Element Classic Console Programming

Level 1: Essentials

Workbook

V2.7.0 Rev. A

www.etcconnect.com/education

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Purpose of the Class

The Essentials class will provide an overview of the console and programming for conventional fixtures. If new to the console, then this class is perfect. Whether transitioning to an Eos family console or a new console owner, this class will teach the basics to get the programmer up and running with this amazing console.

Learning Objectives:

After completing the class, one should be able to:

- Identify key elements of the console user interface and navigation
- Manage show files (save, edit, delete)
- Patch conventional and multi-parameter fixtures
- Work with channels in Live mode
- Record, select, and delete groups
- Record, play, and delete a basic cue
- Record to, load, and clear submasters
- Create step-based effects
- Understand the basics of working with a multi-parameter device (introductory concepts)

Workbook Syntax annotation

• **Bold**	Browser menus
• **[Brackets]**	Face panel buttons
• **{Braces}**	Softkeys and direct selects
• **<Angle brackets>**	Optional keys or command line text
• **[Next] & [Last]**	Keys to be pressed & held simultaneously
• **Play Icon**	Link to video on ETC's YouTube Channel – ETCVideoLibrary

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)

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

The Manual

The manual is available on the console, Tab #100.

Click on Add-a-Tab (the {+} sign) , select Manual

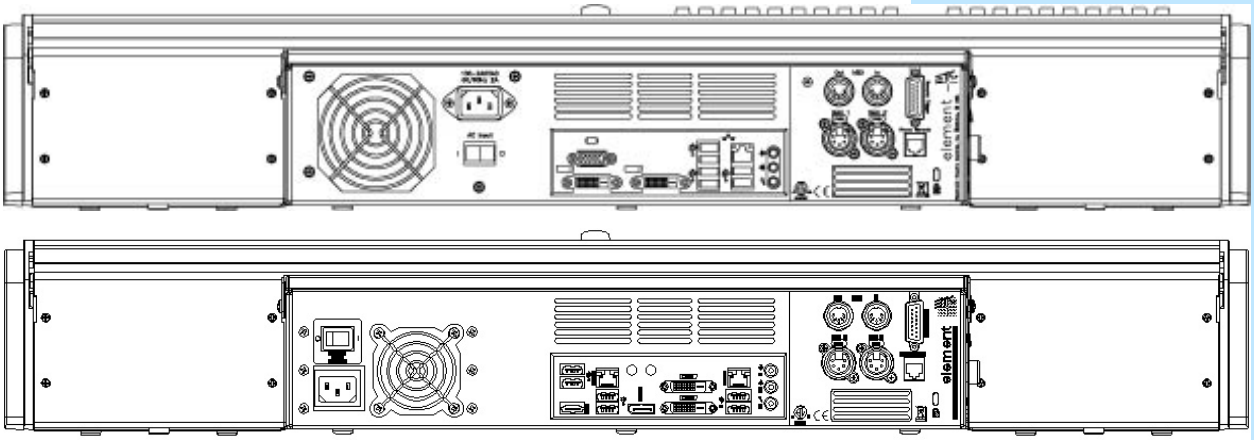
Hold [Tab] & press [100]

Please note that it is not available on Windows XP devices or on Macs, but is available as a download from the web site.

Getting Acquainted

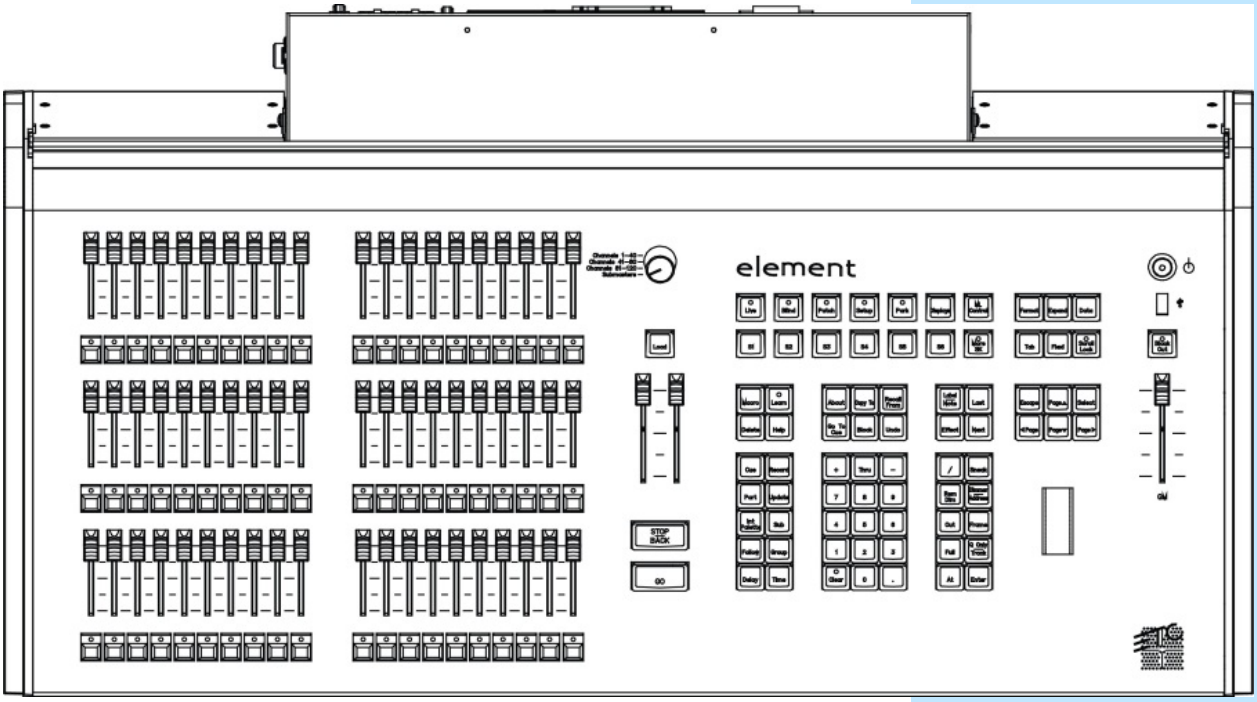
Exploring the back of the console

Fan, power switch, Video outputs, USB, Network, Audio, DMX Outputs, MIDI, Phone Remote, Remote Macro/Trigger, Worklight connector and dimmer



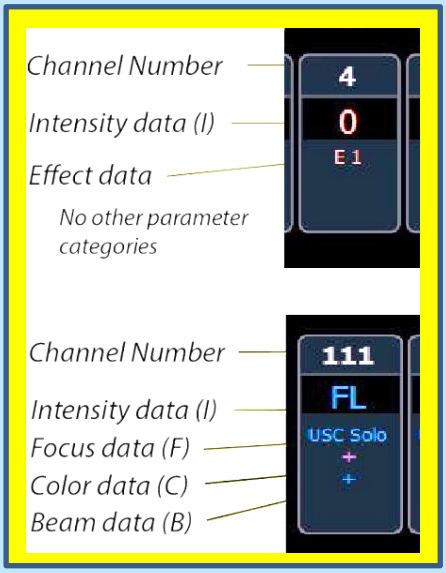
Exploring the front of the console

Faders (40 or 60), Fader Position Switch, Main Fader Playback, Keypad (targets, numeric, level setting), Level wheel, Display & Navigation keys, Power switch, USB Port, Grandmaster & Blackout



Live and Blind Displays

Primary Live Screen (Channel Display)



- Summary (Live Channels) or Live Table view
- Selected cue line – displays details of current cue
- Command line
- Fader ribbon – shows state of the faders
- **[Format]** for summary or table view in Live
- Hold **[Format]** and move wheel to zoom in and out
  - Left button on mouse and use mouse wheel
- **[Page▲]** or **[Page ▼]** - scrolls full page at a time
- **[Scroll Lock]** – when on, scrolls one line at a time
- Hold **[Data]** and press any category button (Focus, Color, Image…) to collapse the category or expand it – both in Summary and in Table views

Blind

- Note the command line color change!
- Note the background change!
- Note the change at the top of the display
- **[Next]** and **[Last]** to preview cues or target
- **[Format]** for summary, table view or spreadsheet in Blind

- When in Blind, Record is not required – changes are stored when the command line is terminated.

Flexichannel Mode (easier to see in Live – Summary)

[Live] Hit [Go] once, then [1] [Thru] [3] [Full] [Enter], and [21] [Thru] [26] [At] [80] [Enter]	set some levels

In Live, Flexi allows you to view only channels meeting a certain criteria, therefore removing unwanted data from view.

