting parameters to their background state. If there are current values for those parameters from a playback, those are the values that will be restored. If there are no values from a playback, the parameters are set to home (or default) position.
- **[**channel list**] [Color] [Sneak] [Enter]** - sneaks color of the selected channels to the default or background state
- **[Sneak] [Time] [3] [Enter]** - restores channels in 3 seconds.
- **[Select Active] [Sneak] [Enter]** - selects all channels with intensity above zero and restores manual control to the background state, using manual timing defaults, if enabled.
- **[Sneak] [Enter]** - when no channels are selected, restores all manual values
- **[Group] [5] <Color Palette> [9] [Sneak] [Enter]** - selects Group 5 and sneaks color palette 9 at manual timing.
- **[Group] [3] [at] <Color Palette> [1] [Sneak] [7] [Enter]** - selects Group 3 and sneaks color palette 1 in 7 seconds

Flip

The {Flip} feature is used to invert the pan and tilt values of selected moving light fixtures to achieve the same focus position from the opposite yoke position. This allows you to correctly focus a fixture that may be at the end of its pan or tilt range or to correct a fade that may be moving in an undesired direction. {Flip} is located on the encoder touch screen, near the pan and tilt encoders.

The following example illustrates the use of {Flip}:

- **[**channel list**] {Flip} [Enter]**

“Select” Keys

Select Last

The **[Select Last]** key allows you to reselect whatever the previous channel selection was. This includes multiple channel selections, groups, etc.

Select Manual

The **[Select Manual]** key is used to select all channels that currently have manual data. You may use **[Select Manual]** combined with the parameter control keys to capture only certain parameters of a channel with manual data.

The following examples illustrate the various methods and features available to select channels using **[Select Manual]**:

- **[Select Manual] [Enter]** - selects all channels with manual data
- **[Select Manual] [Color Palette] [1] [Enter]** - selects all channels with manual levels and sets them to color palette 1
- **[Color] [Select Manual] [Color Palette] [1] [Enter]** - selects only channels with manual color values and sets them to color palette 1
- **[1] [thru] [1] [0] [0] [Select Manual] [Enter]** - selects channels between 1 and 100 with manual data
- **[Select Manual] [Record] [Group] [n] Enter]** - records channels with manual data to the target group

Select Active

The **[Select Active]** key is used to select all channels that currently have intensity levels above zero.

The following examples illustrates the how to select channels using **[Select Active]**:

- **[Select Active] [Enter]** - selects all active channels with intensity levels above zero
- **[Select Active] [Record] [Group] [x] [Enter]** - records active channels to the target group
- **[Select Active] [Sneak] [Enter]** - selects all channels with intensity above zero and restores manual control to the background state, using manual timing defaults, if enabled. If the background state is in transition and the system can calculate the end state, the value fades to that in state in remaining cue time. If the system cannot calculate the end state (as with a manually moving submaster), the value snaps to the control of the submaster.
- **[1] [thru] [1] [0] [0] [Select Active] [Enter]** - selects active channels between 1 and 100 with intensity levels above zero

Channel Check

Channel check allows you to quickly step through all of your patched channels. This is useful for checking lamps or checking focus.

Note: *Parked dimmers will not be affected by the channel check feature.*

The following examples illustrates the how to use the channel check feature:

- **[1] [at] [7] <0> {Channel Check} [Enter]** - brings channel 1 to 70% intensity
- **[Next]** - channel 1 returns to its background state and channel 2 is set to 70% intensity.
- **[Next]** - channel 2 returns to its background state and channel 3 is set to 70% intensity.

For Example:

If the command line currently reads:

- ***[1] [at] [5] <0> [Enter]***

You may still place channel 1 in channel check mode even though you have terminated the command line with [Enter]. Press:

- ***{Channel Check} [Enter]***

Use [Next] or [Last] to progress through the channel list to complete the channel check. Any other key press other than [Next] or [Last] will terminate channel check mode.

Chapter 8

Using Groups

Groups are channel selection devices used for fast recall of specific channels. A maximum of 1000 groups can be recorded. Once recorded, they are accessible from the keypad, direct selects, or through the displays.

This chapter contains the following sections:

Recording Groups Live

Record groups of channels that you want to have available for fast recall later.

All groups may be labeled. These labels are then displayed on the soft selects as well as in the group list index. Group numbers will not display until the groups have been created.

The following syntax examples illustrate the various methods and features available when recording groups:

- **[1] [thru] [5] [Record] [Group] [x] [Enter]** - records only channels 1 - 5 to the target group.
- **[Record] [Group] [x] [Enter]** - records all channels with non-default values in the target group.
- **[-] [n] [Record] [Group] [x] [Enter]** - records all channels, except channel “n,” as above
- **[Record] [Group] [x] [Label] [**name**] [Enter]** - records as above and adds a label to the group.

Ordered Channels

When recording groups, channels are ordered in the group based on their selection order when the group is stored. This ordering is useful combined with [Next] and [Last] functions and when applying effects to groups.

For Example:

If you record a group by selecting channels in the following order:

- ***[1] [+] [3] [+] [5] [Thru] [9] [Record] [Group] [1] [Enter]***

and later you select Group 1 and press **[Next]**, the channels will be accessed, one at a time, in the same order in which they were initially selected.

If new channels are added to an ordered group using an update command, those channels are added to the end of the channel list from an ordering perspective.

When a group is previewed using the Group List Index, the display defaults to showing the ordered view. Channels can be reordered as needed from this list. Use the **[Format]** key to change to a numeric listing of channels.

Editing and Updating Groups in Live

Existing groups can be updated or re-recorded in Live. If you re-record an existing group, a confirmation is required. By re-recording a group, you *replace* the contents of the group, you do not add to it. Updating a group does not require a confirmation.

Other editing or updating examples are:

- **[Group] [x] [Label] [Enter]** - clears the label
- **[Group] [x] [Label] [**name**] [Enter]** - stores a new label
- **[1] [Thru] [5] [Update] [Group] [n] [Enter]** - adds channel 1-5 to Group n

Selecting and Recalling Groups

Groups may be recalled from the control keypad or the direct selects.

To select a group:

- **[Group] [1] [Enter]** - selects Group 1
- **[Group] [1] [at] [5] <0> [Enter]** - selects Group 1 and places all channels within at 50%
- **{Group 1}** - Selects all channels in Group 1

If **[Next]** is used after a group selection, it accesses the first ordered channel in that group. Pressing it again accesses the second ordered channel in that group, and so on. **[Next]** - used after the last channel in the group - accesses the first channel in the group again.

[Last] may be used with group selects as described above for **[Next]** operation.

Pressing **[Next] & [Last]** simultaneously at any point in this process restores selection of the entire group.

Deleting Groups

When you delete a group, the group number and all contents from the Group List Index and Direct Selects are deleted. Delete commands require a confirmation by default. This can be altered in the default settings.

Group deletion features include:

- **[Delete] [Group] [n] [Enter] [Enter]** - Deletes Group n
- **[Delete] [Group] [a] [+] [Group] [d] [Enter] [Enter]** - Deletes groups a and d
- **[Delete] [Group] [a] [Thru] [d] [Enter] [Enter]** - Deletes groups a through d
- **[y] [Delete] [Group] [t] [Enter]** - Deletes channel y from Group t
- **[Undo] [Delete] [Enter]** - reverses the delete command *if it was the last delete instruction*. Press [Undo] [Enter] again to redo the delete.

Group List Index

The Group List Index allows creation and editing of groups.

You will find that editing groups from the group list is not only easy, but many more features and capabilities become available to you in this display.

Open the Group List Display

To open the Group list you can:

- Press **[Group] [Group]**
- Press **[Blind] & [Group]**
- In the browser, select “Group List” from the **Record Target Lists**

You can navigate within the group list using [Next] and [Last].

Ordered View

Perhaps the most useful feature of the Group List Index is the ability to view a group in ordered view. By default, grouped channels will be displayed in numeric view. Therefore, the lowest numbered channel will appear first and the highest numbered channel will appear last. However, by pressing **[Format]** you can switch to the ordered view. (see ordered view above)

Editing Groups from the Group List Index

An existing group can be modified without the need for recording or updating, as follows.

- Select the required group by pressing **[Group] [n] [Enter]**, or using **[Next]** and **[Last]** to navigate through the list.

The selected group is highlighted in orange and above the CIA command line, “BLIND: Group x” is displayed.

The following actions are now possible:

- **[Label] [**name**] [Enter]** - ads or modifies a group label.
- **[Copy To] [Group] [y] [Enter]** - copies the contents of the selected group to group y.
- **[y] {Insert Before} [m] [Enter]** - inserts channel y into the group, placing it before channel m in the ordered view.
- **[y] {Insert After} [h] [Enter]** - inserts channel y into the group, placing it after channel h in the ordered view.
- **[y] [Delete] [Enter]** - removes channel y from, the group.
- **{Random} [Enter]** - rearranges the channels in the group randomly.
- **{Reverse} [Enter]** - reverses the order of the channels within the group.

Chapter 9

Storing and Using Palettes

Palettes are building blocks that can be used to create presets, cues and effects. Four types of palettes are available; Intensity, Focus, Color and Beam. Palettes are referenced data. This means that when you include them in presets, cues and effects, if you change the contents of the palette, those changes are propagated into all of the places the palettes are stored. Palettes are a critical component when using moving lights.

Eos supports up to 1,000 palettes of each of the four types. Palettes are automatically filtered into IFCB categories. Color data cannot be placed in beam palettes, intensity cannot be included in focus palettes, and so forth. This makes the process of creating palettes easier, If you need to create a reference that will include a mix of IFCB information, presets can be used. *See "Storing and Using Presets" on page 125.*

Palettes are manual data. When they are stored live from absolute values, the associated parameters will automatically be placed in the palette reference.

This chapter contains the following sections:

Palette Types

Intensity Palettes

Intensity palettes can easily be created for use with all channels that have intensity parameter data.

Focus Palettes

Focus palettes can be created for all channels that have pan and tilt functions.

Color Palettes

Color palettes can be created for all channels that have any color parameter data. Color palettes store any combination of color data, including CMY, RBG, and HS settings, color scrollers and color wheels.

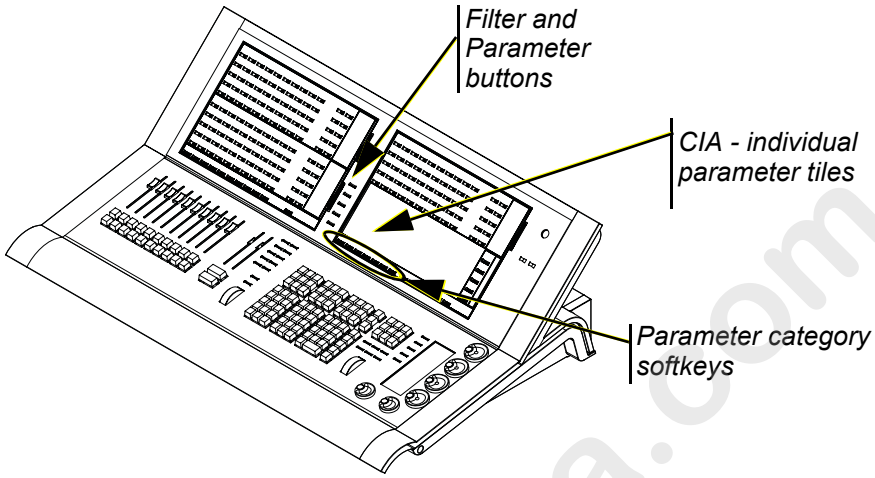
You will find that [Record Only], filter settings and selective store commands will be very useful when storing color palettes.

Beam Palettes

Beam palettes can be created for all channels that have any beam parameter data. It is rare when storing beam palettes that you will wish to include all of the beam parameters for channels. Therefore, [Record Only], filters and selective store commands will be very useful when storing beam palettes.

Using Filters with Palettes

Filters are used to determine which parameters can be stored to record targets. When no filters are enabled, all parameters are available for recording. When a filter is enabled (either at a category or parameter level) only those parameters can be stored until the filter state is lifted.



When cues, presets, and some palettes are stored, the front panel looks to the current condition of the filter settings to determine what data to store. All selected filter data will store to the record target. Reference the chapter on *"Using Filters", page 171* for more information.

To filter an entire parameter category:

Step 1: Press and hold the **[FILTER]** button on the face panel.

Step 2: Then press the **{**parameter category**}** softkey (parameter categories include Intensity, Focus, Color or Beam).

Step 3: Release the **[FILTER]** button. The parameter display will indicate "Filter On" next to the parameter category softkey and all parameters that are not associated with the filter activated will be displayed in grey with an "N" in superscript to the right of the parameter value. This indicates a "Null" value. Null values are not available for record operations. These indications will remain until the filter has been removed.

To filter a parameter:

Step 1: Press and hold the **[FILTER]** button on the face panel.

Step 2: Then press the parameter tile(s) from the CIA that you wish to store.

Step 3: Release the **[FILTER]** button. The parameter display will indicate "Filter On" next to the parameter category softkey and all parameters that are not associated with the filter activated will be displayed in grey with an "N" in superscript to the right of the parameter value. This indicates a "Null" value. Null values are not available for record operations. These indications will remain until the filter has been removed.

To determine which parameter is filtered in the parameter category:

Step 1: Press and hold the **[FILTER]** button. In each parameter category that displays a “Filter On” indication, notice the highlighted parameter(s). You may need to press the **{More}** button for that parameter category to page additional parameters in the category.

- Parameters that are not highlighted will not be stored into any record targets until the filter is lifted.

To remove filters:

Step 1: Removing filters is a toggle state. Press and hold the [Filter] button on the face panel.

Step 2: Then select parameters that were previously highlighted. This will turn filters off and make all data available for record operations.

Storing Palettes

Palettes may be stored in Live or Blind. There are a variety of methods for determining what data is stored into a palette but [Record], [Record Only] and using filters are the most common ways.

When [Record] is used, Eos will store the relevant parameter category data (intensity, focus, color or beam) for any channels that are not currently at their default value. In addition, all of the parameters for those channels not at their default state within the associated parameter category will be stored.

[Record Only] is a type of selective store that can be used to store only the relevant parameters that have manual data. Filters and selective storing provide additional methods to control what is stored into a palette.

Reference *"Using Filters with Palettes"* on page 113 and *"Storing Palettes with [Record Only]"* on page 116 for more information.

Storing Palettes with [Record]

The most common method to create palettes is to store them from Live. Palettes can be numbered from 0.01 through 1000 and each can be given a label. [Record] will store the relevant current parameter data for all channels with non-default data for the appropriate palette type, as modified by the filter settings on the front panel.

For Example:

Assume you want to create a custom color using the color picker (for hue and saturation data) or the encoders (for CMY data) and store that data to a custom color palette.

- ***[1] [thru] [1] [1] [Enter]***

Using the color picker, adjust the hue and saturation levels to the desired look. Alternatively you could use the encoders to set the desired color using CMY color mixing or the gel picker.

- ***[Record] [Color Palette] [4] [Label] <****FOH Blue****> [Enter]***

Notice that when you recorded the color palette, all of the color data for channels 1 through 11 is displayed in Live with the reference "CP 4". Because [Record] was used, it stored all of the color parameters for those channels.

When a palette is created, the channels and the parameters involved in the record action are automatically set to the palette reference ("CP 4" in this instance). To view the absolute data for those channels, press and hold the **[Data]** key.

The following methods can be used to store palettes using **[Record]**:

- **[Record] [Color Palette] [1] [Palette Direct Select]** - stores all color parameter data to color palette "1" and deposits it to the color palette direct select location that you have specified. You may press the [Label] button to add a label to color palette "1".
- **[Record] [Focus Palette] [2] [Label] <**name**> [Enter]** - records focus parameter data for all channels not at default state and adds a label to focus palette "2".
- **[Record] [Color Palette] [Next] [Enter]** - records data to the next sequential color palette number.
- **[-] [5] [Record] [Beam Palette] [Next] [Label] <**name**> [Enter]** - stores to the next sequential beam palette, withholding the group or channels specified and adds a label.

Selective Storing Palettes with [Record]

Palettes can also be created using selective storing, which allows you to specify only the channels and or parameters that you want to store. A selective store command allows you to specify only the

channels that you want to be involved in the record process. Additionally, you may use the [Next] button to store to the next sequential palette number.

The following examples indicate methods and features available to selectively store palettes using [Record]:

- **[1] [thru] [3] [Record] [Intensity Palette] [2] [Label]** <name> **[Enter]** - records the intensity data for selected channels 1 through 3 and adds a label to intensity palette 2.
- **[Group] [2] [Record] [Beam Palette] [Next] [Enter]** - records the beam parameter data for Group 2 to the next sequential beam palette number.
- **[-] [9] [Record] [Focus Palette] [5] Enter]** - stores the focus data to focus palette 5, excluding the group or channels specified.

Note: *When using a selective store, you must specify the channel list to be included or excluded, identified by the [+] [-] modifier, as part of the [Record] command. Otherwise all channels with appropriate non-default data will be stored in the new palette record.*

Storing Palettes with [Record Only]

[Record Only] is a selective record process that stores only manual parameter data. When used to record palettes, only the manual parameter data for channels will be stored in the palette. As with record, filters can further restrict stored data if they are enabled when using [Record Only]. *See "Using Filters with Palettes" on page 113.*

Note: *If a palette is already recorded, the [Record] command and [Record Only] command replaces existing data. Recording over a previously existing palette may require a confirmation, if confirmations are enabled in the setup menu.*

It is also possible to [Update] to add specific changes to the record target. *See "Editing Palettes Live" on page 123.*

The following methods can be used to selectively store manual parameter data to palettes using [Record Only]:

- **[Record Only] [Color Palette] [2] [Enter]**- records only the manual color parameter data to color palette 2.
- **[Record Only] [Beam Palette] [5] [Label]** <name> **[Enter]** - records manual beam parameter data for all channels and adds a label to beam palette 5.
- **[-] [9] [Record Only] [Color Palette] [Next] [Label]** <name> **[Enter]** - stores to the next sequential color palette, withholding the group or channels specified and adds a label.
- **[**select channels**] [Record Only] [Focus Palette] [2] [Enter]** - stores Focus Palette 2, but only includes the manual data for the specified channels and parameters defined by the setting of filters.

Storing Palettes to Direct Selects

Direct selects provide touch access to channels, groups, palettes, presets, effects and macros, depending on what elements are currently selected for control. The direct select may be mapped to access 20, 50, or 100 of any selected record target.

Storing your direct selects to palettes is easy and Eos provides you with three ways to keep your direct selects organized.

- Using whole number designations for each palette stored.
- Manually placing your palette to the direct selects.
- Storing your palette with the command line only.

Using Whole Numbers

Each of the direct select buttons by default are mapped to whole numbers (for example: when 20 direct selects for the color palette is displayed, page 1 is selects 1 through 20, page 2 displays selects 21 through 40, etc.). This numbering scheme allows you to specify a whole number when storing and the palette will appear on the associated button.

For Example:

Assume you have just begun programming your show. There are no palettes created as of yet but you have setup a specific color and are now ready to record that color to a palette.

- ***[Record] [Color Palette] [4] [Enter]***

Color palette 4 is stored and will map to the fourth button on the first page of the color palette direct selects.

If you record a whole number palette from the command line only, and that button designation is already used by another record target that was placed by a different method, the new record target will map to the first available unused button.

Manually Placing Palettes on the Direct Selects

You can store your palettes with whole number references or you can store your palettes to any direct select you want within the palette, disregarding whole numbers and providing any number designation you want.

For Example:

- ***[Record] [Color Palette] [0] [.] [1] {soft select # 5}***

This places color palette 0.1 on the 5th direct select button.

If you record a palette by manually placing your direct select, and that button location you have specified is already occupied by another recorded palette, the new palette will be placed on that direct select button and the old recorded palette will be moved to the first available unused button.

Using the Command Line Only

If you record to a decimal record target from the command line only, that color palette will map to the first available (unused) color palette button. The same is true for all record targets to direct selects.

Editing and Creating Palettes with the List View

When you press the specific Intensity, Focus, Color or Beam palette button twice, a list view for the associated palette type is opened on a new tab (or brings the list view into focus if already open). Alternatively you could open the specific palette from the Browser. *See "Using the Browser" on page 25.*

From this display you can view all palettes that have been created for the specific palette category. In addition, you can add palettes to your listing and edit the labels for each palette in the list.

For Example:

In the list view, you can select palettes and relabel or move them.

- ***[1] [5] [Label] <name> [Enter]***

While in the specific palette category list view, the {Make Null}, {Move To} and {Edit} softkeys are available for use.

To move a specific palette to a different location:

- **[1] {Move To} [3] [Enter]** - moves the contents and label of the specific palette 1 to palette 3. If palette 3 is already used, you will be asked to confirm that you want to overwrite the existing recorded palette.

To copy a specific palette to a new palette:

- **[2] [Copy To] [5] [Enter]** - copies the contents of palette 2 to the new palette 5.

To edit any palette data from the List View:

- **[1] [5] {Edit} [Enter]** - selects palette number 15 and brings the blind display into focus, with palette 15 selected for editing. You can use the [Next] and [Last] buttons to access the other palette data, or just select a new palette for editing.
- Continuing with this example, in Blind Channel view palette 15 is the selected palette. If there are channels in palette 15, they will display with white characters to indicate the palette they belong. If the palette type in focus is a intensity palette, the actual intensity value will display in bright white color. When the palette type in focus channels are in a non-intensity parameter palette, a white "f" = focus, "c" = color or "b" = beam will display in the specific channel. This is indication to you that channel is in the selected palette. You can use the [Next] and [Last] buttons to page through the palettes list in this view.

Editing Palettes in Blind

CAUTION: *When editing palettes in Blind, changes to palettes are automatic, therefore no update or record command is required.*

Palettes can be viewed and edited in Blind in the table and spreadsheet views.

Entering Blind Channel from Live:

- **[Blind]** & **[Palette]** - pressing this will display the first recorded palette of the selected type (Intensity, Focus, Color or Beam) in Blind.
- **[Blind]** & **{Palette Select 1}** or **[Blind] [Palette] [1] [Enter]** - pressing this will display the specified palette "1" in Blind.

Blind Palette Display

Blind Palettes from Blind:

While in any Blind mode, when no channels are selected, you can enter a palette from the command line or direct selects. This will take you into Blind Channel mode for that palette.

- **[Color Palette]** [n] **[Enter]**

Blind Channel Display

From the Blind Channel display, the palette type and number are indicated below the command line. All channels that are recorded in the specific palette are indicated with designated white characters. If the palette type in focus is a intensity palette, the actual intensity value will display in bright white color in each channel that is in the specified intensity palette. When the palette type in focus is a non-intensity palette, white text will display ("f" = focus, "c" = color or "b" = beam) in each channel that is in the specified palette. You can use the [Next] and [Last] buttons to page through the palettes list in this view.

When editing in Blind, it is possible to remove an instruction from any palette by selecting the channel and parameter and pressing [At] [Enter] or {Make Null} [Enter].

[Recall From] and [Copy To] may be used to create and edit palette data.

The following are representative methods used for editing palettes in Blind:

- **[2] {Iris} [At] Enter]** - removes the current parameter category setting from channel 2.
- **[1] {Iris} [5] [0] [Enter]** - selects channel 1 and sets iris value to 50.
- **[2] [Copy To]** [5] - copies the information from channel 2 to channel 5.
- **[6] [Recall From] [Focus Palette] [1]** - recalls the values for channel 6 from Focus Palette 1.

Blind SpreadSheet Display

Blind Spreadsheet is accessed by pressing the **[Format]** key while in Blind. Palettes can be viewed and edited in spreadsheet mode, which shows a range of palettes along one axis and a range of channels along another.

blind spreadsheet display

Palettes can be edited in spreadsheet just as they can in the table view. Range edits are allowed.

The following are representative methods used for editing palettes in Blind spreadsheet:

- **[Color Palette] [1] [Thru] [9] [Enter]** - selects color palettes 1 through 9.
- [1] {Scroller} {Make Null} [Enter] - sets channel 1 scroller value null in the selected color palette.
- [1] {Scroller} [4] [Enter] - sets channel 1 scroller value to 40 in the selected color palette.
- **[Beam Palette] [1] [thru] [3] {Move To}** <Beam Palette> **[7] <thru> [Enter]** - moves beam palettes 1 through 3 to beam palettes 7 through 9.

Recalling Palettes

Palettes may be recalled from the control keypad or from direct selects. When palettes are recalled, all data is manual and will display in red. Recalled palettes are applied only to the channels selected, therefore channels must be selected before recalling the palette.

If a selected channel or parameter has no stored value in the recalled palette, it remains in its current state. Channels that are selected and have recorded parameter data in the recalled palette assume their required position using manual time, as determined in the **Setup** menu, or at full speed if manual time is disabled. Palettes may also be recalled using the sneak feature, with default sneak time, or an applied time if provided.

For Example:

Select channels 1 through 8 at intensity level 45 and sneak into color palette 4 over 40 seconds.

- ***[1] [thru] [8] [at] [4] [5] [Color Palette] [4] [Sneak] [40] [Enter]***

You will notice channels 1 through 8 intensity and color parameters sneaking to the required values over a period of 40 seconds.

You may also recall a palette using the [Group] key. Examples listed below:

- ***[Group] [1] [1] [Beam Palette] [5] [Enter]***
- ***[Group] [5] {Color Palette 6}***

Palettes may also be recalled from the direct selects in which case the command is automatically terminated when the palette is selected. To recall only specific parameters of a palette, select channels and the required parameters (or those not required, using the [-] key) in the command line.

The following are representative methods that can be used to recall palettes.

- **[**selected channels**] {**direct select**}** - recalls the associated (IFCB) palette data for the selected channels.
- **[**selected channels**] [Palette]** [n] **[Enter]** - recalls the associated IFCB palette for selected channels.
- **[**Channel List**] {edge} [Beam Palette]** [n] **[Enter]** - recalls only the edge data from the specified beam palette for the selected channels.
- **[Group]** [n] **[Palette]** [z] **[Enter]** - recalls all of the data in the palette and applies it to the selected group.
- **[Intensity Palette]** [y] **[at] [/]** [z] **[Enter]** - recalls the intensity palette for selected channels and sets all recalled intensity values to a proportioned level of their recorded states.

Note: *This action breaks the referenced link to the intensity palette. To maintain the link, the palette must be recalled without a modified intensity value. Calling back the intensity palette at full will also break this link.*

You may also use [Recall From] to recall specific parameter data from a palette. [Recall From] is essentially a copy from command. The CIA in parameter mode allows you to specify which parameters you want to recall. If you select specific parameters on the command line only those parameters will be recalled. Using [Recall From] alone assumes that all parameters should be recalled unless you use a [-] command to withhold a specific list of parameters.

- **[Group] [2] [Recall From] [Color Palette] [**n**] [Enter]**

When recalling palettes, only channels that are selected at the point of recall will be affected by the palette recall. The data recalled from a palette referenced. To break the reference you should make the data absolute using {Make Absolute} instruction.

To recall all channels of a palette without using a channel selection you may do so using the group command.

- **[Group] & {**Palette Select**} -** recalls all of the data in the palette
- **[Group] [Color Palette] [**n**] [Enter]** - recalls all of the data in the color palette

Editing Palettes Live

Note: *If a palette is already recorded, [Record] replaces all existing data. [Record Only] is a selective store, therefore it adds. Recording over a previously existing palette requires a confirmation, if confirmations are enabled in the setup menu.*

It is also possible to [Update] to add manual specific changes to the record target.

