Eos Family Console Programming

Level 4: Proficient

Workbook

V3.1

www.etcconnect.com/education

Released: 2021-11

Table of Contents

Purpose of the Class

This class is intended for people who are well versed in Eos Family terminology, already know the layout of the desk, and are experienced conventional and intelligent fixture programmers. This class is intended to build on your knowledge, and make you faster.

Learning Objectives:

After completing this class, users should be able to:

- Use advanced palette and preset modifiers
- Create more complex Macros
- Understand and work with multiple cue lists and multiple cue list playback
- Feel comfortable with the Cue List index and its properties
- Take advantage of the three states of Capture
- Understand Priority settings
- Be more effective using Fader Configuration
- Use the virtual faders and playback filters
- Take advantage of the Fixture Profile Editor
- Understand and use the various color spaces and tools of the Color Picker

Syntax annotation

• **Bold**	Browser menus
• **[Brackets]**	Facepanel buttons
• **{Braces}**	Softkeys and direct selects
• **<Angle brackets>**	Optional keys
• **[Next] & [Last]**	Press & hold simultaneously
• **«Direct Select»**	Direct Select button press
• ⌈**MS Object**⌉	Object on a Magic Sheet

• **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.

Palette & Preset Modifiers

START THIS DAY IN LEVEL 3 COMPLETE!

BY TYPE PALETTES

When building palettes, often the same information is desired for all fixtures of the same type. By Type palettes use the information from a single fixture to populate all other fixtures of that type.

[Go To Cue] [104] [Enter]	
[102] [Full] [Rem Dim] [Enter], use the color picker, make it Amber	choose a new mixed color with the FOH movers
[Select Last] [Record] [Color Palette] [14] {By Type} [Label] Amber [Enter]	records the color data into a "By Type" color palette
Recall Snapshot 4	
Double tap the next open Custom Direct Select	
Touch «FOH Movers» (G5) [Full] [Full], **[Focus Palette] [1] [Thru] [5] [Enter]** **«Amber» (CP14)**	notice the colors all match even though the palette was created with only one of the fixtures (102)
[Blind] [Color Palette] [14] [Enter] Be in Table view, [101] [Enter]	notice blue leader channel and magenta follower channels

By Type palettes are created with "leader" channels, and "follower" channels. The leader contains the data, and all like-fixtures can follow that data to accomplish the same task, like mix to a color.

[Live] [Group] [7] [Full] [Full] [Home] [Enter] **Using the second fixed color wheel, select Amber**	(on 2nd page of color encoders)
[Select Last] {Color Select 2} [Record] [Color Palette] [31] {By Type} [Enter]	records all color data of the channels into the color palette

Editing By Type Palettes in Blind

In Blind, leader channels are blue, follower channels are magenta, and discrete channels are white.

[Blind] [Color Palette] [31] [Enter]	notice the blue leader channel and the white channels that have discrete data

If a single channel is not specified when recording a **{By Type}** palette, the lowest number channel of each fixture type will default to be the leader channel.

{Cleanup} [Enter]	removes discrete data that is the same as the leader channel - it leaves discrete data that is different from the leader
[Label] Wheel Amber [Enter]	
[Color Palette] [14] [Enter]	
[101] {By Type} [Enter]	makes channel 101 the leader channel - the old leader will become discrete
[102] [At] [Enter]	removes discrete data on this channel
[Live]	
[104] [Enter], using encoders, add a bit of magenta	change the color of only this fixture in the Color Palette
[Select Last] [Update] «Amber» (CP14)	
[Blind] [Color Palette] [14] [Enter]	notice the discrete data (104 no longer follows the leader channel)
[105] {Discrete} [Enter]	convert 105 to discrete data, even though the values match the leader
[Clear] {Cleanup} [Enter]	only values that match the leader can be cleaned up, 104 magenta is still discrete
[104] [At] [Enter]	force 104 to match the leader channel
[Color Palette] [1] [Enter] Scroll to see Ch. 131 thru 148	channels 131 thru 138 weren't patched when the palette was created
{By Type} [Enter]	making it By-Type populates any matching fixture types with color data
{Cleanup} [Enter]	
[Color Palette] [1] [Thru] [13] {By Type} {Cleanup} [Enter]	make all palettes By-Type and clean up discrete data
[Next]… [Next]… [Next]… [Next]	see that 131 thru 138 now have data for fixtures added after recording palettes
[Color Palette] [5] [Enter]	editing the leader channel will change all the follower channels
[141] {Red} [25] [Enter]	see how all other channels follow
[Undo] [Enter]	

