Element Console Programming

Level 1: Essentials

V2.3.0 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:

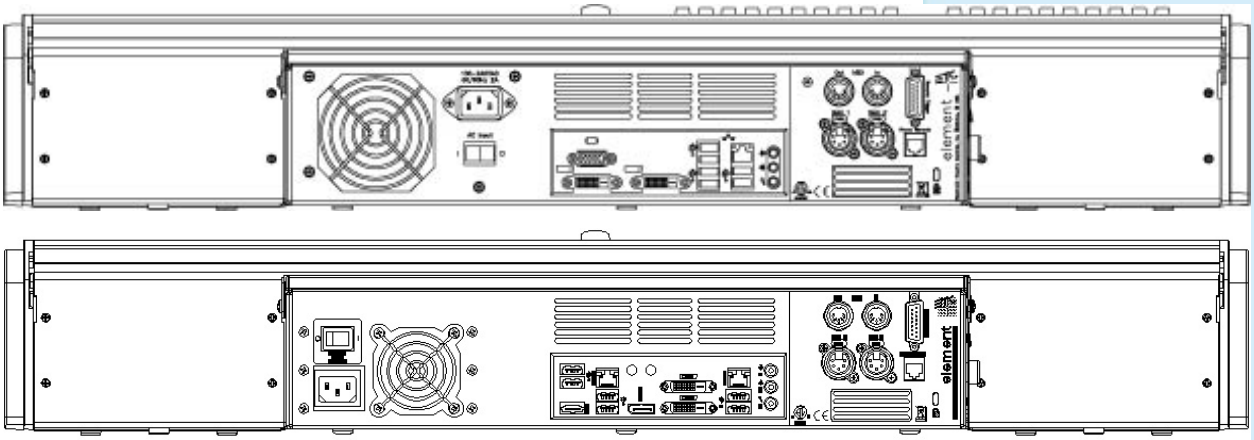
- the name of the key
- a description of what the key enables you to do
- syntax examples for using the key (if applicable)

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

Getting Acquainted

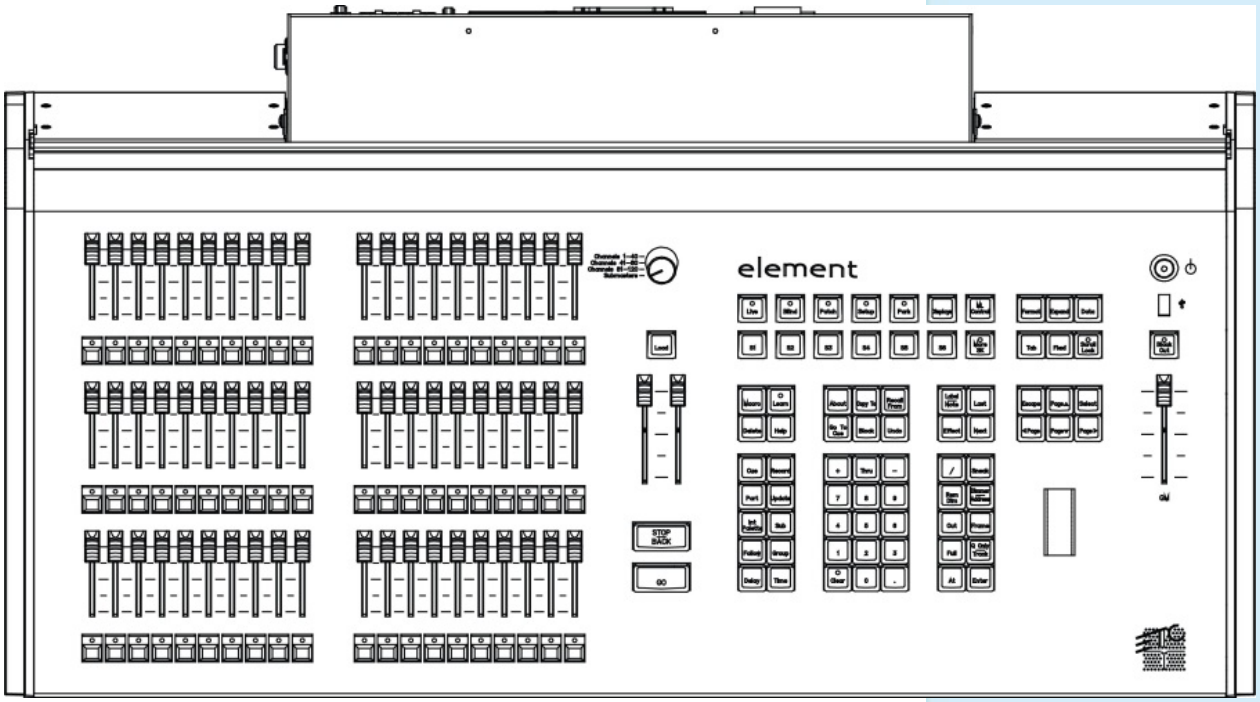
Exploring the back of the console

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

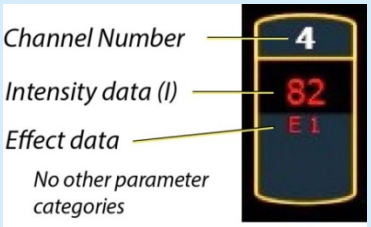
Faders (40 or 60), Fader Position Switch, Main Fader Playback, Keypad (targets, numeric, level setting), Level wheel, Display & Navigation keys, Power switch, USB Port, Grandmaster & Blackout