Rerecord

Rerecording follows the conventions illustrated in the [Record] and [Record Only] sections detailed earlier in this chapter. The only exception is that a confirmation is required to record over an existing palette.

For Example:

Color palette 4 has already been recorded. To rerecord color palette 4, recall the palette.

- ***[Color Palette] [4] [Enter]***

Adjust the parameter values as needed (you may also adjust the parameters of previously excluded channels in order to add them to palette) then re-record the palette.

- ***[Record] [Color Palette] [4] [Enter] [Enter]***

Update

Live changes can be updated to both active and inactive palettes. When updating a parameter in an active palette, that parameter releases from absolute manual control and places the contents of the updated palette on stage. The parameter data doesn't change its end state, but it does change from absolute data to the same value referenced in the newly updated palette. Updating a parameter to a palette that is not active will not appear on stage.

The following illustrates how to update color palette 2 when no cues are active and you have recalled channels within that palette.

- **<**channel list**> [Update] [Color Palette] [2] [Enter]** - when used, any manual changes that originally had data in the palette are updated at their new value back to color palette 2. If manual data was added that didn't have a value in the palette originally, those changes are left manual and un-stored.
- **[1] [Update] [Color Palette] [2] [Enter]** - forces channel 1's manual setting into the target color palette although channel 1's color will still display as manual data. You must recall channel 1 at Color Palette 2 to make that reference Live.
- **[-] [3] [Update] {Color Palette 2} [Enter]** - withholds manual changes for channel 3 from the update to Color Palette 2 using the direct selects.

Continue with this exercise by recalling [Color Palette] [4] while color palette 2 is still active (Live). Any channels that have data for color palette m are placed at those palette values. Make manual changes to the data that is coming from both color palettes.

- **[Update] [Enter]** - updates both color palettes with data originating from those palettes.
- **[Update] {Color Palette 2} [Enter]** - updates only the data from color palette 2, leaving color palette 4 with manual data.

This exercise provides sample commands that can be combined with multiple types of palettes that are active. The [Update] command updates all palettes accordingly.

The same commands may be used to update inactive palettes. When inactive palettes are updated, channels that have no data in the target palette are not included in the update action unless they are specified on the command line. The data used to update an inactive palette remains in a manual state after the update command.

Absolute Data

To turn palette data into absolute data, use the [Make Absolute] key. The following examples indicate the circumstances of how make palette data into absolute data.

- **[**n**] [Make Absolute] [Enter]** - selects channel “n” and makes any referenced data for that channel absolute data.
- **[**n**] [Color] [Make Absolute] [Enter]** - selects channel “n” and makes its color data absolute.
- **[**n**] [thru] [**p**] [Color] [Intensity] [Make Absolute] [Enter]** - selects channels “n” through “p” and makes their color and intensity data absolute.

To turn absolute data into palette data, simply update or rerecord the palette required.

Deleting Palettes

To delete color palette 1, press **[Delete] [Color Palette] [**1**] [Enter] [Enter]**. When palettes are deleted, any references in cues will be converted to absolute data.

Chapter 10

Storing and Using Presets

Presets are very similar to palettes in that they are collections of data for specific channels to facilitate cue creation. Presets, however, can collect *all* data for a given channel (intensity, color, iris, etc.) rather than just one parameter type.

Up to 1000 presets may be stored in Eos and they can contain absolute data and/or a mix of IFCB palettes. Presets can *not* refer to other presets.

This chapter contains the following sections:

Storing Presets Live

Presets can be recorded Live using the keypad and/or the direct selects. Both [Record] and [Record Only] can be used to record presets, with or without filters. *See "Storing Data with Record Filters" on page 174.*

[Record] will store all channels that are not at their default values, and it will record all information about those channels, including parameters that are still at default. Therefore presets can contain all of the same information as a cue, but they have no timing information or cue attributes (such as follow, delay, or cue overrides). When recorded or re-recorded, presets are automatically recalled on stage. Presets may be individually labeled and each has an optional notes field.

If data *from* a preset is recorded into another preset, when it is recorded it will be changed to either:

- palette data (if it exists in the previous preset)
- or absolute data (if no palette data exists)

Storing Presets Using [Record]

The [Record] key will store all parameter data for channels that are not at their default values, as modified by the filter settings in the CIA. This will store all parameter data that is not default even if it is not manual data. If filters are used, only the parameters enabled by the filters are stored.

When you record data to a preset Live, the channels involved in that preset will then actually be in that preset.

The following methods can be used to store presets using **[Record]**:

- **[Record] [Preset] [n] [Label] [**name**] [Enter]** - Records all parameter data for all channels not at default and adds a label to Preset n.
- **[Record] [Preset] [Next] [Enter]** - Records data to the next sequential preset number.
- **[-] [x] [Record] [Preset] [n] [Enter]** - stores the preset, withholding the group or channels specified.
- **[Channel list] [Record] [Preset] [n] [Enter]** - stores the preset, but only the data for the channel list supplied.
- **[Record] & {Preset direct select}** - stores the preset to the specified direct select.

Note: *When using selective record, the user must specify the channel list to be included (or excluded as the case may be) as part of the [Record] command. Otherwise, all parameters of channels with non-default values will be stored in the preset.*

You may also use the filters and {Make Null} as additional tools to decide what data will be stored. For more information on these features see "Using Filters".

When you re-record an existing Preset, a confirmation will be required.

Storing presets using [Record Only]

[Record Only] is a selective record process that stores *only manual parameter data*. Therefore, when used to record presets, only manual data for channels will be stored in the preset. As with [Record]**,** filters and {Make Null} can be used to further modify what information is stored. *See "Using Filters" on page 171.*.

The following methods can be used to store presets using **[Record Only]**:

- **[Record Only] [Preset] [n] [Label] [**name**] [Enter]** - Records *manual* parameter data for all channels and adds a label to Preset n.
- **[Record Only] [Preset] [Next] [Enter]** - Records manual data to the next sequential preset number.
- **[-] [x] [Record Only] [Preset] [n] [Enter]** - stores the preset, withholding the group or channels specified.
- **[Channel list] [Record Only] [Preset] [n] [Enter]** - stores the preset, but only the manual data for the channel list supplied.

Recalling Presets

Channels must be selected before recalling a preset. If a selected channel or parameter has no value in the preset, it will stay in its current position.

If you only want to recall certain parameters of the preset, select channels and enter the required parameters (or those not required, using the [-] key) in the command line (see command examples below). You may also use [Recall From] to recall specific parameter data from a preset.

When a preset is recalled, parameter changes will follow the manual timing defaults, if enabled. Any preset which is contributing to live output from Eos is considered to be “active.”

You may recall presets using any of the following methods:

- **{**Preset direct select**}** - recalls the associated preset data for selected channels.
- **[Preset] [**n**] [Enter]** - recalls the associated preset for selected channels.
- **[Channel List] [Preset] [**n**] [Enter]** - recalls the preset data for the channels in the selection list.
- **[**Channel List**] [Color] [Preset] [**n**] [Enter]** - recalls only the color data from the specified preset for the specified channels.
- **[Color] & {**Preset direct select**}** - recalls just the color data from the specified preset for selected channels.
- **[Preset] [**n**] [at] [5] <0> [Enter]** - recalls preset n for selected channels, and sets all intensity values at 50%. The intensity data is still linked to the preset. If the intensity change is desired the user either needs to update the preset to maintain the change and the link, or make the data absolute before storing to another record target.
- **[**Channel List**] [Preset] [**n**] [Enter] [at] [/] [5] [Enter]** - recalls preset n for selected channels. Intensity values will be recalled at 50% of their recorded state. The intensity link is maintained. If the intensity change is desired the user either needs to update the preset to maintain the change and the link, or make the data absolute before storing to another record target.

When recalling presets, only channels that are selected at the point of recall will be affected by the preset recall. If you wish to recall all channels of a preset you may do so using the group command as follows:

- **[Group] [Preset] [x] [Enter]**
- **[Group] & {Preset x}**

Either of these commands will recall all contents for all channels stored in preset x.

Editing Presets Live

There are two ways to edit a preset in Live. You may rerecord the preset or you may use [Update].

Rerecord

Rerecording follows the conventions of [Record] and [Record Only]. The only exception is that a confirmation is required to actually rerecord the preset.

For Example:

Preset 5 has already been recorded. To rerecord Preset 5, recall the preset:

- ***[Preset] [5] [Enter]***

Adjust parameters as needed. You may also adjust the parameters of previously excluded channels in order to add them to the preset. When you are done, rerecord the preset.

- ***[Record] [Preset] [5] [Enter] [Enter]***

Update

[Update] is used to record parameter modifications back to a preset. When updating, you must specify the preset to be updated. You may do this using the keypad or the direct selects.

For the purposes of the following descriptions, assume that there are no active cues on stage. Updating referenced values while cues are active is covered in *Modifying Cues Live, page 150*.

For Example:

To update a preset, first recall the preset for any channels you wish to edit

- ***[1] [Thru] [5] [Preset] [1] [Enter]***

Make required changes to the desired parameters using the keypad or encoders. Once you have achieve the desired look, update the preset.

- ***[Update] [Preset] [1] [Enter]***

or

- ***[Update] & {Preset 1}***

Unless you specify certain channels to be included in the update, all channels with non-default data will be included.

Using the Preset List

List of recorded presets. List views only allow you to change attributes. No editing can be done directly in that view. {Edit} takes you to blind of that preset, in the last format you were in in Blind.

Navigate Next and Last, Select to activate in-cell editing.

Preset List

Blind presets can also be viewed in the preset list and can be accessed in a number of ways.

To view the preset list in Blind you may:

- Press **[Preset] [Preset]**
- Press **[Blind] & [Preset]** - takes you to blind for presets. In the list view, an {Edit} softkey is provided to access blind editing for the record target.
- Click on **Preset List** in the browser
- Press **[Blind] & {Preset x}** - this will take you directly to the blind view of the specific preset

You may change the way you view information in the preset list by pressing the [Format] button. This will cycle the preset list through three different views; Summary, Spreadsheet, and Table.

The summary view simply shows information pertinent to the preset you are viewing. You cannot edit presets from the summary view. You may edit presets in either table view or spreadsheet view.

Editing Presets in Blind

All presets can be viewed and edited in Blind.

Summary Views

CAUTION: *When editing presets in Blind, changes to presets are automatically stored. Therefore no update or record command is required. Changing presets in Blind will alter the preset instantly.*

Editing in Table View

The preset list shows the data for one preset at a time in a table view. Channels are displayed on the Y axis and parameters are shown along the X axis. Viewing presets in the list is useful if you want to see data for numerous channels in one specific preset.

To change which preset you are viewing you may use the [Next] or [Last] keys or you may select the exact preset from the keypad. You can make changes to the preset by selecting channels and altering parameter values. In addition to normal editing functions, you may also use the following commands in this view: Copy To, Make Absolute, Make Null, Move To, and Replace With.

Here are some examples of the additional preset editing features you have while editing in table view:

- **[**select channels or parameters**] [Make Abs]** - changes the data for any palette references into absolute data that no longer references another record target.
- **[**select channels or parameters**] [Make Null]** - removes the data for the specified channel or parameter from the preset.
- **[Preset] [5] {Move To} [Preset] [9] [Enter]** - this will move the contents of preset 5 to preset 9. Preset 9 will be created and preset 5 will be deleted.
- **[Preset] [1] [Copy To] <Preset> [5] [Enter]** - This will copy the contents of preset 1 to preset 5. You may also copy ranges of presets to new locations.

Editing in Spreadsheet view

Spreadsheet view shows a range of presets along the Y axis and channels/channel parameters along the X axis. Viewing presets in spreadsheet view is useful when you want to compare data between presets.

You may select a preset from the spreadsheet using the [Next] or [Last] keys to move through the list or you may select the exact preset from the keypad. You may also select a range of presets to edit at once. You can make changes to the preset(s) by selecting channels and altering parameter values. In addition to normal editing functions, you may also use the following commands in this view: Copy To, Make Absolute, Make Null, Move To, and Replace With.

In addition to the examples given above in table view, here are some examples of the additional preset editing features you have while editing in spreadsheet view:

- [Preset] [1] [thru] [5] {Move To} <Preset> [9] <thru> [Enter] - this will move presets 1-5 to presets 9-14 respectively. You do not have to supply the end value for Eos to perform the move. If presets 9-14 already exist you will be asked to confirm this move.
- [Preset] [1] [Thru] [5] {Scroller} [5] [0] {Replace With} <Scroller> [7] [5] [Enter] - for presets 1-5, this command will replace any scroller parameter values of 50 with values of 75. This range editing using [Replace With] can only be done in spreadsheet view.

Deleting presets

You may delete presets in the following ways:

- **[Delete] [Preset] [1] [Enter]**
- **[Delete] [Preset] [1] [Thru] [5] [Enter]**

Presets can be deleted from any screen, at any time.

Removing channels from a preset

You can remove specific channels from a preset. This can only be done from the preset list (see *Preset List, page 130*).

For Example:

Open the preset list:

- ***[Preset] [Preset]***

Select the preset you wish to edit:

- ***[Preset] [5] [Enter]***

Press **{Edit}** to enter preset blind. Remove channels by pressing:

- ***[2] [+] [4] [+] [6] [Thru] [9] [At] [Enter]***

Or you can remove a specific channel parameter from the preset by pressing:

- ***[5] [+] [7] {Color} [At] [Enter]***

You may also remove a channel/parameter from a range of presets by pressing:

- ***[Preset] [1] [Thru] [5] [Enter] [1] {Color} [At] [Enter]***

Chapter 11

Working with a Single Cue List

When cues are created they are stored in a cue list. By default, recording cues will result in a single cue list, identified as cue list 1. While other cue lists can be recorded in Eos, this chapter deals primarily with working in a single cue list. For more information on multiple cue lists, see *"Working with Multiple Cue Lists", page 165*.

This chapter contains the following sections:

Basic Cueing

A cue is a record target comprised of channels with associated parameter data, discrete (channel/parameter level) timing, cue attributes (such as cue level timing, follow instructions and so forth). Cues are stored with this information for later recall or play back in a submaster during your show.

In **Setup**, you have determined if Eos will operate in a Cue Only or Tracking mode. By default, the system is set to Tracking mode, therefore this section of the manual primarily addresses working in Tracking mode. It is important to know which mode you are working in, as it impacts how cues are recorded and edited.

- If your console is set in Track mode (default), changes move forward through the cue list until a block or a new value is encountered.
- If your console is set in Cue Only mode, changes to cues have no impact on subsequent cue data.

Cue Numbering

Cues can be numbered from .01 - 10,000. By default, cues are stored into cue list 1. You may also label each cue for ease of organization and reference. In addition, each cue list can be provided with an independent flag and HTP/LTP intensity attributes.

Eos provides you with multiple ways to number your cues. The most common methods are listed below:

- After pressing record, enter a cue number which can be a whole number [1] or a decimal number [1.1].
- After pressing record and instead of entering a cue number you may press [Next], which will automatically number the cue with the next sequential number in the cue list. For example, the current cue is numbered cue 1.1, pressing [Record] [Next] will automatically number the new cue 1.2.
- When recording decimal cues, it is not necessary to specify the leading cue number if a decimal cue has already been recorded. For example, if the current cue is numbered 5.2, when you access the next record command, you can just enter [.] [5] to record cue 5.5.

Recording Cues in Live

When executing a record command, all parameters of any lights that have non-default values, either from manual control, other cue or submaster playback, are stored in the target cue.

Channels that have all default values, meaning they have never been touched, are not included in the record action, unless you specifically select the channel and press {Make Manual}. Other possible exclusions are parameters withheld by use of filters, or if the channel parameters have a null flag applied. *See "Using Filters" on page 171.* Within the parameter category data you could also select individual parameters (such as Cyan and Iris) and place them in a null state via the {Make Null} button if the values are not needed in the cue being recorded.

Eos is a tracking console, meaning once something is recorded into the cue list, the cue list will always contain information about that channel/parameter unless it is nulled, using the {Make Null} command, or filtered using the parameter filters. Eos automatically places a zero intensity value for a channel that is in the previous recorded cue, but is not included in the current cue.

When cues are recorded they are automatically played back. Upon playback, displayed parameter levels will be color coded for clarification of the record action:

- Blue - intensity has increased from the previous cue or a non-intensity parameter has changed.
- Green - intensity level has decreased from the previous cue
- Magenta - level has tracked from a previous cue
- White - level has been blocked

Using Record

When the [Record] button is pressed the keypad defaults to cue mode, use of the [Cue] button is optional. The following are representative examples of recording cues in Live. Once the cue record has been specified, cue attributes such as timing can be combined and entered in any order you wish.

- **[Record] <Cue> [**n**] [Enter]** - records all parameters of any channels with non-default data into the specified cue number n, as modified by the function filters.
- **[Record] <Cue> [**n**] [Label] [**name**] [Enter]** - records the specified cue n and provides an alphanumeric label.

Recording a cue from a [Go To Cue] [0] state is the only time the system will *automatically* insert zero intensities for channels in the previous cue that have not been given an intensity value since the [Go to Cue] instruction.

For Example:

Set channels 1 through 5 to full and record cue 1.1, as follows:

- ***[1] [thru] [5] [Full] [Enter]***
- ***[Record] [1] [.] [1] [Enter]***

Execute a [Go To Cue] [0] command to clear the stage from all selected channel intensities.

- ***[Go To Cue] [0] [Enter]***

If you then set channels 6 through 10 at full and record cue 1.2, channels 1 through 5 will still be stored in cue 2, only with zero intensities.

- ***[6] [thru] [1] [0] [Full] [Enter]***
- ***[Record] [2] [Enter]***

Using Record Only

[Record Only] is similar to [Record] except that it selectively stores only manually set values, preventing unwanted levels (such as from a submaster or another cue list), from being recorded into the cue. Therefore, when used to record a cue, only the manual data for channels and parameters will be stored in the cue.

All of the same commands used for [Record] may also be used for [Record Only].

- **[Record Only] <Cue> [Next]** - stores only the manually set values into the next cue in the list.
- **[Record Only] [Cue] [**x**] [Enter]** - stores only the manually set data into cue x.
- **[**n**] [thru] [**p**] [Record Only] <Cue> [**z**] [Enter]** - stores only the manually set data for channels n through p into the target cue z.
- **[Group] [**a**] [Record Only] [Cue] [**n**] [Enter]**- stores only the manual data from Group a into cue n.

As with [Record], filters can further restrict stored data if deployed when using [Record Only]. *See "Using Filters" on page 171.*

- **[**selected channels**] [Color] [Record Only] <Cue> [n]** - stores only the color data for the selected channels into cue n.

Using Selective Store

You may use the [-] button to withhold information from the target cue or use the [+] button to specify a particular channel/parameter to be included in the record action. These actions are both selective stores. Selective stores are very similar to update instructions, with the following exceptions:

- It is possible to use a selective store when storing a new cue as opposed to an [Update] which can only be used with existing cues.
- A selective store uses all data in the channel list unless it has been filtered or further defined, such as [+] included or [-] excluded from the command line. Update uses only the manual data in the channel list.

For information on a selective store using filters see *"Partial Filters", page 173*.

Using a Positive Selective Store

You may record just specified channel parameters into cues. Because Eos is a tracking system, any channel parameters that were in the previous cue, but are not a part of the selective store, will track into the new cue. If the cue were already stored, this action adds the specified channel parameters to the existing cue data.

To record only specific channels into a new target cue:

- **[1] [thru] [5] [Record] <Cue> [4] [Enter]** - this records only channels 1 through 5 into cue 4. Any values in the previous cue, not included in the record command would track forward into the cue.

To record only specific parameters into a target cue:

- **[1] [thru] [5] [Focus] [Color] [Record] <Cue> [4] [Enter]** - records the focus and color data for channels 1 through 5 into cue 4. Any values in the previous cue not included in the record command would track forward into the cue. Any other manual states would not be recorded in the target cue.

Using a Negative Selective Store

It is possible to withhold data from a cue by using the [-] key as follows:

- **[-] [Group] [**n**] [thru] <Group> [**p**] [Record] <Cue> [**y**] [Enter]** - records the specified cue, as modified by the function filters, with the exception of any channels associated with groups n through p.
- **[-] [**n**] [thru] [**p**] [Record] <Cue> [**y**] [Enter]** - records the specified cue, with the exception of channels n through p.
- **[-] [Sub] [**n**] [Record] [Enter]** - records the selected cue, without the input from submaster n.
- **[-] [Sub] [Record] [Enter]** - as above, except withholds the contents of all submasters.

Using Cue Only / Track

In Track Mode

When you create a new cue, any channel parameter data from the previous cue is tracked into the new specified cue. The [Cue Only/Track] key is an applied exception to the tracking mode system setting. When you record a cue in the middle of an existing cue list, using the [Cue Only] button will prohibit new information from tracking into the subsequent cue.

Note: *In the following examples, the command **[Cue Only]** indicates the same key hit of [Cue Only/Track] which is a single button on the keypad. The system setting determines the actual context of the button depending on the mode the system is operating.*

For clarity, only the contextual function of the button is used in the examples.

With system set to "Track"

- **[Record] <Cue> [n] [Cue Only] [Enter]** - records cue 'n'. The changes will not track forward through the list.
- **[-] [Color] [Record] <Cue> [n] [Cue Only] [Enter]** - as above the recorded data will not track forward and all color data is excluded from the record operation.
- **[Record Only] <Cue> [n] [Cue Only] [Enter]** - stores cue 'n' with only those manual parameters that were receiving their instructions from that cue. The stored data will not track forward in the list.
- **[-] [n] [Record] <Cue> [y] [Cue Only] [Enter]** - records the specified cue, except the contributions from channel n. The stored data will not track forward in the list.

In Cue Only Mode

When you create a new cue, any channel parameter data from the previous cue is tracked into the new specified cue. When you make the required changes as you would in Live, since the console is in Cue Only mode, the system assumes that all changes are to impact the current cue only. The [Cue Only/Track] key can be used as an applied exception to the cue only/track system setting.

Note: *In the following examples, the commands **[Track]** indicate the same key hit of [Cue Only/Track] which is a single button on the keypad. The system setting determines the actual context of the button depending on the mode the system is operating.*

For clarity, only the contextual function of the button is used in the examples.

With system set to "Cue Only"

- **[Record] <Cue> [n] [Track] [Enter]** - records cue 'n'. This data will track forward in the list until the next move instruction or block.
- **[-] [n] [Color] [Record] <Cue> [y] [Track] [Enter]** - records the specified cue, except the color data from channel n. The data will track forward in the list until the next move instruction or block.
- **[Record Only] <Cue> [t] [thru] [y] [Track] [Enter]** - stores only the channels and manual parameters that were receiving their instructions from the specified cues t thru y. The stored data will tracks through t and stop at cue y.

Timing

Cue timing may be applied in a variety of ways. At a cue level, timing categories are provided for intensity up, intensity down, focus, color and beam transitions. Each of these times can have an associated delay. Timing can also be applied directly to a channel or a parameter. This is called discrete timing.

Time can be entered in minutes and seconds (example 10:15), or seconds and tenths of seconds (example 1.3), or 100ths of seconds (example 1.35) with valid fade times from zero to 99.59. When no time is applied at a cue level, the defaults established in **System Setup** are used. *See "Setup" on page 73.*.

Setting Cue Level Timing

Unless you specify otherwise, Eos assigns default fade times to any cue you record. Default timing is designated in **Setup**. Cue level timing can be applied when a cue is recorded or can be added at a later date.

Following are some example record commands with cue level timing:

- **[Record] <Cue> [**n**] [Time] [thru] [**y**] [Enter]** - puts a time of "y" on all parameter timing categories.
- **[Record] <Cue> [**n**] [Time] [**x**] [Enter]** - specifies the up and down fade time for all intensity transitions of the cue. When editing a cue, if you had programmed split (different) up and down fade times, this command would change the up fade only.
- **[Record] <Cue> [**n**] [Time] [x] [Time] [y] [Enter]** -specifies the up and down time for intensity transitions of the cue. The first instance of [Time] is used for intensity up fade (meaning intensity value is fading to a higher level than is currently set) and the second instance of [Time] is used for intensity down fade time (intensity values fading to a lower level than is currently set).
- **[Record] <Cue> [**n**] [Time] [Enter]** - resets intensity time to default value. If the cue is recorded with split time, this command only resets the up fade time.
- **[Record] <Cue> [**n**] [Time] [Time] [Enter]** - resets the down intensity time to default value.

Note: If a cue is provided split fade times with no delay on either side, and those times are later the same values, the split time is cleared.

Manual Timing at a Cue Level

It is possible to assign a time of “manual”, for manual parameter transition through the fader potentiometer. Manual times are assigned by using the {Manual} softkey that is displayed when recording a cue.

- **[Record] <Cue> [**n**] [Time] {Manual} [Enter]** - applies a manual intensity time. If the cue had previously been given split times, would apply a manual to the upfade. If the cue had a single time, both the up and down would be “manual” and controlled by the fader.
- **[Record] <Cue> [**n**] [Time] [Time] [Manual] [Enter]** - applies a manual intensity time to the downfade. If there was an upfade time for this cue, this command does not change the upfade time.

Parameter Category Timing

Timing can be applied at a parameter category level for selected channels in a cue including [Intensity], [Focus], [Color] and [Beam]. If no time is applied at a cue level, the defaults established in Setup are used. When there is no movement in an individual parameter category, the default time is suppressed.

If there are no parameter transitions for a specific category, and that category still has default timing, the time value is suppressed. When you apply a time to an individual parameter category and that category has no movement, the time is displayed in grey. The specified timing will remain in grey until that category is provided with a move instruction, at which point it the timing will display in white.

- **[Record] <Cue> [**n**] [Color] [Time] [**y**] [Enter]** - records cue “n” with a cue level color time of “y”.
- **[Record] <Cue> [**n**] [Time] [Time] [Time] [**y**] [Enter]** - records cue “n” with a cue level focus time of “y”. In this example, each press of the [Time] key steps through each timing value (up time, down time, focus time, color time and beam time.
- **[Record] <Cue> [**n**] [Time] [Thru] [**y**]** - records cue “n” and puts a time of “y” on all parameter categories.

Discrete Channel/Parameter Timing

Discrete timing is applied to a specific channel or parameter. To apply a discrete time, the CIA should be placed in parameter mode so that you can access a specific parameter (such as “Cyan”, or Zoom). When using the control keypad, you must select the channels that you want to apply the time, otherwise the system assumes you are addressing the selected cue.

Following are some examples of use:

- **[**channel list**] [Color] [Time] [**n**] [Enter]** - adds a color time of “n” to the colors for all selected channels.
- **[Frost] [Time] [**x**] [Enter]** - provides a “x” second time for the frost attribute of all selected channels.
- **[Select Manual] [Frost] [Time] [**x**] [Enter]** - selects channels with manual data and applies a time of “x” to any manual frost values.
- **[Select Active] [Frost] [Time] [**x**] [Enter]** - selects active channels and applies a time of “x” seconds to selected channel frost values.

Delay Time

Delay times can be added to any parameter or cue category timing, which will postpone the initiation of the parameter transition until the delay time, which begins its countdown from cue execution, has elapsed. Delay times can also be added as a function of the cue record operation, which makes it a cue level delay).