Updating By Type Palettes

When updating a By Type palette, it is not necessary to know the leader channel number. Select any of the channels and append the **{By Type}** to the command line. The command will not work if the channel selected has discrete data already associated with it.

[Live]	
[Group] [2] [Full] [Rem Dim] [Enter], using encoders to add a little red	in color palette 6 to begin with
[Select Last] [Update] [Color Palette] [6] {By Type} [Enter]	notice the update window shows which channel is the leader and which channels will be updated

In the update dialogue box, the channel in brackets is the leader channel.

[Blind] [Color Palette] [6] [Enter]	because By Type was added to the update command, no discrete data was created

Palette Modifier Best Practices

- By Type Palettes can save you time by allowing you to create content before your full rig is installed. Also when adding new fixtures to your rig, content is already created

Absolute Palettes

When a Palette or Preset is made absolute, the values can no longer be referenced. When recalling an absolute palette, the referenced data will not be recorded into a cue or nested into a preset – it will always post absolute data when recalled.

[Intensity Palette] [Intensity Palette] or Add-a-tab {+}	to open the Intensity Palette List
[Intensity Palette] [1] [Thru] [2] {Absolute} [Enter]	makes Intensity Palettes 1 & 2 Absolute
[Live] [Group] [22] [Intensity Palette] [2] [Enter]	applies the absolute data/values from Intensity Palette 2 to the channels
[Clear] [Intensity Palette] [2] {Absolute} [Enter]	clear the command line and turns off Absolute

Absolute Palette Best Practices

- Intensity palettes are good candidates to be made absolute palettes, so intensity data is always stored in cues as non-referenced data
- Great to use as "starting" point palettes, such as a quick way to get lights focused in the ballpark, before tweaking them and recording actual focus palettes

Locked Palettes

Once a Palette or Preset is locked, data can not be accidentally modified. It cannot be updated through an Update All command.

To update a locked target from Live, you have to use channel selection and the target in the command line.

[Clear]	to clear the command line
[Focus Palette] [11] {Lock} [Enter]	makes Focus Palette 1 Locked
In the Direct Select, an 'L' is in the corner to indicate locked.	
Touch «OS Movers-Wash» (G7), [Full] [Full],	turns on channels and places them in a focus palette and color palette
Touch «Down Center» (FP11), «Lt Blue» (CP5)	
[Record] [117] [Time] [3] [Enter]	records the references for the channels in a cue
[Select Last] , Move Pan & Tilt	change the focus of the lights
[Update] {All} Look at the Update Dialogue Box [Enter]	updates the changes to the cue, but forces absolute values into the cue
Notice in the update dialogue box, the 'L' in parenthesis that indicates that this is a locked palette.	
[Select Last] «Down Center» (FP11)	places fixtures back in Focus Palette 11
Move Pan & Tilt	change the focus of the lights
Locked palettes can be updated by specifically calling the channels and the record target.	
[Select Last] [Update] [Focus Palette] [11] [Enter]	saves changes back to Focus Palette 11 – still manual till update the cue
[Update] [Enter]	to update cue

Locked Palette Best Practices

- Common use of locked palettes is locking them so that when they are stored in a cue or nested in a preset, they are not accidently recorded over when you update the cue or preset.

Advanced Macros

Macros

[Learn] [11] [Enter]

{Fader} [1] [Thru] [Home] [Enter] [Learn] — writes a macro to reset all faders to their home positions

[Clear] — clears command line

Move several faders away from their current position

[Macro] [11] [Enter] — Motorized faders move automaticllay, non-motorized will need to be moved

```
Fader 1 Thru Home ♦
```

Macro Modes

Macros can be called to run on or off the command line.

