

elementTM



Lighting Control Console User Manual

Version 2.0.0

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Product information and specifications subject to change.
Part Number: 4330M1210-2.0.0 Rev A
Released: 2013-03

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Introduction

Welcome to the Element User Manual. This guide is a basic resource for users of the Element control system. Additional resources available to you are listed in this introduction.



Note: For information on using show control with your system, see the *Eos Family Show Control User Guide*, which is available for download at www.etcconnect.com.

This chapter contains the following sections:

- [Welcome to Element](#) 2
- [Using this Manual](#) 2
- [Register Your Element](#) 3
- [Online Element User Forums](#) 3
- [Help from ETC Technical Services](#) 4
- [Other Reference Materials](#) 5

Welcome to Element

Thank you for purchasing your Element from ETC! This introduction to Element will list all the various helpful tools available to you. In addition to this User Manual, Element also has video tutorials, an online user forum dedicated completely to Element, and support from ETC Technical Services. When using Element, you are never alone. Please take a moment to learn more about the tools available to you.

Using this Manual

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

- Facepanel buttons are indicated in bold **[brackets]**. For example, **[Live]** or **[Enter]**. Optional keys are indicated in **<angle brackets>**, for example, **<Cue>** or **<Sub>**.
- Browser menus, menu items, and commands you must perform are indicated in **bold text**. For example: In the **File** menu, click **Open**. Or: Press **[Record] [Enter]**.
- Alphanumeric keyboard buttons are indicated in all CAPS. For example, TAB or CTRL.
- Keys which are intended to be pressed or held simultaneously are indicated with the “and” symbol. For example, **[Shift] & [+]**.
- Softkeys and clickable buttons in the Central Information Area (CIA) are indicated in bold **{braces}**. A note about **<More SK>** (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

Register Your Element

Registering your Element system with ETC ensures that you will be notified of software and library updates, as well as any product advisories.

To register your console, you will need to enroll in “My ETC,” a personalized ETC Web site that provides a more direct path of communication between you and ETC.

Register now at <http://www.etcconnect.com/product.registration.aspx>.

Online Element User Forums

You are encouraged to visit and participate in the ETC Element User Forum, accessible from the ETC web site (www.etcconnect.com). This gives you access to an online community of Element users where you can read about other users' experiences, suggestions, and questions regarding the product as well as submit your own.

To register for the ETC Element User Forum:

- Step 1: Go to ETC's community web site (www.etcconnect.com/community). An introduction page to the online community will open.
- Step 2: You may register for the forum using the “**register**” link in the introduction or by clicking the “**join**” link in the upper right corner of the page.
- Step 3: Follow the registration instructions provided by the community page.

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 right side panel)
- Dimmer manufacturer and installation type
- Other components in your system (Unison®, other control devices, 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

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Electronic Theatre Controls Ltd.
Technical Services Department
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service@etceurope.com

Asia

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
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Germany

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

Other Reference Materials

On Screen Prompts

Element provides on screen prompts located above the command line to aid with programming. These context-sensitive prompts will give instructions and options based on the current display and key hits.

Help System

A help system is also contained within Element. 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:

Help is included on most tangible action buttons on your Element console. This includes most softkeys and clickable buttons as well as the traditional keys on the keypad.

*As with hard keys, the “press and hold **[Help]**” action can be also used with softkeys and clickable buttons.*

Important Lighting Concepts

In addition to Element’s video tutorials, ETC also has a video explaining the important lighting concepts of tracking and preset. If you are new to lighting consoles, it is highly recommended that you take a few moments and view this [video, http://www.etcconnect.com/video/BHF-WhyDidMyConsoleDoThat/index.htm](http://www.etcconnect.com/video/BHF-WhyDidMyConsoleDoThat/index.htm).

Additional lighting concepts are also explained in this User Manual, please see [Important Concepts, page 223](#) to learn more.

Periodic Table of Element

The Periodic Table of Element is a handy reference guide for the various concepts and components of Element. Please visit the [Periodic Table of Element, http://www.etcconnect.com/minisite/Element/index.html](http://www.etcconnect.com/minisite/Element/index.html).

Quick Start

To quickly get started with Element, please [See “Quick Start” on page 7](#). For more in depth information about Element, please continue reading this User Manual.

Chapter 1

Quick Start

This chapter will walk you through the steps of quickly getting started with Element.

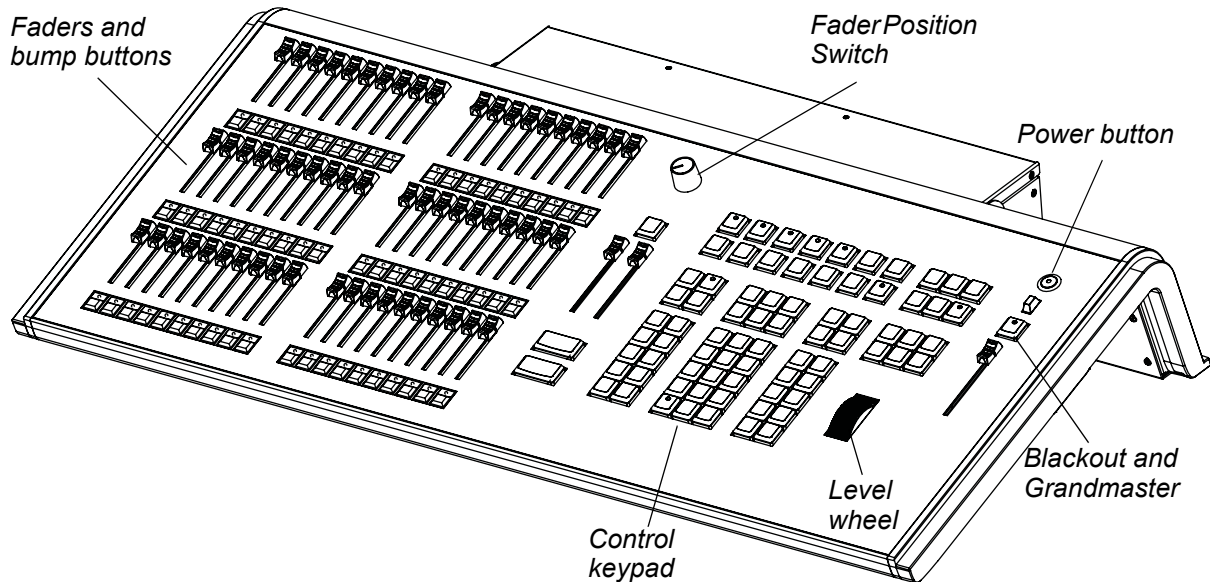
This chapter contains the following sections:

- **Getting Started**8
- **Hardware**8
- **Getting the Lights On**9
- **Recording a Lighting Look**10

Getting Started

This chapter will quickly get you started with using Element. Later chapters will go into further detail of topics touched upon here.

Hardware



Power Up the Console

- Step 1: Attach the appropriate power cable to the IEC connector on the rear of the console. For a diagram of the rear of the console, [See “Console Geography” on page 12.](#)
- Step 2: Press the power switch (I is “on”) under the IEC connector on the rear panel to turn power on. This will provide power to all internal electronics.
- Step 3: Press the power button, located in the top left corner of the console, above the USB port. The button LED will illuminate blue to indicate the console is running. The console will boot up into the Element environment. Element is now ready for use.

Power Down the Console

- Step 1: In the browser menu select **Power Off Device**. A dialogue box opens asking you to confirm.
- Step 2: Confirm this command by pressing **[Select]** or clicking with a mouse the **{OK}** button in the dialog box. The console will power down.
- Or-
- Step 1: Press the power button, located on the face panel. A dialogue box opens asking you to confirm.
- Step 2: Confirm this command by pressing **{OK}** in the dialog box or by pressing the power button again. The console will power down.



Note: For additional information on setting up Element’s hardware, please see the *Element Setup Guide*.



Note: Element will display an improper shutdown message on the next power up if the console was not powered down from the browser menu or welcome screen.

Getting the Lights On

When Element first boots up, it will default to a 1-to-1 patch. See [About Patch, page 46](#) for more information. Since Element starts off patched, you can begin bringing up levels immediately.

Setting Levels Via Channel Faders

For more in depth information on using Element's channel faders, see [Using Channel Faders, page 82](#).

- Step 1: Check to make sure the Fader Position Switch is set to **Channel 1-40**. The first two rows of faders will then control channels 1-40. 1-20 will be controlled by the first bank and 21-40 by the second bank.
- Step 2: Make sure Element is displaying in Live. Press **[Live]**.
- Step 3: Check to make sure the Grandmaster is at 100%. The top of Element's display will show **Grandmaster #%** in red if the Grandmaster is below 100%.
- Step 4: Check to make sure the Blackout key is not lit. It is located directly above the Grandmaster.
- Step 5: You can now raise one or more channel faders to control channels 1-40.



Note:

Use the Fader Position Switch to change the channels the faders will control. The first 120 channels can be controlled via the faders. Channel 121 and above must be controlled from the keypad.

- Step 6: Lower the faders as needed to fade out channel levels.

Setting Levels Via the Control Keypad

For more information about the control keypad, see [Selecting Channels, page 83](#).

- Step 1: Make sure Element is displaying in Live. Press **[Live]**.
- Step 2: Check to make sure the Grandmaster is at 100%. The top of Element's display will show **Grandmaster #%** in red if the Grandmaster is below 100%.
- Step 3: Check to make sure the Blackout key is not lit. It is located directly above the Grandmaster.
- Step 4: You can now set levels from the keypad. Here are some examples of the syntax needed:
 - **[5] [Full] [Enter]** - sets channel 5 to 100% or Full.
 - **[1] [Thru] [1] [0] [At] [7] [5] [Enter]** - selects a range of channels 1 through 10 and sets their level to 75%.
 - **[2] [+] [7] [At] [2] <0> [Enter]** - selects channels 2 and 7 and sets their levels at 20%.
 - **[5] [0] [Thru] [7] [0] [-] [6] [0] [At] [5] <0> [Enter]** - selects channels 50 through 70, except 60, and sets their levels to 50%.



Note:

***[Enter]** must be used at the end of the command to terminate the command line. Levels will not be set until the command line has been terminated.*

Step 5: To remove a channel's level, you can either use the command **[At] [Enter]**, or you can use **[Sneak] [Enter]**. If you have not recorded any lighting looks yet, **[At] [Enter]** removes the manual value and sets to out. This will provide a manual 0 for the channel. If you store from this state, you will be storing a move to zero in the cue or submaster you stored. **[Sneak] [Enter]** removes the manual level and sets to the background state. If there is no cue or submaster in the background, the level will be set to its home value, resulting in a null state.

- **[1] [0] [At] [Enter]** - sets the level of channel 10 to 0%.
- **[Sneak] [Enter]** - fades out all manual levels.
- **[5] [Sneak] [Enter]** - fades out the manual level for channel 5.
- **[1] [Thru] [1] [0] [At] [Enter]** - sets the levels for channels 1 through 10 to 0%.
- **[2] [0] [Thru] [2] [5] [Sneak] [Enter]** - fades out the levels for channels 20 through 25.

Recording a Lighting Look

Submasters and cues are two ways that you can record looks to be able to recall them. This quick start will only cover recording submasters.

Recording a Submaster

For more information about submasters, see [Storing and Using Submasters, page 91](#).

- Step 1: Set the channel levels that you want in your look using the channel faders and/or keypad.
- Step 2: Switch the Fader Position Switch to Submaster mode.



Note:

If you have an Element 60 console, the third bank of faders are always in submaster mode.

- Step 3: Press **[Record]** then the bump button of the submaster you wish to record. This action will terminate the command line so there is no need to hit **[Enter]**. You can also record a submaster using the following syntax, **[Record] [Sub] [#] [Enter]**, in case you don't want to jump to submaster mode on the faders.
- Step 4: You can either leave that look up and build upon it or use **[Sneak] [Enter]** to fade out the manual levels.

If you would like to record looks to be able to play them back using Element's **[Go]** button, please see [Basic Cueing, page 100](#).

Chapter 2

Element Overview

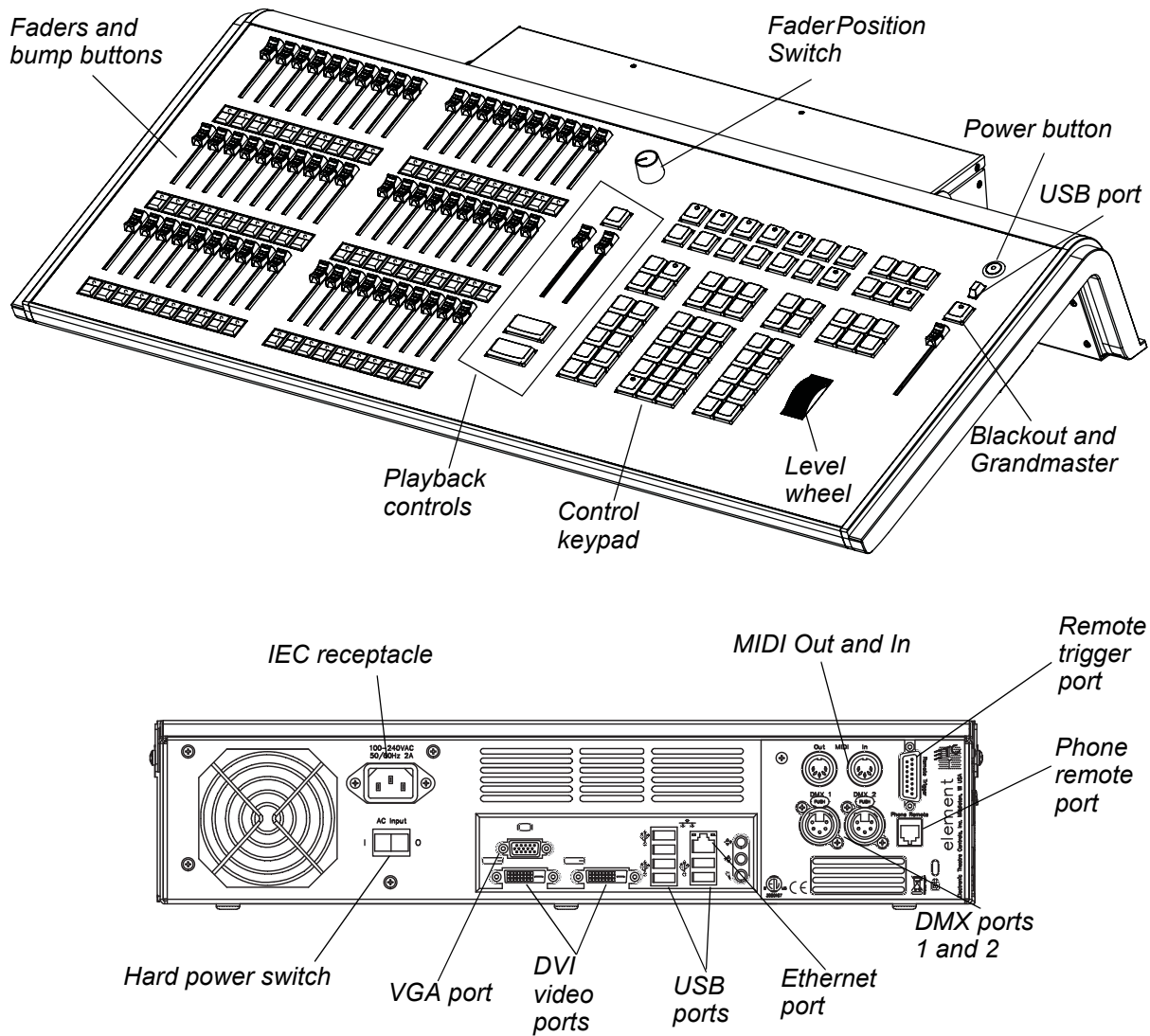
Inside this chapter you will find a general overview of your Element.

This chapter contains the following sections:

- **Console Geography**12
- **Control Keypad Layout**13
- **Terminology**14
- **Cleaning Element**15
- **Outputting DMX**15
- **Console Capacities**16

Console Geography

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



Note:

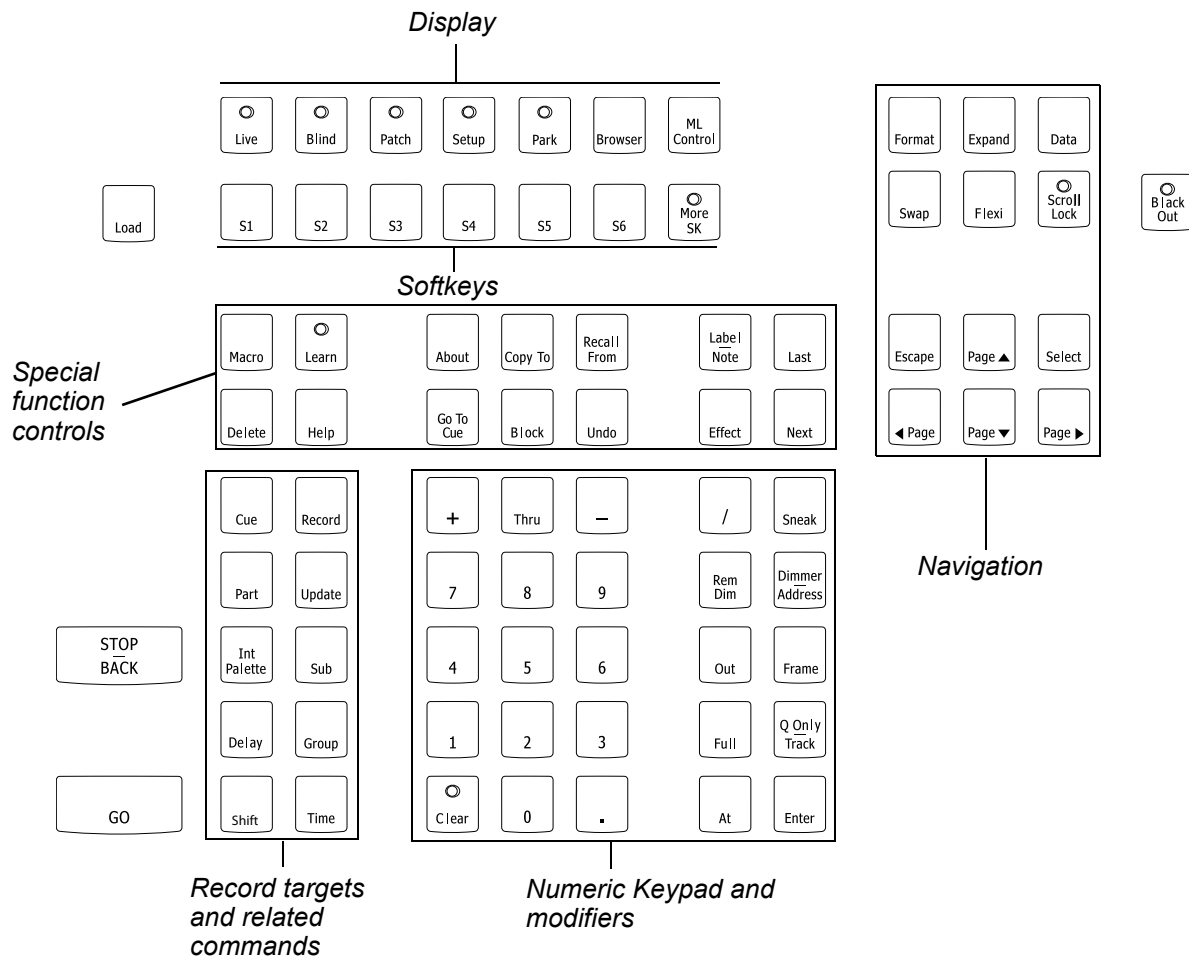
Element can support up to 2 monitors, either 2 DVI monitors or 1 VGA and 1 DVI. For monitor configuration, please [See "External Monitor Arrangement" on page 231.](#)

Control Keypad Layout

The control keypad area is divided into several sections including record targets, numeric keypad with modifiers, display, softkeys, navigation, and special function controls.

Display and navigation keys are used for quick access to common displays, format, paging, and navigation within displays.

The load button is located above the fader pair and is used to load the specified cue.



Terminology

Power Button

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



WARNING: *Before servicing Element, you must switch off the power on the rear panel and disconnect the power cord completely.*

USB Ports

One USB port is provided on the front of the console to connect any USB storage device. Additional USB ports on the rear panel of the console can be used to connect peripherals such as an alphanumeric keyboard, pointing device, or touchscreen control for external monitors.



CAUTION: *The USB ports cannot be used for charging devices like cell phones.*

Level Wheel

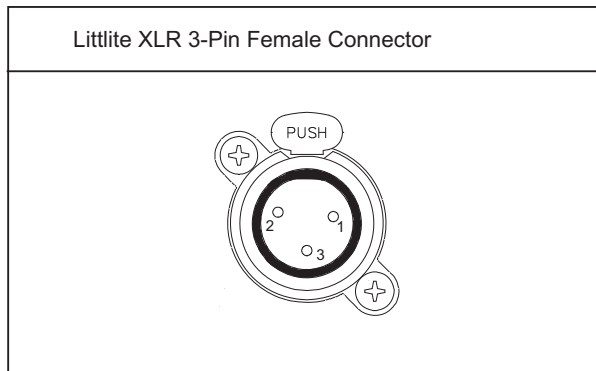
Adjusts intensity for selected channels. It also provides scrolling and zoom functions in various modes.

IEEE Ethernet 802.3 Ethernet Port

Ethernet port for connection to a network switch, network gateways, and accessory devices.

Littlites®

You may connect a Littlite to the side of your Element.



Dimming Littlites

Attached desk lamps can be dimmed either with the desk lamp control knob on the side of the console, or from the software.

Desk lamp controls are found in **Setup > Desk > Brightness Settings**. The **{Desk Lamp}** slider has a range of 0% (dimkest) to 100% (brightest). The default setting is 0%. The console will set the desk lamp to this setting on startup of the application. [See "{Brightness Settings}" on page 43.](#)

The desk lamps can also be controlled by holding down **[Browser]** and rolling the level wheel.

Cleaning Element

Should the exterior of your Element require cleaning, you may gently wipe it with a dampened (**not dripping**), non-abrasive paper towel or soft cloth.

If this does not clean the console sufficiently, you may apply some window cleaner (containing ammonia is fine) to the cloth and repeat the process until clean.

Outputting DMX

In order to output levels from Element, you can either use the DMX ports on the back of the console, or to output over a network, you may connect a Net3 gateway or Net2 node. If your devices receive Net3 or ETCNet2 directly, no gateway or node is required.

Element has two DMX ports. To output, connect one 5 pin XLR cable per port. The first port will default to outputting the first universe of DMX, addresses 1-512, and the second port to the second universe, outputting addresses 513-1024. See [Local DMX Outputs, page 243](#) for information on reconfiguring the DMX ports.

Nodes and gateways will function with Element out of the box without previous configuration. However if custom configuration is required, you will need to use either NCE (Network Configuration Editor) or GCE (Gateway Configuration Editor). GCE is installed on Element by default and can be accessed in **ECU>Settings>Maintenance>Gateway Configuration Editor (GCE)**. NCE can be installed on the console or a Windows® PC for configuration.

For more information on Net3 gateways or Net2 nodes, see the product literature that accompanied the hardware or download it from our website at www.etcconnect.com.

Console Capacities

Output Parameters

- 1,024 Outputs (DMX channels)

Channel Counts

- 250 or 500 Channels (any number from 1 to 99,999)

Cues and Cue List

- Up to 10,000 cues
- 1 Active Playback
- 1 Cue List

Record Targets

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

Faders

- 1 Grandmaster with Blackout
- 1 Master Playback, with Go and Stop/Back
- 40 or 60 Faders with bump buttons
 - a maximum of 300 configurable submasters
 - 120 channel faders

Chapter 3

System Basics

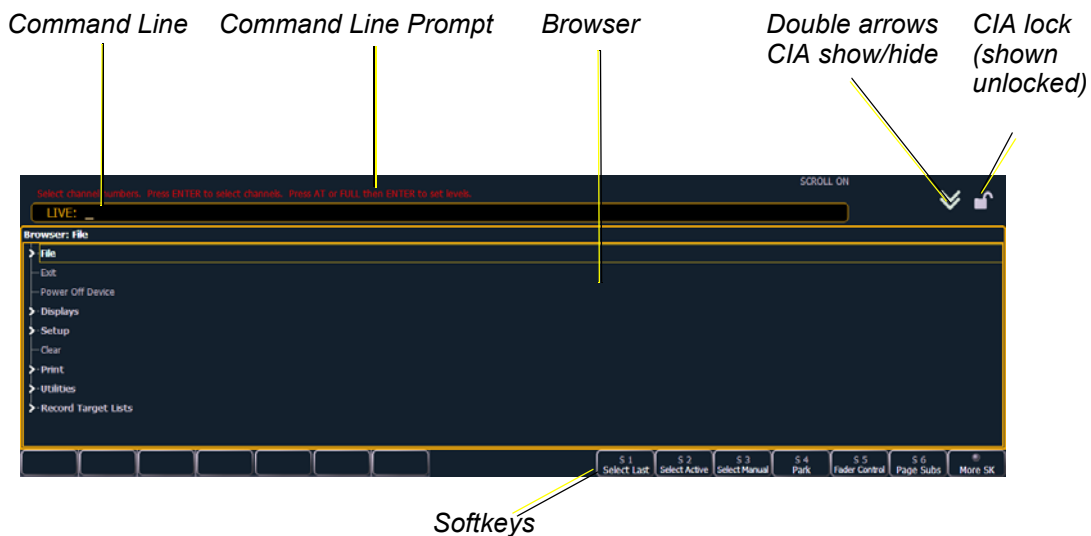
This chapter will discuss using the basic Element displays. For more display information, see [Display Conventions, page 245](#).

This chapter contains the following sections:

- [The Central Information Area \(CIA\)](#)18
- [Using Softkeys](#)19
- [Using the Browser](#)19
- [Display Control and Navigation](#)21
- [Using \[Format\]](#)24

The Central Information Area (CIA)

The Central Information Area (CIA) is displayed on the lower portion of the screen.



Browser

The browser is the interface for numerous functions including saving a show, opening a show, changing settings, viewing record target lists, opening displays and many other functions. Press **[Browser]** to display.

Collapse/Expand the CIA

It is possible to collapse the CIA from view. You can collapse the CIA by pressing **[Browser]** or by clicking the **double arrow** icon on the right side above the CIA. The CIA will collapse from view, exposing a larger viewing area of whatever display is visible above the CIA.

To expand the CIA into view again, press **[Browser]** or click the **double arrow** at the bottom of the screen. The CIA will reopen.

Lock the CIA

You can lock the CIA in place to prevent it from being collapsed.

To lock the CIA, click on the **lock** icon above the browser. The double arrow above the CIA will disappear and the lock will “lock” the CIA to hold it in place.

To unlock the CIA, click the lock again and the double arrows will reappear.

Command Line Prompt

Directly above the command line, you will see red text that will prompt you for an action. The prompts will change between different displays and actions, and are useful information to aid you in programming.

Locking the Facepanel

It is possible to lock out the facepanel, which prevents any actions from the command line or CIA. To lock out the facepanel, press **[Shift] & [Escape]**. To unlock the facepanel, press **[Shift] & [Escape]** again.

Using Softkeys

Some of the features and displays in Element are accessible from the softkeys, which are located in the bottom right area of the CIA. Those softkeys correspond to buttons **[S1]** - **[S6]** and **[More SK]**.

Pressing the **[Browser]** button accesses the following softkeys:

- Effect Status
- Mirror
- Show Control
- Curves
- Magic Sheet

Context Sensitive Softkeys

Softkeys are context sensitive and will change depending on the active display, the current command line, the active record target, and so on.

Changing Softkey Pages

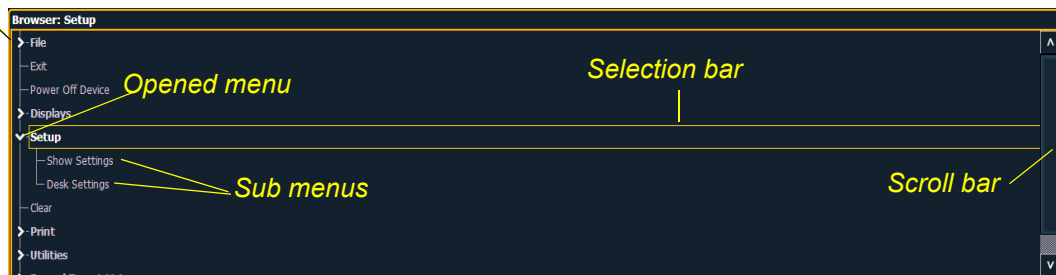
When there are more relative softkeys than the six available buttons, the LED in the **[More SK]** button will light. Press **[More SK]** to view the additional softkeys.

Using the Browser

To use the browser, you must first draw focus to it by pressing the **[Browser]** key. If the browser is not visible, double pressing **[Browser]** will always bring up the browser.

When focus is on the browser, the window border highlights in gold. The scroll lock LED illuminates red and the paging keys will now control selection in the browser.

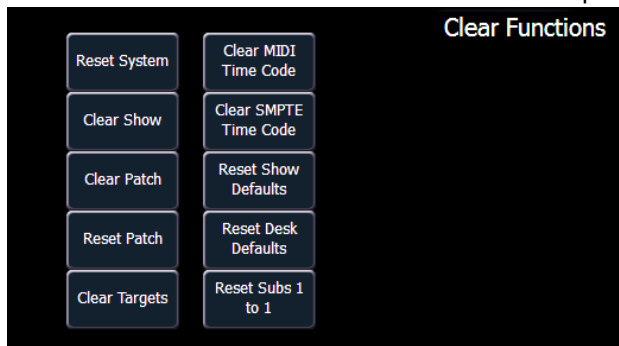
Menu arrows



- Use the page arrow keys to move the selection bar up and down the list. You can also use the level wheel to scroll through the list.
- When the bar highlights the desired menu, press **[Page ►]** to open the menu.
- Continue pressing **[Page ►]** to open submenus.
- Scroll to the item you wish to open using **[Page ▲]** or **[Page ▼]** and then press **[Select]**. You may also click the item you wish to open and then press **[Select]**. You can also use the level wheel to scroll in the browser.
- If you wish to close a submenu scroll to that item and press **[Page ◀]**.
- To draw focus to the browser at any time, press the **[Browser]** key.
- Additional presses of **[Browser]** will minimize or restore the CIA.

Clear Functions

You can access the various clear options from the browser by selecting **{Clear}** from the main browser menu. The clear functions window will open in the CIA.



From this menu you can select one of the available clear options by clicking on the desired button in the CIA. Element will ask you for a confirmation before performing the selected clear. For **{Clear Targets}**, Element will allow you to choose which record targets you want to clear.



From the **{Clear Targets}** screen you can select which record targets you wish to clear. The buttons at the center of the CIA represent all of the record targets that you can choose to clear. By default all components are selected (gray) and will be cleared. To withhold any targets from being cleared, simply deselect them in the CIA by clicking the respective button.

To reselect all targets, click the **{Reset}** button and all buttons will return to gray (selected). To stop the process, click the **{Cancel}** button.

When you have selected or deselected all of the record targets you require, click **{OK}**.

After clearing, the CIA will return to the browser. If you want to perform additional clear functions, you must select **{Clear}** from the browser again.

To exit the clear functions screen without clearing, press the **[Browser]** key at any time or select a clear button and then select **{Cancel}** from the confirmation screen.

Reset System vs Clear Show

Using **{Reset System}** will open a new show file and reset the Setup options to their defaults. Using **{Clear Show}** will only open a new show file.

Reset Patch vs Clear Patch

Using **{Reset Patch}** will clear your patch and set it to a 1-to-1 patch. Using **{Clear Patch}** will only clear out the patch.

Display Control and Navigation

Opening and Closing Displays

Displays can be opened and closed in different ways, depending on the display. Many displays are accessible from Element's keypad, while other displays are accessible from the browser and softkeys. List views of record targets can be quickly accessed by double pressing the record target button, such as **[Sub] [Sub]** will display the submaster list.

From the hardkeys

Several displays are opened directly from buttons on Element's keypad. Those displays are **[Live]**, **[Blind]**, **[Patch]**, **[Setup]**, **[Park]**, **[Browser]**, and **[ML Control]**. You can open list views of any record target by double-pressing the key for the desired record target

From the browser

Open and navigate the browser as described in [Using the Browser, page 19](#). When you open a new display (such as the group list), it will open on the primary display. If the display does not open to a monitor (such as setup or the browser) it will open in the CIA. Some displays are available from the softkeys when the **[Browser]** button is pressed.

Again, any time you wish to return to the browser, simply press **[Browser]**.

Closing Displays

To close any display:

- Press the **[Browser]** key again to open a different display.
- Press **[Escape]** to close the active display. The screen will return to live or blind.
- Press **[Live]** or **[Blind]** to replace the display with the live/blind view.

To close a display in the CIA, press the **[Browser]** key and the browser will reappear.

Swap Displays

When using two monitors, you can swap displays between monitors by pressing the **[Swap]** key. Press it again to return to the original configuration.

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 on the keypad. 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 up,
- **[Page ►]** - scrolls table and spreadsheet views right,
- **[Page ◀]** - scrolls table and spreadsheet views left.

Expanding Displays

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

To expand a display, such as live or patch, press **[Expand]**. To collapse an expanded view, press **[Expand]** again.

[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.

[Data] can also be used to change the address views in patch. [See “Using Output Address vs Port/Offset” on page 50.](#)

[Time] Key

When the **[Time]** button is pressed on a terminated command line, the selected cue is always displayed for time modification.

[Label] Key

Element allows for labeling of cues, channels, submasters, and more. Below are some examples of labeling syntax:



Note: *You will need a mouse, keyboard, or touchscreen to create labels.*

- **[Cue] [6] [Label] <name> [Enter]**
- **[Group] [3] [Label] <name> [Enter]**
- **[Sub] [8] [Label] <name> [Enter]**

If you press the label key for a target already labeled, this posts the current label to the command line. To clear, press **[Label]** again. You can **[Clear]** to backspace one character at a time, or type to append to the existing label.

[Recall From], [Copy To], {Replace With}, and {Move To}

[Recall From], **[Copy To]**, **{Replace With}**, and **{Move To}** may be used to create and edit data. [See “Advanced Manual Control” on page 177.](#)

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:

- All channels
- All patched channels
- Manual channels
- All show channels (any channels that have data stored in a cue or submaster)
- Active channels (channels with intensity above zero or a move instruction)
- Selected channels

In flexi mode, any selected channels (including the last channel selection) are always included in the view. Gaps in channel numbers are indicated by a vertical line between the channels where a gap in numbering occurs.

To change flexi modes in the live/blind display, press **[Flexi]** to cycle through the views listed above. When **[Flexi]** is held down, the softkeys change to represent all of the available flexi states. You can select the desired flexi view from those keys.

[Next/Last] can be used to select the next or last channel in the current flexi mode.

[Thru] can be used to view only channels in the current flexi mode (except for selected channels mode) as long as either the first or last channel in the **[Thru]** range is included in the current flexi mode. To include channels not in the current flexi mode, **[Thru] [Thru]** can be used.

View Channels

You may select specific channels to appear in another flexichannel state called “View Channels”. This state does not exist until you select channels to view. After view channels is activated, it will appear in the rotation of flexichannel states when **[Flexi]** is pressed.

To select channels to view:

- Step 1: Select channels on the command line (do not press **[Enter]**).
- Step 2: Press and hold **[Flexi]**.
- Step 3: Press **{View Chans}**. The “View Channels” flexi state will be created and the channels you selected will be visible in it.

The channels you selected will be visible in this flexi state until you select other channels and press **{View Chans}** again. At any time, you can access the last channels you defined for this state by pressing **[Flexi]** until this state is visible.

To redefine the selected channels in the state, simply follow the steps above again.

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 table view. Pressing **[Format]** will toggle between table, summary, and, if in Blind, spreadsheet views.

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 spreadsheet, which is only available in blind. If you are working in blind spreadsheet, when you return to live you will be working with the table or summary view, based on which one you were last using.

Table View

Table view is available in live or blind. If devices other than dimmers are patched, table view displays the fixture type associated with channels and details about each channel's category *and* parameter levels.

In live, table view displays all active channel data being output from Element. In blind, it will display all data for a single record target (cue, palette, submaster).

In the table view, a slight space is provided between fixture types, giving a clear delineation between them. The name of the fixture type is displayed at the top of the section for that fixture.

Live Table Cricket & Cache 10:09:41 PM

Tracking

43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
			IP 8	IP 8	IP 8	IP 8	IP 8	IP 8					IP 9	IP 9	IP 9	IP 9	IP 9

Revolution RWM/RWM

Ch	Pan	Tilt	Scroller	Hue	Saturatn	Scroller Fan	Scroller MSpeed	Gobo Ind/Spd	Gobo Mode	Gobo Select
61	50	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	0	0	F 1-
62	50	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	0	0	F 1-
63	50	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	0	0	F 1-
64	50	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	0	0	F 1-

Mac 700 Profile Beam

Parameter data

Ch	Pan	Tilt	Cyan	Magenta	Yellow	Color Select	Color Wheel Mode	Hue	Saturatn	Wheel Shake
71	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
72	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
73	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
74	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
75	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
76	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
77	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1
78	IP 10	FP 5	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1	CP 1

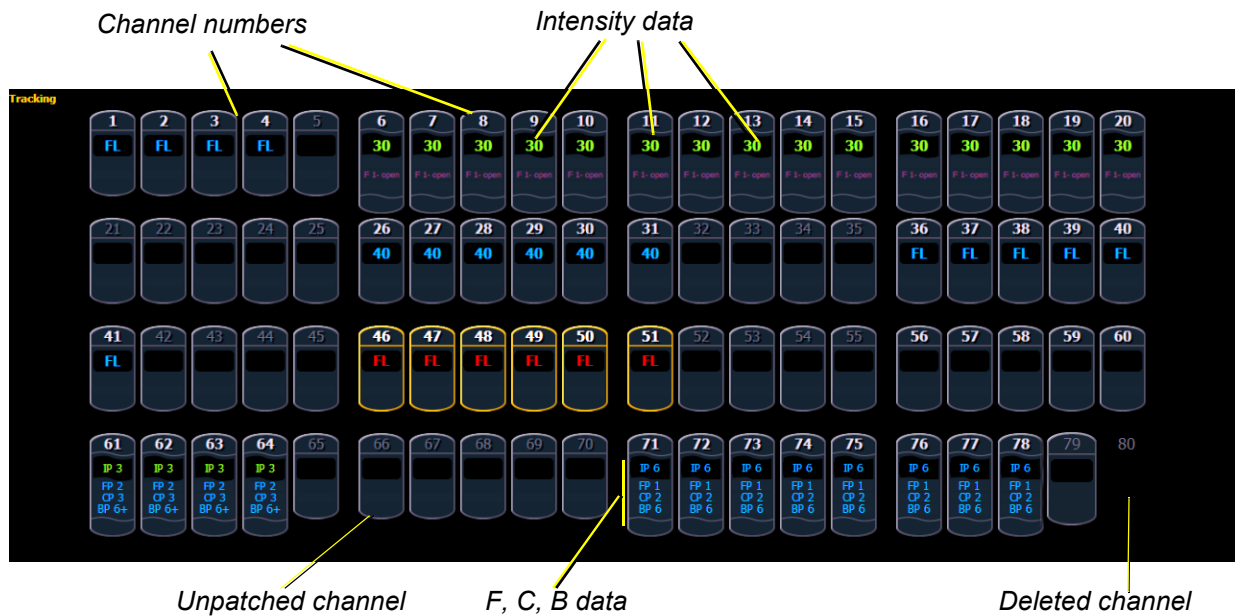
Fixture type

Cue	Int Up	Int Down	Dur	MBP	Follow	Link	Loop	Curve	Rate	Label	Ext Links
7	5		5							blue blinder	

Live Table View

Summary View

The summary view displays the largest number of channels of any of the formats. Below you can see channels 1-80 are shown. This format is best used to see large numbers of channels' intensity data or parameter category data. Individual non-intensity parameters are not visible in this view.



Zooming Displays

You may zoom the table and summary view to display more or less channels. To do this, press and hold the **[Format]** button and scroll the **Level Wheel** to alter the number of channels visible. Scrolling the wheel up zooms in. Scrolling the wheel down zooms out. Zooming this display when it is in 100 channel mode is not supported. A mouse can also be used to control zooming by holding down the left button while using the scroll wheel.

Spreadsheet (Blind Only)

Spreadsheet format is available only in blind mode. It is useful for viewing and editing channel data and trends for multiple cues, submasters, or palettes at one time. Cues and other record targets are displayed on the vertical axis and channel data is visible on the horizontal axis. [See “Recording and Editing Cues from Blind” on page 116.](#)

To toggle between viewing just the intensity information and other parameters, press **[Shift] & [Format]**.

Cue numbers **Channel number** **Parameters**

Blind Spreadsheet | Offline Cricket & Cache 7:46:17 PM

Cue	1	2	3	4	5	6	7
	Intens	Intens	Intens	Intens	Intens	Intens	Intens
1	30	30	30	30		40	40
2	FL	FL	FL	FL		30	30
3	75	75	75	75		45	30
4	30	30	75	30	30	10	10
5	IP 2	FL	IP 2	IP 2	0	IP 4	IP 4
6	0	0	0	0	-	IP 3	IP 3
7	-	-	-	-	-	IP 3	IP 3
8	-	-	-	-	-	IP 3	IP 3
9	-	-	-	-	-	0	0

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.

This chapter contains the following sections:

- **Create a New Show File** 28
- **Open an Existing Show File** 28
- **Merging Show Files** 31
- **Printing a Show File** 33
- **Saving the Current Show File** 34
- **Using Quick Save** 34
- **Using Save As** 35
- **Importing Show Files** 35
- **Exporting a Show File** 36
- **Deleting a File** 36
- **File Manager** 36

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 create a new show. Any unsaved show data will be lost. Press **[Select]** or click **{OK}** to confirm or **{Cancel}** to discontinue the operation.

In Element, a new show file defaults to a 1-to-1 patch. Clicking **{Patch 1to1}** will deselect the option and result in a blank patch.

Open an Existing Show File

Names of show files may appear in the browser list in normal text or in **bold text**. Files in normal text indicate that there is only one show file stored by that name.

Bold show names indicate that there are several versions of the show file stored under that name, the bold one being the most recent. To access the most recent show file, simply select the bold name. You may right arrow **[→]** from the bold name to expand a list of previous versions beneath it in the browser. Select the desired show from the expanded list.

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



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

- Show File Archive - This is the default storage location for show files when a show file is created and saved. Older versions of the show file will be listed under the most current version. This allows you the ability to open the latest version or an earlier version of a show file if desired.
- File server - if one is connected. When there is no file server connected, it will not display in the browser. [See “Network Drives” on page 241.](#)
- USB storage device - When a USB device is connected and an Element show file (.esf) is available on the device, you will notice the USB device’s name and drive letter are displayed in white text and expandable.

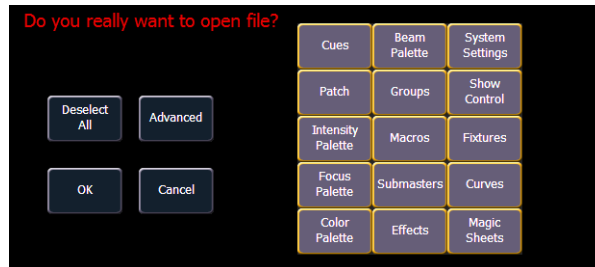
Open the desired location:

- 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> Name of Drive** and press **[Select]**.

Select the specific show file

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

This will open the partial show loading screen in the CIA.



From this screen you can select which components of the show file you wish to load. The buttons at the center of the CIA represent all of the show components that you can choose to load. By default all components are selected (gray) and will be loaded. To withhold any show components from loading, simply deselect them in the CIA by clicking the respective button.



Note:

You will need a mouse, keyboard, or touchscreen to deselect options.



CAUTION:

On a partial show open, if any record targets are not opened, any existing data of that type will be cleared from the console. To merge show data, merge should be used. [See “Merging Show Files” on page 31.](#)

To reselect all show components, click the **{Reset}** button and all buttons will return to gray (selected). To stop the show load process, click the **{Cancel}** button.

When you have selected or deselected all of the show components you require, press **[Select]** or click **{OK}**.

Element loads the selected show to the console.

Selective Partial Show Opening

If you select the **{Advanced}** button in the partial show opening screen, you will have the opportunity to load partial components from the show file and be able to specify the desired location of those partial components in the new show file.

For example, you could specify only cues 5-10 and load them as cues 20-25 in the new show. You could also specify only specific palettes, effects, and so on. To see the complete list of show components, press the **{Advanced}** key in the partial show loading screen.

Type	List	List Target	Start	End	Target
Cues					
Patch					
Submasters					

Selected Show Components

As you specify components, they are added to a table in the CIA. In the table, fields with a dark background may be edited, fields with a light gray background do not apply to that component. For each component in the list, you can specify the desired range by clicking in the proper area in the table and entering numbers from the keypad. The columns in the table are:

- List - The list you are taking data from (such as a cue list).
- List Target - The list you are adding the data to.
- Start - The first in a range of components (such as a range of cues).
- End - The last in a range of components.
- Target - The desired location of the components in the new show file (for ranges, this will be the location in the new show of the first component in the range, the others will follow in order).

Partial Patch Opening

You have the option to selectively open partial patch information or fixtures into a show file by selecting the **{Advanced}** button in the partial show opening screen.



Note:

It is important to remember that on a partial patch open, if any record targets are not opened, any existing data of that type will be cleared from the console. To keep that data, merge should be used.

You can specify the desired range by selecting the proper area in the table and entering numbers from the keypad. The columns in the table that relate to patch are:

- Start - The first in a range of components.
- End - The last in a range of components.
- Target - The desired location of the components in the new show file (for ranges, this will be the location in the new show of the first component in the range, the others will follow in order).

To merge only partial components:

- Step 1: From the browser, navigate to the desired show file (see [Open the desired location;](#), [page 28](#)).
- Step 2: When the merge show load screen appears, press the **{Advanced}** button. The partial components selection screen will appear in the CIA.
- Step 3: Select the show components that you wish to merge by pressing on their respective buttons on the left side of the CIA. The components will appear in the list to the right as you select them.
- Step 4: Press any fields for which you want to enter specific numbers. The field (if editable) will highlight in gold.
- Step 5: Enter the numbers using the keypad to specify the desired cues/groups/effects and so on.
- Step 6: Press **{OK}** to load the components to the current show.

Partial Patch Merging

You have the option to selectively merge partial patch information into a show file by selecting the **{Advanced}** button in the partial show merge screen.

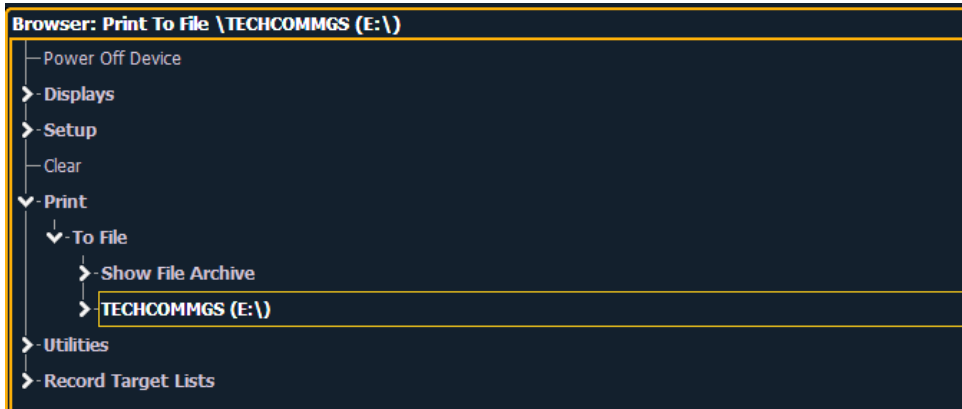
You can specify the desired range by selecting the proper area in the table and entering numbers from the keypad. The columns in the table that relate to patch are:

- Start - The first in a range of components.
- End - The last in a range of components.
- Target - The desired location of the components in the new show file (for ranges, this will be the location in the new show of the first component in the range, the others will follow in order).

Printing a Show File

Element provides you with the ability to save a show file or aspects from a show file to a PDF file for printing. Element has three locations to save the PDF files including the Show File Archive, the File Server (if connected), or a USB device (if connected). Saving the PDF file to a USB storage device, allows you to then print the PDF from a personal computer. Printing directly from Element is not supported. To save a PDF of an Element show file, navigate within the browser to: **File> Print>** and press **[Select]**.

You can select the page orientation and paper type in **Setup >Desk >PDF File Settings**.



This will open the printing screen in the CIA. From this screen you can choose which aspects of the show file you want to save to PDF. By default all aspects are selected (gray) and will be saved. To withhold any show aspects from printing, simply deselect them in the CIA by clicking the respective button. Deselected show aspects will appear in black.

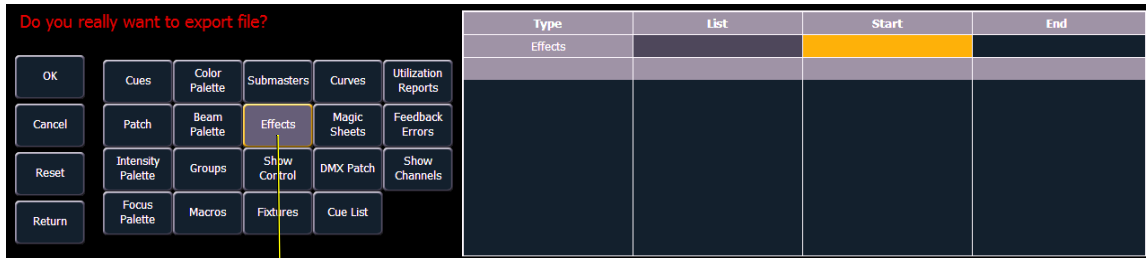


Three buttons that will impact the overall PDF are **{Tracked Levels}**, **{Color Printout}**, and **{Summary View}**.

- **{Tracked Levels}** - will display all tracked levels when selected.
- **{Color Printout}** - will display the values in color to match the way they are displayed on the console when selected. When deselected, the values will appear in grayscale.
- **{Summary View}** - will display the same information as the summary view display. [See "Summary View" on page 25.](#)

To reselect all show aspects, press the **{Reset}** touchbutton and all buttons will return to gray (selected). To stop the show file from being saved to a PDF and return to the browser, press the **{Cancel}** button. When you have selected/deselected all of the show aspects you require, press the **{Ok}** button to create the PDF file.

You can also choose to print specific portions of show aspects. To select this information, press the **{Advanced}** button. The touchbuttons at the center of the CIA will again represent all of the show aspects that you can choose. By default all aspects will be deselected (black).



Selected Show Component

As you select aspects, they will be added to the table in the CIA. For each component in the list, you can specify the desired range by pressing the proper area in the table and entering numbers from the keypad. The columns in the table are:

- List - The list you are taking data from (such as a cue list).
- Start - The first in a range of components (such as a range of cues).
- End - The last in a range of components.

To deselect all show aspects, press the **{Reset}** touchbutton and all buttons will return to black (deselected).

To return to the main print screen, press the **{Advanced}** button. To stop the show file from being saved to a PDF file and return to the browser, press the **{Cancel}** button. If you are ready to save the file, press the **{Ok}** button. You will be prompted to name the file.

The PDF will have the show name, date and time it was created, and date and times for when the show file was last saved. It also gives the Element software version information. If multiple aspects were selected to save to the file, there will be hyperlinks at the top of the PDF so you can quickly jump to a section.

Saving the Current Show File

To save the current show data, navigate within the browser to: **File> Save>** and press **[Select]**.

The Show File Archive is the default storage location for show files when they are saved. The new time stamp located beneath the show file name on the CIA indicates 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.