Following are some example cue record commands using a delay:

- **[Record] <Cue> [**x**] [Delay] [**z**] [Enter]** - stores cue “x” with a “z” second delay on intensity.
- **[Record] <Cue> [**x**] [Time] [**y**] [Delay] [**z**] [Enter]** - records cue “x” with “y” upfade time, delayed from activation by “z” seconds.
- **[Record] <Cue> [**x**] [Time] [**y**] [Delay] [Enter]** - records cue “x” with “y” upfade, and removes a delay time on the upfade.

A delay can be specifically added to any parameter category (intensity, focus, color, beam) to effect only that parameter category in a cue. Delay is useful when you do not want a parameter to change (i.e. intensity up) until other changes have begun or completed their transition (i.e. a color scroller has reached the proper color). Delay effects only the parameters in the specified category.

Delay times can also be added as a function of the record operation (which makes it a cue level delay).

- **[Record] <Cue> [**x**] [Color] [Delay] [**z**]** - records cue “x” with a delay time of “z” seconds for the color category.

You can set all categories to the same delay time with the following command structure:

- **[Cue] [x] [Delay] [Thru] [y] [Enter]** - records cue “x” and applies a delay time of “y” for all parameter categories.

When delay timing is applied at a channel or parameter level, you will notice from the Live display that a red “T” is displayed when timing is applied but not stored. Store the timing by pressing [Update] [Enter], and a blue “T” will display. From the Playback display you will notice “+” in the cue list near the associated parameter category when discrete timing is applied. You can press the **[Time]**, located beneath navigation keys, to see the time applied.

Assigning Cue Attributes

You can record cues with specific attributes which affect how cues behave once executed. Cue attributes include follow time, hang time, link, loop, curve, rate and label. Cue attributes can be entered when the cue is initially recorded, or they can be added or modified at a later date.

- **[Record] <Cue> [**n**] [Link/Loop] <Cue> [**x**] [Link/Loop] [**y**] [Follow/Hang] [**n**] [Enter]** - this command is used to record a looping sequence. It records the specified cue “n” and provides a link back to another cue “x” in the cue sheet. Upon playback, when this cue is played back, the “linked” cue “x” would be loaded to the same fader and automatically executed when the follow time has elapsed. The loop instruction indicates the number of times the cue is to follow this link/loop command.

Follow/Hang

A follow time creates an auto flow which automatically activates the next cue in the sequence when the follow time in the active cue has elapsed. The follow time begins counting from the moment the cue is executed.

The hang time is also an auto flow, but rather than counting from the moment the cue is executed, it is calculated from the completion of the cue. You can assign a negative value to a hang time, allowing a subsequent cue to overlap an active cue.

You can assign either a follow time or a hang time, but not both. Both features are accessed using the [Follow/Hang] key on the console. Following are some examples of use:

- **[Record] <Cue> [**n**] [Follow/Hang] [**m**] [Enter]** - records cue “n” and provides a “follow” time “m” to the next cue in the cue list. The following cue will automatically initiate on the same fader when the follow time has elapsed. The follow time will begin counting down when the associate cue is activated.
- **[Record] <Cue> [**n**] [Follow/Hang] [Follow/Hang] [**m**] [Enter]** - records cue “n” and provides a “hang” time “m” to the next cue in the cue list. The following cue will automatically initiate on the same fader when the hang time has elapsed. The hang time will begin counting down when the associated cue is complete.

Link/Loop

Link allows cues to be run out of sequence, by causing a different cue number to be loaded into the pending file of the playback fader when the cue that carries the link instruction is activated. If a follow or hang time is included with the cue attributes, the activation of the linked cue will occur when the follow or hang time has elapsed. The link can be within the cue list or to a cue in another cue list.

Following is an example for use of the link feature:

- **[Record] <Cue> [**n] **[Link/Loop] <Cue> [**x**] [Enter]** - records the specified cue “n” and provides a link to another cue “x” in the cue list. When cue “n” is played back, the linked cue is loaded into the pending file of the associated fader.

Loop is provided as a method to link a series of cues with follow instructions and loop them a number of times in a sequence. Once the sequence of cues has played back the first time, the system recognizes the loop command and the next cue shown in pending file of the playback fader will be the next sequential cue after the looped sequence. This provides you with a graceful exit from the sequence if the loop is an infinite one or if you need to leave the sequence earlier than expected.

If the first cue in the sequence is a blocked cue or a cue with an assert attribute, values from the last cue are not allowed to track through into the first cue when it is looped back. But without a move, block or assert in the first cue, values from the last cue will track into the first cue when it loops back. A loop specified with “0”, loops the sequence indefinitely.

Following is an example of the loop feature:

- **[Record] <Cue> [1] [Link/Loop] <Cue> [2] [Link/Loop] [3] [Follow/Hang] [4] [Enter]** - this command is used to record a looping sequence by recording the specified cue 1 and providing a link back to another cue 2 in the cue list. When cue 1 is played back, the linked cue 2 will load into the same playback fader and automatically execute when the 4 second follow time has elapsed. The cue will loop 3 times.

Rate

The {Rate/Hold} softkey can be used to apply a rate adjustment to all timing in the cue. The default rate is 100%, which is real time. To slow a cue down, move the rate below 100%, to speed the cue up, move the rate above 100%. The range rate for a cue is 0 - 999%. A timing value of 5, with a rate of 50% will replay in 10 seconds. A timing value of 5, with a rate of 200% will replay in 2.5 seconds.

Following is an example for use of a rate instruction:

[Record] <Cue> [n**] [Rate/Hold] [1] [2] [5] [Enter]** - records the specified cue, and places a rate override instruction on all timing values. The cue would now be played back at 125% of recorded time values.

Hold

A hold instruction at a cue level indicates that any parameters with manual timing are not to be released from the manual potentiometer when the cue is complete. If there are no manual times, a hold indicates the intensity values are to be held on the fader. The hold attribute will release on a subsequent cue activation.

Following is an example for use of a hold instruction:

- **[Record] <Cue> [**n**] {Rate/Hold} {Rate/Hold} [Enter]** - records cue “n” and places a hold instruction on playback.

Label

[Label] attaches an alpha-numeric label to a cue or part cue.

Following is an example instruction for applying a label to a record target:

- **[Record] <Cue> [**n**] [Label] <**name**> [Enter]** - records cue “n” and applies the label as entered on the alpha-numeric keyboard.

Clearing Cue Attributes

To clear attributes from a cue:

- **[Cue] [**n**] [Follow/Hang] [Enter]** - removes the follow or hang time from the specified cue “n”.
- **[Cue] [**n**] [Label] [Enter]** - removes the label from the specified cue “n”.
- **[Cue] [**n**] [Link/Loop] [Enter]** - removes the link instruction from the specified cue “n”.
- **[Cue] [**n**] [thru] [**y**] [Rate] [Enter]** - removes the rate instruction in cues “n” through “y”.
- **[Cue] [**n**] [Rate/Hold] [Rate/Hold] [Enter]** - removes the hold instruction from cue “n”.

Flags

Flags can be applied to cues to change specific behaviors. Flags can be set to “AllFade”, “Hold”, “Block”, “Assert”, and “Mark”.

Block

You can apply a block to a cue or any channel or group of channels, parameter or group of parameters within a cue.

At a Cue Level

A cue level block causes all tracked values in the cue to be treated as move instructions, which prohibits any data from tracking into the cue. Parameters that are not included in the cue are not impacted by the block instruction.

Blocks do not protect a cue, channel or parameter from being modified by a range editing command, nor are they protected from a trace instruction. It is assumed that if you use the trace instruction, then you really want the initial value to change. A block will stop the trace from moving any further backwards through the cue list.

Cue data can have partial blocks automatically asserted by the console, these are called auto blocks. Auto blocks are applied to a parameter value when a value upstream has been changed and now is matched to the value in the cue the auto block is applied.

Blocks that you have applied will appear as white parameter data. Auto blocks are displayed in white, with a white underscore.

- **[Cue] [**n**] [Block] [Enter]** - “B” is displayed in the flags field, indicating a cue level block.

At a Channel/Parameter Level

Blocks can also be applied to a channel or a channel parameter. This can be done in Live or Blind. When applied in Live, the block instruction must be stored or updated to the appropriate cue.

- **[**n**] [Block] [Enter]** - applies a block to channel “n”. Notice a red “B” near the channel, indicating a block has been applied but is not yet stored.
- **[Group] [5] [Color] [Block] [Enter]** - applies a block to all of the color parameters for Group 5.

Assert

At a cue level, assert has the same playback effect as a block cue. All values in the cue are asserted on playback, regardless of whether they are a move or a track. Assert differs from a block however, it allows data to be modified on a track or trace instruction. Assert can also be placed at a channel or parameter level.

- **[Cue] [**n**] [Assert] [Enter]** - if the cue didn't have an assert attribute, this command adds it. If the cue already had an assert attribute, this command removes it.
- **[Group] [**n**] [Assert] [Enter]** - asserts all parameters of group “n”.
- **[**n**] [Color] [Assert] [Enter]** - asserts the color parameters of channel “n”.

When you apply an assert, the data is displayed in magenta (meaning it is a tracked value), with a blue “A” to the right of the channel. When applied in Live, the assert instruction must be stored or updated to the appropriate cue.

AllFade

Cues, by default, are movefades. A movefade has no impact on contributions from other playback faders. Alternatively, an allfade flag can be set. An allfade sends the intensity for all channels not included in the allfade cue to their default state. Submasters, any captured channels and the contribution from any faders that are on independents are unaffected. An allfade flag “*” is identified in the Playback Status display for the specified cue.

- **<Cue> [n] [Allfade] [Enter]** - sends intensity for all channels not included in the allfade cue to their default state. In this example, if cue “n” was a movefade, this command makes it an allfade. If cue “n” was an allfade, this command makes it a movefade, removing the allfade flag from cue “n”.

Mark

The Mark flag is used to relay information about either automarks or reference marks. When using automarks, an “M” will display in the flags field for the specific cue that will execute an automark. A “D” is displayed when automark has been disabled for a cue.

When using reference marks, an “M” will display in the flags field for any cue that will execute a referenced mark. An “R” displays when a cue is the source of a mark. *See “Using Mark” on page 159.*

Using the Execute List

The execute list triggers actions on other faders, as well as macros, snapshots, and so forth. Additionally, you can enter instructions that sync the “Go” of other cue lists.

When you press [Execute], a dialog box appears. This dialog box provides a list of the available analog triggers and midi triggers. Also, fields are available to enter specific data relating to the macro, snapshot, cue number and cue list.

Entering macro, snapshot, cue numbers and cue lists can be done directly from the command line or you can navigate the dialogue box to enter the data.

To trigger a Macro:

- **[Cue] [1] [Execute] [Macro] [5] [Delay] [7] [Enter]** - triggers Macro 5, seven seconds after cue 1 is executed. If you had not specified a delay, the macro will execute as soon as the cue is executed.

To trigger a Snapshot:

- **[Cue] [n] [Execute] [Snapshot] [3] [Enter]** - triggers
- To trigger a cue on another cue list - [Cue] [n] [Execute] <Cue> [3] [/] [6] [Delay] [4] [Enter] - If the cue list were not currently loaded, this action would load the cue list to the first available fader. If the cue executed was already in the pending file of a fader, this would be treated as an “in sequence” cue. If the cue was not in a pending file, it will be treated as an “out of sequence” cue.

To remove a trigger, access the cue number and press [Execute], the record target type and press [Enter]. This is consistent with removing other instructions as well. The instruction could also be removed through the dialogue box.

- To trigger cue lists [
  - [Cue] [1] [Execute] <Cue> [4] [/] <+> [6] [/] [Enter]
  - [Cue] [1] [Execute] <Cue> [2] [/] [thru] [5] [/] [Enter]

When cue list triggers are set, the system will automatically execute same numbered cues on the associated cue list. For example, assume that the last instruction above was applied to cue list 1, cue 1. When 1/1 is executed, any cues numbered “1” in cue list 2 thru 5 will be executed accordingly. If there is not a cue 1 in those lists, no action is taken on the cue lists. If there are cue number on secondary cue lists that are not in cue list 1, those cues are skipped and the subsequent cue taken as an “out of sequence” cue when triggered.

The “auto-execute” function can be turned off via the dialogue box. When this is done, the “Execute List” field shows “Auto-Execute Off” in the attribute line for the cue that turns it off.

Modifying Cues Live

Recorded cues can be modified Live. Cue attributes (such as link, loop, label and so on) may be edited as well. The cue does not need to be active (played back) to change cue attributes. You may also change cue attributes for a range of cues if you wish.

Using [At] [Enter]

A useful feature when editing cues is [At] [Enter]. This is a simple feature which allows you to select any channel or parameter, or several of them, and remove their move instructions, allowing the value from the previous cue to be manually recalled.

[At] [Enter] is essentially a “recall from the previous cue” command. In other words, it completely removes a move instruction and any manual data, and replaces it with the value from the previous cue.

For Example:

Cue 5 is active in Live.

- ***[Group] [1] [Focus] [At] [Enter]***

This command lifts the current move instructions for Group 1 focus, and recalls the focus data for those lights from the previous sequential cue. It is now manual, and can be stored or updated as required.

You may also use [At] [Enter] to affect only certain channels or parameters by selecting them specifically:

- **[2] [At] [Enter]** - this will remove the changes for channel 2 only
- **[2] [Color] [At] [Enter]** - this will remove only the color data changes for channel 2
- **[2] [Thru] [5] [+] [9] [+] [1] [1] [Thru] [1] [5] [-] [1] [2] [At] [Enter]-** removes the changes for only the selected channels.

Using Record

You may modify a cue by re-recording it entirely. After making changes to channels/parameters:

- **[Record] [Enter] [Enter]** - will replace any data in the selected cue with the current stage settings.
- **[Record] [Cue]** [x] **[Enter] [Enter]** - will replace the any data in cue “x” with the current stage values.

Note: *Using [Record] will record all parameters of all non-default channels onstage. This means that all other cue data and submaster data will be included in the record action.*

To avoid including unwanted data in the cue, use [Record Only].

Using Record Only

Modifying existing cues using [Record Only] is considered a “selective store” function. As such, it adds or modifies manual data to the target cue, but leaves any other data that was already in the cue intact. [Record Only] is a good way to modify existing cues without worrying that contributions from other playbacks will be added to the cue. In that way, it is very similar to update.

- **[Record Only] [Enter] [Enter]**- adds the current manual data to the selected cue.
- **[Record Only] [Cue] [**x**] [Enter] [Enter]** - adds the current manual data to cue “x”.

[Update]

Update is a very powerful feature, and also very versatile. Using a combination of [Cue Only], [Track], [Trace], and [Make Absolute] the number of ways you can update specific information and manual data is virtually endless. Below you will find some choice examples of how data can be updated to various record targets either at once, or individually. This list is by no means exhaustive, so you are encouraged to try methods of updating on your own.

Updating to References

When a cue is active, it is possible that various record targets (palettes or presets) will be played back within that cue. As changes are made to the data in that cue, as well as to the individual palettes or presets, updating both the cue and record targets is simple. When you have overridden a reference in a cue, the data is displayed in red with a red “R” in superscript next to the channel’s intensity.

By default, Eos updates any referenced data that was included in the cue.

For Example:

Cue 5 is recalled Live. It contains references to color palette 1 and preset 2. You make changes to channels included in these referenced data. To update both the cue *and* the palettes/presets, press:

- ***[Update] [Enter]***

This will automatically take the manual changes and update them to color palette 1 and preset 2. Therefore cue 5 now references these new values, and any other references throughout the cue list to these record targets have also been updated to these new values.

If you had made changes to other channels that were not included in the palettes/presets used in cue 5, those values would also be updated to the cue as absolute data.

Updating Without References (Make Absolute)

If you want to record your changes to the cue *without also* updating the references, you may use {Make Absolute} break the associated to the reference. The {Make Absolute} command can be applied to the channels/parameters required before the update instruction, or they can be applied during the update.

- **[Update] {Make Absolute} [Enter]** - this will break the references for any parameters which have been changed and update the cue with the changes. The referenced target will no longer be displayed in the channels which were made absolute. All of the data updated in cue 5 will now be shown as absolute data.
- **[5] [Thru] [9] [Update] {Make Absolute} [Enter]** - this will break only the references for channels 5-9 and record their manual values to the cue. Other manual values will not be included in this update.

You may also use [Record Only] to break references.

For Example:

Cue 5 is active and onstage. Channels 5-20 are currently referencing Preset 1. You make changes to channels 5-9. The data for these changes is now manual. Press:

- ***[Record Only] [Enter] [Enter]***

If there were other changes on stage, you could have commanded:

- ***[5] [thru] [9] [Record Only] [Enter] [Enter]***

Only the manual data will be recorded as an update to cue 5. The reference to preset 1 for channels 5-9 is broken and now the cue will display the absolute data rather than the reference indicator.

Using Cue Only/Track

A setting in the setup menu places the system in Cue Only or Track mode. When placed in Cue Only mode, changes to cues have no impact on subsequent cue data. When placed in Track mode, changes to cue data automatically track forward through the cue sheet, stopping when a move instruction or block is encountered. For more information on Tracking vs. Cue Only see system settings.

The [Cue Only/Track] key can be used as an applied exception to the cue only/track system setting. Therefore if the system is set to Cue Only, the key behaves as a [Track] command. Alternatively, if the system is set to Track, the key behaves as a [Cue Only] button.

[Cue Only/Track] can be used in conjunction with record or update functions. Following are some examples of use:

Note: *In the following examples, the commands **[Cue Only]** and **[Track]** indicate the same key hit of [Cue Only/Track] - a single button on the keypad. The system setting determines the actual context of the button.*

For clarity, only the contextual function of the button is used in the examples.

With system set to "Track"

- **[Record] <Cue> [**n**] [Cue Only] [Enter] [Enter]** - rerecords cue 'n'. This will make the changes to cue n *only*. The changes will not track forward through the list.
- **[-] [Color] [Record] <Cue> [**n**] [Cue Only] [Enter] [Enter]** - as above, but changes to color parameters will not be included in the record and all data that was included will not track forward. Color data in the cue remains unchanged.
- **[Update] <Cue> [n] [Cue Only] [Enter]** - updates cue 'n' with only those manual parameters that were receiving their instructions from that cue. The changes will not track forward in the list. This is not true with a single cue list active on stage. If there is only one cue on stage, all manual values will be included in the update action. Note that if the data being updated were referenced, this action updates the referenced target as well.
- **[-] [**n**] [Record] <Cue> [y] [Cue Only] [Enter] [Enter]** - rerecords the specified cue, except the contributions from channel n. The changes will not track forward in the list.

With system set to "Cue Only"

- **[Record] <Cue> [**n**] [Track] [Enter] [Enter]** - rerecords cue 'n'. This will force the changes to track forward in the list until the next move instruction or block.
- **[-] [**n**] [Color] [Record] <Cue> [**y**] [Track] [Enter] [Enter]** - rerecords the specified cue, except the color data from channel n. The recorded changes will track forward in the list.
- **[Update] <Cue> [**t**] [thru] [**y**] [Track] [Enter]** - updates cues t thru y. Range updates are subject to the normal rules of track/cue only in determining impact on subsequent cues.

Using Trace

[Trace] works just as Track does, except it allows changes to be tracked backwards through the cue list, until it sees a move instruction. A trace will track into, but not beyond, a blocked instruction.

Following are some examples:

- **[Update] <Cue> [**n**] [Trace] [Enter]** -updates cue 'n', and tracks changes backward until a move instruction is encountered. If the system is in track mode, the change will track forward in the cue list until the next move instruction or block. If in cue only mode, this has no impact on subsequent cues.
- **[Update] [Trace] [Cue Only/Track] [Enter]** - updates the selected cue and tracks changes backward until a move instruction is encountered. If the system is in track mode, the change is prohibited from tracking forward in the list. If in cue only mode, the change is allowed to track forward.

Updating the Current Cue

The current cue is updated by simply pressing **[Update] [Enter]**. When only one cue list is active, this update will include any changes to all channels.

Updating a Source Cue

To update the source of a level in the current cue (therefore, a move instruction in a prior cue) you must specify a trace for the desired channel(s).

- **[5] [Update] [Trace] [Enter]** - Updates any manual changes for channel 5 in the current cue. Any tracked values for channel 5 are traced back to the source of the value (the original move instruction) and changed to the new value. The value for traced changes in the current cue will be magenta indicating it is a tracked value.

Updating a Non-Active Cue

It is possible to use the same update commands illustrated above to update inactive cues (cues not live onstage). In these situations, if the updated cue is not the source of a channel's live value, manual data will remain manual. If the updated cue *is* the source of the current value, the values will change to magenta (indicating tracked) when the update is completed.

Recording and Editing Cues from Blind

When you press blind, the selected cue will be displayed. You can make changes to cues in the blind display using either the summary, table, or spreadsheet views.

Note: *Edits in blind take effect immediately, they do not require a [Record] or [Update] command. Therefore, editing in blind is a fast and effective way to make specific changes to show data.*

If changes are made in the blind display, they will not impact the output of that cue if it is currently active on a playback fader. To make blind changes active you can press [Assert] & {Load} button for the fader associated with the cue.

Move instructions can be removed from a cue by selecting the channel and pressing **[At] [Enter]**. This allows all values from the previous cue to track into the current cue. You can also use this command for specific parameters as well.

For Example:

Suppose you are in blind cue 5 and you make changes to channels 1-5:

- ***[1] [Thru] [5] [At] [5] <0> [Iris] [3] [5] [Enter]***

Intensity goes to 50% and Iris to 35%. You decide to remove the Iris instruction:

- ***[1] [Thru] [5] [Iris] [At] [Enter]***

The Iris value from the previous cue tracks in. Then you decide to remove the intensity change as well:

- ***[1] [Thru] [5] [Intensity] [At] [Enter]***

All values from the previous cue track in.

Instead of using multiple commands, you can in one command return the channels to their values from the previous cue, removing all manual changes:

- ***[1] [Thru] [5] [At] [Enter]***

The impact of blind edits on subsequent cues is determined by the default setting of Track/Cue Only mode. Obviously in track mode any changes will track forward until the next move instruction, unless [Cue only] is pressed. In cue only mode any changes will apply only to the selected cue. If you wish to have values track forward, the [Track] button will allow it. The Track/Cue Only instruction must be applied when a value is entered.

- **[Update] <Cue> [**n**] [Cue Only/Track] [Enter]** - updates the specified cue “n” with only those manual parameters that were receiving their instructions from that cue. The impact on subsequent cues follows the rules above. Note that if the data being updated were referenced, this action updates the reference.
- **[Record] <Cue> [**n**] [Cue Only/Track] [Enter] [Enter]** - rerecords the specified cue “n”. If the system were in Cue Only mode, forces changes to track all parameter modifications forward through the cue sheet, stopping when a move instruction is encountered. If the system were in Track mode, makes the changes to the specified cue only. Any data in the subsequent cue that had been tracking is converted to a move instruction. Any intensity values that are new in the target cue will be set to zero in the subsequent cue.

From Summary or Table Views

Use the [Format] key to cycle through the available views.

Summary view allows you to see the greatest number of channels at once, though parameter data is somewhat truncated. Channels with focus, color, or beam data are indicated with a respective F, C, or B beneath the level data. This view is useful for viewing lots of channel data at once or for editing primarily intensity values.

Table view grants you greater visibility of parameter data and a reduced number of channels (20). This view displays channels along the y axis and parameters along the x axis. Parameter categories are always visible (I, F, C, and B). You can also view specific parameters by pressing and holding the [Parameters] button and then pressing the category softkey(s) for the parameters you wish to view. This will expand the category to show any parameters used in the show.

The table view is useful for viewing and editing all parameters for a smaller number of channels.

The following softkeys are represented in the channel summary and table views:

- Effect Detail
- Make Absolute
- Make Null
- Fan
- Offset
- Replace With

Both summary and table views allow you to make changes to channels/parameters. Changes made in blind take effect immediately and do not require a record or update command.

From the Cue Spreadsheet

The cue spreadsheet is another useful blind view of cue data. In spreadsheet view, cues are listed on the y axis and channels/parameters are displayed on the x axis. This view is useful for viewing a limited number of channels over a span of numerous cues. This is the only view where channel data of multiple cues can be viewed at once. This makes spreadsheet view useful for viewing overall trends in channel and parameter data.

Editing cue ranges is possible in spreadsheet view, as are Copy To and Recall From functions. {Move To} is only available from this view

The following softkeys are represented in the channel spreadsheet view:

- Make Absolute
- Make Null
- Move To
- Replace With
- Command History

Cue attribute keys become available once you specify a cue.

Replace With

{Replace With} is used to select channels that have certain specified values and then provide new instructions for those values.

For Example:

Select a range of cues:

- ***[Cue] [1] [Thru] [9] [Enter]***

Select a range of channels that are used throughout these cues and enter a change instruction:

- ***[1] [Thru] [7] <At> [Color Palette] [5] {Replace With} <Color Palette> [3] [Enter]***

This command line finds any of channels 1-7, in the specified range of cues (1-10), that reference color palette 5 and then replaces that reference with a reference to color palette 7 instead.

The range of possibilities of potential {Replace With} commands is virtually endless and can be applied to single cues or channels, ranges of cues or channels, parameters of any type, or timing data.

Move To

{Move To} is used to move cues from one location in a cue list to another location in the same or a different cue list. When cues are moved, values that were tracks or move instructions and *now* match the previous cue will be auto-blocked by the system. The impact on subsequent cues is based on track/cue only settings as described above. Below is an example of {Move To}:

- **[Cue] [2] {Move To} <Cue> [9] [Enter]** - the content of cue 2 moves to cue 9. If cue 9 existed prior to this command, a confirmation would be required to overwrite it.

In the above example, any tracked values in cue 2 become blocked (see *"Block", page 147*) as well as any move instructions which now match the previous cue. Cues after cue 9 are affected based on the default setting of track/cue only. Any values in the cue after cue 2 that tracked from moves in cue 2 are changed to move instructions.

Ranges of cues can be moved as well. You can also move cues to other cue lists. In either of these situations if any cue is to be overwritten, a confirmation is required.

Deleting Cues

Cues, lists of cues, or ranges of cues can be deleted. When deleting cues, the track/cue only setting of the console will determine how subsequent cues are affected. The [Cue Only/track] button can be used to modify the default behavior as needed.

In Track Mode

When the console is in track mode, deleting a cue also removes any move instructions provided by the cue. For example, assume you have stored cues 1-10 and cue 5 contains move instructions for channels 1-5. If cue 5 is deleted the move instructions are deleted as well and the values from cue 4 will track directly into cue 6 and beyond.

In this instance, if you used the [Cue Only] button in the delete instruction, cue 5 would be deleted, but the tracked values in cue 6 that originated in cue 5 would remain and be converted to move instructions.

In Cue Only Mode

When the console is in cue only mode, any subsequent tracked values are not eliminated, but are converted to move instructions instead.

In the example above, deleting cue 5 (in cue only mode) would result in any tracked values in cue 6, that originated in cue 5, being converted to move instructions.

If you apply the [Track] button to the delete instruction, the move instructions from cue 5 are deleted and the values from cue 4 would then track into cue 6 and beyond.