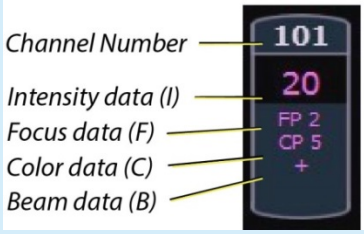


Live and Blind Displays

Primary Live Screen (Channel Display)

- Live Channels or Live Table view
- Selected cue detail line
- Command line
- **[Format]** for summary or table view in Live
- Hold **[Format]** and move wheel to zoom in and out
- **[Page ▲]** or **[Page ▼]** - scrolls full page at a time
- **[Scroll Lock]** – when on, scrolls one line at a time
- **[Data]** shows values behind any referenced or marked data. Also hold **[Data]** and press a category button to change the level of detail in summary and table views





Blind

- Note the change at the top of the display
- Note the command line color change!
- Note the background change!
- When in Blind, Record is not required – changes are stored when the command line is terminated.
- **[Format]** for summary, table view or spreadsheet in Blind

Flexichannel Mode

Flexichannel 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 views:

- All channels
- Patched channels
- **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 (sub, cue, palettes…)
- **Active channels** – any channels with intensity above or a move instruction
- **Selected channels** – the channels selected on the command line
- **View channels** – User specified channel list (softkey only)

[Live] [1] [Thru] [3] [Full] [Enter], [21] [Thru] [26] [At] [80] [Enter]	set some levels
Press [Flexi] again and again	changes to next flexi display
OR Hold [Flexi] and tap softkeys	display options appear as softkeys

If either the first or last channel in a range is included in the current flexi mode, **Thru** can be used to view that range of channels in the current flexi mode (except for selected channels mode).

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

In Flexi Manual: [16] [Thru] [21] [Enter]	see the selected channels
[16] [Thru] [Thru] [21] [Enter]	look at what channels have been added

Playback Status Display (PSD or Cue List)

- **[Page▲]** or **[Page ▼]** will navigate cue lists
- **[Scroll Lock]** – when on, scrolls one line at a time

Central Information Area (CIA)

- Central Information Area
  - 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 using the triangle (△,▽)
- Double tap **[Displays]** will always bring up the browser.
- Use the **Lock** to prevent the CIA from being collapsed or viewed

Browser

- 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 > File

File > New

[Displays], {Browser}, File > New > and press **[Select]** or double-click.

Do you really want to create a new show? **[Select]** or click **{OK}**. Show will be "untitled" until saved the first time.

File > Open

To open an existing or previously saved show:

[Displays], {Browser}, File > Open > Show File Archive > and scroll thru the list till you find the file you are looking for. Press **[Select]** or double-click.

Do you really want to open file? **[Select]** or click **{OK}**.

Note the option to open only certain parts of the show.

File > Save

To save the show you are working on:

[Displays], {Browser}, File > Save/Save As > and press **[Select]** or double-click.

Do you really want to save? **[Select]** or click **{OK}**.

If (untitled), "Enter new show name: Show File" appears above the virtual keyboard. Press **[Label]** to clear "Show File." Type a show name, then **[Enter]** on either console or keyboards.

When console saves the show, it makes a new copy of the file. Each show file has a date and time stamp in the show file name. Always have backup copies!

Quick Save

Hold **[Shift]** and tap **[Update]**. Simple!

Browser Color Coding:

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

File > Save As

For when you want to rename a show file that has already been saved or to save to an external media drive.

To rename the file on the hard drive:

[Displays], {Browser}, File > Save As > Show File Archive and press [Select] or double-click.

Do you really want to save? **[Select]** or click **{OK}**.

You now have the opportunity to rename the show file.

Backspace to clear the current name or press **[Label]** to clear any open label field.

Type a show name, then **[Enter]** on either console or keyboards.

To save to an external media drive:

Insert the thumb drive.

[Displays], {Browser}, File > Save As >, find the external device and press **[Select]** or double-click.

Do you really want to save? **[Select]** or click **{OK}**.

You now have the opportunity to rename the show file.

Hit **[Enter]** and that file will be saved to the thumb drive.

Browser > Print

Console prints to a PDF file on the hard drive or to an external media device. You can archive where you prefer or print out select pages as you need them.

To File

[Displays], {Browser}, Print > To File >, find the external device and press **[Select]** or double-click.

By default, all show information is included in the print file. Portions can be deselected that are not to be included.

Do you really want to save? **[Select]** or click **{OK}**.

Now have the opportunity to rename the show file.

Hit **[Enter]** and the print file will be saved to the thumb drive.

Take it to your nearest printer and print what you need.

Undo

The Command history is a list of all commands that have been executed since the file was opened or last saved. You can go back to a specific point and undo everything up to that point.

[Undo]

A simple **[Undo] [Enter]** reverses the last command that was executed.

From an empty command line, **[Undo]** opens the command history.

Use **[Page ▲]** to highlight back to the point that wants to be reversed. Press **[Enter]** and an advisory is posted. Press **[Enter]** again.