Press & hold [Flexi]	8 states and 2 modes appear in the CIA.
Press [Flexi]	to change to the next state

- All channels
- Patched
- **Manual channels** – selected channels and/or any channels with manual data (red data)
- **Show channels** – any channels currently active and/ or with data stored in a record target (cue, groups, subs, palettes…)
- **Active channels** – any channels with intensity above 0 or fading to 0, running effects, or with non-intensity moves
- **In Use channels** – exactly like Flexi Active, but also includes dark channels that are marking for a future cue
- **Selected channels** – the channels selected on the command line
- **Cells Off** – collapses the individual cells, can also be done with **[.]&[Flexi]**
- **Masters Off** – collapses the Master cell, leaving only the individual cells

Hold [Flexi] and use the softkeys

To include channels not in the current flexi mode, use **[Thru] [Thru]**.

In Flexi Patched Channels: [16] [Thru] [21] [Enter]	see only patched channels in range
[Clear] then [16] [Thru] [Thru] [21] [Enter]	see all channels in range

Look in Flexi All Channels, you will see that only 16 and 21 are selected

Playback Status Display (PSD or Cue List)

- **[Page▲]** or **[Page ▼]** – scrolls the cue list up and down a full page
- **[Scroll Lock]** – when on, scrolls one line at a time
- **[Next]** or **[Last] -** moves up and down through the cue list
- If in another tab, **[Shift]&[Page▲]** or **[Page ▼]** will page up and down in the PSD without needing to pull focus to that tab

- Lower right corner – softkey display – bottom, white is current page; top, gray is other page. Toggle with **[More Softkeys]**

Central Information Area (CIA)

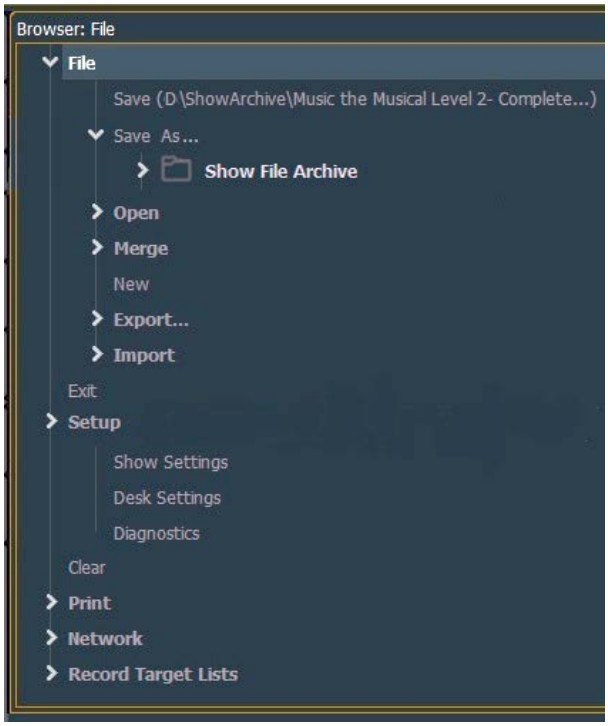
The default view is the parameter display and the browser. A number of different tools can be posted to the CIA.

- **[Displays]** will always draw focus to the item set as favorite
- Collapse and expand the CIA by pressing **[Displays]** again or using the triangle (△,▽)
- Double tap **[Displays]** will always bring up the browser.
- Use the **Lock** to prevent the CIA from being collapsed

Browser

Numerous functions including saving a show, opening a show, changing settings, clearing targets, print function and viewing record target lists.

- Can use mouse, touch or buttons to navigate in browser
- **[Page▲] [Page▼]** – scrolls thru the menus
- **[Page►]** – opens submenus
- **[Page◄]** – closes submenus or collapses the menu structure
- **[Select]** – opens the item - the 'Enter' of the browser area

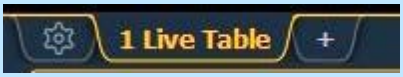


Browser Color Coding:

Save	Green
Save As	Green
Open	Red
Merge	Yellow
New	Red
Clear	Red

Display Management Tools

Several display management tools make the layout of your screens more efficient as your programming skills advance.



Display Tab Navigation

Be aware of where *focus* is on the displays (tab highlighted in gold).

Live/Blind display is Tab 1. Playback Status display is Tab 2. Neither can be closed.

Open Displays using double press

Press [Sub] [Sub] … [Group] [Group] … [Effect] [Effect]	to either open the associated display or select it if it is already open
Press Add-a-Tab (the {+} sign) to the right of the tabs	opens the home screen or display and control options

To Move Displays

Hold [Tab] and use the page left and page right keys	to move the active display from one monitor to another

To Open or Navigate to Displays

Press [Tab] … [Tab] … [Tab]	to change focus from open display to the next open display
Hold [Tab] & press [#] of specific display, [12] for Patch	to open/select/highlight a specific display by number
Press [Live] or [Blind]	to instantly bring Live/Blind into focus

To Close Displays

Press [Tab] until desired display is highlighted then [Escape]	to close any tab display
Or right click on a specific tab	to see tab options

Additional Tab Tools

Right click or tap on the Live tab	to see configuration settings

You can also click on the Gear tab for the same options. These options vary depending on the tab in focus.

- **{Close Tab}**
- **{Replace Tab}** - replace tab with a different tab
- **{Close All Tabs But This}**
- **{Close All Tabs}**
- **{Reset Columns}**
- **{Lock Frame}** – prevents other tabs from being moved to screen
- **{Open New Tabs in this Frame}**
- **{Zoom Out} and {Zoom In}**

Configuration Menus

- For displays that had configuration options in Setup, such as Live/Blind and Playback Status, most of those options are now available from the display's tab.
- For displays that used a gear menu, such as Color Tools and the Direct Selects, those options are also available from the display's tab.

Close all tabs

Hold [Shift] & press [Tab]	to close all tabs on a single screen
Hold [Shift] & press [Tab] [Tab]	to close all tabs but tabs 1 and 2 on all screens

Display Layouts and Workspaces

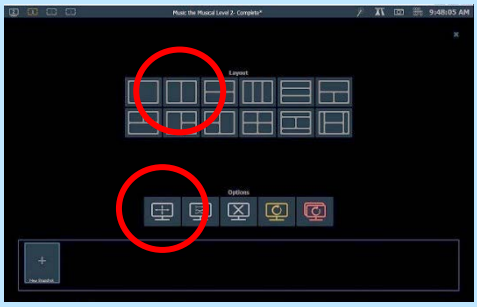
Display Tools

Press the icon in upper left hand corner of the display

Layout options give the ability to select different ways to split the screen. A screen can have up to four frames in its layout. Frames can have multiple tabs open.

Select the split screen or side-by-side layout

Press the Displays Tool icon again



In the Options area, select the first icon to resize the frames

Use the arrows to choose how large or small the frame will be

Tap anywhere on the screen to exit frame sizing

Fixed tab numbering

All Display and Control tabs have fixed tab numbering. Patch will always be 12, Group List, 17. When you press **[Tab]** repeatedly, focus moves numerically through all open tabs on active workspaces.

Hold [Tab] & press [4] moves focus to or opens a specified tab

Hold [Tab] & press [4.2] opens a secondary tab

Workspaces

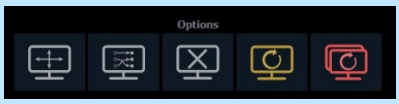
A workspace might be made up of multiple frames with a selection of tabs that are task-specific. For each monitor, you can have up to three workspaces.

– Use **[Tab]&[Page▲]** or **[Tab]&[Page▼]** to scroll through the workspaces on all monitors.

Note that as continually pressed, cycles through and captures the least numbered worksheet so ultimately all monitors are on the same workspace.

Reset Options

The Display Controls Screen also offers options for opening and closing tabs as well as resizing and resetting the monitor(s).



– Open New Tabs On This Monitor – redirects to the Home…
– **Resize Frames In This Workspace** - opens resizing tools between frames of the workspace to adjust sizing as needed.
– **Monitor Mapping** - ability to configure your external monitor arrangement (internal displays cannot be renumbered)
– **Close All Tabs In This Workspace** - close all of the tabs in the active workspace on this monitor only.
– **Reset This Workspace** - closes all of the tabs and frames and resets the layout for the active workspace to a single frame displaying the Home Screen
– **Reset ALL Monitors & Workspaces** - closes all of the tabs and frames on *all* monitors, resets all layouts to a single frame, and returns their workspaces to the Home Screen

After playing, use the Reset ALL Monitors & Workspaces icon close all of the tabs and frames on *all* monitors

Getting the Lights On

A new show will always default to a "1-to-1" patch. Since the show starts off patched, you can begin bringing up levels immediately.

Setting Levels with Channel Faders

Fader Mode Switch

Use the **Fader Mode 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.