- **{Foreground}** – Macro commands post to the command line. Because devices with the same user share a command line, it will run on all devices with the same user.
- **{Background}** – Macro commands run, but do not post to the command line. Only runs on the device where it is called.
- **{Default}** – If called manually (by a programmer calling the macro), it will post as Foreground. If called by an execute or by the system (like a cue or via show control), it runs as Background.

Changing A Macro Mode

[1] [Thru] [10] [Macro] [11] [Enter], **[Shift]&[Clear]** — gets an error message – the macro is interacting with the command line

[Macro] [Macro]

[11] [Enter]

{Macro Mode} {Macro Mode} [Enter] — change to background mode

[Live] Move several faders away from their current position

[1] [Thru] [10] **[Macro] [11] [Enter]** — macro runs behind the command line, not affecting the command line

Additional macro editor functions

[Macro] [Macro]

[3] [Enter]

{Macro Mode} [Enter] — makes it foreground mode

{Edit} or [Learn]

Arrow over to "Next", {Delete}

{Wait for Input}, [Label], [Enter] {Delete} to remove ◆

[Learn] or {Done}

[Live] **Recall Snapshot 4**

«OS Movers» (G7) [Full] [Full], «X Stage Look» (FP12)
Tilt fixtures halfway up the Proscenium arch

```
Select_Last Record Focus_Palette Wait_For_Input Label
```

«Rec FP Next» [21], then push [Macro] High Cross [Enter]	Wait for Input requires pushing Macro hardkey to continue the macro
[Macro] [Macro]	
[Next] {Color} {Green} [Enter]	these colors appear in direct selects and on dedicated macro buttons if present
[Next] {Color} {Red} [Enter]	
[4] [+] [5] [Copy To] [Copy To] [819] [Enter]	on hardware with built-in touchscreens lines up with colors
[11] [Label] Reset Faders [Enter]	

Other Macro Commands

- **{Loop Begin}** – inserts a loop start command
- **{Loop End}** – inserts an end command for a loop with a limited number of iterations. An infinite loop is assigned when you use "0" for the iterations.
- **{Wait}** – inserts a pause for a period of time. This needs to be followed with a whole number of seconds.
- **{Wait for Enter}** – inserts a pause in the macro that waits for the **[Enter]** key. Pressing **[Enter]** will resume the macro.
- **{Target Device}** – A macro can have a Target Device assigned to it. This allows a cue to execute a macro only on a certain console. The Target Device can be a device name or User ID. These are assigned to a macro in the Macro Display by using the **{Target}** softkey and either selecting **{Device}** and **{User}**.
- **{SC Learn}** – enables or disables excluding specific macros from being learned as show control events.

Start up Shut Down macros

[Displays] {Setup} {System} {System}

- **{System Startup Macro}** – allows you to set up a startup macro that will trigger after the console initialization has completed.
- **{System Shutdown Macro}** – allows you to set up a disconnect macro that will trigger at power off, not when exiting the application.
- **{Disconnect Macro}** – allows you to set up a disconnect macro that will trigger when the primary disconnects from its backup, or when a backup disconnects from the primary.

Go back to [Live]

Multiple Cue Lists

Eos allows up to 999 cue lists in each show file which can be used for linear playback, effects cue lists, and multiple programmer environments.

When the same channels are stored in multiple cue lists, the software needs to know which cue list owns a channel at any given time. By default, cue lists are LTP (Latest takes Precedence). That means, that whichever cue list has given a channel its most recent move instruction owns that channel. That cue list will remain the owner of that channel, until another cue list acts upon it with a move instruction or until the current owner releases it.