All highlighted commands are removed from the command history.

After using **[Undo]**, **{Redo}** appears in the command history. Pressing **{Redo}** followed by **[Enter]** reverses the last undo to reinstate the removed commands.

Commands that are grayed out cannot be undone.

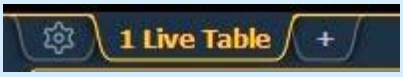
DISPLAY MANAGEMENT TOOLS

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.



TO OPEN DISPLAYS

Press [Sub] [Sub] … [Group] [Group] … [Effect] [Effect]	to either open the associated display or select it if it is already open

TO MOVE DISPLAYS

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

TO CLOSE DISPLAYS

Press [Tab] until desired display is highlighted then [Escape]	to close any tab display

TO SELECT OPEN DISPLAYS

Press [Tab] … [Tab] … [Tab]	to change focus from open display to the next open display numerically
Press [Live] or [Blind]	to instantly bring Live/Blind into focus

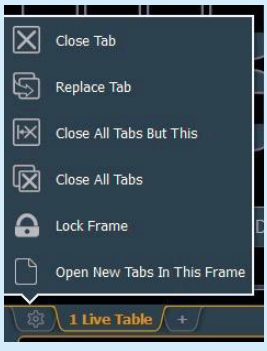
{+} SIGN OR ADD-A-TAB

Press Add-a-Tab (the {+} sign) to the right of the tabs	opens the home screen or display and control options

TAB CONTROLS

Click on the Gear icon on the left of the tabs to see additional tab tools:

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



CLOSE ALL TABS

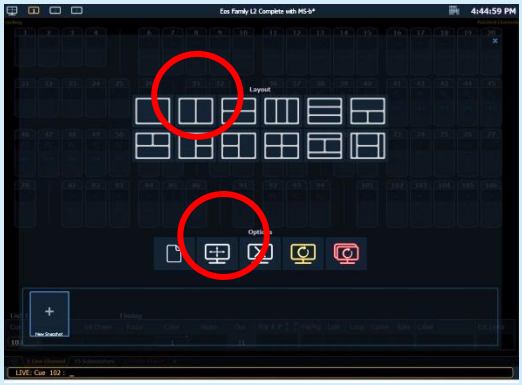
Hold [Shift] & press [Tab]	to close all tabs on a single screen
Hold [Shift] & press [Tab] [Tab]	to close all tabs but tabs 1 and 2 on all screens

Display Layouts and Workspaces

Display Tools

Click 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 side-by-side layout

Press the Displays Tool icon again

In the Options area, select the second 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

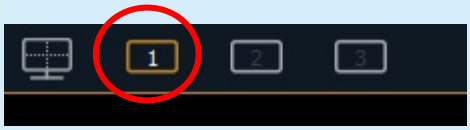
Fixed Tab Numbering

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.

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 Screen to open new tabs using the Display and Controls icons.
  - All new tabs will open here
- **Resize Frames In This Workspace** - opens resizing tools between frames of the workspace to adjust sizing as needed.
- **Close All Tabs In This Workspace** - close all of the tabs in the active workspace on this monitor only.
- **Reset This Display** - 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 Displays** - 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 Displays icon	close all of the tabs and frames on *all* monitors

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

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

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 Via 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 Channel 1 - 40. The first two rows of faders will then control channels 1 - 40.
- You can now raise or lower the faders to control channels 1 - 40.
- Set the switch to Channel 41 - 80.
- You will need lower any faders previously set at a level to zero in order to set the new channels to a level. You will not lose the original channel levels.
- To clear levels set at previous positions, go back to that position on the switch, raise or lower the fader to meet the level of the channel and then fade down or up to change
  - or access the channel using the control keypad
  - or do a [Clear] [Sneak] [Enter]

Fader Status Bar

Notice the **Fader Status Bar** or display across the bottom of the Playback Status screen. As you change the Fader Mode Switch, the Fader bar switches as well. Display allows:

- Channel number
- Current level
- Arrows - show direction to move faders to match previous positions

Patch

Press **[Patch]** to get to the Patch display. By default, patch is displayed in a channel view. You can change the display to sort by address by pressing **[Format].**

Patch by Channel

[601] [At] [250] [Enter]	selects channel 601 and patches address 250 to it
[602] [At] [617] [Enter]	selects channel 602 and patches the address 617 to it
[603] [At] [2] [/] [106] [Enter]	selects channel 603 and patches the 2nd universe address 106 to it
Press [Data]	displays all 3 channels in **output address** style. note blue text in upper left corner
Press [Data] again	displays all 3 channels in **port/offset** style. note blue text in upper left corner
Press [Data] again	returns to how it was originally entered

Range Patching

[604] [Thru] [610] [At] [251] [Enter]	selects channel 604 thru 610 and patches address 251 thru 257 to them
[611] [At] [270] [Thru] [275][Enter]	selects channel 611, patches addresses 270 thru 275 to it, creates parts
[612] [Thru] [620] [At] [431] {Offset} [3] [Enter]	allows for a three-cell cyclight patch