Set the switch to Channels 1 - 40.	first two rows control channels 1 - 40
Raise or lower the faders to control channels 1 - 40.	
Leave at least one fader up at a level	

Fader Status Bar

Notice the **Fader Status Bar** or display across the bottom of one of your displays. As you change the Fader Mode Switch, the Fader bar switches as well. The Status bar displays:

- Channel or sub number
- Channel or sub label
- Current level both by percentage and by level bar (on left)
- Arrows - show direction to move faders to match previous positions

Set the switch to Channels 41 - 80.	first two rows control channels 41 - 80
Notice the yellow arrow on the fader(s) that you left at a level	
Lower the fader(s) to zero and then fade up again	to take control of the new channel

To change levels set at previous positions

Set the switch back to the appropriate mode	first two rows control channels 41 - 80
Raise or lower the fader(s) to meet the level of the channel	to take control of the new channel
Raise or lower the fader(s)	to set a new level

You could also set a new level by using the keypad or clear the levels using **[Clear] [Sneak] [Enter].**

Patch

Press **[Patch]**, or **[Displays] {S3 - Patch}** to get to the Patch display. Can also double tap **[Dimmer/Address] or use Add-a-Tab** or hold **[Tab]** and type **[12].**. By default, patch is displayed in a channel view. You can change the display to sort by address by pressing **[Format].**

Patch by Channel

[201] [At] [250] [Enter]	selects channel 201 and patches address 250 to it
[202] [At] [617] [Enter]	selects channel 202 and patches the address 617 to it
[203] [At] [2] [/] [106] [Enter]	selects channel 203 and patches the 2nd universe address 106 to it
Press [Data]	displays all 3 channels in **output address** style. Note mode in left corner
Press [Data] again	displays all 3 channels in **port/offset** style. Note mode again in left corner
Press [Data] again	returns to how it was originally entered

Range Patching

[204] [Thru] [210] [At] [251] [Enter]	selects channel 204 thru 210 and patches address 251 thru 257 to them
[211] [At] [270] [Thru] [275] [Enter]	selects channel 211, patches addresses 270 thru 275 to it, creates parts
[212] [Thru] [220] [At] [431] {Offset} [3] [Enter]	allows for a three-cell cyclight patch

Clear vs. Unpatch vs. Delete

[201] [At] [0] [Enter] [Enter] or [201] [At] [Enter] [Enter]	removes the address, leaves type, etc.
[202] {Unpatch} [Enter] [Enter]	restores to default properties – removes address, type, label, etc.
[Delete] [203] [Enter] [Enter]	deletes the whole channel from show
[Live] and look at the Channel View (No Flexi)	

Undo

[Undo], see the command history in the CIA [Enter]	restores channel 203
[Undo], page up to "Channel 201 Address 0" [Enter]	restores channels 201 and 202

Only one opportunity to do a {Redo}.
Command History is cleared after a save.

Patch by Address

Back in {Patch}, press [Format] to switch to 'By Address'	a toggle function – address or channel
[460] [At] [225] [Enter]	selects one address, 460, and patches it to channel 225 – note command line
[461] [Thru] [465] [At] [226] [Enter]	selects a range of addresses and patches them to one channel (parts)

Patch a Multi-Parameter Device

Back in {Patch} - By Channel Format	
[231] [Thru] [236] [Enter]	selects the channels
Click on {Type} in the CIA area	notice softkeys {Show}, {Manfctr}, {Search} and {Add Show}
Click on {Manfctr}	left columns are manufacturers; right side are their devices
Find {Martin} in left columns, and {Mac 250 Wash 16B} in right	notice Mac 250 Wash in blue – multiple modes available
Select {Mac 250 Wash 16B} for standard 16B mode	fixture placed on the command line after channels
[At] [2] [/] [411] [Enter]	patches all four fixtures with a starting address in universe 2
[At] [2] [/] [411] {Offset} [15] [Enter] [Enter]	now look at the addresses

Patch a Compound Fixture

A compound fixture is a fixture that is made up of more than one device – such as a fixture with a color scroller, a gobo rotator, and so on.

[237] [Thru] [240] [At] [2] [/] [111] [Enter]	patches the first part of channels - the dimmer
[Part] [2] [Enter]	creates a part 2 for selected channels
{Type}, {Manfctr}, {Generic}, find {Scroller}	makes part 2 a generic scroller giving the channel a color parameter
[At] [2] [/] [121] [Enter]	gives a starting address for all the part 2's
[Part] [3] [Enter]	creates a part 3 for selected channels
{Type}, {Search}, Rosco Gobo Rotator and click on the result	makes part 3 a gobo rotator giving the channel a beam parameter
[At] [2] [/] [131] [Enter]	gives a starting address for all the part 3's

Patch a Multi-Cell Fixture

A multi-cell fixture is like an LED batten, a multi-intensity device or a moving light with duplicated areas of control.

[241] [Thru] [245] [Enter]	selects the channels
Make them ColorSource Linear DB 4 Cell 5 Chan with MC (20)	assigns the multi-cell fixtures to the channels – notice the parts (.1, .2)
[At] [4] [/] [1] [Enter]	assigns addresses to cells, not master cells
[Live] and look at the Summary View and Table View	

Patch Exercise - see Appendix 1

Start a new show, **[Displays]**, **File> New>** and press **[Select]** or double-click. Are you sure? **[Enter]** or click on OK.

Now, go to Appendix 1 – Channel Hookup in the back of the book and patch the entire hookup (Ignore Notes/labels).

!! DON'T FORGET TO SAVE AND SAVE OFTEN!

Quick Save: Hold **[Shift]** and tap **[Update]**.

Working with Channels

Channel/Address Check

[Live] [1] [Full] {Chan Check} [Enter] then [Next] … [Next] …	steps through all patched channels
{Address} [1] [Full] [Enter] then [Next] … [Next] …	steps through DMX addresses
[Clear] to clear the command line	to end the channel check

Set Channels in Live

[Live] if you are not already there	
[1] [+] [3] [At] [5] [Enter]	sets level of 50% (use [05] for 5%)
Red data – not yet stored – Notice "Manual Channels" in upper left corner	
[31] [Thru] [45] [-] [37] [-] [39] [At] [65] [Enter]	using minus for individual channels
[51] [Thru] [56] [Full] [Enter]	using Full without [at]
[57] [Thru] [61] [Full] [Full]	another way to get Full
[62] [Thru] [67] [At] [At]	user-definable Level – change in Setup
[11] [+] [12] <Enter> level wheel	proportional control
[21] [At] [50] [Enter] then [Shift]&[+], [Shift]&[-]	up a point, down a point (10% default)
[23] [At] [50] [Enter] then [At] [+] [3] [Enter], [At] [-] [4] [Enter]	add 3 points more, subtracts 4 points
[At] [/] [50] [Enter] [At] [/] [400] [Enter]	takes 50% of current levels, adds 400%
[51] [Thru] [67] [Out]	self-terminating
[51] [Thru] [67] [At] [10] [Thru] [Full] [Enter]	called fanning intensity
and roll the level wheel to full and then all the way out	notice proportional control

Offset in Live

Offset aids in channel selection, many offset options are available.

[31] [Thru] [45] {Offset} {Even} [At] [80] [Enter]	selects even channels
[51] [Thru] [67] {Offset} [3] [At] [75] [Enter]	selects an offset of every third channel

Sneak

Sneak removes manual changes and allows the channels to sneak back to their background states, if any. Uses a default Sneak Time.

[3] [Sneak] [Enter]	restores channel to background state using default sneak time
[Clear] [Sneak] [Enter]	restores all manual levels to background states (Clear empties the command line)
[1] [Thru] [9] [At] [5] [Sneak] [Enter]	brings channel to level in default time
[5] [At] [25] [Sneak] [3] [Enter]	brings channel to level in 3 seconds

Multi-Cell Channels

Working with Multi-cell Channels in Live

[Live] if you are not already there	Be in Table View!
[151] [+] [152] [Enter]	directs display to selected channels

Notice cells are at Full by default

[151] [Enter]	selects Master and cells
[151] [.] [Enter]	posts channel cells only on command line – Cells only selected
[151] [Shift] & [.] [Enter]	posts channel minus cells on command line – Master Cell only selected
[151] [+] [152] [Full] [Enter]	full intensity in Master cells, lights on
[Out]	takes lights out
[151] [+] [152] [.] [Full] [Enter]	full intensity in cells only, no lights
[151] [+] [152] [.] [At] [10] [Thru] [Full] [Enter]	Fans intensity across 16 individual cells, but no intensity in Master Cell, no lights
[151] [+] [152] [Full] [Enter]	Lights on and see intensity fanned across 16 individual cells,

Using Offset with Multi-cell Channels

[151] [+] [152] [.] {Offset} [2] [At] [50] [Enter]	cells 1 & 3 in each fixture go to 85
{Offset} [Even] [Full] [Enter]	even cells are selected and go to Full
[Clear] [Sneak] [Enter]	takes all light out

Groups

Recording Groups in [Live]

[Clear] [Sneak] [Enter]	
[4] [Thru] [9] [Record] [Group] [1] [Enter]	records channels to the target group
[31] [+] [33] [+] [35] [+] [37] [Record] [Group] [2] [Enter]	records the selected channels to group 2
[1] + [4] + [2] + [5] + [3] [Record] [Group] [30] [Label] Effect 1 [Enter]	records the channels in a specific order and gives the group a label