Record a new cue list

[Live] Recall Snapshot 4 [Go To Cue] [102] [Enter]	
«FOH Movers» (G5) [Home] [Enter], {Make Abs} [Enter] «Guitar» (FP1)	removes references
[Select Last] [Record] [2] [/] [1] [Enter]	creates list 2 and records the data to cue 1 in that cue list

Note: New cue lists will automatically load to the first empty fader. Has to have a fader to run. Motorized fader moves to Full. Non-Motorized faders need to be moved to the full postion. The PSD is also looking at cue list 2.

[Select Last] «Singer» (FP2)	
[Record Only] [2] [Enter]	just manual values are recorded into cue 2/2

Note: Look at the command line – it is still pointed to Cue List 2, so simply recording Cue 2 will add it to List 2. If you want it to appear in another list, you need to add the list to the command.

[Select Last] «Drums» (FP3)	
[Record Only] [Next] [Enter]	records cue 2/3
[Cue] [1] [Thru] [3] [Time] [1] [Enter]	changes timing on cues 2/1 thru 2/3

Cue list Playback

Note: Non-motorized faders need to be placed at Full position to run the cues.

On the fader with cue list 2:	loads cue 2/1 on stage (additive to other cue list's contributions)
[■] (Stop/Back) [■] (Stop/Back)	top button below fader
[▶] (Go)] [▶] (Go)]	bottom button below fader plays cue 2/2
[Go To Cue] [2] [/] [1] [Enter]	plays cue 2/1
[Go To Cue] [2] [/] [0] [Enter]	sends cue list 2 to Cue 0
[Go To Cue] [1] [/] [102] [Enter]	reloads cue 1/102, which retakes ownership of the FOH moving lights

[Go To Cue] [0] and **[Go To Cue] [Out]** are on a list-by-list basis. To reset all cue lists back to cue 0 and send all fixtures home, use **[Go To Cue] [Out]** on a clear command line.

Managing Cue Lists on Faders

Unload a Cue list

Hold [Shift], and press [Load] button on the fader with cue list 2	unloads cue list from the fader, but does not delete contents of the list

Note: On non-motorized hardware, the [Load] function is achieved by pressing both top and bottom buttons together.

Load a Cue list

[Cue] [2] [/] [Load] on fourth fader	puts list 2 back on the selected fader
[Cue] [1] [/] [13] [Master] (Load)	puts 1/13 as the pending cue on the main fader pair

Off and Release

[Off] &[Load] - returns channels in cue list to previous owner, either a cue or a submaster. If there is no previous owner, the intensities will just fade out and non-intensity parameters go to home positions.

[Off]&[Master] (Load) on Master Fader pair	lights all fade out and return home
[▶] (Go)	fades from a blackout back into the pending cue 13

[Release]&[Load] - behaves like **[Off]** except that it sets the pending cue to the first cue in the list and removes the active cue. (Cue 0 on stage and cue 1 pending)

[Release]&[Load]	intensities fade out
[▶] (Go)	fades back to the top of the cue list

In Setup, you can set different times for Off and Release and those times can be recorded into a macro to be changed quickly.

Viewing Multiple Cue Lists

Recall Snapshot 1	
[Cue] [1] [/] [Label] Main List [Enter]	labels cue list 1
[Cue] [2] [/] [Label] Band Chase [Enter]	labels cue list 2
[Cue] [2] [/] [Enter] [Cue] [1] [/] [Enter]	PSD follow the command line
With the PSD in focus, hit [Format]	shows two cue lists in the PSD window
Right click or tap on the PSD tab or select the Gear	to see configuration settings
Click or tap on Target Grid pull down menu, select Top	to first select top or bottom of the display
Click or tap on Lock Status pull down menu, select List 1 Main List	locks the top cue list on list 1
Click or tap on Target Grid pull down menu, select Bottom	
Click or tap on Lock Status pull down menu, select List 2 Band Chase	locks the bottom cue list on list 2
Tap outside the Configuration Tools to view the PSD again	notice the padlocks on each cue list

It is possible to view more than 2 cue lists – simply open another PSD. It would be Tab 2.2.

Multiple Cue List Playback

Linear List Playback

Lists can be played back linearly, like a single list. They don't have to be played in order. Perfect for out-of-order or multiple designer events.