Clear vs. Unpatch vs. Delete

[601] [At] [0] [Enter] [Enter] or [601] [At] [Enter] [Enter]	removes the address, leaves type, etc.
[602] {Unpatch} [Enter] [Enter]	restores to default properties – removes address, type, label, etc.
[Delete] [603] [Enter] [Enter] or [603] [Delete] [Enter] [Enter]	deletes the whole channel from show
[Live] and look at the Channel View (No Flexi)	
[Undo] last three commands [Enter]	to restore channels 1 - 3

Patch by Address

Back in [Patch] and press [Format] to switch to 'By Address'	
[460] [At] [625] [Enter]	selects one address, 460, and patches it to channel 625 – note command line
[461] [Thru] [465] [At] [630] [Enter]	selects a range of addresses and patches them to one channel (parts)

Patch a Multi-Parameter Device

Back in [Patch] - By Channel Format	
[651] [Thru] [656] [Enter]	selects the channels
Click on {Type} in the CIA area	notice softkeys {Favorites} and {Manfctr}
Click on {Manfctr}	2 left columns show manufacturers; selecting a manufacturer repaints the right columns with their devices
Find {Martin} in left columns, and then {Mac 250 Wash} in right	notice Mac 250 Wash in blue – multiple modes available
Select {S} for standard mode	fixture placed on 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 Channel

A compound channel is a channel that controls more than one device - a fixture with several accessories (such as a fixture with a color scroller, a gobo rotator, and so on).

[641] [Thru] [645] [At] [2] [/] [111] [Enter]	patches first part of channel - 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 part 2's
[Part] [3] [Enter]	creates a part 3 for selected channels
{Type}, {Rosco}, {Gobo Rotator}	makes part 3 a gobo rotator giving the channel a beam parameter
[At] [2] [/] [131] [Enter]	gives a starting address for part 3's with 2 outputs per channel

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).

Channel/Address Check

[Live] [1] [Full] {Chan Check} [Enter] then [Next] … [Next] …	quickly steps through all patched channels at 100%
{Address} [1] [Full] [Enter] then [Next] … [Next] …	same as channel check but with addresses

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

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

Working with Channels

Set Channels in Live

[Live] if you are not already there	
[1] [+] [3] [At] [5] [Enter]	sets level of 50% (use [05] for 5%)
[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] [+] [30] , [At] [-] [4]	add 3 points more, subtracts 4 points
[At] [/] [50] [Enter] [At] [/] [400] [Enter]	takes 50% of current level, 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

Offset is a soft key, when pressed additional options are accessible

[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 uses timing established in Setup.

[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 default time
[9] [Full] [Sneak] [0] [Enter]	brings channels to full in 3 seconds
[4] [Sneak] [Enter]	restores selected channel to background state using default sneak fade time
[Clear] [Sneak] [Enter]	restores all manual levels to background states (Clear empties the command line)

Flash

[2] {Flash} then [Next]…[Last] [Clear] to stop	channel bumps from 15% to full and back till command line is cleared
[Shift] [&] [Out] [Shift] [&] [Full]	on or off while held

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] [Enter]	records the selected channels to group 30

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
[Select Last] [At] [30] [Thru] [Full] [Enter]	reselect the whole group and fan intensity

Group List [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]	adds 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!

Working with NPs

Non Intensity Parameter Control (FCB)

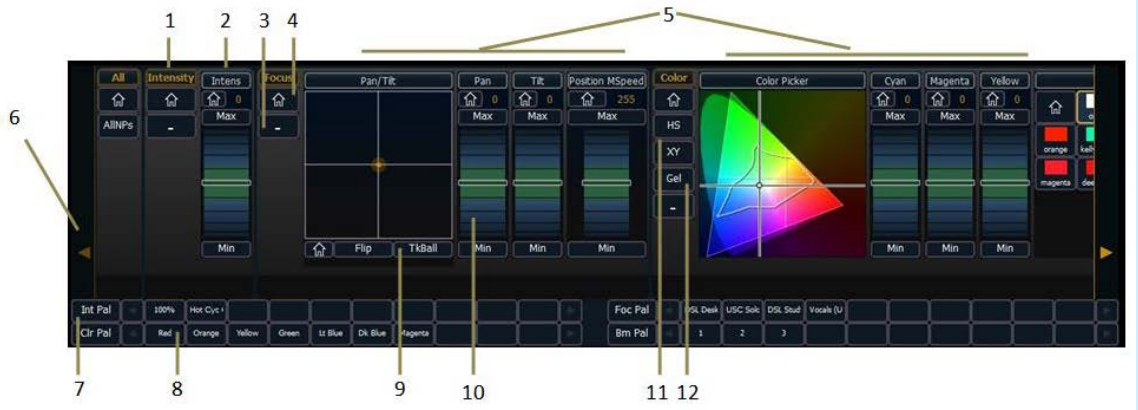
[Live] if you are not already there [Clear] [Sneak] [Enter]

Four major parameter categories:

- **Intensity** . . . Intensity
- **Focus** . . . Pan and Tilt
- **Color.** . . All color parameters (Scrollers, RGB, CMY, CTO, CTB…)
- **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, etc.
  - **Shutter** - includes all of the framing parameters

ML Control

Press [ML Control]	to open display in CIA area
Click on Add-a-Tab (the {+} sign), under Displays, select ML Controls	to open display in tab



1 Category button
2 Parameter button (Clicking the button will put the parameter on the command line.)
3 Collapses or expands categories.
4 Home button allows you to home a specific parameter or attribute .
5 Parameter attributes
6 Arrow(s) to scroll through a fixture's available categories.
7 Palette button (Clicking the button will put the palette on the command line.)
8 Palette Select buttons. Will display number or label.
9 Gives pan and tilt functionality to a mouse or trackball.
10 Virtual encoder (Click and hold close to the center line for slow movement, further away for faster movement.)
11 HS opens the Hue/Saturation color space; XY opens the CIE XY color space
12 Opens the gel picker.