Note:

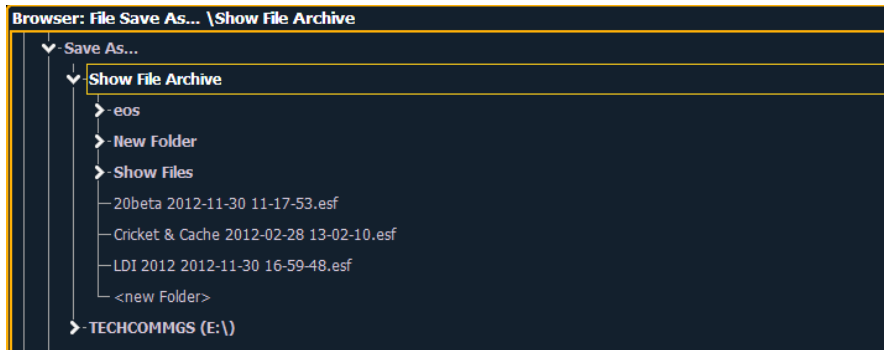
When saving a show file for the first time, Element will provide the name "Show File" and will attach a time/date stamp to the name. To change the name, use a mouse and the on-screen keyboard, or an attached USB keyboard.

Using Quick Save

To save the current show data to the hard drive without having to navigate to the browser, hold down **[Shift] & [Update]**.

Using Save As

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



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

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 entered with a time stamp suffix.

Pressing **[Label]** or **[Delete]** on the console, or DELETE on an alphanumeric keyboard will remove the default show label when doing a Save As.

Importing Show Files

Element supports the import of standard USITT ASCII, and Lightwright® text files.



Note:

Element supports ASCII show file import from a number of other control consoles, including the Congo, Obsession, Expression, Emphasis, and Congo product lines, as well as the Strand 300 Series. Please note that all show files must be saved in an ASCII format prior to importing them into Element.



CAUTION:

The way data is stored and used is often different between different desks. Imported data may not playback exactly the same between desks. Not all data (such as effects and macros) may be imported. This varies by product.

You have the option of importing standard USITT ASCII (.asc) or Lightwright data (.txt or .asc) from the Show File Archive, a File Server (if connected), or a USB device.

To import a show file, navigate within the Browser to: **File> Import> (Type of file to import)** and press **[Select]**. If you are importing an USITT ASCII file, you will have two options, Import as Library Fixtures or Import As Custom Fixtures. Import as Library Fixtures will allow Element to try to match the fixtures in the file with fixtures in the Element library. Import as Custom Fixtures will bring the fixtures in as they are in the file. It is recommended to use Import as Custom Fixtures.

Navigate to the desired storage location and press **[Select]**. When using import, Element displays only the available files. Navigate to the specific file and press **[Select]**.

Exporting a Show File

Export your Element show file to a standard USITT ASCII, .csv, Focus Track, or Fast Focus Pro show file using the export feature.

To export your Element show file in ASCII format, navigate within the browser to: **File> Export> USITT ASCII** 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 entered with a “.asc” file extension.

You can export Element show files as a .csv format by navigating within the browser to: **File> Export> CSV** and select the location for the export, the Show File Archive, a File Server (if connected), or to a USB device.

Files can also be exported as in a Focus Track or Fast Focus Pro format by going to **File> Export> Fast Focus Pro** or **Focus Track** and select the location for the export, the Show File Archive, a File Server (if connected), or to a USB device.

Deleting a File

Element provides you with the ability to delete show files from the Show File Archive and the File Server from within the browser.

To Delete a Show File

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 a Folder

The folder must first be empty.

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

File Manager

Element has a file manager, which provides a way to manage show files. [See “File Manager” on page 240.](#)

Chapter 5

Setup

This chapter discusses Element's system settings that you can change to meet your preferences.

This chapter contains the following sections:

- **Opening Setup** 38
- **Show** 38
- **Desk** 41

Opening Setup

There are two ways to open the setup screen. You can either press **[Setup]** or press **[Browser]** and scroll down to **{Setup}**.

The CIA will display the setup screen and the softkeys will change. Element will default to displaying show settings, however if you change the view, Element will remember the view you were in when you return to setup.

The setup displays are:

- Show
- Desk



Note:

*To select buttons in the show and desk displays, you can either use a mouse or the arrow keys on Element along with the **{Properties}** softkey. **{Properties}** will allow you to scroll through the fields and pressing **[Select]** will choose a field. Pressing **[Select]** again will toggle options, such as 'Enabled' and 'Disabled'. Some fields require data from the keypad and then **[Enter]**. Selecting **{Properties}** again will return the scroll ability to the buttons on the left of the CIA.*

Show

When you select the **{Show}** softkey, the CIA will display the following buttons:

- Show Settings
- Cue Settings
- Show Control

Show Settings

Click **{Show Settings}** to enter this category.

Seven fields will be available to you: **{Num of Channels}**, **{Dim. Dbl. Offset}**, **{Allow HS Fades}**, **{Fader Mode}**, **{Mark Time}**, **{Startup Macro}**, and **{Disconnect Macro}**.

{Num of Channels}

You may use this field to set the number of channels in your Element up to 10,000. However, you are limited to only patch up to the number of channels that are available from your system, either 250 or 500 depending on the channel count for your Element. Enter the number of channels for your system using the keypad. This is useful for controlling paging. This entry must be confirmed with the **[Enter]** key.

{Dim. Dbl. Offset}

This allows you to set the address offset for dimmer doubling. The default for this is 20000, to match the Net2 standard offset, including Sensor dimming software. For dimmer doubling over Local DMX, this value should be set to 256.

{Allow HS Fades}

Hue and saturation (HS) color data normally fades in native space. Enabling **{Allow HS Fades}** will make HS data fade in HS space.

{Fader Mode}

This field allows you to set the fader mode for the cue list. Options toggle between Proportional Master, Intensity Master, and Manual Master. For more information on Proportional and Intensity Masters, [See "Proportional vs. Intensity Master" on page 93.](#) For information on Manual Master, [See "Manual Master Option" on page 134.](#)

{Mark Time}

This field allows you to set the time that non-intensity mark instructions will use. When **{Mark Time}** is disabled, which is the default, mark instructions will use cue timing.

{Startup Macro}

This field allows you to set up a startup macro that will trigger after the console initialization has completed.

{Disconnect Macro}

This field can be use for disconnect macros or shutdown macros.

- Disconnect Macro - allows you to set up a disconnect macro that will trigger when the primary disconnects from its backup, or when a backup disconnects from the primary.
- Shutdown Macro - allows you to set up a disconnect macro that will trigger at power off, not when exiting the application.

{Cue Settings}

Click **{Cue Settings}** to enter this category.

You will be able to set the cue default times for intensity up and down.

{Show Control}

For more information on using show control with your system, see the Eos Family Show Control User Guide, which is available for download at www.etcconnect.com.

{SMPTE Time Code Rx}

This touchbutton is used to control whether your console can receive SMPTE time code. Choosing “Disabled” will disable all time code lists that have a SMPTE source. The default for this setting is “Enabled”.

{MIDI Time Code Rx}

As above, but for MIDI Time Code instead of SMPTE. The default for this setting is “Enabled”.

{Resync Frames}

This touchbutton allows you to configure how many frames need to be synced before timecode starts running. Frames can be from 1-30. Default is 2 frames.

{MSC Receive}

This touchbutton toggles the setting for receiving MIDI Show Control from an external source between “Enabled” and “Disabled”. The default setting is “Disabled”.

{MSC Receive Channel}

Also known as a “Device ID” this setting configures the MIDI channel for the console to receive MIDI Show Control information. Only MSC data with the same device ID will be received. A device ID can be from 0-126, or if set to 127, Eos Ti, Gio, Ion, or Element will receive MSC data from all IDs (All Call). Eos cannot be set as an All Call receiver. For example:

- **{MSC Receive Channel} [5] [0] [Enter]**

{ACN - MIDI Rx ID(s)}

This setting allows you to specify the MIDI Show Control data that your console will receive when transmitted over the Architecture for Control Network (ACN). When set, the console will respond to MSC data from any gateway that has its “ACN MIDI Rx ID” set to the same number. ACN MIDI Rx ID can be from 1-32. ID ranges may be used. When using the local MIDI ports on Eos Ti, Gio, Ion, or Element, this setting needs to match the MIDI Rx Group ID in the **ECU>{Settings}>{Local I/O}>Show Control Gateway>Group IDs**. For example:

- **{ACN MIDI Rx ID} [2] [5] [Enter]**
- **{ACN MIDI Rx ID} [1] [Thru] [1][0] [Enter]**

{MSC Transmit}

This setting, when enabled, allows the console to send MSC messages for actions taken on the console, such as cue actions, macros firing, and submaster bumps. The default setting is “Disabled”.

{MSC Transmit Channel}

Also known as “Device ID” this setting allows you to establish the device ID with which your console will transmit MIDI Show Control information. A device ID can be from 0-126, or if set to 127, Eos, Eos Ti, Gio, Ion, or Element will transmit MSC data to all IDs (All Call). For example:

- **{MSC Transmit Channel} [5] [0] [Enter]**

{ACN - MIDI Tx ID}

This setting allows you to specify the ID number of MIDI Show Control data that the console transmits over an Architecture for Control Network (ACN). When set, the console will transmit MSC data to any gateway that has its “ACN MIDI Tx ID” set to the same number. ACN MIDI Tx ID can be from 1-32. When using the local MIDI ports on Gio, Ion, or Element, this setting needs to match the MIDI Tx Group ID in the **ECU>{Settings}>{Local I/O}>Show Control Gateway>Group IDs**. For example:

- **{ACN MIDI Tx ID} [2][5] [Enter]**

{String MIDI TX}

When enabled, this setting will cause the console to send serial strings instead of a MIDI Show Control message when certain actions happen at the console.

{MIDI Cue List}

MIDI Cue List specifies the cue list that the console will use to send MSC data. If left blank and MSC Tx is enabled, all cue lists will generate MSC events. Otherwise, only the particular list (or lists) selected will fire MSC events.

{Analog Inputs}

This is a master setting for receiving analog inputs from a Net3 I/O Gateway or the local analog ports on a Gio, Ion, or Element. When disabled it will turn off all analog input for all event lists. Default is “Enabled”.

{Relay Outputs}

This is a master setting for triggering external relays from a Net3 I/O Gateway or the local ports on a Gio, Ion, or Element. When disabled it will turn off all external relays for all event lists. The default is “Enabled”.

{String RX}

This setting will enable receiving strings on all Serial RX formats.

{String RX Group IDs}

This button is for setting up which Serial Port Group ID (from I/O Gateway settings in GCE) the console will listen to. This only affects serial traffic from I/O gateways, not network UDP messages or ACN strings. Group IDs are from 1-32. Remember group IDs relate to the number set in the gateway. It can be set to listen to multiple group IDs by using **[Thru]** and **[+]**.

{String RX Port}

This setting specifies the UDP port that the console will listen to for receiving strings.

{String TX}

This settings will enable sending strings on all Serial TX formats.

{String TX Group IDs}

This button is for setting up which Serial Port Group ID (from I/O Gateway settings in GCE) the console will send to. This only affects serial traffic to I/O gateways, not network UDP messages or ACN strings. Group IDs are from 1-32. Remember group IDs relate to the number set in the gateway. It can be set to send to multiple group IDs by using **[Thru]** and **[+]**.

{String TX Port}

Setting for the UDP destination port that the console will send strings.

{String TX IP Address}

Sets the destination IP address that the console will send strings.

Desk

When you select the **{Desk}** softkey, the CIA will display the following buttons:

- Record Defaults
- Manual Control
- Face Panel
- Face Panel Keypad
- Displays
- PDF File Settings
- Brightness Settings
- RFR Settings
- Trackball Settings

{Record Defaults}

This screen enables you to change general record defaults.

Auto Playback

When enabled, this feature automatically plays back cues as they are stored and releases manual control. This field is a toggle state between “Enabled” and “Disabled”. When auto playback is “Disabled”, all manual levels are maintained and cues must be loaded and executed on the split fader. The default is “Enabled”.

Track

This field allows you to switch between tracking and cue only modes (see [Tracking vs. Cue Only, page 224](#)). The default is “Tracking”.

Record Confirm

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

Delete Confirm

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

{Manual Control}

This desk setting button gives you access to Element’s manual control settings.

Manual Time

In this section you may change the default times for manual changes to occur in live. Times can be set for Intensity Up and Intensity Down.

Manual Control

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

Preserve Blind Cue - This enables the console to display the last selected cue in blind when you return to blind. The default is disabled.

Level - This sets the default for Level (which is accessed in Element by double pressing **[At]**). Any value between 0-100 may be entered. The default is 100.

Plus% - This sets the level for the +% (which is accessed in Element by pressing **[Shift] & [+]**), 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 -% (which is accessed by pressing **[Shift] & [-]**), which will decrease the selected channel by the set percentage. Any value between 0-100 may be entered. The default is 10%.

Rem Dim Level - This allows you to set the level for all Remainder Dim commands. The default is 0.

Default Times

In this section you may change the default times for sneak commands, back time, and go to cue time. The default for these is 5 seconds, except for back time, which uses a default of 1 second.

{Face Panel}

In this section you may change the sounds settings as well as adjusting the increment and acceleration effect of the level wheel.

{Face Panel Keypad}

Auto Repeat

This setting allows you to adjust the auto repeat settings (delay and speed) for the facepanel keypad.

Blackout

You can disable the **[Blackout]** hardkey here. By default, blackout is “Enabled”.

Grandmaster

You can disable the Grandmaster. By default the Grandmaster is “Enabled”.

Spacebar [Go]

You can enable the spacebar on an external keyboard as the hotkey for **[Go]**. By default, it is “Disabled”.

Hide Mouse

With hide mouse enabled, if the mouse is left idle for 10 seconds, the cursor will go away. Once the mouse is used again, the cursor will return. By default, this is “Disabled”.

{Displays}

This desk setting button gives you access to the Element display settings.

High Contrast Display

This button toggles the setting between “Enabled” and “Disabled”. When enabled, high-contrast brightens the magenta used to show tracked values.

The default setting for this is “Disabled”.

Show Reference Label

This button toggles the setting between “Enabled” and “Disabled”. When enabled, referenced record targets (such as palettes) with labels will have their labels displayed in the live/blind display rather than their target type and number. **[Shift] & [Label]** can be used to temporally toggle between views.

The default setting for this is “Disabled”.

Group Chans By 5

You can turn off/on the grouping of channels in groups of 5 in the live summary view from this field.

The default for this setting is “Enabled”.

100 Channel Display

This setting can be used to display 100 channels at a time in the live summary view. The default for this setting is “Disabled.”

Cmd Line on PSD

This setting can be used to display an optional command line on the Playback Status Display. The default for this setting is “Disabled”.

PSD Time Countdown

In the Playback Status Display (PSD), holding down **[Time]**, while a cue is fading, will display the cue category times counting down in the cue list display area. The default action is to show the total time not the countdown. When the **{PSD Time Countdown}** is enabled, the cue category times will countdown as a cue is fading. To see the total time, hold down the **[Time]** key. **{PSD Time Countdown}** is “disabled” by default.

{PDF File Settings}

This screen allows you to select the orientation and paper type for PDF files.

{Brightness Settings}

This screen allows you to adjust the brightness of attached desk lamps. The **{Desk Lamp}** fader has a range of 0% (dimmiest level) to 100% (brightest level).

{RFR Settings}

This screen is for allowing Net3 RFR, iRFR, and aRFR connections. The default setting is “Enabled”. For more information see [RFR, page 244](#) and [Remote Focus Remote \(RFR\), page 258](#).

{Trackball Settings}

This screen allows you to make adjustments to a trackball.

{Trackball Tick Freq.}

This fader adjusts the trackball tick frequency. The default is 200 ticks.

{Trackball Acc. Fctr}

This fader adjusts the trackball acceleration factor. The default is 800 zip.

{Swap Pan/Tilt}

This touchbutton swaps the directions for Pan and Tilt on a trackball. The default for Pan and Tilt is X and Y, respectively. When this button is enabled, Pan and Tilt will be Y and X.

{Reverse Pan}

This touchbutton reverses the direction of Pan.

{Reverse Tilt}

This touchbutton reverses the direction of Tilt.

{Reset}

This button resets all five trackball settings back to their default.

Chapter 6

Patch

The Patch is used to associate a channel with an address. Once a channel is patched to an address, and the output is connected to a device (for example a dimmer, moving light, or accessory), the channel will then control that device.

This chapter contains the following sections:

• About Patch	46
• Displays	47
• Patching Conventional Fixtures	48
• Patching Scrollers	52
• Using the Scroller Editor	53
• Calibrating a Scroller	58
• Patching Moving Lights, LEDs, and Accessories	59
• Display Pages in Patch	61
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• Dimmer Doubling	72
• Moving and Copying Channels	72
• Swapping Channels	73
• Unpatch a Channel	73
• Deleting Channels	73
• Clearing the Patch	74
• Update Library	74
• Fixture Editor	75

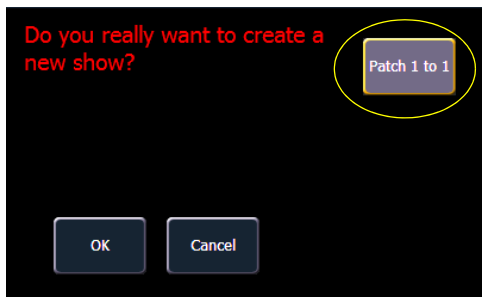
About Patch

Element 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, pan, tilt, zoom, or iris are also associated with that same channel number but as additional lines of channel information.

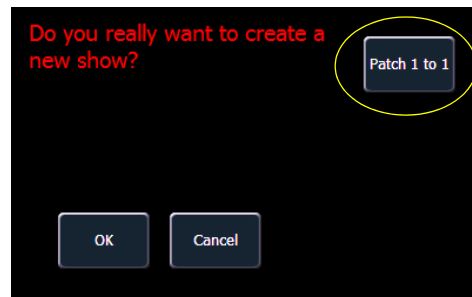
You are required to enter only the simplest data to patch a device and begin programming your show, such as the channel number, the device type (if needed), and address. When you provide more information in the patch, you will have more detailed control and improved function during operation.

One or more devices 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 devices to the same channel for building a 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 is referred to as a compound channel.

When you open a new show file, Element creates a 1-to-1 patch. This means that the patch will automatically have channel 1 patched to address 1, channel 2 to address 2, and so on up to the maximum channel count of your console.



Selected to create a 1-to-1 Patch



Will not create a 1-to-1 Patch

Depending on your situation, you may need to create a custom patch, which associates certain addresses with certain channels.



Note:

You can open or merge patch data from other show files, see [Partial Patch Opening, page 30](#) and [Partial Patch Merging, page 32](#) for more information.

Displays

To begin patching your show, you must first open the patch display. To open the patch display, press press **[Displays]** and then **{Patch}**.

The patch display will open on an available external monitor and the CIA will display patch controls. If there are no monitors attached, patch will open on one of the on-board monitors.

From within the patch display, you can open the Device List to use RDM to patch any RDM compatible devices. For more information about Device List, see [Using Device List, page 66](#).

Chan	Address	Type	Label	Interface					Output
				ACN	EDMX	DMX	AVAB	ARTN	
1	1	Dimmer		*	*	*			0
2	2	Dimmer		*	*	*			0
3	3	Dimmer		*	*	*			0
4	4	Dimmer		*	*	*			0
5		Dimmer							
6	P1 51	Dimmer		*	*	*			0
	P2 71	Coloram 2 Scroller		*	*	*			0
7	P1 52	Dimmer		*	*	*			0
	P2 72	Coloram 2 Scroller		*	*	*			0
8	P1 53	Dimmer		*	*	*			0
	P2 73	Coloram 2 Scroller		*	*	*			0
9	P1 54	Dimmer		*	*	*			0
	P2 74	Coloram 2 Scroller		*	*	*			0
10	P1 55	Dimmer		*	*	*			0
	P2 75	Coloram 2 Scroller		*	*	*			0
11	P1 56	Dimmer		*	*	*			0
	P2 76	Coloram 2 Scroller		*	*	*			0
12	P1 57	Dimmer		*	*	*			0
	P2 77	Coloram 2 Scroller		*	*	*			0

The patch screen will display the following information if available:

- **Channel** - the patched channel number. In patch by address mode, channel will appear blank if not currently patched.
- **Address** - the patched output address. In patch by channel mode, address will appear blank if not currently patched. Pressing **[Data]** toggles the display from showing address as patched by the user, output address, and the port/offset. See [“Using Output Address vs Port/Offset” on page 50](#).
- **Type** - device or dimmer type that is patched.
- **Label** - displays the assigned label of the channel or address. See [Labeling, page 48](#).
- **Interface** - displays which interfaces will be used for the device. See **{Interface}** in [{Patch} Display and Settings, page 61](#).
- **Output** - displays the current live intensity level. Value is displayed as 0-255, with 255 being full.

Status in the Patch Display

Status flags will display on the far left of the patch display to advise you when a channel or address requires your attention.

A red “!” or yellow “?” will display when there is a warning or error from an RDM, CEM+, CEM3, or ACN device. See [“Errors and Warnings” on page 70](#).

Patching Conventional Fixtures

For patching fixtures, there are two different patch modes: patch by channel and patch by address. Element defaults to patch by channel mode. Pressing **[Format]** while in the patch display will toggle the mode between patch by channel and patch by address.



Note: *When working with conventional devices, you can patch in either mode easily. When working with compound channels or multiple parameter devices, it is recommended to work in patch by channel.*

Patching By Channel

Chan	Address	Type
1	1	Dimmer
2	2	Dimmer
3	3	Dimmer
4	4	Dimmer
5	5	Dimmer
6	6	Dimmer
7	7	Dimmer
8	8	Dimmer

Patch By Channel

In patch by channel mode, **[2] [0] [At] [1] [Enter]** patches channel 20 to address 1. Pressing **[At]** will post address to the command line while patching by channel.

Additional examples of patch by address:

- **[5] [At] [1][0][0] [Enter]** - patches channel 5 to address 100.
- **[2][0][3] [At] [1][2] [Enter]** - patches channel 203 to address 12.

Range Patching

Range patching using the **[Thru]** key allows you to quickly patch a group of channels.

[1][Thru][2][0] [At] [1] [0] [Enter] patches channels 1 through 20 to addresses 10 through 29.

You can also use the **[+]** and **[-]** keys. **[1] [+] [4] [+] [8] [At] [1] [Enter]** patches channel 1 to address 1, channel 4 to 2, and channel 8 to 3.



Note: *Range patching only works with channels. If you try to range patch addresses, parts for the channel will be created. See "Creating multi-part and compound channels" on page 51.*

Labeling

To label a channel or address, press the **[Label]** key with the channel or address selected on the command line. You can use the virtual alphanumeric keyboard or an external keyboard to enter the desired label text.

[At] [Next]

[At] [Next] [Enter] finds the next available address range large enough to accommodate the selected device.

Examples of **[At] [Next]**:

- **[At] [2] [/] [Next] [Enter]** - finds the next available address range on universe 2.
- **[At] [7] [7] [7] [Next] [Enter]** - finds the next available address after 777.
- **[At] [/] [9] [Enter]** - patches address 9 on the same universe that was last used.

Patching By Address

Pressing **[Format]** while in the patch display will toggle the mode between patch by channel and patch by address.

Address	Chan	Type
1	1	Dimmer
2	2	Dimmer
3	3	Dimmer
4	4	Dimmer
5	5	Dimmer
6	6	Dimmer
7	7	Dimmer
8	8	Dimmer

Patch By Address

[2] [0] [At] [1] [Enter] patches address 20 to channel 1. Pressing **[At]** will post channel to the command line while patching by address.

Additional examples of patch by address:

- **[5] [At] [1][0][0] [Enter]** - patches address 5 to channel 100.
- **[2][0][3] [At] [1][2] [Enter]** - patches address 203 to channel 12.



Note:

An address can not be assigned to multiple channels, but a channel can have multiple addresses assigned to it.



Note:

If, at any point, you try to patch an address that is already in use, Element will post an advisory to indicate this, preventing you from duplicating addresses in your patch.

Flexichannel Views in Patch

In patch by channel mode, **[Flexi]** can be used to view only those channels that are currently patched. In patch by address mode, **[Flexi]** can be used to view only those addresses that are currently patched. By pressing **[Flexi]**, you can toggle the view between patched channels/addresses, selected channels, and all channels/addresses.

Holding down **[Flexi]** will display the following softkeys:

- **{Flexi All}** - displays all the channels or addresses depending on which view is used.
- **{Patch}** - displays only the patched channels or addresses.
- **{Selected}** - displays any selected channels or addresses.
- **{View Channels}** - displays those channels selected for the View Channels flexichannel state. [See “View Channels” on page 23.](#)

Using Output Address vs Port/Offset

The output address is the DMX or network DMX (often called EDMX) address. Examples of output addresses are 510, 1, and 1024.

Port/offset refers to the DMX universe or port and the offset of the address. For example, since a single DMX port can transmit 512 addresses (known as a “universe”), the port/offset for address 515 would look like 2/3 because address 515 is the 3rd address of universe 2.

An example of patching by port/offset in patch by address mode is **[2]/[1][0] [At] [2][0] [Enter]**, which patches universe 2 address 10, or 522, to channel 20.



Note:

As it is possible to patch by either address or port/offset, pressing the [Data] key will move between showing the patch as it was originally entered, then the EDMX values, and last the port/offset.

Address	Chan	Type
1	1	Dimmer
2	2	Dimmer
3	3	Dimmer
4	4	Dimmer
5	5	Dimmer
6	6	Dimmer
7	7	Dimmer
8	8	Dimmer

Output View

Address	Chan	Type
1/1	1	Dimmer
1/2	2	Dimmer
1/3	3	Dimmer
1/4	4	Dimmer
1/5	5	Dimmer
1/6	6	Dimmer
1/7	7	Dimmer
1/8	8	Dimmer

Port/Offset View

[Dimmer/Address] [n] [/]

The syntax **[Dimmer/Address] [n] [/]** can be used to select a full universe in patch.

- **[channel list] [Dimmer/Address] [n] [/] [Enter]** - changes the addresses of all the selected channels to a new universe while using the same offset.
- **[Dimmer/Address][2] [/] [Copy To] [Copy To] <Address> [3] [/] [Enter]** - moves all channels with addresses in universe 2 to the same offsets in universe 3.
- **[Dimmer/Address] [n] [/] {Unpatch}** - unpatches all patched addresses in the selected universe.

Creating multi-part and compound channels

A multi-part channel is any channel that has more than one dimmer patched to it. A compound channel has multiple profiles patched to it that make up one channel, an example would be a dimmer with a scroller and auto-yoke. By default, Element will add a part if you are trying to patch to a channel that has already been assigned an address.

To patch a multi-part channel in address format:

- **[5] [1] [3] [At] [8] [Enter]**

Assuming channel 8 was previously patched to an address, this will create a part 2 and address it at 513.

To patch a multi-part channel in channel format:

- **[9] [At] [5] [4] [0] [Enter]**

Assuming that channel 9 is already patched to an address, this will create a part 2 and address it at 540.

- **[8] [Part] [2] [At] [5] [1] [3] [Enter]**

This will create a part 2 for channel 8 and address it at 513. If you wish to patch by address while in the channel view, press:

- **[Dimmer/Address] [5] [1] [3] [At] [8] [Enter]**

This will perform the same action as the previous example, assuming channel 8 was previously patched to an address.

To select multiple parts for editing:

- **[1] [Part] [1] [Thru] [5]**

This is useful for deleting or assigning new addresses to existing parts.

To patch a compound channel in channel format:

- **[1] [Part] [2] [At] [5] {Type} <scroller profile>**

Creates a part 2 for channel 1 and assigns it the selected scroller profile. See [{Patch} Display and Settings, page 61](#) for more information on using **{Type}**.

Replace

By default, if you patch an address to a channel that is already patched, Element will create a new part for the new address. If you want to replace the current address with the new, use **{Replace}**:

- **[n] {Replace} [n] [Enter]** - replaces the address in part 1 of the selected channel.

Patching Scrollers



Note: *Patching a scroller requires a mouse or touchscreen.*

To patch a scroller, you will want to first create a part to the channel you will be using. See [“Creating multi-part and compound channels” on page 51.](#)

Select the part of the channel you wish to patch the scroller. **[3] [Part] [2] [Enter]** selects part 2 of channel 3.

Click the **{Type}** button in the CIA.



Press **{Manfctr}** from the CIA to display the fixture library. The two columns on the left are pagable and show manufacturer names. Use the arrow buttons to scroll the list of manufacturers. Selecting a manufacturer repopulates the device columns with all devices from that manufacturer that are available for patching.

Scroll through the device list and make your selection. After the selection is made, the fixture or 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 **{Favorites}** and **{Manfctr}** located beneath the CIA.*

{Favorites} provides you with the option of showing only the library of fixtures or devices that are already patched in the show, your favorites, and Element's default devices. **{Manfctr}** shows all fixtures or devices available in the library sorted by manufacturer.

Click the **{Attributes}** softkey, and then click on **{Scroller}** to assign a scroller.

The Scroller/Wheel picker will display in the CIA. You can either select one of the default scrollers or you can create your own scroller. See [Using the Scroller Editor, page 53](#) and [Calibrating a Scroller, page 58](#) for more information.



Using the Scroller Editor

The scroller and wheel picker allows you to choose a specific scroll, color wheel, gobo wheel, or effect wheel from standard manufacturers and associate them with fixtures. You may also create customized scrolls or wheels using the editor to match custom devices installed in your fixture.

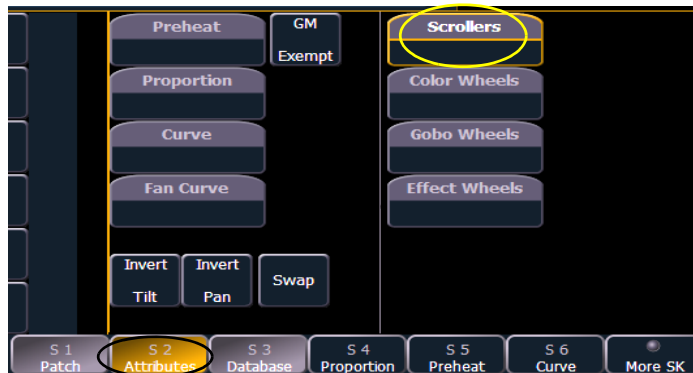


Note: *Scrollers and wheels can be created before being patched. All attributes will be available.*

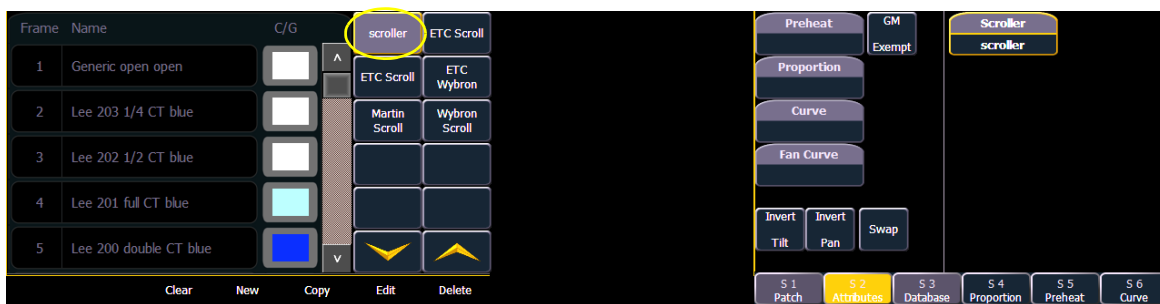
Using the Picker

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

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



The picker displays on the left half of the CIA when you select the specific attribute (**{Scroller}**, **{Color Wheel}**, **{Gobo Wheel}**, or **{Effect Wheel}**). The picker displayed is specific to the selected attribute (the scroll picker will display when **{Scroller}** is clicked, the color wheel picker will display when **{Color Wheel}** is clicked, and so on).



Select the scroll or wheel type.

The picker displays buttons for the standard scroll or wheel type of the selected channel. The default selection is the wheel as shipped from the manufacturer (derived from the fixture library). Displayed to the left of the standard scroll or wheel selection is a list of each color or 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 previous image, **{ETC Scroll}** is the default scroll for the selected ETC Source Four Revolution. 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. See [Using the Editor](#) below.
- **{Copy}** - makes a copy of the currently selected scroll or wheel type, which can then be edited using the editor. See [Using the Editor](#) below.
- **{Edit}** - used to edit an existing scroll or wheel.
- **{Delete}** - used to remove the 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. Press **[Label]** to name the scroll or wheel.

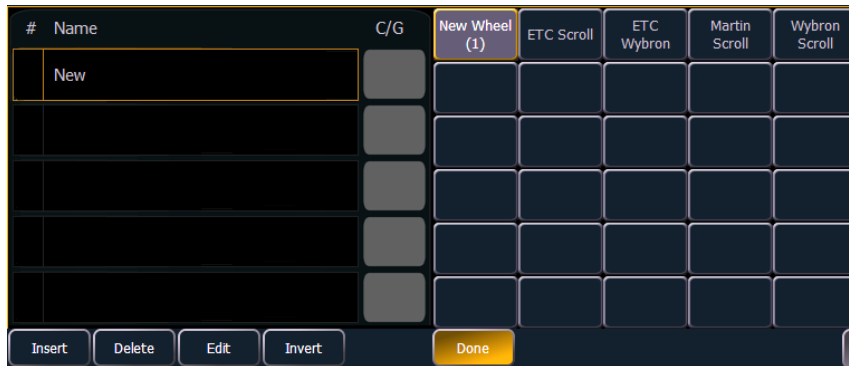
The editor does not limit how many frames you can add to the scroll or wheel for the selected fixtures. Keep in mind that any fixture has its own limitations. For example, a Source Four Revolution color scroller is limited to 24 frames. If you have created a custom color scroll with 30 frames, the Source Four Revolution will only provide you access to the first 24 frames that you created. This 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}** - completes the editing process.

Creating a new scroll or wheel

When you create a new scroll or wheel, **{New Wheel x}** appears in the wheel list as the selected button. The frame list will be empty with only “New” displayed in frame 1.



You can label the new wheel by pressing the **[Label]** and typing the desired label on the virtual keyboard and pressing **{Enter}**.

To select a color or pattern for the specific frame in the scroll or wheel, select the “NEW” text. The available gel, color, gobo and effect media selections will be displayed.

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 list, the catalog selection changes to display only the selected manufacturer’s offerings. When a specific catalog is selected, the media will display in the last three columns of the editor.

When you make a media selection, the display returns to the new wheel frame list where additional frames can be added to the scroll or wheel (using the **{New}** frame button) or you can click in the next frame area to add more frames.



Note:

An **{Invert}** softkey will display when creating or copying a wheel or scroller. **{Invert}** is used to reverse the order of frames.

Editing a copy of a scroll or wheel

If a copy has been made of an existing scroll or wheel, the copied scroll or wheel will display as **{New Wheel x}** before 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. Or 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 list, the catalog selection changes to display only the selected manufacturer's offerings. When a specific catalog is selected, the media will display in the last three columns of the editor.

When you make a media selection, the display returns to the new wheel frame list where additional frames can be edited in the scroll or wheel.

Scroller Calibration Column

Calibration can also be done from the scroller calibration column.

#	Name	Calib	C/G	scroller	A & O Scroll	A & O Scroll 2	ETC Scroll	ETC Wybron
1	Generic open open	0		Martin Scroll	Showtec Scroll	Wybron Scroll		
2	Lee 203 1/4 CT blue	8						
3	Lee 202 1/2 CT blue	16						
4	Lee 201 full CT blue	25						
5	Lee 200 double CT blue	33						

Clear Calib Copy Scroller Clear New Copy Edit S 1 Patch

Values in grey are default data, and the values in blue are calibrated data.

The calibration information, that is displayed, is the DMX address that puts the frame into its center position. Information in the calibration column can be manually edited by clicking on it and typing in a new DMX address.



Note:

Calibration data will only be applied to scroller wheels that are assigned to a channel. Data will not be displayed when viewing a wheel with an empty command line.



Note:

Calibration data can be returned to its default by clicking on the data and pressing **[Clear]**. If you are entering in new data and hit **[Clear]**, the data will return to the default and not any previously calibrated data.

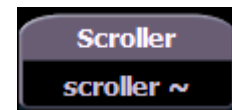
Pressing the softkey **{Clear Calib}** will clear out the calibration data for the whole scroller wheel, returning it to the default data.

Scroller wheels and their calibration data can be copied to other channels.

- **[1] {Copy Scroller} [2] [Enter]** - copies the scroller and calibration data from channel 1 to channel 2.

Scrollers that have calibrated data will display a “~” after their name.

The **{Calibrate}** button will now only appear on scroller parameters that are currently not at the center of a frame.



Calibrating a Scroller

You can calibrate the center point of any frame in a scroller using the calibrate feature. This will ensure that color scroll frames will be centered over the aperture of the fixture when you advance a color scroll frame-by-frame. You can do this using the ML Controls display. [See “ML Control” on page 136.](#)



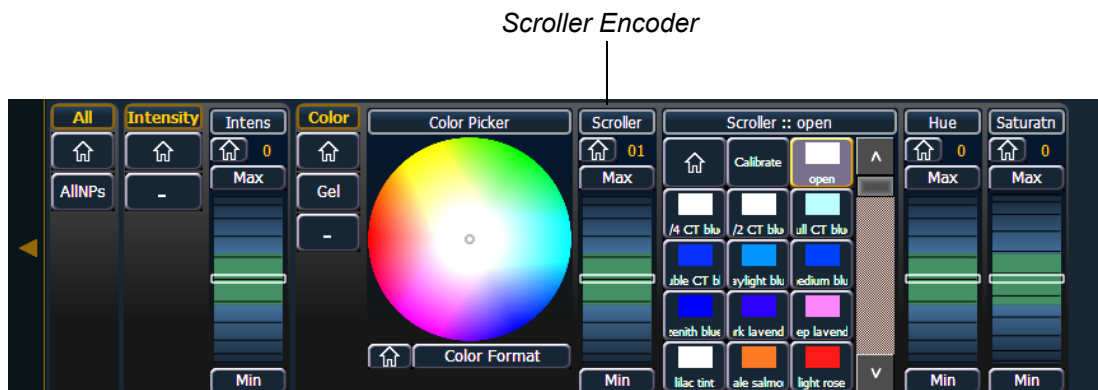
Note:

It is recommended that you calibrate your scroller frames starting with the last frame and working backward to the first frame. This will help ensure a complete and accurate calibration.

Calibration may need to be performed when you initially patch a scroller and may need to be adjusted through the course of operation as spring tension changes in a color scroller.

To calibrate a scroller:

- Step 1: In the Live display, select the scroller channel.
- Step 2: Use the **[ML Controls]** key to open the ML Controls display.
 - The color category will display automatically with the Hue and Saturation encoders and a frame picker.
- Step 3: To begin calibrating, click on the **{Scroller ::}** button. The scroller encoder will be displayed.
- Step 4: Use the scroller encoder to adjust the centerpoint of a frame. It is recommended that you start with the last frame in the scroll.
- Step 5: When the frame is centered, click **{Calibrate}**.
- Step 6: Repeat for any remaining frames that need to be calibrated.



Patching Moving Lights, LEDs, and Accessories

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

It is recommended that when patching moving lights, LEDs, and accessories that you work in patch by channel mode.



Note: Patching moving lights, LEDs, and accessories require a mouse or touchscreen.

After you have entered the channel number, click **{Type}**. You will then select a device type from the fixture library.

Press **{Manfctr}** from the CIA to display the fixture library. The two columns on the left are pagable and show manufacturer names. Use the arrow buttons to scroll the list of manufacturers. Selecting a manufacturer repaints the device columns with all devices from that manufacturer that are available for patching.

Scroll through the device list and make your selection. If a fixture has multiple modes, clicking on its name will open a list of available modes. After the selection is made, the fixture or device type will be placed on the command line after the channel number and displayed in the box beneath the **{Type}** button

Notice the three softkeys **{Favorites}**, **{Manfctr}**, and **{Add Favorite}** located beneath the CIA.

{Favorites} provides you with the option of showing only the library of fixtures or devices that are already patched in the show, your favorites, and Element's default devices. **{Manfctr}** shows all fixtures or devices available in the library sorted by manufacturer.

{Add Favorite} will add a fixture or device to your favorites list. If you want to delete a fixture or device from the favorites list, click **{Edit}** while in the favorites display. Select the device you wish to remove and click **{Delete}**.



Press **[At]** and then enter a starting address for the selected channel or group of channels.

To select a device interface (optional), click **{Interface}**. See [“Output Protocols” on page 235](#).

Click the **{Attributes}** softkey to set detailed moving light attributes. The following buttons may be available on this page depending on the device selected: **{Invert Pan}** and **{Invert Tilt}**, **{Swap}**, **{Scroller}**, **{Gobo Wheel}**, **{Color Wheel}**, **{Preheat}**, **{Proportion}**, and **{Curve}**. See [“Attributes” on page 63](#).

If your moving light includes parameters such as a color scroller or gobo wheel and you have custom gels or non-standard patterns installed, use the Scroller/Wheel Picker and Editor to modify the device patched. The more specific your patch data (including accurate colors and patterns), the more detailed programming and operating will be.

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 or for offsetting your channel selection. This feature is useful when you have configurable devices in your show, such as a Source Four Revolution, which has option slots for additional addresses (scrollers, indexing pattern wheels, and so on), or when you want to start your addresses at some known multiplier.

- **[1] [Thru] [5] {Type} {Source Four Revolution} [At] [1] {Offset} [3] [1] [Enter]** - fixtures will be patched with a patch address offset of 31 channels, allowing you to have additional space within the patch for a given fixture type regardless of configuration or personality.
- **[1] [Thru] [2] [0] {Offset} [2] {Type} {VL1000} [At] [1] {Offset} [2] [0] [Enter]**- selects every other channel in the list and patches them with an offset of 20 addresses.

Display Pages in Patch

Softkeys available for use while in patch include **{Patch}**, **{Attributes}**, and **{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 selected page.

When creating and editing your patch, page through each of these softkeys individually to enter more specific data about your selected device.

{Patch} Display and Settings

When in the patch display, Element defaults to this page. It provides access to data input fields that you may use to define devices in your lighting system.



- **{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.
- **{Type}** - Element defaults to patching dimmers. To specify a specific device type for the 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. 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 display with all devices that are available from that manufacturer. After you select a device, the device type appears in the command line, in the **{Type}** box in the CIA, and in the "Type" field for that channel in the patch display.
- **{Label}** - An optional user-defined label. You can use the **[Label]** key to display the virtual PC keyboard on the CIA. Pressing **{Label}** or **[Label]**, after a label has already been assigned, will display the label on the command line for editing purposes. Pressing **[Label] [Label]** will delete the text.
 - **[1] [At] [5] [Label] <S4 house right> [Enter]** - patches channel 1 to address 5 and labels the channel "S4 house right".

- **{Device Discovery}** - If enabled, Element will obtain RDM device information when available. The default setting is "Disabled". RDM must be enabled in the ECU before discovery is allowed. See ["Enable RDM" on page 236](#). When enabled, the console will automatically make discovered RDM devices available for patching. The console will set everything required to patch the device except the channel number. Device discovery can be disabled at any time to stop automatic RDM device additions and modifications.



Note:

Element only supports RDM devices that are connected through an external ACN gateway. Supported gateways are the ETC Net3 4 or 2 port Gateways.



Note:

{Device Discovery} will default back to disabled on its own on console reboot.

- **{Address}** - A required entry field for any device. You may use the **[At]** or **[Dimmer/Address]** key rather than the **{Address}** button.
 - Use the keypad to define the starting address for the device 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 2/2. See ["Using Output Address vs Port/Offset" on page 50](#).*

- You may enter a start address without defining an end address. Element will draw this information from the library data. If you wish to leave a larger output gap than required by the library, use **[Offset]**. See [Using {Offset} in Patch, page 60](#).
- If you specify a start address that conflicts with other channels already patched, the conflicting channels will be unpatched after a confirmation from the user.
- **{Interface}** - An optional field used to specify what network interfaces should be used for the output. When the field is left blank, the default data output is used as selected in the **{Network}** section of the ECU. For more information about setting defaults, see [Output Protocols, page 235](#). The interface options available are Default, ACN, EDMX, ArtNet, Avab UDP, and DMX, depending on what has been enabled in the **{Network}** section of the ECU for the console. If the output is the default, as drawn from the settings in the ECU, this field will be blank.
- **{Flash}** - will bring a channel or address to full, and then every other second the level will move to 15%. That will hold for 1 second, and then the level will return to full. The channel or address will keep flashing until the command line is cleared.

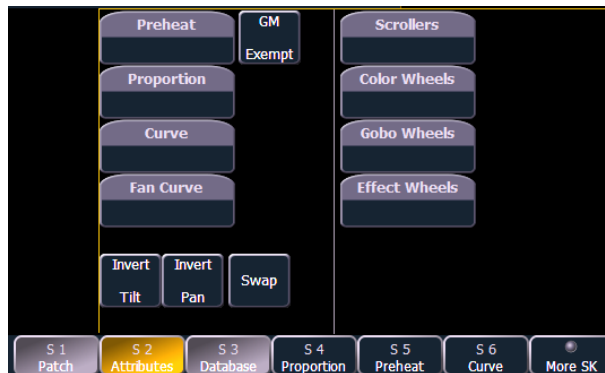
Attributes

The **{Attributes}** area of patch provides you with optional fields for additional information and details relating to your patched fixtures.

The **{Attributes}** settings that apply to conventional fixtures are **{Preheat}**, **{Proportion}**, **{Curve}**, and **{GM Exempt}**. Additional settings that apply to moving lights and accessories are **{Fan Curve}**, **{Invert Tilt}**, **{Invert Pan}**, and **{Swap}**.

When the selected device includes a color scroller, a **{Scroller}** button will be displayed in the CIA, and when the selected device includes a color wheel, a gobo wheel, or an effect wheel, **{Color Wheel}**, **{Gobo Wheel}**, or **{Effect Wheel}** buttons will appear.

With a channel selected, click the desired attribute button and use the keypad to set the attribute value.



- **{Preheat}** - This field allows you to specify an intensity value to preheat incandescent filaments. When a preheat flag is applied to a cue, any channels that are fading from zero to an active intensity and have been assigned a preheat value in patch will preheat in the immediately preceding cue.
 - **[1] {Preheat} [0] [3] [Enter]** - channel 1 is assigned a patched preheat value of 3%.
The preheat flag is applied to a cue as an attribute when the cue is recorded. [See “Preheat” on page 111.](#)
- **{Proportion}** - An 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 playbacks or submasters. This value is set numerically in a range of 0% to 200%.
 - **[1] {Attributes} {Proportion} [1] [2] [5] [Enter]** - applies a 125% proportion to channel 1.
 - **[1] {Attributes} {Proportion} [Enter]** - removes the applied proportion from channel 1.
- **{Curve}** - Used to assign a curve to an address in patch. In patch, curve is applied to intensity parameters only. For more information on curves, [See “Storing and Using Curves” on page 191.](#)

From channel view:

- **[1] {Curve} [4] [Enter]** - applies curve 4 to the intensity parameter of channel 1.
- **[2] [Part] [3] {Curve} [3] [Enter]** - applies curve 3 to the intensity assigned to channel 2, part 3.

From address view:

- **[3] {Curve} [3] [Enter]** - assigns curve 3 to address 3.
- **[3] [/] [2] {Curve} [4] [Enter]** - assigned curve 4 to universe 3, address 2.

- **{Fan Curve}** - Used to assign a curve to the scroller fan parameter, which allows for the output of the fan to be controlled by the intensity of the channel.



Note:

*When **{Curve}** or **{Fan Curve}** is pressed, a list of the available curves will be displayed. Clicking on an available curve will assign it.*

- **{LD Flags}** - This field allows channels to contribute to live and dark move flags in the playback status display. Disabling will prohibit those channel moves from contributing to the live and dark move flags. This is enabled by default.
- **{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] {Attributes} {Invert Pan}** - inverts the output of the pan parameter.
- **{Swap}** - A moving light attribute used to exchange pan and tilt levels. Select the **{Swap}** button on the CIA.
 - **[2] {Attributes} {Swap}** - swaps the pan and tilt parameters for channel 2.
- **{GM Exempt}** - Used to exempt the intensity of a channel from grandmaster, blackout, rem dim, and go to cue 0 operations.
- **{Scroller}** - An attribute used to change the scroll loaded in a scroller or moving light. Select the **{Scroller}** button on the CIA to display the scroller picker and the scrolls available for your device. [See "Using the Picker" on page 53.](#)
 - **[2] {Attributes} {Scroller}** - opens the scroller picker in the CIA for scroll selection for channel 2.
- **{Gobo Wheel}** - An attribute used to change the gobo wheel loaded in a moving light. Select the **{Gobo Wheel}** button on the CIA to display the wheel picker with gobo options available for your device. [See "Using the Picker" on page 53.](#)
 - **[3] {Attributes} {Gobo Wheel}** - selects channel 3 and opens the wheel picker in the CIA for gobo wheel selection.
- **{Color Wheel}** - An attribute used to change the color wheel loaded in a moving light. Select the **{Color Wheel}** button on the CIA to display the wheel picker with the options available for your device. [See "Using the Picker" on page 53.](#)
 - **[4] {Attributes} {Color Wheel}** - selects channel 4 and opens the wheel picker in the CIA for color wheel selection.
- **{Effect Wheel}** - An attribute used to change the effect wheel loaded in a moving light. Select the **{Effect Wheel}** button on the CIA to display the wheel picker with effect options available for your device. [See "Using the Picker" on page 53.](#)
 - **[5] {Attributes} {Effect Wheel}** - selects channel 5 and opens the wheel picker in the CIA for effect wheel selection.

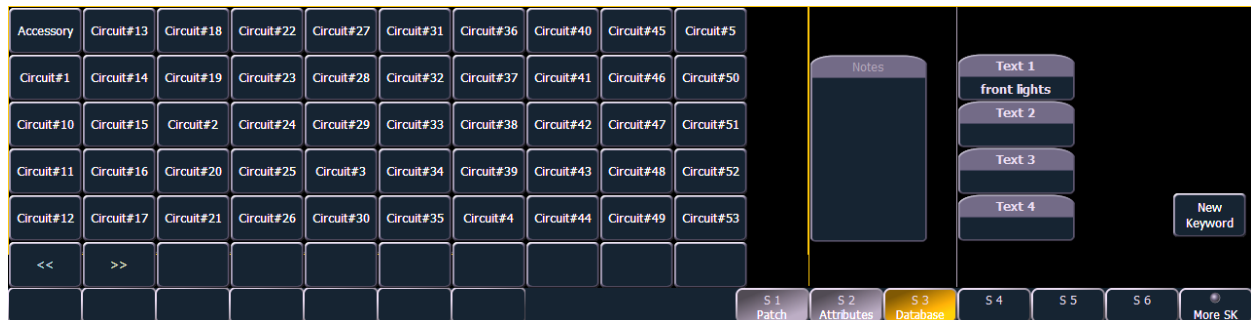
Database



Note:

Database is used with the query feature, which is not available on Element. However since show files are compatible between the Eos Family consoles, the database is available on Element.

The **{Database}** page provides you with additional fields for entering information. These fields include **{Notes}** and **{Text 1}** through **{Text 4}**. Clicking on **{Text 1}** through **{Text 4}** will open up a display for selection of keywords. It will display keywords that were already created as well as showing an option for creating new keywords. Clicking on **{New Keyword}** will display an alphanumeric keyboard for entering in a new keyword.



- **{Text}** - Text fields are used to provide up to four keywords about any channel or group of channels. These fields can be anything that you think is important about a channel, such as its location (FOH), an attribute of it (wash, spot) or other characteristics of the channel (such as gel R80). You may use the virtual PC keyboard in the CIA, or an external keyboard, to provide up to 30 characters of key words about the device.
 - **[5] {Database} {Text 1} <FOH right> [Enter] [Enter]** - adds text to channel 5.
- **{Notes}** - Provides you the ability to attach a text note to a channel or group of channels. Select the **{Notes}** button on the CIA to display the virtual PC keyboard. You may type a label or any length of note regarding your channel in this space.
 - **[5] {Database} {Notes} <this fixture is a backup to channel 15 for front of house right / new lamp installed on 10/4/06> [Enter] [Enter]** - adds a note to channel 5.