Some examples of cue deletion are:

- **[Delete] <Cue> [**n**] [Enter] [Enter]** - deletes cue n. Subsequent cues in the list are affected depending on the console default setting as described above.
- **[Delete] <Cue> [**n**] [Cue Only/Track] [Enter] [Enter]** - deletes cue n, making exception to the default setting, as described above.
- **[Delete] <Cue> [**n**] [Part] [1] [Enter] [Enter]** - deletes part 1 of cue n.
- **[Delete] <Cue> [**n**] [Part] [1] [Thru] [3] [Cue Only/Track] [Enter] [Enter]** - deletes parts 1-3 of cue n, making exception to the default setting, as described above.
- **[Group] [1] [Delete] <Cue> [**n**] [Enter]** - deletes any channels in group 1 from cue n. Cue n remains in the cue list and any channels not in group 1 are unaffected.
- **[Delete] <Cue> [**n**] [thru] [**y**] [Cue Only/Track] [Enter] [Enter]** - deletes cues n-y, making exception to the default setting, as described above.

Chapter 12

Using Mark

[Mark] is an instruction that automates the process of presetting moving lights to their required state in a cue, prior to fading intensity up. This allows your moving lights to unobtrusively perform non-intensity parameter transitions in an inactive (darkened) state.

Eos provides two methods of providing a mark instruction: AutoMark and Referenced Mark.

This chapter contains the following sections:

AutoMark

The AutoMark feature is a system default setting and can be turned on or off at a global level. The system default for this setting is off. To change the default settings see *Setup, page 73*.

When AutoMark is enabled, non-intensity parameter transitions will occur in the cue *immediately preceding* the cue in which the changes are stored, if intensity in that cue is moved from zero to any active level. Therefore, the preceding cue “executes” the AutoMark.

AutoMark information is displayed at a cue level only. It cannot be displayed on a per-channel basis.

Conditions Triggering an Auto Mark

The following rules determine which channels AutoMark is applied to and how AutoMark is deployed:

- The marked cue must have a move instruction for intensity of moving lights above zero or null.
- The marked cue must have a move instruction for non-intensity parameters of those channels.
- AutoMark will not occur if the channel is receiving an intensity instruction from another source (such as a submaster or HTP fader).
- AutoMark must be enabled for an AutoMark to occur. AutoMark is based on the current setting of the default *during playback.* It does not matter what the setting is at the point of record.
- On a “per channel” basis, an AutoMark does not occur until:
    - Any parameter delay time has elapsed *and*
    - The intensity has reached zero and the parameter has completed any previous movement.

Allowing a Live Move

When AutoMark is “On” it is possible to override it on a per cue (or cue part) basis. The override will be available through a softkey, “AutoMark Off”. This softkey is not visible when AutoMark is disabled in default settings.

Referenced Marks

Referenced marks are user-specified marks that are manually applied to specific cues. There are essentially two parts to a successful referenced mark. The first part is the cue with the mark flag (set by the user). This is the cue in which any non-intensity parameters will change. This cue is referred to as the **marked cue**.

The second part is the cue with intensity value for the channels in question. This is referred to as the **source cue**.

In order to use mark properly, you *must specify* specific channels to be marked in the source cue. Eos will not assume all moving lights apply to any given mark.

Unlike AutoMark, referenced marks will still apply if the marked channel is receiving intensity data from another source (such as a submaster or HTP fader).

There are two ways to apply a referenced mark. You can apply a mark flag at a cue level and then subsequently reference that flag in a later cue, **or** you can apply a mark to a cue and reference back to an earlier cue.

Setting Referenced Mark Flags

You can apply a mark flag by pressing:

- **[Cue] [n] [Mark] [Enter]**

This sets a flag (M) on a cue for later marking activity. In subsequent cues, when channels are marked, they will preset for movement in this cue.

When you are building a cue containing channels that you wish to mark, do the following:

- **[select channels] [Mark] [Enter]**
- Store the cue, following normal procedures. Eos will automatically look backwards in the cue list for the first mark flag it encounters.

For Example:

Assume you had placed a mark flag on Cue 10 (this is becomes the Marked Cue).

- ***[Cue] [10] [Mark] [Enter]***

Later you store Cue 12 with a mark instruction on channels 1-10 (this becomes the Source Cue).

- ***[1] [thru] [10] [Mark] [Enter]***
- ***[Record] <Cue> [1] [2] [Enter]***

When Cue 10 is played back, the non-intensity parameters of channels 1-10 will fade to the values stored in Cue 12. Then in Cue 12, the intensity will fade up on those channels.

Mark Display Indicators

In the previous example, indications that a mark had been placed are as follows. Cue 10 would be shown with a mark flag (M) in the cue list. In addition, intensity in the live display for channels 1-10 would show “MK” in green while any other parameters would show the source cue number (Q 12).

The source cue (Cue 12) would include “M” next to the intensity level and any non-intensity parameter values would be displayed in their proper move color.

Applying Flags as Channels are Marked

You may also apply a mark flag to a previous cue by doing the following:

- **[select channels] [Mark] [Cue] [n] [Enter]**
- **[Record] [Cue] [x] [Enter]**

This would mark Cue “n” to perform any non-intensity moves stored in Cue “x”. The display indicators for this mark would be the same as shown in the previous example. If there are any non-intensity move instructions for these channels between these two cues, they will be removed.

It is also possible to mark only certain parameters for marked moves, while allowing live moves for other parameters.

For Example:

If you wanted to mark only focus, and allow all other parameters to transition while the light is fading up, you can press:

- ***[1] [thru] [10] [Focus] [Mark] [Enter]***

Removing Referenced Marks

Mark is a toggle state. Therefore, the first mark command sets a mark. The second removes it.

To remove a mark flag from a cue, press:

- **[Cue] [n] [Mark] [Enter]**

To remove a mark from a channel:

- **[select channel] [Mark] [Enter]**

Note: *If a mark is removed from a channel in live, that cue must be updated.*

Reference Marks and Timing

Movement of non-intensity parameters in conjunction with a mark will follow the following timing rules.

If discrete timing is used for non-intensity parameters:

When channels execute a mark, the moves will use the discrete time(s) assigned to them *in the source cue*.

For Example:

A mark is applied to Cue 5.

- ***[Cue] [5] [Mark] [Enter]***

Later, channels 1-10 are assigned a mark instruction:

- ***[1] [thru] [1] [0] [Mark] [Enter]***

Then, those channels are recorded into Cue 10 with discrete timing:

- ***[Record] <Cue> [1] [0] {Focus} [Time] [8] [Enter]***

In this instance, when Cue 5 is executed, channels 1-10 will perform their focus parameter moves in 8 seconds, as specified in Cue 10 (the source cue).

If *no* discrete timing is used for non-intensity parameters:

When channels execute a mark, the moves will use the time recorded *in the marked cue*.

For Example:

Cue 5 is recorded with a time of 10 seconds.

- ***[Record] <Cue> [5] [Time] [1] [0] [Enter]***

A mark is applied to Cue 5 as above.

- ***[Cue] [5] [Mark] [Enter]***

Later, channels 1-10 are assigned a mark instruction and then recorded into Cue 10 with *no* discrete timing:

- ***[1] [thru] [1] [0] [Mark] [Enter]***
- ***[Record] <Cue> [1] [0] [Enter]***

When Cue 5 is executed, channels 1-10 will perform their non-intensity parameter changes in 10 seconds, as specified in Cue 5 (the marked cue).

Mark Thru

While programming your show, you may encounter a situation where you assign a mark to channels that have received non-intensity move instructions in cues that fall between the source cue and the marked cue. In this instance, Eos has built-in functionality to either prevent unintended deletion of these move instructions or to allow you to remove these instructions without interference from the system.

If you wish to be informed before inadvertently deleting any moves between the source cue and the marked cue, simply apply marks as indicated in the example above. If Eos encounters any move instructions that interfere with referenced marks, a dialogue box will open informing you of such. If you choose to proceed, a warning will indicate that proceeding will delete these moves and ask for another confirmation.

If you are aware of such interfering move instructions, or do not care if they are deleted, you may forego the dialogue boxes and confirmation requests by simply using **[Mark] [Thru]** instead of [Mark].

For Example:

In the above examples, let assume that unnecessary move instructions for channels 1-10 were inadvertently recorded into Cue 7. If [Mark] were used when writing Cue 10, the dialogue box would appear. However, if you do not care about deleting these moves press:

- ***[1] [thru] [1] [0] [Mark] [Thru] [Enter]***
- ***[Record] <Cue> [1] [0] [Enter]***

This will automatically remove any interfering move instructions and apply the mark as you intended.

Chapter 13

Working with Multiple Cue Lists

This chapter focuses on features and methods used when working with multiple cue lists.

This chapter contains the following sections:

Recording to a New Cue List

When recording cues, cue list 1 is initially used as the default cue list. To record to another cue list, that list must first be specified. Cues will then be recorded to that cue list until another list is specified, or until the selected cue is changed in live.

You may record up to 99 cue lists in an Eos show file.

Using Record

[Record] will record all parameters of any channels that have non-default values to a specified cue.

To record to a new cue list press:

- **[Record] <Cue> [n] [/] [m]** - this will create cue list n and will record the data to cue m in that cue list.

Any cues recorded after this will automatically record to cue list n until another cue list is specified.

To return to the first cue list press:

- **[Cue] [1] [/] [Enter]** - the cue list index will change to show data for cue list 1.

Using Record Only

[Record Only] can be used to create a new cue list instead of [Record]. [Record Only] stores only manual data to the specified cue.

To record to a new cue list press:

- **[Record Only] <Cue> [**n**] [/] [**m**]** - this will create cue list n and will record all manual data to cue m in that cue list.

The cue list display will change to show only data from cue list n. Any cues recorded after this will automatically record to cue list n until another cue list is specified.

To return to the first cue list press:

- **[Cue] [1] [/] [Enter]** - the cue list index will change to show data for cue list 1.

Make Manual

This softkey can be used to convert live cue data into manual values, allowing them to be included in the [Record Only] operation.

- [x] {Make Manual} [Enter] - changes any values for channel ‘x’ to manual data.
- [x] {Make Manual} [Enter] - changes only the focus data for channel ‘x’ to manual data.

Using Assert

By default, channel parameters only respond to move instructions during playback (see cue list ownership). The [Assert] function allows tracked data from a cue to be replayed, even when another cue list has taken control of that channel/parameter.

Assert can be applied to cues, channels, or channel parameters.

Asserted channels will play back their tracked values, regardless of cue list ownership, when activated within the cue list.

At a Cue Level

When applied at a cue level, [Assert] ensures that *all* data in the cue - both moves and tracks - will be played back at their stored values.

To place an assert on a cue press:

- **[Cue]** [x] **[/]** [y] **[Assert] [Enter]** - the cue will assert all of its channels upon playback. If you are asserting the selected cue, it is not necessary to specify the cue list. An “A” will be displayed in the “A” column of the cue attributes (cue index, playback status, and so on); indicating the cue has been asserted.

At a Channel Level

When applied at a channel or parameter level, assert ensures that the entire channel or the specified parameter will be played back at its stored value.

To place an assert on a channel or group of channels:

Step 1: **[**select channels**] [Assert] [Enter]** - a red “A” will appear next to all of the channels’ parameters in the live/blind display. This indicates the assert is placed, but not yet recorded to a cue.

Step 2: **[Record] <Cue>** [x] **[Enter]** - the red “A” turns to blue in the live/blind display, indicating the assert has been recorded. In the cue x row of the playback status display or the cue list index, a lower case ‘a’ appears in the “A” column, indicating that a partial assert is included in cue x.

You may also store this assert using [Update] or you can apply it in blind and no update or record action is required.

To place an assert on specific parameters:

Step 1: **[**select channels**] {Intensity/Color/Focus/Beam** or **parameter buttons} [Assert] [Enter]** - places an assert on the specific parameters of the selected channels. This must be recorded to a cue.

Step 2: **[Record] <Cue>** [x] **[Enter]** - the assert is recorded to cue x. In the cue x row of the cue list index, an asterisk (*) appears in the “A” column, indicating that a partial assert is included in cue x.

Using AllFade

Allfade is a cue attribute which commands any intensity values on stage that are not provided by the associated cue will fade to zero intensity when the cue is played. The allfade will adhere to the downfade time of the associated cue.

This is useful in conjunction with assert, so you can regain control of channels from other cue lists *and* fade other channels from that cue list out.

Note: *Channels with tracked values in the associated cue will not fade out in response to an allfade. These tracked values are part of the associated cue and therefore will be played back.*

To assign an allfade to a cue:

- **[Record] <Cue> [**n**] [/] [**m**] [Allfade] [Enter]** - records cue n/m as an allfade cue, thereby forcing any channels not in the cue to fade to zero on playback.

Like many other cue attributes, Allfade is a toggle state. To remove the allfade flag, specify the cue and press [Allfade] [Enter].

Changing the Active Cue List

The active cue list is related to the selected cue. This is the last cue that was stored or replayed in live. In other words, if you just recorded a cue in Live, the cue list you recorded to would be active. If you played back a cue, the cue list you played back from would be active.

To change the active cue list you can either:

- Recall another cue list in the command line - **[Cue] [n] [/] [Enter]**
- Record a cue to another cue list - **[Record] <Cue> [n] [/] [m] [Enter]**
- Playback a cue from the fader of another cue list - press **[Go]** for the associated fader.

Using the Cue List Index

The Cue List Index is a display list which shows the cue list you are working with, the cue status, any other stored cue lists and what (if any) faders the lists are stored to. All cue attributes can be edited from the list including whether the cue list is set to independent or not, and if the intensity values in the cue list will play back as HTP or LTP.

The Cue List Index is a blind mode display, therefore any changes made will be instant, do not require a record action, nor will they affect the the selected cue in live.

Open the Cue List Index

You can access the list through the browser or by pressing **[Cue] [Cue]**. Alternatively, navigate within the Browser to Record Target Lists > Cue List Index and press **[Select]**. The index will display on an external monitor.

The top half of the Cue List Index displays all stored cues, including cue attributes, for the selected cue list. The bottom half of the Cue List Index displays all stored cue lists. The selected cue list is highlighted.

When the Cue List Index is in focus, the sofkeys change to {HTP/LTP}, {Independent}, {Move To} and {Edit}.

HTP/LTP

The {HTP/LTP} softkey is a toggle state between LTP (latest takes precedence) and HTP (highest takes precedence).

Between playback faders, all parameters other than intensity are LTP. When a cue is executed, all parameters get their starting levels from their current setting, regardless of the playback providing that instruction. In all instances, the parameter moves from its current setting to its new setting in the time of the associated cue.

LTP faders take control of intensity from one another. HTP faders provide an override of the LTP contributor and any other HTP values if they are higher. HTP faders do not take ownership from one another or from the LTP value, instead they are an override. If the cue list is set to HTP, the system recognizes that this playback is going to become the HTP winner at the point of cue execution. If it is going to become the HTP winner, the intensity value will move from its current setting to the end state of the incoming cue in the intensity fade time. The system does not wait until the incoming

fade matches the current setting to assume control of intensity. If the fader is not going to become the HTP winner, the transition runs in the background, with no impact on the current stage state.

The following example illustrates the use of the {HTP/LTP} softkey in the Cue List Index:

- **<Cue> [1] [/] {LTP/HTP} [Enter]** - toggles the selected cue list between HTP/LTP behavior.

Independent

The {Independent} softkey sets a cue list or submaster to independent mode. Any channel parameters currently under the control of an independent playback cannot be changed by the input from other non-independent playback fader or submasters while the playback is in independent mode. You can share in between independent faders, but you cannot share with those that do not have “stars upon thars”.

The following example illustrates the use of the {Independent} softkey in the Cue List Index:

- **<Cue> [2] [/] {Independent} [Enter]** - toggles the selected cue list between non-independent and independent mode.

Move To

The {Move To} softkey is used to move cues from one location in a cue list to another location in the same or even a different cue list. When cues are moved, values that had tracked will be matched to the previous cue will be auto blocked by the system. The impact on subsequent cues is based on track/cue only conventions.

The following example illustrates the use of the {Move To} softkey in the Cue List Index:

- **<Cue> [1] [/] [2] {Move To} <Cue> [2] [/] [1] [Enter]** - moves the selected cue 2 from cue list 1 to the new list 2. When a cue list is moved, any links that referenced the cue list are changed accordingly.

Alternatively you could use [Copy To] to copy the content of the cue to another cue or cue list.

Edit

The {Edit} softkey opens a Blind Channel view of the selected cue and changes focus from the Cue List Index. You may decide to change the Blind display to spreadsheet or table view by pressing the **[Format]** key. You can edit any of the cue attributes for the cue selected within the index but the cue contents themselves must be edited in the Blind display. *See “Recording and Editing Cues from Blind” on page 155.*

Chapter 14

Using Filters

Filters are used to determine which parameters can be stored to cues, palettes, and presets and also which parameters can be played back on specific playback faders. The filter selection tool in the CIA affects record target filtering directly and can be used in conjunction with the [Load] buttons to affect the playback faders as well.

This chapter contains the following sections:

Record Filters

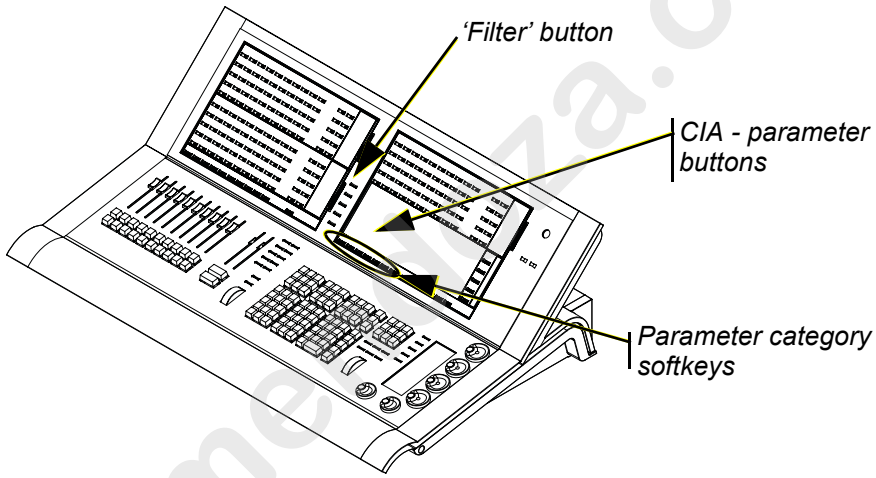
Record filters are used to select specific parameter data to store to record targets. When no filters are selected, all parameters can be stored, as appropriate to the [Record], [Record Only] and selective record action used.

Note: *When storing show data, applied filters are highlighted and allow the associated parameters to be stored in record targets.*

When filters are deselected (not highlighted), they prohibit *storing the associated parameters.*

There is no difference between having all filters selected and having no filters selected (default). In either state, all parameters are available for recording.

Record filters are applied from the CIA using the following buttons:



The parameter category softkeys can be used to select filters, as follows:

- Intensity (enables recording intensity data)
- Focus (enables recording pan and tilt)
- Color (enables recording color data)
- Beam (enables recording all beam data)

To apply record filters by category:

Step 1: Press and hold **[Filters]**. The parameter tiles change to display filter selection.

Step 2: Press the parameter category softkey **{Intensity/Focus/Color/Beam}** for the category you want to include in the record target. All parameters in that category will be highlighted and “Filter On” will appear above the softkey.

Step 3: Release [Filters]. The tiles return to their normal display.

In subsequent record functions, only the filtered categories will be recorded. You may apply multiple category filters at once. Remember that applying all filters and no filters yields the same effect.

Partial Filters

If you do not want an entire category to be recorded, you may apply parameter specific filters (partial filters) instead.

To apply partial filters:

Step 1: Press and hold **[Filters]**. The parameter tiles change to display filter selection.

Step 2: Press the parameter direct select (for example **{Zoom}**) for the parameter you want to include in the record target. That parameter will be highlighted and “Filter On” will appear above the softkey.

Step 3: Release [Filters]. The tiles return to their normal display.

In subsequent record functions, only the filtered parameters will be recorded. You may apply as many partial filters at once, as you wish. Any *unfiltered* parameters will not be included in record actions. In live, filtered parameter data is displayed in its proper color, but a grey “n” will appear in the upper left corner of the parameter’s field.

Removing Filters

Applying filters is a toggle state. To remove any filter, simply repeat the application process described above. When pressed again, any applied filter will be removed.

To remove all filters at once:

Step 1: Press and hold **[Filters]**. The parameter tiles change to display filter selection. “Clear” appears in the upper left corner of the parameter direct selects.

Step 2: Press **{Clear}**. Any applied filters will be removed and the highlights will turn off.

Step 3: Release [Filters]. The tiles return to their normal display. All parameters are now available to record functions.

Storing Data with Record Filters

If a record target is stored with filters in place, the filters allow only associated parameter data to be recorded in the target. Non-filtered data is not included when you record.

The various record targets are affected by filters in the following ways:

- **Palettes** - Palettes by definition are already filtered. The color and beam filters can be used to further modify what is stored in the color and beam palettes, however.
- **Presets** - Active filter settings impact what is stored in presets. Non-filtered data is recorded with a null value to the preset.
- **Cues** - Active filter settings impact what is stored in cues, even when using “record only” commands.
- **[Update]** - Filter settings are ignored.
- **[Recall From]** - Recall from instructions are not affected by the filters.

Playback Filters

This feature will be available in a future release.

Filters can also be applied to the playback faders, therefore allowing only the filtered categories/ parameters to be played back on that fader.

Filtered parameter categories are selected in the same manner as record filters, in the CIA. Filters are applied to playback faders by pressing [Playback Filter] and [Load] for the required fader. This action takes the current settings of the filters and applies them to the fader.

To add filters to a playback fader:

Step 1: Press and hold **[Filter]**.

Step 2: Select filters by pressing the direct select for the desired parameter category in the CIA. Selected parameters will highlight and “Filter On” will appear beneath the associated parameter category.

Step 3: Press **[Playback Filter] & [Load]** for the associated fader that you wish to assign the filters to. The filters are now active on that playback fader.

To remove filters from a playback fader:

Step 1: Press **[Playback Filter] & [Load]** for the fader you wish to remove the filters from.

Chapter 15

Cue Playback

The playback section of the Eos desk offers you ten motorized faders with 30 pages of control. You can define, on a page by page and fader by fader basis, how each of the ten faders will function either playback faders, submasters (inhibitive or additive) or up to three programmable grand masters. There is no default setting for faders, which allows you the freedom to define each of the faders function in **Setup** (*Setup, page 73*) or on the fly as the contents of those targets are stored.

You can page through the ten faders on the front panel, changing their assignment and number at will using the [Fader Page] button. Also, each individual fader is provided with a [Load], [Go] and a [Stop/Back] button for easy operation and playback. The playback display is located directly above the faders and provides you information about each fader including the fader designation (S = submaster with the designation of the submaster number, L = playback with designation of the cue list and cue number that is loaded, or GM = grand master).

The master playback fader pair is located on the right side of the ten fader array, near the control keypad. You cannot page the master fader as it is permanently paired and always available for use. The master is a split cross-fader pair. The two buttons beneath the master fader pair are [Go] and [Stop/Back]. Above the master fader pair is the [Load] button and the playback display where you can identify the active cue and the pending cue for the master fader file.

This chapter contains the following sections:

Selected Cue

The selected cue number is displayed on the area near the bottom of the Live/Blind display, on the CIA just above the command line and on the Playback Status display. Other displays such as Cue Blind, etc. also provide indication of the selected cue and its attributes.

Live / Blind

The selected cue is always the last cue you have recorded, edited, updated, or played back in Live. When entering Blind mode from Live, the same selected cue will display as was in Live, but changing to a different selected cue in Blind will not change the selected cue in Live.

The attributes of the selected cue, such as timing, attributes, label and external links, display in the area near the bottom of the Live / Blind display.

In Live

To load a new cue to a fader, you must place the cue on the command line first, then press the associated fader **[Load]** button. When the **[Go]** button is pressed, the cue activated is the selected cue.

For Example:

Assume you have cue list 1 already loaded to the master playback faders. Now you want to load cue 2/1 to a fader.

- ***[Cue] [2] [/] [1] [Enter] [Load]***

If you press the [Load] button above the master playback fader, it will load cue 2/1 into the pending file. Alternatively, you could press the **[Load]** button above any other playback fader to load the cue into that faders pending file.

In this example, the last cue executed from cue list 1 is still the active cue, while cue 2/1 is in pending. When **[Go]** is pressed, 2/1 will be executed.

The selected cue is only changed by manual **[Go]** instructions. When you execute a cue that has a follow or hang time, the next cue will become the selected cue when activated.

In Blind

When Blind mode is entered, the selected cue will be displayed. When you return to Live, the selected cue is synchronized back to the last cue used in Live.

CAUTION: *When editing cues in Blind, changes to cues are automatic, therefore no update or record command is required. Changing cues in Blind will alter the cue instantly.*

It is possible to have cue playback in Live while you are focused in Blind by pressing the **[Go]** button, but this does not change the cue you are working with in Blind.

Cue List Attributes

Cue list attributes determine the action cues will take and behavior of the faders they are loaded. Cue list attributes include:

- the cue list number
- the cue list label
- intensity HTP or LTP setting (default is LTP)
- Independent On or Off (default is off)

When a cue list is loaded to a fader, all attributes of that cue list are in effect. When a new cue list is loaded, the attributes of that cue list are in effect, but any manually set behavior of the fader (such as filter states, timing disable, etc.) are maintained.

Assigning Faders

Playbacks, Submasters and Grand Masters can be defined in **Setup** (*Setup, page 73*). The location of playbacks and submasters can also be defined on the fly as the contents of those targets are stored.

If a fader is an empty playback or an empty submaster, a cue can be loaded to that location by selecting the cue from the command line and pressing the associated [Load] key. The fader will be assigned as a playback, using the lowest unused playback number.

Once a cue list is loaded to a fader, either manually or by default, storing to that cue list automatically plays the cue back on the appropriate fader, when auto playback on record is enabled in **Setup**.

When a cue list is loaded to a playback, all cue attributes of that cue list are in effect. When a new cue list is loaded, any fader attributes that can be set as direct action from the facepanel (such as filters, timing disable, etc.) are cleared and the fader is reset to its default state. Loading a new cue does not change the manual fader attributes.

With Auto Playback Enabled

“Auto Playback” is a desk record function enabled in Setup (*Setup, page 73*), that automatically executes cues recorded in Live on playback faders. When the cue is executed on the playback fader, any manual parameters involved in the record operation are automatically released to the cue and all other values stored in the cue are owned by that cue.

When the first cue of any cue list number is stored, that cue automatically loads on the master fader. Any subsequent cue lists stored will automatically load to the next available fader.

For Example:

> If cue list 3 is stored before cue list 1, cue list 3 will automatically load on the master fader pair. To change the assignment, making cue list 1 the priority cue list, you can manually load cue list 1 to the master fader pair as described in *“Assigning Playback Faders Manually”* .

Assigning Playback Faders Manually

To load a new cue into the pending file of a playback fader, when “Auto Playback” is disabled in **Setup** or when you just want to move a cue list to a different fader, you must first place that cue on the command line then press the associated [Load] button for the destination playback fader.

- **[Cue] [4] [Enter] [Load]** - changes the selected cue and loads it to the associated fader. This action assumes the same cue list as is currently active.
- **[Cue] [3] [/] [1] [Enter] [Load]** - changes the selected cue and loads it to the associated fader. This action assumes that the cue list is different than the active list.