[Cue] [117] {Link} [2] [/] [1] [Enter]	links cue 2/1 to cue 1/117
[Cue] [1] [/] [116] [Master] (Load)	cue 117 is pending
[▶] (Go) [▶] (Go) [▶] (Go) [▶] (Go)	cue 2/1 is pending, then current
Since PSD is locked, if we want to view a third cue list, you may want to leave your primary PSD unlocked.	
[Cue] [1] [/] [1] [Load] and then [▶] (Go)	back to the top of cue list 1
[Cue] [117] {Link} [Enter]	to remove the link

Using a Cue List as an Effect

Lists can be triggered in the middle of a main cue list to run an effect.

[Cue] [2] [/] [1] [Thru] [3] {Follow/Hang} {Follow/Hang} [1] [Enter]	places hang autofollows on cues
[Cue] [3] {Link/Loop} [1] [Enter]	
[Cue] [1] [/] [102] {Execute} [2] [/] [1] [Enter]	when cue 1/102 is played, cue 2/1 plays also, then follows into 2/2, 2/3, and loops indefinitely
[Cue] [1] [/] [104] {Execute} [2] [/] [0] [Enter]	when cue 1/104 is played, it plays cue 2/0, stopping the loop
[Cue] [1] [/] [101] [Master] (Load)	
[▶] (Go) on Cue 101	
[▶] (Go) on Cue 102	notice the effect is also running
[▶] (Go) on Cue 102.5	
To check on the ownership or source of a channel, **[About]&[Cue]** can see what cue list/cue is the source of the level	
[▶] (Go) on Cue 103	
[▶] (Go) on Cue 104	also runs cue 2/0 as well
[Assert] allows tracked or blocked data from a cue to be replayed, even when another cue list has taken control of that channel/ parameter. Asserted channels play back tracked and blocked values, regardless of cue list ownership, when the associated cue is replayed.	
[Group] [5] [Assert] [Enter]	notice the red A's
[Update] [Enter]	
[Go To Cue] [101] [Enter]	
Run the cues again	channels go back to values in first cue list cue 104 retake ownership of chans
Notice the small 'a' in the PSD Flags column indicating channels are asserted in this cue.	

Channel Level Release

Channel Level Release is an ownership tool that allows channels and individual parameters to be released back to their previous owner without having to release the entire target.

[Blind] [Cue] [2] [/] [3] [Enter]	
[Cue] [4] [Enter] [Enter] [101] [Thru] [105] [Enter]	in cue list 2
[Group] [5] {Release} [Enter]	assigns a channel level release flag – notice the gray 'R's
[Live]	
[Go To Cue] [35] [Enter]	
[Cue] [36] {Execute} [2] [/] [1] [Enter]	when cue 36 is played, cue 2/1 plays concurrently, which then follows into 2/2, 2/3, and loops indefinitely
[Cue] [37] {Execute} [2] [/] [4] [Enter]	when cue 37 is played, cue 2/4 plays concurrently
[Live]	to reset the PSD
[▶] (Go) in to cue 36	cue list 2 takes ownership of Group 5
[▶] (Go) in to cue 37	cue 2/4 release channels to values in cue 1/37

To clear a Release flag, simply select the target and hit **{Release} [Enter].**

Cue List Index

The Cue List Index allows you to view and manage all of the Cue Lists in a show file, and change their behaviors.

[Cue] [Cue] or Add-a-Tab (the '+' tab)	opens the Cue List Index

Top section is the currently selected cue list; the bottom section is the list of all cue lists. Cue properties are also displayed in the CIA.

Master

Intensity Master (Int)

Like a Submaster, Cue lists set to Intensity Master will master just the intensities of the channels on stage.

With Cue List 1 on the command line, just tap {Int}	
[Live], [Go To Cue] [9] [Time] [0] [Enter]	
Move the Master Fader pair up and down, watch the levels.	only intensities are changed, non-intensity parameters stay as they are

Manual Master (Man)

Cue lists set to Manual Master will execute a new cue just by moving the faders in either direction.