COLOR CONTROLS

COLOR CONTROL WITH SCROLLERS

[Group] [6] [Full] [Enter]	set levels

With a scroller selected, you will also see columns of buttons to the right of the color picker.

Click on a scroller color tile	

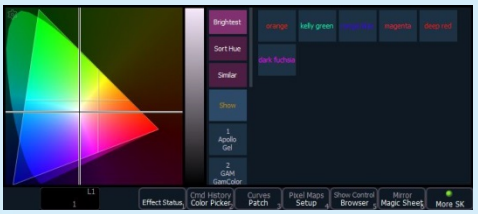
Frame numbers can also be called from the command line.

[Group] [6] [Frame] [5] [Enter]	advances scroller to fifth frame of scroll

COLOR CONTROL WITH LEDS

[Clear] [Sneak] [Enter] [Group] [8] [Full] [Enter]	notice all colors at 100%
Dial the virtual encoders of each color	
Under Red , press {Min}; Green, press {Min}; Blue, press {Max}	leaves a nice blue cyc
Click on the 'Red' label, then [50] [Enter]	adds 50% of red into cyc
Press [Displays], then tap 'Red' tile in CIA, [Full] [Enter]	now a full magenta cyc

COLOR PICKER



Press **[Displays]** and select **{Color Picker}** from the softkeys or click on **Add-a-Tab** (the {+} sign).

- 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.

[Group] [8] [Home] [Enter]	
Using virtual encoders, dial Saturation to Full ; dial Hue to change colors	watch dots on the color picker
Tap (or click) on various colors	watch cyc change colors

*You can also open the Color Picker as a tab using **Add-a-Tab** (the {+} sign).*

GEL PICKER

Using these buttons, you are able to select gel colors from a specific manufacturer and the console will mix the 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]	
Select {1 Apollo}, then find {AP1950} - a green	watch cyc change color
Select {5 Rosco Roscolux}, then find {R027} - a red	watch cyc change color
[Group] [8] [At] [5] [/] [339] [Enter]	first # being the Gel library and second # being the gel number

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 channels 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

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

Delete a Cue

[Delete] [8] [Enter] [Enter] again to confirm	deletes a cue

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
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]**.

You can also manually take control of the fade by dropping the faders down until they meet the fade in progress. You can then control the fade manually till the faders are brought back to the top or 100% completion.

Using 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 all cue lists active on faders to the top of the list
[Go To Cue] [0] [Enter]	sets all current intensity values to zero and resets the current 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] [6] [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 to the main playback faders and then runs in that cue's time

ADDITIONAL CUE TIMING

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
[3] [+] [13] [+] [14] [Out], [Group] [8] [Out], [1] [+] [23] [Full] [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
[Go To Cue] [7] [Enter] and press [Go], play thru the cues	watch for the different delays
[Cue] [x] [Delay] [Enter]	to remove a delay time

FOLLOW (AUTO-FOLLOW)

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

{Follow} is a soft key; can also press **[Shift]&[Delay]** to access Follow

[Cue] [1] [Time] [3] [Enter] {Follow} [3] [Enter]	records cue with a follow time of 3 seconds
[Go To Cue] [0] [Enter] and press [Go]	watch the cue
[Cue] [2] [Time] [3] [Shift]&[Delay] [5] [Enter]	records cue with a follow time of 5 seconds
[Cue] [3] [Time] [3] {Follow} [3] [Enter]	records cue with a hang time of 3 seconds
[Go To Cue] [Out] [Enter] and press [Go]	watch the cues play
[Cue] [x] {Follow} [Enter]	to remove a follow time

LINK/LOOP

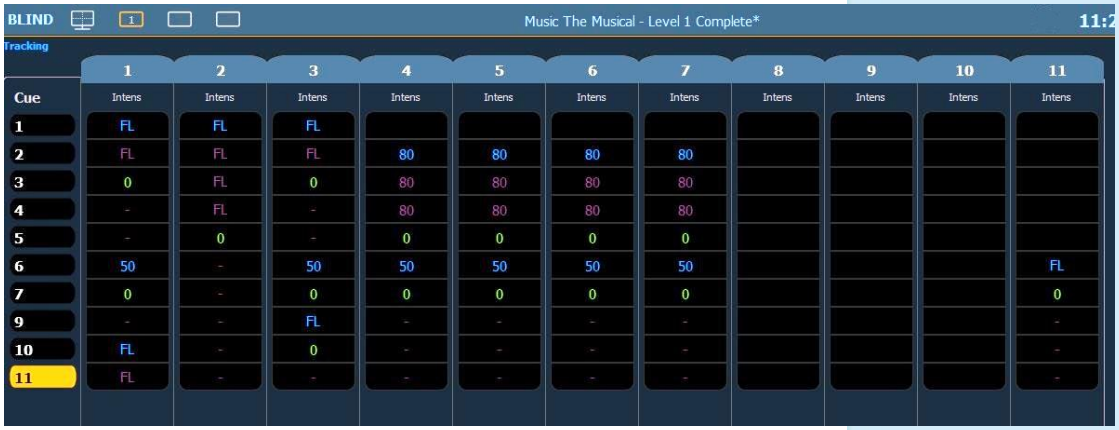
Link allows cues to be run out-of-sequence.