Working with a group

[Group] [1] [At] [Full] [Enter]	brings group 1's channels to Full
[Group] [30] [Enter] then press [Next] [Next] [Next] [Last] [Last]	accesses the group and then the first ordered channel in that group
[Clear] {Select Last} [At] [30] [Thru] [Full] [Enter]	reselects the whole group and fans intensity across the range

Group List in Blind

[Group] [Group] or Add-a-Tab (the {+} sign)	opens a list of all groups recorded

Create a Group

[Group] [3] [Enter] [27] [Thru] [30] [Enter] [Label] Extras [Enter]	creates group 3 in the Group List

Edit a Group

[Group] [2] [Enter] [+] [39] [Enter] [-] [39] [Enter]	adds or deletes channel to a group
[Group] [1] [Enter] [2] {Insert Before} [8] [Enter]	watch softkeys for additional options

Deleting Groups

[Delete] [Group] [1] [Enter] [Enter]	deletes group 1 (2nd enter to confirm)
[Delete] [Group] [2] [Thru] [3] [Enter] [Enter]	deletes groups 2 and 3

Will still have Group 30 for later use

Group Exercise - Create the following groups:

Group #	Label	Channels
1	Specials	1 thru 3
2	Band	4 thru 9
3	Blue Sides	11 + 12
4	Pink Sides	13 + 14
5	Yellow Sides	15 + 16
6	Texture	21 thru 26
7	Top Lights	31 thru 45
8	LED Cyc	51 thru 67
11	Robin 300	101 thru 106
12	VL3500s	111 thru 115
30	Effect 1	1, 4, 2, 5, 3

No Group 9 or 10!

Non-Intensity Parameters

Non-Intensity Parameter Control (IFCB)

[Live] if you are not already there [Clear] [Sneak] [Enter]

Four major parameter categories (IFCB):

- **I = Intensity** . . . Intensity
- **F = Focus** . . . Pan and Tilt, changes to the position (X, Y or Z)
- **C = Color.** . . All color parameters (Scrollers, RGB, CMY, CTO, CTB…)
- **B = Beam** . . . All other parameters, divided into sub-categories:
  - **Form** - includes parameters that affect the quality or size of the light output, such as edge, zoom, iris, frost, etc.
  - **Image** - includes anything that drops into the gate and interrupts the beam of light, such as gobos, effects wheels,content, etc.
  - **Shutter** - includes all of the framing parameters

ML Controls

Press [ML Control] to open display in the CIA area

Click on Add-a-Tab (the {+} sign), select ML Controls to open display in tab

Navigation and Operation Features

- **Category shortcut keys** on the left side to quickly access those controls
- **Category and Parameter buttons** will post to the command line
- **Buttons** to collapse or expand categories for yet more flexibility
- **Home buttons** allows you to home a specific parameter or attribute of a parameter.
- **Virtual encoders** (Click and hold close to the center line for slow movement, further away for faster movement.)
- Color picker and gel picker
- **Scroll bar** – multiple rows of parameter will now display and you can scroll either horizontally or vertically depending on the frame

Parameters displayed will change based on the device(s) selected.

ML Control Popup

Click on the shortcut in the upper right hand side of the monitor. to open the ML popup window

Color Controls

Color Control with Scrollers

[Group] [6] [Full] [Enter]

- Press **[Frame] [5] [Enter]** – advances scroller to fifth frame of scroll
- In ML Controls, click on a different scroller color tile
- Tap the header **{Color}** or the header **{Scroller}** – puts either on the command line – then press **[11]** for frame 11 and **[Enter]**
- Go to **[Displays]** for the CIA – tap the scroller tile on the left side of the CIA – then press **[9]** for frame 9 and **[Enter]**
- Under Color, tap **{ ⌂}** (Home) to take the scroller back to its starting frame

Color Control with LEDs

[Clear] [Sneak] [Enter] [Group] [8] [Full] [Enter]	notice all colors at 100%
In ML Controls, dial the encoders	easy to use two hands for color mixing
In Blue, press {Min}; Green, press {Min}; Red, press {Max}	leaves a nice red cyc
Tap the 'Green' header on the touchscreen, then [50] [Enter]	adds 50% of green into cyc
Select a color using the Color Picker	

The Parameter tiles in the CIA remap based on the channel or fixture type selected.

Color Picker

Press **[Displays]** and select **{Color Picker}** from the softkeys for a small version in the CIA or click on **Add-a-Tab** (the {+} sign) for a full tab display version.

- When first opened, the CIE XY color space and the gel picker will open by default.
- A white line represents the limit of a fixtures color capabilities. With multiple fixture types selected, the line is still displayed, but adapts based on fixtures selected.

Gel Picker

Within the color picker, you will also see a column of buttons down the center with a scroll bar. Using these buttons, you are able to select a specific gel manufacturer and a specific color.

- Console will put fixture in the color as close as possible.
- A 'G' will appear in the channel display that means gel match
- Gel matches can be set from the command line also

[Group] [8] {Home, ⌂ } [Enter]

Tap {1 Apollo}, then find {AP1950} - a green	watch cyc change color
Tap {5 Rosco Roscolux}, then find {R027} - a red	watch cyc change color
[Group] [8] {Color} tile and [5] [/] [339] [Enter]	first # being the Gel library and second # being the gel number
Or can do [Group] [8] [At] [5] [/] [339] [Enter]	
Scroll down the column to {Standard Colors}, pick 1 or 2	

Cues

Record a Cue

[Clear] [Sneak] [Enter] [Group] [1] [Full] [Enter]	set levels for specials
[Record] <Cue> [1] [Enter]	stores cue 1 – note channels turn blue
[Group] [2] [-] [8] [-] [9] [At] [80] [Enter]	adds additional lights to look
[Record] [2] [Enter]	stores cue 2 – note channels colors
[1] [+] [3] [Out] [21] [Thru] [26] [At] [50] [Enter]	levels going up and down in cue
[Record] [Next] [Enter] *	stores next cue (3) – note channel colors

* *When you use **[Record] [Next]**, remember what cue number you are on. If Cue 1, then Next = 2. If Cue 2.7, then Next = 2.8. If Cue 2.11, then Next = 2.12 If Cue 2.111, then Next = 2.112.*

Record with Time

[Clear] {Select Last} [Out], [Group] [7] [Full] [Enter]	selects channels that had been used
[Record] [4] [Time] [4] [Enter]	stores cue 4 with 4 second up/down time
[21] [Thru] [26] [Full] [RemDim] [Enter]	set levels using [Remainder Dim]
[Record] [5] [Time] [3] [Time] [7] [Enter] or [Time] [3] [/] [7] [Enter]	specifies split up/down times

Record with Time and Label

[Group] [8] [Full] [Full], make blue, [2] [+] [11] [+] [12] [Full] [Full] [1] [Thru] [7] [-] [2] [At] [50] [Enter] [21] [Thru] [26] [Out]	set levels and colors using basic encoders
[Record] [6] [Time] [2] [/] [4] [Label] Blue [Enter]	stores cue, timing and label
[Clear] {Select Active} [Out]	takes active channels' intensities out
[Record] [7] [Time] [0] [Label] Blackout [Enter]	stores cue, timing and label
[1] [Thru] [3] [Full] [Enter]	creates new cue after blackout
[Record] [8] [Time] [2] [Enter]	stores cue, timing and label

Delete a Cue

[Delete] <Cue> [8] [Enter] [Enter] again to confirm	deletes a cue

Notice Cue 8 is still on stage although it was just deleted

[Goto Cue] [7] [Enter] or just [Goto Cue] [Enter].	to refresh the master fader pair

Now…Run the Cues!

Playback

Basic Playback

[Go To Cue] [Out] [Enter]	resets the cue list to the top
Press [Go]	executes the pending cue
Press [Stop/Back] while a cue is running	fader activity is instantly stopped mid-transition (paused)
Press [Stop/Back] again	if cue stopped or complete, will play the previous cue
[Go] after [Stop/Back]	resumes the current cue

[Back] uses default timing established in Setup.

Controlling Playback Manually

By default, the main playback fader pair should be at the top of the run before pressing **[Go]** to play cues back as recorded.

To manually take control of the intensity fade from the beginning of the cue, set the sliders at the bottom of the run before you press **[Go]**.

Go To Cue

[Go To Cue] uses go-to-cue timing established in Setup.