[Cue] [Cue]	opens the Cue List Index
Click/tap {Man} under the Master column	
[Live] [Go To Cue] [1] [Time] [0] [Enter]	
Move the Master Fader pair down to run cue 2 and then up to run cue 3, watch the cues play back.	cues run at the top and bottom of the fader pair

Timing is controlled based on how fast you move the faders

Proportional

Proportional is the default fader type. Faders do not affect the playback unless they are at 0%, and a Go is hit, then the faders are in manual mode.

[Cue] [Cue] to go back into the Cue List Index	
Click/tap {Prop} under the Master column	
[Live] [Go To Cue] [11.5] [Time] [1] [Enter]	
Bring faders all the way to bottom and then hit [▶] (Go)	see 'man' in the fader preview, nothing runs till push faders to the top

Allows you to control one cue at a time manually. Timing is controlled based on how fast you move the faders

Run the faders up	
[▶] (Go) in to cue 13 using the cue timing	
Move the Master Fader pair back down to 0% and hit [▶] (Go)	nothing happens till manually takes control of another cue
Run the faders up	

Go From Last and back From First

Back From First

'Back From First' controls the behavior that happens when you press the **[Back]** button while in the first cue. It has the following options:

- **Do Nothing** – keeps the first cue active
- **Cue Out** (Default Setting) – only fades out channels in that cue list. Other channels remain. Intensity and non-intensity parameters are homed. This setting uses the Back time for fading.
- **Wrap** – puts the last cue in the list in pending, and fires said cue.
- **Restore Background** – any background cue, submaster, and effect levels are restored following background priority. Manual levels are not restored. This setting uses the Release time set in Setup.

[Go To Cue] [1] [Time] [0] [Enter]	
Press [■] (Stop/Back)	going backwards from first cue in a list defaults to going to cue out
[Cue] [Cue]	
Under the Back From 1st column, select {Wrap}	
[Live] Press [▶] (Go) into cue 1	
Press [■] (Stop/Back)	now the first cue wraps back to the last cue in the list (117)

Go From Last

Press [▶] (Go)	pressing go from the last cue in a list defaults to doing nothing
[Cue] [Cue]	back to Cue List Index
Under the Go From Last column, select {Wrap}	
[Live] Press [▶] (Go) into cue 1	now the last cue wraps around to the first cue in the list

The behavior is displayed on the PSD in the Label Column.

Other Cue List Settings

[Cue] [Cue]	**with Cue List 1 selected**	opens the Cue List Index

HTP/LTP

Intensity playback behavior can be set to HTP (highest takes precedence) or LTP (latest takes precedence) on a cue list by cue list basis.

Assert

Just like an individual cue, a full cue list can be asserted. It will assert all channels owned by the cue list.

Phantom Mode

When a cue list is set to Phantom, pressing **[▶]** (Go) will not change the selected cue on the command line, or an unlocked playback status display.

Exclude

- **Exclude From Record** – prevents content in cue list from being recorded into any other record target.
- **Exclude From Solo** – prevents content from being affected by any solo commands
- **Exclude From Inhib** – prevents an inhibitive submaster from removing any content from the cue list
- **Exclude From GM** - prevents a Grandmaster from removing any content from the cue list

Execute Softkey

Cue lists can trigger like-numbered cues in other cue lists.

[Cue] [1] [/] {Execute} [2] [/] [Enter]	links list 2 to follow list 1's playback

When cue 1/1 is played, cue 2/1 will also be played, and so on. Only identical numbered cues will trigger on a cue list execute command.

[Cue] [1] [/] {Execute} [Enter]	removes the external link

Autoblock Cleanup on a Cue List

{Autoblock Clean} is used to remove all auto-blocks from a single cue, cue range or entire cue list

[Cue] [1] [/] {Autoblk Clean} [Enter] [Enter]	removes all the autoblocks from list 1

Priority

Priority is another way of managing ownership of channels. There are ten levels of Priority that submasters and playback faders can have. 1 is the lowest level and 10 is the highest. Default priority level is 4.