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

[Cue] [4] {Link/Loop} [1] [Follow] [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] [0] [Enter] and press [Go]	watch the sequence – notice loop count
To indefinitely loop {Link/Loop} {Link/Loop} [0] [Enter]	loops the sequence indefinitely
Press [Go] at any time after first loop and will play cue 5	
[Cue] [4] {Link/Loop} [Enter]	to remove links and loops

TRACK/CUE ONLY/BLOCK

Go to **[Blind],** and press **[Format]** to get to Spreadsheet



TRACK

[Cue] [1] [Enter] **[8] [At] [80] [Enter]**	adds channel to cue 1 and tracks it right into our blackout cue

CUE ONLY

[Cue] [1] [Enter] **[9] [At] [40] [Q Only/Track] [Enter]**	adds channel 9 to cue 1 and inserts a move to restore it to zero in Cue 2
[Cue] [1] [Thru] [3] [Enter] **[9] [At] [40] [Q Only/Track] [Enter]**	creates a move in first cue, tracks through, adds a move to zero in last cue
[Cue] [8] [Enter] [Enter]	creates a new cue after the blackout 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 is white (channel blocked)**	applies a block to the blackout cue

"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 1 and tracks it till it reaches the block in cue 7

AUTOBLOCK

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

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

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

CLEAR AN AUTOBLOCK

[Cue] [2] [Enter] **[Block] [Enter] [Block] [Enter]**	clears an autoblock

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

Submasters

Record 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 from yellow to green. You will also see the following when the switch is in submaster mode:

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

[Clear] [Sneak] [Enter]	
[Group] [8] [Full] [Enter] and 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]	
[Recall From] [Cue] [9] [Enter]	set levels
[Record] [Sub] [3] [Label] Pink [Enter]	from the command line…with a label
[Clear] [Sneak] [Enter]	

Now…Let's look at our subs! Run each fader up and down

Record Submaster in Blind

[Blind] [Sub] [31] [Enter] [21] [Thru] [26] [Full] [Enter]	records values to sub 31 – 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] [Full] [Enter]	brings sub to 50% or to Full
[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

[Clear] Press and hold {Page Subs}	shows page numbers on fader status bar
Press the bump button of the next fader (page 2)	bottom row, first fader is sub 101

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

[Clear] [Sneak] [Enter] and slide the fader up - leave it up	view sub 101 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] [3] [Enter] [Enter]	deletes the contents of sub 3
[Delete] [Sub] [1] [Thru] [Enter] [Enter]	deletes the contents of all subs 1 – 300

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.

Hold [Fader Controls] and press page 1	back to page 1
[Sub] [1] [Time] [3] [Time] [4] [Time] [3] [Enter]	adds a 3 sec upfade, holds for 4 sec and 3 sec down fade
Press the bump button of fader 1 just once	fades up, holds, 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
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)	opens the submaster list - use the softkeys for selection and editing

PERCENT (%)

The list shows the current level of each submaster. One of the few places where, although you are in Blind, you see what is the current Live setting.

MODE: ADDITIVE, INHIBITIVE, OR EFFECT SUB

Additive contributes to live output in a pile-on style (DEFAULT). Inhibitive or subtractive limits live output (like mini-grand master). Effect Sub will store only the effect information.

[Sub] [1] {Mode}* [Enter] LED turns red, push fader to Full	makes sub 1 an inhibitive sub
[Go To Cue] [1] [Enter]	runs the cue with specials
Slowly bring the fader out.	specials go out - notice small 'I' in channel display
[Go To Cue] [Out] [Enter]	

** Watch the command line for the appropriate mode – additive, inhibitive, or effect sub*

FADER: PROPORTIONAL OR INTENSITY MASTER

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

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

[Group] [11] [Full], tilt up on cyc	
[Record] [Sub] [10] [Enter] [Clear] [Sneak] [Enter]	
Then bring fader up, see live changes Bring fader down	shows proportional control of contents
[Sub] [10] {Fader} [Enter]	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	resets non-intensity parameters

If set as an Intensity Master and bump button not pressed, as fader is moved, non-intensity parameters moved into positions as fast as possible and the rest of the fade will be intensity only.

EXCLUSIVE

When set as Exclusive, the contents of the submaster cannot be stored into any record targets (similar to **[-] [Sub] [Record]**).

[Sub] [2] {Exclusive} [Enter]	makes the submaster Exclusive

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.

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 only the intensity of the channel at its current level
{Address} [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:

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

Park Display (Blind)

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

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

To clear a Park command:

[2] {Park} [Enter] …[Enter]	unparks channel
{Address} [32] [At] [Enter]	unparks an address

Setup

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

- Show
- Desk

SHOW – SPECIFIC TO THE CURRENT SHOW FILE – STAYS WITH SHOW

These settings are shared on all consoles on the network.