Deleting Keywords from the Database

Keywords can be deleted from any of the four text fields in the database. To delete a keyword from the entire database, you would use the following syntax:

- **[Delete] {Text1} <orange> [Enter] [Enter]**

This will delete orange anywhere it was used in any text field of any channel.

To just delete a keyword from a specific channel, you would use the following syntax:

- **[1] {Text1} [Enter]**

That would delete the text from channel 1's first text field only. If you wanted to delete the second text field, you would select **{Text2}** and so on.

Using Device List

The Device List is used to discover, configure, and monitor compatible Remote Device Management (RDM) and network devices. RDM allows for bi-directional communication between a RDM compatible device, such as a lighting fixture, and your desk.

Two lists, dimmer and RDM, make up the device list.

The dimmer list is the area of patch that handles setting up dimmer feedback from CEM+, CEM3, and FDX 2000. You can also do some configuration of dimmers from this list.

The RDM List is the area of patch that handles RDM feedback with devices. You can also do some configuration of devices from this list. Once RDM compatible devices have been patched, they keep communicating with the desk to allow you to know when things like blown lamps happen or if a device goes offline for some reason. [See “RDM Device List” on page 68.](#)

The Device List displays all discovered devices during the current session and all devices that have been stored in the show file.



Note:

Desks only support RDM devices that are connected through an external ACN gateway. Supported gateways are the ETC Net3 4 or 2 port Gateways. Gateways need to be running version 5.1 or newer.

Dimmer List for CEM+, CEM3, and FDX 2000



Note:

For Dimmer Feedback, these software versions are required: CEM+ v3.0 and newer, CEM3 v1.0 and newer, and FDX v3.4.0 and earlier

To use the Dimmer Feedback area of the Device List, you must first enable feedback. In the network tab of the ECU, when using CEM+ or CEM3, make sure **{Sensor Feedback}** is enabled, or when using FDX 2000, make sure that **{FDX}** is enabled. The default setting is disabled for both. [See “Interface Protocols” on page 236.](#)

Open the Dimmer Feedback display while in the patch display by pressing **{Device List}>{Dimmers}**. When the dimmer list is opened, the dimmers will be displayed in Patch by Address mode

Patch (Dimmers)		(untitled)								3:07:20 PM	
		Properties									Loads
Address	Chan	Label	System	Rack	Lug	Module Type	Firing Mode	Control Mode	Curve	Rec Load	
4		Unnamed	0	1	4	D20	Normal	Dimmable	Mod Square		
5		Unnamed	0	1	5	D20	Normal	Dimmable	Mod Square		
6		Unnamed	0	1	6	D20	Normal	Dimmable	Mod Square		
7		Unnamed	0	1	7	D20	Normal	Dimmable	Mod Square		
8		Unnamed	0	1	8	D20	Normal	Dimmable	Mod Square		
9		Unnamed	0	1	9	D20	Normal	Dimmable	Mod Square		
10		Unnamed	0	1	10	D20	Normal	Dimmable	Mod Square		
11		Unnamed	0	1	11	D20	Normal	Dimmable	Mod Square		
12		Unnamed	0	1	12	D20	Normal	Dimmable	Mod Square		
13		Unnamed	0	1	13	D20	Normal	Dimmable	Mod Square		
14		Unnamed	0	1	14	D20	Normal	Dimmable	Mod Square		
15		Unnamed	0	1	15	D20	Normal	Dimmable	Mod Square		
16		Unnamed	0	1	16	D20	Normal	Dimmable	Mod Square		
17		Unnamed	0	1	17	D20	Normal	Dimmable	Mod Square		
18		Unnamed	0	1	18	D20	Normal	Dimmable	Mod Square		
19		Unnamed	0	1	19	D20	Normal	Dimmable	Mod Square		
20		Unnamed	0	1	20	D20	Normal	Dimmable	Mod Square		
21		Unnamed	0	1	21	D20	Normal	Dimmable	Mod Square		
22		Unnamed	0	1	22	D20	Normal	Dimmable	Mod Square		
23		Unnamed	0	1	23	D20	Normal	Dimmable	Mod Square		

Element will display the following information that it receives from the dimmers:

- Address
- Channel
- Label
- System
- Rack
- Lug
- Properties
 - Module Type
 - Firing Mode
 - Control Mode
 - Curve
- Loads
 - Recorded Loads



Note: *The System ID number from CEM3 is not currently supported.*



Note: *Rack numbers and dimmer numbers need to be unique for Element to properly recognize them. For CEM+, dimmers also need to be patched to different sACN addresses.*

With a dimmer or dimmers selected, you can edit various dimmer settings in the property view, which will display in the CIA. Items with a caret (>) are editable. When multiple dimmers are selected together for editing, an "*" will show for data that is different between the selected dimmers.

Dimmer Feedback	Value	
Label	*	^
Module Type	D20	
System/Rack/Lug	*	
Rack Dimmer Level	0%	
Rack Dimmer Source	Streaming ACN	
Recorded Load	Not Recorded	
Actual Load	0 Amperes	
Firing Mode	> Normal	
Control Mode	> Dimmable	
Curve	> Mod Square	
Threshold	> 1%	v

FDX dimmers will not display data for the following:

- Recorded Load
- Actual Load
- Rack Dimmer Source
- Threshold
- Scale Minimum
- Preheat Enable
- Preheat Timing
- AF Enable



Note: *When dimmers are discovered, they are not automatically attached to patched channels in Element; you must attach a dimmer to a channel. See ["Patching Discovered Dimmers and RDM Devices"](#) on page 70.*

RDM Device List

Before you can start using the RDM Device List, you must first enable **{RDM}** in the network tab of the ECU. By default RDM is disabled. [See “Interface Protocols” on page 236](#). RDM must also be enabled on the DMX ports of the Gateway. The Gateway needs to be running version 5.1 or newer.

Open the RDM Device List while in the patch display by pressing **{Device List}> {RDM}**.

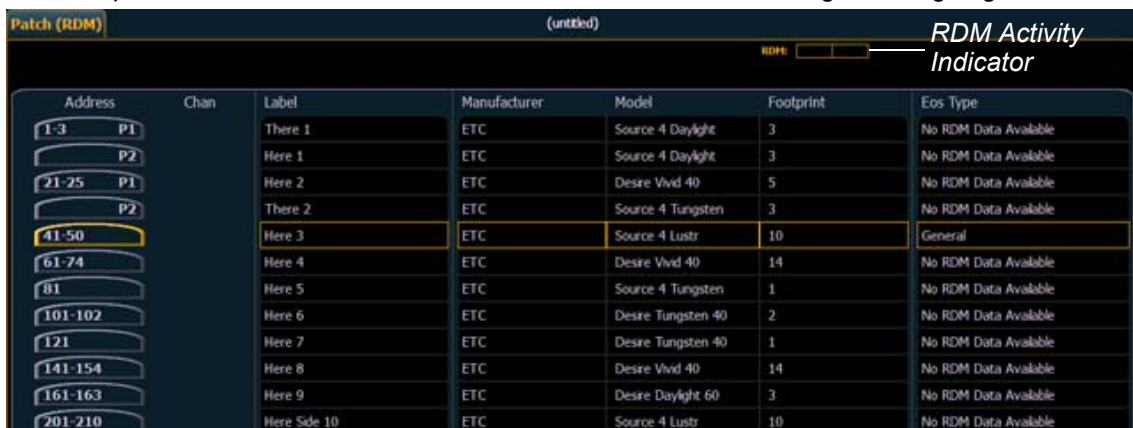
You will need to make sure that **{Device Discovery}** is enabled.

{Device Discovery} is disabled by default. The **{Device Discovery}** option will not display if **{RDM}** is disabled in the ECU.



Note: ***{Device Discovery}** will automatically disable when you leave the patch display.*

When the RDM device list is opened, the devices will be displayed in Patch by Address mode. At the top of the list is a RDM indicator. This indicator shows incoming and outgoing RDM traffic.

The screenshot shows the "Patch (RDM)" window. At the top, there's a "RDM Activity Indicator" with a small bar graph. Below it is a table with columns: Address, Chan, Label, Manufacturer, Model, Footprint, and Eos Type. The table lists 10 devices. The first device has address 1-3, channel P1, label "There 1", manufacturer ETC, model "Source 4 Daylight", footprint 3, and Eos Type "No RDM Data Available". The fourth device is highlighted with a yellow border: address 41-50, channel P2, label "Here 3", manufacturer ETC, model "Source 4 Lustr", footprint 10, and Eos Type "General".

Address	Chan	Label	Manufacturer	Model	Footprint	Eos Type
1-3	P1	There 1	ETC	Source 4 Daylight	3	No RDM Data Available
	P2	Here 1	ETC	Source 4 Daylight	3	No RDM Data Available
21-25	P1	Here 2	ETC	Desire Vivid 40	5	No RDM Data Available
	P2	There 2	ETC	Source 4 Tungsten	3	No RDM Data Available
41-50		Here 3	ETC	Source 4 Lustr	10	General
61-74		Here 4	ETC	Desire Vivid 40	14	No RDM Data Available
81		Here 5	ETC	Source 4 Tungsten	1	No RDM Data Available
101-102		Here 6	ETC	Desire Tungsten 40	2	No RDM Data Available
121		Here 7	ETC	Desire Tungsten 40	1	No RDM Data Available
141-154		Here 8	ETC	Desire Vivid 40	14	No RDM Data Available
161-163		Here 9	ETC	Desire Daylight 60	3	No RDM Data Available
201-210		Here Side 10	ETC	Source 4 Lustr	10	No RDM Data Available

Element will display the following information that it receives from the RDM devices:

- Address (a part will be added if multiple devices are discovered with the same address)
- Channel
- Label
- Manufacturer
- Model
- Footprint

Element will also display what personality from the Element library the device matches in the Element Type column. This information will not display until you first select the device. Once the device has been selected for the first time, Element will extract the type information from the device and display it.

The following messages may display in the Element Type column:

- No RDM Data Available - no model specific RDM data has been extracted from the device.
- Extracting RDM Commands - currently getting the command data from the device.
- Extracting RDM Fixture -currently getting the data required to create a fixture definition for the device.
- Extracting RDM Sensors - currently getting the sensor definitions from the device.
- Offline - no model specific RDM data has been extracted from the device and it is now offline.

With a device or devices selected, you can edit various device settings in the property view, which will display in the CIA. Items with a caret (>) are editable. When multiple devices are selected together for editing, an "*" will show for data that is different between the selected devices.

Device Property	Value	
Device Model Description	*	^
Manufacturer Label	ETC	
Device Label	> *	
Software Version Label	1.3.0.9.0.07	
DMX Personality	> *	
DMX Start Address	> *	
Identify Device	> Off	
LED Curve	> *	
LED Strobe	> On	
LED Output Mode	> Regulated	
LED Red Shift	> Off	
LED Red Shift	> Off	

The following buttons will also display in the property view:

- **{Device Properties}** - opens the properties list for the selected RDM device.
- **{Sensors}** - displays if the selected device has sensors. Pressing **{Sensors}** will open the sensors list.
- **{Lamp Controls}** - displays if the selected device has lamp controls. Pressing **{Lamp Controls}** will open the lamp controls list.
- **{Ignore Errors}** - when enabled, errors messages will not display in the live/blind displays. They will still display in about and the properties display in patch.
- **{Reload RDM Data}** - deletes the fixture data from the desk and reloads it from the device.
- **{Flash}** - triggers the identity function of the RDM device. The identity function may defer between different manufacturers' devices. For example, Wybron scrollers identify by wiggling their gel back and forth.
- **{!}** or **{?}** - displays if selected device has errors. Pressing **{!}/{?}** will open the error list.



Patching Discovered Dimmers and RDM Devices

When dimmers/devices are discovered, they are not automatically attached to any patched channels in Element. If you want the benefits of dimmer or RDM feedback, you must attach a dimmer or device to a channel.

If you patch a dimmer/device's address to a channel, while in the device list display, the dimmer/device will be automatically attached to that channel. However, if you patch outside of the device list, you will need to **{Attach}** the device to the channel



Note:

If the dimmer/device's address is not yet used in the patch, it is easiest to patch the address to a channel in the dimmer list or device list screen.

<Chan> [X] {Attach} or **<Address> [X] {Attach}** will link that channel/address in patch and the dimmers/devices at that address.

When a channel number is attached to a dimmer/device, by patching it or using **{Attach}**, the channel's fixture type is changed to the dimmer or device fixture type.

The advantages of attaching a dimmer to a channel are:

- The desk warns you when a channel's attached dimmer has an error or is offline.
- Items that are attached between patch and the device list will display a caret (>) beside their channel/address in patch.

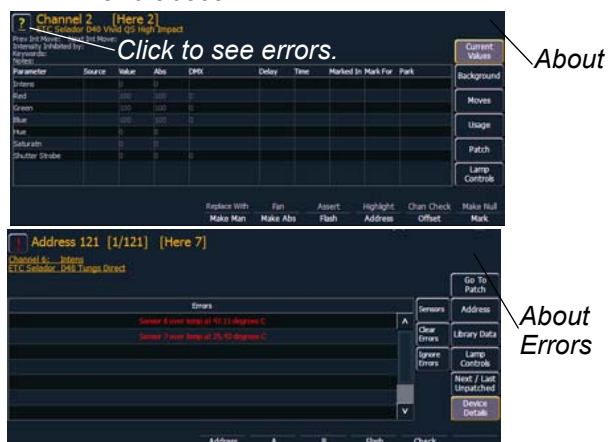
The advantages of attaching a device to a channel are:

- Its fixture type is copied to the channel.
- The desk warns you when a channel's attached device is offline or has an error.
- The device will always appear in the device list display, even if the device is offline.

Items that are attached between patch and the device list will display a caret (>) beside their channel/address in patch.

Errors and Warnings

One of the advantages of using dimmer and RDM feedback is error and warning reporting. If something happens with a patched and attached dimmer/ device, you will be notified in live, patch, and about.



Chan	Address	Type
> 1	1-3	S4 LED DLght QS Studio
> ? 2	21-25	D40 Vivid QS High Impact
> 3	41-50	S4 LED Lustr+ QS General
4		
5		
> ! 6	121	D40 Tungs Direct
7		

Patch



Live

The notifications you can see are:

- A red "!" means that the dimmer/ device has errors, such as overtemp, breaker trip, and lamp out.

- Yellow “?” means that the dimmer/ device has a warning message. Warning messages can include:
 - Multiple devices’ addresses overlap
 - Multiple devices of different devices at this address
 - Patched fixture type mismatch
 - Patched fixture address mismatch
 - Offline

Detaching Devices

Pressing **{Attach}** twice will post the **{Detach}** command.

<Chan> [X] {Attach} {Attach} or **<Address> [X] {Attach} {Attach}** will remove the link between that channel/address and the device at that address.

Dimmer Doubling

You can patch channels in Element to accommodate for dimmer doubling with Sensor dimmer racks. This is done using the softkeys available in patch (**{No Dim Dbl}**, **{A}**, and **{B}**).



Note: *Dimmer Doubling is only available over the network.*

For Example:

Let's assume you patch 96 channels of dimmers to addresses 1-96.

- **[1] [Thru] [9] [6] [At] [1] [Enter]**

Now you wish to dimmer double 1-12 of your Sensor rack and you want these to be channels 97-108. To patch this, press:

- **[9] [7] [Thru] [1] [0] [8] [At] [1] {B} [Enter]**

Channels 97-108 are patched to address 1-12 B, while channels 1-12 are now patched to address 1-12 A.

To remove the dimmer doubling from these addresses, you must first press **[Format]** to enter Address mode and then press:

- **[1] [Thru] [1] [2] {NoDimDbl} [Enter]**

Addresses 1-12 have been returned to single dimmer modes and channels 97-108 are now deleted.

By default, doubled dimmers start with an offset DMX address value of 20000. Therefore, in the above example, address 1B (channel 97) is actually controlled by DMX address 20001. Address 2B is actually controlled by DMX address 20002 and so on. This offset matches the default offset in CEM+/CEM3 when configuring your Sensor dimmer rack for dimmer doubling. To change the default offset value, see [{Dim. Dbl. Offset}](#), page 38.

Moving and Copying Channels

Channels and their data can be moved from one location to another within patch. Channel data can be copied between different channels. You can also move the channel data from one channel to a different one.

- **[1] [Copy To] [Copy To] [7] [Enter]**

The second press of the **[Copy To]** key changes the command into a "Move To".

This syntax will move the patch information for channel 1 to the patch for channel 3. All data in the show file that was stored at channel 1 is also move to channel 3.

To copy a channel to another location within patch:

- **[1] [Copy To] [2] [Enter]**

To copy a channel to another location within patch and all record targets in the show:

- **[1] [Copy To] [2] {Plus Show} [Enter]**

To copy a channel to another location with all record targets in the show but not the patch data:

- **[1] [Copy To] [2] {Only Show} [Enter]**

To copy on the notes and keyword fields from one channel to another:

- **[1] [Copy To] [2] {Only Text} [Enter]**

Swapping Channels

Channels can be swapped for each other in patch:

- **[1] {Swap} [2] [Enter]**

This syntax will replace channel 1's data with channel 2's and vice versa in patch and throughout the entire show.



Note: *Move To and Swap always impact the entire show.*

Unpatch a Channel

To unpatch a channel while in patch you can press:

- **[n] {Unpatch} [Enter]**

The **{Unpatch}** softkey, will reset all the properties of the channel to the default. This includes removing the device type if specified.

To retain all the elements of the channel, besides the address, you would instead use:

- **[n] [At] [0] [Enter]**

Using **[At] [0]** will allow unpatched channels to still be manipulated and have data stored for them, but they do not output any information (as they are unpatched).

Deleting Channels

It is possible to delete channels in patch. Deleting channels is different from unpatching in that deleted channels cannot be manipulated or have parameter data stored for them. When deleted, the channel numbers will still be visible in the live/blind display, but the channel outline, containing the parameters and level information, will be removed from the display.

For Example:

To delete channels from patch by channel in the patch display, press:

- **[6] [Thru] [1] [0] [Delete] [Enter] [Enter]**
- or-
- **[Delete] [1] [Thru] [1] [0] [Enter] [Enter]**



CAUTION: *If a channel with programmed data is deleted, the recorded data will be lost.*

Fixture Editor

Element provides you with the ability to create your own fixture type within patch and store it with your show file. You can name the fixture, assign all necessary parameters, define the address and operational range of those parameters, and set lamp controls.

The fixture creator is accessible from patch. Once a fixture has been created, it is stored in the show file. It is *not* added to the fixture library.

To open the fixture editor:

- Step 1: Press **[Patch]** to open the patch display.
- Step 2: Press **{Fixtures}**. This will open a list displaying those same fixtures that are currently patched and/or commonly used. This is the fixture creator.

Number	Type / Label	Number Of Parameters	Remote Dimmer
1	Dimmer	1	
2	Gobo_Rotator	2	
3	I_Cue_16B	2	
4	LED_RGB	7	
5	LED_White	1	
6	Lustr_11	11	
7	new_fixture_(1)	1	
8	Paletta_11	11	
9	Scroller	3	
10	Sea_Changer_6ch	10	Yes

NewCopyDeleteTypeEdit

S 1S 2S 3ReturnS 4S 5S 6

Creating a New Fixture

New fixtures are created from the fixture creator list in the CIA (see above).

To create a new fixture, click **{New}**. A new fixture will be added to the fixture list.

Name New Fixture

Once the new fixture appears in the list, it is recommended that you name the fixture you are about to create.

To name a fixture in the creator list:

- Step 1: Press **[Page ▼]** to arrow down to the new fixture.
- Step 2: Click **{Type}**. The virtual PC keyboard will open in the CIA.
- Step 3: Enter the desired name for the new fixture on the virtual (or attached alphanumeric) keyboard.
- Step 4: Press **[Enter]**. The name will appear in the “Type/Label” column for the new fixture.

Add parameters

After naming the fixture, you can specify which parameters the new fixture contains.

To add parameters to a new fixture:

Step 1: Use the **[Page]** keys to select the new fixture from the fixture list.

Step 2: Click **{Edit}**. That fixture will open in a new display in the CIA.

Number	Parameter	Size	DMX	LDMX	Home	Snap	Ranges
1	Intens	8BITS	1		0		1
2	Pan	16BITS	2	3	0		1
3	Tilt	16BITS	4	5	0		1
4	Hue	8BITS	6		0		1
5	Saturation	8BITS	7		0		1
6	Cyan	8BITS	8		0		1
7	Magenta	8BITS	9		0		1
8	Yellow	8BITS	10		0		1
9	Brightness				255		1

New Insert Delete Parameters Size Remote Dim Ranges
S 1 Lamp Ctrls S 2 Snap S 3 Return S 4 S 5 S 6

Step 3: Determine the total number of parameters that your fixture has. Do not count 16-bit channels as two channels, this will be done in a later step.

Step 4: Click **{New}** to add parameter slots. Repeat this step until you have as many slots as are required by the number determined in step 3.



Note:

*When **{New}** is clicked, the parameter slot will appear in the list with a default name in the "Parameter" column. You may disregard these default parameters as you will redefine the designations in a later step.*

Step 5: Use the **[Page]** keys to navigate to any parameter slots that you wish to alter the default parameter designations.

Step 6: When you have selected a slot, click **{Parameters}**. The CIA will display buttons representing all of the available parameters.

All	Form	Intens	Z	Yellow	Brightness	Strobe Duration	Amber	Warm White	Animation Wheel Mode	Frame Angle	Blue Adjust
Intensity	Shutter	Pan	Hue	Red	Scroller Fan	Global Pan	Red Orange	CTB	Iris	Barndoor	In Point 1
Focus	Control	Tilt	Saturation	Green	Flow Rate	Global Tilt	Indigo	CTC	Diffusion	Fresnel	Out Point 1
Color		Width	Cyan	Blue	Enable	Pitch	White	CTO	Edge	Red Adjust	Playback Speed 1
Image		Height	Magenta	Scroller	Strobe Mode	Position Blink	Cool White	Gobo Offset Amplitude	Zoom	Green Adjust	Z Rotate
<<	>>	<<	>>								

S 1 S 2 S 3 Return S 4 S 5 S 6 More SK

a: Click the **{>>}** and **{<<}** buttons to scroll through the available parameters.

The buttons on the left side of the CIA can be used to speed your search. You may click them to see only parameters that fall into the specific categories of **{Intensity}**, **{Focus}**, **{Color}**, **{Image}**, **{Form}**, **{Shutter}**, or **{Control}**. **{All}** returns you to the complete list of parameters.

b: Use the parameter category buttons on the left of the CIA to expedite searching for a particular parameter.

- Step 7: Click the button for the desired parameter in the CIA.
- Step 8: Repeat steps 3-5 until you have entered all of the required parameters for the new fixture.

If you are missing a parameter slot: at any point you can use the **[Page]** keys and **{Insert}**, to insert a parameter slot above the selected one.

If you want to remove a parameter: you can use the **[Page]** keys and **{Delete}**, to remove a parameter from the list.

Define parameter channels

Once you have added and specified all of the parameters for the new fixture, you can now define the address requirements, size, and ranges for each of them.

To define the size (8-bit or 16-bit) of any parameter:

- Step 1: Use the **[Page]** keys to navigate to any parameter that you wish to alter the size. The system defaults to 8-bit for any new parameter.
- Step 2: When selected, click **{Size}**. This will toggle the parameter from 8-bit to 16-bit. If 16-bit is selected, the system automatically applies a value in the “LDMX” column. This value can be altered (see below).

To define the DMX address of any parameter:

You can alter the default DMX address assigned to any parameter in the list. This is not the actual address that will be used when patched, but rather it is the order of address for the parameter relative to the other parameters in the fixture.

- Step 1: Use the **[Page]** keys to navigate to the “DMX” column of the desired parameter.
- Step 2: Enter the desired address using the keypad.



CAUTION: *Be careful not to duplicate any address in the DMX order of parameters in the new fixture. Element does not prevent you from duplicating addresses.*

To define the LDMX address of any 16-bit channel:

LDMX or “low-DMX” is the DMX address for the second half of any 16-bit channel. If used in Coarse/Fine determination. The DMX channel defines the “Coarse” adjustment and the LDMX defines the “Fine” adjustment.

- Step 1: Use the **[Page]** keys to navigate to the “LDMX” column of the desired parameter.
- Step 2: Enter the desired address using the keypad.

To alter the Home settings for any parameter:

You can define the value for any parameter’s “home” value.

- Step 1: Use the **[Page]** keys to navigate to the “Home” column of the desired parameter.
- Step 2: Enter the desired home value (0-255) using the keypad.

Range editing a parameter

You can enter the operational ranges for specific slots within any specific parameter (such as color scroller, color wheel, gobo wheel, and so on).

For example, if the parameter were “Gobo Wheel”, and the fixture included a four-slot gobo wheel, you can use ranges to determine the minimum or maximum values for each of those slots. You can also label the slots and define the minimum or maximum values that will appear in the channel display for that parameter.

To define the range values for any parameter:

- Step 1: Use the **[Page]** keys to navigate to the parameter that you want to add ranges to.
- Step 2: Click **{Ranges}**. The range list will open.
- Step 3: Determine the total number of slots required by the parameter. *Be sure to include "open" slots when needed.*
- Step 4: Click **{New}** to add ranges. Repeat this step until you have as many slots as are required by the number determined in step 3.
- Step 5: Use the **[Page]** keys to select the range and field you wish to edit. Fields are:
 - **Min** - enter the minimum value (0-255) for the range slot you are defining.
 - **Max** - enter the maximum value (0-255) for the range slot.
 - **User Min** - enter the value that will be displayed to users (for example, what will be displayed in the live summary view) when the slot is at its minimum value. Value can range from -9999 to 65535.
 - **User Max** - enter the value that will be displayed to users when the slot is at its maximum value. Value can range from -9999 to 65535.
- Step 6: Click **{Label}** to add a label to any range slots. These will appear in the encoder LCD when the related parameter is displayed for the new fixture.
- Step 7: Click **{Done}** when you have finished editing the ranges.

Lamp Controls

You can also add any needed lamp controls.

To add lamp controls:

- Step 1: Use the **[Page]** keys to select the new fixture from the fixture list.
- Step 2: Click **{Edit}**. That fixture will open in a new display in the CIA.
- Step 3: Determine the total number of lamp controls your fixture has.
- Step 4: Click **{New}** to add control slots. Repeat this step until you have as many slots as are required by the number determined in step 3.
- Step 5: Use the **[Page]** keys to navigate to any control slot that you wish to name.
- Step 6: When you have selected a slot, click **{Ctrl Label}**. The virtual keyboard will open for you to name the control slot.
- Step 7: Click **{Enter}** when you have finished labeling the control or **{Esc}** to return to the main lamp controls display.
- Step 8: Repeat steps 5-8 for each slot created in step 4.

Number	Lamp Control	Number Of Steps
1	Picture Global Reset	2
2	Color Form Reset	2
3	Image Gobo Reset	2
4	Form Reset	2
5	Frame Reset	2

New

Insert

Delete

Ctrl Label

Steps

S 1

S 2

S 3 Return

S 4

S 5

S 6

More SK

If you are missing a control slot: at any point you can use the **[Page]** keys and **{Insert}**, to insert a slot above the selected one.

If you want to remove a lamp control: you can use the **[Page]** keys and **{Delete}**, to remove a lamp control from the list.

To add steps to a lamp control:

Step 1: Use the **[Page]** keys to navigate to a control slot.

Step 2: Click **{Steps}** to add steps. The steps list will open.

[illegible]

Step 3: Determine the total number of steps required for the control.

Step 4: Click **{New}** to add steps. Repeat this step until you have as many steps as are required by the number determined in step 3.

Step 5: Use the **[Page]** keys to select the step.

Step 6: Use the **{Hold}** or **{Time}** keys to assign a time to the step. Times are entered in seconds.

Step 7: Use the **{Level}** key to assign a level to the step. The levels list will open.

[illegible]

Step 8: Determine the total number of levels required for the step.

Step 9: Click **{New}** to add levels. Repeat this step until you have the number of levels required by the number determined in step 8.

Step 10: Assign a DMX number by clicking **{DMX Number}** or **{All Offsets}**.

Step 11: Assign a DMX level value by clicking **{DMX Level}**.

Step 12: Click **{Return}** when you have finished editing the levels.

Step 13: Click **{Return}** when you have finished editing the steps.

Copying a Fixture

It is possible to copy an existing fixture and then edit its parameters. In the fixture editor, there is a **{Copy}** button. Pressing **{Copy}** when a library fixture is selected will create a copy of that fixture and will assign it a new name. This new fixture can then be edited.

Merging Custom Fixtures into a New Show File

Custom fixtures are saved with your show file and not in the fixture library. If you want to use custom fixtures in a different show file, you will need to use the advanced merge function while in the new show file.

For more information, see [Partial Patch Merging, page 32](#)

Importing a Custom Fixture

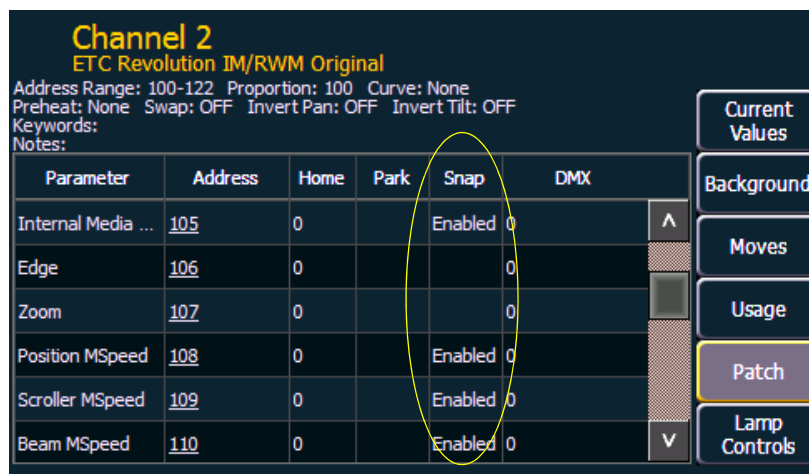
You can import custom fixtures from an ASCII show file, see [Importing Show Files, page 35](#).

Snap Parameters

Certain parameters may not want to be subjected to cue timing. Those parameters can be set to snap. By default, Element will snap the parameters listed in the following table:

Beam FX Index/ Speed	Effect Library	MSpeed	Shutter
Camera IR Image	Enable	Negative	Shutter Strobe
Clip Directory	File	Object Directory	Strobe Mechanism
Color Effect	File Type	Object File	Sync Source
Color Index	Front/Rear Projection	Output Command	Text
Color Mix	Generator	Page	Texture
Control	Generic Control	Position Blink	Timeline
Copy Mod	Image Movement Speed	Projector Input	Timeline Position
Cue	Internal Media Frame	Relay	Tracking Object
Dimmer Curve	Library	Select	Transition Speed
Edge Blend Profile	Macro	Shape	Transition Time
Effect File	Mode	Shape Library	Transition Type

In the **[About]** channel patch screen, the snap column shows which parameters for that channel are currently set to snap.



If you wish to disable any of the default snap parameters or enable snap for parameters that are not by default enabled, you will need to first create a copy of the fixture profile. In the fixture editor for the copied profile, change the parameter settings via the Snap Enable/Disable column.



Note:

You will need to patch your fixtures to their new fixture type if you change which parameters are to snap or not.

Chapter 7

Basic Manual Control

Element provides a variety of ways to select and command control channels. This chapter identifies the many basic ways you can select channels and manipulate show data within Element.

This chapter contains the following sections:

- ***Using Channel Faders*** 82
- ***Selecting Channels*** 83
- ***Setting Intensity*** 85
- ***Select Last*** 86
- ***Using +% and -%*** 86
- ***Remainder Dim*** 87
- ***Sneak*** 88
- ***Channel Check*** 89
- ***Address at Level*** 89
- ***Address Check*** 89
- ***Flash*** 90
- ***Moving Light Control*** 90

Using Channel Faders

One way to bring up channel levels with Element is using the channel faders. The fader position switch is used to select between channels 1-40, channels 41-80, or channels 81-120. Element will ship with the fader position switch in channels 1-40 mode.

With the fader position switch in channels 1-40 mode, channel 1 will be controlled by the leftmost fader in the first bank of faders. Channel 40 will be controlled by the rightmost fader in the second bank. When the fader position switch is in channels 41-80 mode, channel 41 will be controlled by the leftmost fader in the first bank of faders. Channel 80 will be controlled by the rightmost fader in the second bank.



Note:

If you have an Element 60 console, the third bank of faders are always in submaster mode.



Note:

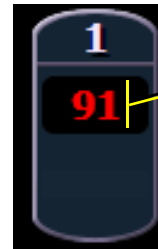
Channel faders will only control the first 120 channels. Channels 121 and above must be controlled via the keypad. See [“Selecting Channels” on page 83](#).

Raising a channel fader will bring up the corresponding channel's level. This will be reflected on Element's live display. The channel intensity level will appear in red to indicate the level is being set manually.

Element's fader status display will also show the channel's level. For more information, See [“Indicators in the Fader Status Display” on page 250](#).

Element's channel faders are LTP or Latest-Takes-Precedence, which means that you can take control of a channel simply by moving the fader to match the current output level. Channel faders, like the keypad and level wheel, can then take levels above or below the current playback level. See [HTP vs. LTP, page 224](#).

Holding down **[Shift]** while moving the channel faders, will allow them to move without changing the channel levels. This is helpful when you have used your channel faders to record a cue. This allows you to restore your faders to zero, while leaving the cue values on stage. If you don't do this, the LTP behavior will drive the channels toward zero.



Intensity data

Selecting Channels

Selected channels are available for manual control through keypad commands, level wheel, and/or ML controls. Element provides interactive ways to select channels including the control keypad and groups. [See “Selecting Groups” on page 123.](#)

Select Channels From the Keypad

The keypad defaults to selecting channels. Channels may be selected on the control keypad using the **[+]**, **[-]**, and **[Thru]** keys for consecutive or non-consecutive channel selection.

The following examples illustrate various methods of selecting channels from the control keypad:

- **[5] [Enter]** - selects channel 5.
- **[5] [+] [7] [Enter]** - selects non-consecutive channels 5 and 7.
- **[5] [Thru] [9] [Enter]** - selects channels 5 through 9.
- **[2] [Thru] [8] [-] [5] [Enter]** - selects a range of channels 2 through 8, except channel 5.
- **[-] [6] [Enter]** - removes channel 6 from the current selection list.
- **[+] [1] [Enter]** - adds channel 1 to the current list of channels.



Note:

*You may use **[+]** and **[-]** 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, 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]**

Channel 10 is selected with a gold outline around the entire channel and the channel number is indicated in white.

- **[Next]**

Channel 11 is now selected with a gold outline and white channel number while channel 10 is no longer selected.

When a group of channels is selected, pressing **[Next]** or **[Last]** selects the first or last channel in the channel list.

For Example:

Channels 11 through 20 are selected:

- **[Next]**

Channels 11 through 20 are still the specified channel list but only channel 11 is selected for control. You can now sequentially press **[Next]** or **[Last]** to cycle through the list.



Note:

***[Thru]**, **[Next]** and **[Last]** are affected by the current Flexichannel (use of the **[Flexi]** key) state. [See “Using Flexichannel” on page 23.](#)*

Offset

{Offset} is a feature used to select a range of channels from within a broader channel selection. 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}**, **{Random}**, and **{Reorder}**. 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.
- **[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.
- **[1] [Thru] [2] [0] {Offset} {Even} {Random} [Enter]** - selects all even channels within the range and puts them in random order.
- **[Group] [4] {Offset} {Reorder} [Enter]** - will reorder the preceding channel range to numeric order.
- **{Offset} [4] [Enter]** -selects every fourth channel in the current channel selection.
- **[1] [Thru] [2] [4] {Offset} [4] [/] [4] [Enter]** - selects channels 4, 8, 12, 16, 20, and 24. You can select to offset by 2/2, 4/4, 3/3 etc.

Using Groups as a Channel Collector

[Group] can be used as a quick way to collect channels from submasters, cues, palettes, or presets. [See “Using Groups and Intensity Palettes” on page 121.](#)

The following actions are possible:

- **[Group] [Cue] [1]** - selects all the channels in cue 1.
- **[Group] [Sub] [3]** - selects all the channels in submaster 3.
- **[Group] [Int Palette] [5]** - selects all the channels in intensity palette 5.

Deselecting Channels

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. You can also press **[Clear]** after a terminated command line to clear the channel selection.



Note: *Select Last is a fast way to regain your last channel selection.*

Any manual control action taken while record or update is on the command line will automatically reselect your last channel selection.

Setting Intensity

Channel intensity may be set using the channel faders, by selecting the channel(s) and using the level wheel or the keypad, or set with an intensity palette (if programmed, [See “Using Intensity Palettes” on page 126.](#)). Pressing **[At]** after channel selection allows you to enter a discrete intensity value. You may also use the **[Full]** button to bring the selected channels to their full intensity or you may use the **[Out]** button to set the intensity out.

Use the Level (**[At] [At]**), +% (**[Shift] & [+]**) and -% (**[Shift] & [-]**) functions to affect the intensity value of selected channels. Each of these functions are set at a specific value established in the [Setup, page 37.](#)

- 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 of setting intensity:

- **[1] [+] [3] [At] [5] <0> [Enter]** - selects 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 4, and sets the intensity to full.
- **[1] [Thru] [8] [At] [+] [3] <0> [Enter]** - adds 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, respectively.
- **[5] [Thru] [8] [At] [-] [3] <0>[Enter]** - scales the intensities of the selected channels in the list down 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 by 30% to a value of 52.
- **[2][6] [Thru] [3][1] [At] [5][0] [Thru] [Full] [Enter]** - fans the intensity levels across the channels selected. In this example, channel 26 would be at 50%, 27 at 60%, 28 at 70%, 29 at 80%, 30 at 90%, and 31 at Full.
- **[2] [+] [5] [level wheel]** - roll the wheel up for greater intensity or down for less intensity.
- **[1] [Full] [Full]** - selects channel 1 and sets it to full and self terminates the command line.
- **[2] [At] [At]** - selects channel 2 and sets it to the level as established in **Setup**.
- **[Group] [9] [Out]** - selects all channels in Group 9 and sets the intensity values for those channels to zero. As long as channels are on the command line you can continue to address them with commands without having to reselect them.

For Example:

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

The selected channels are highlighted in gold, with white channel text and red intensity values (indicating manual data). You may continue to modify channels 1 through 5 since they are still selected and displayed on the command line.

- **[Shift] & [-] [Shift] & [-]**

This command would reduce the intensity of channels 1 through 5 by the value assigned to +% and -% in setup.

- **[At] [7] [5] [Enter]**

You can continue manipulating the selected channels so long as the channels are selected and displayed on the command line.

Level Wheel

You may set intensity for selected channels using the level wheel. Rolling the level wheel upwards increases intensity. Rolling it downwards (towards you) decreases it. The level wheel will increase and decrease levels across selected channels one point at a time.

Select Last

The **{Select Last}** softkey allows you to reselect the previous channel selection. This includes multiple channel selections, groups, and so on.

Other select softkeys on Element do the following:

- **{Select Active}** - selects all active channels.
- **{Select Manual}** - selects all channels with manual data.
- **{Select Active} {Select Active}** - will capture all active manual levels except for submasters. Select NonSub Active will post to the command line.

Using +% and -%

Use +% and -% to incrementally change parameter values. To access this function on Element, press **[Shift] & [+]** or **[Shift] & [-]**. By default, +% and -% are assigned a value of 10. This can be changed in [Setup, page 37](#). This can be used with any parameter.

Channel Intensity

When channels are selected, pressing **[Shift] & [+]** increments the intensity level by 10 (or by the value established in setup. Alternatively, you may press **[Shift] & [-]** to decrement the intensity level by 10. You may use these keys 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 +% which is set to its default value of 10% in the setup menu.

- **[Shift] & [+] [Shift] & [+]**

Remainder Dim

[Rem Dim] temporarily provides an intensity level to all channels except those that are currently selected, those that are parked, or those with intensity contributions from submasters. When the remainder dim command is cleared, the stage returns to its previous state. The default remainder dim value is 0, but this can be changed in Setup. For more information, see [Manual Control, page 42](#). You may use the following commands for remainder dim:

- **[Next]** and **[Last]**- moves through the channel list.
- **[select channels] [Rem Dim] [Enter]** - sets all non-selected channels to the remainder dim level as defined in Setup.
- **[1] [At] [6] <0> [Rem Dim] [2][0] [Enter]** - sets channel 1 to 60% and all non-selected channels active over 20% to a rem dim level of 20. **[Rem Dim]**- clears the rem dim function and returns the stage to its previous state.

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 remains at its intensity level of 50% and all remaining channels are dimmed to the rem dim level.

- **[Next]**

Selecting **[Next]** changes the channel selection to channel 10 which returns to its intensity level of 70%, and all remaining channels including channel 9, are dimmed to the rem dim level.

- **[Rem Dim]**

Pressing **[Rem Dim]** again will return all channels to their previous levels.

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

When set to a value other than zero, all Rem Dim commands will bring intensity to this level instead. However it won't bring an intensity up. For example, if the rem dim level in setup is set to 50%, **[Rem Dim]** will drop any value above 50% to 50%, but not raise the intensity of the channels currently below 50%.

Sneak

The **[Sneak]** function moves channels to levels or restores to the background level in time. This can be a new manual level, or to previous levels after making a manual change. Sneaking channels to their previous state is similar to the Expression release function, except sneak has the ability to release in time.

If there is no background state from the playbacks, the channel intensity will be set to 0 and non-intensity parameters will be set to their home position. The sneak command follows the sneak timing default established in [Setup, page 37](#), unless a timing value is provided as part of the sneak command.

The playback status display will show a red counter for sneak time. If multiple sneak times are being used, the most recently fired sneak time will be displayed. For an example of the sneak counter, see [Indicators in the Playback Status Display, page 249](#).

The sneak command can also be used to send a channel parameter to a specific destination, either with or without timing. The following examples illustrate the various methods of using the sneak command:

- **[5] [At] [5]<0> [Sneak] [8] [Enter]** - sneaks channel 5 to 50% in 8 seconds.
- **[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.
- **[Sneak] [Enter]** - when no channels are selected, restores all channels with manual values to their background state.
- **[Sneak] <Time> [3] [Enter]** - restores all channels with manual values to their background state in 3 seconds.
- **[channel list] {Color} [Sneak] [Enter]** - sneaks color of the selected channels to the default or background state.
- **[Group] [5] {Color Palette} [9] [Sneak] [Enter]** - selects group 5 and sneaks it to color palette 9 using default sneak time.
- **[Group] [3] [At] {Color Palette} [1] [Sneak] <Time> [7] [Enter]** - selects group 3 and sneaks it to color palette 1 in 7 seconds.
- **[Sneak] [Sneak]** - leaves intensity as currently set but sneaks NPs. This works with or without a channel list selected.
- **[Shift] & [Sneak]** - makes any manual data unmanual. The values will remain but they will no longer be available for **[Update]** or **[Record Only]** operations. When used with an empty command line, this will affect any and all manual data. When used with a channel selection, only those channels will be affected.

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.

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.



Note: *Only channels visible through the currently active flexi mode will be impacted.*

Address at Level

The **[Dimmer/Address]** hardkey in Live is used to send level information directly to an output address.

- **[Dimmer/Address] [5] [Full] [Enter]** - sets output address 5 to full. It will return to its previous level once the command line changes.
- **[Dimmer/Address] [2] [/] [1] [At] [/] [2][3][0] [Enter]** - sets universe 2, address 1 at DMX value 230.

After using the **[Dimmer/Address]** command, **[Next]** and **[Last]** may be used to increment the address number and set it to the same level. Addresses return to their previous level once the command line is cleared or **[Next]** or **[Last]** is used to increment to the next address.

This feature is useful when you want to perform an address or dimmer check.



Note: *This command will use all DMX addresses available in the current flexi mode.*

Address Check

Address check allows you to quickly step through all of your patched addresses.



Note: *Address check differs from Address at Level because it skips non-intensity parameters of patched addresses.*

- **[Dimmer/Address] [1] [At] [Full] {Check} [Enter]** - brings address 1 to full intensity.

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

Flash

Using the **{Flash}** softkey in Live will alternate the intensity level for selected channels or addresses between full and 15% output every second. The channel or address will keep flashing until either the command line is cleared, or **[Next]/[Last]** is used to increment to the next channel or address.

- **[1]{Flash}** - will flash intensity for channel 1.
- **[Next]** - channel 1 returns to its previous state and the intensity for channel 2 will flash.
- **[Dimmer/Address] [1][0]{Flash}** - will flash intensity for address 10.

You can also use **[Shift] & [Full]** and **[Shift] & [Out]** to briefly flash levels. While **[Shift] & [Full]** is depressed, selected channels will be held at full. While **[Shift] & [Out]** is depressed, selected channels will be held at zero.

Moving Light Control

For more information about the ML Control display, see [Moving Light Control, page 136](#). For more information on programming moving lights, please see the [Element tutorials](#), <http://www.etcconnect.com/product.tutorial.aspx?ID=22010>.

Chapter 8

Storing and Using Submasters

Submasters are intensity levels and non-intensity parameters recorded to a fader for simple playback. This chapter explains how to record and use submasters on your Element console.

This chapter contains the following sections:

- **About Submasters**92
- **Recording a Submaster**92
- **Using Bump Button Timing With Submasters**97
- **Submaster List**98

About Submasters

Submasters can store any parameter data for channels. You can copy cues or palettes to a submaster as well. Channels running effects can also be loaded onto a submaster. [See “Effects on Submasters” on page 165.](#)

On submasters, the button beneath the fader acts as a bump button or a mark button depending on the submaster type (Proportional or Intensity Master). When a submaster is defined as an effect sub, the bump button is used to trigger an effect.

It is possible to program upfade, dwell, and downfade times in association with the submaster bumps.

What Does a Blinking LED Mean?

When a submaster bump LED is blinking, it means that the submaster must be homed due to either changes to its content or to its mode. In either case, reset the submaster by dropping it to zero and the moving the fader back to the desired position. Inhibitive submasters that are blinking must be homed to 100% rather than zero. The LED will also blink when the submaster is in a “Hold” state via bump button timing.

Recording a Submaster

You can 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 all current values to submaster 5.
- **[Record] [Sub] [5] {Mode} [Enter]** - as above, and alters mode between inhibitive, effectsub, or additive. Other submaster properties (HTP/LTP, Exclusive, and so on) can be assigned in this way as well.

Pressing a submaster’s bump button with **[Record]** on the command line will record the data to that submaster.

You can also record selected channel data to submasters as well. See below:

- **[Channel List] [Record] [Sub] [5] [Enter]** - records all data for the channel list to submaster 5.



Note:

If the fader is not at full when recording to a submaster, the contents you have just stored will remain manual. If the fader is set to full, the content will be released to the submaster.

Once a submaster has been recorded, it can be raised from either a fader or from the keypad. See below:

- **[Sub] [5] [At] [5] [Enter]** - brings submaster 5 to 50% from the keypad.

Submasters can also be recorded using selective storing, which allows you to specify only the channels that you want stored.

- **[6] [Thru] [1][0] [Record] [Sub] [3] [Enter]** - records only channels 6 through 10 to submaster 3.

If a submaster already has data stored to it, selective store will act as a merge function. Using the above example of channels 6 through 10 stored to submaster 3, if you were to then store channel 5 to submaster 3, that would be added to the current content so that channels 5 through 10 are now stored.

Record only can be used when recording submasters, for more information see [Using Record Only, page 101.](#)

If you don't want the data to merge, you can either first delete the submaster to remove the original content. [See “Deleting a Submaster” on page 96](#). Or you can selective store while using **[Rem Dim]**.

- **[5] Record [Sub] [3] [Rem Dim] [Enter]** - records channel 5 to submaster 3 and removes any previous data from the submaster.

Submaster Displays

At the bottom of the playback status display, you will see the following when the fader selection knob is in submaster mode:

- Submaster number
- Submaster label (if any)
- Independent flag (if any)
- I-Master flag (I.M. - if any)
- Current submaster value

Additive, Inhibitive, or Effectsub

You may define your submaster as additive (contributes to the live output), inhibitive (limits live output), or effectsub (controls an effect). Element defaults to submasters being additive.

To toggle a submaster between additive, inhibitive or effectsub:

- **[Sub] [7] {Mode} [Enter]**

Pressing **{Mode}** will toggle through the three available submaster states.

Additive submasters are indicated by a green LED and a green outlined fader icon in the fader window.

Inhibitive submasters display these indicators in red in the fader window display, however the bump button will still display in green. Channels mastered by an inhibitive submaster are indicated with an “I” next to the intensity value in the channel display in live. Inhibitive submasters do not provide levels to the stage picture, they limit them (similar to a grandmaster). Inhibited values are reflected in record operations. Channels “inhibited” by a grandmaster are still stored to record targets at their full output value.

For information on effectsub, see [Effects on Submasters, page 165](#).

Proportional vs. Intensity Master

A submaster can be set to be either a proportional fader or an intensity master. This is done using the **{Fader}** softkey. Element defaults to submasters as proportional.

Proportional submasters

When a submaster is proportional, the fader will control all contents of the submaster (intensity and non-intensity parameters) when moved from zero. When a proportional sub is returned toward zero, channels will be returned to their previous levels.

The bump button can be used to bump all values to their recorded levels in the submaster, or, by assigning timing values, fade the contents of the submaster up or out.

Intensity master

When set to this fader type, the fader will control intensity only. The bump button can be used to preset (mark) non-intensity parameters stored to the submaster. If the bump is not pressed before the fader is moved, the fader will also fade the non-intensity parameters to their recorded values. Once the non-intensity parameters are at their end state, the fader only controls intensity. When dropped toward zero, controlled intensities will be faded toward zero. When you mark or unmark via

the bump button, the timing associated with the up/down fades will be used to determine the mark time. If you move the fader from zero and didn't mark, the lights will mark in the upfade time associated with the submaster.

When the non-intensity parameters have been marked using the bump button, the LED on the button will pulse to show that the parameters have been marked. Pressing the bump button will then release the non-intensity parameters using the bump button timing. The LED will also turn off.

To toggle a submaster between a “Proportional” or “I-Master” fader:

- **[Sub] [8] {Fader} [Enter]**

HTP vs. LTP

Submasters can be set to be either Highest-Takes-Precedence (HTP) or Latest-Takes-Precedence (LTP). This setting is applied to intensity only. Non-intensity parameters are always LTP. Element defaults all submasters to HTP. For more information on HTP and LTP see [HTP vs. LTP, page 224](#).

To toggle a submaster between HTP and LTP:

- **[Sub] [6] {HTP/LTP} [Enter]**

Exclusive Submasters

Submasters can be placed in exclusive mode. This prohibits storing the contribution of the submaster into any record targets. In essence, this acts as a fixed **[-] [Sub] [Record]** command.

To place a submaster in exclusive mode:

- **[Sub] [5] {Exclusive} [Enter]**

Independent

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, grandmaster, blackout, park instructions, or other play faders and submasters also on independent.

Inhibitive subs can not be set as independent.

To set a submaster to independent, press the **{Priority}** softkey. **{Priority}** toggles through three options, Independent, Shield, and No Priority. No Priority is the default. The priority column of the submaster list display will be blank if set to No Priority.

Shield

Submasters can be shielded. The content of a shielded submaster is automatically made exclusive and can't be controlled by anything other than that submaster and park, including by manual control.

To set a submaster to shielded, press the **{Priority}** softkey. **{Priority}** toggles through three options, Independent, Shield, and No Priority. No Priority is the default. The priority column of the submaster list display will be blank if set to No Priority.



Channels stored to shielded submasters will display in yellow with a superscript 's' beside it.

If channel parameters stored to shielded submasters were previously stored to cues or other submasters, those instructions will be ignored on playback.

If the same channels are assigned to more than one shielded submaster, control of those channels will be shared on either a LTP or HTP basis depending on the settings for the submasters.

To toggle a submaster between priority modes:

- **[Sub] [7] {Priority} [Enter]**

Submaster Background State

Submasters can have their background states disabled. Background states are enabled by default. When enabled, the content of the submaster will act as a background or previous state for other cues and submasters. When a submaster has its background state disabled, a “D” will be displayed in the Submaster List background column.