Changing Fader Pages

The ten motorized faders on the front panel can be paged sequentially through each of the 30 pages available by pressing the **[Fader Page]** button or by pressing and holding the **[Fader Page]** button while rolling the [Fader/Rate] encoder. Alternatively you can jump to a specific out of sequence fader page by pressing and holding the **[Fader Page]** button and typing the page number. When you release the [Fader Page] button the faders will automatically page to the requested page.

When fader pages are changed, the motorized faders assume the position the faders were last left in on that page. This includes setting additive and inhibitive submasters to their required home position if needed, or setting the potentiometer to any place in between. If the LED on the bump button was left in flashing mode because a timed submaster was active, it resumes flashing when that submasters page is active.

Playback Fader Controls

Go and Stop/Back

Using [Go]

The [Go] button is used to execute the cue currently in the pending file of the associated fader. When **[Go]** is pressed, all parameters assume their required positions in the recorded times, unless they have been recorded with manual timing. When a cue has manual timing values stored with it, the fader will set itself to zero when [Go] is pressed, or you may set the fader to zero before you press [Go].

If a channel parameter is in a transition state when a new cue is activated on the same playback fader, that parameter will continue its initial instruction in its remaining time unless it receives a new move instruction in the incoming cue. When this happens, the luminaire will calculate its new target and the time to get there for a seamless course adjustment.

If a channel parameter is in a transition state when the subsequent cue is activated on the same fader, and that parameter has a tracked instruction in the new cue, it will continue its fade following the timing of the cue that provided the move instruction.

If a channel parameter is in a transition state when a new cue is activated on a different playback fader, and that parameter receives a move instruction, even if it is exactly the same instruction the channel parameter currently has, it will recalculate the destination and arrival time according to the information from the new cue.

Using [Stop/Back]

All fader activity can be instantly stopped mid-transition by pressing the **[Stop/Back]** button for the required fader. To resume the cue, press the **[Go]** button. To fade to the previous cue on that fader, using default “back” timing, press the **[Stop/Back]** button again from this state.

When [Stop/Back] is pressed, the cue should look just like it did before you hit the [Go] button, if the cue still has ownership of all of its channels. If, by chance, a different cue list has taken ownership of some of the channel parameters within that cue in the interim, those specific channel parameters will not respond to the [Stop/Back] command.

If a cue is recorded or rerecorded when a fader is stopped, the contents of that fader will be recorded as absolute data in the new record target. If a cue is updated with the fader in a stopped state, all references in the cue will be updated accordingly.

When a cue on the playback fader is complete, the first press of [Stop/Back] will go back to the previous cue. Subsequent presses of [Stop/Back] will step backwards sequentially through the cue list from that point. [Stop/Back] uses default back time as established in **Setup.** *See “Cue Settings” on page 75.* If you want to back into the previous cue, using the timing of that cue, press **[Go to Cue] [Last] [Time] [Enter]**.

Using Go To Cue

[Go To Cue] defaults to the cue list of the currently selected cue list. Go to cue instructions can be executed from any operating mode (Live or Blind) although the instruction does not change the mode back to Live if you are operating in Blind mode and vice-versa.

Following are examples of [Go To Cue]:

- **[Go To Cue] [5] [Enter]** - all parameters with values in cue 5 are faded to those values, even if they are tracked. Any manual values on stage that are not an override of an instruction from another cue list are restored. Captured parameters, values coming from an independent fader and values from other cue lists (if they are not included in cue 5) are left untouched. Any effects that are either initiated or running in cue 5 are executed but any [Follow/Hang] times provided in the execute list will be ignored.
- **[Go To Cue] [Next] [Enter]** - takes you to the next cue in the active list in default cue timing.
- **[Go To Cue] [Last] [Enter]** - takes you to the previous cue in the active list in default cue timing.

When a [Go To Cue] instruction is executed, any null states applied with [Make Null] are removed. To maintain the make null setting, you should use the capture feature for the required channels.

To use a [Go To Cue] instruction with another cue list:

- **[Go To Cue] [2] [/] [1] [Enter]** - where 2 is the cue list and 1 is the cue number.

[Go To Cue] uses default cue timing as established in the face panel defaults in **Setup**. You can use a [Go To Cue] instruction with different timing options as follows:

- **[Go To Cue] [2] [Time] [1] [Enter]** - this command would take you to cue 2 in 1 second.
- **[Go to Cue] [Next] [Time] [3] [Enter]** - this command would take you to the next cue in the list in three seconds.
- **[Go to Cue] [Last] [Time] [2] [Enter]** - this command would take you to the previous cue in the active list in two seconds.
- **[Go To Cue] [8] [Time] [Enter]** - this command would take you to cue 8 in the previously recorded cue timing.

Using Go To Cue 0

[Go To Cue 0] resets all intensity values not owned by another fader to default, including any non-captured manual values that are not an override to another active fader value. [Go To Cue] [0] [Enter] also resets the related cue list, assumed by the selected cue, to the top of the list, placing the first cue in the list in the pending file. To [Go To Cue] [0] on another cue list, use syntax **[Go To Cue] [**n**] [\] [0]** (supply a cue list number for “n”).

Note: *For your convenience, Eos has added an intensity parameter for LED fixtures, that by manufacturer default have only RGB parameters but no intensity parameter. With this added control, the LED fixture will respond to the [Go To Cue 0] command.*

Captured channels, independent values and values from other faders running a different cue list are not affected by a [Go To Cue] [0] command.

When [Go To Cue] [0] is executed, any intensity values owned by the associated cue will fade out, while all non-intensity parameters remain in the current state. Manual overrides to other cues are maintained, but all manual values that are not overrides to other cues will return to default state. [Go To Cue] [0] instruction does not impact the input from other programmers in a partitioned situation, unless the channel/parameters are shared.

Using Go To Cue Out

A [Go To Cue] [Out] [Enter] command resets all parameters to their default state (unless they are controlled by a submaster) and resets all cue lists active on faders to the top of their cue list.

Using Manual Control

When a cue has completed, it is released from the possibility of manual intensity override by the potentiometer, although it is still considered in the playback. You could provide a “hold” on a per cue basis to allow the cue’s intensity (or whatever the fader potentiometer was manually controlling) to remain under the control of the potentiometer even after it reaches full. The “hold” will remain until the next cue is executed.

There are three types of manual control for playbacks:

- Cues can be stored with manual timing. With manual timing, the fader can be used for no other type of manual override.
- Cues can be captured for manual intensity control only.
- Cues can be manually overridden using the [Man Override] & [Load] feature which captures all parameter transitions.

In each of these cases, follow time counts down from [Go]. The hang time will be kicked off when the potentiometer reaches full or when the last parameter reaches its end state from timing, whichever comes last.

Manual Override

Manual override allows the potentiometer of the associated fader to control all parameters in a transition state on that fader. When **[Man Override]** & **[Load]** are pressed, all activity on that fader is frozen and the motorized potentiometers move to match the current fade progression.

The potentiometer is used to manually complete the cue transition for all parameters. If the fader is operating in a paired mode, the left fader controls the intensity upfade and all non-intensity parameters, while the right fader controls all intensity downfade actions. Manual control override automatically releases when the cue is complete.

A group of faders can be collected for manual override by pressing **[Man Override]** & **[Load]** (continue adding faders by pressing the associated **[Load]** buttons).

Manual Intensity Override

An intensity transition may be taken over manually and the transition captured by dropping the fader down until it reaches the percentage of cue completion (i.e. if the cue is 50% complete, when the fader is manually dropped to 50%, the intensity transitions will be captured and the intensity portion of the cue completed by moving the fader manually between 50% and full or anywhere in between). If the fader is dropped below 50%, the fader will fade all intensity values proportionally from their captured values to their previous values.

If a fade is captured and the faders are not reset to 100% prior to the next press of the [Go] button, the fader will automatically reset to 100% upon cue execution. Alternatively, you can set the fader to 0% before executing the next cue to capture the cue for manual intensity control when the [Go] button is pressed. Intensity control is released from the fader when the cue is considered complete (when the fader is brought back to 100%).

This is true unless the cue has a “hold” attribute. You could provide a “hold” on a per cue basis to allow the cue’s intensity (or whatever the fader potentiometer was manually controlling) to remain under the control of the potentiometer even after it reaches full. The “hold” will remain until the next cue is executed. When held, the potentiometers may be used to drop any values with manual timing, even after the cue has reached full. The hold attribute is released when [Go] is pressed to activate the next cue in the list.

If a pending cue has any manual control properties, you may either preset the fader to zero or the console will automatically set the fader to zero when the [Go] button is pressed.

Manual Timing Control

Manual timing can be set for any parameter or group of parameters. The potentiometer can be used to control the progress of a transition.

For Example:

> Assume the active cue contains an instruction to set channel 1 color at 5. The pending cue contains an instruction to set the color parameter to color 12 and the color parameter is provided a manual time. You must press [Go] to activate the cue.
>
> Channel 1 color does nothing. You can preset the fader to zero manually or the console will automatically place the fader at zero when [Go] is pressed. Moving the fader up manually, proportionally moves the color from color 5 to color 12. Any parameters in the cue that had timing would start their execution at the press of [Go] and be unaffected by the manual potentiometer movement.

Using Assert and Load

Use [Assert] & [Load] for the associated fader to re-run the active cue in that fader, following the same rules as [Go To Cue]. Assert can be used to regain control of all cue contents, apply a newly set independent state to the associated fader, or make any changes in blind to an active cue on stage.

When [Assert] & [Load] are used together, the entire contents of the cue are replayed. You can assert just certain elements of a cue by using the command line.

Following are some examples of asserting elements of a cue from the command line:

- **[**channel list**] [Cue] [5] [Assert] [Enter]** - asserts the selected channels with values from cue 5. Note that cue 5 must be active for this command to execute.
- **[**channel list**] [Color] [Cue] [1] [Assert] [Enter]** - asserts the color values from cue 1 for the selected channels.

Using Timing Disable

The [Time Disable] button, used with [Load], causes timing data to be ignored for any cues that are activated on the associated playback fader while it is in timing disable mode only. When a playback fader is in timing disable mode, you will notice “TD” in the associated fader display.

To release the playback fader from time disable mode, press **[Time Disable]** & **[Load]** again.

Using Freeze

[Freeze] can be used to halt all playback activity on any active faders. To activate a freeze for only a specific fader, press **[Freeze]** & **[Load]**.

There are two ways to remove the freeze command:

- press **[Freeze]** & **[Load]** again for the specific faders to unfreeze the activity.
- press **[Assert]** & **[Load]** for the specific faders to resume the activity.

You may freeze and unfreeze cues and effects from the command line.

- **[Effect] [2] [Freeze] [Enter]** - to freeze the specific effect 2. Freezing a specific effect is different from stopping an effect. Freeze will stop the effect exactly where it is.
- **[Effect] [6] [thru] [9] [Freeze] [Enter]** - to freeze a specified range of effects.

When an effect is in freeze mode, you can send the same exact command to unfreeze:

- **[Effect] [2] [Freeze] [Enter]**
- **[Effect] [6] [thru] [9] [Freeze] [Enter]**

Using Stop Effect

The [Stop Effect] button can be used to stop all effects from operating on any or all faders, or it may be used with the control keypad to stop a specific effect.

- To stop all effects on a fader, press **[Stop Effect]** & **[Load]** of the associated fader.
- To stop a specific effect regardless of the fader it is operating on, press **[Effect] [2] [Stop Effect] [Enter]**.

When an effect is stopped, all impact of the effect is removed and the stage output is as though the effect has never been activated.

Release a Fader

To release a fader, clearing all cues, press **[Release]** & **[Load]** for the associated fader. When a fader is unloaded, control is returned to the master fader. If there are no values for unloaded channels from the master fader, channels are set to default.

Channels return to the master fader using the category level timing of the active cue on that fader. If the master fader is released, the fader is cleared and any intensity values owned by that fader are set to zero, any non-intensity parameters remain in their current state.

Turning a Fader Off

To turn a fader off, press **[Off]** & **[Load]** of the associated fader. When a fader is turned off, any intensities owned by that fader are driven to zero and any repetitive action (from effects for example) are stopped. All non-intensity parameters remain in their current state. The fader remains with the current cue loaded, just shown as contributing no current intensity values to the stage. All channels that were previously owned by that fader are now available for control by other sources.

While a fader is in an [Off] state, you can change the status of the fader, having no impact on the stage state. For example, you could load a new cue, press the [Go] or [Stop/Back] buttons to change the loaded cue.

Press **[Off] & [Load]** again to turn the associated fader back on. The active cue is replayed, following the rules for assert.

Using Rate Override

To collect a playback fader for rate control, press **[Rate]** & **[Load]** for the required fader. A subset of faders can be collected by pressing and holding **[Rate]** while pressing the **[Load]** button for the associated faders you would like to add.

Use the rate encoder to adjust the rate dynamically. The default is 100%, which is real time (example: 5 seconds = 5 seconds). Decrease the percentage to slow the cue down. Setting the rate to 0% will stop the cue. Increase the percentage to speed up the event.

Following are some examples of rate:

- A 50% decrease rate applied to 5 second event will play the cue in 10 seconds.
- A 200% increase rate applied to a 5 second event will play the cue in 2.5 seconds.

The top rate adjustment is 999%. All timing values associated with a cue (including any follow or hang times) are affected by the rate modification proportionally.

The rate resets to 100% when the cue the rate override has been used with completes, unless it has been linked with a follow or hang time. If cues are linked for automatic activation by a follow or hang time, the proportional rate value will continue until a cue is activated manually.

If a cue is complete, any rate adjustment applied affects the cue in the pending file. When that cue is subsequently activated, the adjusted rate is used to direct timing.

Chapter 16

Advanced Manual Control

This chapter describes some more advanced and powerful features available with manual control of your Eos. These features can save you valuable programming time.

This chapter contains the following sections:

Using [Copy To]

[Copy To] allows you to copy selected channel data to another channel within the same display or the same channel but in a different record target. [Copy To] works much like [Recall From], but in the opposite direction, [Copy To] forces data *to* a channel from the selected channel, whereas [Recall From] pulls it *from* a channel to the selected channel.

You may copy all parameter data for selected channels, or by using the IFCB category buttons or direct parameter buttons, you may copy subsets of channel data. Entire cues, cue ranges and cue lists can be copied to other locations.

When copying information at a channel level, discrete timing is not included unless specified. When copying entire cue(s), all timing data is copied. When referenced data is copied, the absolute values for the data is actually what is copied, not the reference itself.

Below are some examples of copy commands from record targets. This command is very versatile and the following list is far from exhaustive of the possibilities of use:

- **[n] [Copy To] [Cue] [m] [Enter]** - copies all information for channel n to cue m. Any discrete timing data is not copied.
- **[n] [+] [Time] [Copy To] [Cue] [m] [Enter] -** As above, but timing data is included.
- **[n] [Time] [Copy To] [Cue] [m] [Enter]** - Copies just the timing data for all parameters of channel n to cue m.
- **[n] [-] [Focus] [Copy To] [Cue] [m] [Enter]** - Copies all parameter data for channel n, other than focus, to cue m.
- **[Group] [n] [Copy To] [Preset] [x] [Enter]** - copies current information for group n to preset x.
- **[n] [Copy to] [x] [Cue] [y] [Enter]** - copies the data from channel n to channel x in cue y.
- **[n] [Copy to] [a] [thru] [d] [Enter]** - copies the data from channel n to channels a thru d.
- **[n] [Copy to] [a] [Cue] [2] [/] [b] [Cue Only/Track] [Enter]** - copies the data from channel n to channel a in cue 2/1 and takes exception to the track/cue only settings in regard to subsequent cues in cue list 2.
- **[Cue] [2] [/] [Copy to] [Cue] [7] [/] [Enter]** - copies all of the contents of cue list 2 to cue list 7.
- **[Cue] [1] [/] [1] [thru] [1] [0] [Copy To] [Cue] [5] [/] [5] <thru> [Enter]** - copies cues 1 thru 10 from cue list 1 to cue list 5, starting with cue 5.

Using [Recall From]

Similar in usage to [Copy To], [Recall From] pulls data from a channel and applies it to the same channel in another record target. [Recall From] is essentially a ‘copy from’ command.

You may recall all parameter data for selected channels, or by using the IFCB category buttons or direct parameter buttons, you may recall subsets of channel data.

When recalling information, discrete timing is not included unless specified.

Below are some examples of recall commands to record targets. This command is very versatile and the following list is far from exhaustive of the possibilities of use:

- **[n] [Recall From] <Cue> [m] [Enter]** - recalls all recorded data from cue m for channel n.
- **[n] [-] [Focus] [Recall From] <Cue> [m] [Enter]** - recalls all data for channel n from cue m, except focus (pan/tilt - XYZ) data.
- **[n] [Focus] [+] [Time] [Recall From] <Cue> [b] [Enter]** - recalls only focus data for channel n (including timing) from cue b.
- **[Group] [n] [Color] [Focus] [Recall From] [Preset] [x] [Enter]** - recalls the color and focus information from preset x for the channels in group n. Could also be used with a channel selection set instead of a group.
- **[Group] [n] [Color] [Recall From] <Cue> [x] [Make Absolute] [Enter]** - recalls color data for group n from cue x and breaks any references to record targets.
- **[n] [Recall From] [Sub] [x] [Enter]** - recalls all recorded intensity data from sub x for channel list n.

Using [Query]

This feature will be available in a future release.

Using [Capture]

Capture is a manual independent state. Any captured channel parameter data will be unaffected by playback, but will respond to manual control operations.

When channels are selected, [Capture] [Enter] captures all parameters of the selected channels. They will remain unavailable for playback or submaster override until they are released from the captured state. Capture is a toggle state, so to release parameters from a captured state, press **[Capture] [Enter]** again.

For Example:

- ***[1] [Thru] [9] [At] [Full] [Capture] [Enter]***

The selected channels are now captured and are unavailable for playback or submaster instructions until they are released from capture.

You may also capture specific parameters of a channel using the parameter buttons in the CIA.

For Example:

- ***[7] [Focus] [Capture] [Enter]***

If a group of channels are selected, and some of those channels are captured and some are not, the first press of [Capture] *releases* all channels from the captured state and the second press captures all manual settings for the selected channels.

Released channels remain at their current values until restored to previous values or a new instruction is provided. You may restore channels to their background or default state using the [Sneak] [Enter] feature (see Sneak). Or you may leave them in a manual state until a new instruction is received.

It is also possible to “latch” capture on. This will automatically capture all manual changes as they are made. Pressing **[Capture] [Capture] [Enter]** automatically captures all manual changes. When latched, the capture button will illuminate. To release, press **[Capture] [Capture] [Enter]** again.

Chapter 17

Multipart Cues

A multipart cue is a cue that has been divided into up to ten parts. Each part can have its own channels, parameters, levels and timing information. A channel or parameter can only be provided an instruction once in a multipart cue. For example, it isn't possible to adjust color for channel 1 in Cue 1 Part 1, then provide a different instruction for channel 1 color in Cue 1 Part 8.

Multipart cues can be stored in Live or Blind using the similar conventions as you would record a standard cue. Default timing is drawn from the cue level timing defaults established in **Setup**, although you may assign discrete timing to each part when recording your multipart cue.

This chapter contains the following sections:

Record a Multipart Cue in Live

Storing a multipart cue in Live is accomplished in similar fashion to how you would store a standard cue. The exception is that you organize the storing process by storing only the desired channels and parameters to specific cue parts.

When you are recording a cue, pressing **[Record] <Cue> [5] [Part] [Enter]** indicates to Eos that cue 5 is to be a multipart cue. All channels and parameters in the cue are automatically placed in part 10 of the cue. Part 10 is a placeholder for all channels and parameters that have not been assigned to another part of the selected cue. When all channels and parameters are assigned to a designated part cue, P10 is automatically deleted from the part list.

When storing a part cue in Live, you should use [Record Only] to specify storage of only manual data to the part cue.

For Example:

In Live, select channels 1 through 10 and set them at 30% intensity. Store these values to part 1 of cue 2.

- ***[1] [Thru] [1] [0] [At] [3] <0> [Enter]***
- ***[Record] <Cue> [2] [Part] [1] [Enter]***

In the Playback Status Display, you will notice that cue 2 is created new and includes both P1 and P10. Now set channels 11 through 15 at 50% and store part 2

- ***[1] [1] [Thru] [1] [5] [At] [5] <0> [Enter]***
- ***[Record Only] <Cue> <2> [Part] [2] [Enter]***

Set channels 16 through 20 at 75% and store part 3.

- ***[1] [6] [Thru] [2] [0] [At] [7] [5] [Enter]***
- ***[Record Only] <Cue> <2> [Part] [Next] [Enter]***

In addition, you can use a selective store to withhold information from the target cue part or specify particular channel/parameters to be included in the cue part being stored.

For Example:

Store cue 5 with the intensity only for channels 1 through 5 in part 1.

- ***[1] [Thru] [5] [Intensity] [Record] <Cue> [5] [Part] [1] [Enter]***

The use of filters can further restrict stored data from the part cue. *See "Using Filters" on page 171.*

Setting Multipart Cue Attributes

Cue attributes, such as [Time], [Delay], [Block], [Assert], [Label], [Hold] and [Rate], can be assigned in part cues. They are stored and function exactly as they do for standard cues.

For Example:

Using the similar example as above, select channels 1 through 10 and set them at 30% intensity. Store these values to part 1 of cue 3 at default cue timing.

- ***[1] [Thru] [1] [0] [At] [3] <0> [Enter]***
- ***[Record] <Cue> [3] [Part] [1] [Enter]***

In the Playback Status Display, you will notice that cue 3 is created new and includes both part cues P1 and P10. Now set channels 11 through 15 at 50% and store part 2 with a 15 second delay.

- ***[1] [1] [Thru] [1] [5] [At] [5] <0> [Enter]***
- ***[Record Only] <Cue> <3> [Part] [2] [Delay] [1] [5] [Enter]***

Now set channels 16 through 20 at 75% and store part 3 with a 40 second delay.

- ***[1] [6] [Thru] [2] [0] [At] [7] [5] [Enter]***
- ***[Record Only] <Cue> <3> [Part] [Next] [Delay] [4] [0] [Enter]***

Another example may include:

- **[Record] <Cue> [3] [Part] [5] [Time] [7] [Enter]** - this would store part 5 with an intensity up time of 7 seconds.

Cue level attributes such as [Follow/Hang], {Link} <Cue>, {Link} <Macro>, {Link} <Snapshot> or {All Fade/Move Fade} are applied at the cue level not at the part cue level. *See "Assigning Cue Attributes" on page 144.*

Using Update in Live

Updating a multipart cue is generally the same process as updating a standard cue, except you will provide a specific part cue number in the update command.

Various referenced data, such as palettes or presets, can be assigned to build a multipart cue. If you have made changes to referenced data within a multipart cue, creating manual data, pressing **[Update] [Enter]** updates both the multipart cue and any referenced data with the new levels.

You can update a part of a multipart cue with only selected parameters as well.

For Example:

Assume you have written cue 1, which is a multipart cue and it is active. Part 2 includes channels 1 through 5 which references intensity palette 2 which is set at 25%. Select channels 1 through 5 and change the intensity value to 21%. The data in Live display will indicate the new levels in red, and an “R” displays to indicate the reference has been broken.

To update cue 1 part 2, including the new intensity levels, breaking the reference to the intensity palette:

- ***[1] [Thru] [5] {Make Absolute} [Enter]***
- ***[Update] <Cue> <1> [Part] [2] [Enter]***

To update cue 1 part 2 and the referenced palette with the new levels:

- ***[1] [Thru] [5] [Intensity] [Update] <Cue> <1> [Part] [2] [Enter]***

For Example:

When multipart cue 2 is active, select channels 1 through 5 and set new levels for the color scrollers. Update only part 4 of the multipart cue 2 with the new scroller levels.

- ***[1] [Thru] [5] [Scroller] [Update] [Part] [4] [Enter]***

Storing a Multipart Cue in Blind

Note: *Edits in blind take effect immediately, they do not require a [Record] or [Update] command. Therefore, editing in blind is a fast and effective way to make specific changes to show data.*

To store a new multipart cue in Blind, enter Blind mode. The selected cue in Live will be the selected cue in Blind. You can create and change multipart cues in the blind display using either the summary, table, or spreadsheet views. Any numerical entry defaults to channel on the command line. Create a new multipart cue 4 by pressing:

- **[Cue] [4] [Enter]**
- **[Part] [Enter]**

Cue 4, part 10 is now the selected cue. Any values that have tracked from the previous cue will be displayed in magenta. You can create up to nine new part cues.

- **<Cue> <4> [Part] [1] [Enter]**
- **<Cue> <4> [Part] [2] [Enter]**

Set the values required for each part, including cue attributes as desired, and continue setting values as required until all values from part 10 are pulled into other part cues. *See "Assigning Cue Attributes" on page 144.*

For Example:

Assume you have created a new multipart cue 5, and channels 1 through 20 are tracked in from cue 4 at 25% intensity. All of the channels are in placeholder part 10 awaiting changes and to be distributed among two new cue parts you will create. Each of the two parts will have a delay so that the cue will fire in stages. In Blind Spreadsheet, you will notice that cue 5 P10 is displayed and includes all values for that cue.

Select channels 1 through 10, change the intensity value to 35% and store them to part 1 of cue 5 with a delay of 5 seconds.

- ***[1] [Thru] [1] [0] [At] [3] [5] [Delay] [5] <Cue> <5> [Part] [1] [Enter]***

Select channels 11 through 20, change the intensity value to 40% and store them to part 2 of cue 5 with a delay of 10 seconds.

- ***[1] [1] [Thru] [2] [0] [At] [4] [0] [Delay] [1] [0] <Cue> <5> [Part] [2] [Enter]***

When all values are distributed, part 10 will be automatically deleted.

Changing a Cue to a Multipart Cue

Change an existing cue to a multipart cue, select the cue and press **[Part] [Enter]**. You will notice that the cue changes to reflect part 10. From here you can create more part cues then place the cue data into the individual parts.

For Example:

Cue 4 contains channels 1 through 20 at 75% intensity. Change cue 4 to a multipart cue.

- ***[Cue] [4] [Part] [Enter]***

All channels are placed into part 10, as a default holding place. Move channels 1 through 5 to part 1, channels 6 through 10 to part 2, channels 11 through 20 to part 3.

- ***[1] [Thru] [5] [Part] [1] [Enter]***
- ***[6] [Thru] [1] [0] [Part] [2] [Enter]***
- ***[1] [1] [Thru] [2] [0] [Part] [3] [Enter]***

Changing a Multipart Cue to a Standard Cue

To change a multipart cue to a standard cue, delete all of the parts of the cue.

For Example:

Cue 4 is a 3 part cue that include channels 1 through 20. To change cue for back to a standard single cue:

- ***[Delete] [Part] [1] [Enter]***
- ***[Delete] [Part] [2] [Enter]***
- ***[Delete] [Part] [3] [Enter]***

You will notice after each part is deleted, the contents, move actions and levels of that part are moved down the list. Example, part 1's contents moved into part 2's content when part 1 was deleted, etc. until all contents are moved back into part 10. When you delete part 10, the contents, move actions and levels move back into cue 4 and assume default cue timing.

Deleting a Part from a Multipart Cue

- ***[Delete] <Cue> [1] [Part] [1] [Enter] [Enter]***
- ***[Delete] <Cue> [6] [Part] [1] [Cue Only/Track] [Enter] [Enter]***
- ***[Delete] [Part] [1] [+] [2] [Enter] [Enter]***
- ***[Delete] [Part] [1] [thru] [3] [Enter] [Enter]***

Chapter 18
Creating and Using Effects

Effects are a method within Eos to provide dynamic, repetitive action to channels. This chapter explains the different types of effects, and how to use them.