[Go To Cue] [Out] [Enter]	sets all values to home and resets the cue list to the top of the list
[Go To Cue] [0] [Enter]	sets all current intensity values to zero and resets the cue list to the top of the list, with the first cue pending

Other Go To Cue Functions

[Go To Cue] [Enter]	refreshes current cue
[Go To Cue] [Next] or [Last] [Enter]	takes you to the next or previous cue in the active list (like Back)
[Go To Cue] [5] [Enter]	all parameters with values in cue 5 faded to those values, even if they are tracked
[Go To Cue] [4] [Time] [Enter]	fades to cue in the timing of the cue
[Go To Cue] [1] [Time] [2] [Enter]	fades to cue in 2 seconds

Load a Cue on the Master Playback Fader

[Cue] [7] [Load] and then press [Go]	loads a specific cue into pending status on the main playback faders

Additional Cue Timing

Cue Delay

[Go To Cue] [Out] [Enter]	start with a clean stage
[3] [+] [13] [+] [14] [Full] [Full], [51] [Thru] [67] [At] [Full], in pink	set levels
[Record] [9] [Delay] [3] [Label] Pink [Enter]	stores cue with a 3 second delay on intensity
[1] [+] [23] [Full] [Rem Dim] [Enter]	set levels
[Record] [10] [Delay] [Delay] [4] [Enter] or [Delay] [/] [4] [Enter]	records cue with a 4 second delay on just the down time
[23] [Out] [51] [Thru] [67] [Full] [Enter] and in yellow [21] [Thru] [26] [Full] [Enter] [Frame] [2] [Enter]	set levels - lots of yellow
[Record] [11] [Time] [3] {Color} [Delay] [7] [Label] Yellow [Enter]	records cue with a 3 second upfade, and a 7 second delay on the color change
[Go To Cue] [7] [Enter] and press [Go], play thru the cues	watch for the different delays

Cue Follow/Hang (Auto-Follows)

Follow time begins the moment the cue is executed (when the go button is pressed.)

Hang is similar but doesn't start till the cue is complete.

{FW/HG} is a soft key; can also press **[Shift]&[Delay]** to access Follow and **[Shift]&[Delay][Delay]** to access Hang

[Cue] [1] [Thru] [3] [Time] [3] [Enter]	Change timing for faster playback
[Cue] [1] {Follow/Hang} [3] [Enter]	records cue with a follow time of 3 seconds
[Go To Cue] [Out] [Enter] and press [Go]	watch the cue
[Cue] [2] [Shift]&[Delay] [5] [Enter]	records cue with a follow time of 5 seconds
[Cue] [3] [Shift]&[Delay] [Delay] [3] [Enter]	records cue with a hang time of 3 seconds
[Go To Cue] [Out] [Enter] and press [Go]	watch the cues play

Notice the ↳ in the PSD to show you follow/hang cues.

Cue Link/Loop

Link allows cues to be run out-of-sequence.

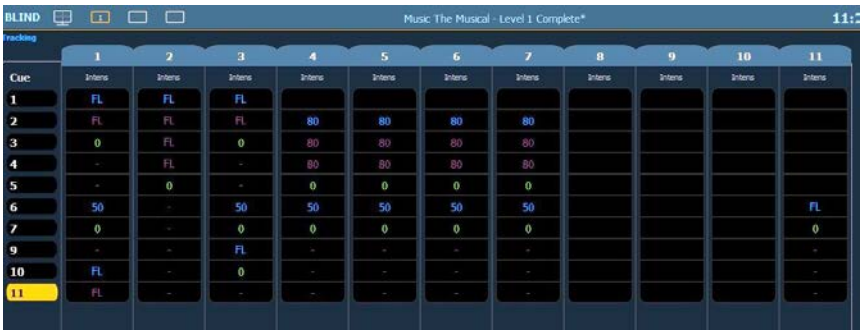
Loop is a sequence of linked cues that plays a certain number of times.

[Cue] [4] {Link/Loop} [1] {Follow/Hang} [2] [Enter]	links to cue 1 from cue 4 with a 2 second follow time
[Cue] [4] {Link/Loop} {Link/Loop} [4] [Enter]	have it loop 4 times
[Go To Cue] [Out] [Enter] and press [Go]	watch the sequence – notice loop count
Press [Go] at any time after first loop and will play cue 5	
To indefinitely loop {Link/Loop} {Link/Loop} [0] [Enter]	loops the sequence indefinitely
[Cue] [4] {Link/Loop} [Enter]	to remove links and loops

Track/Cue Only/Block

Element is a tracking style console which means that just moves or changes are stored in each cue and played back.

[Blind], [Format] to go to the spreadsheet view



Track

[Cue] [1] [Enter] **[8] [At] [80] [Enter]** adds channel and tracks it all the way through all the cues

Cue Only

[Cue] [1] [Enter] **[9] [At] [40] [Q Only/Track] [Enter]** adds channel 9 to cue 1 and inserts a move to zero in Cue 2

[Cue] [1] [Thru] [3] [Enter] **[9] [At] [40] [Enter]** **[Undo]** creates a move in the first cue and tracks through all cues

[Cue] [1] [Thru] [3] [Enter] **[9] [At] [40] [Q Only/Track] [Enter]** modifies the three cues and inserts a move to zero in Cue 3

[Cue] [8] [Enter] **Please confirm.** **[Enter]** creates a new cue that channel 8 tracks through

Block

A block is an editing tool that prohibits changes upstream from tracking into the blocked cue/data.

[Cue] [7] [Block] [Enter] Channel 8 & 9 are white - blocked

"B" is displayed in the flags field of the PSD, indicating a cue level block.

[Cue] [1] [Enter] **[10] [At] [80] [Enter]** adds channel to cue and tracks it till it reaches the block

Autoblock

Autoblock will protect a move when a level upstream is matched.

[Cue] [1] [Enter] **[4] [At] [80] [Enter]** Autoblock created in cue 2 - white

Autoblocks are displayed in the PSD by a "b".

Clear an Autoblock

[Cue] [2] [Enter] **{AutoBlock Clean}** **[Enter]** clears an autoblock

An alternative is to use the **[Block] [Enter] [Block] [Enter]** syntax.

Check out the Bobblehead Fred Video that helps to explain the difference in style of operation between tracking and preset consoles and their origins.

AUTOBLOCK

Autoblocks protect your cue data in the case of a redundant level change.

Notice that channel 4 is at 80 in Cue 2	
[Cue] [1] [Enter] [4] [At] [80] [Enter]	Autoblock created in cue 2

Now in Cue 2, the intensity level for channel 4 is now displayed in white, with an underscore. This is the Autoblock, where the console is preserving the idea that this channel previously had a move instruction.

Autoblocks are displayed in the PSD by a "b".

CLEAR AN AUTOBLOCK

[Cue] [2] [Enter] {AutoBlock Clean} [Enter] [Enter]	clears an autoblock

{Autoblock Clean} removes all auto-blocks from a single cue, cue range or cue list.

ASSERT

Assert is the playback equivalent of a block – in that it takes a tracked value and treats it like a move instruction. Assert is a way to regain ownership of a channel, or to force a new move command with new timing on a light that is still fading from a previous instruction.

Asserts can be placed at a cue level, channel or parameter level.

[Live] [Go To Cue] [6] [Enter]	
[25] [At] [Full] [RemDim] [Enter]	set levels
[Record] [6.5] [Time] [30] [Enter]	stores cue with long fade time
[Go To Cue] [6] [Enter] Run the cues, watch the fades	
Start cue 7 before cue 6.5 has completed…	discuss what happens
[Cue] [7] [Assert] [Enter]	applies an Assert on the cue
[Back] [Back] [Go] on 6.5 then [Go] on 7	discuss what happens

Notice an "A" in the PSD flag field for Cue 7.

Update

Update is a 'save changes' tool. It only pertains to values that are red or modified – values that have been changed. Update saves manual changes back to targets such as cues, palettes, presets and submasters.

Update Default

[Live] [Go To Cue] [2] [Enter]	
[15] [At] [50] [Enter]	makes a changes to an existing cue
[Update] Notice default Make Absolute style [Enter]	change is now stored in cue
[Blind] Spreadsheet view	
See how channel 15 turned on in cue 2 and tracked till the block	

Update Cue Only

To prevent or limit the tracking function

[Live] [16] [At] [75] [Enter]	makes another change in the cue
[Update] [Cue Only] [Enter]	records without tracking
[Blind] Spreadsheet view	note changes for channel 16
See how channel 16 turns on in cue 2 and turns off in cue 3.	

Move instructions

Other existing move instructions will also stop values from tracking through.

See how channels 11 and 12 turn on to full in cue 6.	note the move instruction in cue 6
[Live] [11] [+] [12] [At] [40] [Enter]	makes another change in the cue
[Update] [Enter]	records allowing tracking
[Blind] Spreadsheet view	note changes for channels 11 and 12
See how 11 & 12 turn on in cue 2 and move to full in cue 6.	

Submasters

Record a submaster in Live

[Go To Cue] [Out] [Enter]	start with a clean stage
[Group] [1] [At] [Full] [Enter]	set levels
[Record] [Sub] [1] [Enter]	records the current stage state to sub 1

Note: You can use this syntax even if the Fader mode Switch is set to any channel mode.