For example, cue 1 has channel 10 at 25%. Submaster 1 is raised and has channel 10 at 50%. Submaster 2 is then brought up and has channel 10 at Full. When submaster 2 is lowered to zero, control will be returned to submaster 1. If submaster 1 is lowered to zero, control will return to cue 1.

Using the above example, if submaster 1 has its background state disabled, which makes its content unavailable as a background state, then when submaster 2 is lowered to zero, control would return to cue 1 and not to submaster 1.

To disable a submaster’s background state:

- **[Sub] [9] {Background} [Enter]**

Submaster {Restore} Mode

Submasters can be placed into restore modes of minimum or previous, which is the default. When a submaster is in the restore to previous mode, the restore column of the submaster list display will be blank. When in minimum mode, 'Min' will display in the restore column.

The restore mode of previous means that when the submaster is returned to zero, control will be restored to the background value, such as another submaster or a cue.

The restore mode of minimum means that when the submaster is faded down, control does not go to the previous background state but to the parameters’ minimum value.

To toggle the restore mode between “Previous” and “Min”:

- **[Sub] [8] {Restore} [Enter]**

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 submaster 5 to include changes in live output only for channels already in submaster 5.
- **[Channel list] [Update] [Sub] [5] [Enter]** - adds only the specified channels to submaster 5.
- **[Update] [Submaster Bump Button]** - pressing **[Update]** and then the submaster’s bump button will update that submaster.

Labeling a Submaster

Submasters can be labeled using the **[Label]** key.

- **[Sub] [6] [Label] [xxxx] [Enter]** - labels submaster 6.



Note: *Labeling requires the use of a mouse, touchscreen, or external keyboard.*

Deleting a Submaster

You can delete a submaster using the **[Delete]** key. When a submaster is deleted, the fader remains configured as a submaster, but it will be empty.

- **[Delete] [Sub] [5] [Enter] [Enter]** - deletes the contents of sub 5.

Paging Submasters

Element has a total of 300 submasters. With the fader position switch in submaster mode, an Element 60 will display 60 submasters, and an Element 40 will display 40 submasters at a time. Element will default to the first 40 or 60 submasters. To page through the available submasters, hold down the **{Page Subs}** softkey in the live display. The first few bump buttons will light up in green, and the bump buttons that correspond to the currently selected pages will flash. Press the corresponding bump button to go to that page. The fader status display will change to show the submaster pages.

Page 1 1-40	Page 2 41-80	Page 3 81-120	Page 4 121-160	Page 5 161-200	Page 6 201-240	Page 7 241-280	Page 8 281-300
Page 1 1-40	Page 2 41-80	Page 3 81-120	Page 4 121-160	Page 5 161-200	Page 6 201-240	Page 7 241-280	Page 8 281-300

Pages Available on Element 40

*First 8 Bump Buttons of each
submaster row will page.*

Page 1 1-60	Page 2 61-120	Page 3 121-180	Page 4 181-240	Page 5 241-300
Page 1 1-60	Page 2 61-120	Page 3 121-180	Page 4 181-240	Page 5 241-300
Page 1 1-60	Page 2 61-120	Page 3 121-180	Page 4 181-240	Page 5 241-300

Pages Available on Element 60

*First 5 bump buttons of each
submaster row will page.*

The selected page will appear in white.

Using Bump Button Timing With Submasters

Submasters may be raised manually using the fader, or they may be executed with timing using the bump button. Normally the bump button snaps the contents of the submaster to full when pressed, and to zero when released. Each submaster bump can have three different timing values: 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”. “Hold” time maintains the submaster values until the bump is pressed a second time. “Manual” time applies the submaster values only as long as the bump is held. 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 fader can be used to manually override fade progression, or a submaster triggered with time.

To add bump button timing live:

- **[Sub] [8] [Time] [3] [Time] [4] [Time] [3] [Enter]** - adds a 3 second upfade, 4 second dwell and 3 second downfade to submaster 8.
- **[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 fader past the current fade level. Once this is done, control is transferred to the fader for full manual control.

You may then use the fader to increase or decrease the submaster level as needed.

Controlling Submasters from the Command Line

You can also take control of submasters from the command line.

- **[Sub] [5] [At] [Full] [Enter]** - sets submaster 5 to full from the command line.

Submaster List

You can access the submaster list by pressing **[Sub] [Sub]** or through the browser (**Record Target Lists>Submaster List>[Select]**).

The list view includes a list of all submasters including their label and all recordable properties. You can navigate within the list by using the **[Next]** and **[Last]** buttons or by selecting the desired submaster from the command line.

When this display 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 the content of a submaster using **{Move To}**. For example:

- **[Sub] [1] {Mode} [Enter]** - toggles the submaster 1 between additive, inhibitive, and effectsub.
- **[Sub] [2] {Priority} [Enter]** - toggles submaster 2's priority setting between independent, shield, and no priority.
- **[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. Pressing **[Copy To] [Copy To]** posts **{Move To}** to the command line.

Editing Submasters

If you want to actually edit the contents of the submaster while in the submaster list, you can select the submaster and click **{Edit}**. This changes focus to the live/blind display 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 stored. A **[Record]** or **[Update]** command is not required. Changes made in blind to active submasters are immediately routed to live output.

Chapter 9

Working with the Cue List

Cues are recorded stage looks including levels for intensity and non-intensity parameters. Cues are different from submasters in that they are stacked in a cue list, and they allow few or many intensity and non-intensity values to change in recorded times based on a single **[Go]** button press.

This chapter contains the following sections:

- **Basic Cueing**100
- **Recording Cues in Live**101
- **Timing**106
- **Flags**110
- **Modifying Cues Live**112
- **Recording and Editing Cues from Blind**116
- **Deleting Cues**119

Basic Cueing

Cues are, at their most basic level, the looks created for scenes in a show. Cues are 'stacked' in a list for playback using recorded fade times.

Technically speaking, a cue is a record target comprised of channels with associated parameter data, cue timing, and cue attributes (such as preheat, follow instructions, and so on).

Typically, cues are written in order, starting with the first look of a show, then moving on through each scene, recording new cues when lighting levels need to change.

In setup, you determine if Element will operate in a Cue Only or Tracking mode. See ["Tracking vs. Cue Only" on page 224](#). By default, the system is set to tracking, therefore this section of the manual primarily addresses working in tracking mode. The current mode is displayed in the upper left corner of the live/blind display. It is important to know which mode you are working in, as it impacts how cues are edited. See ["{Record Defaults}" on page 41](#). To learn more about how tracking works, check out this [video, http://www.etccconnect.com/video/BHF-WhyDidMyConsoleDoThat/index.htm](http://www.etccconnect.com/video/BHF-WhyDidMyConsoleDoThat/index.htm).

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



Note:

The current mode of the console will be displayed in the upper left corner of the Live or Blind displays. The command line prompts will also provide some guidance depending on the current mode.

Cue Numbering

Cues can be numbered from .01 - 10,000.

Element 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, rather than 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.
 - Whole numbered cue - **[Next]** increments the next whole numbered cue.
 - Tenths numbered cue (.1) - **[Next]** increments in tenths.
 - Hundredths (.01) numbered cue - **[Next]** increments in hundredths.
- 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 enter the next record command, you can just enter **[.] [5]** to record cue 5.5.

Recording Cues in Live

When using **[Record]**, all parameters of any lights that have non-default values, either from manual control, other cues, or submaster playback are stored in the target cue.

When cues are recorded, they are automatically played back, and manual values are released, unless auto playback on record has been disabled in setup, [See “Auto Playback” on page 41](#). 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 or a non-intensity parameter has marked.
- Magenta - level has tracked from a previous cue.
- White - level has been blocked (see [Block, page 110](#)).

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> [5] [Enter]** - records all parameters of any channels with non-default data into the specified cue number 5.
- **[Record] <Cue> [5] [Label] [name] [Enter]** - records the specified cue and provides an alphanumeric label. (Requires a touchscreen, mouse, or keyboard.)



Note:

When using the console in Tracking mode or when using track editing, it is important to understand the concept of Blocking. A cue containing a Block flag will stop edited levels from tracking through that cue. Blocks are often placed on the cue at the top of an act or scene, or anywhere you want to protect cues from levels that may track in from upstream cues. Block flags should also be set on cues that you want to have behave as blackouts. See [Block, page 110](#).



Note:

***[+]** can be used with **[Record]** to specify a range of cues for recording. See [“\[Update\] \[+\]" on page 113](#).*

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), from being recorded into the cue. Therefore, when used to record a cue, only the manual data for channels will be stored in the cue. Any values in the previous cue that were unchanged will track into the new cue.

Double pressing **[Record]** will post Record Only to the command line.

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

- **[Record] [Record] <Cue> [Next] [Enter]** - stores only the manually set values into the next cue in the list.
- **[Record] [Record] [Cue] [3] [Enter]** - stores only the manually set data into cue 3.
- **[2] [Thru] [8] [Record] [Record] <Cue> [9] [Enter]** - stores only the manually set data for channels 2 through 8 into the target cue 9.

- **[selected channels] {Color} [Record] [Record] <Cue> [4] [Enter]** - stores only the color data for the selected channels into cue 4.

Selective Storing Cues using [Record]

Cues can also be created using selective storing, which allows you to specify only the channels and or parameters that you want to store. When using a selective store, you must specify the channel list to be included or excluded, identified by **[Thru]**, **[+]**, **[-]**, as part of the **[Record]** command.

The following examples illustrate various methods of selectively storing cues:

- **[1] [Thru] [3] [Record] <Cue> [2] [Enter]** - records the selected channels 1 through 3 to cue 2.
- **[-] [9] [Record] <Cue> [5] [Enter]** - records cue 5 while excluding channel 9.

Since Element is a tracking console, any channels not included in the selective store, but that do have values in the previous cue will track into the recorded cue. This is true even when the desk is in Cue Only mode. To remove intensity values that would otherwise track when on a selective store, the rem dim command can be used. [See “Remainder Dim” on page 87.](#)

Using [Cue Only / Track]

In Tracking Mode

Element, by default, is set to Tracking mode. When you create a new cue, any unchanged channel parameter data from the previous cue is tracked into the new specified cue. Any changes in this new cue will also track forward into subsequent cues until a move instruction or a block flag is encountered. In the example below, the gray boxes indicate tracked values and the white boxes indicate move instructions.

Channels	1	2	3	4	5
Cue 1	00	25	00	FL	30
Cue 2	FL	25	60	FL	25
Cue 3	FL	25	50	FL	50
Cue 4	FL	25	50	FL	30
Cue 5	00	25	50	00	65

When in tracking mode, edits made to an existing cue will track forward through the cue list until a move instruction is encountered. Changes made to Cue 3 will affect the cue list as shown below in bold.

Channels	1	2	3	4	5
Cue 1	00	25	00	FL	30
Cue 2	FL	25	60	FL	25
Cue 3	50	75	75	80	65
Cue 4	50	75	75	80	30
Cue 5	00	75	75	00	65

Using Cue Only

The **[Cue Only/Track]** key is an exception to this behavior. **[Cue Only/Track]** button combined with **[Record]** or **[Update]** modifies standard tracking behavior. When you record a cue in the middle of the cue list, using the **[Cue Only]** button will prohibit new information from tracking into the subsequent cue, and will protect the previously tracking levels by adding a move instruction into the next cue for those levels. When you rerecord or update a cue, the modifications will not track forward. Using **[Record] <Cue> [3] [Cue Only] [Enter]** would affect the cue list as shown below.

Channels	1	2	3	4	5
Cue 1	00	25	00	FL	30
Cue 2	FL	25	60	FL	25
Cue 3	50	75	75	80	65
Cue 4	FL	25	50	FL	30
Cue 5	00	25	50	00	65



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 in which the system is operating.*

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

With system set to Tracking

- **[Record] <Cue> [5] [Cue Only] [Enter]** - records cue 5. New values or changes will not track into the subsequent cue.
- **[-] {Color} [Record] <Cue> [5] [Cue Only] [Enter]** - as above the recorded data will not track forward and all color data is excluded from the record operation. Any color data in the previous cue will track in.
- **[-] [5] [Record] <Cue> [6] [Cue Only] [Enter]** - records the specified cue, except the contributions from channel 5. The stored data will not track forward in the list.

Using Trace

{Trace} works just like Tracking mode, except it allows changes to be tracked backwards through the cue list, until it sees a move instruction. In the example below, the channel levels have been adjusted while cue 3 is live on stage. Using Trace will take those adjusted levels and update them into the cues as follows: channel 1's new level is recorded into cue 2, channel 2's level is recorded into cue 1, and channel 3's level is recorded into cue 3. This is because the move instruction for those channels are contained in those cues. In the case of channels 1 and 2, their new level will track into cue 3. Using **[Record] <Cue> [3] {Trace} [Enter]** would affect the cue list as shown below in bold.

Channels	1	2	3	4	5
Cue 1	00	75	00	80	30
Cue 2	50	75	60	80	25
Cue 3	50	75	75	80	65
Cue 4	FL	75	50	FL	30
Cue 5	00	75	50	00	65

For information on using **[Update]** and **{Trace}**, See ["Using Trace" on page 115](#).

In Cue Only Mode

When you create a new cue, any channel parameter data from the previous cue is tracked into the new cue. 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> [5] [Track] [Enter]** - records cue 5. This data will track forward in the list until the next move instruction or block.
- **[-] [5] {Color} [Record] <Cue> [6] [Track] [Enter]** - records the specified cue, except the color data from channel 5. The data will track forward in the list until the next move instruction or block.

Move Fade

Element uses Move Fade philosophy. This means that only changing levels are executed from cue to cue, and also that those levels that are moving will continue to do so in their own time if you execute cues before previous cues are done fading. For a definition, see [Move Fade, page 224](#)

For Example:

In cue 1, channel 1 moves to 100% in a fade time of 10 seconds. Cue 2 contains channel 2 at 50% and a fade time of 3 seconds. If you execute cue 1, starting channel 1 fading up, then 5 seconds later press **[Go]** again, channel 1 continues along and completes its fade in 5 seconds (for a total fade time of 10 seconds). In the mean time, channel 2 will start its fade up and complete in 3 seconds while channel 1 is still moving. This makes it very easy to create complex stage looks with multiple fade times, just by recording cues and pressing **[Go]**.

To force a cue to “stomp” on currently fading levels, like in the case of a blackout at the end of a scene, place a block on that cue. In Element, the block will also assert the 0 levels in the blackout and force all moving channels to fade to black. See [“Block” on page 110](#).

Timing

Timing categories are provided for intensity up and intensity down transitions. Non-intensity parameter moves always use the intensity upfade time. Both of these times can have an associated delay.

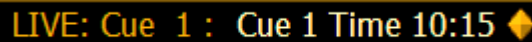
Time can be entered in minutes and seconds (example 10:15) with valid fade times from zero to 99.59, or seconds and tenths of seconds (example 1.3), or 100ths of seconds (example 1.35) with valid fade times from zero to 99.99. When no time is applied at a cue level, the defaults established in Setup are used. [See “{Cue Settings}” on page 39.](#)

For Example:

You want the time for cue 1 to be 10 minutes and 15 seconds.

- **[Cue] [1] [Time] [1][0][1][5] [Enter].**

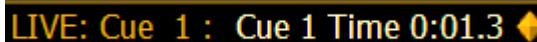
The command line will show the time as:



If you want the time for cue 1 to be in seconds and tenths of a second, like 1.3 seconds, you will type using a decimal.

- **[Cue] [1] [Time] [1][.][3] [Enter]**

The command line will show the time as:



Setting Cue Level Timing

Unless you specify otherwise, Element assigns default fade times to any cue you record. Default timing is designated in Setup. Timing can be applied when a cue is recorded or can be modified later. The **[Record]** command is not required when changing the time of a pre-existing cue.

Following are some examples of record commands with cue level timing:

- **[Record] <Cue> [5] [Time] [9] [Enter]** - record cue 5 and puts a time of 9 seconds.
- **[Record] <Cue> [6] [Time] [3] [Time] [9] [Enter]** - records cue 6 and specifies the intensity up time at 3 seconds and the down time at 9 seconds. The first instance of **[Time]** is used for intensity up fade (meaning intensity value is fading to a higher level than is previously set) and the second instance of **[Time]** is used for intensity down fade time (intensity values fading to a lower level than is previously set).
- **[Cue] [6] [Time] [Enter]** - resets time to default value. If the cue is recorded with split time, this command only resets the upfade time.
- **[Cue] [6] [Time] [Time] [Enter]** - unsplit the time and makes the downfade the same as the upfade.



Note:

[Time] entered on an empty or terminated command line will always post the selected cue for time modification.

Manual Timing at a Cue Level

Manual times are assigned by using the **{Manual}** softkey that is displayed when recording a cue. For more information on manual timing, see [Manual Timing Control, page 132](#).

- **[Record] <Cue> [4] [Time] {Manual} [Enter]** - applies a manual time. If the cue had previously been given split times, would apply a manual to the upfade time. If the cue had a single time, all of the timing would be “manual” and controlled by the fader.
- **[Record] <Cue> [4] [Time] [Time] {Manual} [Enter]** - applies a manual intensity time to the downfade.

[Time][/]

The **[/]** key can be used with **[Time]** to control the intensity upfade and downfade times, and delays.

- **[Cue] [1] [Time] [/] [5] [Enter]** - places a downfade time of 5 on the cue, while splitting the upfade, which preserves its current value.
- **[Cue] [2] [Time] [/] [Enter]** - removes the downfade time and makes the downfade match the upfade.
- **[Cue] [5] [Time] [4] [/][3] [Enter]** - sets the upfade and the downfade times.

Delay Time

Delay is used to delay a move instruction from being executed. The countdown of a delay time begins the moment the cue is executed (for example, pressing **[Go]**).

Delay times can be added to any cue or cue part. See [“Multipart Cues” on page 187](#).

Following are some examples of recording with a delay:

- **[Record] <Cue> [2] [Delay] [5] [Enter]** - stores cue 2 with a 5 second delay on intensity.
- **[Record] <Cue> [2] [Time] [9] [Delay] [3] [Enter]** - records cue 2 with a 9 second upfade, delayed from Go by 3 seconds.
- **[Record] <Cue> [2] [Time] [7] [Delay] [Enter] [Enter]** - records cue 2 with a 7 second upfade, and removes a delay time on the upfade.
- **[Record] <Cue> [2] [Delay] [/] [5] [Enter]** - records cue 2 with a 5 second delay on the downfade.

Assigning Cue Attributes

You can record cues with specific attributes to affect how cues behave when executed. Cue attributes include follow 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.

Follow

A follow time automatically activates the next cue in the sequence when the follow time of the associated cue has elapsed. The follow time begins counting from the moment the cue is executed. **[Shift] & [Delay]** will post follow to the command line, using the currently selected cue.

Following are some examples of use:

- **[Record] <Cue> [5] {Follow} [8] [Enter]** - records cue 5 and provides a “follow” time of 8 seconds which impacts the start of the next cue in the 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 associated cue (Cue 5) is executed.

To remove a Follow time:

- **[Cue] [x] {Follow} [Enter]**

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 time is included with the cue attributes, the activation of the linked cue will occur when the follow time has elapsed.

Following is an example of using link:

- **[Record] <Cue> [2] {Link/Loop} <Cue> [8] [Enter]** - records the specified cue 2 and provides a link to cue 8 in the cue list. When cue 2 is played back, the linked cue is loaded into the pending file of the fader.

Loop is provided as a method to link a series of cues 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 plays the sequence again. A loop specified with ‘0’ loops the sequence indefinitely. Hitting **[Go]** will take you to the next cue out of the loop. A loop specified with a number greater than 0 will loop for that number of times and then go on to the next cue.

Normally, levels from the cue prior to the start of the loop will track into the loop. To avoid this, make the first cue in the loop a block cue. [See “Block” on page 110.](#)

Following is an example of using loop:

- **[Cue] [2] {Link/Loop} <Cue> [1] {Link/Loop} [3] {Follow} [4] [Enter]** - records a link from cue 2 back to cue 1. Because there is a follow time, cue 1 will automatically trigger 4 seconds after cue 2 begins. If cue 1 also has follow time, it will automatically trigger cue 2. This sequence will run 4 times (once plus 3 loops) and then stop in cue 2. The loop value specifies the number of times the loop instruction will be performed. Since the sequence has run once prior to the loop command, the total number of passes will be the specified number of loops +1.

Rate

The **{Rate}** 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, set the rate below 100%. To speed the cue up, set the rate above 100%. The range rate for a cue is 0 - 2000%. 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 of using rate:

- **[Record] <Cue> [4] {Rate} [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.



Note:

The playback rate override function is useful when you want to speed up or slow down a cue because it allows you to adjust the speed of the cue without having to readjust all of the individual times within the cue. To do this, determine the rate at which you want to play the cue back, and then apply that rate to the cue (as shown above).

Curve

{Curve} is used to affect the percent completion of a cue or part by applying the curve's output level as the percent completion for all fade calculations. [See "Storing and Using Curves" on page 191.](#)

Following is an example of how to assign a curve to a cue:

- **[Cue] [6] <More SK> {Curve} [5] [Enter]** - applies curve 5 to cue 6.

Label

[Label] is used to attach an alphanumeric label to a cue or cue part.



Note:

A touchscreen, mouse, or external keyboard is required for labeling.

Following is an example of how to apply a label to a cue:

- **[Record] <Cue> [7] [Label] <name> [Enter]** - records cue 7 and applies the label as entered on the alphanumeric keyboard.
- **[Record] <Cue> [8] [Label] [Out] [Enter]** - records cue 7 and applies the name of the hardkey as the label

Clearing Cue Attributes

To clear attributes from a cue:

- **[Cue] [n] [Follow] [Enter]** - removes the follow time from the specified cue "n".
- **[Cue] [n] [Label] [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".

You may combine these to remove multiple attributes at once:

- **[Cue] [n] [Follow] {Link/Loop} [Enter]** - removes the follow time and link instruction.

Flags

Flags can be applied to cues to change specific behaviors. Flags can be set for “Block” and “Preheat”.

Block

Block flags prevent edited levels from tracking into a cue, and force a move instruction on any tracked value in that cue. For example, if channel 1 is at full in scene 1 and scene 2, and you want to make sure it stays at full in scene 2 when you edit scene 1, place a block flag on the cue at the top of scene 2. A block also forces a move instruction on playback (blackout cues typically get blocked to ensure that they fade any moving levels from the previous cue to zero.)



Note:

On other Eos Family consoles, the block command is split into block for editing and assert for playback.

You can apply a block to a cue, a cue part, to any channel (or group of channels), or 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 for editing and playback purposes, which prohibits any data changes 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 edit, nor are they protected from a trace instruction (see [Using Trace, page 115](#)). 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.

Blocks that you have applied will display parameter data in white.

- **[Cue] [5] [Block] [Enter]** - “B” is displayed in the flags field, indicating a cue level block. When this cue is recalled, all data that would otherwise appear as a tracked value, will be displayed in white. Any changes upstream in the cue list will not impact this “blocked” cue data.

At a Channel or 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.

- **[9] [Block] [Enter]** - applies a block to channel 9. A red “B” appears near the channel in the live display, 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.
- **[1][0] {Intensity} [Block] [Enter]** - applies a block to the intensity of channel 10.
- **[Cue] [n] {Intensity} (from the ML controls) [Block] [Enter]** - blocks all the intensities in the cue, but not the NPs. I is displayed in the Block field.

Element also supports an “auto block” function. Auto block can protect your cue data from unwanted changes. For example, in cue 5 you set channel 1 to 50%. It is stored as a move instruction. Then, you later go back to an earlier cue and set channel 1 to 50% and it tracks forward

to cue 5. Channel 1 will be “auto blocked” in cue 5. Even though it is now at the same value as the previous cue, the original concept of a move instruction is maintained.

When the block instruction has been recorded, updated, or stored while in blind, any tracked values the block was applied to will be displayed in white. Auto blocks are displayed in white, with a white underscore.

Channel level blocks and auto-blocks are indicated in the cue list by a “b”, representing a partial block.

Preheat

Preheat can be used to warm filaments in the cue immediately preceding an intensity upfade from 0. Preheat values can be assigned channels individually in patch.

Preheat is assigned on a cue (or cue part) basis using the **{Preheat}** softkey and, if assigned, any channel in that cue with a preheat value assigned in patch will fade to that intensity in the cue immediately preceding the cue with the preheat flag. [See “Attributes” on page 63](#). Cues with a preheat flag will display an “P” in the preheat flag column (indicated by a “P” at the top of the column).

When a channel is in a preheat state, a “Ph” is displayed in the intensity field of that channel. When a preheat is executed, the preheat value is established using the upfade time of the associated cue. It is possible to hold the **[Data]** key to see the actual preheat values.

Using the Execute List

The execute list can be used to trigger macros and relays.

When you click **{Execute}**, a dialog box appears. This provides a list of the available triggers.

To trigger a macro:

- **[Cue] [1] {Execute} [Macro] [5] [Enter]** - triggers macro 5.

To trigger a relay either on or off:

- **[Cue][5] {Execute} {Relay}[1] [/] [1] {On} [Enter]** - triggers relay 1/1 on (ACN Group ID / Relay Number).

Removing a trigger:

To remove a trigger, access the cue number and click **{Execute}**, the record target type and press **[Enter]**.

- **[Cue] [5] {Execute} [Macro] [Enter]**

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.

[Recall From], **[Copy To]**, **{Replace With}**, and **{Move To}** may be used to create and edit cue data. See *“Advanced Manual Control” on page 177*.

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; 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 immediately preceding 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] [-] {zoom} [At] [Enter]** - removes the changes for only the selected channels for all parameters except zoom.

Using Record

You may modify a cue by rerecording it entirely. After making changes to channels or parameters:

- **[Record] [Enter] [Enter]** - will replace any data in the active cue with the current stage settings.
- **[Record] [Cue] [x] [Enter] [Enter]** - will replace any data in cue “x” with the current stage values.

Using Record Only

You may modify a cue by using record only as well. Record only is similar to record except that it selectively stores only manually set values, preventing unwanted levels (such as from a submaster), from being recorded into the cue. Double pressing **[Record]** will post Record Only to the command line.

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

Selective Storing Cues using [Record]

Cues can also be modified using selective storing, which allows you to specify only the channels and or parameters that you want to store. When using a selective store, you must specify the channel list to be included or excluded, identified by **[Thru]**, **[+]**, **[-]**, as part of the **[Record]** command.

[Update]

Update is a 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 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) will be played back within that cue. As changes are made to the data in that cue, as well as to the individual palettes, updating both the cue and references within that cue 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, Element updates any referenced data that was included in the cue.

For Example:

Cue 5 is recalled Live. It contains references to color palette 1. You make changes to intensity and manually adjust the color for channels included in these record targets. To update both the cue *and* the palettes, press:

- **[Update] [Enter]**

This will automatically take the manual color changes and update them to color palette 1. Therefore cue 5 now references the new intensity values, and the modifications to CP1 have propagated through all of the show data.

If you had made changes to other channels that were not included in the palettes 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 updating the references, you may use **{Make Absolute}** break the associated to the reference. The **{Make Absolute}** command can be applied to the required channels or parameters before the update instruction, or they can be applied during the update.

- **[Update] {Make Absolute} [Enter]** - breaks 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]** - breaks 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.

[Update] [Thru]

Using **[Update] [Thru]** allows you to update from a current cue to a destination cue without first entering the current cue's number.

For Example:

If you are currently in cue 5 and you want to update through cue 10, you would use the following syntax:

- **[Update] [Thru] <Cue> [10] <CueOnly/Track> [Enter]**

[Update] [+]

[+] can be used to specify a range of cues for updating. **[+]** can also be used with **[Record]**.



Note: *If no cue number is entered before the **[+]**, the current active cue will be used.*

For Example:

To update only cues 5, 10, and 15:

- **[Update] <Cue> [5] [+ <Cue> [1][0] [+ <Cue> [1][5] <CueOnly/Track> [Enter]**

To update the current cue and cue 7:

- **[Update] [+ <Cue>[7] <CueOnly/Track> [Enter]**

Using Cue Only/Track

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.

For more information on Tracking vs. Cue Only see [Tracking vs. Cue Only, page 224](#) and [Using \[Cue Only / Track\], page 103](#).

[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> [5] [Cue Only] [Enter] [Enter]** - rerecords cue 5. This will make the changes to cue 5 *only*. The changes will not track forward through the list.
- **[-] {Color} [Record] <Cue> [5] [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> [5] [Cue Only] [Enter]** - updates cue 5 with only those manual parameters that were receiving their instructions from that cue. The changes will not track forward in the list. Note that if the data being updated were referenced, this action updates the referenced target as well.
- **[-] [5] [Record] <Cue> [7] [Cue Only] [Enter] [Enter]** - rerecords the specified cue, except the contributions from channel 5. The changes will not track forward in the list.

With system set to “Cue Only”

- **[Record] <Cue> [5] [Track] [Enter] [Enter]** - rerecords cue 5. This will force the changes to track forward in the list until the next move instruction or block.
- **[-] [5] {Color} [Record] <Cue> [7] [Track] [Enter] [Enter]** - rerecords the specified cue, except the color data from channel 5. The recorded changes will track forward in the list.
- **[Update] <Cue> [3] [Thru] [7] [Track] [Enter]** - updates cues 3 thru 7. 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 move or a blocked instruction.

Following are some examples:

- **[Update] <Cue> [5] {Trace} [Enter]** - updates cue 5, 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.

When a channel that is inactive (at zero or null) in the cue list receives an active level, if update trace is used, that channel will not trace the current setting into previous cues. To force that channel's new value to go backward in the cue list, **{Trace} {Trace}** can be entered.

Updating the Current Cue

The current cue is updated by simply pressing **[Update] [Enter]**. This updates any manual levels that are not overrides to an active submaster to the current cue.

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

Press **[Blind]** and the selected cue will be displayed. You can make changes to cues in the blind display using either the summary, table, or spreadsheet views. Use the **[Format]** key to toggle between the three views.



CAUTION: *Edits in blind take effect immediately. **[Record]** or **[Update]** commands are not required in blind.*



Note: *If preserve last cue has been enabled in **Setup>Desk>Manual Control>Preserve Blind Cue**, the last cue you were looking at in blind will be displayed. To force blind to the selected cue, press **[Shift] & [Blind]**.*

If changes are made in the blind display to an active cue, these changes will not impact the current stage state.

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:

- **{Iris} [At] [Enter]**

The Iris value from the previous cue tracks in. Then you remove the intensity change as well:

- **{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:

- **[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 tracking 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 want values to track forward, the **[Track]** button will allow it. The track/cue only instruction must be applied when a value is entered. **{Trace}** can also be used to have changes trace back to the initial move instruction. Such as:

- **[1] [Thru] [5] [At] [5] <0> [Cue Only/Track] [Enter]**

-or-

- **[1] [Thru] [5] [At] [5] <0> [Cue Only/Track] {Trace} [Enter]**

To Live From Blind

From blind, a softkey **{Live}** is posted when you press **[Recall From]** or **[Copy To]** to allow you to copy to or recall information from live. The following examples only work with the **{Live}** softkey, not the **[Live]** hard key.

- **[1] [Recall From] {Live} [Enter]**
- **[2] [Copy To] {Live} [Enter]**

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 and 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 makes spreadsheet view useful for viewing overall trends in channel and parameter data.

By default, only intensity data is displayed. **[Shift] & [Format]** will toggle the display to show all parameters. **[Shift] & [Format]** again will restore to show only intensity.

Editing cue ranges is possible in spreadsheet view. **{Move To}** is only available from this view.

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 instruction finds all instances of channels 1-7 in cues 1-9 that are in color palette 5 and replace CP5 with CP3. Be aware of the track/cue only settings when using this command.



Note:

[Cue] [1] [Thru] [Enter] will select all stored cues. **[Thru] [Enter]** can be used with all record targets.

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 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 contents of cue 2 moves to cue 9. Cue 2 is deleted. If cue 9 already existed, a confirmation would be required to overwrite it. You can also hit **[Copy To] [Copy To]** to access **{Move To}**.

In the above example, any tracked values in cue 2 become blocks (see [Block, page 110](#)) or moves in cue 9, 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. If any cue is to be overwritten, a confirmation is required.

Deleting Cues

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> [5] [Enter] [Enter]** - deletes cue 5. Subsequent cues in the list are affected depending on the console default setting as described above.
- **[Delete] <Cue> [6] [Cue Only/Track] [Enter] [Enter]** - deletes cue 6, making exception to the default setting, as described above.
- **[Delete] <Cue> [7] [Part] [1] [Enter] [Enter]** - deletes part 1 of cue 7.
- **[Delete] <Cue> [8] [Part] [1] [Thru] [3] [Cue Only/Track] [Enter] [Enter]** - deletes parts 1-3 of cue 8, making exception to the default setting, as described above.
- **[Group] [1] [Delete] <Cue> [2] [Enter]** - deletes any channels in group 1 from cue 2. Cue 2 remains in the cue list and any channels not in group 1 are unaffected.
- **[Delete] <Cue> [2] [Thru] [8] [Cue Only/Track] [Enter] [Enter]** - deletes cues 2-8, making exception to the default setting, as described above.

Chapter 10

Using Groups and Intensity Palettes

Groups are stored channel selections used for fast recall of specific channels. Intensity palettes are referenced data that include channels, but also include intensity settings for those channels. A maximum of 1000 groups and 1000 intensity palettes can be recorded. Once recorded, they are accessible from the keypad and through the displays.

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- **Selecting Groups**123
- **Group List**124
- **Recording Intensity Palettes Live**125
- **Using Intensity Palettes**126

Recording Groups Live

Record groups of channels that you want to have available for fast recall later. Groups can be stored as whole numbers (such as Group 5) or as decimals of tenths or hundredths (such as Group 2.5 or Group 7.65).

All groups may be labeled. These labels are then displayed in the group list.

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

- **[1] [Thru] [5] [Record] [Group] [7] [Enter]** - records only channels 1 - 5 to group 7.
- **[Record] [Group] [7] [Enter]** - records all channels with non-default values to group 7.
- **[3] [Thru] [8] [Record] [Group] [8] [.] [5] [2] [Enter]** - records channels 3-8 to group 8.52.
- **[-] [3] [Record] [Group] [7] [Enter]** - records all channels with non-default values, except channel 3, to group 7.
- **[Group] [7] [+] [5] [Record] [Group] [9] [Enter]** - records groups 7 and 5 into group 9.
- **[Group] [8] [Group] [9] [Record] [Group] [1] [0] [Enter]** - records groups 8 and 9 into group 10.
- **[Record] [Group] [7] [Label] [name] [Enter]** - records as above and adds a label to the group.



Note:

Groups do not contain intensity levels. See “Recording Intensity Palettes Live” on page 125.

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, 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. For another example:

- **[1] [0] [Thru] [2] [Record] [Group] [1] [Enter]**

This will record channels 10 through 2 to Group 1, and then if you select the group you can cycle through the channels using **[Next]** starting with 10, then 9, then 8, and so on.

Offset

You can use the **{Offset}** softkey to aid in channel selection prior to storing groups. The offset options are **{Odd}**, **{Even}**, **{Reverse}**, **{Random}**, and **{Reorder}**.

For example:

- **[1] [Thru] [9] {Offset} {Odd} [Record] [Group] [5]** - records all odd numbered channels between 1 and 9 to Group 5.

Editing and Updating Groups in Live

Existing groups can be updated or rerecorded in Live. If you rerecord an existing group, a confirmation is required (unless disabled in "Setup"). By rerecording a group, you *replace* the contents of the group, you do not add to it. Updating a group does not require a confirmation and adds channels to the group, rather than replacing them.

Other editing or updating examples are:

- **[Group] [x] [Label] [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 existing Group n.

For record examples, please see [Recording Groups Live, page 122](#).



Note:

To be able to label groups, you will need a touchscreen, mouse or external keyboard.

Selecting Groups

Groups may be selected from the control keypad.

To select a group:

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

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 similar to **[Next]**.

Deleting Groups

When you delete a group, the group number and all its contents are deleted. Delete commands require a confirmation by default. This can be altered in the default settings. If you disable confirmations, the second enter is not required in the following examples:

Group deletion features include:

- **[Delete] [Group] [5] [Enter] [Enter]** - deletes group 5.
- **[Delete] [Group] [3] [+] [Group] [5] [Enter] [Enter]** - deletes groups 3 and 5.
- **[Delete] [Group] [3] [Thru] [9] [Enter] [Enter]** - deletes groups 3 through 9.
- **[2] [Delete] [Group] [7] [Enter]** - deletes channel 2 from group 7.

Group List

The group list allows viewing and editing of groups.

Open the Group List

To open the group list you can:

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

You can navigate within the group list using **[Next]** and **[Last]** or by selecting the group you want to work with.

Ordered View and Numeric View

By default, grouped channels will be displayed in ordered view. Therefore, grouped channels will appear in the order they were added to the group (see [Ordered Channels, page 122](#)). If you wish to view the channels in numeric view, press the **[Format]** key and the view will be switched (channels will appear in numeric order from lowest to highest).

Editing Groups from the Group List

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 gold and above the CIA command line, “BLIND: Group x” is displayed.

Using **{Reorder}** with a group selected will reorder the channels to numeric order in the group list.

The following actions are possible:

- **[Label] [name] [Enter]** - adds or modifies a group label.
- **[Copy To] [Group] [7] [Enter]** - copies the contents of the selected group to group 7.
- **[Group] [2] {Move To} [Group] [1][0] [Enter]** - data is removed from group 2 and moved to group 10. You can also hit **[Copy To] [Copy To]** to access **{Move To}**.
- **[2] {Insert Before} [9] [Enter]** - inserts channel 2 into the group, placing it before channel 9 in the ordered view.
- **[2] {Insert After} [5] [Enter]** - inserts channel 2 into the group, placing it after channel 5 in the ordered view.
- **[2] [Delete] [Enter]** - removes channel 2 from the selected group.
- **[+] <Chan> [1][0] [Enter]** - adds channel 10 to the selected group.
- **[-] <Chan> [5] [Enter]** - removes channel 5 from the selected group.
- **[+][Group] [1][0] [Enter]** - adds group 10 to the selected group.
- **[-] [Group] [5] [Enter]** - removes group 5 from the selected group.
- **{Random} [Enter]** - rearranges the channels in the group randomly.
- **{Reverse} [Enter]** - reverses the order of the channels within the group.
- **{Reorder} [Enter]** - reorders the channels to numeric order in the group selected.

Recording Intensity Palettes Live

Palettes are referenced data. This means that when included in cues or effects, changes to the contents of the palette are propagated into all of the places the palette is stored. Intensity palettes contain both channel and intensity information. Groups only contain channel selection information. Intensity palettes can be stored as whole numbers (such as Intensity Palette 5) or as decimals of tenths or hundredths (such as Intensity Palette 2.5 or Intensity Palette 7.65).

For Example:

To record an intensity palette, you must first select channels and give them an intensity level.

- **[1] [Thru] [1] [0] [At] [Full] [Enter]**

If channels 1 through 10 are the only channels currently with a level, you can go ahead and record the intensity palette.

- **[Record] [Int Palette] [1] [Enter]**

However if you have other channels currently with levels, and you don't want those channels to be part of the intensity palette, you will need to reselect channel 1 through 10 before recording the palette.

- **[1] [Thru] [1] [0] [Record] [Int Palette] [1] [Enter]**

-or-

- **{Select Last} [Record] [Int Palette] [1] [Enter]**

Using **{Select Last}** will put the channels you last selected back onto the command line.

When an intensity palette is created, the channels and the intensities involved in the record action are automatically set to the palette reference ("IP 1" 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 intensity palettes using **[Record]**:

- **[Record] [Int Palette] [2] [Label] <name> [Enter]** - records intensity data for all channels not at their default state and adds a label to intensity palette 2.
- **[Record] [Int Palette] [Next] [Enter]** - records data to the next sequential intensity palette number.
- **[1] [Thru] [3] [Record] [Int Palette] [2] [Label] <name> [Enter]** - records the intensity data for selected channels 1 through 3 and adds a label to intensity palette 2.

Using Intensity Palettes

Intensity palettes can be either applied to a selection of channels or recalled in their entirety. Intensity palettes can be selected from the control keypad, using **[Int Palette]** or from the ML Control display. When palettes are applied or recalled, all data is manual and will display in red.

Applying Palettes

Palettes are applied only to selected channels. If a selected channel has no stored value in the applied palette, it remains in its current state.

Applied palettes will appear as manual data for the specified channels. That data will appear as abbreviations of the palette type (IP3 = Intensity Palette 3), or as the palette label as defined in **Setup> Desk> Displays> Show Reference Labels**. To see the numeric values behind any palette (or other referenced value), press and hold the **[Data]** key.

When palettes are applied, channels with stored data in the palette will be recalled according to manual time settings. Palettes may also be applied using the sneak feature (with default sneak time) or a time specified using the **[Time]** key.

For Example:

To apply an intensity palette, you must select the channels and which intensity palette you want to use.

- **[1] [Thru] [5] [Int Palette] [2] [Enter]**

As long as channels 1 through 5 were originally recorded as part of intensity palette 2, they will now be at the intensity level of that palette. If they were not originally part of the palette, those channels will remain at their current state.

Recalling Palettes

Recalling a palette can be done in two different ways. You can recall a whole palette, so you don't need to remember which channels are used for what palette.

For Example:

- **[Recall From] [Int Palette] [2]**

All the channels in intensity palette 2 will be selected and put to the level of the palette. The data will appear as abbreviations of the palette type (IP3 = Intensity Palette 3), or as the palette label. To see the numeric values behind any palette (or other referenced value), press and hold the **[Data]** key.

- **[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.

The above example 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.

For more information on using intensity palettes, please see [Using Moving Lights and Palettes, page 135](#).

Chapter 11

Cue Playback

The playback section includes descriptions of working with the master fader pair, Grandmaster, load button, and the fader control softkey.

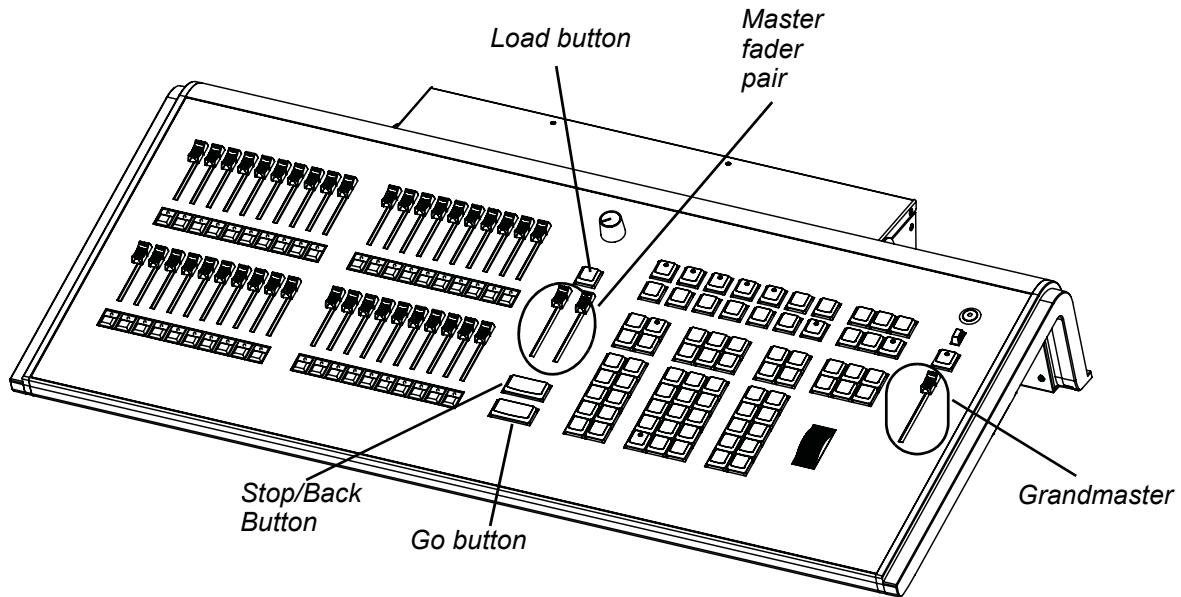
- *Introduction to Playback* 128
- *Selected Cue* 129
- *Out-of-Sequence Cues* 130
- *Playback Fader Controls* 132
- *Manual Master Option* 134

Introduction to Playback

Cues are played back using the master playback fader pair.

The master playback fader pair is located to the left of the control keypad. The master is a split fader pair. The left fader controls the intensity upfade, while the right fader controls all intensity downfade actions. The two buttons beneath the master fader pair are **[Go]** and **[Stop/Back]**. The **[Load]** button is located directly above the fader pair.

Playback Controls



Selected Cue

The selected cue is always indicated just above the CIA. The selected cue and all of its attributes are displayed near the bottom of the live/blind display and on the playback status display.

Live / Blind

When working in live, the selected cue is always the last cue you recorded, edited, updated or played back. When entering blind for cues, the selected cue will be selected and displayed, unless you have **{Preserve Blind Cue}** enabled in **Setup**. Changing the selected cue in blind will cause the playback status display to change as well, allowing you to see all the attributes of the cues surrounding the selected cue. When you return to live, the selected cue is synchronized to the last activated cue in that mode.

When in Live or Blind, if you press **[Live]** or **[Blind]** respectively, the selected cue will re-synchronize to the last executed cue. This cue will appear on the command line.

The attributes of the selected cue (such as timing, attributes, label and external links) are shown at the bottom of the live/blind display, above the command line.

Flags				Attributes								
Cue	Int Up	Int Down	Dur	MBP	Follow	Link	Loop	Curve	Rate	Label	Ext Links	
2	4	8	1.1							scene1		

In Live

To load a new cue to the pending file of the playback fader, press **[Cue] [#] [Load]**. When the **[Go]** button is pressed, the activated cue will be the selected cue.

The selected cue is changed by go, record, or update instructions as well as selecting a cue on the command line. When you execute a cue that has a follow time, the next cue will become the selected cue when activated.

In Blind

While in blind, changing the selected cue will change the playback status display to show information surrounding that cue.



CAUTION:

When editing in blind, changes to cues are automatically stored, therefore no update or record command is required.

While working in blind mode, cues can be executed in live using **[Go]**, **[Stop/Back]**, and **[Go to Cue]**, but this does not change the cue you are working with in blind.

Out-of-Sequence Cues

An out-of-sequence cue is any cue that is played back in one of the following ways:

- Cue is executed using a **[Go To Cue]** command.
- Cue is executed by a link instruction.
- Cue is loaded into a fader's pending file.

When an out-of-sequence cue is executed, the entire contents of the cue will be played back (move instructions *and* tracked values).

For Example:

Cue 1 sets channel 1 to full. That value is tracked forward until cue 10. The programmer plays back cue 1 on fader 1. Then the programmer sets channel 1's intensity to 50% manually. If she executes cue 2, channel 1 remains at 50%, as it is a channel parameter that is not receiving a move instruction from the incoming cue.

However, if she presses **[Go to Cue] [5] [Enter]** (an out-of-sequence execution), even though the value for channel 1 in Cue 5 is a tracked value, channel 1 will fade from the manual value of 50%, to full in the Go-to-cue time.

Go To Cue

[Go to Cue] instructions can be executed from any operating mode.

Following are examples of **[Go To Cue]**:

- **[Go To Cue] [Enter]** - replays the current cue.
- **[Go To Cue] [5] [Enter]** - replays the entire content of cue 5.
- **[Go to Cue] [6] [At] [5] [Enter]** - takes you to cue 6 at 50% of its fade completion. Hitting **[Go]** would finish the cue.
- **[Go To Cue] [Next] [Enter]** - takes you to the next cue in the list.
- **[Go To Cue] [Last] [Enter]** - takes you to the previous cue in the list.

Go To Cue Timing

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] [3] [Time] [4] [/] [3] [Enter]** - this command would take you to cue 3 and all upfades would have a time of 4 seconds and downfades of 3.
- **[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 list in two seconds.
- **[Go To Cue] [8] [Time] [Enter]** - this command would take you to cue 8 using all timing values stored in cue 8, and all associated follow times.
- **[Go To Cue] [3] [Time] {Manual} [Enter]** - sets up the selected cue for manual control using the master fader pair.

Other Go To Cue options

When **[Go to Cue]** is pressed, the softkeys in the CIA are changed to provide Go to Cue modifiers to enhance your playback ability.

From these softkeys, you can specify that when going to a cue, only some elements of that cue will be played back. Specifically you can choose to play back:

- single parameter channels only (conventionals),
 - ***[GoTo Cue] [1] {SingleParam} [Enter]***
- multiple parameter channels only (moving lights),
 - ***[GoTo Cue] [2] {MultiParam} [Enter]***
- move instructions only,
 - ***[GoTo Cue] [3] {MovesOnly} [Enter]***
- or you can choose play back a cue and withhold any link (follow, execute instructions) it may contain.
 - ***[GoTo Cue] [4] {MinusLinks} [Enter]***

These can be combined within the command line as well:

- ***[Go To Cue] [1] {MultiParam} {MovesOnly} [Enter]***

[Go To Cue] [4] {Complete} [Enter] will go to cue 4 and if that cue has a follow/hang, any following cues in the sequence will also fire. This may look like you are going straight to the last cue in the sequence, but each cue will fire to make sure that any external links are fired.

[Go To Cue] [2] [At] [5][0] {Complete} [Enter] will go to cue 2 at 50% of its completion.

Playback Fader Controls

Go and Stop/Back

Using [Go]

The **[Go]** button is used to execute the pending cue. When **[Go]** is pressed, all parameters assume their required positions in the recorded times, unless they have been recorded with manual timing. For information on manual timing, see [Manual Timing Control, page 132](#). For information on manual master, see [See “Manual Master Option” on page 134](#).

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 a cue on the playback fader is complete, pressing **[Stop/Back]** will step backwards sequentially through the cue list from that point. **[Stop/Back]** uses default back time as established in Setup. [See “Default Times” on page 42](#). Or you can back into the previous cue using specific timing by pressing:

- **[Go to Cue] [Last] [Time] [n] [Enter]**

[Go To Cue] [0]

You can use the **[Go To Cue] [0] [Enter]** command to send the cue list to cue 0. This drives all cue intensities to zero, while leaving non-intensity parameters as currently set but no longer under cue control.

[Go To Cue] [Out]

To reset all parameters to their default states (unless they are controlled by a submaster) and reset the cue list so that the first cue is pending, press:

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

Using Manual Control

There are four types of manual control for playbacks:

- Cues can be stored with manual timing. When cues have stored manual timing, the default behavior of the fader is to control those manual values.
- Cues can be captured for manual intensity control only. This is possible only when the associated cue has no manual timing values.
- Cues can be manually overridden using the **{Man Override} & [Load]** feature which captures all parameter transitions.
- The fader can be set to Manual Master mode. [See “Manual Master Option” on page 134](#).

In each of these cases, follow time counts down from **[Go]**.

Manual Timing Control

Manual timing can be set for any parameter or group of parameters. The fader is then used to control the progress of a transition.

For Example:

Assume the active cue contains an instruction to set color at 5 for channel 1.

The pending cue contains an instruction to set channel 1 to color 12 and the color parameter has a manual time. Press **[Go]** to activate the cue. Channel 1 color does not change.

As you move the fader up manually, channel 1 color moves proportionally from color 5 to color 12. Any parameters with timing will start their moves at the press of **[Go]** and be unaffected by the manual control.

Manual timing can also be set at a cue category level:

- **[Record] [Cue] [5] [Time] {Manual} [Enter]**

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 if the fader is set to proportional control. Intensity control is released from the fader when the cue is considered complete (when the fader is brought back to 100%).

If a pending cue has any manual control properties, you may preset the fader to zero, the console will automatically set the fader to zero when the **[Go]** button is pressed. The master fader pair must be manually set.

Manual intensity override is not possible if there is any manual timing in the cue, as the fader is already occupied with that control.

Manual Override

Manual override allows the master fader pair control of all the parameters in a transition state. When **{Fader Controls} {Man Override} & [Load]** are pressed, all activity on the fader pair is frozen.