This chapter contains the following sections:

About Effects

Effects are manual control functions that can be applied to a channel parameter and then included in cues. Cues can contain both standard transitions for some channels/parameters and effects for the same or other channels/parameters.

A single channel parameter cannot have more than one effect applied at any time. However, a channel may have one effect running on one parameter and another effect running on a different parameter.

Effects have user defined properties and attributes which are applied to the effects whenever they are used in cues. Effects also have cue level overrides, which allow you to use an effect in multiple locations, and modify its size, shape and/or rate in individual cues.

Within Eos, effects are broken up into three fundamental behavior types; Step, Absolute, and Relative effects.

The Effect List

At any time you may double press the **[Effect]** key to view the effect list. Any recorded effects will be displayed here. The effect list is a blind view and any changes made in this view are automatically stored; a record command is not required.

Notice that there are effects existing in this list prior to any being recorded. Effects 901-916 are preprogrammed relative effects that are automatically available to you (see *Relative Effects, page 213*).

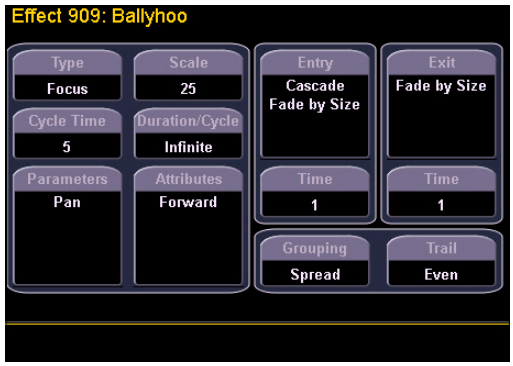
To navigate this list use the navigation keys as described in *Display Control and Navigation, page 26*.

Effect	Label	Type	Entry	Exit	Dur/Cyc	Scale
1		Absolute	Cascade	Immediate	Infinite	
901		StepBased	Cascade	Immediate	Infinite	
902	Square	Focus	Cascade	Immediate	Infinite	25
903	Figure 8	Focus	Cascade	Immediate	Infinite	25
904	Can Can	Linear	Cascade	Immediate	Infinite	25
905	Triangle	Focus	Cascade	Immediate	Infinite	25
906	Spiral	Focus	Cascade	Immediate	Infinite	25
907	Reverse Sqr	Focus	Cascade	Immediate	Infinite	25
908	Reverse Circle	Focus	Cascade	Immediate	Infinite	25
909	Ballyhoo	Focus	Cascade	Immediate	Infinite	25
910	Color Smooth	Linear	Cascade	Immediate	Infinite	25
911	Color Fade Linear	Linear	Cascade	Immediate	Infinite	25
912	Color Step	Linear	Cascade	Immediate	Infinite	25
913	Bump Color	Linear	Cascade	Immediate	Infinite	25
914	Hue-Sat Fade	Color	Cascade	Immediate	Infinite	25
915	Ramp	Linear	Cascade	Immediate	Infinite	25
916	Inverted Ramp	Linear	Cascade	Immediate	Infinite	25

Effects Editor

When viewing the effect list, the selected effect is displayed in the CIA. The effect properties/ attributes are shown in categorized buttons in the CIA. To change any property/attribute, press the corresponding button and enter data as required.

The properties display of the effects editor is shown below and definitions of properties follow:



Type

Defines the effect type: step-based, absolute, or relative (linear, focus, or color). To change the type, press **{Type}** and then press the desired effect type in the tiles to the left.

- ***<Effect> [1] {Type} {Step based} [Enter]***

Scale

Applies only to relative effects. This modifies the amount the pattern is offset from the current parameter values. The scale is expressed as a percentage increase or decrease (25 = 25% of the programmed value).

- ***{Scale} [3] [0] [Enter]*** *or you may adjust this using the "Scale" encoder.*

Cycle Time

Provides a cumulative time to complete one full iteration of an effect. In relative effects, the cycle time determines the length of time required for one channel to complete the cycle.

In absolute and step-based effects, the cycle time determines the time required to complete one full iteration of the effect. In these effect types, you cannot edit this value.

To change the cycle time, press **{Cycle Time}** and then enter the desired time (in minutes and seconds) from the keypad, followed by **[Enter]**. This can also be adjusted from the encoder.

Duration/Cycle

This determines the length of time an effect will run. To specify, press {Duration/Cycle} and then choose the desired method from the buttons that appear to the left. The options are:

- {Infinite} - the effect will run until the channel is provided an new instruction or the effect is stopped.
- {Duration} - the effect will run for a set amount of time given in minutes and seconds. Enter the time from the keypad.
- {Num cycles} - the effect will run for a set number of iterations. Enter the number using the keypad.
    - ***{Duration/Cycles} {Num Cycles} [1] [0] [Enter]***

Parameters

Allows you to select which parameters will be involved in the selected effect.

To add/remove parameters to the effect, press **{Parameters}** and then select the desired parameters from the tiles that appear to the left.

- ***{Parameters} {Iris} [Enter]***

Attributes

Determines the behavior of the effect. Attributes include behaviors such as forward, reverse, bounce, positive, negative, and random.

- **Forward** - the effect will run in the programmed direction (the arrow on the pattern editor indicates “forward” for pattern effects, and step/absolute effects will follow numerical order).
- **Reverse** - effect will run in the opposite direction of forward or reverse numerical order.
- **Bounce** - effect will run first in forward, then in reverse. Subsequent passes alternate between forward and reverse.
- **Positive** - effect will run the steps (on state and off state) as programmed
- **Negative** - inverts the on state and off state for the effect
- **Random** - effect plays back either groups or rate randomly; step/absolute effects will play steps in random order.

Play with these behaviors to see how the alter your effect.

Entry

Establishes at what time and how channels will enter the effect. To change the entry method press **{Entry}** and then choose a method from the buttons to the left. Your options are:

- {Cascade} - channels enter the effect according to the trail and cycle time values (if applicable).
- {Immediate} - all channels enter the effect instantaneously.
- {Fade by Size/Fade by Size and Rate} - the pattern is established as determined by the entry time.
    - ***{Entry} {Immediate}***

Exit

Establishes at what time and how channels will exit the effect. To change the exit method press **{Exit}** and then choose a method from the buttons to the left. Your options are:

- {Cascade} - Channels leave the effect when they have completed their last pass (number of cycles) or when they do not have enough time to make a final complete pass (duration).
- {Immediate} - all channels exit the effect instantaneously.
- {Fade by Size/Fade by Size and Rate} - the pattern is exited as determined by the exit time.
    - ***{Exit} {Immediate}***

Time (Entry or Exit)

These fields establish the length of time for channels to enter/exit the effect. It can be entered in minutes and seconds from the keypad.

Grouping

Available only in relative or absolute effects. This determines how channels currently running the effect will be grouped throughout the pattern. To change this press **{Grouping}** and then enter the number of lights you want grouped together. Your options are 1-29 or {Spread} which will distribute each channel in the effect evenly and treat it as a separate group.

- ***{Grouping} [2]*** *- every other channel (in a range of channels) will be grouped when running the effect.*

Trail

Available only in relative or absolute effects. Determines how groups are to proceed through a pattern. This value is represented as a percentage from 0-100%, even, or solo. To change this press **{Trail}** and then select the value from the buttons to the left. Your options are

- {10%}-{90%} - When the first group is 10% through the effect, the second group will start the effect, and so on through the remaining groups. Applies similarly to all percentages.
- {Even} - The groups will be distributed evenly throughout the pattern. This is calculated by dividing the cycle time of the effect by the number of groups.
- {Solo} - The first group will execute the entire pattern. When done, the second group will execute the entire pattern, and so on.

Using encoders with the effect editor

When any effect is specified in the command line, the encoder touchscreen automatically repaints to display the following properties:

- Cycle Time - Default is 5 seconds for relative effects
- Scale
- Shape (Vertical or Horizontal as defined by the {Mode} button)
- Axis

At any time, you may use the encoders to adjust these properties within the effects editor for the specified effect.

Effect Status Display

To view the effects currently running, you may press **[Displays]>{Effect Status}** to reveal the effect status display in the CIA.

This display shows you any currently running effects and gives you the ability to edit the effect while running. When an effect is selected, the encoder screen changes to allow you to manipulate the effect according to rate, size, horizontal form, vertical form, and axis.

For Example:

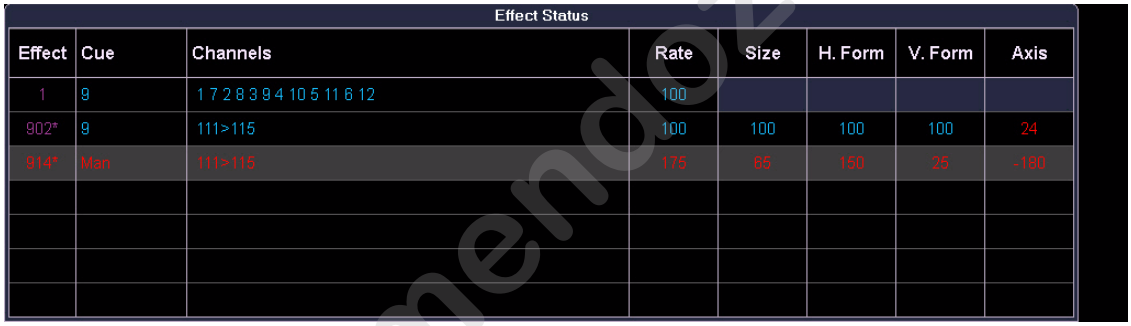
To edit an effect, select the effect using the command line.

- ***[Effect] [9] [0] [2] [Enter]***

The encoder screen repaints so that the encoders now control the five attributes in the columns of the effect status display:

- Rate - modifies cycle time. Default is 100% and can be modified from 0%-2000%.
- Size - modifies scale. Default is 100% and can be modified from 0%-2000%.
- Shape (Vertical or Horizontal as defined by the {Mode} button) - Default is 100% and can be modified from 0%-2000%.
- Axis - Default is 0° and can be modified by +/- 180°.

Use the encoders or softkeys to adjust the effects while watching the effect on stage.



The effect itself can be accessed from this display for editing by pressing {Edit} - any changes made directly in the live effect editor are made to the effect itself and must be stored. Cue level overrides also must be stored or updated to the required cue.

Step effects

In step effects, the effect is broken up (obviously) into steps. Channel parameters are provided an “on-state” when the step is active and an “off-state” when the step is not active. This makes step effects a fast way to build simple chases.

When building step effects, channels must be defined for each step. This is different from absolute and relative effects.

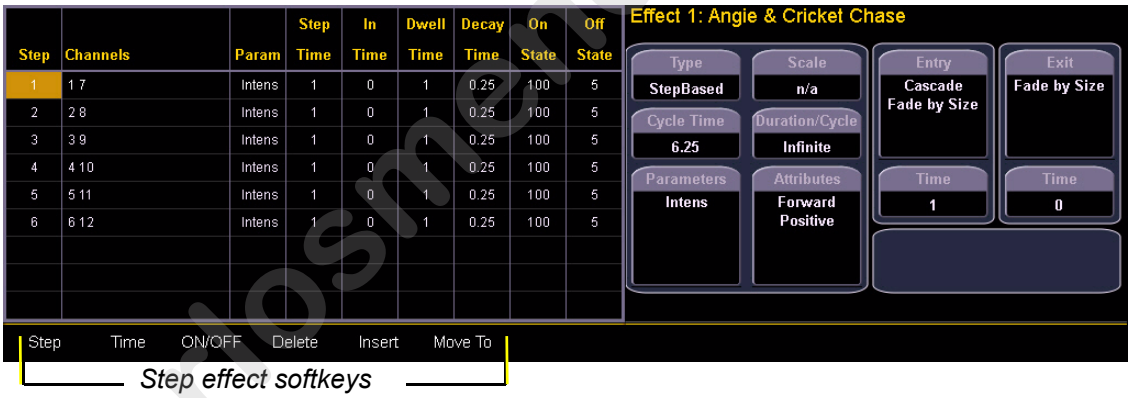
Once complete, you may play back the effect on all channels embedded in it by pressing **[Group] [Effect] [x] [Enter]**. Or you may specify only certain channels to play back from the embedded channel list.

A step effect is displayed in a chart with the following columns:

- **Step** - indicates the step numbers.
- **Channels** - displays the channel(s) in the step.
- **Param** - displays the parameter (if other than intensity) controlled by the step.
- **Step Time** - time from triggering the associated step to triggering the next step.
- **In Time** - the length of time for the channels to fade to the on state.
- **Dwell Time** - the length of time the step remains in an “on-state”.
- **Decay Time** - the length of time it takes for the channels to fade to the “off-state”.
- **On State** - the parameter level (in %), or referenced data to be used for the on-state.
- **Off State** - the parameter level (in %) or referenced data to be used for the steps off-state. If you want the channel(s) to fade to their background state, press [At] [Enter].

All times are entered from the keypad in minutes and seconds.

Here is an example of a step effect when viewed in the CIA:



Step effect softkeys

Program a step effect

Below is the process used to program the effect illustrated in the image above.

For Example:

To open the effects list press:

- ***[Effect] [Effect]***

Establish the number of the effect by pressing:

- ***[Effect] [1] [Enter]***

The CIA will repaint with unpopulated fields for the new effect. Assign the effect as step by pressing:

- ***<Type> {Step-based}***

The effect will appear in the list and the CIA will repaint with the default entries for the effect and a step chart for the effect. Define the number of steps by pressing:

- ***{Step} [1] [Thru] [6]***

The steps will populate the chart and will remain selected. To make identical changes to all steps at once, you may now use the page arrow keys to navigate the chart. To make changes to only a single step, specify only one step in the command line.

After paging to the “Channels” column, specify the channels for the effect.

- ***[1] [thru] [1] [2] [Enter]***

Channels 1-12 will be broken up and distributed through the steps in the chart. Choose the parameter you would like in the effect by pressing:

- ***{Parameters} <Intensity>*** *(Intensity is assumed unless another parameter is specified)*

All steps are now intensity based. Use the page arrows to access the “Step time” column. Enter the desired step time:

- ***[1]***

Page arrow to the Dwell Time (In time is left at 0) column and enter a dwell time:

- ***[1]***

Page arrow to the Decay Time column and enter a decay time:

- ***[.] [2] [5]***

Page arrow to the On State column and enter the on state percentage:

- ***[1] [0] [0]***

Page arrow to the Off State column and enter the off state percentage:

- ***[5]***

Adjust any of the effect details on the right side of the CIA by pressing the appropriate detail button and making changes (see *Effects Editor, page 205*).

Note: *The cycle time will be affected by the times specified in the effect chart. Eos automatically calculates the cycle time and adjusts the displayed time accordingly.*

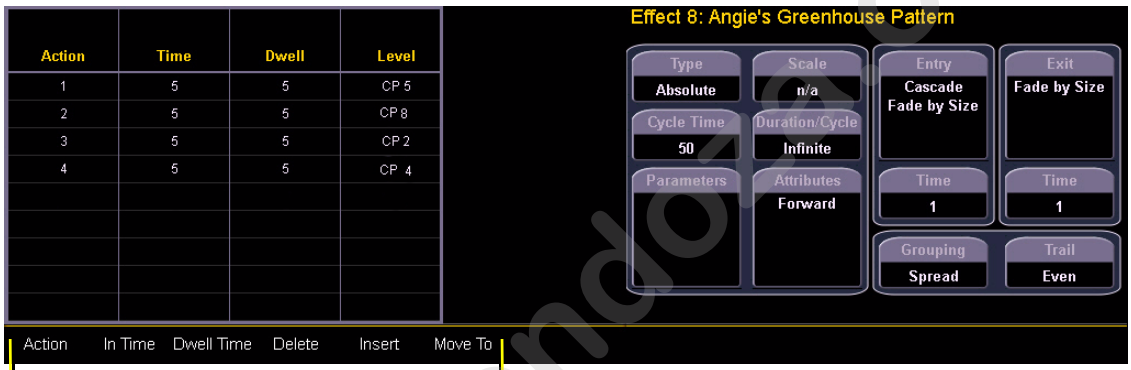
Absolute effects

Absolute effects are a listing of sequential actions that channels are to take. They differ from step effects in that there is no on/off state, rather they define progressive behavior from one action, to the next, to the next, and so on. The best example of this is that palettes and presets can be used as actions in absolute effects.

Absolute effects also do not contain an embedded channel list. Therefore, the effect must be applied to channels in order to be played back.

Absolute effects are displayed in a chart with the following columns:

- Action - displays the action number
- Time - the time for the action to fade in
- Dwell - the duration of the action before moving to the next action
- Level - indicates either the level of the parameter specified in the effect, or the referenced value for the channel(s) to perform (Palette or preset as defined in the command line).



Absolute effect softkeys

In the above image, actions 1-4 indicate referenced values in the “Level” column (palettes or presets).

Program an absolute effect

Below is the process used to program the effect illustrated in the image above.

For Example:

To open the effects list press:

- ***[Effect] [Effect]***

Establish the number of the effect by pressing:

- ***[Effect] [8] [Enter]***

The CIA will repaint with unpopulated fields for the new effect. Assign the effect as absolute by pressing:

- ***<Type> {Absolute}***

The effect will appear in the list and the CIA will repaint with the default entries for the effect and an action chart for the effect. Define the number of actions by pressing:

- ***{Action} [1] [Thru] [5]***

The steps will populate the chart and will remain selected. To make identical changes to all steps at once, you may now use the page arrow keys to navigate the chart. To make changes to only a single step, specify only one step in the command line.

After paging to the “Time” column, specify the fade in time for the actions.

- ***[5] [Enter]***

Page arrow to the Dwell column and enter a dwell time:

- ***[5] [Enter]***

Specify the first action in the command line:

- ***{Action} [1] [Enter]***

Page arrow to Level column and enter the desired referenced target:

- ***[Color Palette] [5]***

Page arrow down to the next action in the Level column and enter the referenced target:

- ***{Color Palette 8}***

Page arrow down to the next action in the Level column and enter the referenced target:

- ***[Color Palette] [2]***

Page arrow down to the next action in the Level column and enter the referenced target:

- ***{Color Palette 4}***

Adjust any of the effect details on the right side of the CIA by pressing the appropriate detail button and making changes (see *Effects Editor, page 205*).

Relative Effects

A relative effect is an offset from the current state of a channel parameter. There are three different types of relative effects: focus, color, and linear. Each of the these effect types have a graphic editor designed specifically for the parameters involved.

Relative effects have the same properties and attributes as step-based and absolute effects.

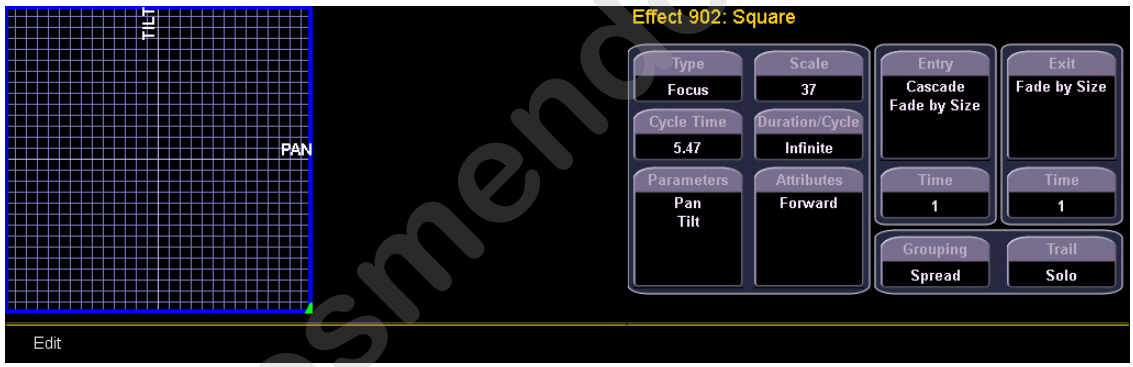
Eos is preprogrammed with 16 relative effects which represent some of the most commonly used patterns and parameters. These are automatically visible in the effects list and can be manipulated using the encoders to conform to your needs. You may also custom build relative effects.

Note: *As you learn to use the effects editor with relative effects, it is recommended that you experiment with the preprogrammed effects until you understand the fundamentals and how effects can be altered.*

Focus effects

Focus effects are designed to impact a channel's pan and tilt parameters. These are represented in the horizontal and vertical axes of the graph in the effects editor. They can be created from live or blind and the properties can be set in the effects editor as any other effect (see *Effects Editor, page 205*).

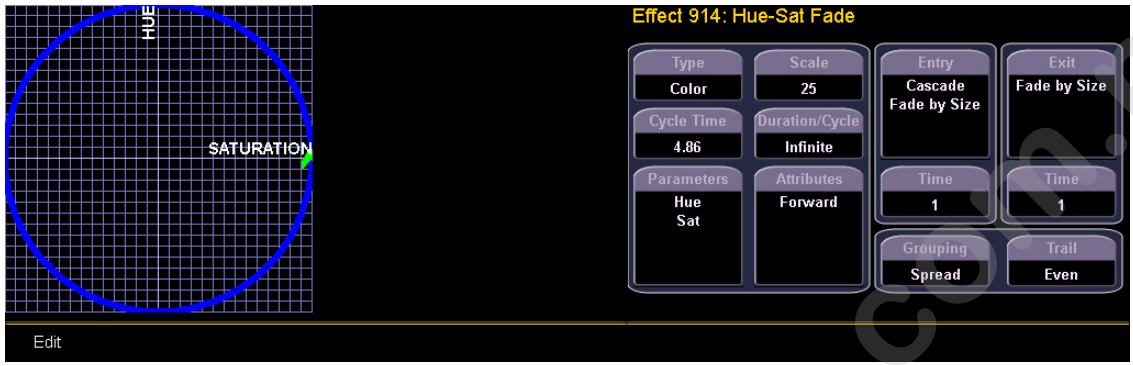
Focus Effect



Color effects

Color effects impact only color parameters. Hue and saturation offsets can be used which are represented in the horizontal and vertical axes of the graph in the effects editor. The {Parameters} key within a color effect displays the various color mechanisms used in any patched channels.

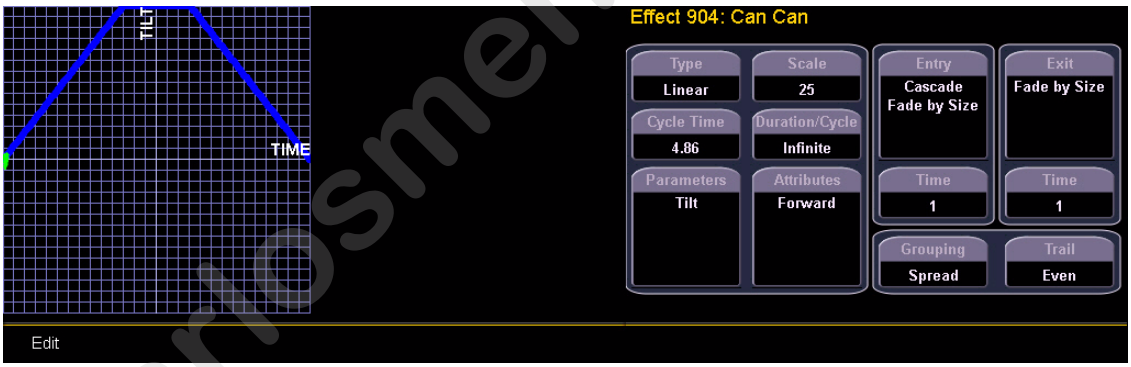
Color Effect



Linear effects

A linear effect does not have to be parameter specific. Rather it can simply be a reference to a linear diagram which can be applied to any parameter. You can redraw the linear diagram for an existing linear effect by pressing **{Edit}>{Clear}** and then tracing the diagram on the graph with the mouse or your finger.

Linear Effect



Define a pattern shape

Shapes can be defined for any relative effect (focus, color, or linear).

To define a shape, press the **{Edit}** softkey beneath the pattern editor. The softkeys will change to **{Apply}**, **{Restore}**, **{Clear}**.

- Press **{Clear}** to clear the pattern.
- Draw a new pattern using your finger (or the mouse). If you want to return to the original pattern, press **{Restore}** *before pressing apply.*
- When you have the proper pattern drawn, press **{Apply}**. The pattern will be applied to the effect.

Note: *If you delete a preprogrammed effect (for example, after making changes to it) the effect will return to its default value. Preprogrammed effects (901-916) cannot be deleted.*

You can also copy effects to another effect location and modify them from there. This will leave the original effect untouched.

- ***[Effect] [904] [Copy To] [8] [Enter]***

Program a new relative effect

To open the effects list press:

- ***[Effect] [Effect]***

Establish the number of the effect by pressing:

- ***[Effect] [4] {Type} {Linear/Focus/Color} [Enter]***

The effect will appear in the effect list and the CIA will repaint with the effect details visible. Manipulate the effect using the encoders, effect graph, and/or property fields so that the effect meets your needs (see *Effects Editor, page 205* for details on effect properties and encoders).

Apply an Existing Effect

Once an effect has been created, it will appear in the effects list. To apply an existing effect, press:

- **[**Select Channels**] [Effect] [**x**] [Enter]**

  or using the direct selects

- **[**Select Channels**] {Effect** x**}**

The selected channels will begin their changes as programmed in the effect.

Editing effects live

To edit an effect while it is running, press:

- **[Displays] {Effect Status}**

The effect status display will open in the CIA and any currently running effects will be visible in the display. Select the effect you want to edit live by pressing:

- **[Effect] [**x**] [Enter]**

Use the encoders to adjust the attributes as described in *Effect Status Display, page 208*. To edit other properties of the effect, select the effect from the effect list and alter the properties as described in *Effects Editor, page 205*.

Stop an effect

Pressing **[Stop Effect] [Enter]** will stop all running effects. You may also stop effects on specific channels by **[**selecting channels**] [Stop Effect] [Enter]**.

You may also remove an effect instruction by **[**selecting channels**] [Effect] [At] [Enter]**. This command will work in live or blind

Chapter 19

Using Park

This chapter describes using park functions from both the Live and park display.

The introduction contains the following sections:

Using Park

The park instruction allows you to set a channel or a specific parameter of a channel to a specific level and have it remain at that level on stage (Live mode), prohibiting manual control override, cue or submaster playback modification. Park may be used alternatively to place a scaling instruction on the intensity output of a luminaire.

Note: A parked channel intensity is not impacted by grand master or blackout operations.

Parked values are withheld from all record targets, but you can manually set levels for parked channels and parameters and store those values into record targets. Keep in mind that the stored instructions do not output “Live” while the channel or parameter has a park instruction.

When the parked channel or parameter is un-parked, it reverts to the level the desk is currently providing it, or its default value if there is no current instruction. When channels or parameters are parked, the LED on the [Park] button illuminates and the Live display will indicate “Parked Channels” in the top left corner. In addition, any parked channel or channel parameter will be indicated with a bright white channel number.

Park instructions are not subject to partition control. Any programmer, operator and electrician may park and unpark channel parameters as needed. Parked channel parameters set by remote focus units will automatically unpark when the associated device goes off line.

Park Display

You can access the Park display by pressing **[Park] [Park] or [Blind] & [Park]**. The Park display shows all parked channels and parameters values. The Park display uses the summary and table views seen in Live/Blind and can be configured following the same conventions.