Submaster Switch

Set the Fader Mode Switch to Submaster mode	notice green LED on first fader, top row
[Clear] [Sneak] [Enter] and slide the fader up/down	yellow levels mean control by sub

Notice the Fader Status bar or display across the bottom of the Playback Status screen has changed to yellow. You will also see the following when the switch is in submaster mode:

- Submaster number
- Current level as well as a level bar on side
- Submaster label (if any)
- Inhibitive flag (if any)
- I-Master flag (I.M. - if any)

[Group] [8] [Full] [Enter], in Blue, [2] [+] [11] [+] [12] [Full] [Enter]	set levels
[Record], then press the bump button of the next fader	records the current stage state to fader
[Clear] [Sneak] [Enter] and slide the fader up/down	clear manual values and run fader
[Recall From] [Cue] [9] [Enter]	set levels
[Record] [Sub] [3] [Label] Pink [Enter]	from the command line…with a label
[Clear] [Sneak] [Enter] and slide the fader up/down	clear manual values and run fader

Create a submaster in Blind

[Blind] [Sub] [31] [Enter] [21] [Thru] [26] [Full] [Enter]	records values to sub – in Blind

Submasters may be loaded to any fader as long as it is blank or clear.

Command Line Control of Submasters

[Live] [Sub] [31] [At] [50] [Enter] [At] [Full] [Enter]	brings sub to 50% or to Full

Notice the blinking LED on the submaster button, indicating that the fader does not match that value. In the Fader Display, the arrow shows you which direction to move the fader to match the value and take control

[Sub] [31] [At] [85] [Sneak] [Enter]	sneaks sub to 85% in default sneak time
[Sub] [31] [Out] [Enter]	takes sub out regardless of fader position

Change Fader Pages

There are multiple pages of submasters – up to 1000 submasters total.

On an Element 40, there are 25 pages of submasters.

On an Element 60, there are 17 pages of submasters.

[Clear] Press and hold {Page Subs}	shows page numbers in fader status display
Press the bump button of the next fader (page 2)	

** Current page bump button will be flashing till you select the new page*

[Clear] [Sneak] [Enter] and slide fader up - leave it up	view sub levels
Hold {Page Subs} and press bump button of page 1	go back to page 1
Notice the flashing LED and the small arrow on the fader status display	
Slide the fader down to match levels of fader on page 1	notice sub 101 levels are still there

Delete Submasters

[Delete] [Sub] [31] [Enter] [Enter]	deletes the contents of sub 3
[Delete] [Sub] [1] [Thru] [Enter] [Enter]	deletes the contents of all subs

If you delete the subs, you will need to recreate subs for the next exercises. Or use **[Undo]**.

Timing on Submasters

Changes can be done in Live or in Sub List. Uses bump button as the GO.

Press and hold {Page Subs} and press page 1	back to page 1
[Sub] [1] [Time] [3] [Time] [4] [Time] [3] [Enter]	adds a 3 sec upfade, 4 sec dwell and 3 sec down fade
Press the bump button of fader 1 just once	fades up, dwells, then fades down

Hold

[Sub] [1] [Time] [Time] {Hold} [Enter]	changes the dwell time to 'hold'
Can also just type [Sub] [1] {Hold} [Enter]	another way to add a 'hold' time
Press the bump button to start the upfade	fades up, holds indefinitely

Notice the bump button LED flashing to show that levels are held.

Press the bump button to start the downfade	fades down

Restore to default time

[Sub] [1] [Time] [Enter]	resets to default times (0/Man/0)

Submaster List

[Sub] [Sub] or Add-a-Tab (the {+} sign) (Tab 15)	opens the submaster list

Percent (%) - shows the current level in Live of each submaster.

Label

[Sub] [1] [Label] Specials [Enter]	displayed in List as well as Sub display

Mode: Additive or Inhibitive

Additive contributes levels to the stage. **Inhibitive** prevents levels from contributing to the stage, like a mini grand master for specific channels.

[Sub] [1] {Inhibitive}, **Push fader to Full**	makes sub 1 an inhibitive sub

In the fader ribbon, sub 1 has turned red and is at Full. Its LED is blinking. Move the fader up to match level and take control.

Live: [Go To Cue] [1] [Enter]	runs the cue with specials
Slowly bring the fader out. **Push fader to Full**	specials go out - notice small 'I' in channel display

Notice the small yellow 'I' to indicate that those values are inhibited.

[Go To Cue] [Out] [Enter]	

Master: Proportional or Intensity Master

Proportional submasters control all contents of the submaster (intensity and non-intensity parameters). (DEFAULT)

[Group] [11] [Full] [Full], tilt up on cyc	
[Record] [Sub] [10] [Enter] **[Clear] [Sneak] [Enter]**	records sub and clears manual values
Then bring fader up, see live changes, and bring fader down	shows proportional control of contents

Intensity masters control intensity only. The bump button is used to preset (mark and unmark) non-intensity parameters.

[Sub] [10] {Properties}, under Master, {Int}	toggles the submaster to I-Master
With fader down, press the bottom bump button, LED flashes	marks the non-intensity parameters
Bring fader up	now shows Intensity control only
Bring fader down and tap bottom bump button	Unmarks (resets) non-intensity parameters

If the bump button is not pressed, when the fader is moved, non-intensity parameters mark as fast as possible. When fader is brought down, doesn't release the parameters. Must hit the bump button again.

Or [Sub] [10] {Properties}, under Stomp, {Unmark 0}	contents unmarked (released) when the fader reaches 0%.

Exclude

Another property is **Exclude**. There are 4 options: the most common is **{Rec}** which is similar to **[Record] [-] [Sub]**.

[Sub] [2] {Properties}, under Exclude, {Rec}	contents will not be stored in any record targets

Park

Park locks the value of a channel or address.

- It cannot be changed by any console operation. It can't be affected by subs, playbacks, Grand Master or Blackout key.
- Parked values won't be recorded.
- Can park category or parameters

Park in Live

[1] [At] [50] {Park} [Enter]	parks channel at 50%
[101] {Park} [Enter]	parks all parameters at current levels
[102] [Intensity] {Park} [Enter]	parks just intensity of the channel at its current level
[Address/Patch] [31] [At] [75] {Park} [Enter]	parks address at 75%

Notice in the upper right corner of the display "Parked Channels"

Any parked channel has a small "P" visible on the channel icon.

To clear a Park command in Live:

[1] {Park} [Enter] …[Enter]	unparks specified channel
{Park} [Enter] …[Enter]	clears all parked channels
[Address/Patch] {Park} [Enter] …[Enter]	clears all parked addresses

Park Display (Blind)

[Park] *display button* or Add-a-Tab (the {+} sign) (Tab 20)	opens the Park display
[2] [At] [85] [Enter]	parks channel at 85%
[Address/Patch] [32] [At] [75] [Enter]	parks address at 75%

Notice the Park key is not necessary for parking in the Blind Park display.

To clear a Park command in Blind:

[2] [At] [Enter] … [Enter]	unparks channel and clears display
{Address} [32] [At] [Enter] [Enter]	unparks an address

Setup

[Displays] {Setup} or click in Browser, on Setup. The three areas are:

- System Settings
- User Settings
- Device Settings

System – Specific to the current show file – stored in show file

These settings are shared on all consoles on the network.

- **System Settings** Number of Channels, Dimmer Doubler Offset, Create Virtual HSB, Home Preset, Startup, Shutdown and Disconnect Macros
- **Cue Settings** Mark Time, Preheat Time, Cue Default Times
- **Show Control** SMPTE, MIDI, Contacts, OSC, and String UDP
- **Output** Local DMX Outputs
- **Remotes** Allow Remotes
- **Partitions** Partitioned Control Enable, Channel Partitions for multi-user setups
- **Users** User Settings: User ID,
- **Recall User Settings** restore settings from show file

User – Specific to the user – stored in show file

These settings are for each independent console – the hardware.

- **Record Defaults** Track Mode, Record/Delete Confirm, Auto Playback, Update Modes
- **Manual Control** Manual Times, Button Values: Level, Plus/Minus %, Live RemDim Level, Highlight: Hi-light and Lowlight Presets, Highlight RemDim, Default Times: Sneak, Go To Cue, Back, Assert, Off, Release and Timing Disable Times
- **Displays** Preserve Blind Cue, Popup Magic Sheet, Popup Navigation Lock, Display Fader Ribbon and Display Help Prompts

Device – Specific to hardware – but stored in show file

- **Config** Visible to Remotes, Device Name
- **Face Panel** Encoders Adjustments– Percent or Degrees Per Revolution, Blackout and Grandmaster Control, Sounds, Spacebar [Go] Enable, Hide Mouse, Use Shift as Eos Shift, Auto Repeat settings
- **Displays** Show Ref Labels, In-Cell Editing and Direct Select Double Click
- **Trackball Settings** Adjustments for Trackball
- **Brightness Settings** Desk Lamp Control and Direct Selects Brightness
- **PDF File Settings** Orientation and Paper Type settings
- **Recall Device Settings** restore settings from show file

An Intro to Effects

Three main types of effects: Step-based, Absolute and Relative.