The faders can then be used to manually complete the cue transition for all parameters. 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.

Manual Master Option

In Manual Master mode, cues may be triggered manually by the faders without using the **[Go]** button, regardless of the timing stored in the cue. With the fader set to manual master, a cue will fire in manual time when the fader is moved from 0% or from Full. This is all done without hitting **[Go]**. Any cues not fired by moving a fader, but triggered via **[Go]** instead, will fade according to cue's timings.



Note: Follow times will be ignored when firing a cue with a manual master fader.

Manual Master is a setup option and can be found at **Setup > Show > Show Settings > Fader Mode**. **{Fader Mode}** will toggle between Proportional Master, Intensity Master, and Manual Master. The default is Proportional Master. For more information on Proportional and Intensity Masters, [See “Proportional vs. Intensity Master” on page 93.](#)

When manual master has been selected as the fader mode for a cue list, the initials 'MM' will appear above the cue list label field. Initials 'IM' will display when set to intensity master mode.

Playback Status Cricket & Cache 9:27:27 AM

Cue	Int Up	Int Down	Dur	Flags				Attributes				Label	Ext Links
				MBP	Follow	Link	Loop	Curve	Rate				
1			5										
P1	5		2.5								200		
P2	5		5										
2	4 / 8		8	b								scene1	
3	10		10									scene2	
4	5 / 5	5	10	M								scene3	
5	3 / 3		5	M								fun stuff	
6	5		10	M								cool stuff	
7	5		5									blue blinder	
8	5		5			1						jets	
9	5		5	b									

Master: List 1 100% 0.0 1

e 51 e 52 e 53 e 54 e 55 e 56 e 57 e 58 e 59 e 60 e 61 e 62 e 63 e 64 e 65 e 66 e 67 e 68 e 69 e 70
 e 71 e 72 e 73 e 74 e 75 e 76 e 77 e 78 e 79 e 80 e 81 e 82 e 83 e 84 e 85 e 86 e 87 e 88 e 89 e 90
 e 91 e 92 e 93 e 94 e 95 e 96 e 97 e 98 e 99 e 100 e 101 e 102 e 103 e 104 e 105 e 106 e 107 e 108 e 109 e 110

Chapter 12

Using Moving Lights and Palettes

This chapter will briefly look at Element's moving light controls as well as discussing how to use focus, color, and beam palettes. Palettes are building blocks that can be used to create cues and effects. Palettes are a critical component when using moving lights and can save considerable programming time when editing show data.

This chapter contains the following sections:

- ***Moving Light Control***136
- ***About Palettes***140
- ***Palette Types***140
- ***Storing Palettes Live***141
- ***Using Palettes***143
- ***Editing Palettes Live***145
- ***Editing Palettes in Blind***146

Moving Light Control

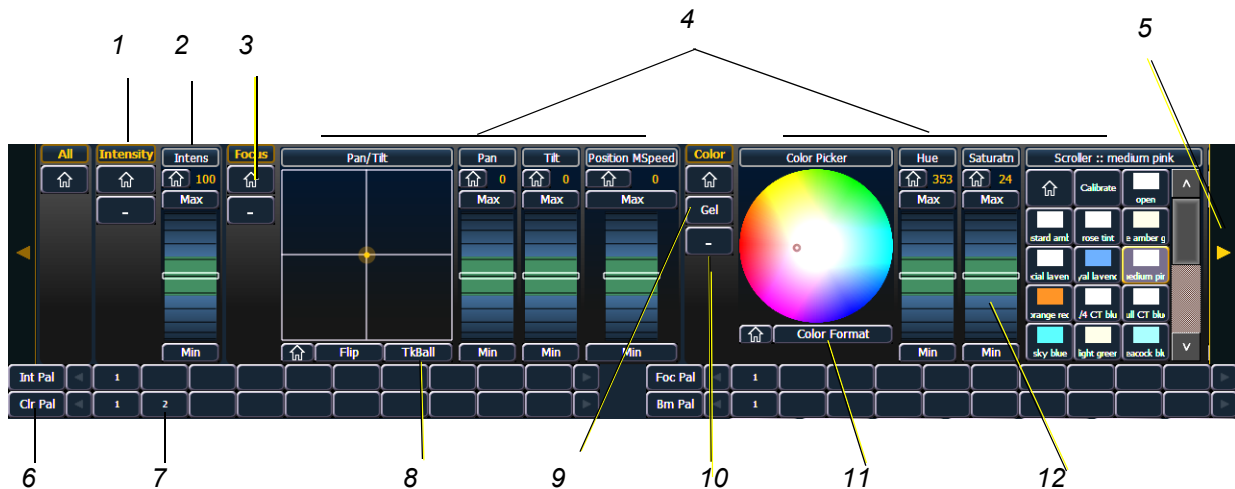
Control of non-intensity parameters is done by using the ML Control display. Pressing **[ML Control]** will open up the ML Control display in the CIA. You will need to have a multi-parameter device selected to properly view this display, as it changes based on the device selected. If you have a device that only has intensity and color parameters, the ML Control display will only show intensity and color parameters.



Note: To use the ML Controls, you will need either a mouse or a touchscreen.

ML Control

Controls available in this display will change based on the fixture selected.



- 1 Category button (Clicking this button will show or collapse the encoder wheel, see #12)
- 2 Parameter button (Clicking the button will put the parameter on the command line.)
- 3 Home button allows you to home a specific parameter or attribute of a parameter.
- 4 Parameter attributes
- 5 Arrow to scroll through a fixture's available categories.
- 6 Palette button (Clicking the button will put the palette on the command line.)
- 7 Palette Select buttons. Will display number or label.
- 8 Gives pan and tilt functionality to a mouse or trackball.
- 9 Opens the gel picker.
- 10 Collapses or expands categories.
- 11 Toggles the color format from Hue/Saturation to absolute parameter data and back.
- 12 Virtual encoder (Click and hold close to the center line for slow movement, further away for faster movement.)

Using the Color Picker



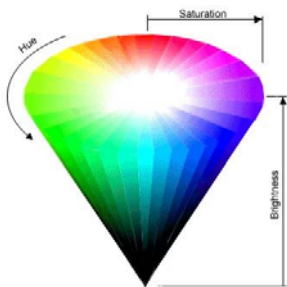
The button **{Color Format}** is for toggling between native (RGB, CMY, color scroller, or color select) and hue and saturation. **{Gel}** is for opening up manufacturer catalogs of gels. To display a specific manufacturer's catalog, press the specific manufacturer or catalog and select the desired gel. The **{Bright. to Full}** button will only appear if selected channels have a brightness parameter.

When channels are selected and a specific gel is chosen, the color picker will show a dot which represents the selected fixture(s). The dot is 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. You can click in the picker to go to the hue and saturation values or you can match a specific gel color from the manufacturers' list on the right. Selecting a specific gel will also produce the hue and saturation value.



Note:

When using the color and gel pickers for 'non-standard' LED fixtures, such as those that use RGBA, RGBW, and RGBAW, the Amber output will live halfway between red and green. White output will not be driven by hue/saturation directly.



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.

Gel colors can also be manually entered into the command line. **[6] {Color} [1] [/] [1050] [Enter]** assigns Apollo gel number 1050 to channel 6. Each of the manufacturers have been assigned a number, which can be seen beside their name in the Color Picker display.

When channels are selected, a black line may appear in the color picker. This line indicates what colors can be mixed by the fixture. If a color lies outside of the line, that color is out of the range of that device. When setting a color outside of the black line, the fixture will get as close as possible to the desired color. If no black line is visible, the fixture has not yet been calibrated and the color matching will be approximated.

The gel picker is normalized to 3200 degrees. Therefore, if you are setting Rosco 80 (R80) on a arc source device, it will appear to be the same color as R80 on an incandescent source.

Color Control

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

- CMY color-mixing
- Hue and saturation color mixing

- RGB color-mixing
- Selection from a color wheel or scroller

You may also specify color by using the hue and saturation (HS) color picker and gel picker.

Regardless of how the color is stored (HS, CMY, or RGB), they always fade in native space unless Allow HS Fades has been enabled in Setup. For more information, see [{Allow HS Fades}, page 38](#).

It is also possible to set non-intensity parameter data with direct entry using the control keypad and using the parameters on the CIA.

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

Color scroller data will display on the displays as frame numbers, F1, which would be frame 1, F2 for frame 2, etc. F1.5 is halfway between 1 and 2. F2+ will display if the frame is less than 2.5 and F2- if the frame is greater than 1.5. After the frame number, the gel number will also be displayed.

Frame numbers can be used from the command line. **[2]{Scroller}[5][Enter]** will send channel 2's scroller to frame 5. Frames can also be selected by using the DMX value for that frame. Pressing **[/]** twice will post DMX to the command line. **[3] {Scroller} [/][/][2][5][5] [Enter]** will send channel 3's scroller to the frame with the DMX value of 255.



Note:

Dual scroller fixtures are addressed as 0-100% instead of by frame numbers. You may need to update your fixture before this feature will work.

Adjusting Parameters Using + and -

[+] and **[-]** can be used to adjust parameters from the command line. When using **[-]**, you will need to preface the command with **[+]** if you want to remove from the current value.

For Example:

- **[Channel List] {Pan} [1][0]** - sets to 10 degrees.
- **[Channel List] {Pan} [+] [1][0]** - adds 10 degrees.
- **[Channel List] {Pan} [-] [1][0]** - sets to -10 degrees.
- **[Channel List] {Pan} [+] [-] [1][0]** - removes 10 degrees.

Lamp Controls

Lamp controls 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. This information is also available using **[About]** (see [Using About, page 167](#)).

For Example:

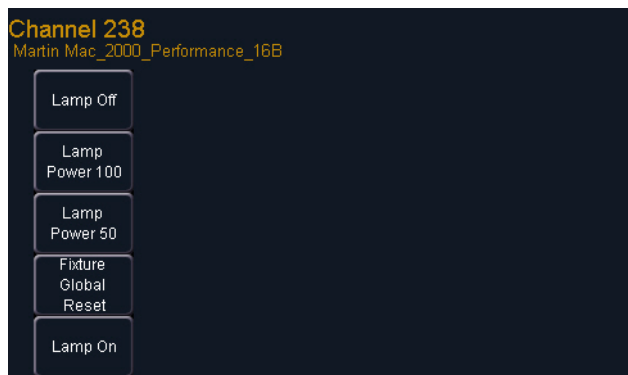
- **[1] [1] [Enter] {Lamp Cntrls}**

-or-

- **[1] [1] [Enter] [About] {Lamp Cntrls}**

This screen displays any lamp controls associated with the selected channel (this is also the "Lamp Control" subscreen of About). 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 channel after a confirmation.

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

AutoMark

The AutoMark feature is a system default setting and can be turned off on a cue-by-cue basis if required.

With AutoMark enabled, non-intensity parameter transitions 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 for cues or cue parts. AutoMarked cues are indicated by an M in the M column of the playback status display. AutoMarks will execute using the time of the cue in which the moves are stored.

Conditions Triggering an AutoMark

The following rules determine when an AutoMark is applied and how it 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).

Allowing a Live Move

It is possible to override AutoMark on a per cue (or cue part) basis. The override is available through a softkey, **{AutoMark Off}**. When enabled, the cue that executes the mark will have an “M” in the flags field. If AutoMark is disabled, allowing a live move, a “D” is displayed in the flags field of the cue or cue part where the data is stored. By using AutoMark with multipart cues, it is possible to have some parameters mark and others move live. [See “About Multipart Cues” on page 188.](#)

Cue Level Mark Timing

Mark instructions will use cue level timing unless overridden by the **{Mark Time}** setup option. Located at **Setup> Show> Show Settings> Mark Time**, all mark instructions will use this time instead of cue level timing. See [{Mark Time}](#), [page 39](#) for more information.

About Palettes

Palettes are referenced data. This means that when included in cues or effects, changes to the contents of the palette are propagated into all of the places the palette is stored. Four types of palettes are available; Intensity, Focus, Color, and Beam.

Element supports up to 1,000 palettes of each of the four types. Palettes can be recorded as decimal or whole numbers and 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, faster and less work.

Palette Types

Intensity Palettes

Intensity palettes can easily be created for use with all channels that have intensity parameter data. [See “Using Groups and Intensity Palettes” on page 121.](#)

Focus Palettes

Focus palettes can be created for all channels that have pan and tilt functions, and positional functions. X, Y, and Z categories are also in Focus.

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, RGB, and HS settings, color scrollers and color wheels.

Beam Palettes

Beam palettes can be created for all channels that have any beam parameter data, such as shutters, iris, zoom, gobos, and strobes.

Storing Palettes Live

Palettes may be stored in live or blind.



Note: *To be able to record and label palettes, you will need a mouse or touchscreen.*

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.

To select which palette type you want to record, you will need to have the ML Control screen open. Press **[ML Control]**. See [“ML Control” on page 136](#). Beam and Focus palettes are accessed from the ML Control display. Intensity palettes can be accessed from the ML Control display or by pressing **[Int Palette]**. Color palettes can be accessed from the ML Control display or by pressing **[Frame]** key twice.

For Example:

Assume you want to create a custom color using the color picker (for hue and saturation data) and store that data to a custom color palette. First you must select channels.

- **[1] [Thru] [1] [1] [Enter]**

Using the color picker, adjust the hue and saturation levels to the desired look. When the color is selected, store the palette.

- **[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”. Since **[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] {Focus Palette} [2] [Label] <name> [Enter]** - records focus parameter data for all channels not at their 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.

The following examples illustrate various methods of selectively storing 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.
- **[1] [Thru] [9] {Iris} {Zoom} [Record] {Beam Palette} [5] [Enter]** - stores all zoom and iris data for channels 1-9 to beam palette 5.



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.*

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.

Double pressing **[Record]** will post Record Only to the command line.



Note:

If you use Record Only to record to an existing palette, the data will be added to that palette. The original palette will not be completely overwritten. Only manual changes will be stored to the palette.

*It is also possible to **[Update]** to add specific changes to the record target. See [“Editing Palettes Live” on page 145](#).*

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

- **[Record] [Record] {Color Palette} [2] [Enter]**- records only the manual color parameter data to color palette 2.
- **[Record] [Record] {Beam Palette} [5] [Label] <name> [Enter]** - records manual beam parameter data for all channels and adds a label to beam palette 5.
- **[-] [9] [Record] [Record] [Int Palette] [Next] [Label] <name> [Enter]** - stores to the next sequential intensity palette, withholding the channels specified and adds a label.
- **[select channels] [Record] [Record] {Focus Palette} [2] [Enter]** - stores focus palette 2, but only includes the manual data for the specified channels and parameters.
- **[1] [Thru] [9] {Iris} {Zoom} [Record] [Record] {Beam Palette} [5] [Enter]** - stores only manual zoom and iris data for channels 1-9 to beam palette 5.

Using Palettes

Intensity palettes can be from the control keypad, and Focus, Color, and Beam palettes are selected from the ML Control display. When palettes are recalled, all data is manual and will display in red.

Applying Palettes

Generally, palettes are applied only to selected channels, therefore you must select channels before applying a palette. If a selected channel has no stored value in the applied palette, it remains in its current state.

Palette data will appear as manual data for the specified channels. That data will appear as abbreviations of the palette type (IP3 = Intensity Palette 3, FP8 = Focus Palette 8, and so on), or as the palette label if defined/enabled in the displays settings. [See “Setup” on page 37.](#) To see the numeric values behind any palette (or other referenced value), press and hold the **[Data]** key. To see the palette number behind the label, press **[Shift] + [Label]**.

When palettes are applied, channels with stored data in the palette will recall that data according to manual time settings. Palettes may also be applied using the sneak feature (with default sneak time) or a time specified using the **[Time]** key.

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] [Frame] [Frame] [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.



Note:

*Pressing **[Frame] [Frame]** will post Color Palette to the command line.*

You may also use groups to apply palettes. For example:

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

When applying palettes, only selected channels will be affected. The data recalled from a palette is referenced. To break the reference you may use **{Make Absolute}**.

Recalling Palettes

Recalling a palette can be done in two different ways. You can recall a whole palette, so you don't need to remember which channels are used for what palette. 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 methods that can be used to recall palettes.

- **[Recall From] {Color Palette} {4} [Enter]** - selects all the channels in color palette 4 and sets them to the color value recorded in the palette.
- **[Channel List] {Edge} {Beam Palette} [n] [Enter]** - recalls only the edge data from the specified beam palette for the selected channels.
- **[Channel List] {Edge} {Beam Palette} [n] {Make Abs} [Enter]** - recalls only the edge data from the specified beam palette for the selected channels and makes that absolute data.
- **[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.

The above example 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 can also make a channel selection and recall from a palette to display the actual recorded value.

For Example:

For this use of recalling palettes, you must first select the channels and then which palette you are recalling from.

- **[3] [Recall From] {Color Palette} {5} [Enter]**

As long as channel 3 was previously recorded in color palette 5, channel 3 will now be set to color value recorded in that palette. In this case, the channel is not referencing the palette. It has been given the absolute value as stored in the palette.

Editing Palettes Live



Note:

*If a palette is already recorded, **[Record]** replaces all existing data, unless selective store is used. **[Record Only]** is a selective store, therefore it adds data. 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 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.

There are two different methods for rerecording:

- **[Record] [Palette] [5] [Enter] [Enter]** - overwrites the content completely.
- **[Channel List] [Record] [Palette] [5] [Enter] [Enter]** - merges the data.

Update

Live changes can be updated to both active and inactive palettes. When updating a parameter in an active palette, that parameter will no longer be absolute data, but will now be in the updated palette 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]** - any manual changes for channels originally in the palette are updated in color palette 2.
- **[1] [Update] {Color Palette} [2]** - adds channel 1's manual data to color palette 2.

If a channel or parameter does not have data in the palette being updated, it will not be added to that palette unless the user specifically requests it by specifying the channel.

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 summary, table, and spreadsheet views.

View palettes from blind

While in any blind mode, when no channels are selected, you can enter a palette from the command line. This will take you into blind channel mode for that palette.

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

You may also cycle through the available palettes using **[Next]** and **[Last]**.

Editing in Blind

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] [At] [Enter]** - removes channel 1 from the palette selected for editing.
- **[1] {Iris} [5] [0] [Enter]** - selects channel 1 and sets iris value to 50.
- **[2] [Copy To] [5] [Enter]** - copies the information from channel 2 to channel 5.
- **[6] [Recall From] {Focus Palette} [1] [Enter]** - recalls the values for channel 6 from Focus Palette 1 but not the reference.

When editing in blind, it is possible to remove an instruction from any palette by selecting the channel and parameter and pressing **[At] [Enter]**.

[Recall From], **[Copy To]**, **{Replace With}**, and **{Move To}** may be used to create and edit palette data. [See “Advanced Manual Control” on page 177.](#)

Editing Palettes in Spreadsheet View

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

You may select a palette from the spreadsheet using the **[Next]** or **[Last]** keys to move through the list or you may select the exact palette from the keypad. You may also select a range of palettes to edit at once. You can make changes to the palette(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}**, **{Move To}**, and **{Replace With}**.

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} [4] <0> [Enter]** - sets channel 1 scroller value to 40 in the selected color palette.

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

- **[palette type] [1] [Thru] [5] {Move To} <palette type> [9] <Thru> [Enter]** - this will move palettes 1-5 to palettes 9-14 respectively. You do not have to supply the end value for Element to perform the move.

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 13

Creating and Using Effects

Effects are a method within Element 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:

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- **The Effect List**151
- **Effect Status Display**156
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- **Absolute Effects**159
- **Multiple Intensity HTP Effects**161
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About Effects

Effects are manual control functions that can be applied to a channel parameter and then included in submasters or cues. Cues can contain both traditional move instructions (a base look) and effects at the same time.

Non-intensity parameters may only have one effect applied at a time. However, a channel may have one effect running on one parameter and another effect running on a different parameter.

Intensities can have different effects running at the same time but they must be from different sources. You can have an intensity effect running on a cue and those same channels can be impacted by an intensity effect on a submaster. [See “Multiple Intensity HTP Effects” on page 161.](#)

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 or rate in individual cues.

Within Element, effects are broken up into three fundamental behavior types; Step, Absolute, and Relative effects.

- **Step Effects** - are like chases for a single parameter, normally intensity. Step effects are On/Off behavior. The ON value determines what the associated channel should do when the step is active, while the OFF value determines what the channel should do when the step is not active. [See “Step Effects” on page 157.](#)
- **Absolute Effects** - are progressive behavior, rather than on/off states of step effects. However, unlike relative effects, which are also progressive, you are determining exactly the behavior that you want to have for each transition in the effect. [See “Absolute Effects” on page 159.](#)
- **Relative Effects** - are math based effects that provide a continuous offset from the current parameter value. There are three different types of relative effects; Focus, Linear and Color. [See “Relative Effects” on page 161.](#)

The Effect List

At any time you may press **[Effect] [Effect]** 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 161](#)).

To navigate this list use the navigation keys as described in [Display Control and Navigation, page 21](#) or select the effect number you wish to work with. Notice that when you select the effect list, the CIA changes to display the information for the currently selected effect.

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 and attributes are shown in categorized buttons in the CIA. To change any property or attribute, click 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, click **{Type}** and then press the desired effect type in the buttons to the left.

- **<Effect> [1] {Type} {Step based} [Enter]**

Scale

Applies only to relative effects. Scale 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]**

Cycle Time

Provides a cumulative time to complete one full iteration of an effect.

In step-based effects, the cycle time determines the time required to complete one full iteration of the effect. In these effect types, modifying the cycle time changes the timing values proportionally within the effect itself.

To change the cycle time, click **{Cycle Time}** and then enter the desired time (in minutes and seconds) from the keypad, followed by **[Enter]**.

Duration/Cycle

This determines the length of time an effect will run. To specify, click **{Duration/Cycle}** and then choose the desired method from the buttons that appear to the left. The options are:

- **{Infinite}** - for step and absolute effects, the effect will run until the channel is provided a new instruction or the effect is stopped. Relative effects with an infinite duration will run until a stop flag is applied.
- **{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

This allows you to select which parameters will be involved in the selected effect, by default. By entering a value here, you do not need to specify the required parameter when placing an effect on a channel group.

To add or remove parameters to the effect, click **{Parameters}** and then select the desired parameters from the buttons that appear to the left.

- **{Parameters} {Iris} [Enter]**

Attributes

These determine the basic behavior of the effect. Attributes include behaviors such as forward, reverse, bounce, positive, negative, and random grouping or random rate. The attributes are slightly different between step, absolute and relative effects.

- **Forward** - the effect will run in the programmed direction (the arrow on the pattern editor indicates "forward" for pattern effects, step and absolute effects will follow numerical order).
- **Reverse** - effect will run in the opposite direction of forward or reverse numerical direction. Forward and Reverse are mutually exclusive settings.
- **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. This is applicable to step effects only.
- **Negative** - inverts the on state and off state for the effect. This is applicable to step effects only.
- **Random Grouping** - channel distribution or step order (depending on the type of effect) are applied in a continuously random fashion.
- **Random Rate** - this overrides the cycle time of the effect. Random Rate is applied in a range (for example 5- thru 150).

Play with these behaviors to see how they alter your effect.

Entry

Establishes at what time and how channels will enter the effect. To change the entry method click **{Entry}** and then choose a method from the buttons to the left. Entry modes vary by effect type. The 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}** - the effect will achieve its full value as allowed by the pattern or step or absolute values using the In Time.
- **{Fade by Size and Rate}** - the effect will achieve its full value as allowed by the pattern or step or absolute values and ramp up to full speed using the In Time.
- **{Fade by Rate}** - increases the rate of the effect as it enters. If an effects submaster has an entry mode of **{Fade by Rate}**, the submaster will control the rate between 0 to 100.

Exit

Establishes at what time and how channels will exit the effect. To change the exit method click **{Exit}** and then choose a method from the buttons to the left. Exit modes vary by effect type and how the effect is stopped. The options are:

- **{Fade by Size}** - when the effect is exited, values will return to their background state while still running using the exit time.
- **{Fade by Size and Rate}** - when the effected is exited, channels will stop running the effect and return to their background state using the exit time.
- **{Fade by Rate}** - decreases the rate of the effect as it exits.
- **{Stop and Fade}** - when the effected is exited, channels will stop running the effect and return to their background state using the exit time.
- **{Stop and Hold}** - when the effect is existed, channels will halt exactly where the effect left them.

Time (Entry or Exit)

These fields establish the length of time for channels to enter or exit the effect. It can be entered in minutes and seconds from the keypad. These timing values are applied to the entry and exit modes. You can also use cue level timing or submaster bump button timing for these. click **{Entry Time}** **[Enter]** or **{Exit Time}** **[Enter]**. Cue/ Sub is the default entry/ exit timing for effects.

Grouping

Grouping is used only in relative and 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.

Grouping defaults to **{Spread}**. This means that every light the effect is applied to will act as an individual element, moving through the effect sequentially based on the channel selection order, cycle time, and trail times. You can enter any number you require. A grouping of 2 means that every other light in the selection list when the effect is applied will move together through the effect. Grouping of three means every third light, and so on.

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.

When an effect is applied to a group in live, that group is distributed by order, using this grouping function. If a group list is created and an effect applied, each group is considered an individual element within the effect.

Trail

Trail is applicable to relative and absolute effects. Trail determines how channels are to follow each other through the effect; it is a percentage of the cycle time. Trail can be any value from 0-100%, even, or solo. The default is even. For example:

- **{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 of channels.
- **{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. Therefore, the groups will trail n% behind each other, as a percentage of the cycle time.
- **{Solo}** - the first group will execute the entire pattern. When done, the second group will execute the entire pattern, and so on.

Effect Status Display

To view the effects currently running, you may press **[Browser]> {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.

For Example:

To edit an effect, select the effect using the command line or by clicking on the effect in the status display.

- **[Effect] [9] [0] [2] [Enter]**

The softkeys repaint so that they 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) - default is 100% and can be modified from 0%-2000%.
- Axis - default is 0° and can be modified by +/- 180°.

Use the softkeys to adjust the effects while watching the effect on stage.

Effect	Source	Channels	Delay	Rate	Size	H. Form	V. Form	Axis
1		26 36 46 27 37 47 28 38 48 29 39 49 30 40 50 31 41 51		100				
5	Man	71>73		100				
7*	Man	61>64	10	100	100			
902*	Man	81>86		175	65	150	25	-153

The effect itself can be accessed for editing from this display by clicking **{Edit}**. Any changes made directly in the effect status display are made to the effect itself and must be stored. Cue level overrides also must be stored or updated to the required cue, but do not impact the basic effect itself.

Effect attributes modified in the effect status display can be reset to their previous values using the softkey:

- **{Rate} [Enter]** - resets the rate to the previous value.

These modifications are considered cue level overrides and do not impact the stored values in the effect. Modifications made via the effect status display or live editing must be stored/updated.

Step Effects

In step effects, each step contains an on-state and an off-state. The on-state is the action the channels in the step should take when the step is active. The off-state is the action the channels in the step should take when the step is not active. Step effects are a quick and easy 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 **[Recall From] [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 “off-state” to be the background state from playback, select the column and press **[At] [Enter]**.

All times are entered from the keypad in minutes and seconds, tenths and hundredths. For an example of how time is entered, see [Timing, page 106](#).

Here is an example of a step effect when viewed in the CIA:

Step	Channels	Param	Step Time	In Time	Dwell Time	Decay Time	On State	Off State	Effect 1 :step based side lights
1	26 36 46		0.3	0.3	0.3	0.3	100	0	<div> <div>Type</div> <div>StepBased</div> </div> <div> <div>Scale</div> <div>N/A</div> </div> <div> <div>Entry</div> <div>Cascade Fade by Size</div> </div> <div> <div>Exit</div> <div>Fade by Size</div> </div> <div> <div>Cycle Time</div> <div>1.8</div> </div> <div> <div>Duration/Cycle</div> <div>Infinite</div> </div> <div> <div>Parameters</div> </div> <div> <div>Attributes</div> <div>Forward Positive</div> </div> <div> <div>Time</div> <div>0</div> </div> <div> <div>Time</div> <div>0</div> </div>
2	27 37 47		0.3	0.3	0.3	0.3	100	0	
3	28 38 48		0.3	0.3	0.3	0.3	100	0	
4	29 39 49		0.3	0.3	0.3	0.3	100	0	
5	30 40 50		0.3	0.3	0.3	0.3	100	0	
6	31 41 51		0.3	0.3	0.3	0.3	100	0	

Step

In Time

On/Off

InstBefore

Move To
Properties

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> {StepBased}**

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 clicking:

- **{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, default values are drawn from the previous step.

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 clicking:

- **{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, or use the softkeys to go to the desired field, and enter the off state percentage:

- **[5]**

Adjust any of the effect details on the right side of the CIA by clicking the appropriate detail button and making changes (see [Effects Editor, page 152](#)).



Note:

The cycle time is an aggregate of all of the timing in the effect and indicates how long it will take to make one full pass through the effect. If the cycle time is modified by the keypad or the encoder, it proportionally adjusts all of the timing within the effect.

Delete a step

To delete a step from a step-based effect, specify the effect in the command line and press **[Delete]**:

- **[Effect] [1] {Step} [4] [Delete] [Enter] [Enter]**
- **[Effect] [1] {Step} [4] [Thru] [8] [Delete] [Enter] [Enter]**

Insert a step

To insert a step anywhere in the effect, specify the step you wish the new step to be inserted before.

- **[Effect] [1] {Step} [4] {Insert} [Enter]** - Inserts a new step before step 4. If step 4 does not exist, it also creates the steps necessary to have “step 4” and then places a step ahead of it as well.

Inserted steps result in all succeeding steps to be bumped one place lower in the effect. In the above example, by inserting before step 4, step 4 would become step 5, step 5 would become 6 and so on. The inserted step would become the new step 4.

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. An example of an absolute effect is one where colors change in each step - from red to green to blue. Palettes may be used to create the colors (or whatever states you want to use in your effect).

Absolute effects differ from relative effects (which are also progressive) in that you are specifying exactly what actions you want the lights to take, rather than mathematical offsets from the current state (relative 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.

The screenshot displays the 'Effect 5 :Absolute effect' control interface. On the left is a table with four columns: Action, Time, Dwell, and Level. The table contains seven rows of data. To the right of the table is a panel of controls for the effect, including buttons for Type (Absolute), Scale (N/A), Cycle Time (10.5), Duration/Cycle (Infinite), Parameters, Attributes (Forward), Entry (Fade by Size), Exit (Fade by Size), Time (0), Time (0), Grouping (1), and Trail (Even). At the bottom of the panel are buttons for S 1 Action, S 2 Time, S 3 Dwell, S 4 InstBefore, S 5, S 6 Properties, and More SK. A bracket below the S 1 through S 6 buttons is labeled 'Absolute effect softkeys'.

Action	Time	Dwell	Level
1	1	0.5	IP 9
2	1	0.5	FP 1
3	1	0.5	CP 1
4	1	0.5	FP 2
5	1	0.5	CP 2
6	1	0.5	IP 1
7	1	0.5	FP 1

In the above image, actions 1-7 indicate referenced values in the “Level” column (palettes), though these values can be absolute data as well.

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] [5] [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 first action by pressing:

- **{Action} [1] [Enter]**

The step will populate the chart and will remain selected. You can also create a range of actions at once, using the **[Thru]** button, if desired. Use the page keys to navigate to the different columns.

After arrowing to the "Time" column (or using the softkeys), specify the fade in time for the actions.

- **[5] [Enter]**

Page arrow to the Dwell column and enter a dwell time:

- **[5] [Enter]**

Page arrow to the Level column and enter the desired referenced target:

- **{Color Palette 5}**

Page arrow down and a new action will be created. All fields default to the values in the previous action. Page 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 152](#)).

Multiple Intensity HTP Effects

Multiple intensity HTP effects are either step or absolute effects running on HTP submasters or the cue list. For multiple intensity HTP effects to run correctly, they must be recorded and played back from different sources.

For example, you create three separate step effects. Each effect impacts the same channels. For the three separate effects to run correctly you need to record them to three separate effect submasters. This will allow for each effect to run together according to the rules of HTP. But, for example, if you were to have three separate effects running on three separate effects submasters and you try to record that into one cue, the cue will only run the effects that were currently at the highest level at the moment of the record.

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 these effect types have a graphic editor designed specifically for the parameters involved.

Relative effects have many of the same properties and attributes as step-based and absolute effects.

Element is preprogrammed with 16 relative effects which represent some of the most commonly used patterns and parameters. You may also custom build relative effects.



Note: For relative effects, you will need to use a mouse for shape definition.



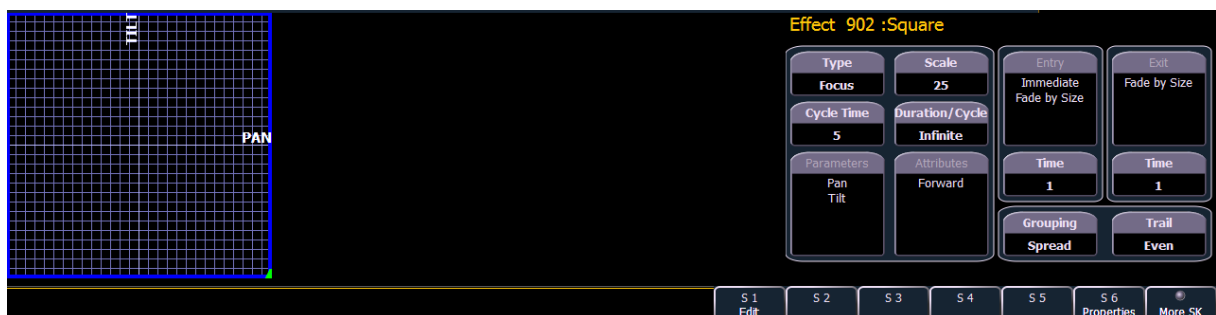
Note: To learn to use the effects editor with relative effects, it is recommended that you experiment with the preprogrammed effects until you understand the fundamentals and how effects can be altered.

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 152](#)).

New focus effects default to a circle. You can clear this and draw your own shape by pressing **{Edit}>{Clear}** and drawing on the graph with your finger or the mouse. Press **{Apply}** when you are done. Canned focus effects can be modified in the same manner. The green arrow indicates default direction of motion, which can be modified in attributes.

Focus Effect

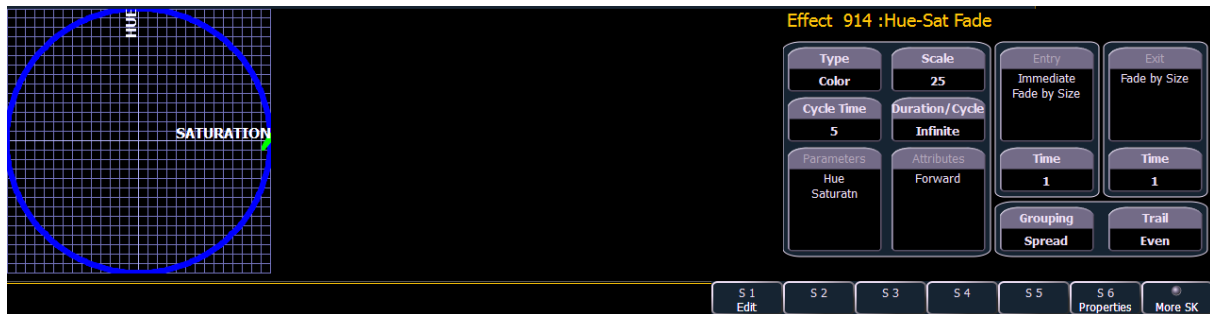


Color Effects

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.

New color effects default to a circle. You can clear this and draw your own shape by pressing **{Edit}>{Clear}** and drawing on the graph with your finger or the mouse. Press **{Apply}** when you are done. Canned color effects can be modified in the same manner. The green arrow indicates default direction of color shift, which can be modified in attributes.

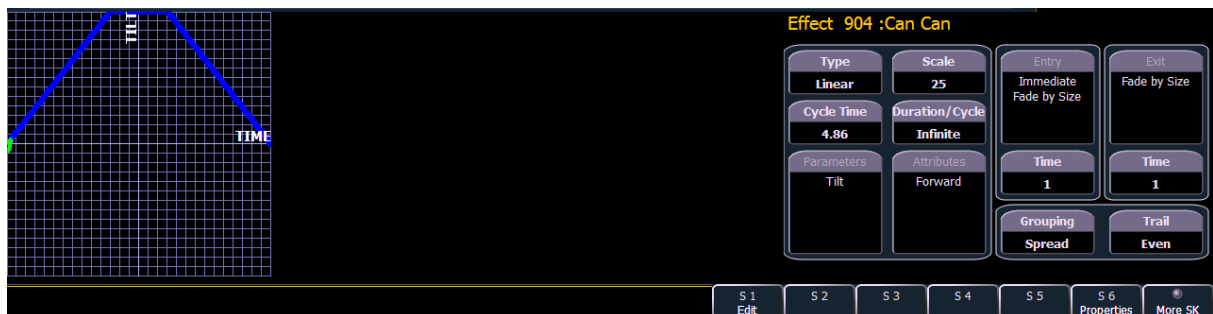
Color Effect



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. Press **{Apply}** when you are done.

Linear Effect



Define a Pattern Shape

Shapes can be defined for any relative effect (focus, color, or linear).



Note: *You will need to use a mouse or touchscreen for shape definition.*

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.*

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 effect graph, or property fields so that the effect meets your needs (see [Effects Editor, page 152](#) for details on effect properties).

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] [n] [Enter]**

The selected channels will begin their changes as programmed in the effect.

Since step effects have an embedded channel list, these effects can be replayed by pressing **[Recall From] [Effect] [n] [Enter]**.

Recording an Effect in a Cue

To apply an existing effect, press:

- **[Select Channels] [Effect] [x] [Enter]**

Recording to a cue, press:

- **[Record] [Cue] [x] [Enter]**

Editing Effects Live

To edit an effect while it is running, press:

- **[Browser] {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] [n] [Enter]**

To edit other properties of the effect in live, click **{Edit}** and the effects editor will open (See [Effects Editor, page 152](#)). Changes made in the editor will impact the effect itself and all instances in which the effect is used. The changes will then need to be recorded or updated.

Stop an Effect

Pressing **{Fader Control} {Stop Effect} [Enter]** will stop all running effects.

To stop a specific effect, press:

- **[Effect] [n] [At] [Enter]**

You may also stop effects on specific channels by **[selecting channels] [Effect] [Enter]**.

You may also remove an effect instruction by **[selecting channels] [Effect] [At] [Enter]**. This command will work in live or blind. You can also stop the whole effect by pressing **[Effect] [n] [At] [Enter]**.

Deleting an Effect

To delete an effect, press:

- **[Delete] [Effect] [n] [Enter] [Enter]**.

If you delete one of the default effects (901 through 916) that effect will return to its default values.

Effects on Submasters

Channels running effects can be loaded onto a submaster. Pressing the bump button of the submaster starts or stops the effect.

For the submaster fader to control the rate and/or size of the effect, it must be configured as an effects submaster. When a submaster is defined as effect, only the effect information is stored. The fader will then have control of the in and out behavior of the effect.

If the submaster is set to additive, the fader will control non-effect values only. For more information on submasters, [See “Storing and Using Submasters” on page 91.](#)

Recording an Effect to a Submaster

To apply an existing effect, press:

- [Select Channels] [Effect] [n] [Enter]

Recording to a submaster, press:

- [Record] [Sub] [n] {Mode} [Enter]

A submaster must be configured to be an effect submaster. You can configure at the same time as you record the submaster. Before you hit [Enter], hit the softkey for {Mode} until effect sub is on the command line. Now hit [Enter] and the submaster has been recorded and configured at the same time.



Note:

The {Mode} softkey toggles between inhibitive, effectsub, and additive. Click {Mode} until effectsub is on the command line.

Running an Effect from a Submaster

The way effects are played back from a submaster depends on its mode, and whether the submaster is set to be a proportional fader or an intensity master.

Below is an example of four different submasters, in different modes, with the same effect stored to them.

Effect on an Additive/Proportional Submaster

The submaster contains the intensity, pan/tilt data, along with the effect. Pressing the bump button starts the effect. The fader controls values not affected by the effect. Pressing the bump button again stops the effect.

Effect on an Additive/Intensity Master Submaster

Pressing the bump button marks the lights, and starts the effect. The fader brings up any intensities stored in the submaster. Pressing the bump button again stops the effect.

Effect on an Effect/Proportional Submaster

Pressing the bump button starts the effect. The fader controls the rate and/or size based on the effect's entry behavior. Pressing the bump button again stops the effect.

Effect on an Effect/Intensity Master Submaster

Pressing the bump button starts the effect. The fader controls the rate and/or size based on the effect's entry behavior. Pressing the bump button again stops the effect.

There is no difference between a proportional fader and an intensity master when the submaster is configured to be an effect submaster.

Delaying Effects in Cues and Submasters

A delay can be placed on an effect in a cue or submaster in the Effect Status display by using the syntax **[Effect] [n] [Delay] [n] [Enter]**. **[Effect] [n] [Delay] [Enter]** removes the delay.



Note: *If an effect delay is set in live, the cue or submaster must be recorded or rerecorded to include the delay.*

A delay column has been added to the Effect Status display. When an effect is in delay mode, the column will display the countdown for the delay.

Effect Status																											
Effect	Source	Channels										Delay	Rate	Size	H. Form	V. Form	Axis										
1*	Man	26	36	46	27	37	47	28	38	48	29	39	49	30	40	50	31	41	51	5	100						

When an effect is delayed, a “*” will display by the effect number in the playback status display external links column.

Playback Status										tech comm									
				Flags		Attributes				MM									
Cue	Int Up	Int Down	Dur	M B P	Follow	Link	Loop	Curve	Rate	Label	Ext Links								
1	5	5	2.5						200										
1.1	5		5								E 1*								

Chapter 14

Using About

[About] provides detailed information regarding selected items. When opened, it appears in the CIA and remains open until closed or until another action forces it to close.

This chapter contains the following sections:

- [\[About\]](#)169
- [About System](#)169
- [About Channel](#)171
- [About Address](#)173
- [About Cue](#)176
- [About IFCB Palettes](#)176
- [About Groups](#)176
- [About Curves](#)176
- [About Effects](#)176

About [About]

Pressing **[About]** puts the console in “about” mode, which allows you to examine “about” information indefinitely, simply by selecting the item you are interested in.

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.

Channel 1

Generic Dimmer

Prev Int Move: Next Int Move:

Inhibited by:

Keywords: front_lights

Notes:

Parameter	Source	Value	Abs	Park
Intens				

Current Values

Background

Moves

Usage

Patch

Lamp Controls

S 1
Replace With

S 2
Make Abs

S 3
Chan Check

S 4
Park

S 5
Offset

S 6
Flash

More SK

Conventional Channel Current Values

Channel 61

ETC Revolution RWM/RWM

Prev Int Move: Next Int Move:
 Inhibited by:
 Keywords:
 Notes:

Parameter	Source	Value	Abs	Park
Intens		0	0	
Pan		0	0	
Tilt		0	0	
Position MSpeed		0	0	
Scroller		F 1 - open	1	
Hue		0	0	
Saturatn		0	0	
Scroller Fan		100	100	
Scroller MSpeed		0	0	

Current Values

Background

Moves

Usage

Patch

Lamp Controls

S 1 Replace With

S 2 Make Abs

S 3 Chan Check

S 4 Park

S 5 Offset

S 6 Flash

More >

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}** - this displays any information that is being sent to the channel, but not adhered to since another source has ownership of the channel. The background source is also what will take control when the current source is released or manual control is removed. The background data will be represented in blue for a cue or yellow for a submaster.
- **{Moves}** - this shows the previous move, value of the previous move, the next move, and its value.
- **{Usage}** - this shows where and how a channel is used.
- **{Patch}** - this displays patch information about the channel.
- **{Lamp Controls}** - this displays lamp on, lamp off, any parameter reset commands, and available RDM commands associated with the channel. If it is a moving light with remote-strike and/or reset functions, this key will access those controls. If the channel controls dimmers, no parameters will be displayed.

[About]

When **[About]** is pressed, the CIA presents the following information:

- Channel count for the console
- Software version
- Copyright notifications
- Device name
- Assigned as (Primary/Client/Offline)
- User ID
- Number of patched and unpatched addresses
- Priority (ACN and Net2)
- IP Address

About System

When **{About System}** is pressed, the CIA displays a list of all network devices that are connected to Element. These network devices include:

- Net3 RVI
- PC & Mac Clients
- Net3 Show Control Gateways
- Net3 I/O Gateways
- Legacy Unison CMEi processors
- Unison Paradigm processors
- CEM+ and CEM3
- Net3 Gateways
- ETCNet2 Nodes

Each network device will display the following information:

- Device Type
- Name/Component
- Status
- Connected
- IP Address



Note:

If any errors or warnings are present at the rack, the CEM+ / CEM3 will display in red.



Note:

Devices may appear more than once in this list if they have multiple roles on the network.

Clicking on a CEM+ / CEM3 in the **{About System}** list will open the About Rack display, which shows the following information about the rack:

- Rack Name (displays as the title)
- Type
- Ambient Temperature
- Phase A,B,C Voltages
- Frequency
- System Number
- IP Address
- Software Version
- Rack Errors

Buttons available in the About Rack screen are **{Activ. Preset}**, **{Deactiv. Preset}**, and **{Clear Errors}**.



Note:

Clearing CEM+ / CEM3 errors from Element will be temporary unless the errors have been fixed at the CEM+ / CEM3. Errors displayed on Element will clear on their own once they have been cleared from the CEM+ / CEM3. Some CEM+ / CEM3 errors can only be cleared at the CEM+ / CEM3.

About Channel

Press **[About]** to put the CIA into “About” mode. When a channel is selected, the information below is displayed: You can select the information you wish to view from the buttons located on the right side of the CIA. The buttons are:

{Current Value} displays information that indicates:

- Channel number
- Device Type
- Most recent intensity move (cue number)
- Next intensity move
- What the channel is inhibited by (if anything)
- Keywords
- Notes
- A list of all parameters on the channel showing the current value and its source, the DMX value, the absolute value, delay and timing information, and any parked values.

{Background} displays similar information:

- Channel number
- Device Type
- Keywords
- Notes
- A list of all parameters on the channel showing the background value and its source, which shows what the parameters will go to if the current control source is removed. The background data will be represented by the standard color coding scheme.

{Moves} displays information that shows:

- Parameters
- Previous move
- Value of the previous move (palette, or absolute data)
- Next move
- Value of the next move (palette, or absolute data)

{Usage} displays information on how the channel is used, such as:

- Maximum Intensity
- Total number of cues it appears in (based on intensity)
- Total number of intensity moves
- List of submasters that include the channel
- List of cues that have move instructions for the channel
- List of cues with dark moves for the channel
- List of cues that the channel is active in
- List of groups that include the channel



Note:

*While in the **{Usage}** screen for About Channel, if another channel is selected, you will need to hit the **{Refresh Usage}** button to see the information for the new channel.*

{Patch} displays the following information:

- Address range
- Proportional patch level
- Curve (if any)
- Preheat information (if any)
- Swap/invert pan/tilt status
- Keywords
- Notes
- List of all parameter values with their address, home value, snap parameter, DMX value, and parked value (if any)

{Lamp Controls} displays controls for the lamp, available RDM commands, or other parameters of the device (if it is a moving light).

Channel 1
Generic Dimmer

Address Range: 350 Proportion: 100 Curve: None
Preheat: None Swap: OFF Invert Pan: OFF Invert Tilt: OFF
Keywords: front_lights
Notes:

Parameter	Address	Home	Park	Snap	DMX
Intens	350	0			0

Click to go to About Address

Current Values
Background
Moves
Usage
Patch
Lamp Controls

About Address

Press **[About]** to put the CIA into “About” mode. When an address is selected, the information below is displayed. You can select the information you wish to view from the buttons located on the right side of the CIA. Additional buttons may display based on RDM and Sensor Feedback if enabled. The buttons are:

{Address} displays the following information:

- Address number (displayed as straight address and port/offset)
- Dimmer label (if any)
- Associated channel number, which is a hyperlink to the **[About]** channel display.
- Part number (if any)
- Notes
- Output value (ACN, Net2, ArtNet, Avab UDP, or DMX)
- Current output value and source of output
- Parameter controlled by the address
- Home Value
- Basic patch information
- Extended patch information (if available)
- If it is a scroller, color/gobo wheel, the assigned scroll or wheel is indicated

{Next Part} & **{Last Part}** will advance to the next part or go back to the previous part. These buttons only display for addresses with parts.

{Go To Patch} is a shortcut to edit the patch for the address selected. This will open up the patch display.

{Library Data} displays the following information:

- Revision number
- Release date
- Open issues list (if available)
- Usage notes including switch settings and configuration (if available)
- Alternate fixture names (if any)

{Lamp Controls} displays controls for the lamp or other parameters of the device (if it is a moving light).

{Address Check} will bring current address to full.

{Next/Last Unpatched} will allow you to see what addresses closest to the current address are currently unpatched.

{Dimmer Feedback} - appears when the current address is patched to a dimmer in an ETC Sensor rack with a CEM+ or CEM3. Sensor feedback must be enabled. See [Enable Sensor Feedback, page 236](#) and [Errors and Warnings, page 70](#) for more information.



Note: *For Sensor feedback, the CEM+ must be running software version 3.0 or later.*

{Dimmer Feedback} displays the following information:

- Name (dimmer name)
- Module type
- Rack/Position
- Rack dimmer level (displayed as a percentage)
- Rack dimmer source
- Recorded load
- Actual load

{Dimmer Feedback} displays the following information, which can be modified from Element by clicking on the value and entering in a new value:

- Firing Mode
- Control Mode
- Curve
- Threshold
- Scale Minimum
- Scale Maximum
- Preheat Enable
- Preheat Timing
- Advanced Features (AF) Enable

Element supports the following softkey commands from this display:

- **{Ignore Errors}**
- **{Clear Errors}**



Note: *Clearing CEM+ / CEM3 errors from Element will be temporary unless the errors have been fixed at the CEM+ / CEM3. Errors displayed on Element will clear on their own once they have been cleared from the CEM+ / CEM3. Some CEM+ / CEM3 errors can only be cleared at the CEM+ / CEM3.*

{Device Details} - appears when the current address is patched to a RDM device. RDM devices must be enabled through the ECU and discovered through the patch. See [Enable RDM, page 236](#) and [{Patch} Display and Settings, page 61](#).

{Device Details} displays the information that it receives from the device and allows some changes to be made to:



Note:

Changes may take a few seconds to take effect. They will propagate to the RDM device and then back to the console's patch and about displays.

- Device Label (displayed at the top by the address number)
- DMX Address (can be changed in this display by clicking on the property or value)



Note:

You may change the starting address on RDM devices, but the port/universe is fixed by the device's connection to the gateway. To change the universe., the device must be connected to a different gateway port in the system.



Note:

Details displayed will vary based on the device.

- DMX Label (same as the device label, but the label can be changed here by clicking on the property or value)
- Type
- Manufacturer
- Device ID
- Footprint
- Version
- Lamp State
- Lamp Hours
- Head DC Voltage
- Lamp On/Off
- Gel Distance Traveled
- Gel2 Distance Traveled
- Fan RPM
- Ambient Temperature
- Gel Temperature
- Device Errors (will only display if there are current errors)
- Clear Errors

Device Errors are displayed in four different colors depending on severity. The severity of the error is determined by the manufacturer of the device.

- Gray - Unknown or not an error
- White - Advisory
- Yellow - Warning
- Red - Error

About Cue

The following information will be displayed when a cue is selected:

- the cue number
- timing data for the cue
- flags
- attributes
- number of moves per IFCB provided by the cue
- current status of the cue
- what channels move in the cue
- any effects running
- external links

About IFCB Palettes

The following information will be displayed when an intensity, focus, color, or beam palette is selected:

- the number of cues the palette is used in
- the number of channels
- the first cue the palette is used in
- the last cue the palette is used in

About Groups

When a group is selected, the following information will be displayed:

- the group label (if any)
- the channels in the group

The **{Ordered}** and **{Numerical}** softkeys can be used to change the display view in About Groups.