- **Show Settings** Number of Channels, Dimmer Doubler Offset, Preheat Time, Startup, Shutdown and Disconnect Macros.
- **Cue Settings** Cue Default Times
- **Show Control** SMPTE, MIDI, MSC, Analog/Serial, UDP, OSC

DESK – SPECIFIC TO THE DESK/HARDWARE – STAYS WITH DESK

These settings are for each independent console – the hardware.

- **Record Defaults** Auto Playback, Track Mode, Record/Delete Confirm
- **Manual Control** Manual Times, Preserve Blind Cue, Level, Plus/Minus %, Live RemDim Level, Sneak, Back, Go To Cue and Timing Disable Times
- **Face Panel** Sounds, Encoders Adjustments– Percent or Degrees Per Revolution
- **Face Panel Keypad** Auto Repeat settings, Blackout and Grandmaster Disable, Spacebar [Go] Enable, Hide Mouse
- **Displays** Hi-Contrast Displays, Show Reference Labels, Group Chans by 5, 100 Chan Display, Command Line on PSD, PSD Time Countdown Enable
- **PDF File Settings** Orientation and Paper Type settings
- **Brightness Settings** Desk Lamp Control
- **RFR Settings** Allow RFR Connections – all remotes: iRFR or aRFR
- **Trackball Settings** Adjustments for Trackball

An Intro to Effects

[Effect] [Effect]	opens the effects list

Effects 901 through 918 are preprogrammed effects

Creating a step-based effect

[Effect] [1] [Enter]	creates a new effect number
<Type> {Step-based}	assigns the effect as a step effect
{Step} [1] [Thru] [5] [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]	recalls the effect created on group 30

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]	resets overall effect time/speed
Click on {Attributes}	opens table of various attributes

The basic behavior of the effect can include forward, reverse, bounce, positive, negative, and random grouping or random 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

[Group] [30] [Effect] [Enter]	stops the effect running on channels
[Effect] [1] [At] [Enter] or [Effect] [At] [Enter] for all effects	stops effect 1 no matter what channels
[Sneak] [Enter]	stops effect if manual data – not recorded
{Fader Controls} {Stop Effect} [1] [Enter]	will stop the specified running effect
{Fader Controls} {Stop Effect} [Enter]	will stop 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] [914] [Enter]	applies existing effect to selected channels

Effect 914 is a Hue-Saturation Color Effect.

FUN WITH THE COLOR PICKER

[Displays] {S2 -Color Picker}	opens the color picker

Visually see the effect running in the blue area.

Click on various colors	watch cyc change colors
Use Hue wheel in ML Controls to dial Hue and change colors	watch color changing
Use Saturation wheel to dial Saturation	watch dots on the color picker

STOPPING AN EFFECT

[Live] [Group] [8] [Effect] [Enter] or just [Sneak] [Enter]	stops effect from running
OR [Effect] [914] [At] [Enter]	stops effect 914
OR [Group] [8] [Effect] [At] [Enter]	stops all effects on selected channels
OR {Fader Control} {Stop Effect} [Enter]	stops all effects

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

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

[Record] <Cue> [12] [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.

Cue List Ownership

Eos family consoles are capable of running multiple cue lists. In a multiple-cue-list console, cue list ownership is an important concept. Cue list ownership is determined by the cue from which a channel is currently receiving its value. In Live, a parameter is considered to be "owned" by a cue list when it is receiving its current value from that cue list.

When alternating between cue lists in sequential playback, the most recently activated cue list does not necessarily own a channel or parameter unless that list has provided the last move instruction for that channel. For example, assume a channel is owned by cue list 1 and is at a tracked value. If a cue from another cue list is executed and provides a move instruction for the channel in the new cue, the channel is now owned by the second cue list. It will not return to cue list 1 until that cue list provides a move instruction for the channel.

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

Assert

Assert is analogous to block, but is a Playback function - it defines how the cues interact with each other in regard to the concepts of Move Fade. Assert may be used to override this default behavior, allowing a cue list's control over a channel to be restored, even when the channel's data is tracked.

Assert is not only used in multiple cue list environments, it is useful in single list as well, as it is a way to force a tracked value to act as a move instruction on playback. Assert can be placed on a cue list, a cue, a channel or a parameter.

Example:

Cue 10 is a blackout on a time of 0. Cue 9 starts some of the lights fading to zero. You run cue 10 before cue 9 is finished. Because some of the levels were already commanded to zero in cue 9, they will continue to run in cue 9's time as they are not getting a new move instruction in cue 10. To get them to use cue 10's time, you have to place an assert on cue 10 (blocking cue 10 will not do this).