[Effect] [Effect]	opens the effects list

Effects 901 through 918 are preprogrammed effects

Creating Step-based Effects

[Effect] [1] [Enter]	creates a new effect number
<Type> {Step-based}	assigns the effect as a step effect
{Step} [1] [Thru] [5] [Enter] [Enter]	defines the number of steps
[Page►] to the Channel column	
[Group] [30] [Enter]	specifies the channels or group to be used

Intensity is assumed unless another parameter is specified

Run the Effect

[Live] [Group] [30] [Effect] [1] [Enter]	applies effect created to selected group
If in Live Table View, press and hold [Data]	to view levels as effect is running

Effect Attributes

With the effect running, you can play with various attributes of the effect to see how they alter your effect.

[Effect] [Effect]	opens the effects list
{Cycle Time} [3] [Enter] or dial the encoder to adjust cycle time	resets overall effect time/speed
Click on {Attributes}	opens table of various attributes

The basic behavior of the effect can include Forward, Reverse, Positive, Negative, Bounce, and Random Grouping or Rate.

Step Editing

Remember you can edit steps individually. Just select the steps that you wish to change then press **[Page►]** to access "Step time," "Dwell Time," "Decay Time," the "On" and "Off" State columns.

Multiple Ways to Stop an Effect

[1] [Thru] [5] [Effect] [Enter]	one way to stop the effect
{Fader Controls} {Stop Effect} [1] [Enter]	stops the specified running effect
{Fader Controls} {Stop Effect} [Enter]	stops all running effects

A SIMPLE COLOR EFFECT

USING A PRE-PROGRAMMED COLOR EFFECT

[Live]	
[Group] [8] [Full] [Enter], make it blue	sets starting levels
[Group] [8] [Effect] [917] [Enter]	applies existing effect to selected channels

Effect 917 is a Rainbow Effect for RGB fixtures.

FUN WITH THE COLOR PICKER

Visually see the effect running in the blue area.

[Displays] {S2 -Color Picker} or [Tab] [27]	opens the color picker
Click on various colors in the color picker	watch cyc change colors

STOPPING AN EFFECT

[Live] [Group] [8] [Effect] [Enter] or just [Sneak] [Enter]	stops effect from running
OR [Effect] [917] [At] [Enter]	stops effect 917
OR [Group] [8] [Effect] [At] [Enter]	stops all effects on selected channels
OR [Fader Control] {Stop Effect} [Enter]	stops all effects

PREPROGRAMMED EFFECTS

[Effect] [Effect]	opens the effects list

Effects 901 through 918 are preprogrammed effects.

All preprogrammed effects can be editted. You can copy the effect into a new effect and edit in the new effect. Or you can edit the existing effect. If you want to get back to the default effect, simply delete the effect.

BPM – Beats Per Minute and Tap Rate

For step-based and absolute effects, you can set the beats per minute (BPM). For step-based effects, BPM affects the step times and for absolute effects, this affects the time/dwell.

[Live]	jump back into Live
[1] [Thru] [5] [Effect] [1] [Enter]	runs effect 1 on the selected channels
OR from a clear command line, [Recall From] [Effect] [1] [Enter]	runs effect 1 on all of the channels originally used in creation

Directly Setting BPM

Done in Blind, changes applied immediately to all instances of this effect.

[Effect] [Effect] [Effect] [1] should be on command line	make sure you are in Effect 1
Softkey {BPM} [200]	sets the BPM of the effect to 200

Notice BPM is posted in the Effect Editor to the far right of the Effect number. Also notice changes to Step times and Cycle time.

{Cycle Time} [2] [Enter]	removes the BPM

Learning BPM or Tap Rate

Done in Live, changes will need to be recorded.

[Live] [Clear] [Sneak] [Enter]	jump back into Live
[Group] [30] [Full] [Enter] [Effect] [1] [Enter]	runs effect 1 on the selected channels
[Clear]	to clear the command line
[Effect] [1] [Learn] [Time] [Enter]	opens the effect editor display

Notice "Effect 1 Learn Time Sample BPM" on the command line. Also opens the Effects Editor display

[Enter] [Enter] [Enter]	averages the timing or tap rate of the last three hits of Enter
[Learn]	stops the Learn mode or averaging

Notice the red BPM to the far right of the Effect number.

[Record] <Cue> [21] [Enter]	records effect in cue, currently rerecords the effect with the BPM as well

Important Concepts

Eos family consoles are Tracking Move-Fade systems.

Tracking vs. Cue Only

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

Secondly, tracking relates to how changes to cue data are handled. Unless otherwise instructed by a Cue Only command, changes to a parameter in a cue will track forward through the cue list until a move instruction (or block command) is encountered. It is possible to change the default setting of the console to "Cue Only". This prevents changes from tracking forward into subsequent cues, unless overridden with a track instruction.

The console also has a [Cue Only/Track] button that allows the user 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.

Example: in Blind > Spreadsheet

[Cue] [1] [Thru] {Thru] [5] [Enter] [Enter]	creates cues 1 - 5
[Cue] [1] [Enter]	selects cue 1
[1] [Thru] [4] [Full] [Enter]	see channels fill through subsequent cues
[Cue] [3] [Enter]	selects cue 3
[1] [+] [2] [At] [50] [Enter]	see channel levels change in that cue and track on
[Cue] [4] [Enter]	selects cue 4
[3] [+] [4] [At] [50] [Cue Only] [Enter]	see channel levels change in that cue only

Move Fade

Move Fade is a lighting control concept that determines how cues are played back. Eos family consoles adhere 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.

For example, in cue 1, channel 1 has been given an intensity value of 50%. This value does not change until cue 20, where channel 1 is moved to 100%. Therefore, channel 1 has a tracked intensity value of 50% in cues 2-19. If the user applies a manual intensity value of 25% while sitting in cue 5 (for example), that channel will stay at 25% until Cue 20 is played back - because 20 is the next cue in which channel 1 has a move instruction. The original intensity of 50% will not be reapplied in subsequent cues unless the cue is asserted or run out of sequence via go to cue or by loading the cue into pending manually.

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 output to the rig. In LTP, the most recent level received will be output. Cue lists and submasters can operate as HTP or LTP for intensity parameters only. Non-intensity parameters (NPs) are always LTP. The console's default cue list setting for intensity is LTP. The default submaster setting for intensity is HTP.

HTP

HTP is only applicable to the intensity of a channel. HTP channels will output the level that is the highest of all control inputs. As control inputs are removed (some of the submasters are brought 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 provided to the channel parameter. Any new values sent will supersede any previous values, regardless of the level supplied. The console 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 override.

Block

Block is a Recording/Updating function - it defines how changes will track (or not) through the cue list. An important concept to remember is that blocking impacts editing functions only. It has no impact on cue playback. In Element, block does impact playback, as it also acts as an assert.

A cue level block causes all tracked values in the cue to be treated as move instructions, which prohibits any data changes from tracking into the cue. Blocks can also be applied to a channel or a channel parameter.

Eos family consoles also support an "auto-block" function. 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. Auto blocks are indicated with an underscore in the cue data.

NOTE: ALWAYS, ALWAYS, ALWAYS BLOCK YOUR BLACKOUT CUES!

How Classic Element compares to the other Eos Family consoles

As of version 2.7 software:

System

- 250 or 500 channel Max
- 1024 Output Max
- 40 or 60 pageable faders assigned as fixed submasters or channels
- No External Fader Wings
- No encoders – use ML Controls or OSC devices
- Can use an Element/ETCnomad (including Puck) as Backup to another Element. Must be in Element mode on ETCnomad.
- Single user client, all sharing a command line. Must be in Element mode and on an Element or ETCnomad device.
- Snapshots limited to displays

Playback

- Single cue list – no multiple cue lists
- No palettes on faders

Control and Data Management

- No Reference Mark – AutoMark only which is always enabled except on a Cue by Cue basis.
- No Capture

Moving a show file from Eos to Element

- Reference Marks become AutoMark
- Maintains Cue List 1. Other Cue Lists will be removed
- Submaster mapping becomes 1 to 1

Note that the show file that you open on Element is not changed when opened. The show file is loaded into persistent storage, and that copy is changed. Data that is removed or changed will affect the show in persistent memory and any subsequent saves of that show file.