About Curves

When a curve is selected, the following information will be displayed:

- curve number
- the curve label (if any)
- the channels that use the curve in patch
- the channels that use the curve as a fan curve
- the cues/cue parts that use the curve

About Effects

When an effect is selected, the following information will be displayed:



Note: *To view About Effect in live, the effect must be running.*

- effect number
- effect label (if any)
- list of submasters that use the effect
- list of cues that use the effect



Note: *Any cues or submasters that have overrides, such as rate, for the effect will display an *.*

Chapter 15

Advanced Manual Control

This chapter describes some more advanced features for manual control functions. These features can save you valuable programming time.

This chapter contains the following sections:

- *Using [Copy To]*178
- *Using [Recall From]*179
- *Using {Move To}*180
- *Using {Make Absolute}*180
- *Using [Undo]*181

Using [Copy To]

[Copy To] allows you to copy data from one channel to another, either within the current working mode or to 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. See “Using [Recall From]” on page 179.

You may copy all parameter data for selected channels, or by using the IFCB category buttons in the ML Control display, you may copy subsets of channel data. Entire cues and cue ranges can be copied to other locations. To only copy over intensity and parameter levels, use the **{Only Levels}** softkey.

To copy over data from only active channels, use the **{Only Active}** softkey.



Note:

*The **{Only Levels}** and **{Only Active}** softkeys can be used with **[Copy To]** if no channel selection had been previously made.*

When copying entire cue(s), all timing data is copied. When referenced data is copied, if the copy target also has data in the reference that is being copied, the target will be placed in that reference (such as, CP 1), at its stored values. If the copy target is not included in the reference, absolute data will be copied to the target, and not the reference.

Below are some examples of copy commands from record targets. This command is very versatile and the following list is far from exhaustive:

- **[2] [Copy To] [Cue] [5] [Enter]** - copies all information for channel 2 to cue 5.
- **[2] [-] {Focus} [8] [Copy To] [Cue] [5] [Enter]** - copies all parameter data for channel 2, other than focus, to cue 5.
- **[3] [Copy to] [6] [Cue] [8] [Enter]** - copies the data from channel 3 to channel 6 in cue 8.
- **[3] [Copy to] [4] [Thru] [9] [Enter]** - copies the data from channel 3 to channels 4 thru 9.

In live, you can use **[Sneak]** with **[Copy To]** to fade in the change.

For example, **[1][2] [Copy To] [2] [Sneak] <Time> 7 [Enter]** would copy the recorded data from channel 12 to channel 2 and sneak it in 7 seconds.

Using the **{HTP}** softkey with **[Copy To]** will cause any intensity levels to be ignored if they are less than or equal to the copied value.

For Example:

Channels 1 and 2 are at 50% in cue 10, and in cue 11 channel 1 is at 10% and channel 2 is at full. If you are in cue 11, and use the syntax:

- **[1] [Thru] [2] [Copy To] [Cue] [1][0] {HTP} [Enter]**

Channel 1 will remain at 50% and channel 2 will go to full.

Using [Recall From]

[Recall From] is similar to **[Copy To]**, except that it retrieves data from other locations, and can be used only for a channel list recalling from the same channel list but in a different location (for example, a cue). **[Recall From]** is essentially a “copy from” command.

You may recall all parameter data for selected channels, or by using the IFCB category buttons in the ML Control display, you may recall subsets of channel data. To only recall only intensity levels, use the **{Only Levels}** softkey.

To recall data from only the active channels, use the **{Only Active}** softkey.



Note: *The **{Only Levels}** and **{Only Active}** softkeys can be used with **[Recall From]** if no channel selection had been previously made.*

Below are some examples of recall commands from record targets:

- **[2] [Recall From] [Cue] [5] [Enter]** - recalls all recorded data from cue 5 for channel 2.
- **[2] [-] {Focus} [Recall From] [Cue] [5] [Enter]** - recalls all data for channel 2 from cue 5, except focus (pan/tilt - XYZ) data.
- **[Group] [3] {Color} [Recall From] [Cue] [7] {Make Absolute} [Enter]** - recalls color data for group 3 from cue 7 and breaks any references to record targets.
- **[2] [Recall From] [Sub] [4] [Enter]** - recalls all recorded parameter data from sub 4 for channel 2.
- **[Recall From] [Int Palette] [1]** - recalls all of the values stored in intensity palette 1.
- **[1][0] [Recall From] [Cue] [2] [Sneak] <Time> 7 [Enter]** - would recall the recorded data that cue 2 has for channel 10 and sneak it in 7 seconds when used in live.
- **[Recall From] [Cue] [1][0] {Only Active} [Enter]** - recalls data from only the active channels, which are those channels with intensities above 0, if no channel selection had been previously made.
- **[Recall From] [Cue] [2] [Enter]** - would result in a selection of the channels used in that cue. Any channels that are used in the cue list but do not currently have an intensity in the recalled from cue will be set to zero. Pressing **[At]** afterwards would post a numeric list of those channels to the command line.



Note: *In live or blind, hitting **[Recall From] [Recall From]** will put **[Recall From] [Cue]** on the command line.*

Using the **{HTP}** softkey with **[Recall From]** will cause any intensity levels to be ignored if they are less than or equal to the recalled value.

For Example:

Channels 1 and 2 are at 50% in cue 10, and in cue 11 channel 1 is at 10% and channel 2 is at full. If you are in cue 10, and use the syntax:

- **[Recall From] [Cue] [1][1] {HTP} [Enter]**

Channel 1 will remain at 50% and channel 2 will go to full.

Using {Move To}

While technically not a manual control instruction, **{Move To}** is very useful when managing record target data stored from manual control.

{Move To} allows you to take recorded data from one location and move it to another location. For example:

- **{Color Palette} [1] {Move To} <Color Palette> [5] [Enter]**
- **[Cue] [9] {Move To} <Cue> [2] [Enter]**

When a **{Move To}** command is given, data is removed from its current location and moved to its new location. If the new location already contains data, a confirmation is required by Element (unless disabled in Setup). Existing data in the new location will be completely overwritten if a **{Move To}** command is confirmed.

The **{Move To}** softkey appears when a record target type, such as cue or palette, is indicated on the command line. Some targets (macros, groups, effects) only have the **{Move To}** option when viewing in the blind list view. You can also hit **[Copy To] [Copy To]** to access **{Move To}**.

{Replace With} is another useful instruction that is used to select channels, cues, and/or parameters that have certain specified values and then provide new instructions for those behaviors. For more information on **{Move To}** and **{Replace With}**, [See “From the Cue Spreadsheet” on page 117.](#)

Using {Make Absolute}

Referenced data can be transformed into absolute data using the **{Make Absolute}** softkey. This softkey is available in live or blind. Referenced data is channel or parameter data that is derived from a palette. **{Make Absolute}** can be used to leave a parameter unchanged, but break its palette reference.

The following examples illustrate how to change referenced data into absolute data.

- **[4] {Make Absolute} [Enter]** - selects channel 4 and makes any referenced data for that channel absolute data.
- **[7] {Color} {Make Absolute} [Enter]** - selects channel 7 and makes its color data absolute.
- **[3] [Thru] [9] {Color} {Intensity} {Make Absolute} [Enter]** - selects channels 3-9 and makes their color and intensity data absolute.

In each of these examples, the channel display will change to show the result of the command. Wherever the reference was previously indicated (IP, FP, CP, BP), an absolute value (numerical) will be seen.

In live, data that is changed to absolute is also made manual, thereby requiring a record or update instruction if the results are to be maintained.

{Make Absolute} can also be used in conjunction with an update command, allowing a cue to be updated while also breaking the reference to palettes that were manually modified.

For example:

- **[Update] {Make Absolute} [Enter]** will update the active record target. Any manual values that were modifications to a palette stored in the cue will be updated as absolute data in the cue. The reference will be discarded.

Using [Undo]

Undo is a method to reverse or “undo” certain operations performed in the software. You can use **[Undo]** to reverse any command that results in a change to data that would be saved to the show file or any command that changes manual levels in live.

If there are any commands in the command line, pressing **[Undo]** once clears the command line. Once the command line is empty, pressing **[Undo]** will start the undo process.

When **[Undo]** is pressed from an empty command line, the command history display will open in the CIA and the most recent completed command is highlighted in gold. If you press **[Enter]**, you will undo your last command. **[Shift] + [Clear]** can be used to clear the command line as well.

Command History	
Mixie	Command
Patch Address	Address 117 Chan 82
BLND: Cue 9	Chan 1 Thru 50 @ Full
LIVE	Chan 100 Thru 125 @ 25
LIVE	Record Cue 10

Commands to be
undone

You may use the page arrow keys to select multiple commands. When **[Enter]** is pressed an advisory is posted. When **[Undo]** is pressed again, all highlighted commands will be undone and subsequently removed from the command history. When removing more than one command, a confirmation is required.

After an Undo has been performed, a **{Redo}** button will appear in the command history. You may press this button followed by **[Enter]** and the last undo will be “redone” to reinstate the removed commands.



Note:

Not all commands can be undone including playback actions and manual attributes placed on channels.

Chapter 16

Using Park

This chapter describes using park functions from both the live and park display.

This chapter contains the following sections:

- ***Park Display***184
- ***Parked Values in Live***185
- ***Scaled Parked Values in Live***185
- ***Parked Addresses in Live***185
- ***Park Values from the Park Display***186

Using Park

The park instruction allows you to set a channel or parameter to a specific value and have it remain at that level on stage (live mode), prohibiting manual control override, cue or submaster playback modification. Park may also be used to place a scaling instruction on the intensity output of a channel.



Note:

A parked channel intensity is not impacted by grandmaster 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 values set and stored in live do not actually output to the system if the parameter is parked.

When channels or parameters are parked, the live display will indicate “Parked Channels” in the top left corner. In addition, any parked channel or parameter will be indicated with a white channel number and a “P” will be visible in the channel. When the parked channel or parameter is unparked, it reverts to the level the console is currently providing, or its default value if there is no current instruction.

Parked parameters set by radio focus remotes (RFR) will automatically unpark when the associated device goes offline.

Channels, parameters and outputs can be parked and unparked from live and from the park display.

Park Display

You can access the park display by pressing **[Park]**. The park display shows all parked channels and parameter values on the top half of the screen and all parked addresses (dimmers) on the bottom half of the screen. Parked channels displayed on the top of the screen can be displayed in the summary and table views seen in the live/blind display by using the **[Format]** key.

When a channel intensity is parked, the parked value will be indicated in white text. When a channel has a non-intensity parameter that is parked, that parameter will also be indicated with white text.

When an address is parked, it will appear in the bottom half of the park display. The address, parked value, affected channels, and parameters are indicated.

Parked Values in Live

Channels and parameters may be parked and unparked from the live display. To park from the live display, you will use the **{Park}** softkey. Following are some examples:



Note: *Parked values will only be displayed in the park display.*

To park a channel, parameter, or group from live:

- **[2] [At] [5] [0] {Park} [Enter]** - parks channel 2 intensity at 50%.
- **[2] {Intensity} {Park} [Enter]** - parks the intensity of channel 2 at its current value.
- **[2] {Park} [Enter]** - parks all parameters of channel 2 at their current settings.



Note: *If a channel list is constructed in which some channels are parked and some are unparked, **{Park} [Enter]** will unpark them all.*

- **[2] [At] {Park} [Enter]** - if channel 2 is unparked, this command parks intensity at the current value. If the intensity for channel 2 is parked, this command unparks intensity.
- **[2] {Color} {Park} [Enter]** - parks channel 2 color at its current value.
- **[Group] [Cue] [6] {Park} [Enter]** - parks all the channels stored in cue 6 at their levels provided in the cue.
- **{Park} [Enter] [Enter]** - clears all parked channels and scaled park instructions (see [Scaled Parked Values in Live, page 185](#)). When a channel is unparked, it reverts to the level the console is currently providing, 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:

- **[3] [At] [/] [1] [2] [5] {Park} [Enter]** - sets a scaled value of 125% on channel 3 intensity. In other words, whenever channel 3 is active, it will be active 25% higher than its current setting.
- **[3] [At] [/] [8] [5] {Park} [Enter]** - sets a scaled value for channel 3. Whenever channel 3 is active, it will playback 15% lower than its current setting.

Remove the scaled parked value:

- **[3] [At] [/] {Park} [Enter]** - unparks a scaled intensity for channel 3.
- **{Park} [Enter]** - unparks all 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.

Parked Addresses in Live

DMX addresses can be parked in live.

Below are some examples of parking an address in live:

- **[Dimmer/Address] [5] [At] [5] [0] {Park} [Enter]** - parks output 5 at 50% intensity.
- **[Dimmer/Address] [5] {Park} [Enter]** - unparks output 5.
- **[Dimmer/Address] {Park} [Enter]** - unparks all parked outputs.

Park Values from the Park Display

You can park and unpark channel parameters or addresses from the park display. Open the display by pressing **[Park]**. While in this display, it is assumed that you want to park channels or parameters, therefore the use of the **{Park}** softkey is not necessary when parking, but is used for unparking. You can also use **[At]** **[Enter]** to unpark.

Following are examples for parking channel parameters from the park display:

- **[3] [At] [4] [5] [Enter]** - parks channel 3 at 45%.
- **[3] {Color Palette} [4] [Enter]** - parks color for channel 3 at color palette 4.

Following are examples for clearing parked values while in the park display:

- **[channel list] {Park} [Enter]** - unparks channels in the list.
- **[channel list] [At] [Enter]** - unparks channels in the list.

Below are examples for parking addresses in the park display:

- **[Dimmer/Address] [5] [At] [5] [0] [Enter]** - parks address 5 at 50% intensity.
- **[Dimmer/Address] [5] [At] [Enter]** - unparks address 5.

The screenshot shows the 'Park' display interface. At the top, there's a 'Park' button and a '(untitled)' label. Below this, there are three rows of buttons representing parked channels and addresses. The first row shows channels 10 through 15, all with a value of 50. The second row shows channels 55 through 60, all with a value of 65. The third row shows channels 125 through 130, all with a value of 'FL'. Below these rows, there are three tables showing parked addresses. The first table shows addresses 97 through 110, all with a value of 100. The second table shows addresses 111 through 122, all with a value of 100. The third table shows addresses 123 through 130, all with a value of 100. The tables are labeled 'Parked channels' and 'Parked addresses'.

Address	Value	Channel	Param
97	100	97	Intens
98	100	98	Intens
101	25	101	Intens
102	25	102	Intens
103	25	103	Intens
104	25	104	Intens
105	25	105	Intens
106	25	106	Intens
107	25	107	Intens
108	25	108	Intens
109	25	109	Intens
110	25	110	Intens

Address	Value	Channel	Param
111	100	111	Intens
112	100	112	Intens
113	100	113	Intens
114	100	114	Intens
115	100	115	Intens
116	50	116	Intens
117	50	117	Intens
118	50	118	Intens
119	50	119	Intens
120	50	120	Intens
121	50	121	Intens
122	50	122	Intens

Address	Value	Channel	Param
123	100	123	Intens
124	100	124	Intens
300	0		
301	0		
302	0		
303	0		
304	0		
305	0		
306	0		

Parked channels *Parked addresses*

Chapter 17

Multipart Cues

Cues can be divided into up to 20 parts. This chapter describes the methods used to create and edit multipart cues.

This chapter contains the following sections:

- [*About Multipart Cues*](#)188
- [*Record a Multipart Cue in Live*](#)188
- [*Storing a Multipart Cue in Blind*](#)190

About Multipart Cues

Cues can be divided into up to 20 parts. Each part can have its own channels or parameters, levels and timing information. Multipart cues can be stored in live or blind using the same conventions to record a standard cue.

There are three basic ways to create a multipart cue. You can build a multipart cue part-by-part in live, you can break an existing cue into multipart cues in live, or you can break an existing cue apart in blind.

Multipart cues can be used to organize moving light data so that you can apply different times to different moves (focus moves slowly, but color snaps after a short delay). You can also use multipart cues instead of many individual cues triggered by wait times to create a series of fades.

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 and then also provide a different instruction for channel 1 color in Cue 1 Part 8.

Default part timing is drawn from the cue level timing defaults established in Setup.

Record a Multipart Cue in Live

Storing a multipart cue in live is accomplished in similar fashion to storing a single part cue. However, rather than storing the entire cue, you select and store just the channels that you want in each part.

Creating a New Multipart Cue in Live

Build part-by part

Make desired changes to the stage state. If all of the changes that you have made are to go into a part, press:

- **[Record] [Cue] [2] [Part] [1] [Enter]**

Continue making changes and storing parts as you go.

Build parts from cue end state

In most instances, you will create the end state of the cue and then break it into parts. To do this, you use selective storing commands, as follows:

- **[channel or parameter selection] [Record] [n] [Part] [a] [Enter]**
- **[channel or parameter selection] [Record] [Part] [b] [Enter]**

Each part can contain its own cue level timing and other attributes. Follow, Link and Loop, and Allfade commands can be placed at the cue level only—they cannot be placed on a part.

Also, you can put channel parameters into different parts by including them after the channel selection but before the **[Record]** command.

- **[1] [Thru] [1] [0] {Focus} [Record] [Part] [3] [Enter]** - places pan and tilt parameters for channels 1 through 10 into part 3.

Part 1 of any multipart cue is where all unassigned move instructions will reside. Therefore, if the body of the cue (which is the normal behavior) is to be in part 1, you can simply select the channel or parameter list that you wish to place in parts 2 and higher.

Setting Multipart Cue Attributes

Cue attributes, such as **[Time]**, **[Delay]**, and **[Label]** can be assigned in part cues. They are stored and function exactly as they do in single part cues.

Cue part attributes can be defined as the parts are recorded, or they can be added after the part has been created. For example:

- **[Record] [Cue] [2] [Part] [1] [Delay] [8] [Enter]**
- **[Cue] [4] [Part] [3] {Color} [Time] [6] [Enter]**

For more on cue attributes, see [Assigning Cue Attributes, page 107](#).

Using Update in Live

Updating a multipart cue is generally the same process as updating a single part cue, except you will provide a specific part cue number in the update command.

If you have made changes to referenced data within a multipart cue, thereby creating manual data, pressing **[Update] [Enter]** updates both the multipart cue and any referenced data with the new levels, as it does with single part cues.

You can update a part of a multipart cue with only selected parameters as well.

For Example:

You have written cue 1, which is a multipart cue and is active. Part 2 includes channels 1 through 5 referencing intensity palette 2. You select channels 1 through 5 and change the intensity value to 21%. The data in live will indicate the new levels in red, and an “R” is displayed to indicate the reference to intensity palette 2 has been broken.

To update cue 1 part 2, including the new intensity levels, breaking the reference to the intensity palette, press:

- **[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 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.*

Changing a Single Part Cue to a Multipart Cue

Select the cue you wish to break apart and begin by selecting any channels that you wish to move into some part other than part 1.

- **[1] [Thru] [5] [Part] [2] [Enter]**
- **[6] [Thru] [1] [0] {Intensity} [Part] [3] [Enter]**
- **[6] [Thru] [1] [0] {Color} [Part] [4] [Enter]** - and so on.

As you create each part, that part is now selected. It is possible to select the channel parameter you want and press **[Part] [Enter]** to pull that data into the selected part.

**Note:**

*When breaking a cue into a multipart cue in blind, the **[Part]** button is a required instruction. Channel selection will not automatically assign a channel into a part. Use of the **[Part]** key allows you to add only specific channel parameters to the part. For example:*

- **[5] [Thru] [9] {Color} [Part] [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 4 back to a standard single cue:

- **[Delete] [Part] [1] [Thru] [3] [Enter]**

Deleting a Part from a Multipart Cue

When you delete parts of a multipart cue, any move instructions in the deleted part are moved to the first available part. If you want to delete move instructions out of a cue part, you have to select the channels and **[At] [Enter]** or null them.

- **[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

Storing and Using Curves

A curve is a relationship between the timing of a fade and the output level of a cue, cue part, or dimmer at each point of time during that fade. By using a non-linear curve, you can create a variety of effects, accommodate variations and deficiencies in your lighting equipment, alter the transition ramp, and protect equipment from stress.

This chapter contains the following sections:

- **About Curves**192
- **Creating a Curve**193
- **Editing Curves**194
- **Applying a Curve**195
- **Delete a Curve**195

About Curves

You may apply curves to dimmers in patch. Curves may also be applied to cues, to cue parts, and to scroller fans. When applied to a cue, the curve impacts only the intensity moves in that cue. When applied to a cue part, the curve impacts all parameter moves stored in that cue part.

When applied in patch, the intensity transition will follow the ramp defined by the curve during its fade. This value is determined by referencing the output value of the curve at that percentage and outputting the curved level rather than the percent level. Up to 100 points of delineation can be established in a curve, each with its own intensity value if desired.

For single-part cues, the calculation applies only to intensity. For multipart cues, however, the curve applies to all parameters in the part.

When applied to a scroller fan, the output of the fan will be controlled by the intensity of the channel.

Element provides ten pre-programmed, commonly used curves. They can be edited or copied to a new curve location. When a pre-established curve is deleted, it will return to its original state.

The curve editor can be accessed by pressing **[Browser] {Curve}** or from the browser, **Browser >Record Target Lists >Curves**. When selected, the CIA will show the graphical output of the first curve in the list.

You can scroll through the list using the **[Next]** and **[Last]** keys, or you can specify a curve in the command line.

- **{Curve} [9] [0] [4] [Enter]** - selects curve 904 from the list and displays its shape in the CIA.

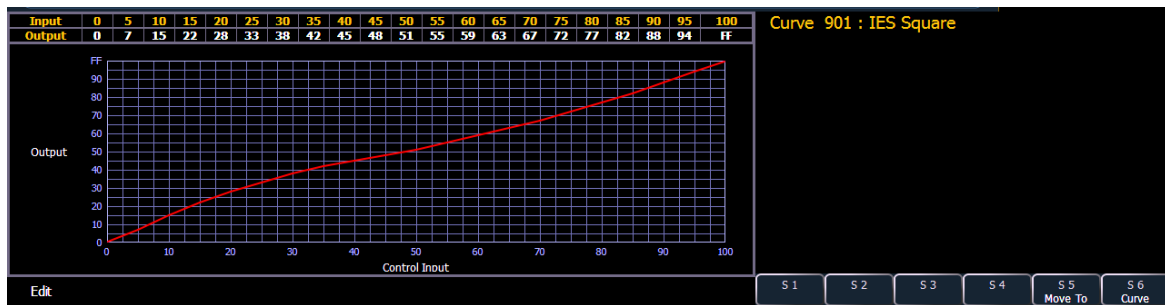
Creating and Editing Curves

Creating a Curve

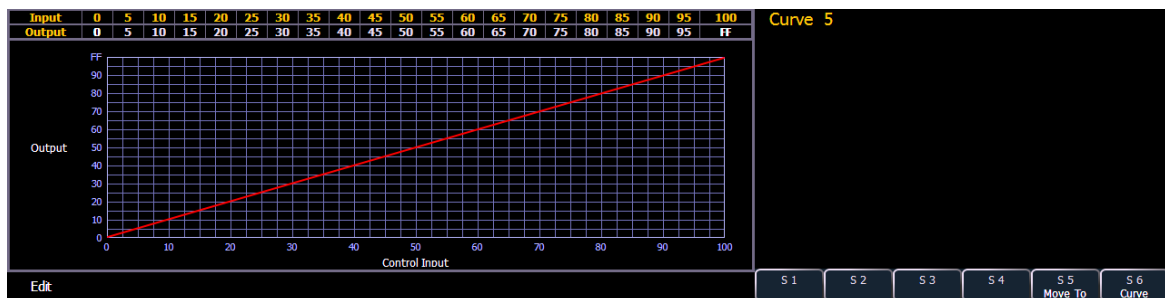
When you have opened the curves display (see [About Curves, page 192](#)), you can select a curve or create a new curve by pressing:

- **{Curve} [x] [Enter]**

If the curve is already stored, the contents are displayed in the CIA. If this is a new curve, a linear curve is displayed.



Pre-established Curve



New Default (linear) Curve

Editing Curves

Using the Keypad

Once selected and displayed in the CIA, you can edit a curve from the keypad. Points are established in increments of five. You can add more points from the keypad.

- **[3] [At] [1] [Enter]** - adds control input point “3” and sets its curve level at 10%.
- **[7] [7] [At] [Full] [Enter]** - adds control input point “77” and sets its curve level at full.

You can specify points and adjust their levels in the command line or you may use the keys below to alter the curve:

- **[Page ►]** - selects the next fade completion point.
- **[Page ◀]** - selects the previous fade completion point.
- **[Level Wheel]** - adjusts the output level of the selected point.
- **[Page ▲]** - raises the selected point's output by 1%.
- **[Page ▼]** - lowers the selected point's output by 1%.
- **[Full]** - sets the selected point's output to full.
- **[Out]** - sets the selected point's output to zero.
- **[At] [+][+]** - raises the selected point by the amount for +% established in setup.
- **[At] [-][-]** - lowers the selected point by the amount for -% established in setup.

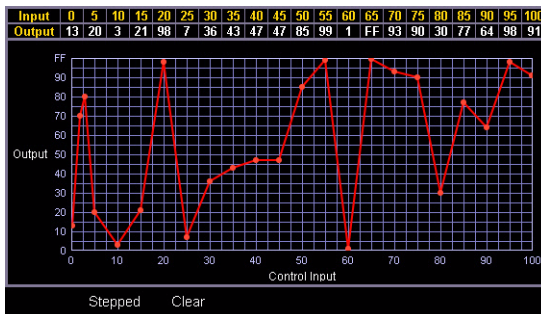
Using the curve display

Once a curve is displayed in the CIA, you can press **{Edit}** to edit the curve in the editor display.

In the curve editor you can trace the desired shape of the curve using the mouse on the screen. As you progress through drawing the curve, intensity values will be added for existing points on the curve. If you add points to the curve (from the keypad) those points will be adjusted as well.

You can also toggle between an “interpolated” or “stepped” curve shape. Element defaults to “interpolated”. To switch to “stepped”, press the **{Stepped}** softkey. Once pressed, this softkey changes to **{Interpolated}**, which allows you to switch back.

Below are two examples of the same curve. The first is interpolated and the second is stepped.



Interpolated Curve



Stepped Curve

Clearing the curve

At any time, you can clear a curve from the curve editor display by pressing the **{Clear}** softkey. This will return the curve to its original linear shape or to its default shape if it is a pre-established curve.

Applying a Curve

To Channels In Patch

Curves can be applied to any intensity parameter in patch. Once added, the curve number appears in the channel's "Curve" column of the patch display. Pressing **{Curve}** in **Patch>Attributes** will display a list of available curves.

- **[Patch] {Attributes} [1] {Curve} [9] [0] [1] [Enter]** - applies curve 901 to channel 1 intensity.
- **[Patch] {Attributes} [2] [Thru] [8] {Curve} [2] [Enter]** - applies curve 2 to intensity for channels 2 thru 8.
- **[Patch] {Attributes} [1] {Curve} [At] [Enter]** - removes the curve from channel 1.

To Cues

Curves can also be applied to cues or cue parts in Live/Blind. When a curve is applied to a cue, the output at any given point of the cue's completion is determined by the control input. For example, a 10 second cue with curve 903 "Fast Bottom" applied to it will appear to fade faster at the beginning of the fade, and then slower as the fade completes, but all within the 10 second time frame of the cue.

When a curve has been applied to a single part cue, it impacts only the intensity of that cue. When applied to a part of an multipart cue, it impacts all parameters stored in that part. Once added to a cue, the curve number appears in the cue's "Curve" column of the cue list in the playback status display.

- **[Cue] [5] <More SK> {Curve} [4] [Enter]** - applies curve 4 to cue 5.
- **[Cue] [4] [/] [6] [Thru] [9] <More SK> {Curve} [9] [0] [6] [Enter]** - applies curve 906 to cues 4/6 through 4/9.
- **[Cue] [5] <More SK> {Curve} [At] [Enter]** - removes any curve from cue 5.
- **[Cue] [8] [Part] [3] {Curve} [6] [Enter]** - applies curve 6 to part 3 of cue 8.

To Scroller Fans

Curves can also be applied to a scroller fan. When applied to a scroller fan, the output of the fan will be controlled by the intensity of the channel. To apply a curve to a scroller fan, go to **[Patch]>{Attributes}>{Fan Curve}**. [See "Attributes" on page 63.](#)

Delete a Curve

While in the curve display, you can delete a curve in the following ways:

- **[Delete] {Curve} [3] [Enter] [Enter]** - deletes curve 3 from the list.
- **[Delete] {Curve} [9] [0] [1] [Enter] [Enter]** - since curve 901 is a pre-established curve, this command will return curve 901 to its default state, thereby removing any edits to it.
- **[Delete] [Enter]** - deletes the currently selected curve.

Chapter 19

Storing and Using Macros

Macros allow you to compose a series of programming actions and be able to execute them later by recalling the macro.

This chapter contains the following sections:

- [*About Macros*](#)198
- [*Store a Macro from Live*](#)198
- [*Macro Editor Display*](#)200
- [*Recall a Macro*](#)204
- [*Delete a Macro*](#)204

About Macros

Macros are a recorded series of button presses (both hard and softkeys), screen commands and events. Macros can be used 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 triggering it manually, running it from a linked cue, accessing it from a connected show control system, remotely triggering the macro, or running it from another recorded macro.

You may create up to 1,000 macros either from the live display using the macro **[Learn]** mode to record a sequence of keystrokes as you perform the operation, or you can create a macro 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.

Store a Macro from Live

The most direct way to store a macro is from live mode using 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 while learning the macro in live, but you can rerecord the macro as needed or you can edit the recorded macro in the macro editor, removing any unneeded commands. See “[Edit an Existing Macro](#)” on page 203.*

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.
- **[Learn] [5] [Enter] [1] [Full] {Chan Check} [Enter] [Learn]** - records macro 5 with channel 1 at full in channel check mode. 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 first you must have content 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:

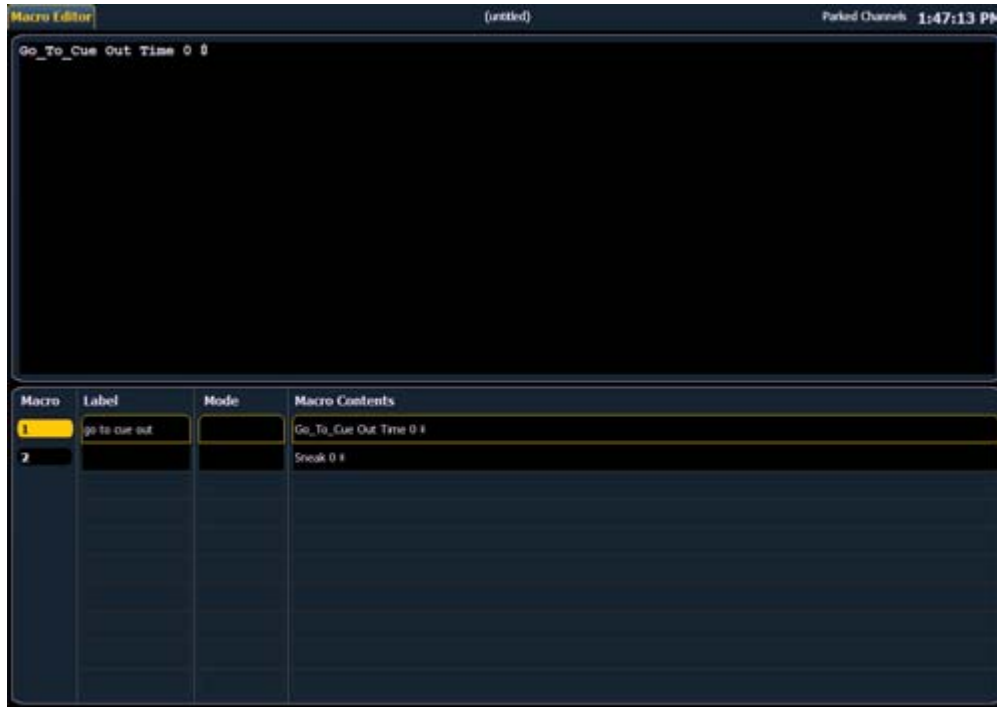
- **[Learn] [1] [Enter] [Bump1] [Bump2] [Bump3] [Bump4] [Bump5]**
- **[Fader Page]**
- **[Bump15] [Bump16] [Bump17] [Learn]**

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 200.](#)

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 or 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.

Macro Modes

In the Macro Editor display, macros can now be assigned different modes to run in. A new softkey **{Macro Mode}** has been added, and the three modes are **{Background}**, **{Foreground}**, and **{Default}**.

{Default}

When a macro in default mode is run manually, it runs in the foreground (i.e., the command line). When a macro in default mode is executed by a cue or via show control, it runs in the background.

{Background}

When a macro in background mode is run manually or via an execute command from a cue or via show control, it will not affect the command line of the console it is running on. However, above the command line, "Running Macro #" will display as an indication that a macro is running.

When a background macro is running and includes a link to another macro, or is currently waiting, pressing the **[Macro]** button will stop it.

{Foreground}

When a macro in foreground mode is run manually or via an execute command from a cue or via show control, it will post to the command line.

Create a New Macro in the Macro Editor Display

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 content.

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}**
- **[Group] [5] [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 by 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 changes to display all softkeys available for the system that would otherwise be difficult to find when recording a macro.



Note:

*For settings that have enable and disable options, such as 100 channel display, macros can be created using the **{Enable}** and **{Disable}** softkeys in the Macro Editor. By using those softkeys, the macro will have an absolute action instead of a toggle state.*

Next to the softkeys display are paging buttons to page through the available softkeys. When used, 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 End}** - inserts an 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 for a period of time. This needs to be followed with a whole number of seconds.
- **{Delete}** - removes commands from the macro.
- **{Wait for Input}** - Inserts a pause in the macro to allow you to enter data. The pause lasts until you press the **[Macro]** key again. Then the remainder of the macro will be completed.
- **{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. Press **[Escape]** to abort.

Recall a Macro

You can recall a macro from the command line, run it from the execute field of a cue, or from another macro.

To play macro 5 from the command line press **[Macro] [5] [Enter]**. “Running Macro 5” displays above the command line in live while the macro is running, if the macro is a default or foreground macro.

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 in the Macro Editor Display, page 202](#).

Stop a Macro

If you need to stop a macro while running (for example, during an infinite loop) you may press **[Escape]** and the macro will stop.

Delete a Macro

You can delete a macro from the macro editor display by selecting the macro and pressing **[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]**

Or from any display:

- **[Delete] [Macro] [5] [Enter]**

Chapter 20

Using Magic Sheets

Magic Sheets are user created custom interactive displays.

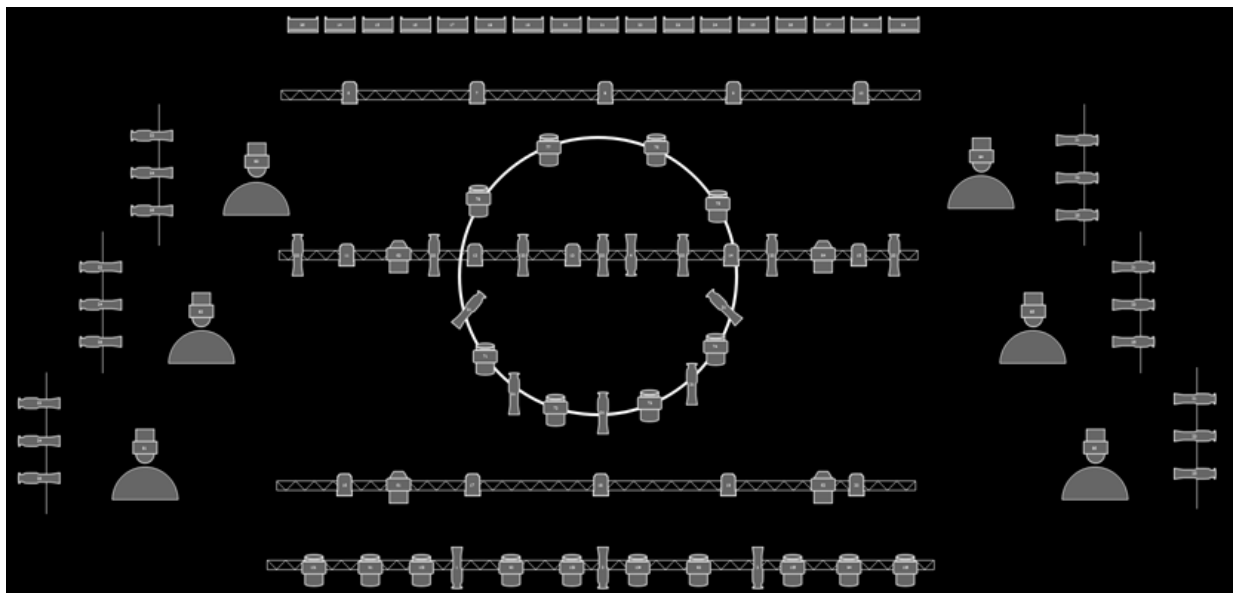
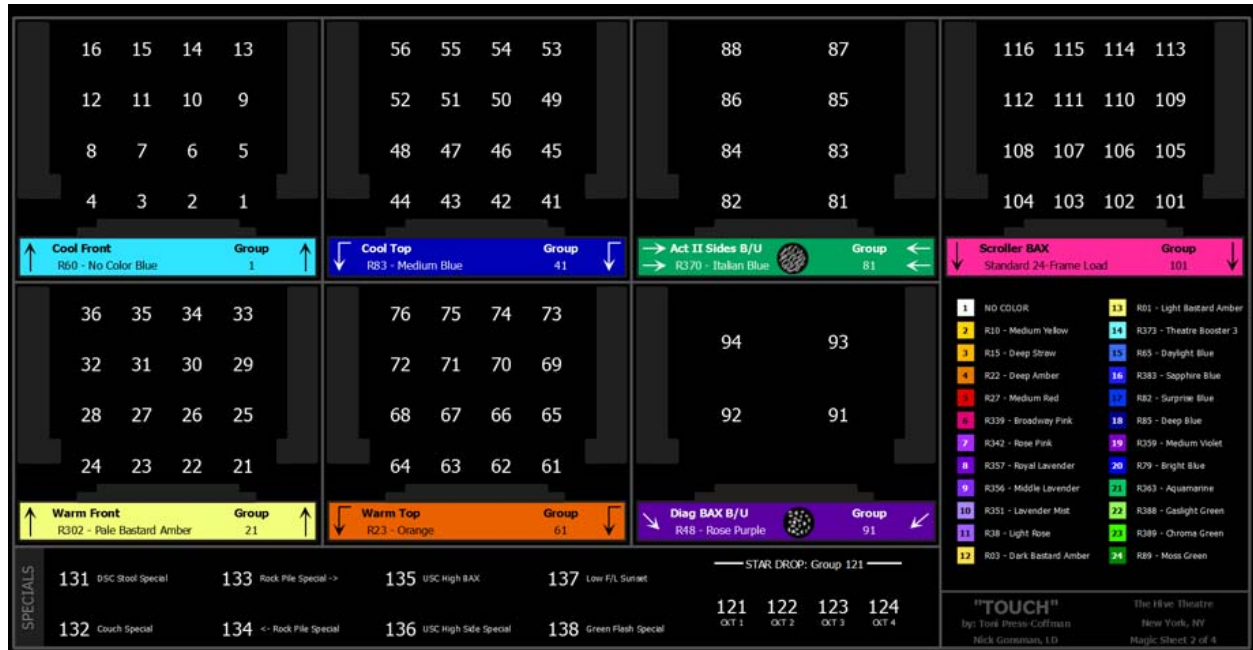
This chapter contains the following sections:

- [*About Magic Sheets*](#)206
- [*Magic Sheet Display*](#)207
- [*Navigating a Magic Sheet*](#)209
- [*Creating and Editing Magic Sheets*](#)211
- [*Examples of Magic Sheets*](#)220

About Magic Sheets

Magic Sheets are user created interactive displays that offer customizable views for displaying data and programming. Magic Sheets are comprised of objects that are tied to show data, such as channels and palettes.

The following are two examples of magic sheets. For additional examples, see [Examples of Magic Sheets, page 220](#).



Magic Sheet Display

You can first open the magic sheet display by pressing **[Displays] {Magic Sheet} [Enter]**, or you can navigate within the browser to **Displays> Magic Sheet Display> new** and press **[Select]**.

After you have created a magic sheet, you can recall a specific magic sheet, by pressing **[Displays] {Magic Sheet} [#] [Enter]** or you can navigate within the browser to **Displays> Magic Sheet Display** and press **[Select]**.

All available magic sheets will be displayed in the magic sheet browser.



Magic Sheet List

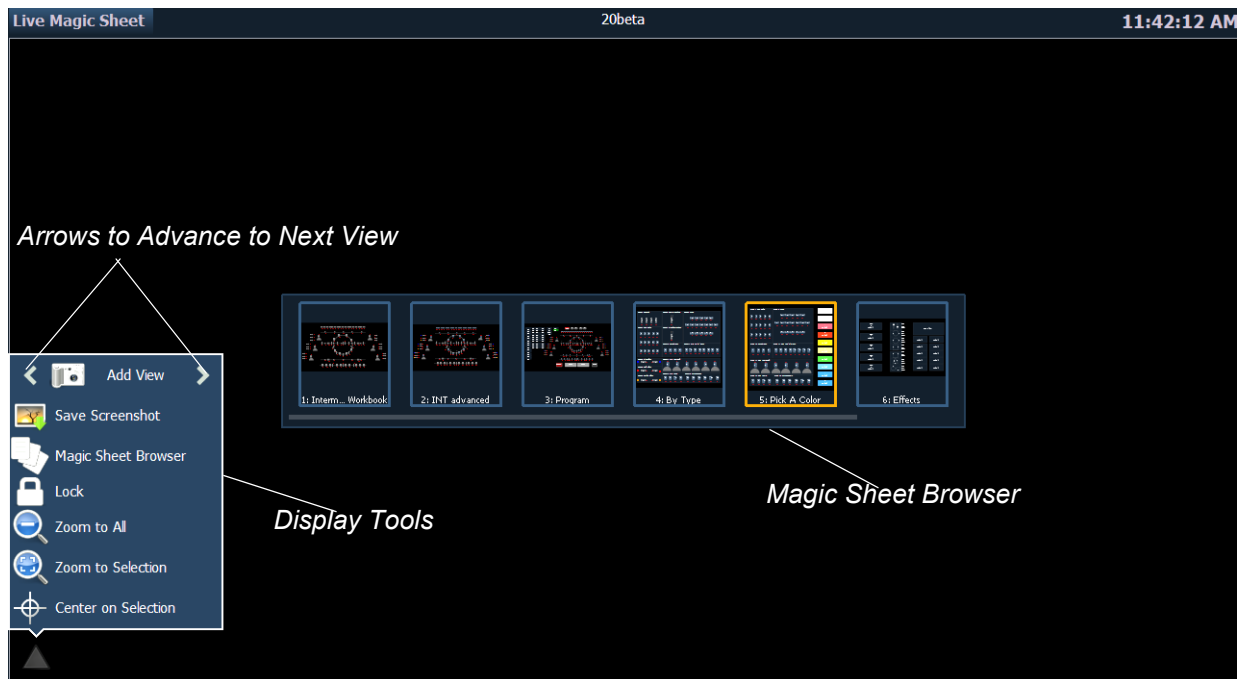
Double pressing **{Magic Sheet}** or CTRL+S on an external keyboard will open the magic sheet list. The magic sheet list displays a list of all created magic sheets, their labels, and how many views have been saved for each magic sheet. See [Display Tools](#) for more information about views.

To label a magic sheet, use the syntax **{Magic Sheet} [#] [Label] <name> [Enter]**.

Pressing **[Label]**, when a label has already been applied to a magic sheet, will display the label on the command line for editing. Pressing **[Label]** a second time will clear the label, or you can press **[Clear]** to remove the label one character at a time.

Display Tools

Clicking on the triangle in the bottom left corner of the magic sheet display will open a list of the display tools.



These tools include:

- **Add View** - different views of the same magic sheet can be saved and recalled. Zoom and pan the display to change the view, and then click **{Add View}** to save. To change views, you can use the arrows in the display tools or multi-touch gestures. You can also press **{Magic Sheet} [1] [/] [2] [Enter]** to view Magic Sheet 1, View 2. See [“Multi-Touch Gestures” on page 209](#).
- **Save Screenshot** - saves a .png screenshot of the magic sheet to an attached USB drive.
- **Magic Sheet Browser** - opens the magic sheet browser, which displays thumbnail images and labels for the created magic sheets. The browser can also be opened using multi-touch gestures. See [“Multi-Touch Gestures” on page 209](#).
- **Lock** - locks the magic sheet so it cannot be zoomed or panned. This is useful for a customized direct select layout, where you want the buttons to always be in the same spot.
- **Zoom to All** - zooms to show all objects.
- **Zoom to Selection** - zooms to show all selected objects.
- **Center on Selection** - centers the display on the selected objects without changing the zoom level.

Navigating a Magic Sheet

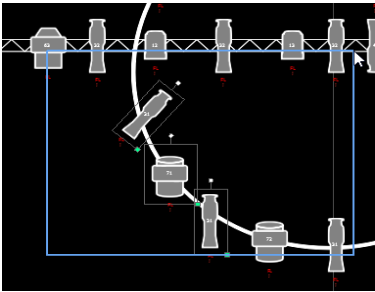
Magic sheets can be navigated using a mouse, a keyboard, a touchscreen, or a multi-touch touchscreen. The drag and drop function for placing objects is a single touch action or done using a mouse.



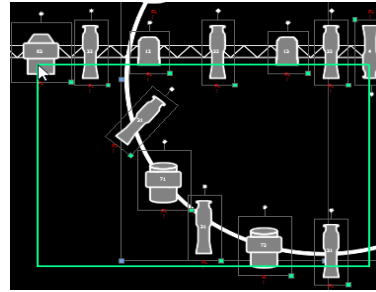
Note: *If a magic sheet contains a channel object, you will need to press **[Escape]** instead of **[Live]** to go to the live channel display.*

Additional mouse commands include:

- **Left Click** - selects an object.
- **Right Click** - pans the display.
- **Wheel** - zooms the magic sheet.
- **[Shift]+ Wheel** - provides a fine zoom of the magic sheet.



Selecting from left to right will open the blue window selection box. This selects any object that is completely inside of the box. This can be done with a single touch or using a mouse.



Selecting from right to left will open the green crossing selection box. This selects any object that either crosses the boundary line of the box or is completely inside of it. This can be done with a single touch or using a mouse.

Multi-Touch Gestures

The following multi-touch gestures can be used with an external multi-touch touchscreen.

- **Scroll** - touch with two fingers to move around the page.
- **Zoom Out** - touch with two fingers and then move your fingers toward each other.
- **Zoom In** - touch with two fingers and then move your fingers away from each other.
- **Zoom to All** - double tap with two fingers.

The following multi-touch gestures can be used with monitors that support 3 or more simultaneous touches:

- **Jump to Previous View** - use three fingers to swipe upwards or to the right.
- **Jump to Next View** - use three fingers to swipe downwards or to the left.
- **Magic Sheet Browser** - tap with three fingers to open the browser.

Keyboard Shortcuts

With an external alphanumeric keyboard attached, the following keyboard shortcuts can be used:

- ARROW KEYS - move selected item or navigate when nothing is selected.
- SHIFT - move/rotate item without snapping to grid.
- SHIFT + mouse wheel - provides a fine zoom of the magic sheet.
- CTRL+S - double tap to open the magic sheet list.
- CTRL+A - select all
- CTRL+C - copy
- CTRL+V - paste
- CTRL+X - cut
- CTRL+G - group
- CTRL+SHIFT+G - ungroup
- DELETE - delete
- ESC - finish line/polygon creator or close tab.

Creating and Editing Magic Sheets

Pressing the edit button on the right hand side of the magic sheet display will open the editing tools.



The main area of the magic sheet will display a grid to aid with layout. The editing tools will be displayed on the right side of the magic sheet. The editing tool window is divided up into three areas: layout tools, the MS Object Library, which is made up of four tabs that contain the MS Objects, and the MS Object Properties.



Note: To see a description of a tool or object, hover your cursor over it. Its title will display after a second or two.

You can drag and drop objects onto the magic sheet, or you can use the layout tools to create arrays of objects.



Note: Holding down **[Shift]** while placing an object will bypass the snap to grid behavior.

Quick Save

Clicking on the **{Quick Save}** button allows you to save an undo restore point for the magic sheet you are working on. Once saved, a green check mark will temporarily appear next to the **{Quick Save}** button.



It is recommended that you click **{Quick Save}** before making any major changes to the magic sheet that you think you might want to undo. **[Undo] [Enter]** will take the magic sheet back to the last undo restore point. An undo restore point is also set whenever you exit the editor.




Quick saving a magic sheet will also send any changes made to the magic sheet to all the devices in a multiconsole system.

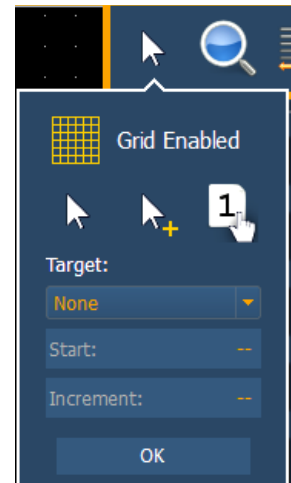
Layout Tools

The layout tools are divided into four areas: edit mode, zoom, alignment, and ordering.

Edit Mode

Clicking on the arrow will open the edit mode options, which include:

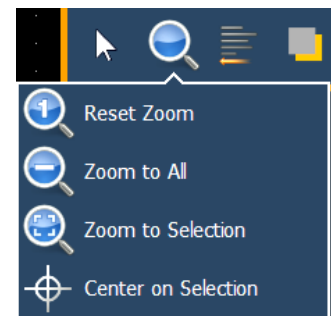
- **Grid Enabled** - toggles between a grid being displayed and no grid. With the grid enabled, the magic sheet will also have a snap to grid behavior when placing objects.
-  **Normal** - allows for dragging and dropping of objects from the object list.
-  **Quick Layout** - allows you to place more instances of a selected object. When finished, click the **{Done}** button or change the layout mode to normal.
-  **Quick Number** - used to quickly assign target numbers to objects. While in quick number mode, clicking on an object will assign the selected target and increment the numbers as specified in the target section of edit mode.
- **Target** - used to specify object, starting target number, and incrementation for use in quick number mode.
 - Object - assigns the object from the list.
 - Start - assigns the starting target number.
 - Increment - assigns what incrementation the target numbers will use after the start number.



Zoom

Clicking on the magnifying glass will open the zoom mode options, which include:

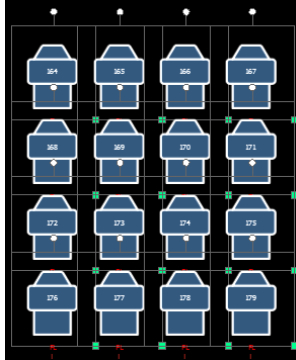
- **Reset Zoom** - sets the zoom level to 1:1 and centers the magic sheet.
- **Zoom to All** - zooms to show all objects.
- **Zoom to Selection** - zooms to show all selected objects.
- **Center on Selection** - centers the display on the selected objects without changing the zoom level.



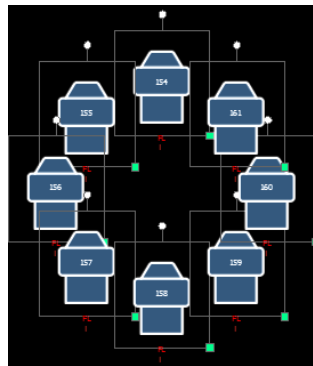
Alignment

Clicking on the alignment icon will open the alignment options, which include:

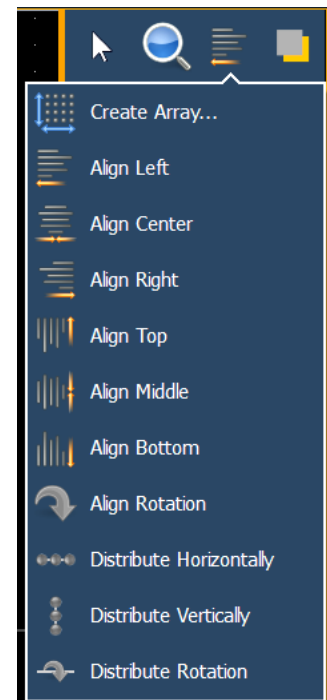
- **Create Array** - allows you to create arrays of objects. After placing one object of your choice, click on **{Create Array}** to open an additional window for choosing what array type you want to use.