Cue List Ownership

[Live] [Go To Cue] [28] [Enter]	
[Cue] [2] [/] [1] [Thru] [3] [Shift]&[Delay] [Delay] [Enter]	removes Hang flags from cues 1 thru 3 in cue list 2
[101] [Enter]	to look at channels 101 thru 105
Hold [Release] and press [Load] on the fader with cue list 2	
[▶] (Go) on Master Fader pair into cue 29	into cue 29
[▶] (Go) on Cue list 2 fader	latest target to give those channels move instructions
[About]&[Cue]	see those channels are owned by cue list 2 and all others by cue list 1
[▶] (Go) on Master Fader into cue 30	cue list 1 provides new move instructions for those channels
[▶] (Go) on Cue list 2 fader	notice only focus is owned by cue list 2 (recorded with Record Only)

Ownership works on a parameter by parameter basis, not just channel by channel.

Setting a Priority

To ensure that cue list 2 is always going to take ownership of these parameters, change its priority.

[Cue] [Cue] [Cue] [2] [/] [Enter] if not selected already	to go back into the Cue List Index
In the Properties, select {Priority}, then {P5}	higher than default P4

Any target with a higher priority always gains control of the channels it owns.

[Live] [Cue] [1] [/] [28] [Master] (Load)	load cue 1/28 on the master
[Off]&[Load] on fader with cue list 2/ loaded	turns list 2/1 off
[▶] (Go) on Master Fader into cue 28	
[About]&[Cue]	see channels are owned by cue list 1
[▶] (Go) on Cue list 2 fader	asserts ownership on the channels
[▶] (Go) on Master Fader into cue 29	Cue list 2 with the higher priority maintains ownership of the channels

PRIORITY WITH OTHER TARGETS

[▶] (Go) on Master Fader until you are in cue 32	
Push up the fader containing Submaster 2	Sub is set for HTP, gains ownership of channels
[Sub] [Sub] [Sub] [2] select {Priority}, then {P3}	lower than default P4
[Live] Push Submaster 2 up and down	Sub can't control channels because priority is lower than cue list
[Go To Cue] [Out] [Enter] Push Submaster 2 up and down	nothing is active, sub works normally

When using cue lists, it is important to know that the cue doesn't take ownership of the channels until the first move instruction of the list.

[▶] (Go) on Master Fader into cue 1	can still use Sub
[▶] (Go) on Master Fader into cue 2	move instruction on 51 in cue, sub can't take control of that channel
[Sub] [Sub] [Sub] [2] select {Priority}, then {P4}	set back to default, HTP has ownership

Capture

Normally, manual channel values will be overcome by incoming move instructions from cues. Capture allows several ways to preserve the manual state of channels and parameters through playback.

Temporary (Selection) Capture

Anytime a channel is held on the command line as a selection, its manual values will be preserved in a temporary Capture.

[Live] Recall Snapshot 1	
[Go To Cue] [1] [Enter] [Format]	be in Summary, Flexi-Patched to see the following channels
[1] [Thru] [10] [At] [30] [Enter]	places manual changes on several fixtures.
[Clear]	to clear the command line
[▶] (Go) on Cue 2	incoming move instructions override manual values but 2 + 7 - 9 retain manual values as there are no new instructions
[Go To Cue] [1] [Enter]	
[1] [Thru] [10] [At] [30] [Enter]	places manual changes on several fixtures
Don't clear the channel selection!! [▶] (Go) on Cue 2	manual values of selection remain as channels are temporarily captured by the command line

Command Line Capture

You can select specific channels or parameters to stay Captured. These devices will remain captured until you release them, allowing you to do other tasks that a temporary capture will not allow.