When a channel intensity is parked, the parked value will be indicated. When a channel has a non-intensity parameter that is parked, that parameter will also indicate in bright white text. To display the non-intensity parameter’s parked value????? do what? The display also provides detail of which user parked what channel and/or parameter, when there are multiple users assigned to the desk.

Parked Values in Live

Channels and parameters may be parked and unparked from the Live display. Following are some examples:

To park a channel, parameter, or group from live:

- **[**n**] [At] [5] [0] [Park] [Enter]** - parks channel “n” intensity at 50%
- **[**n**] [Intensity] [Park] [Enter]** - parks the intensity of channel “n” at its current value
- **[**n**] [Park] [Enter]** - parks all parameters of channel 2 at their current settings

Note: *If a channel list is constructed wherein some channels are parked and some are unparked, [Park] [Enter] would unpark them all.*

- **[**n**] [At] [Park] [Enter]** - if channel “n” is unparked, this command parks intensity at the current value. If the intensity for channel “n” is parked, this command unparks intensity.
- **[Group] [**n**] [At] [Park] [Park] [Enter]** - entering park twice is a toggle state and is intended for use when you want to park a channel list that currently has some channel intensities parked and some unparked. Alternatively the use could press **[Park] [Enter] [Park] [Enter]**.
- **[**n**] [Color Palette] [**z**] [Park] [Enter]** - parks the color for channel “n” in color palette “z”.
- **[**n**] [Color] [Park] [Enter]** - parks channel “n” color at its current value.
- **[Cue] [**n**] [Park] [Enter]** - parks all the channels stored in cue “n” at their levels provided by cue “n”.
- **[Park] [Enter]** - clears all parked channels but it does not unpark scaled park instructions *Scaled Parked Values in Live*. When a channel is unparked, it reverts to the level the desk is currently providing it, or its default value if there is no current instruction.

Scaled Parked Values in Live

A scaled parked value allows the intensity output (only) to be modified proportionally in live. Scaled park values are ignored when storing a record target. The setting on the display indicates what should be stored, not the actual scaled value. An example of how to set a scaled parked value in Live includes:

- **[**n**] [At] [/] [1] [2] [5] [Park] [Enter]** - sets a scaled value of 125% on channel “n” intensity. In other words, whenever channel “n” is active, it will be active 25% higher than its current setting.
- **[**n**] [At] [/] [8] [5] [Park] [Enter]** - sets a scaled value for channel “n”. Whenever channel “n” is active, it will playback 15% lower than its current setting. For example, when “n” is parked at 100% intensity, this command sets a scaled value of 15% on the intensity. The Live display will indicate the value that should be stored (85) while the Parked Channel display indicated this scaled value (15).

Remove the scaled parked value:

- **[**n**] [At] [/] [Park] [Enter]** - unparks a scaled intensity for channel “n”
- **[Park] [Enter]** - unparks all scaled parked channels

A channel can have both a scaled parked value and a parked intensity value. Keep in mind that the parked intensity has priority over (and overrides) scaled park values. A channel can have a parked value or a scaled park value, but not both.

Park Values from the Parked Display

You can park and unpark channel parameters from the Parked display. Open the display by pressing **[Park] [Park] or [Blind] & [Park].** While in this display, it is assumed that you want to park channels or parameters, therefore the use of the [Park] key is not necessary.

Following are examples for parking channel parameters from the Parked Channel display:

- **[**n**] [At] [4] [5] [Enter]** - parks channel “n” at 45%
- **[**n**] [Color Palette] [**z**] [Enter]** - parks color for channel “n” at color palette “z”.

Following are example for clearing parked values while in the Parked display:

- **[Select Active] [Park] [Enter]** - clears all parked channel parameter values
- **[**channel list**] [Park] [Enter]** - unparks channel parameters in the list
- **[**channel list**] <Park> [At] [Enter]** - clears all parked values in the channel list

Chapter 20

Storing and Using Submasters

The faders in the playback section can be assigned as submasters. This chapter explains how to assign and use submasters on your Eos console.

This chapter contains the following sections:

About Submasters

Submasters can be used to store manual intensity data for channels. You can copy cues, presets, or intensity palettes to a submaster as well.

You can convert a fader to a submaster without configuring it in setup. If any submaster number is on the command line, you can press [Load] for the fader and it will be converted to that submaster if:

- the fader has no cue list loaded (and is assigned as a playback fader)

or

- the fader has no submaster data recorded to it (and is already defined as a submaster)

You may also define your submaster as additive (contributes to the live output) or inhibitive (removes from live output). Eos defaults to submasters being additive.

You can also set a submaster to “independent”, allowing submaster values to remain unaffected by other submasters or playback fader instructions. They will, however, still be impacted by manual control, grand master, blackout, or park instructions.

When set as a submaster, the bottom button beneath the potentiometer acts as a bump button. One press of the bump will bring the submaster level to full. The button above this acts as a solo button. When pressed, solo will immediately force all intensities *not* controlled by the submaster to drop to out. This is a momentary button; when it is released, the stage state is restored.

It is possible to program upfade, dwell, and downfade times in association with the submaster bumps.

In the window above any programmed submaster, you will see the following:

- Submaster number
- Submaster label (if any)
- Independent flag (if any)

Loading Submasters

Submasters can be loaded with cues, presets, or intensity palettes. To load a submaster with these record targets, see the following examples:

- **[Cue] [5] [Sub] [4] [Enter]** - loads the intensity contents of cue 5 to Submaster 5.
- **[Cue] [5] [Load]** - loads cue 5 to the submaster associated with the chosen load button.
- **[-] [5] [Cue] [5] [Sub] [6] [Enter]** - loads the contents of cue 5, minus channel 5, to submaster 6.
- **{Intensity Palette 5} & [Load]** - uses the soft selects to load the intensity palette to the chosen submaster.
- **[Cue] [1] [thru] [5] [Sub] [1] [thru] [4] [+] [7] -** sequentially loads cues 1 thru 5 to subs 1, 2, 3, 4 and 7.
- **[Cue] [1] [thru] [5] [Sub] [1] [thru] [Enter]** - sequentially loads cues 1 thru 5 to subs 1 thru 5.

Recording to a submaster

You can also record current stage contents directly to a submaster. To do this, set levels in live as needed then record them to the submaster. See the following examples:

- **[Record] [Sub] [5] [Enter]** - records the intensities of the current stage state to sub 5.
- **[Record Only] [Sub] [5] [Enter]** - records the manual intensities of the current stage state to sub 5.
- **[Record Only] [Sub] [5] [Label] [xxxx] [Enter]** - as above, with a label.

You can also record selected channel data to submasters as well. See below:

- **[**Channel List**] [Record] [Sub] [5] [Enter]** - records the intensities in the channel list to sub 5.
- **[**Channel List**] [Record Only] [Sub] [5] [Enter]** - records the manual intensities in the channel list to sub 5.

Updating a submaster

It is possible to make changes to a submaster in live mode. [Update] is used to store changes to a submaster.

- **[Update] [Sub] [5] [Enter]** - updates sub 5 to include the live intensity output.
- **[**Channel list**] [Update] [Sub] [5] [Enter]** - adds only the specified channels to submaster 5.

Labels can be changed without restoring the contents as well:

- **[Sub] [6] [Label] [xxxx] [Enter]**
- **[Sub] [6] [Label] [Enter]** - removes the label.

Clearing a submaster

You can clear a submaster using the [Delete] key. When a submaster is deleted, its contributions to the live output are removed from the stage.

- **[Delete] [Sub] [5] [Enter] [Enter]** - deletes the contents of sub 5.

Using Bump Button Timing With Submasters

Each submaster bump can have three separate timing values associated with it: Upfade, Dwell, and Downfade (see below). The default timing is set so that the bump functions as an “on” flash key for additive submasters and an “off” flash key for inhibitive submasters.

The three timing values are:

- **Upfade time** - this is the time for the submaster to fade from its home position to its target position (0 to Full if additive, Full to 0 if inhibitive). The default time is 0.
- **Dwell time** - this is the time the submaster look will hold before starting the downfade. This can be set to a specified time, or to “Hold” or “Manual”. The default is “Manual”.
- **Downfade time** - this is the time for the submaster to fade from its target position to its home position. The default time is 0.

At any time, the potentiometer can be used to manually override fade progression or a submaster triggered with time.

To add bump button timing live:

- **[Sub] [4] [Time] [3] [Time] [4] [Time] [3] [Enter]** - adds a 4 second upfade, 4 second dwell and 3 second downfade to submaster 4.
- **[Sub] [4] [Time] [Time] {Manual} [Time] [3] [Enter]** - adds a manual dwell time and a 3 second downfade time to submaster 4. When the bump is pressed and held, it will flash on and stay on until the button is released. At which time it will begin the downfade.
- **[Sub] [4] [Time] [3] [Time] {Hold} [Enter]** - adds a 3 second upfade time, and a ‘hold’ dwell time. When the bump is pressed, the upfade starts. Once at the target value it will remain there until the button is pressed again. The downfade will “bump” to zero.
- **[Sub] [4] [Time] [Enter]** - resets all time for submaster 4 to default (Up = 0, Dwell = Manual, Down = 0).

Controlling subfades manually

It is possible to take control of submasters even if they have recorded time. To capture the fade you must push the potentiometer past the current fade level. Once this is done, control is transferred to the potentiometer for full manual control.

You may then use the potentiometer to increase or decrease the submaster level as needed.

Submaster List

You can access the submaster list by pressing **[Sub] [Sub]** or by accessing the browser and choosing **Record Target Lists>Submaster List>[Select]**. Either of these commands will open a new tab for the submaster list or bring focus to the list if it is already open on a tab.

The list view includes a list of all submasters indicating the label, type, timing data, independent status, bump, and solo status of each. You can navigate within the list by using the [Next] and [Last] buttons.

When this tab is active, the softkeys will repaint to supply you with options to affect the submaster type, or if the submaster is set to independent. You can also move a submaster using [Move To]. For example:

- **[Sub] [1] {Sub Type} [Enter]** - toggles the submaster 1 between “additive” and “inhibitive”.
- **[Sub] [2] {Independent} [Enter]** - toggles submaster 2’s independent setting on and off. Independent can only be activated on an additive submaster.
- **[Sub] [2] {Move To} [Sub 9] [Enter] [Enter]** - moves the contents, label, and timing data from submaster 2 and places it in submaster 9. Submaster 2 is removed.

You may copy the contents of a submaster by using the [Copy To] button.

Editing submasters from the list

If you want to actually edit the contents of the submaster, you can select the submaster and press **{Edit}**. This change focus to the live/blind tab and places you into the blind edit mode for the specified submaster. You may also press **[Blind]** and select the required submaster from the command line.

Any changes made in this screen are automatically applied. A [Record] or [Update] command is not required.

Chapter 21

Using About

[About] provides detailed information regarding selected elements. It is posted on the CIA and remains open until closed.

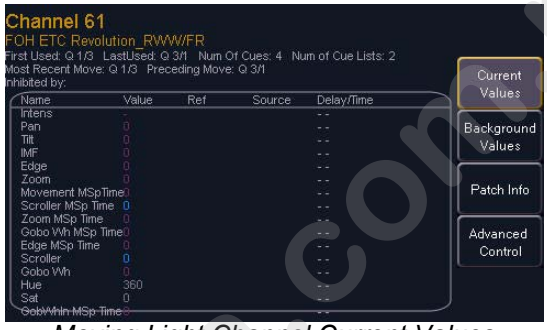
This chapter contains the following sections:

About [About]

Pressing [About] puts the console in “about” mode, which allows you to examine “about” information indefinitely, simply by selecting them.

When in About mode, selecting a channel will reveal information about that channel. Below are examples of the “Current Values” view (see below) of information that is presented when selecting conventional or moving lights.

Conventional Channel Current Values



Moving Light Channel Current Values

The buttons on the right side of the about screen alter the information that is displayed for the selected channel. The selected button is highlighted in gray. The buttons are:

- **{Current Values}** - this shows any current information that the channel is receiving and following.
- **{Background Values}** - this displays any information that is being sent to the channel, but not adhered to since another source has ownership of the channel.
- **{Patch}** - this displays patch information about the channel.
- **{Advanced Control}** - this displays any parameters associated with the channel. If the channel is a conventional (intensity-only) fixture, no parameters will be displayed. If it is a moving light, this key will access lamp controls.

[About]

When [About] is pressed, the CIA presents the following information:

- Software version
- Copyright notifications

<About> [number] [Enter]

This is a channel level query that displays information based on the button highlighted in the CIA.

{Current Value} displays information that indicates:

- Cue the channel was first used in
- Cue the channel was last used in
- number of cue lists the channel is used in
- when was the most recent move (of any parameter)
- when was the preceding move (of any parameter)
- what the channel is inhibited by (if anything)
- a list of parameters available on the channel and information about them.

{Background Value} displays the same information, but from other sources that do not currently have control of the channel.

{Patch} displays the following information:

- the channel's address range
- the proportional patch level
- curve (if any)
- swap status
- invert pan/tilt status
- any keywords associated with the channel

{Advanced Control} displays all parameters associated with the channel and access lamp controls (if it is a moving light).

<About> [Cue] [number] [Enter]

The following information will be displayed:

- if the cue is active and what fader it is playing on
- timing data for the cue (including discrete timing)
- any effects running
- number of move instructions in the cue
- what channels move in the cue

<About> [I/F/C/B Palette] [number] [Enter]

The following information will be displayed:

- the number of cues the palette is used in
- the number of presets the palette is used in
- the number of move instructions the palette is used in
- the first cue the palette is used in
- the last cue the palette is used in
- the number of cue lists that use the palette

<About> [Preset] [number] [Enter]

The following information will be displayed:

- the number of move instructions the preset is used in
- the first cue the preset is used in
- the last cue the preset is used in
- the number of cue lists that use the preset

More features using [About] will be available in a future release.

Chapter 22

Storing and Using Curves

This feature will be available in a future release.

Chapter 23

Storing and Using Snapshots

This feature will be available in a future release.

Chapter 24

Storing and Using Macros

Macros are comprised of any series of button presses (both hard and softkeys), screen commands and events. Eos provides you with the macro feature to simplify complex or repetitive console programming and operating tasks that you perform often.

When you record the series of button presses to a new macro, you can later play it back by simply pressing the macro direct select button, run it from a linked cue, access it from a connected show control system, remotely trigger the macro, or run it from another recorded macro.

You may create up to 1,000 macros either from Live, using the macro [Learn] mode to record a sequence of keystrokes as you perform the operation, or you can create a macro from within the Macro Editor display, entering and editing keystrokes into the macro content editor without actually executing the instructions.

The Macro Editor display contains a listing of all recorded macros including labels and the contents of the macros stored. All macro editing is accomplished from the Macro Editor display.

This chapter contains the following sections:

Store a Macro from Live

The most effective way to store a macro is from Live mode utilizing the macro [Learn] mode to record a sequence of button presses as you enter them. You can include any button press on the console (hard key or soft key), except [Macro], the arrow keys, [Escape], [Select] and [Learn].

Using the [Learn] key

Pressing the **[Learn]** key while in Live mode places the console in macro learn mode. The **[Learn]** key flashes and the CIA displays “Learning” above the command line. Assign a number identifier (from 1 to 1000) to the Macro using the control keypad and press **[Enter].** The CIA flashes “Learning Macro ####” above the command line. This indicates that the console is ready to record the macro.

Note: *It is helpful if you plan your macro content in advance of the macro record process. While in learn mode, each button press is recorded as content, even the [Clear] button if you have mistaken a keystroke. There is no way to fix a content error in Live mode, but you can re-record the macro as needed or you can edit the recorded macro in the Macro Editor, removing any commands unneeded.* *See “Edit an existing Macro” on page 241.*

Begin writing the sequence of button presses and events for the macro record. When you have finished with the series of events and button presses, press the **[Learn]** key again to exit macro learn mode.

Examples of a macro record function include:

- **[Learn] [1] [Enter] [Go To Cue] [Out] [Time] [0] [Enter] [Learn]** - records macro 1 with the go to cue out command which resets all parameters to their default state unless they are controlled by a submaster. This command also resets all cue list active on faders to the top of their stack.
- **[Learn] [5] [Enter] [1] [Full] {Chan Check} [Enter] [Learn]** - records macro 5 with channel 1 at full in channel check mode. This macro provides you with easy access at a single direct select button press [Macro 5] to activate channel check mode starting with channel 1 at 100% output. To check the next channel in the list, press **[Next]**.
- **[Learn] [4] [Enter] [-] [Sub] [Record] [Learn] -** records macro 4 with instructions to record a target excluding all submaster data.
- **[Learn] [2] [Enter] [-] [Group] [6] [Color] [Record] [Learn]** - records macro 2 with instructions to record a target excluding the color data from group 6.

You can also create a macro in Live that bumps submasters across fader pages but you first you must have channels assigned to the submasters.

For Example:

Write submasters 1 through 5 and 15 through 17, each with its own channel selections at 100%. Then press:

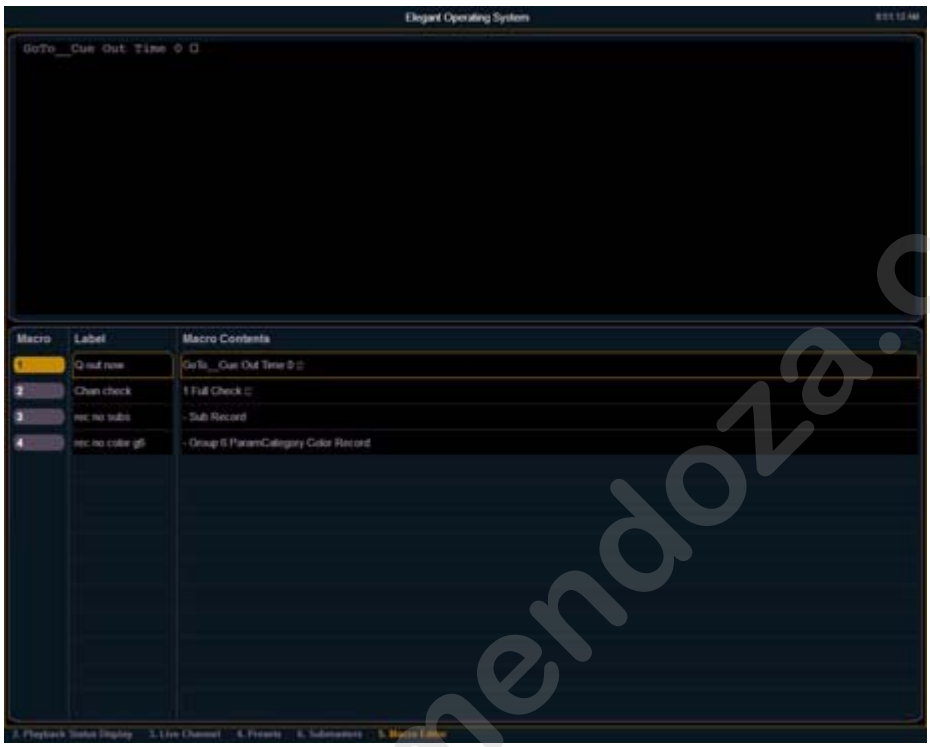
- ***[Learn] [1] [Enter] [Bump1] [Bump2] [Bump3] [Bump4] [Bump5]***
- ***[Fader Page]***
- ***[Bump15] [Bump16] [Bump17] [Learn]***

Once you have created the macro from Live in [Learn] mode, you can easily edit the sequence from the Macro Editor display. *See "Macro Editor Display" on page 238.*

Macro Editor Display

Macro editing is accomplished from the Macro Editor display. As an alternative to recording your macro in Live, you may create it from this display instead. Open the Macro Editor display from the Browser by navigating to Record Target Lists > Macro Editor, then press **[Select]**. The editor will display on an external monitor.

The display is divided horizontally, the top portion displays the macro contents in detail while the bottom portion lists all macros, including the label and contents.



While in the Macro Editor display, any numeric entry on the command line is assumed to be a macro number. If the macro number entered already exists and **[Enter]** is pressed, the macro list will page to the selected macro and the macro content detail section will display all of the contents of the selected macro. If the macro number entered does not exist in the list and **[Enter]** is pressed, an empty macro will be created with the specified macro number.

While in the Macro Editor display, the following functions may be performed using the control keypad and softkeys:

- **[Label]** - when a macro is selected and **[Label]** is pressed, the alphanumeric keypad will display on the CIA. Label the macro and press **[Enter]**.
  - **[1] [Label] <**name**> [Enter]** - labels macro 1
- **[Delete]** - when a macro is selected and **[Delete] [Enter]** is pressed, you will be prompted to confirm the deletion of the selected macro. To confirm press **[Enter]**, to abort press **[Clear]**.
  - **[1] [Delete] [Enter] [Enter]** - deletes macro 1 from the list.
- **[Copy To]** - when a macro is selected and **[Copy To]** is pressed, you will be prompted to enter the macro number that you want to copy the contents of the selected macro to. You will be prompted to confirm the copy process, press **[Enter]** to confirm or **[Clear]** to abort the copy to process.
  - **[1] [Copy To] [6] [Enter] [Enter]** - copies the entire contents of macro 1 to macro 6.
- **{Edit}** - when a macro is selected and **{Edit}** is pressed, you will have entered edit mode for the selected macro. Three notable changes to your Macro Editor display include:
  - a blinking cursor in the macro content detail portion (top) of the display.
  - ”Press [Select] to save or [Escape] to cancel changes” flashes above the command line.
  - The available softkeys change to {Loop Begin}, {Loop Num}, {Wait}, {Delete}, {Cancel} and {Done}.
- **{Move To}** - allows you to move and reorganize your macros anywhere in the macro list numerically.
  - For instance, if you have macros 1 through 5 in the list, and you want to move/change macro 1 to macro 6 so that your most commonly used macros are first in the list, you would press **[1] {Move To} [6] [Enter]**. This leaves only macros 2 through 6 in the list.

Create a New Macro

From the Macro Editor Display, enter any unrecorded macro number from 1 to 1000 and press **[Enter]**. Your new macro number will display in the macro list in numerical order but will not have a label or any contents.

To store the macro contents, select the macro and press **{Edit}**. A cursor appears flashing in the macro content detail portion of the display, ready for you to add the macro content.

For Example:

Create macro 3. Write the instruction to set all active channels to 50%, then sneak them to their original levels over 10 seconds and last, link to macro 5.

- <*Macro*> ***[3] [Enter]***
- ***{Edit}***
- ***[Select Active] [At] [5] [Enter]***
- ***[Sneak] [Time] [1] [0] [Enter]***
- ***[Macro] [5] [Enter]***
- ***[Select]***

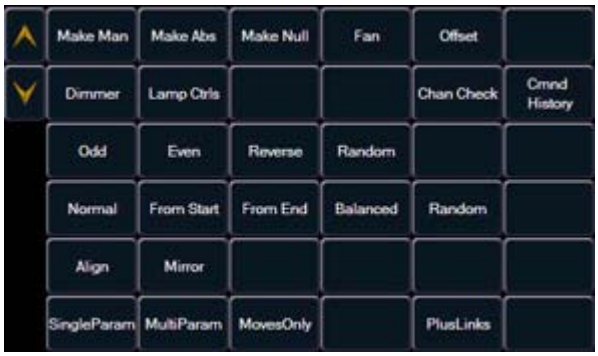
While in macro edit mode, all keys are entered as content except the macro editor softkeys, arrow keys, **[Escape]**, **[Select]** and **[Learn]** keys.

Edit an existing Macro

When you have created a macro using macro learn mode from Live or otherwise, you can edit the content of your macro removing or adding commands and special macro softkey functions (such as wait, loop, and so on).

From the Macro Editor Display, select an existing macro number and press **[Enter]**. The selected macro contents will display the detail section. Press **{Edit}** to make changes to the content.

When in edit mode, the Browser section of the CIA changes to display all softkeys available for the system that would otherwise be difficult to find when recording a macro.



Next to the softkeys display are paging buttons for your use to page through the available softkeys. These paging buttons will not be stored as content in your macro.

In addition, a new set of macro editor softkeys are displayed while in edit mode including:

- **{Loop Begin}** - inserts a loop start command
- **{Loop Num}** - inserts and end command for a loop with a limited number of iterations. An infinite loop is assigned when you use “0” for the iterations.
- **{Wait}** - inserts a pause
- **{Delete}** - removes commands from the macro
- **{Cancel}** - cancels edits made to the selected macro and returns you to the macro list
- **{Done}** - exits macro edit mode. You may also use the [Learn] key to enter and exit edit mode.

In edit mode, the cursor in the macro content detail section of the display provides use of the arrow keys to navigate through the existing content list. Use of the arrow keys will not be stored to the macro content.

To add content, place the cursor in the section that you want to insert, then add the command. To delete a command, place the cursor ahead of the content to be deleted, then press the **{Delete}** softkey.

Press **[Select]** when you have completed all editing.

Play a Macro

You can play a macro from the command line, from the direct selects, run it from a linked cue or another macro.

To play macro 5 from the command line simply press **[Macro] [5] [Enter]**. “Running Macro 5” displays above the command line in Live while the macro is running.

To run macro 5 from the Macro direct selects simply press **[Macro 5]**. “Running Macro 5” displays above the command line in Live while the macro is running.

To run macro 5 from cue 1 press:

- **[Cue] [1] {Execute} [Macro] [5] [Enter]**

To run a macro from another macro, see the example under *Create a New Macro*.

Delete a Macro

You can delete a macro from the Macro Editor display by selecting the macro and pressing the **[Delete] [Enter]**. You will be prompted to confirm the deletion. Confirm by pressing **[Enter]** again, or abort by pressing **[Clear]**.

For Example:

Delete macro 5 from the macro list.

- ***[5] [Enter]***
- ***[Delete] [Enter] [Enter]***

Chapter 25

Using the Fader Display

This will be available in a future release.

Chapter 26

Using Partitions (Multi-User Operation)

This feature will be available in a future release.

Chapter 27

Security Login

This feature will be available in a future release.

Appendix A

Eos Configuration Utility

Overview

This appendix covers the Eos Configuration Utility (ECU) and its use. This is a component of the Eos Lighting Control System and is used for both configuration and to perform basic level test functions. These instructions will tell you what you can do with the utility, not what you need to do as that will change with your situation.

What the Utility Does

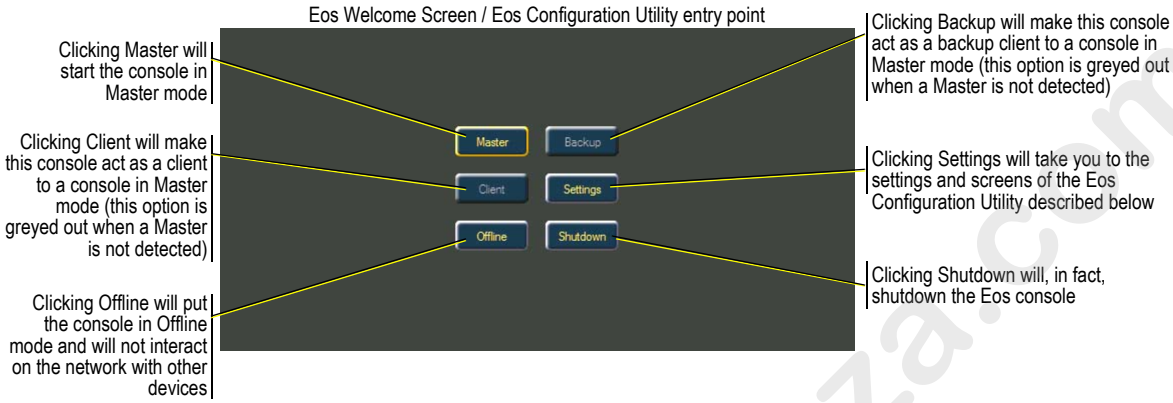
Here is a brief list of some of the actions that can be performed from the EOS.