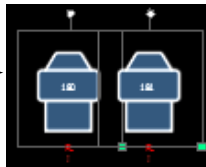
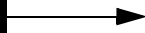
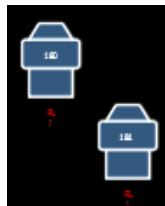
- **Rectangle** - will layout a rectangle array of objects. You can define how many rows, columns, and the spacing.



- **Circle** - will layout a circle array of the objects. You can define the number of objects and the size of the circle.

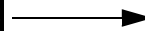
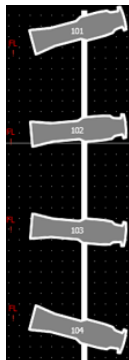


- **Align Settings** - allows you to align objects either to the left, right, center, or top, middle, bottom.

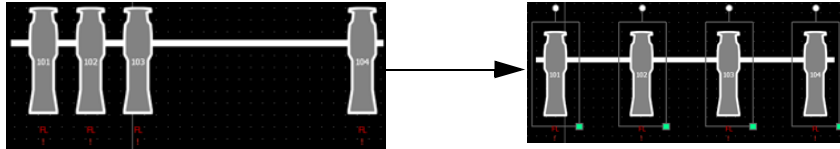


Example of aligning by tops.

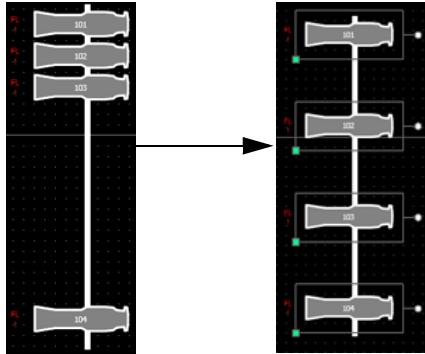
- **Align Rotation** - allows you to select multiple objects and align their rotation to the first object selected.



- **Distribute Horizontally** - allows you to distribute objects horizontally at an equal distance apart between two objects. Set the distance you would like by placing the first and last objects. Then with all objects selected that you wish to distribute (including the first and last ones you positioned), click the **{Distribute Horizontally}** button.



- **Distribute Vertically** - allows you to distribute objects vertically at an equal distance apart between two objects. Set the distance you would like by placing the first and last objects. Then with all objects selected that you wish to distribute (including the first and last ones you positioned), click the **{Distribute Vertically}** button.



- **Distribute Rotation** - allows you to distribute objects at an equal rotation between two objects. Set the level of rotation you would like by placing the first and last objects at a rotation. Then with all objects selected that you wish to rotate (including the first and last ones you positioned), click the **{Distribute Rotation}** button.

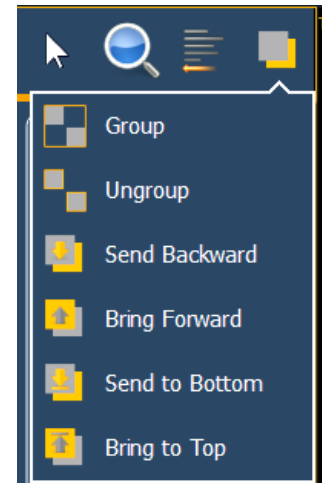


Ordering

The objects can either be placed on their own or stacked on top or beneath of each other.

Clicking on the order icon will open the ordering options, which include:

- **Group** - allows you to group objects together so they can be moved and rotated like a single object.
- **Ungroup** - removes grouping.
- **Send Backward** - will send an object back.
- **Bring Forward** - will send an object up.
- **Send to Bottom** - will send an object beneath all other objects.
- **Bring to Top** - will stack an object on top of all other objects.
















Magic Sheet Object Library

The objects section of the editing tools has four tabs: objects, fixture symbols, backgrounds, and background settings.

MS Objects

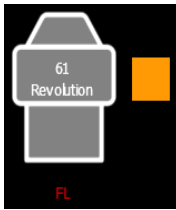
The following table contains the various magic sheet objects located in the first tab, and a brief

description of what they do. Settings for objects can be adjusted in the [MS Object Properties](#) area.

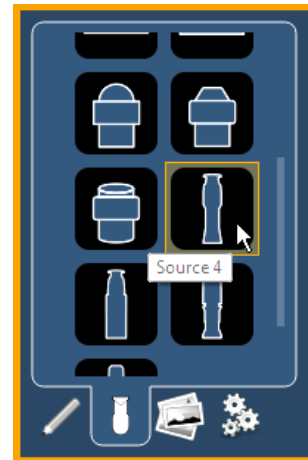
Channel		acts as a direct select for a channel.
Group		acts as a direct select for a group.
Preset		acts as a direct select for a preset.
Palettes		acts as a direct select for a palette.
Macro		acts as a direct select for a macro.
Blank		can be assigned a target.
Tombstone		mirrors the channel indicators from the live/blind summary view.
Command Line		mirrors the command line. Can be assigned to mirror the command line for any user. Multiple command lines for different users can be used.
Text		places descriptive text on the sheet. The text can also be assigned a target.
Line		draws a line. Examples of use could be as a pipe for fixtures or a divider between buttons.
Truss		places truss.
Shapes		draws shapes that can have a target assigned to them or could be used to represent set pieces.
Points		allows for free form creation of objects.

Fixture Symbols

From the second tab, fixture symbols can be placed on a magic sheet. The symbols can be tied to a channel number. Information about that channel can be displayed with the symbol, such as intensity, FCB data, and error indicators. See [MS Object Properties, page 218](#) for more information on the customizing options available.

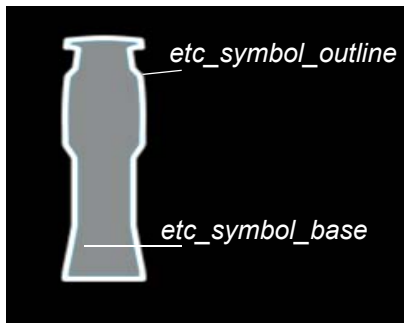


An example of a fixture showing the channel number, fixture type, intensity, and a color swatch.



Importing Fixture Symbols

Additional fixture symbols can be imported. The symbol must be saved as a .svg image file, and it needs to be tagged properly.



The outline section needs to be tagged as `etc_symbol_outline` and the base section needs to be tagged as `etc_symbol_base`.

The edits to the tags in the .svg file can be made in any text editor program, such as Notepad, or in a .SVG editor program, such as Inkscape.

See [Images](#) for steps on importing.

Images

Images from the third tab can be imported into magic sheets for two different purposes. They can be used as background images or as icons.

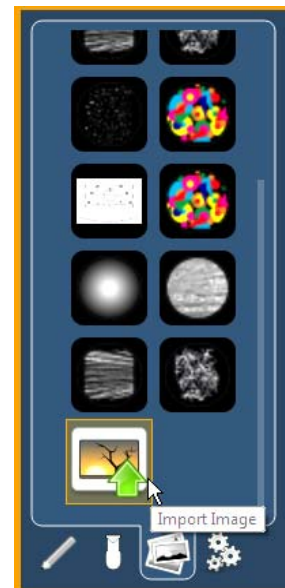
You can use a graphics image file as a background or icon. The following is a list of accepted image formats: .bmp, .gif, .ico, .jpg, .pbm, .pgm, .png, .ppm, .svg, .svgz, .tga, .tiff, .xbm, and .xpm. The maximum image size allowed is 1920 x 1920. Larger images will be scaled to this size.

You will need to have the images on a USB drive to import them into the desk.

Once an image has been imported, it is saved with the show file.

To import an image:

- Step 1: Click on the import image icon. A separate window will open displaying any found USB drives.
- Step 2: Select the appropriate drive.
- Step 3: Navigate to the file you use to upload.
- Step 4: Click on the file and then press **{Ok}**. It will now appear in the images tab.



Click on an image to select it. To use as an icon, drag and drop the image onto the magic sheet. You will be able to resize it. See [“Editing Objects on the Magic Sheet” on page 219](#).

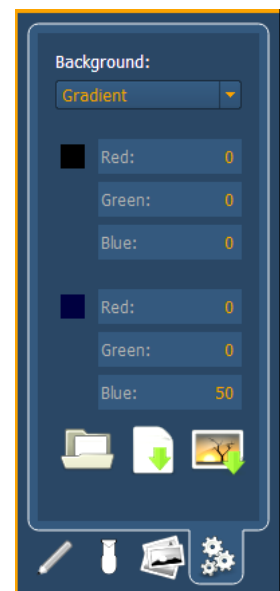
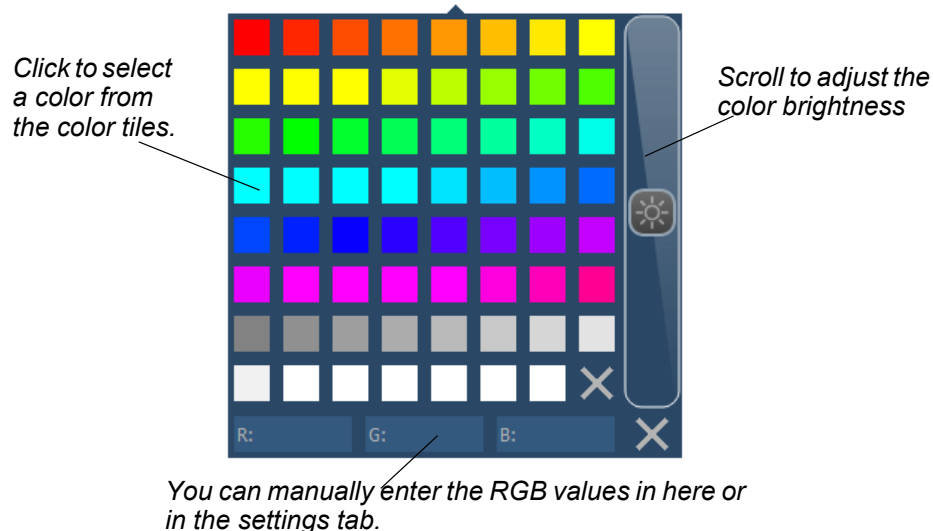
Background images need to be set in the background settings tab. You can also adjust the background settings there. See [“Background Settings” on page 217](#).

Background Settings

In the fourth tab, you can adjust the settings for the background. Three options are available for background types; you can either use a solid color, a gradient of two colors, or a image.

Solid

When solid is selected, you will have the chance to select a color for the magic sheet background. You can either click on the color square in the tab, which opens a color selection window, or you can manually enter the RGB values.



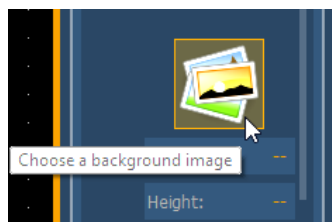
Gradient

When gradient is selected, you will have the chance to select a two color gradient for the magic sheet background. You can either click on the color squares in the tab, which open a color selection window, or you can manually enter the RGB values.

Image

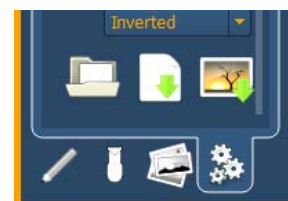
With image selected, you can adjust the size, opacity, and invert the colors of the selected background image.

You can select or import an image directly from this tab by pressing the choose a background image icon, if no previous image had been chosen, or by pressing the thumbnail icon of the selected image to change it.



Exporting and Importing Magic Sheets

Magic Sheets can be exported and imported in .xml format. The export and import icons are located at the bottom of the background settings tab.

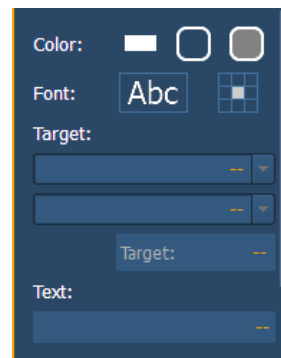


MS Object Properties

You can customize MS objects and fixture symbols in numerous ways found in the MS Object Properties area. With an object selected, you can select options.

The customizable options include:

- **Color** - the object's outline width, outline and fill colors can be adjusted here. The object's colors can either be set or tied to a channel's color.
- **Font** - the font used for a text object can be changed and adjusted as needed here. You can select font type, size, color, bold, italic, underline, and justification.
- **Target** - selects the target of the object. Most objects default to a target type, but that can be changed. The targets available are:
 - Beam Palette
 - Channel
 - Color Palette
 - Cue
 - Effect
 - Focus Palette
 - Group
 - Intensity Palette
 - Macro
 - Magic Sheet
 - Pixel Map
 - Preset
 - Snapshot
 - Submaster
 - User
 - Console Button
 - Zoom - when clicked, the view will zoom in to show all object within that object's group.
 - Selection - when clicked, all other objects within that object's group will be selected.
- **Text** - changes the text for a text object.
- **Fields** - up to six different fields of custom information can be displayed per objects. The justification of each field around the object can be adjusted. The text and color used for each field can also be adjusted. A scroller indicator bar can be added. Fields can display the following data:
 - Target ID
 - Fixture Type
 - Target Name
 - Label
 - Text 1-4
 - Intensity
 - Intensity Bar
 - Color Swatch
 - Summary
 - Focus
 - Color
 - Beam
 - Status
 - Prev Move
 - Next Move



Field Orientation

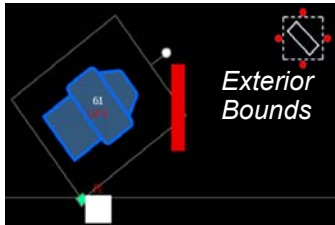


**Note:**

If multiple fields have the same justification, they will be stacked in field order.

The orientation of fields around the object can be adjusted by pressing the field orientation icon. You can also choose to keep text upright by pressing the icon to the right of the orientation icon.

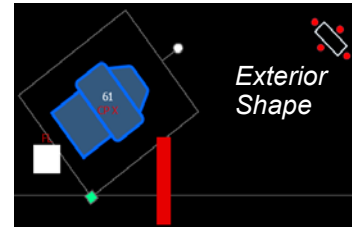
There are three options for orientation.



The fields will be exterior to the object and will remain at a position regardless of the rotation of the object.



The fields will be in the interior of the object. This orientation is useful for desk buttons.

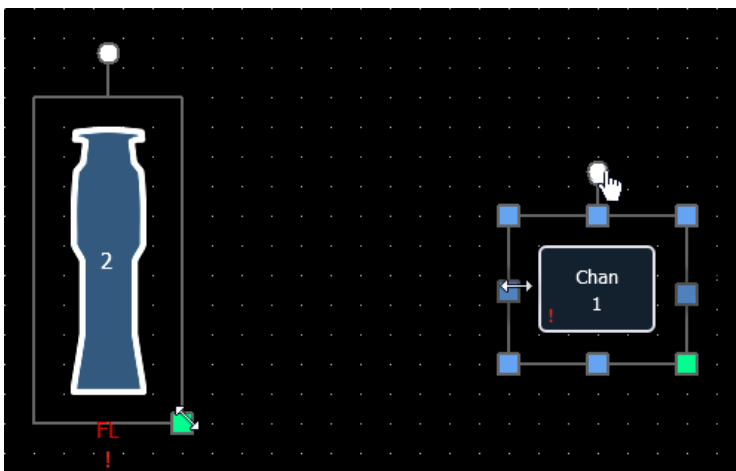


The fields will be exterior to the object and will move in relation to the object's rotation.

- **Position** - shows the position of the object on the magic sheet. Position can be manually entered here.
- **Size** - shows the size of the object. Size can be manually entered here.
- **Rotation** - shows the rotation of the object. Rotation can be manually entered here.
- **Items** - refers to the number of objects selected for editing. Multiple objects can be edited at the same time.

Editing Objects on the Magic Sheet

In addition to using the editing tools, objects can be manipulated on the magic sheet using a touchscreen or a mouse. For selection methods for multiple objects, see [Navigating a Magic Sheet](#), page 209.



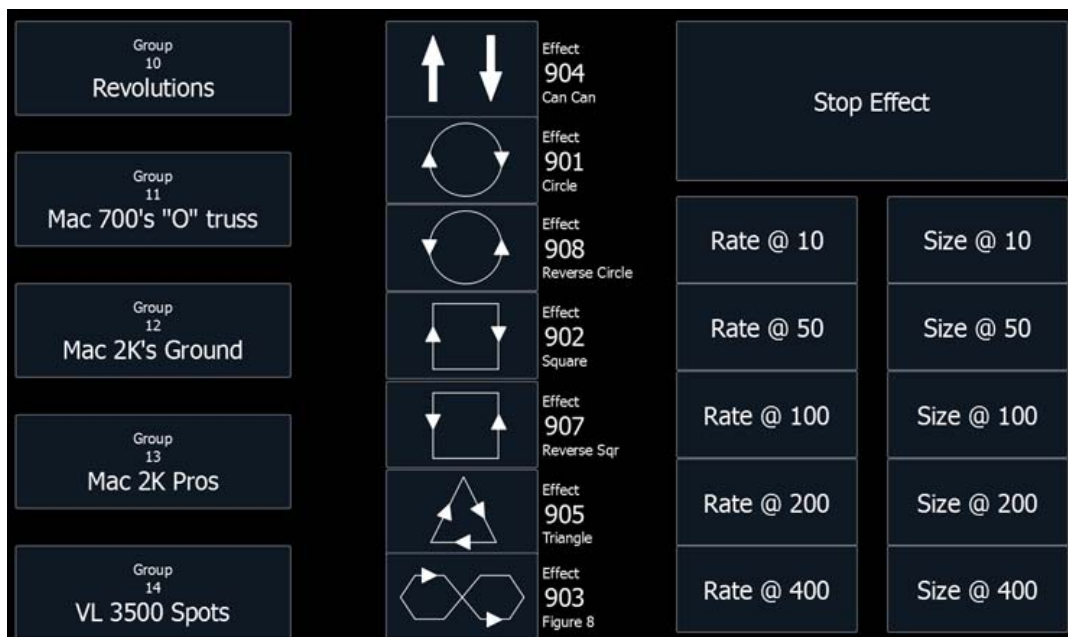
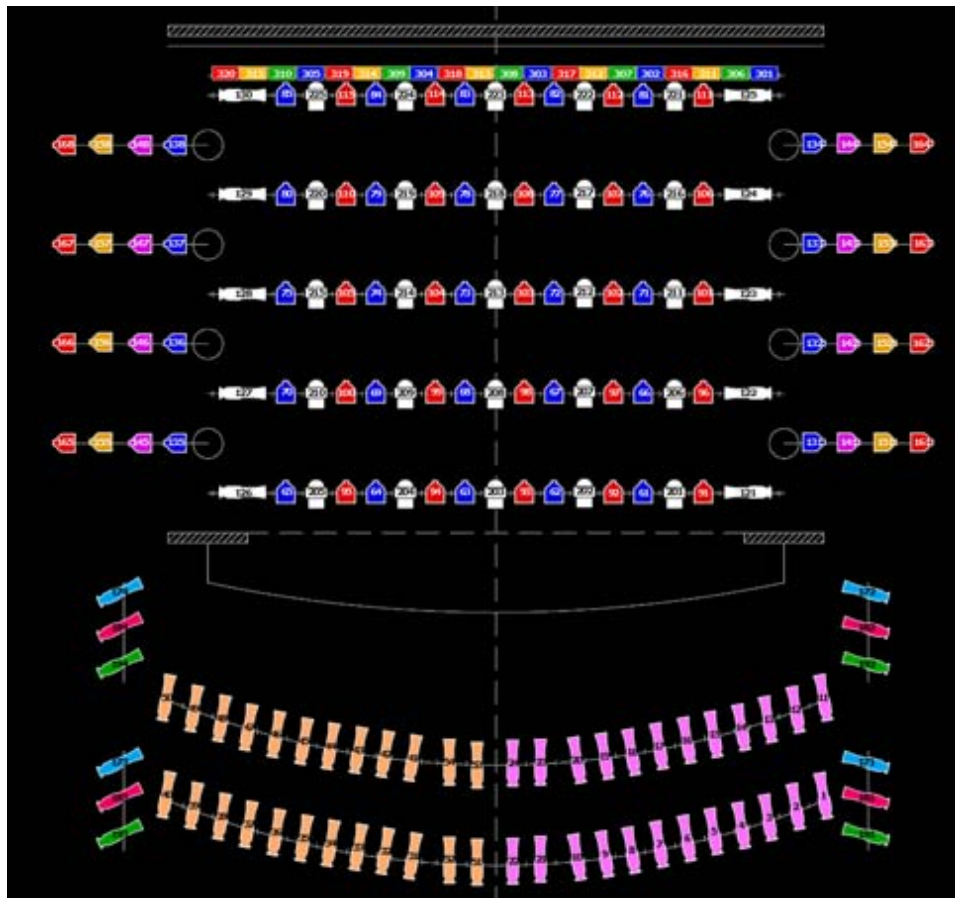
The blue handles are used to resize objects without keeping the object's aspect ratio.

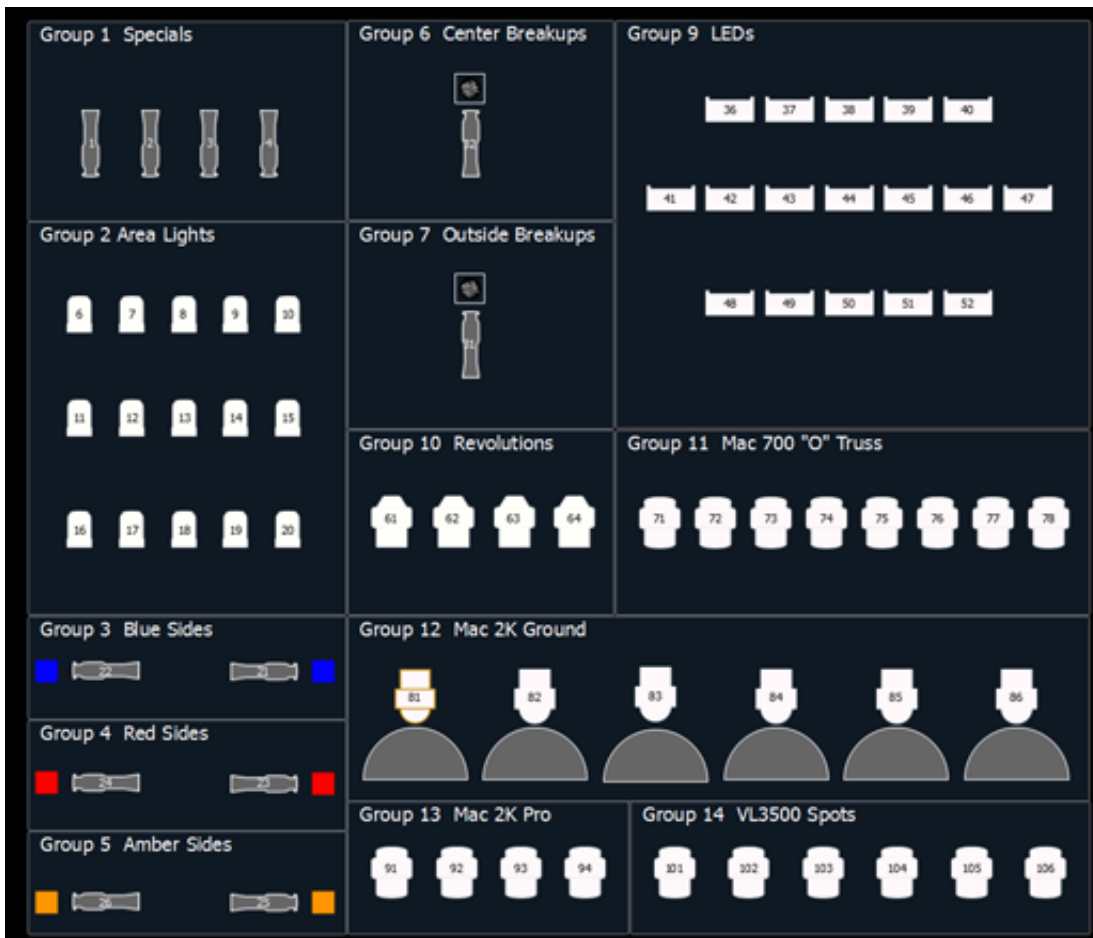
The green handles are used to resize the object preserving the object's aspect ratio.

The white handles are used to rotate the object.

Examples of Magic Sheets

The following are examples of magic sheets created using the magic sheets feature. These examples use a variety of objects provided in the software along with user-generated images.





Appendix A

Important Concepts

Important Concepts

Before using Element, you should read and familiarize yourself with the concepts defined below. You will find that understanding these terms and concepts will improve your efficiency with Element.

Channel

A channel is a single numerical name that is used by Element to control a dimmer, a group of dimmers, a dimmer and a device, or a complete moving light fixture. This is different from previous ETC consoles, which would have multiple channels for every parameter or device needed. When you select a channel number on Element, all of the controllable properties or parameters of that channel are available through the keypad, level wheel, or the On Demand Moving Light (ML) Controls.

Address

Addresses are numerical identifiers set on the actual dimmers, moving light fixtures, or other devices you want to control. To connect addresses to channels, you will need to use the Patch function of Element. For more information, see [Patch, page 45](#).



Note:

You can patch more than one address to a single channel, but you cannot patch multiple channels to a single address.

Record Target

A record target is any data location that you can store data using a **[Record]** command. Examples of record targets are cues, palettes, and macros.

Cue

A cue is a recorded lighting look. Cues are stacked in a list for playback using recorded fade times.

Move Instruction and Track

A move instruction is simply a cue that contains a different level for a channel from the previously recorded cue. This cue tells the channel to 'move' to a new level. A level that is not moving in a cue is said to 'track'. Levels will continue to track until they encounter a move instruction.

Manual Data

Manual data is any value set for a channel via the command line. Manual data will remain at its value until a move instruction is provided for it.

Tracking vs. Cue Only

Element is, by default, a tracking console. Tracking relates to how changes to cue data are handled. New data is saved to a cue, and unchanging data is allowed to track through to the next cues until a change or move instruction is given. When editing a cue in tracking mode, changes will track through subsequent cues as long as that previous data was also tracking through those cues.

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

Element also has a **[Cue Only/Track]** button that allows you to record or update a cue as an exception to the default setting. Therefore, if the console is set to Tracking, the button acts as Cue Only. If console is set to Cue Only, it behaves as a Track button. When the Cue Only override is used to edit previously tracked data, the adjustment is made only in the current cue. The tracked data is protected in the following cues.

See [Using \[Cue Only / Track\], page 103](#) for more information.

Move Fade

Move Fade is a lighting control philosophy which determines how cues are played back. Element 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 are given a new instruction manually.

Move Fade systems allow for fade-within-fade behavior. Fade-within-fade means that you can start a long fade in one cue, and the following cues will not affect the long fade as long as none of the following cues contain move instructions for the channels in the long fade cue. A blocked value is considered a move instruction.

Additionally, manual changes to channels will not be removed by pressing **[Go]** unless the incoming cue contains a move instruction for those channels.

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. In HTP, the highest level of all sources will be executed. In LTP, the most recent level received will be executed. The cue list and submasters can operate as HTP or LTP for intensity parameters only. Non-intensity parameters (NPs) are always LTP. Element's default cue list setting for intensity is LTP. Element's default submaster setting for intensity is HTP and channel faders are LTP. The cue list behavior and the submaster behavior can be modified by the user. The channel behavior cannot be modified.

HTP

HTP is only applicable to the intensity of a channel. HTP channels will output the level that is the highest of all 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 for 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.

Element determines the LTP value for a channel, which is overridden by any HTP input values that are higher than the LTP instruction. This is then finally modified by manual control.



Note:

Element provides true LTP channel faders that can be used to create and edit recorded cues and submasters. When using the channel faders, you must first raise or lower the fader to match the current intensity level of the channel, then you can use the fader to adjust that channel's level higher or lower.

When using channel faders to edit submasters, the channel fader will not be able to lower a level provided by an HTP submaster - this is the behavior of HTP. To edit submasters using channel faders, you will need to switch the submaster to LTP operation first. [See "HTP vs. LTP" on page 94.](#)

Syntax Structure

Most instructions can be entered into Element through the command line. The Element command line expects instructions to be entered in a specific structure, or syntax.

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 and tilt)
- What value do you want? (Intensity at full, Iris at 50)

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 working with, determining what parameters of those channels you are impacting, and what value you want them to assume. When working with record targets, the syntax is similar.



Note:

Not all actions on Element must be entered from the command line, although many will result in a command line instruction. Other actions bypass the command line entirely.

Enter

Since the command line can receive multiple edits and instructions at once, it is necessary to let Element know when you have completed your instruction in the command line. This is done with the **[Enter]** key.

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]**
- **[Shift] & [+]**
- **[Shift] & [-]**
- **[Full] [Full]** (sets to full and self terminates the command line)

Parameters and Parameter Categories

Element divides fixture parameters into four major parameter categories: Intensity, Focus, Color, and Beam. These are the parameters in each category:

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

Live and Blind

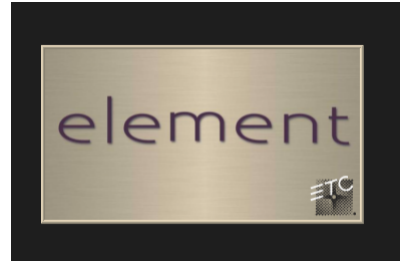
Live and Blind are methods to view and edit data in your show files. Live displays data that is currently being outputted to the lighting rig. So if you raise a channel's level in Live, Element will output that level. Blind displays data that is not being outputted. You can make changes to levels in Blind, but you won't see those changes on stage. When you press the **[Live]** key, the screen will show you the live display. When you press **[Blind]**, you will see the blind display. In either case, you may use the **[Format]** key to alter how the data is displayed (see [Using \[Format\], page 24](#)).

Appendix B

Element Configuration Utility

Overview

This appendix covers the Element Configuration Utility (ECU) and its use. This is a component of the Element Lighting Control System and is used for both system configuration and performing basic level test functions of your Element desk. These instructions illustrate how to use the utility, but do not specify what changes to make as these are based on your preferences and can be changed to suit your control needs.



What the Utility Does

Here is a brief list of some of the actions that can be performed from the ECU.

- Set the date, time and time zone
- Change the language the system uses
- Change the alphanumeric keyboard layout
- Configure external monitors
- Update software
- Configure Ethernet network settings and services
- Deep clear the system
- Save log files
- Perform a simple button and encoder response test
- Using the file manager

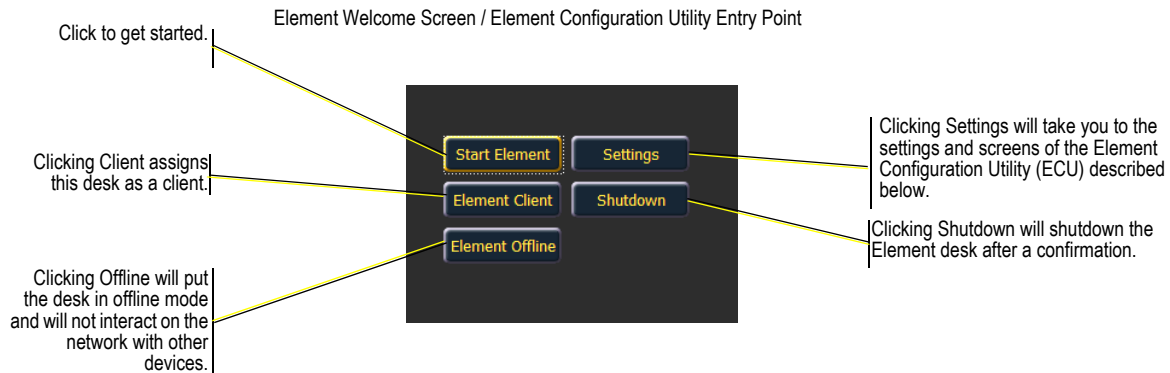
Element Configuration Utility Reference

You can force the desk to boot into the utility instead of the main desk application. During the boot process, a countdown timer will appear. You will have 5 seconds to click the timer or to hold down “e”, “o” and “s” at the same time on the connected alphanumeric keyboard.

Otherwise, you can always enter the ECU from the Element application by choosing **[Browser]>Exit**.

If you want the desk to always boot into the utility, make sure **{Open in Shell}** is checked. [See “Open in Shell” on page 230.](#)

Starting Screen



This is the starting screen of the utility. From here you can choose to boot the desk in one of three different modes, change various settings, or shutdown the desk.

Start Element

This is the basic startup mode for Element.

Element Client

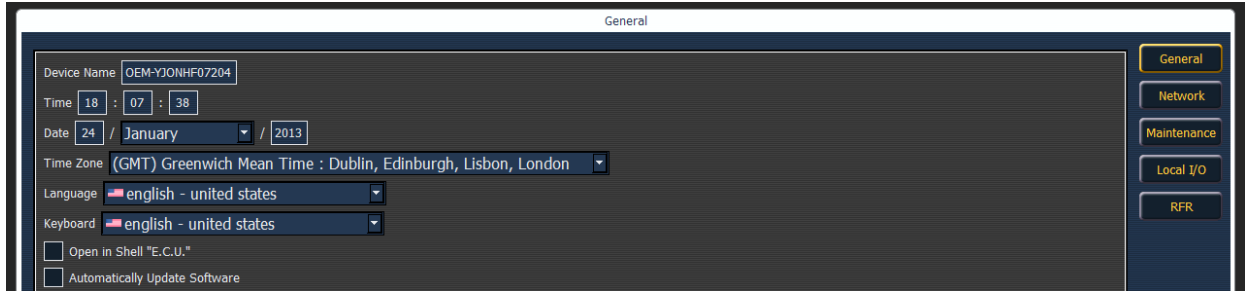
A device set to client mode can act as a remote video station for a system. A client device cannot output to the lighting system. A client is always in mirror mode. [See “Mirror Mode” on page 253.](#)

Element Offline

Offline mode puts the software in a state where there is no network activity, no control, no connections with any other network devices.

This mode is primarily intended for offline editing of a show file.

General Settings



When you click on a field to change the entry, an appropriate keyboard (numbers only vs. full alphanumeric) will pop-up to provide a data-entry method even without a keyboard connected to the desk.

If you do have a USB keyboard attached, you can use either keyboard for the data-entry.



Device Name

This specifies the name the Element desk will use to identify itself on the network to other devices. Examples might be Booth Desk and Tech Table.

Time

The time the desk is using. This can be set manually (direct data-entry) or via SNTP (Simple Network Time Protocol) time service. Please see [Network Settings, page 233](#) for more information.

The time is displayed in a 24-hour format as HH : MM : SS.

Date

The date the desk is using. This can be set manually (direct data-entry) or via SNTP (Simple Network Time Protocol) time service. Please see [Network Settings, page 233](#) for more information.

The time is displayed as MM / DD / YYYY.

Time Zone

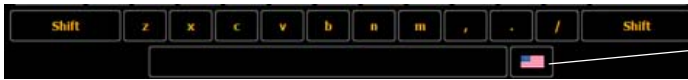
The time zone the desk is using. This is an offset from Greenwich Mean Time (GMT). Each setting in the pull-down list displays the offset, the name of the time zone and a couple of cities in that time zone.

Language

Allows you to select the display language of Element. Choices include English, Bulgarian, German, Spanish, French, Italian, Japanese, Korean, Russian, Chinese - simplified, and Chinese - traditional.

Keyboard

Allows you to select the language for the alphanumeric keyboard within Element. A wide variety of keyboards are supported. The keyboard can also be changed in the application when the virtual keyboard is open.



Click on the flag icon to change the keyboard language.

Open in Shell

When this is checked, the Element desk will boot into the Configuration Utility every time instead of booting directing into the main Element application.

Automatically Update Software

Once enabled, an RVI can be remotely updated with the next version of software. An RVI will receive the software update from the desk. When you install software on Element, the software will first be copied to its hard drive.

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 show files safe during software updates that may include re-imaging the C: drive.

Share Show Archive

Checking this box will enable you to share the show archive folder on the desk with another desk or computer.

Share Media Archive

Checking this box will enable you to share the media archive folder on the desk with another desk.

Latitude

Allows you to select the latitude the desk is using.

Longitude

Allows you to select the longitude the desk is using.

Calibrate Elo Touchscreens



Note:

Before you calibrate your touchscreens, you may need to first use the External Monitor Arrangement display. See [“External Monitor Arrangement” on page 231](#).

Allows you to calibrate an Elo touchscreen. With the touchscreen connected, press the **{Calibrate Elo External Touchscreen}**.

The first display will have you touch some targets, and the second will have you touch various parts of the display to make sure the cursor follows your finger. If that works fine, press the green checkbox. If you need to return to the previous display, press the blue arrow button. If your monitor requires additional calibration, see [Elo Touchscreen Settings, page 240](#).

Calibrate ETC Touchscreens



Note: Before you calibrate your touchscreens, you may need to first use the *External Monitor Arrangement* display. See [“External Monitor Arrangement” on page 231](#).

Allows you to calibrate an ETC touchscreen. With the touchscreen connected, press the **{Calibrate ETC External Touchscreen}**.

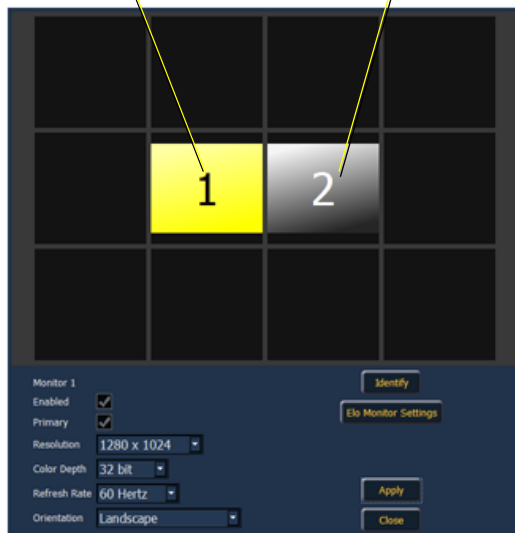
The first display will have you touch various parts of the display to make sure the cursor follows your finger and the second will have you touch some targets. If your monitor requires additional calibration, see [ETC Touchscreen Settings, page 240](#).

External Monitor Arrangement

Element can support up to 2 monitors, either 2 DVI monitors or 1 VGA and 1 DVI. The first time Element boots with two monitors, it may not display output to both. You will need to configure the monitors in **{External Monitor Arrangement}** under **{General}** in the ECU.

The number on the monitors matches the number of the video port on the rear of the desk.

If monitor is displayed in gray, it is not currently enabled.



Note: The selected monitor will display in yellow. Monitors can be dragged to any of the surrounding black boxes to mimic actual monitor layout.

The Monitor Arrangement Tool 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.

Buttons available in the External Monitor Arrangement display are:

- **{Identify}** - displays the video port numbers that your monitors are connected to on the physical monitors to confirm where you have placed them.
- **{Enabled}** - When checked, the monitor is available for use. The desk will display the **{Enabled}** box checked for any monitors it recognizes.
- **{Elo Monitor Settings}** - See [“Elo Touchscreen Settings” on page 240](#).

- **{Primary}** - selects which monitor will display the Element Configuration Utility and Central Information Area (CIA).
- **{Resolution}** - sets how many pixels the monitor will display.
- **{Color Depth}** - sets how many colors will be displayed.
- **{Refresh Rate}** - sets the number of times in a second the monitor refreshes.
- **{Orientation}** - sets the monitor layout.
- **{Apply}** - will save and use your settings. A window will open asking if you want to **{Keep Changes}** or **{Revert}** back to the defaults. **{Revert}** will be selected within 15 seconds if nothing else has been selected first.
- **{Close}** - will close the display. **{Close}** will not save any settings if **{Apply}** has not been used.

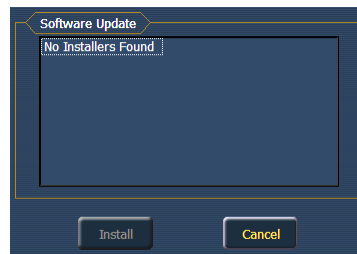
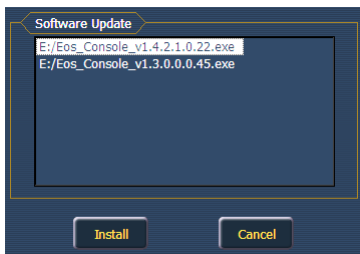


Note:

Only supported options will display. Monitor options may vary. While it is possible to assign a resolution lower than the minimum (1280x1024), it is recommended to be at 1280x1024 or higher.

Once you launch the Element application, you will then have displays on both the monitors.

Software Update



Software Update allows the installation of Eos Family Software and other ETC-approved software (GCE and NCE). Updating Eos Family Software does not affect or update the software in any other networked device such as a Net3 Gateway.

When you click on **{Software Update}**, the Element desk looks at the root directory of any connected USB drive for an Element desk software update file. You will be shown the names of any updater files found on the drive. Select the file you would like to install and click the **{Install}** button, or click **{Cancel}**. The software will first save to the hard drive before opening the installer.

You will also receive a message if no software update file can be found.

Network Settings

Console	Local Area Connection
Status	Offline
Obtain an IP automatically	<input type="checkbox"/>
IP address	10.101.97.101
Subnet mask	255.255.0.0
Default gateway	10.101.97.101
Physical address	00-04-5f-b1-3c-5a
<input type="checkbox"/> Remote Startup	
<input type="checkbox"/> Remote Shutdown	
<input type="button" value="Ping..."/>	

Local Area Connection

These are the settings that determine the *method* to get an IP address and/or the *actual* IP address information that Element uses for network communication.

Status

This reports if the port is “Online” (configured, connected to a network and operational). It reports as “Offline” if any one of the above conditions is not true.

Obtain an IP Automatically



Note: *ETC recommends the use of a static IP address for compatibility with other ETC devices, though the needs of your particular installation may vary.*

Clicking in the enable box will set Element to get its IP address dynamically from a DHCP server. While the desk 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, Element will default to a self-generated link-local IP address in the range of 169.254.x.y. The IP address used by Element 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 Element for the new setting to take affect.



Note: *You cannot set Element 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 Element IP address here. This is a static IP address and will remain set until changed by a user. Element defaults to an IP address of 10.101.97.101.

If DHCP is **enabled**, this field will display the IP address that is being used by the desk (whether it is served via DHCP or a self-generated link-local IP address).

Subnet Mask

If DHCP is **disabled**, you set the Element subnet mask here. This is a static setting and will remain set until changed by a user. Element's default subnet mask is 255.255.0.0.

If DHCP is **enabled**, this field will display the subnet mask that is being used by the desk (whether it is served via DHCP or a self-generated link-local IP address).

Gateway

If DHCP is **disabled**, you set the gateway IP address here. This is a static gateway IP address and will remain set until changed by a user. Element's default gateway is 10.101.97.101.

If DHCP is **enabled**, this field will display the gateway IP address that is being used by the desk (whether it is served via DHCP or a self-generated link-local IP address).

Physical Address

The physical address is the MAC address. This address is a unique identifier and cannot be modified.

Enable Remote Power On/Off

It is possible to remotely power on and off RVIs and Element

{Remote Power On} and **{Remote Power Off}** must be enabled on each device before it can receive the power on and off commands. The default setting for both is Disabled.

The Remote Power commands are sent from the browser. The command for Power On is sent from **Browser>Network>Power On MultiConsole System**, and the command for Power Off is from **Browser>Network>Power Off MultiConsole System**.

Ping

Ping is used to test the network connection between two devices.



Output Protocols

This is for selecting which protocols the desk will output and which ones are included in the default.

sACN

This sets the control priority for ACN data from this desk. The valid range for this setting is 1 (lowest) to 200 (highest). This is the reverse of EDMX.

Element and the Net3 Gateways support two versions of ACN, the draft version and the final ratified version. The ratified version is outputted by default unless this is selected.

Net2 - EDMX

This sets the control priority for EDMX data from this desk. The valid range for this setting is 20 (lowest) to 1 (highest). This is the reverse of ACN.

Avab UDP

This sets the subnet for Avab UDP data from this desk. The priority levels range from 0-200. The default is 0, which is no priority level. 1 is the lowest priority level and 200 is the highest. When set to no priority level (0), the data will merge according to HTP.

A backup desk will receive its Avab UDP priority level from the primary. The backup will then output at one priority higher than the primary, unless the primary was set to the highest priority of 200.

ArtNet

This sets the subnet for ArtNet data from this desk. The valid ArtNet Start range for this setting is 0-15.

Broadcast Type

- **Directed Broadcast** - Broadcast packets are directed to a subnet based on the IP address and subnet mask of the sender.
- **Limited Broadcast** - The limited broadcast address is 255.255.255.255. It is limited because routers will never forward datagrams with that destination address. This means that datagrams with the limited broadcast address are confined to the particular network segment on which they originate.

Output to Visualizer from Offline

Checking this box allows for output in offline mode for use with a visualization program.

Backup Takes Over At Higher Priority

This enables the backup device in a multiconsole system to take over at a higher priority than the master if the master goes offline. **This option is not available on Element.**

Backup Automatically Takes Control

Switches to the backup automatically if the primary should go offline. **This option is not available on Element.**

Allowed Output Addresses

A range or ranges of addresses that can be assigned to limit the number of output addresses. The default setting is to allow addresses 1 through 65536.

Interface Protocols

MultiConsole

Clicking in the enable box will allow for multiconsole communication on the selected port. For Element, this is used to allow mirror mode.

Network Type

This setting adjusts the timeout period before a backup device will take control from the master.

- **Standard** - After five seconds of no response from the master, the backup will assume the master has disconnected and will then take control.
- **Engineered** - After 1.6 seconds of no response from the master, the backup will assume the master has disconnected and will then take control.

Enable Sensor Feedback

Clicking in the enable box will allow Element to receive feedback over the network from a CEM+ or a CEM3. This option is "Enabled" by default. [See "About Address" on page 173.](#)

Enable RDM

Clicking in the enable box will allow Element to perform RDM functionality including device discovery. See [{Patch} Display and Settings, page 61](#) and [About Address, page 173.](#)



Note: *RDM requires use of a Net3 Gateway using version 5.1 or higher.*

Enable FDX Feedback

Clicking in the enable box will allow Element to receive FDX dimmer feedback over the network.

Broadcast Type

- **Directed Broadcast** - Broadcast packets are directed to a subnet based on the IP address and subnet mask of the sender.
- **Limited Broadcast** - The limited broadcast address is 255.255.255.255. It is limited because routers will never forward datagrams with that destination address. This means that datagrams with the limited broadcast address are confined to the particular network segment on which they originate.

Enable WiFi RFR

Select to allow WiFi RFRs, like the iRFR or aRFR, to connect to Element. For additional information, including setup, please visit the [iRFR Documentation Wiki](#) and [aRFR Documentation Wiki](#), www.etcconnect.com/wiki.

UDP Strings

Clicking in the enable box will allow the selected port to send UDP strings.

DHCP Service

All settings in this section require a reboot of the desk before they will take effect. If this section is grayed out, or you are unable to change any settings, you don't have Net3 Services installed on your desk. Net3 Services are installed by the installer for ETC's Gateway Configuration Editor (GCE) software, which is available for download from the ETC website.

Element can provide 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 Element desk. It will use the settings below to determine which IP addresses it gives out.

- **First Address**- This sets the starting IP address of the range of IP addresses the DHCP server will give out.
- **Number of Addresses**- 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.
- **Routed** - If checked, you can use the default gateway box, below, to specify the gateway you would like DHCP devices to use. If unchecked, the DHCP server will serve the same value for both the devices IP address and gateway, which is a suitable configuration for non-routed networks.
- **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.

Learn Network Devices

Clicking this button will trigger the DHCP service to search the network for existing devices, and add them to its table of known addresses. If you have equipment with statically assigned IP addresses in your network, this will ensure the DHCP service does not serve out any IP addresses which conflict with those devices.

Update Server (TFTP)

Clicking in the enable box will start the TFTP (Trivial File Transfer Protocol) server.

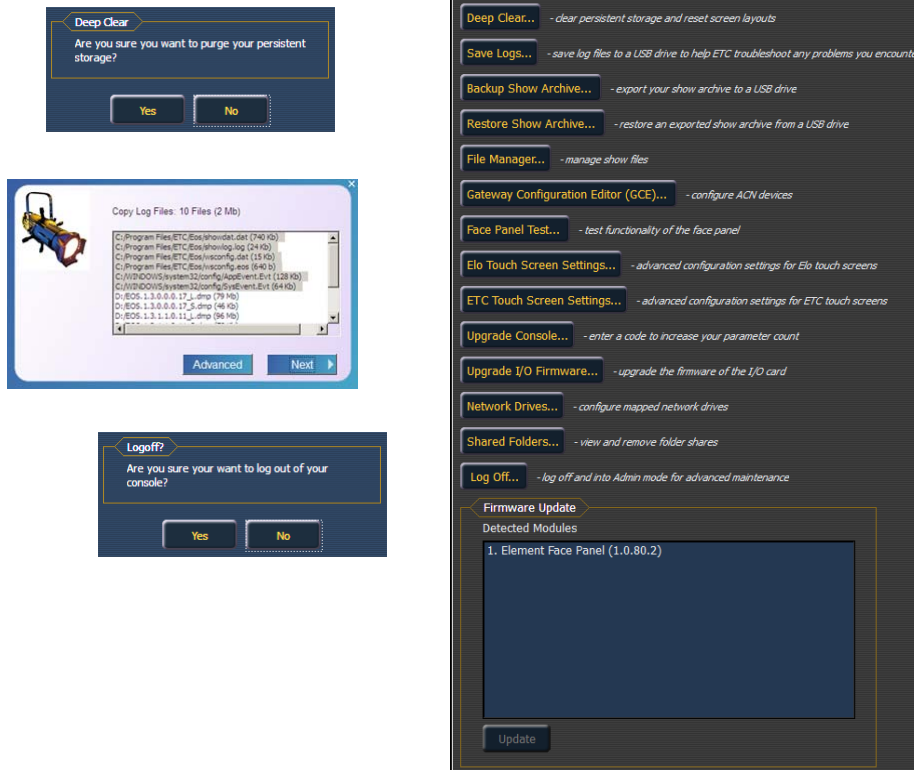
- **Update File Path** - This sets the directory where files are to be served through TFTP. This must be the full path to the directory, including drive letter. For example: C:\etc\nodesbin

Time Server (SNTP)

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.

- **Client/ Server** - When configured as a client, a desk will attempt to synchronize its time with the rest of the devices in the system, by listening for time information and altering its own clock. When configured as a server, a desk will serve out time to other devices on the network, acting as a time “master”
- **ETC Net2 Time** - With ETC Net2 Time enabled, the time server will periodically broadcast (as a server) or receive (as a client) the current time, which is required by devices running the ETCNet2 protocol, for example, Legacy Unison systems.
- **External Time Server** - The External Time Server option allows you to synchronize your desk to a third party time system at a specific IP address using the NTP or SNTP protocols. This allows use of a specific time clock for time sync. This requires a high accuracy time clock on your network.
- **External Server IP** - If External Time Server is enabled, you will need to specify the IP address of your external NTP or SNTP time server in this field.

Maintenance and Diagnostics



Deep Clear

{**Deep Clear...**} functions in much the same way that **New** does from the File menu or **Reset System** does from the Clear menu (both are found within the browser). A deep clear is automatically performed when new software is installed. Sometimes it is useful to perform a deep clear between updates.

The advantage of deep clear is that you can clear all desk data before reloading the desk's current state during boot. This is helpful if you are moving a new desk 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 Element Configuration Utility (ECU) like its operational mode or IP address settings. Everything in the ECU remains as it was last configured.

Save Logs...

Clicking on the {**Save Logs...**} button displays a dialog box prompting you to save the desk log files for troubleshooting purposes. By clicking on the {**Advanced**} button, you can select or deselect any of the various individual log files to be saved.