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

How Element compares to the other Eos Family consoles

As of version 2.3 software:

System

- 250 or 500 channel Max
- 1024 Output Max
- 40 or 60 physical faders assigned as fixed sub-pages or channels
- No External Fader Wings
- No encoders – use ML Controls
- No Multi-user or Partitions
- 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. (New as of v2.2.0)
- Snapshots limited to displays

Playback

- Single cue list – no multiple cue lists
- Follow Only (No Hang)
- No F/C/B Parameter Timing
- No Discrete Timing
- Block is both Assert and Block

Control and Data Management

- No Presets
- No Home Preset
- No Reference Mark – AutoMark Only, which is always enabled
- No By Type option for Palettes
- Palettes do not have “Lock” or “Absolute” option
- No Pixel Mapping
- Update limited to All or Absolute (Default is always Update All)
- No Fan
- No Highlight
- No Capture
- No Filters
- No Trace
- No Query

Moving a show file from Eos to Element

- Referenced Marks become AutoMark
- Presets become absolute data – no longer referenced
- Maintains Cue List 1. Other Cue Lists will be removed
- Submaster mapping becomes 1 to 1
- Hang is converted to Follow
- Discrete Time is removed

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	Color Kinetics	ColorBlast 12	Cyc Top
52	2	55	Color Kinetics	ColorBlast 12	Cyc Top
53	2	58	Color Kinetics	ColorBlast 12	Cyc Top
54	2	61	Color Kinetics	ColorBlast 12	Cyc Top
55	2	64	Color Kinetics	ColorBlast 12	Cyc Top
56	2	67	Color Kinetics	ColorBlast 12	Cyc Top
57	2	70	Color Kinetics	ColorBlast 12	Cyc Top
58	2	73	Color Kinetics	ColorBlast 12	Cyc Top
59	2	76	Color Kinetics	ColorBlast 12	Cyc Top
60	2	79	Color Kinetics	ColorBlast 12	Cyc Top
61	2	82	Color Kinetics	ColorBlast 12	Cyc Top
62	2	85	Color Kinetics	ColorBlast 12	Cyc Top
63	2	88	Color Kinetics	ColorBlast 12	Cyc Top
64	2	91	Color Kinetics	ColorBlast 12	Cyc Top
65	2	94	Color Kinetics	ColorBlast 12	Cyc Top
66	2	97	Color Kinetics	ColorBlast 12	Cyc Top
67	2	100	Color Kinetics	ColorBlast 12	Cyc Top
101	1	301*	Robe	Robin 300 LEDWash – M3	
102	1	321	Robe	Robin 300 LEDWash – M3	
103	1	341	Robe	Robin 300 LEDWash – M3	
104	1	361	Robe	Robin 300 LEDWash – M3	
105	1	381	Robe	Robin 300 LEDWash – M3	
106	1	401	Robe	Robin 300 LEDWash – M3	
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

* *Think Offset!!*

Appendix 2 – Level 2 Hookup Additions

Channel	Universe	Address	Manufacturer	Type	Focus/Notes
71	2	1	Color Kinetics	ColorBlast 12	Cyc Bottom
72	2	4	Color Kinetics	ColorBlast 12	Cyc Bottom
73	2	7	Color Kinetics	ColorBlast 12	Cyc Bottom
74	2	10	Color Kinetics	ColorBlast 12	Cyc Bottom
75	2	13	Color Kinetics	ColorBlast 12	Cyc Bottom
76	2	16	Color Kinetics	ColorBlast 12	Cyc Bottom
77	2	19	Color Kinetics	ColorBlast 12	Cyc Bottom
78	2	22	Color Kinetics	ColorBlast 12	Cyc Bottom
79	2	25	Color Kinetics	ColorBlast 12	Cyc Bottom
80	2	28	Color Kinetics	ColorBlast 12	Cyc Bottom
81	2	31	Color Kinetics	ColorBlast 12	Cyc Bottom
82	2	34	Color Kinetics	ColorBlast 12	Cyc Bottom
83	2	37	Color Kinetics	ColorBlast 12	Cyc Bottom
84	2	40	Color Kinetics	ColorBlast 12	Cyc Bottom
85	2	43	Color Kinetics	ColorBlast 12	Cyc Bottom
86	2	46	Color Kinetics	ColorBlast 12	Cyc Bottom
87	2	49	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
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

Corporate Headquarters ■ 3031 Pleasant View Road, P.O. Box 620979, Middleton, Wisconsin 53562-0979 USA ■ Tel +608 831 4116 ■ Fax +608 836 1736
London, UK ■ Unit 26-28, Victoria Industrial Estate, Victoria Road, London W3 6UU, UK ■ Tel +44 (0)20 8896 1000 ■ Fax +44 (0)20 8896 2000
Rome, IT ■ Via Pieve Torina, 48, 00156 Rome, Italy ■ Tel +39 (06) 32 111 683 ■ Fax +44 (0) 20 8752 8486
Holzkirchen, DE ■ Ohmstrasse 3, 83607 Holzkirchen, Germany ■ Tel +49 (80 24) 47 00-0 ■ Fax +49 (80 24) 47 00-3 00
Hong Kong ■ Rm 1801, 18/F, Tower 1 Phase 1, Enterprise Square, 9 Sheung Yuet Road, Kowloon Bay, Kowloon, Hong Kong ■ Tel +852 2799 1220 ■ Fax +852 2799 9325
Service: (Americas) service@etcconnect.com ■ (UK) service@etceurope.com ■ (DE) techserv-hoki@etcconnect.com ■ (Asia) service@etcasia.com
Web: www.etcconnect.com
4330M4221-2.3.0 ■ Rev. A ■ Released 2015 ■ ETC intends this document to be provided in its entirety.