- Configure IP address of the console
- Configure the services to provide IP addresses to other devices
- Configure the logical monitor placement to match the physical monitors
- Set Date, Time and Time Zone
- Choose to boot the console in Master, Client, Backup or Offline mode
- Perform a simple button and encoder response test

Eos Configuration Utility Reference

With an external keyboard connected to your Eos console, you can force the console to boot into the utility instead of the main console application. During the boot process, a countdown timer will appear just below the Eos logo. You will have 5 seconds to hold down “e”, “o” and “s” at the same time on the connected keyboard.

Starting Screen



This is the starting screen of the utility. From here you can choose to boot the console in a couple different modes, change various settings in the console or shutdown the console.

Master

This is the mode you want to use for a single console on a network. The Master console is the one that sends control signals out on the network. On a system with multiple consoles, the Master console is the one that Client and Backup consoles synchronize with making it the source of all information a client or backup console sees on the network.

Master mode can be run on Eos consoles and Eos RPUs (Remote Processor Unit).

Client

Client mode requires a Master console be online to synchronize with. Once this is done, a Client console shares control of the system via the Master console.

User ID determines some interaction between the Client and the Master console. If the Client and the Master console have the same User ID, they will share the same command line. If they have different User IDs, they will have independent command lines.

Client mode can be run on Eos consoles, Eos RPUs, and personal desktop/portable computers.

Backup

Backup mode requires a Master console be online to synchronize with. Once this is done, a Backup console shares control of the system via the Master console.

The main difference between Backup and Client modes is what happens in the failure of the Master console. If the Master console has a failure, a Backup will automatically assume control of the system and continue on as if nothing has happened.

User ID determines some interaction between the Backup and the Master console. If the Backup and the Master console have the same User ID, they will share the same command line. If they have different User IDs, they will have independent command lines.

Backup mode can be run on Eos consoles and Eos RPUs (Remote Processor Unit).

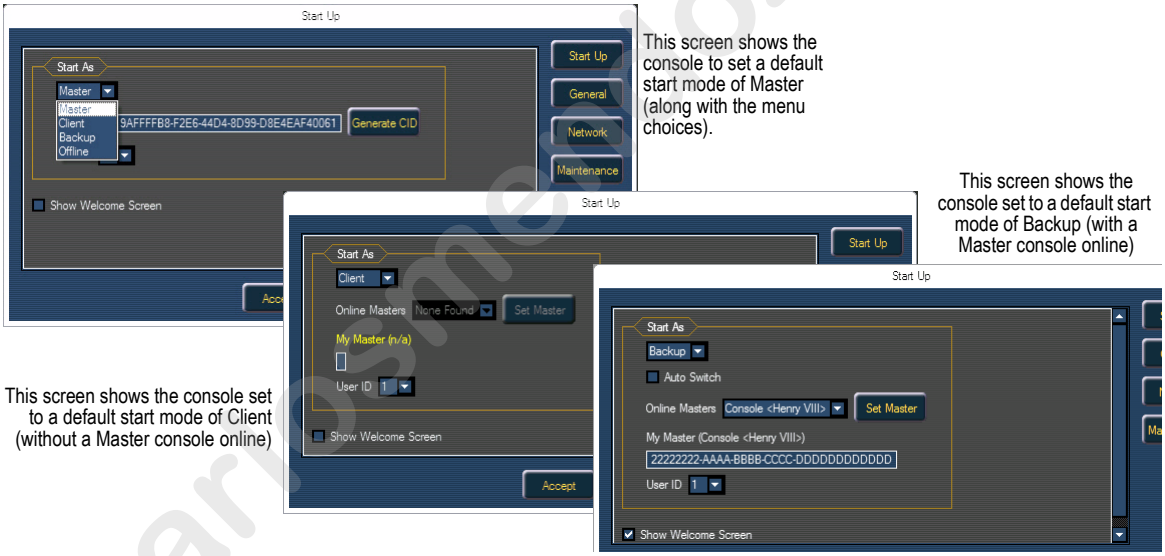
Offline

Offline mode puts the software in a state where there is no network activity. No control, no connections with other consoles or any other network devices.

This mode is primarily intended for offline editing of a show file.

Offline mode can be run on Eos consoles, Eos RPUs, and personal desktop/portable computers.

Start Up Settings



This screen shows the console to set a default start mode of Master (along with the menu choices).

This screen shows the console set to a default start mode of Backup (with a Master console online)

This screen shows the console set to a default start mode of Client (without a Master console online)

Start Up settings are default settings used each time the console is booted. You can choose to set the default operational mode to Master, Client, Backup or Offline.

When you choose Client or Backup mode, the console will show you a list of possible “Online Masters”. Once chosen, the client or backup console will automatically look for the set Master console.

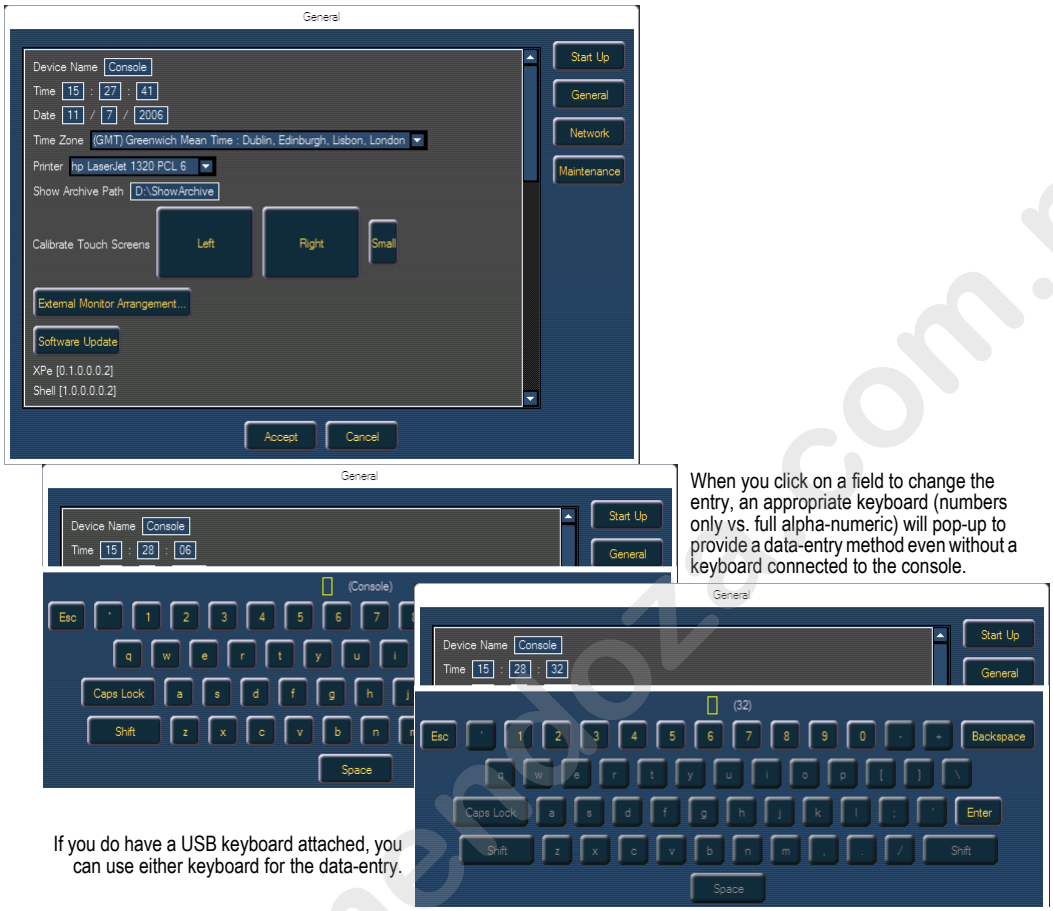
User ID

This is a unique identifier for this console on the network. Valid IDs range from 1 to 255.

Show Welcome Screen

When this is checked, the Eos console will boot into the Configuration Utility every time instead of booting directly into the main Eos application.

General Settings



Device Name

This specifies the name this Eos console will use to identify itself on the network to other devices.

Time

The time the console is using. This can be set manually (direct data-entry) or via SNTP (Simple Network Time Protocol) time service. Please see Network Settings for more information.

The time is displayed in a 24-hour format as HH : MM : SS.

Date

The date the console is using. This can be set manually (direct data-entry) or via SNTP (Simple Network Time Protocol) time service. Please see Network Settings for more information.

The time is displayed as MM / DD / YYYY.

Time Zone

The time zone the console is using. This is an offset from GMT. Each setting in the pull-down list displays the offset, the name of the time zone and a couple of cities in that time zone.

Printer

This displays the currently selected printer type. The pull-down list will only display supported printers.

Show Archive Path

This is the default location to save show files. The full path must be typed in and specified in a legal Windows format. The default location is a folder on the D drive.

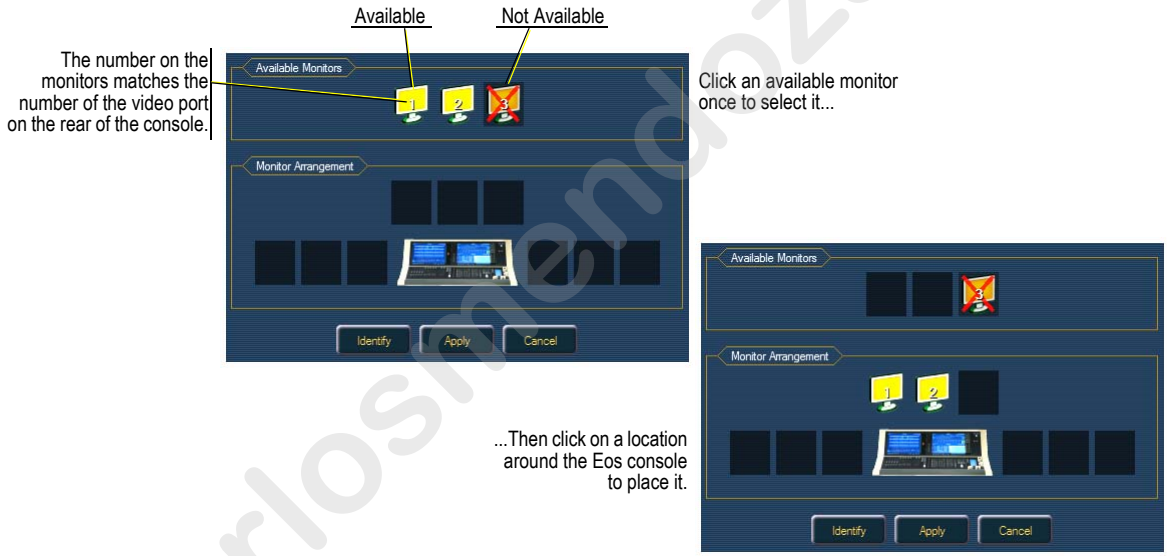
If you decide to change this setting, it is recommended that you keep this location on the D drive. This will keep your show files safe during software updates that may include re-imaging the C drive.

Calibrate Touch Screens

This will launch a screen calibration utility to guide you through the process of re-calibrating the touch screens. This should be used if the pointer is consistently offset from where you are touching the screens.

Each screen is calibrated independently.

External Monitor Arrangement



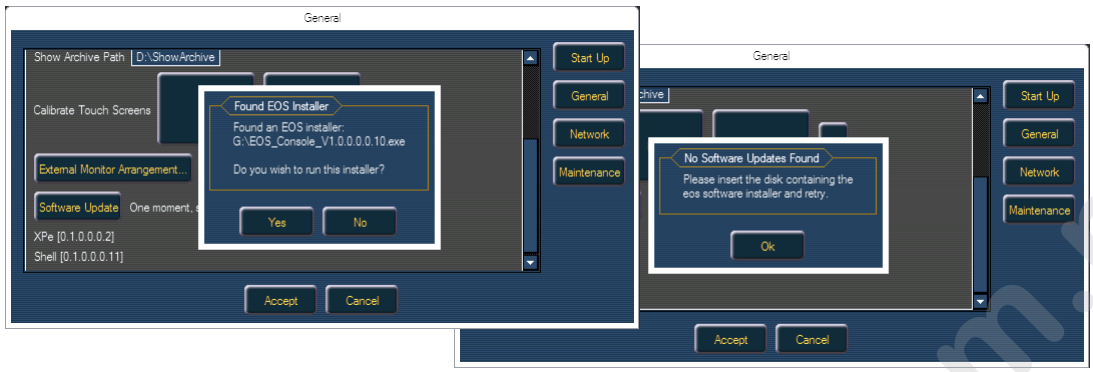
External monitors need to be placed in a logical manner around the console. This will dictate how and where the pointer moves from one screen/monitor to another. Generally speaking, you will want the logical placement on this screen to match your physical placement.

Click the **Identify** button to display the video port numbers that your monitors are connected to on their physical monitors to confirm your placement choice (They should match this configuration screen).

Apply will save and use your settings.

Cancel will ignore and not use your settings.

(Eos) Software Update



This option is used to update the software of the Eos console itself. It does not affect or update the software in any other networked device such as a Net3 Gateway.

When you click on **Software Update**, the Eos console looks at the root directory of any removable storage device (any connected USB drive or CD) for an Eos console software update file. You will be shown the name of the updater file before getting the choice to install it or not.

You will also be given a message if no software update file can be found.

Network Settings

Network Control Priorities

This is where you specify the priorities used by this console's control level information.

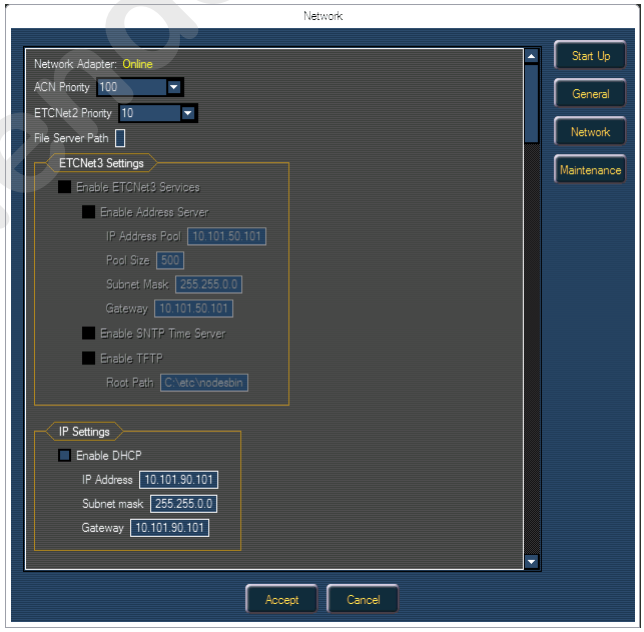
Net3 Services Settings

These are settings for the network services that may be running on your Eos console.

If you are unable to enable them, they are not currently installed on this console.

Eos Console IP Settings

This is where you specify the IP address to be used by this console (manually) or how it acquires an IP address (dynamically via a DHCP server or a link-local address).



Network Adapter

This reports if the network adapter is "Online" (configured, connected to a network and operational). It reports as "Offline" if any one of the above conditions is not true.

ACN Priority

This sets the control priority for ACN data from this console. The valid range for this setting is 1 (lowest) to 200 (highest). This is the reverse of ETCNet2.

ETCNet2 Priority

This sets the control priority for ETCNet2 data from this console. The valid range for this setting is 20 (lowest) to 1 (highest). This is the reverse of ACN.

File Server Path

This is a setting for an alternate show file storage location. It will accept any Windows standard file path name. After setting this location, it will appear as an option within the save show dialog in Eos. File path example: D:\storeFilesHere

Net3 Settings

All settings in this section require a reboot of the console before they will take effect. If this section is greyed out, or you are unable to change any settings, you don't have Net3 Services installed on your console.

Enable Net3 Services

Net3 Services are a suite of services that provide infrastructure support for a Net3/ACN network. Those services are a dynamic IP address server, a network time server and a file server. Each of these services are described below.

Unchecking this box acts to disable all of the Net3 Services. Checking the box only enables services selected to be active.

Enable Address Server

Net3 Services uses a DHCP (Dynamic Host Configuration Protocol) address server. DHCP is a TCP/IP protocol that dynamically assigns an IP address to a network device when it requests one.

This is a small and simple DHCP server that is intended to be used on non-routed networks. It will not serve IP addresses across a router.

CAUTION: *There should only be a single DHCP server active on a network. It is possible to start more than one DHCP server on a single network (nothing is built-in to DHCP servers to prevent this from happening). If this occurs, it will result in unstable conditions and possibly result in network communications failures.*

Clicking in the enable box will start the DHCP server in the Eos console. It will use the settings below to determine which IP addresses it gives out.

- ***IP Address Pool*** - This sets the starting IP address of the range of IP addresses the DHCP server will give out.
- ***Pool Size*** - This sets how many IP addresses the DHCP server will give out. A setting of 500 means it will give out IP addresses to the first 500 devices that ask for an IP address.
- ***Subnet Mask*** - This sets the logical network size vs. the device address. ETC's default is 255.255.000.000 (class B). This is the subnet mask that the DHCP server will give to network devices.
- ***Gateway IP*** - This specifies the IP address of a router if one is present on your network. This is the gateway IP address that the DHCP server will send to network devices to use.
  If you are on a flat or non-routed network, the Gateway IP address should match the IP address of the device. In order to configure this DHCP server to send out matching gateway IP addresses, **configure this gateway IP address to match the IP Address Pool field**. Then the DHCP server will give out a gateway IP address that matches the IP address.

Enable SNTP Time Server

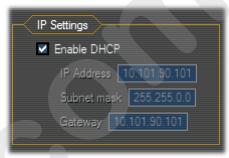
Clicking in the enable box will start the SNTP (Simple Network Time Protocol) service. You determine if the service is running as a client (receiving time messages) or as a server (sending time messages) during the installation process.

Enable TFTP Server

Clicking in the enable box will start the TFTP (Trivial File Transfer Protocol) server.

- ***Root Path*** - This sets the directory where files are to be served through TFTP. This must be the full path to the directory, including drive letter. For example: C:\etc\nodesbin

(Eos) IP Settings



If DHCP is selected, the “in use” IP address information is displayed.

These are the settings that determine the *method* to get an IP address and/or the *actual* IP address information that Eos uses for network communication.

Enable DHCP

Clicking in the enable box will set Eos to get its IP address dynamically from a DHCP server. While the console is starting, it will ask for an IP address from a DHCP server. If one responds, it will use the assigned IP address.

If no DHCP server is available, Eos will default to a self-generated link-local IP address in the range of 169.254.x.y. The IP address used by Eos in this configuration *may* change dynamically as needed. A change should typically only occur when there are changes to the network configuration or to resolve an IP address conflict.

Enabling or disabling the DHCP setting will require you to reboot Eos for the new setting to take affect.

Note: *You cannot set Eos to receive an IP address via DHCP and act as a DHCP server at the same time. It can either send dynamic addresses or receive them, but not both at the same time.*

IP Address

If DHCP is **disabled**, you set the Eos IP address here. This is a static IP address and will remain as set until changed by a user.

If DHCP is **enabled**, this field will display the IP address that is being used by the console (whether it is served via DHCP or a self-generated link-local IP address).

Subnet Mask

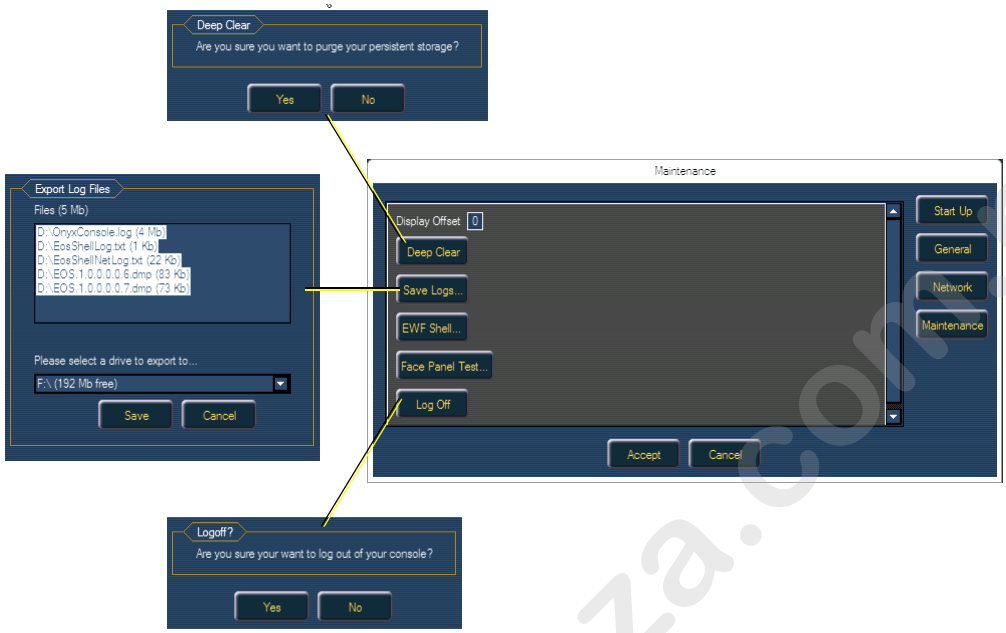
If DHCP is **disabled**, you set the Eos subnet mask here. This is a static setting and will remain as set until changed by a user.

If DHCP is **enabled**, this field will display the subnet mask that is being used by the console (whether it is served via DHCP or a self-generated link-local IP address).

Gateway

If DHCP is **disabled**, you set the Eos gateway IP address here. This is a static gateway IP address and will remain as set until changed by a user.

If DHCP is **enabled**, this field will display the gateway IP address that is being used by the console (whether it is served via DHCP or a self-generated link-local IP address).



Deep Clear

Deep Clear functions in the same way that New does from the File menu or Reset System does from the Clear menu (both from within the Browser).

The advantage of Deep Clear is that you can clear all console data before reloading the console's current state during boot. This is helpful if you are moving a new console onto the network and don't want it to suddenly take control of a system or if you somehow end up with a corrupt show file that is causing issues upon boot.

It's worth noting that Deep Clear (like Reset System and File>New) does not reset any of the settings in the Eos Configuration Utility (ECU) like its operational mode or IP address settings. Everything in the ECU remains has it was last configured.

Save Logs...

Clicking on the button brings up a dialog prompting you to save the console log files for troubleshooting purposes. You have the option to select/deselect any of the various individual log files to be saved.

You get a drop down menu to select the target export location from any available write-enabled removable media such as a USB drive.

EWF Shell...

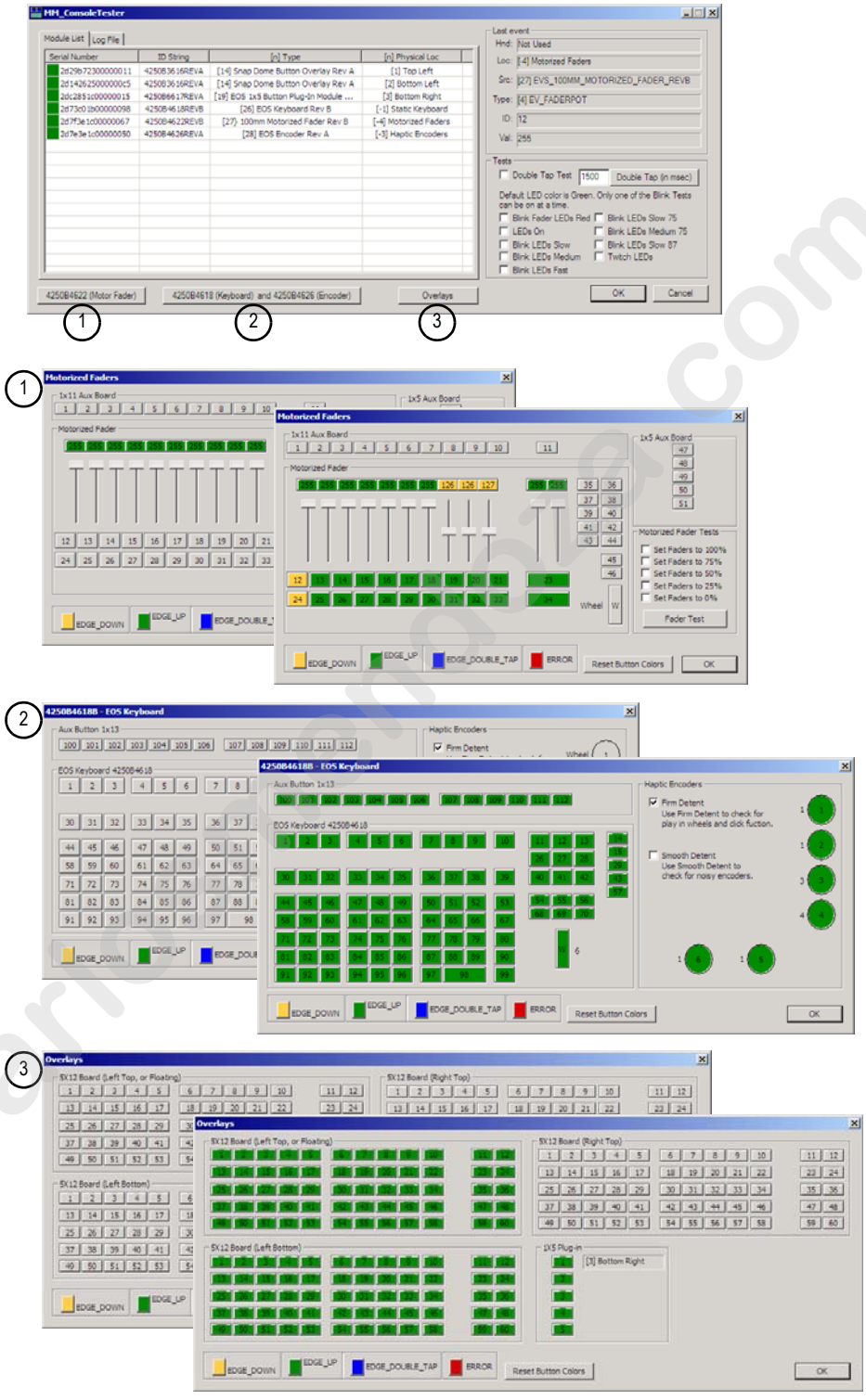
This section is intended for use by ETC Factory authorized technicians only.

Face Panel Test...

Face Panel Test provides a way to verify the functional state of all of the keys, encoders and sliders on the Eos console. The screens are very straightforward. For field diagnostics, you shouldn't need

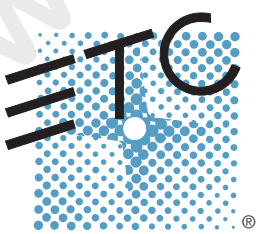
more than the three main sections of: Motorized Faders, Eos Keyboard and Overlays (assuming you have the hardkey overlays that fit over the touch screens).

Press/move every key and verify that those events register on the diagnostic test screen.



Log Off

This will log off the current user.



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