Clicking {**Next**} you will see a drop down menu to select the target export location from any available write-enabled removable media such as a USB drive.

If you experience software problems with your system that we are unable to reproduce, sending these log files to ETC Technical Services (see [Help from ETC Technical Services, page 4](#)) can help us isolate the issue.

Backup Show Archive

{**Backup Show Archive...**} allows you to either backup the most current version of each show file or every version of each file to a USB drive or file server.

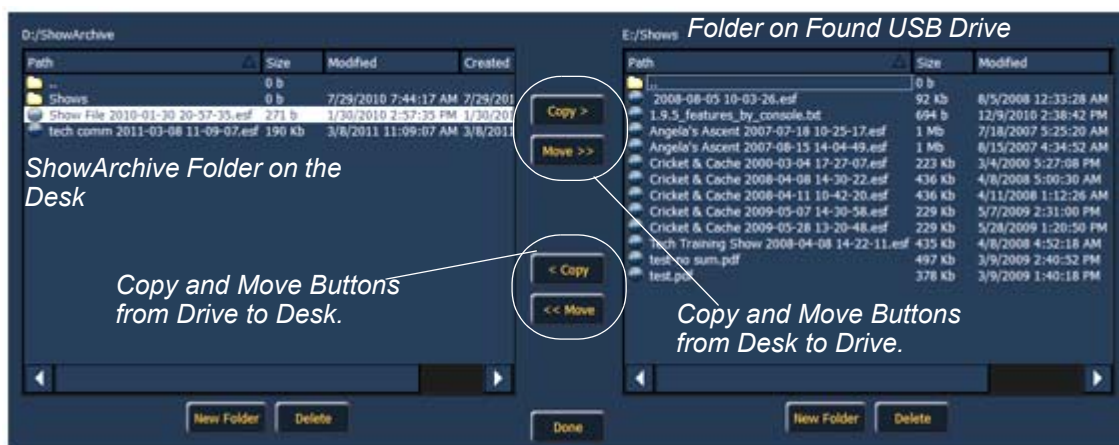
Restore Show Archive

{**Restore Show Archive...**} allows you to restore show files from a USB drive or file server.

File Manager

{**File Manager**} provides a way to manage show files. You can create and delete folders, move, and copy files between the desk and USB drives.

The file manager display will show the ShowArchive folder on your desk as well as any external USB drives that are detected. The display is split into two windows, so you can see two different folders at the same time for copying or moving data between them.



Elo Touchscreen Settings

For basic calibration of your Elo touchscreen, see [Calibrate Elo Touchscreens, page 230](#). For advanced calibration and settings, use the {**Elo Touchscreen Settings**} button.

Pressing {**Elo Touchscreen Settings**} will open the properties window for the monitor. This window has 5 tabs: general, mode, sound, properties 1, and about.

ETC Touchscreen Settings

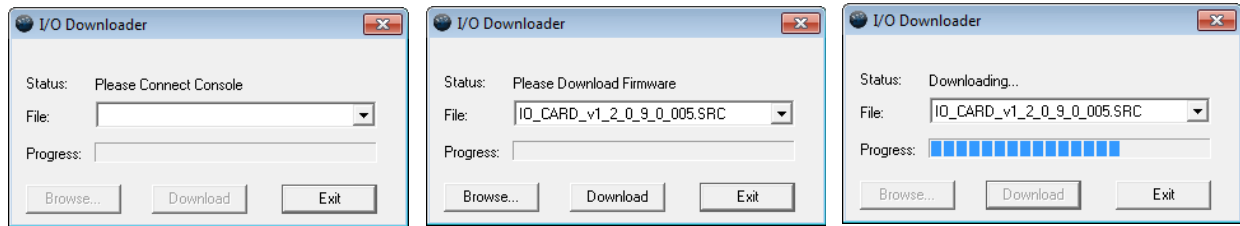
For basic calibration of your ETC touchscreen, see [Calibrate ETC Touchscreens, page 231](#). For advanced calibration and settings, use the {**ETC Touchscreen Settings**} button.

Pressing {**ETC Touchscreen Settings**} will open the properties window for the monitor. This window has 7 tabs: general, setting, tools, display, edge compensation, hardware, and about.

Upgrade Console

{**Upgrade Console...**} is used for upgrading the desk's outputs.

Upgrade I/O Firmware



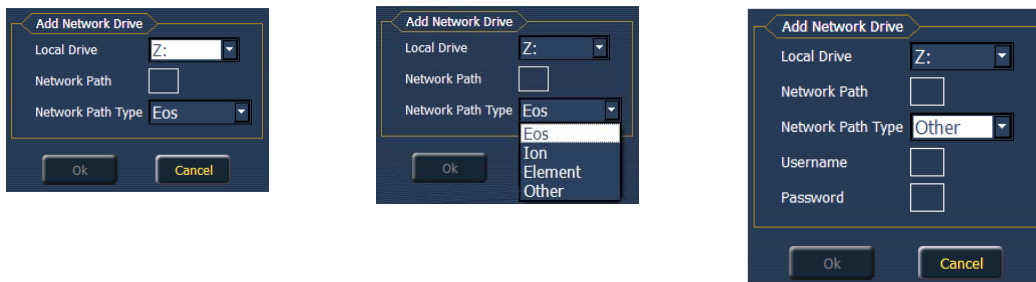
{Upgrade I/O Firmware} is used to upgrade the firmware in the desk's I/O card. When you first open the I/O Downloader, it will look for the connected console. This may take a second or two.

Once the console is found, the downloader will search for the needed files. If it finds the file, it will list it and you can click **{Download}**. If it doesn't find the file, you can use **{Browse}** to look for the needed file and selected it. Once finished, click **{Exit}**.

Network Drives

{Network Drives...} allows you to select an alternative show file storage location on another desk or computer. After setting this location, it will appear as an option within the save and open dialogs in Element.

In the **{Network Drives...}** dialog box, there is a **{Add}** button for mapping a network drive. In the Add Network Drive dialog box, select the drive letter that is appropriate, the network path, and the path type. The network path can use either the IP Address or the Device Name. (Example: \\10.101.90.101\ShowArchive or \\YourDeviceName\ShowArchive) The network path type can be Eos, Gio, Ion, Element, Eos Ti, or Other. If Other is selected, you will have additional fields to fill out for Username and Password.



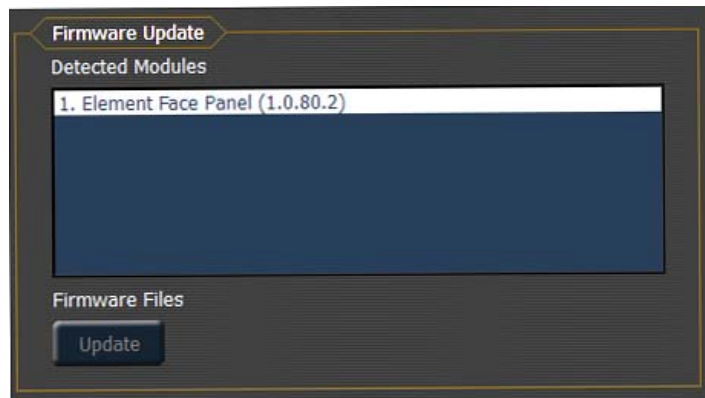
Shared Folders

{Shared Folders...} allows you to see if any folders are currently being shared by the desk. You can select the folder and click **{Don't Share}** if you no longer want to share the folder. By selecting **{Don't Share}** here, you will also uncheck the box for Share Show Archive in the General tab.

Log Off

This will log off the current user, and is recommended to only be used while receiving support from ETC Technical Services.

Firmware Update

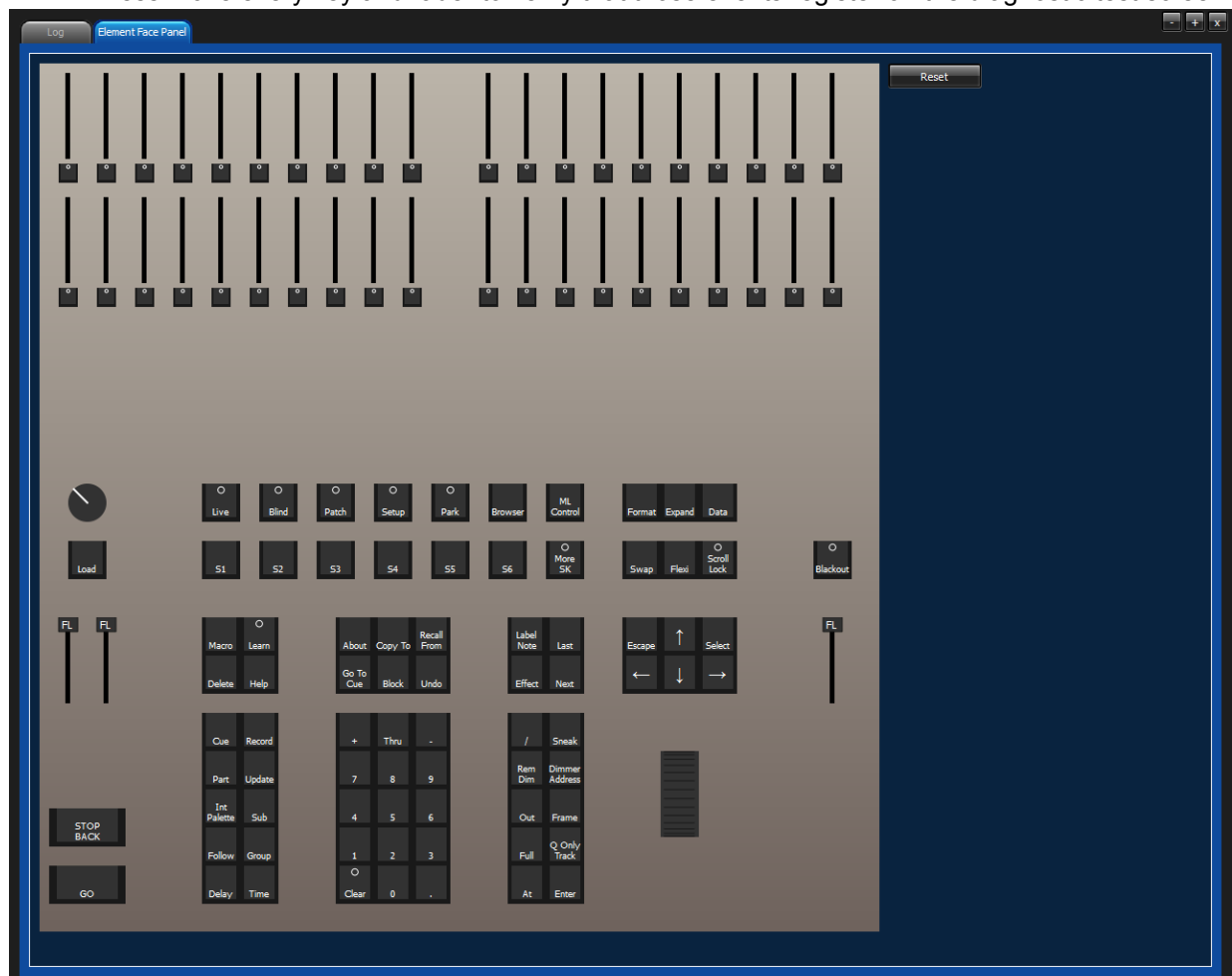


The firmware update window will display any detected devices that use firmware and may require an update. With the device selected, if an update is available, the **{Update}** button will be highlighted in yellow. If the button is grayed out, an update is not available.

Face Panel Test

Face Panel Test provides a way to verify the functional state of all of the keys and faders on the Element desk. The screen is very straightforward. For field diagnostics, you shouldn't need more than the sections of Element Keyboard.

Press/move every key and fader to verify that those events register on the diagnostic test screen.



Local I/O

This screen allows you to configure the ports on the back of the Element desk.

Local DMX Outputs

The following settings are available:

- **Enable** - enables DMX output from the local ports.
- **Default Output Protocol** - enables DMX as a default output.
- **Ports** - the settings for the two DMX ports.
 - **Address** - sets the starting address for the port.
 - **Doubled** - enables dimmer doubling on the port.
 - **Speed** - sets the speed for the ports. Options are: maximum, fast, medium, and slow. The speed may need to be adjusted for certain devices. The default speed is maximum.
- **Dimmer Doubled Offset** - this offset matches the default offset in CEM+ / CEM3 when configuring your Sensor dimmer rack for dimmer doubling. The default offset is 20,000.

Show Control Gateway

Note:

To input RS-232 into an Element desk, you will need to use a Net3 I/O Gateway.

Group IDs

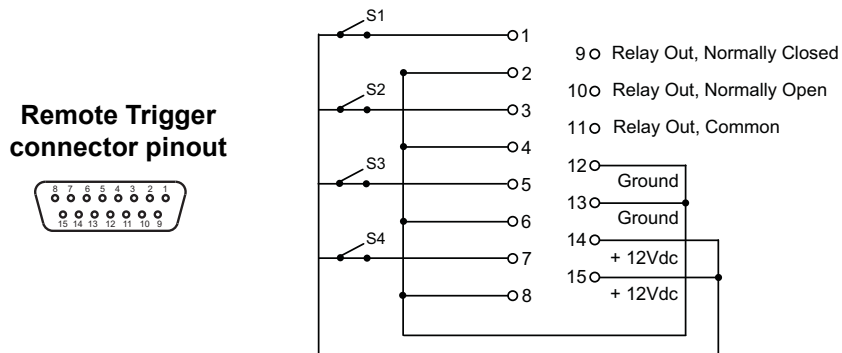
Allows you to set the group number for the MIDI In and MIDI Out ports. Group numbers can be from 1-32. Default for both ports is 1.

Contact Closure (remote trigger connector)

Allows you to set the Group and Address In values for the remote trigger input on the back of Element.

Relay Out (remote trigger connector)

Allows you to set the Group and Address In values for the remote trigger port on the back of Element.



RFR

This screen is used for setting up the Radio Focus Remote (RFR) to work with Element. For more information on RFR, [See “Remote Focus Remote \(RFR\)” on page 258](#). For additional RFR settings, see [{RFR Settings}, page 43](#).

USB RFR Settings

These settings need to match between the desk and the RFR. For more information on changing the frequency and ID at the remote, see [Change Frequency and ID Setting, page 260](#).

High Frequency Channel

The frequency that the RFR is using. There are 1-12 channels.

Network ID

The Network ID is a separate digital channel on a single high frequency (HF) setting. There are 1-99 IDs available.

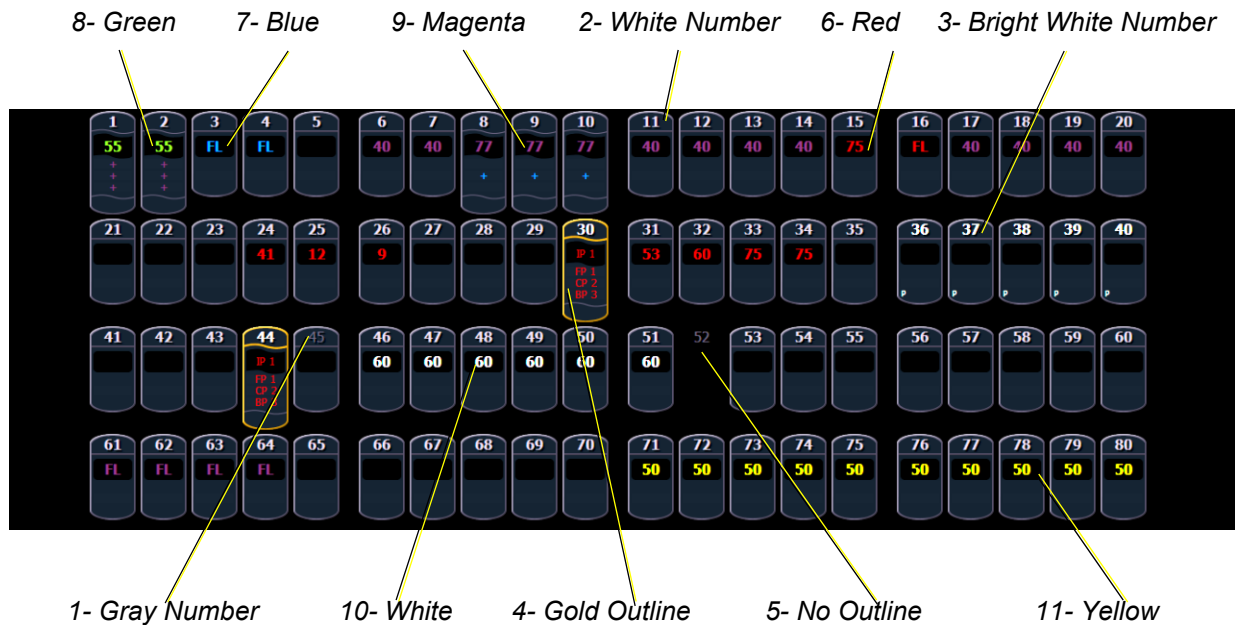
Appendix C

Display Conventions

Element relies on many traditional ETC indicators with which you may be familiar, as well as some new ones. This section identifies the graphical and colorful conventions used in Element 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 \[Format\]” on page 24](#).

Color indicators

Element uses color to indicate the selection state and information about channel or parameter levels.

Channel numbers/channel headers

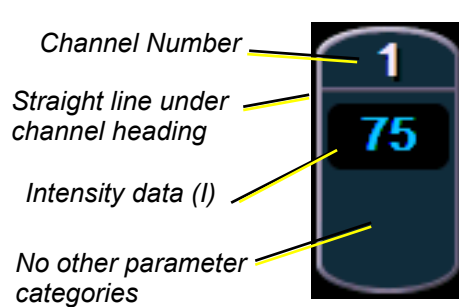


Selected Unselected Unpatched Deleted

- **1- Gray number**Unpatched channel number.
- **2- White number**Patched channel number.
- **3- Bright White number**Channel is parked.
- **4- Gold outline**Selected channel.
- **5- No outline**Deleted channel.

Channel or parameter levels

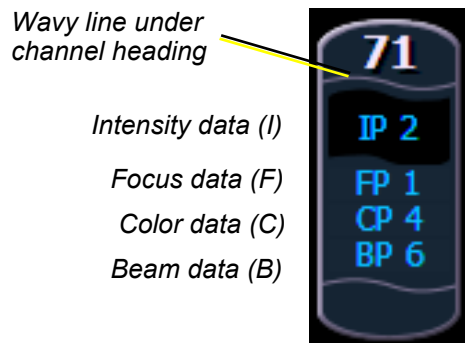
- **6- Red**Manual data (any data that has been set but not yet stored to an active cue or submaster).
- **7- Blue**The intensity value is higher than in the previous cue. Non-intensity parameters (NPs) are in blue when any move instruction has occurred.
- **8- Green**The intensity value is lower than in the previous cue.
- **9- Magenta**The recorded value is tracked, unchanged from a previous cue.
- **10- White**The value is blocked.
- **11- Yellow**Value is controlled by a submaster.
- **12-Gray**Default or unowned values.



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 or Multi-parameter Devices

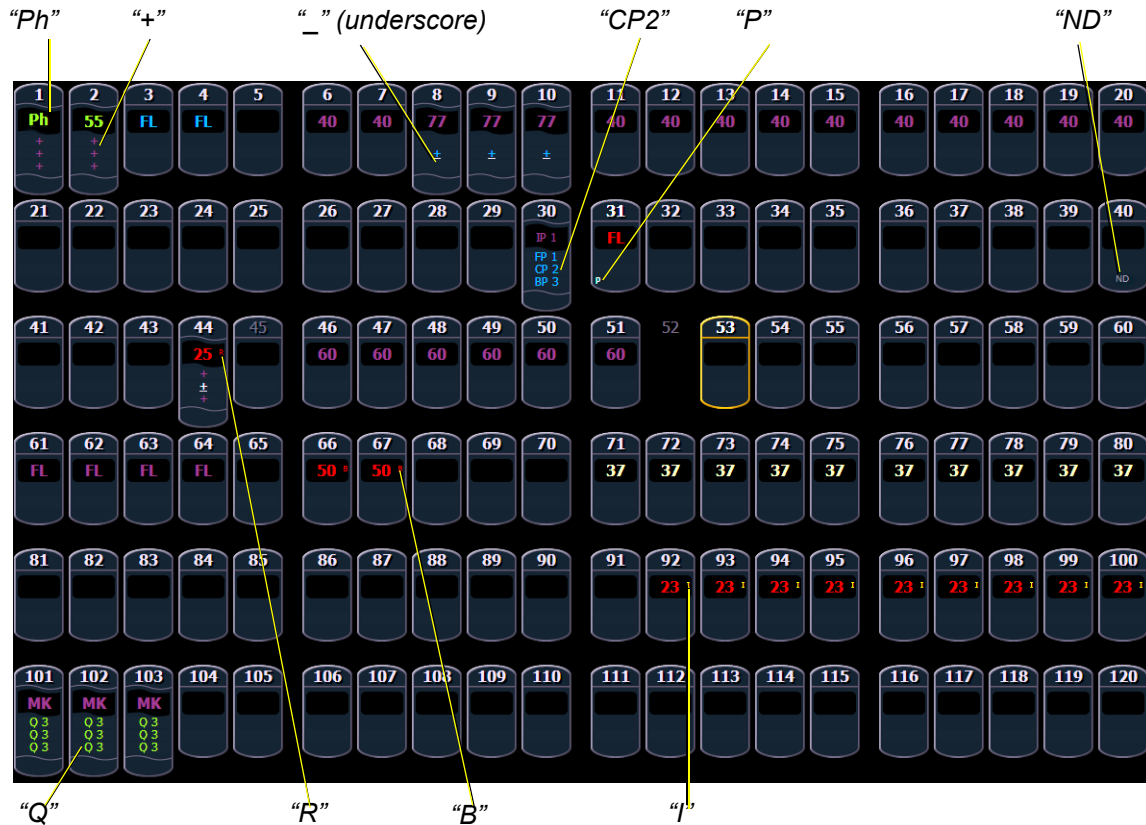
Several channels in the image are moving lights (possessing more parameters than just intensity).

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).

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 value that must be stored.

- Underlined value (white) indicates a system-applied block (also called an auto-block).
- + Found in place of parameter data in summary view. Indicates that parameters in that category are at different values. This indicator is found only in the summary view.
- **B** Indicates the channel or parameter is manually blocked. This block must be stored.
- **I** Channel is controlled by an inhibitive submaster.
- **IP, CP, FP, 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. This can be substituted with the palette label if the "Show Reference Label" setting is activated.
- **P** Indicates the channel is parked.
- **Ph** Indicates the channel is at a preheat level.
- **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). Once recorded, the reference will be broken. If updated, the referenced target will be updated as well, unless otherwise instructed.
- **!** Indicates an ACN, RDM, or dimmer error.
- **ND** Indicates that a channel has been patched as a non-dim fixture type.
- **S** Indicates that a channel is stored to a shielded submaster.

Indicators in the Playback Status Display

Playback Status											
Cricket & Cache											
11:21:08 AM											
Cue				Flags		Attributes					Ext Links
	Int Up	Int Down	Dur	M	B	P	Follow	Link	Loop	Curve	
1	5		5								E 1*
2	4	8	8	M						902	scene1
3		10	10	- B							scene2
4		5	5	M							scene3
5	3	3	3	M							fun stuff
6		5	5	P							cool stuff
7		5	5								blue blinder
8		5	5					1	2		jets
9		5	5	b			F6				M2

Master: **Sneak Counter** List 1 **s 0.5** **100%** **0.0** **1** **2**

Color indicators

- Gold Any item (cue, list, page) highlighted in gold indicates “current”.
Outlined in gold indicates “selected”.
- Red Cue fade is in progress (cue list area).

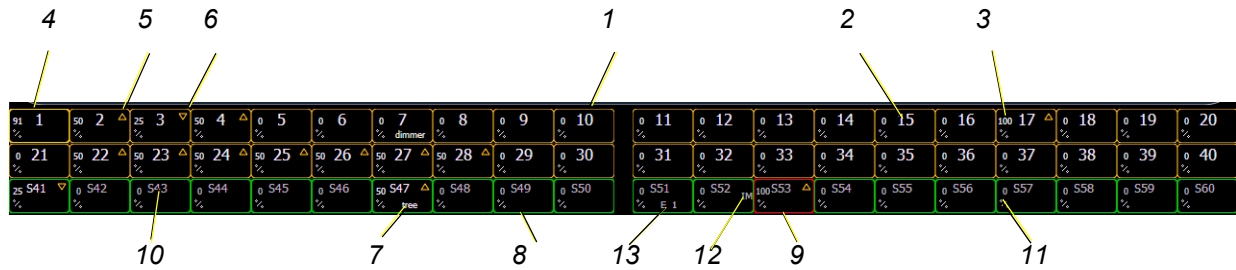
Text indicators

- B or b (see cue 3) Indicates a blocked cue. “B” indicates the entire cue is blocked. “b” indicates a channel/parameter block only. Found in the cue display “Flags” area.
- F6 (see cue 9) Indicates a follow time associated with the cue (in this case, 6 seconds). Found in the cue display.
- M (see cue 2) Indicates a marked cue. “M” indicates an AutoMark.
- D Indicates that AutoMark is disabled.
- P (see cue 6) Indicates the cue will preheat. Found in the cue display “Flags” area.

- E 1*.....Indicates a cue level effects override.

Indicators in the Fader Status Display

The Fader Status display is located directly under the Playback Status display.



- 1Amber box indicates a channel fader.
- 2Current channel number controlled by fader.
- 3Current channel level. (Level will display regardless of control from fader or keypad.)
- 4Bright gold box indicates that fader 1 is currently being used.
- 5Up arrow indicates that there is a higher level currently set for the channel and that the fader needs to be raised to match.
- 6Down arrow indicates that there is a lower level currently set for the channel and that the fader needs to be lowered to match.
- 7Label (channel and submaster labels will display).
- 8Green box indicates a submaster.
- 9Red box indicates an inhibitive submaster.
- 10Current submaster number controlled by fader.
- 11Level of submaster currently.
- 12Indicates that the submaster is an intensity master.
- 13Effect on a submaster.

Appendix D

Facepanel Shortcuts

Overview

The following is a list of button pushes: single, maintained, or combined. It is highly recommended that you read and familiarize yourself with this list. For keyboard shortcuts, see the Eos Family v2.0 Hot Keys Quick Guide.

Facepanel and Displays

- **[Shift] & [Escape]** - To lock and unlock face panel
- **[Shift] & [Format]** - Blind spreadsheet – expose/suppress non-intensity parameters
- **[Live]** – When already in Live Resyncs the selected cue to the most recently activated cue.
- **[Blind]** - When already in blind. Resyncs the selected cue to the live selected cue (when blind cue has been changed or when preserve blind cue has been enabled).
- **[Shift] & [Label]** – Maintained press, toggles the display between default view of referenced data and alternate view. Keep **[Shift]** depressed to page.
- **[Browser] & [Level Wheel]**- Dim the littlelites
- **[Data]** – Maintained press, Toggles the display to show data living under referenced data. Keep **[Data]** depressed to page.
- **[Format] & [Level Wheel]** - Zooms the display in focus
- **[Shift] & [Select]** - Reset Display Columns
- **[Shift] & [Up], [Shift] & [Down], [Shift] & [Level Wheel]** - Resize columns
- **[Shift] & [Left], [Shift] & [Right]** - Move columns

Operations

- **[At] [Enter]** - Removes move information from selected channel/parameters. If done in live, posts the value from the previous cue (numeric) manually. If done in blind, allows the value from the previous cue to track in.
- **[Sneak] [Sneak]** - Releases NPs of selected channels and self terminates
- **[At] [At]** - Set to Level
- **[Full] [Full]** - Sets selected channels intensity to “full” and self terminates
- **[Thru] [Thru]**- The thru command accesses only the channels displayed in the current flexi-state (unless the channel range specified is NOT in the current display). **[Thru] [Thru]** selects the range regardless of the flexi mode.
- **[Undo]** - Clears an unterminated command line. Otherwise opens undo controls
- **[Shift] & [Clear]** - Clears the command line.
- **[Copy To] [Copy to]** - Posts Move To on the command line.

- **[Shift] & [Sneak]** - Makes manual data “unmanual”. It leaves the values as they are, but they are then no longer available for update or record only operations. When executed from an empty command line, this affects all manual data. When done with a channel selection, this affects only those channels.
- **[Shift] & [Full]** - Flash On
- **[Shift] & [Out]** - Flash Out
- **[Shift] & [+]** - +%
- **[Shift] & [-]** - -%
- **[Shift] & [Update]** - Shortcut to “Save”
- **[Recall From] [Recall From]** - Posts Recall From Cue to the command line
- **[Shift] & [At]** - Recalls last channel(s) and parameters
- **[Shift] & [Last]** - Repeat last command line, without values
- **[Update] & [Sub Bump]** - To update a specific submaster
- **[Label] [Label]** - Appended to a record target command, clears the current label, this includes show file labels.
- **[Shift] & restore manual channel faders** - Reset faders to zero without asserting control.
- **[Shift] & [Delay]** - Posts follow
- **[Trace] [Trace]** - Forces a previously inactive light to track its new intensity setting backwards.
- **[Record] [Record]** - Posts Record Only to the command line
- **[Shift] & [Block]** - Posts Intensity Block to the command line

Appendix E

Mirror Mode

Mirror Mode is used to mirror the displays of an Element console. Mirror mode is intended primarily to allow a designer or assistant to see the exact same displays as a programmer on the system.

An Element console can be mirrored by an RVI, another Element console, or a client PC. An RVI or a client PC will automatically run in mirror mode when they see an Element console online.

Displays

Monitor 1 on the mirroring device matches external monitor 1 on the console, and monitor 2 matches external monitor 2 on the console. A client will mirror as many monitors as it has available.

All formats used on the console are shown on the mirroring device including flexichannel states, column widths, chosen parameters, and pages.

The CIA will open on monitor 1. Not all CIA displays shown on the device in mirror mode. The following CIA displays are synchronized:

- About
- Effects
- Effects Status
- Color Picker
- Curves
- Undo

Configuring a Client PC

Computer Recommendations

It is recommended that your computer have at least the following:

- Windows
 - Processor with clock frequency higher than 2.0 GHz
 - Windows XP system (SP2 is not required) with 80 MB free disk space
 - DVI/SVGA screen resolution of 1280x1024
 - 512 MB of RAM minimum (1 GB recommended)
 - 64 MB Video Card
 - Network adapter (required to communicate with an Eos Family network)
- Macintosh
 - OS version 10.3.9 or later
 - Resolution of 1024x768 or higher
 - Intel

Software Installation



Note:

You may be required to restart your computer after installing the offline software. Save any open files and close any applications before beginning installation.

To install the Eos Family offline software on Windows

- Step 1: Download the software from the ETC website, <http://www.etcconnect.com/product.downloads.aspx?ID=20271>.
- Step 2: Navigate to the offline software, **Eos Family Offline/Client Software v.X.X.X for PC**. Click on the file name.
- Step 3: You will be prompted to give your first and last name and email address. Click **“Submit”**.
- Step 4: Click on the file name. You will be prompted to either open or save the file.
- Step 5: Click **“Save”** and choose the destination for the zip file. Once it has saved, you will need to unzip the file.
- Step 6: Navigate to the **ETC_EosFamily_Offline_v...exe** and double click on it. Run the program.

This will open the InstallShield wizard for the software.

- Step 7: Click **“Next”** and follow the instructions of the installer.
- Step 8: If a restart is required, restart your computer.

An icon will appear on the desktop “Launch Eos Family” or you may navigate to **My Computer>Local Disk (C:)>Program Files>ETC>Eos>ETC_LaunchOffline.exe**. Use either of these to launch the software.

In addition, a shortcut to a folder labeled **“Eos Family Documents”** will also appear on the desktop. This folder contains documents indicating the keyboard shortcuts (hotkeys) for Eos Family commands. Shortcuts facilitate use of the offline software.

To install the Eos Family offline software on Macintosh



Note: *It is recommended that you run the installer from your desktop and not off a USB memory device.*

- Step 1: Download the software from the ETC website, <http://www.etcconnect.com/product.downloads.aspx?ID=20271>.
- Step 2: Navigate to the off-line software, **Eos Family Off-line/Client Software v.X.X.X for Mac**. Click on the file name.
- Step 3: You will be prompted to give your first and last name and email address. Click **“Submit”**.
- Step 4: Click on the file name. You will be prompted to either open or save the file.
- Step 5: Click **“Save”** and choose the destination for the zip file. Once it has saved, you will need to unzip the file.
- Step 6: Navigate to the **ETC_EosFamily_Offline_v...exe** and double click on it. Run the program.

This will open the InstallShield wizard for the software.

- Step 7: Click **“Continue”** and follow the instructions of the installer.
- Step 8: If a restart is required, restart your computer.

You may navigate to **Applications>Eos Family Welcome Screen** to launch the Eos Configuration Utility.

Connecting to Element

There are some additional steps for connecting to an Eos Family network.

- Step 1: Follow the steps for installing the Eos Family offline software.
- Step 2: Change the IP address, subnet mask, and gateway of the PC to match the Eos Family system IP address scheme. It is recommended that you use the IP address of 10.101.1.101, subnet mask of 255.255.0.0, and gateway of 10.101.0.1.



Note:

You may need to restart your computer after changing the IP address. If you can't connect after doing that, check to make sure Windows Firewall has been turned off.

For Windows Vista, these additional steps are needed:

- Step 3: Go to **Control Panel>User Accounts>Turn User Account Control On or Off**
- Step 4: Uncheck **"Use User Account Control (UAC) to help protect your computer"** and then click **"Ok"**.
- Step 5: Reboot your computer.



Note:

Windows 7 is not currently fully supported. Please see <http://www.etcconnect.com/support.aspx> for updated information as it becomes available.

Appendix F

Remote Control

Remotes Overview

Three different remotes are available for controlling Element; the phone remote, the radio focus remote, and the iRFR/aRFR.

Phone Remote

The phone remote allows for remote control of the Element console by using a wireless phone. The base station for the phone connects directly to the phone remote jack on the rear of your console. [See “Console Geography” on page 12.](#) The numeric keypad of the phone is used to control channels and levels.

Phone Remote Functions

The numeric keypad of the phone is mapped as following:

1	2	3
+	Thru	-
4	5	6
Last	Macro	@
7	8	9
Next	Address	Full
*/Shift	0	#/Enter
Clear CL	Chan Check	Sneak

To use the commands in gray, first hit the **[*]** button followed by the number or symbol above the gray command. For example, to place a **[+]** on the command line, press **[*] [1]**.

Pressing **[*]** will clear the command. Commands entered from the phone remote will appear on the command line for the console.

Phone Remote Connector

The pin outs for the phone remote RJ11 connector are:

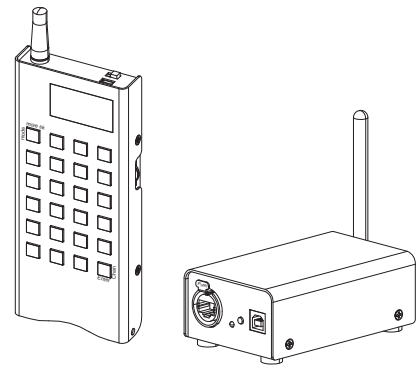
- Pin 4 - Data+
- Pin 5 - Data-

Remote Focus Remote (RFR)

The Net3 Radio Focus Remote (RFR) provides remote access to frequently used console features such as dimmer and channel checks as well as update and record functions.

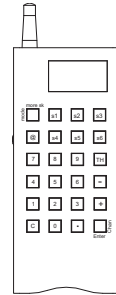
The RFR handheld remote and receiver unit features a high frequency (HF) link for bi-directional communication with a connected console. During operation, the system status can be viewed on the LCD of the remote.

RFR connections must be enabled in Setup. [See “{RFR Settings}” on page 43.](#)



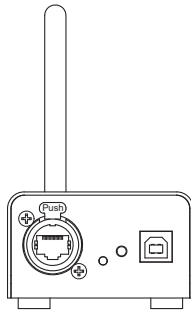
Handheld Remote

The RFR handheld unit features 24 backlit buttons and two push-button thumb wheels, one on either side for scrolling to desired targets and selecting them for interaction. The top side of the remote has an on/off power switch, a high frequency antenna and a USB Mini-B port. The USB Mini-B connection is used to supply power for the internal rechargeable NiMH AA batteries.



Base Station Receiver

The receiver includes a USB type B connector and an Ethernet connector (IEEE 802.3af) on the front of the unit for connection to the console (USB) or to a switch in your Net3 network



USB

When the base station is connected directly to a console by USB type B, the RFR is powered by and controls only the console the base station is connected to. ETC supplies a 1.8m (6 ft.) USB cable for base station connection to a console or USB hub. The maximum distance between products is 5m (16 ft.).

When the base station is connected to Element using USB, the RFR remote will automatically connect to that console when powered.

Ethernet

For use with the Element console, the base station will need to be plugged into an ethernet switch. If the switch is not power over ethernet, the base station can receive power via USB from the console.



Note:

For single base station use, no configuration is needed if defaults are used. For multiple base stations, custom configurations, and connection issues, further configuration will be needed.

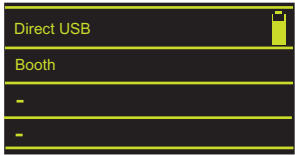


CAUTION:

You may use either the ethernet connection or the USB connection for data to the console, but not both.

Console Section Mode

Holding down [.] while the remote is booting up will take you to the console selection list. This mode is used to select between Direct USB mode, Base USB mode, or available host consoles for networking.



Note:

If multiple RFR units are to be used separately within a range of each other's receiver units, change the frequency and/or ID settings to avoid conflicts. Reference [Change Frequency and ID Setting](#) below for more information.

For optimal operation, set the base stations apart by at least 5m (16 ft.) to ensure the two units do not interfere with each other's operation.

Change Frequency and ID Setting

A network ID is a separate digital channel on a single high frequency (HF) setting. Changing an ID setting from the default "1" is useful when multiple systems are utilizing the same frequency.



Note: *If you change the frequency and ID settings in the handheld remote you must also change the frequency and ID settings to match in the base station.*

To change the radio settings on your remote:

- Step 1: With the remote power off, press and hold the **[C]** button. Continue pressing it and power up the unit. The display window will show the HF Channel selection screen.
- Step 2: Choose an HF Channel (1 - 12) by spinning either thumb wheel.
- While setting the HF Channel, the RFR scans each available channel for traffic which may interfere with the RFR. This feature is used to determine what frequency to use in your venue.
 - In the "Available:" field the RFR will display ***, **, * or "used". The asterisks indicate the quality of the signal at that channel. *** is best. "Used" indicates that other traffic is detected on that channel, but the RFR may still function properly.
- Step 3: Press **{Next} ([S2])**.
- Step 4: Choose a network ID by moving either thumbwheel. Allowed range is from 1 to 99.
- Step 5: Press **{Next} ([S2])**.
- Step 6: Set the HF power level. This allows you to alter the strength of the transmission signal from the remote. Allowed range is from +10 dBm to +18 dBm.
- A higher value indicates a stronger signal, but shortened battery life. A lower value indicates a weaker signal and an extended battery life.
- Step 7: Press **{Save} ([S3])**.
- Step 8: You must cycle the power to apply the new settings.



Note: *Default **[S4]** will reset remote settings to their default values. No confirmation is required.*



Note: *Configuration over the network must be done using the Gateway Configuration Editor (GCE).*

To change the frequency and network ID in your base station receiver using USB:

- Step 1: In the browser menu, select **File <Exit**. A dialog box opens asking you to confirm.
- Step 2: Confirm this command by pressing **{Yes}**. The Element application will close and the Element Configuration Utility (ECU) will display.
- Step 3: Press **{Settings}** button. A new settings dialog box will display.
- Step 4: Press the **{RFR}** button. A RFR dialog box will display.
- Step 5: Choose the appropriate High Frequency Channel setting from the drop down box (must be from 1-12, matched with the remote).
- Step 6: Choose the appropriate Network ID setting from the drop down box (must be from 1-99).
- Step 7: Accept the changes by pressing the **{Accept}** button. To cancel changes press **{Cancel}**. The next time you start the Element application, Element will automatically send the new settings to any base station that is connected to the console.
- Step 8: If you have any difficulty, reset the base station by disconnecting the USB cable from the console and then reconnect it. This cycles power to the unit.

Basic Use Guidelines

Keypad Function

The keypad illuminates while the keys are in use and remains illuminated while the unit is transmitting data. After a key is released, the keypad will dim the backlight until the next button press or transmission.

Most of the buttons on the handheld remote function exactly as they work on the Element console. A select few of the buttons require additional explanation.

- **[More SK / Mode]** - When this button is pressed and released, the soft keys will change to the next page of softkeys (if there is more than one page available). Press and hold the **[More SK / Mode]** button to display the available RFR modes.
- **[Enter / Chan]** - When the RFR is connected for use with an Element console, this button functions as **[Enter]**, which terminates the command line.
- **[@]** - The first press of this button is “at”. The second consecutive press is “at level”. The third press is “at Out”.
- **[S1 - S6]** - These six buttons are softkeys, defined by the operating mode and identified in the bottom portion of the LCD (see below).
- **[.]** - The first press of this button is “.”. The second consecutive press is “/”.

LCD General Layout

Details of current target		
Command Line		
S1	S2	S3
S4	S5	S6

The handheld remote LCD is divided into four sections. The top section displays status for the selected target. The middle section displays the command line. This section scrolls to accommodate viewing long command syntax. The next section displays the console’s mode status and error status (if any). The bottom section displays the current function of the soft keys (it also displays the various modes when **[Mode/More SK]** is pressed and held).

Thumbwheels

The two thumbwheels on the RFR (one left, one right) have varying functionality depending on the selected mode (see [RFR Operation Modes, page 262](#)). Generally speaking, the left thumbwheel acts as a level wheel. It increases or decreases intensity for selected channels. The right thumbwheel behaves as next and last for scrolling through data lists.

Recharge the Handheld Battery

A battery level indicator is found in the upper right corner of the handheld LCD. When the battery is near to a complete drain, the indicator will flash. When charging, the indicator will depict increasing power to verify that it is charging.

When the remote is not in use, set the switch to the “Off” position to guard against accidental key presses and to conserve battery power.

Charge the battery using the USB Mini-B cable that shipped with your RFR. Connect the USB Mini-B connector to the handheld remote and the other end to the USB charger adapter supplied with your RFR. You may also attach the USB cable to a powered USB-hub, personal computer, or your console. A full recharge may take up to 12 hours.

Provided there is enough battery charge, you may use the remote while charging.



CAUTION:

If you choose to charge the remote from the Element console, you should unplug the base station before doing so.

The remote will be functional once it is connected directly to the console. If the base station is still connected and a command is entered on the remote, multiple iterations of the command may register and this may create errors in the Element command line.

Remotes Enabled/Disable

Remotes must be enabled before using. For more information, see [{RFR Settings}, page 43](#) and [RFR, page 244](#).

Remotes Enabled/Disable Via a Macro

A macro can be used to enable or disable all remote control (RFR, WFR, iRFR, aRFR) connections in Setup. The macro can either be a toggle between enable or disable, or it can have an absolute action of either enabling or disabling remote connections using the **{Enable}** and **{Disable}** softkeys in the Macro Editor.

RFR Operation Modes

The RFR defaults to opening in Channel Check mode the first time. The next time it is connected, the RFR will return to the last mode it was in. There are other modes available in the RFR, however. To switch modes, hold down the **[Mode/More SK]** button and then select the desired mode from those available by pressing the appropriate softkey. Mode options are: Check, Park, Live, Playback, and Patch.

Check Mode

This mode allows you to perform channel and address checks. The default is Channel. Check will automatically be placed at the end of every command while in this mode.

Softkeys

The following softkeys are available for Check mode:

- Address
- Last
- Full
- Next

The right thumbwheel acts as next and last buttons. The left thumbwheel doesn't have a function in this mode.

Park Mode

This mode is used for parking channels.

Softkeys

The following softkeys are available in park mode:

- Address
- Channel
- Last
- Full
- Out
- Next

{Address} and **{Channel}** are used to select addresses or channels for parking.

- **<Channel> [7] [@] [5] [Enter]** - parks channel 7 at 50%.
- **{Address} [8] {Full}** - parks address 8 at full.

{Full} and **{Out}** are used to set those levels for channels or addresses. **{Out}** parks the channel or address at 0.

- **[9] [@] [Enter]** - unparks channel 8.

In this mode, the thumbwheels will also function as next and last commands.

Live Mode

Live mode is used for modifying levels and recording or updating cues. This mode is intended to allow you to make basic adjustments to show data. Buttons and softkeys function as they do within Element.

The command line is displayed in the LCD to verify the commands you enter. It also displays details for the currently selected channel or the current cue (if no channels are selected).

Softkeys

The following softkeys are available on page one of live mode, which is designed to modify levels:

- Group
- Rem Dim
- Sneak
- Full
- Out
- Macro

The following softkeys are available on page two of live mode which is intended for recording or updating cues:

- Rec
- Update
- Time
- QOnly/Track
- Address

{Macro} allows you to execute a macro.

- **{Macro} [3] [Enter]**.

In live mode, the left thumbwheel controls the level of the selected channels. The right thumbwheel acts as next and last buttons, defaulting to next or last cue selection for the currently selected cue list.

Playback Mode

Softkeys

The following softkeys are available in playback mode:

- Sub
- Load Q
- Stop/Back
- Out
- Go to Q
- Go

{Sub} is used to set the level of a submaster.

- **{Sub} [5] [7] [Enter]** - sets submaster 5 to 70%.

{Load Q} allows you to load a cue into the pending file for the master playback fader pair only.

- **{Load Q} [5] [Enter]** - loads cue 5 of the master playback fader to the pending file for that fader. Clicking **{Go}** will execute this cue.

{Go} and **{Stop/Bk}** are duplicates of the **[Go]** and **[Stop/Back]** buttons for the Element master fader pair.

{Goto Q} allows you to jump to any cue in the show.

- **{Goto Q} [6] [Enter]** - plays back cue 6 for the master playback fader pair.
- **{Goto Q} [4] [.] [.] [2] [Enter]** - plays back cue 2 from cue list 4. To play back cues from any other list than the one loaded to the master playback fader pair *requires* you to specify the cue list in the command line.

The left thumbwheel controls intensity of a selected submaster. The right thumbwheel acts as next or last for the most recently selected cue list.

Patch Mode

In patch mode, the LCD displays the channel, address and type for the currently selected channel(s).

Softkeys

The following softkeys are available in patch mode:

- Address
- A
- B
- /
- Fixture Controls (shown as: FixCtrl)

{Address} allows you to change the address of the selected channel.

- **[1] {Address} [1] [Enter]** - addresses channel 1 to output 1.

{A} and **{B}** are used for patching dimmer doublers.

- **[9] [7] [Th] [1] [0] [2] {Address} [1] {B} [Enter]** - patches channels 97-102 to outputs 1B-6B (for dimmer doubling).

{/} is used to patch the port and offset.

- **[2] {Address} [3] [/] [1] [Enter]** - patches channel 2 to port 3 offset 1 or address 1025.

{FixCtrl} is used to display the fixture controls for a channel (if available).

- **[6] {FixCtrl}** - displays fixture controls for channel 2.

In this mode, the right thumbwheel will function as next/last commands.

Technical Specifications

Handheld Transmitter

Output U.S.A. - Default HF:1 (2.410 MHz) with 11 additional HF: channels available (2.410 - 2.465 GHz). 99 groups available per channel.

Antenna - Helical, fixed.

Connections - Integral USB Mini-B connector for charging the unit.

Working range - 90m (300 ft) indoor, 200m (656 ft) in free field.

Power - 2x NiMH rechargeable battery. (Recharge using the USB connection.)

Size - 160mm(4.5") x 72mm (2.6") x 20mm (.8") excludes antenna.

Weight - 400g (14 oz.) includes antenna.

Base Station Receiver

Data - USB type B. Ethernet.

Connections - Integral USB connector to console or RPU. Ethernet 802.3af.

Power - USB or Power over Ethernet (PoE).

Maximum USB cable length - 5m (16.5') from power source using USB.

Size - 112mm(4.4") x 71mm (2.7") x 45mm (.7") excludes antenna.

Weight - 380g (13 oz.) includes antenna.

iRFR

The iRFR is a software application that runs on an Apple iPhone®, iPod Touch, and iPad. The application can be downloaded from the Apple Application Store, search for iRFR. The iRFR offers the same functionality of the RFR. A closed wireless network is needed.

For the iRFR to connect to your console, WiFi remotes must be enabled in the ECU, [Enable WiFi RFR, page 236](#), and RFR connections in Setup must be enabled, [{RFR Settings}, page 43](#).

For additional information on the iRFR, including setup, please visit the [iRFR Documentation Wiki](http://www.etconnect.com/wiki), www.etconnect.com/wiki.

aRFR

The aRFR is an application that runs on Android devices. The application can be downloaded from the Android Marketplace, search for aRFR. The aRFR offers the same functionality of the RFR. A closed wireless network is needed.

For the aRFR to connect to your console, WiFi remotes must be enabled in the ECU, [Enable WiFi RFR, page 236](#), and RFR connections in Setup must be enabled, [{RFR Settings}, page 43](#).

For additional information on the aRFR, including setup, please visit the [aRFR Documentation Wiki](http://www.etconnect.com/wiki), www.etconnect.com/wiki.

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Certain Software uses content that is updated from time to time, including but not limited to the following Software: antivirus and crimeware software use updated virus definitions; antispymware software uses updated spyware definitions; antispam software uses updated antispam rules; content filtering and antiphishing software use updated URL lists; some firewall software use updated firewall rules; vulnerability assessment products use updated vulnerability data and web site authentication software uses updated lists of authenticated web pages; these updates are collectively referred to as "Content Updates" (or alternatively referred to as "Protection Updates" or "Security Updates" at times). You shall have the right to obtain Content Updates for any period for which You have purchased a subscription for Content Updates for the Software (including any subscription included with Your original purchase of the Software), except for those Content Updates that Symantec elects to make available by separate paid subscription, or for any period for which You have otherwise separately acquired the right to obtain Content Updates. Symantec reserves the right to designate specified Content Updates as requiring purchase of a separate subscription at any time and without notice to You; provided, however, that if You purchase a subscription that includes particular Content Updates on the date of purchase, You will not have to pay an additional fee to continue receiving such Content Updates for the remaining period of Your existing subscription even if Symantec designates such Content Updates as requiring separate purchase. This License Agreement does not otherwise permit You to obtain and use Content Updates.

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A. During the installation process, the Software may uninstall or disable other security products, or features thereof, if such products or features are incompatible with the Software or for purposes of improving the overall functionality of the Software.

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From time to time, the Software may collect certain information from the computer on which it is installed, which may include:

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- The name given during initial setup to the computer on which the Software is being installed. If collected, the name will be used by Symantec as an account name for such computer under which You may elect to receive additional services and/or under which You may use certain features of the Software. You may change the account name at any time after installation of the Software (recommended).
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- Information contained in email messages that you send through the Software to Symantec to report as spam or as incorrectly identified as spam. These email messages may contain personally identifiable information and will be sent to Symantec only with your permission, and will not be sent automatically. If you send such messages to Symantec, Symantec will use them only for the purpose of improving the detection ability of Symantec's antispam technology. Symantec will not correlate these files with any other personally identifiable information.
- The IP address of the computer on which the Software is installed, as well as other general, statistical information used for license administration, product analysis, and for improving product functionality. This information will not be correlated with any personally identifiable information.

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- C. You may use the Software as a boot disk to re-apply the hard drive image that was created for disaster recovery purposes to the hard drive on the Device from which the disaster recovery image was made or on a replacement Device provided that the software has been removed from the original Device.
- D. You may use the Software to clone a hard drive from a Device to a replacement Device, in the manner described in the Software documentation and to use the Software on the replacement Device provided that the Software has been removed from the original Device.
- E. You may not use the Software commercially or non-commercially for the purpose of creating an image on multiple Devices or hard drives, except for multiple hard drives installed in or attached directly to the original Device.
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