Appendix 1 – Level 1 Channel Hookup

Channel	Universe	Address	Manufacturer	Type	Focus/Notes
1	1	1	Generic	Dimmer	Special - DSR Desk
2	1	2	Generic	Dimmer	Special - USC Solo
3	1	3	Generic	Dimmer	Special - DSL Study
4	1	4	Generic	Dimmer	Special - Piano
5	1	33	Generic	Dimmer	Special - Drums
6	1	31	Generic	Dimmer	Special - Vocals
7	1	32	Generic	Dimmer	Special - Guitar
8	1	35	Generic	Dimmer	Special - Piano Top Light
9	1	34	Generic	Dimmer	Special - Drums Top Light
11	1	5, 6, 7	Generic	Dimmer	High Side SR - Blue
12	1	8, 9, 10	Generic	Dimmer	High Side SL - Blue
13	1	11, 12, 13	Generic	Dimmer	High Side SR - Pink
14	1	14, 15, 16	Generic	Dimmer	High Side SL - Pink
15	1	17, 18, 19	Generic	Dimmer	High Side SR - Yellow
16	1	20, 21, 22	Generic	Dimmer	High Side SL - Yellow
21	1	23	Generic	Dimmer	Texture Wash
21 P2	1	71	Generic	Scroller	Scroller w/ custom load
22	1	24	Generic	Dimmer	Texture Wash
22 P2	1	72	Generic	Scroller	Scroller w/ custom load
23	1	25	Generic	Dimmer	Texture Wash
23 P2	1	73	Generic	Scroller	Scroller w/ custom load
24	1	26	Generic	Dimmer	Texture Wash
24 P2	1	74	Generic	Scroller	Scroller w/ custom load
25	1	27	Generic	Dimmer	Texture Wash
25 P2	1	75	Generic	Scroller	Scroller w/ custom load
26	1	28	Generic	Dimmer	Texture Wash
26 P2	1	76	Generic	Scroller	Scroller w/ custom load
31	1	101	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
32	1	110	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
33	1	119	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
34	1	128	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
35	1	137	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
36	1	146	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
37	1	155	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
38	1	164	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
39	1	173	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
40	1	182	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
41	1	191	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
42	1	200	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
43	1	209	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
44	1	218	ETC Fixtures	D40 Lustr+ Direct Str	Top Light
45	1	227	ETC Fixtures	D40 Lustr+ Direct Str	Top Light

Channel	Universe	Address	Manufacturer	Type	Focus/Notes
51	2	52	Philips Color Kinetics	ColorBlast 12	Cyc Top
52	2	55	Philips Color Kinetics	ColorBlast 12	Cyc Top
53	2	58	Philips Color Kinetics	ColorBlast 12	Cyc Top
54	2	61	Philips Color Kinetics	ColorBlast 12	Cyc Top
55	2	64	Philips Color Kinetics	ColorBlast 12	Cyc Top
56	2	67	Philips Color Kinetics	ColorBlast 12	Cyc Top
57	2	70	Philips Color Kinetics	ColorBlast 12	Cyc Top
58	2	73	Philips Color Kinetics	ColorBlast 12	Cyc Top
59	2	76	Philips Color Kinetics	ColorBlast 12	Cyc Top
60	2	79	Philips Color Kinetics	ColorBlast 12	Cyc Top
61	2	82	Philips Color Kinetics	ColorBlast 12	Cyc Top
62	2	85	Philips Color Kinetics	ColorBlast 12	Cyc Top
63	2	88	Philips Color Kinetics	ColorBlast 12	Cyc Top
64	2	91	Philips Color Kinetics	ColorBlast 12	Cyc Top
65	2	94	Philips Color Kinetics	ColorBlast 12	Cyc Top
66	2	97	Philips Color Kinetics	ColorBlast 12	Cyc Top
67	2	100	Philips Color Kinetics	ColorBlast 12	Cyc Top
101	1	301*	Robe	Robin 300 LEDWash – M3	Onstage
102	1	321	Robe	Robin 300 LEDWash – M3	Onstage
103	1	341	Robe	Robin 300 LEDWash – M3	Onstage
104	1	361	Robe	Robin 300 LEDWash – M3	Onstage
105	1	381	Robe	Robin 300 LEDWash – M3	Onstage
106	1	401	Robe	Robin 300 LEDWash – M3	Onstage
111	3	1	VariLite	VL3500 Spot – VL3500 Spot	FOH
112	3	32	VariLite	VL3500 Spot – VL3500 Spot	FOH
113	3	63	VariLite	VL3500 Spot – VL3500 Spot	FOH
114	3	94	VariLite	VL3500 Spot – VL3500 Spot	FOH
115	3	125	VariLite	VL3500 Spot – VL3500 Spot	FOH
151	3	201	SGM	SP 6 [6] – 6ch MC [6] [6 Cells]	Multi-Intensity
152	3	207	SGM	SP 6 [6] – 6ch MC [6] [6 Cells]	Multi-Intensity

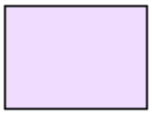
* *Think Offset!!*

Appendix 2 – Level 2 Hookup Additions

Channel	Universe	Address	Manufacturer	Type	Focus/Notes
71	2	1	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
72	2	4	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
73	2	7	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
74	2	10	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
75	2	13	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
76	2	16	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
77	2	19	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
78	2	22	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
79	2	25	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
80	2	28	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
81	2	31	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
82	2	34	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
83	2	37	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
84	2	40	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
85	2	43	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
86	2	46	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
87	2	49	Philips Color Kinetics	ColorBlast 12	Cyc Bottom
121	2	351	VariLite	VL2000 Wash – Enhanced 16B	Over-stage
122	2	366	VariLite	VL2000 Wash – Enhanced 16B	Over-stage
123	2	381	VariLite	VL2000 Wash – Enhanced 16B	Over-stage
124	2	396	VariLite	VL2000 Wash – Enhanced 16B	Over-stage
131	2	201	Martin	Mac 700 Profile – Ext	Over-stage
132	2	232	Martin	Mac 700 Profile – Ext	Over-stage
133	2	263	Martin	Mac 700 Profile – Ext	Over-stage
134	2	294	Martin	Mac 700 Profile – Ext	Over-stage

Appendix 3 – Scroll Setup

Generic Scrolls (Channels 21 – 26)

1	**Open Frame**	
2	**R10 – Medium Yellow**	
3	**R27 – Medium Red**	
4	**R339 – Broadway Pink**	
5	**R351 – Lavender Mist**	
6	**R359 – Medium Violet**	
7	**R370 – Italian Blue**	
8	**R38 – Light Rose**	
9	**R65 – Daylight Blue**	
10	**R85 – Deep Blue**	
11	**R90 – Dark Yellow Green**	

Appendix 4 – Show File Data

The following Groups, Palettes and Presets are included in the show file:

Group #	Label	Channels
1	Specials	1 thru 3
2	Band	4 thru 9
3	Blue Sides	11 + 12
4	Pink Sides	13 + 14
5	Yellow Sides	15 + 16
6	Texture	21 thru 26
7	Top Lights	31 thru 45
8	LED Cyc Top	51 thru 67
9	LED Cyc Bottom	71 thru 87
11	Robin 300s	101 thru 106
12	VL3500s	111 thru 115
13	VL2000s	121 thru 124
14	Mac 700s	131 thru 134
16	All movers	G11 thru G14
17	SP6s	151 + 152
18	SP6 Cells	151.2 + 152.3
19	SP6 Even	151 + 152 Cells Only Even
20	Cyc In	Cyc In
21	Cyc Out	Cyc Out
25	CP Group	G7 + G8 + G11 thru G14
30	Area lights in a cross-stage order	1, 4, 2, 5, 3
Color Palette #	Label	Groups Used
1	Red	G25
2	Orange	G25
3	Yellow	G25
4	Green	G25
5	Light Blue	G25
6	Dark Blue	G25
7	Magenta	G25
Focus Palettes #	Label	
1	DSR Desk	G12
2	USC Solo	G12
3	DSL Study	G12
4	Vocals (USR Platform)	G12
5	Guitar (USL Platform)	G12
Beam Palettes #	Label	
1	All Beam parameters	G12
2	Just Gobo Select	G12
3	Just Zoom	G12
Preset #	Label	
1	USC Red (Solo In Color)	G12
5	Movers – Intensity	G12
6	Movers – Intensity and Beam	G12

Appendix 5 – Channel Colors

Channel Display Color Conventions

Channel or parameter levels

- **Red** Manual Data - changes have been made but have not been saved or stored yet
- **Green** Movement - channel values have gone down from their previous level. Also used in reference marking to indicate a channel is marked.
- **Blue** Movement - channel values are higher than in the previous cue. Non-intensity parameters (NPs) are blue when any move instruction has occurred.
- **Magenta** Tracking - value is unchanged from the previous cue (tracked).
- **White** Values are blocked.
- **Yellow** Values are set from a submaster.

"Green, grass…blue, sky!"

Channel numbers/channel headers

- **White #** Selected channel number
- **Gray #** Unpatched channel number
- **No graphic** Deleted channel
- **Bright White #** Channel is parked
- **Gold #** Channel is captured (with a 'C')
- **Gold outline** Selected channel on your command line

Channel numbers/channel headers	Channel or Parameter levels
White number – regular channel patched	**Red** – Manual Data
Bright White number – parked channel (small p)	**Blue** – Level is increasing from previous cue
Gray number – unpatched channel	**Magenta** – Level is tracked from previous cue
Gray number with no outline – deleted channel	**Green** – Level is decreasing from previous cue.
Gold number – channel is captured	White – Level is blocked
Gold outline – Selected channel	Yellow – Level is set by Submaster

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