[Go To Cue] [1] [Enter]	
[1] [Thru] [10] [At] [3] [Capture] [Enter]	places manual changes on channels and captures them. notice the yellow "C"
[Clear] to clear the command line	
[▶] (Go) on Cue 2 [▶] (Go) on Cue 3	channels' manual values stay, even when there is an incoming move instruction
[Go To Cue] [Enter]	the captured values remain
[Update] [Enter]	values are updated in Cue 3 (following standard update rules), but remain manual
[1] [Thru] [10] [At] [75] [Sneak] [Enter]	captured channels can still have values manually changed, and with sneak, it can be over time
[1] [Thru] [10] [Capture] [Enter]	removes the capture
[Clear] [▶] (Go) on Cue 4	incoming levels will now override the manual data
[Sneak] [Enter]	to remove manual data on channel 10, no incoming move instruction

Latch Capture

By latching Capture on, any manual values that are up, as well as changes that you make after will automatically be captured. Turning off Latch Capture will release all captured values, but will leave them manual.

[6] [+] [7] [Full] [Enter]	bring up some manual values.
[151] [Thru] [154] {Make Man} [Enter]	
[Capture] [Capture] [Enter]	Capture Enabled on command line. LED on Capture key lit. All manual values become captured.
Recall Snapshot 4	
«High Sides - Left» (G3) [Full] [Full], touch «Lt Blue» (CP5)	channels become captured. Capture rules apply to non-intensity parameters as well
[▶] (Go)	none of captured channels are affected
[Capture] [Capture] [Enter]	disables Latch Capture. All manual values get uncaptured.
[Sneak] [Enter]	clears all the manual data

Capture Best Practices

- Capture is great for locking in temporary manual overrides. For example, adding area light for a full scene with internal cueing, or putting in key and fill lights over a base look. Once uncaptured, levels will smoothly transition back into the cue list on the next move instruction.

Custom Encoder Mapping

Custom Encoder Mapping allows you to define the placement of specific parameters onto specific encoders based on user, fixture type, or both.

Create an Encoder Map

Add a tab, open Encoder Maps – Tab 40	Notice the List of maps at the bottom, which can be labeled like all targets
Type [1] [Enter]	To create the first Encoder map
The 6 categories down the left side correspond with the 6 parameter categories and subcategories, which match the encoder selection buttons on the console keypad. Up to 25 pages of encoders per category. Let's say you want access to Pan, Tilt, Zoom, and Edge on a single page, and you want the page to be in the focus category.	
Select {Focus} on the left	The box with (1) simply indicates row number or first page of parameters
Click on the first box with a + sign in it	
A pop-up appears that lets you choose what parameter to assign to the encoder. Parameters can be selected from a fixture profile, from a category, from the Common category, or found using the search box.	
In Search, type in Pan, then double click {Pan} from the search results	Pan from Common category
Note a second page of tiles is added below automatically.	
Make the 2nd encoder {Tilt}, the 3rd {Zoom}, and the 4th {Edge}	Notice parenthesis go away on (1)
Click on None under Widget and choose CIE xy under Color Picker	
Click {Color} on the left side	To switch to Color category
Notice the widget in the color category defaults to the CIE xy color picker	
Click on the first blank tile, open {Parameter Sets}. Select {RGB Group}	Shortcut to assign multiple parameters that go together to one page
On the page 2, click on the first box with a + sign in it	
Open {Parameter Sets}. Select {CMY Group}	
On both page 1 and page 2, make the 4th encoder {CTO}	
[Label] Default [Enter]	

Assign as Default Map

A custom encoder map can be assigned as the default encoder map for all devices in the show file, either on the current display or in Setup. When custom mode is enabled, this map will be used for all patched devices.

Click the box under Default Encoder Map at the top of the screen	Default Encoder Map on command lin
[1] [Enter]	Sets the Default to Amp 1
[Displays], {Setup}, {User}, {Manual Control}	
On the right side, below Default Times, click on {Default Encoder Map}	A list of available maps appears
Select the desired map, {1: Default}	

HOW TO APPLY CUSTOM ENCODER MAPS

[Live] [101] [Enter]	
[Encoder Display] and select {Focus}	Default mapping - only Pan and Tilt
[{Custom}]	Applies custom encoder map – with Pan/Tilt/Zoom/Edge and CIE xy color
Custom Map Default is displayed on the screen.	
{Color}	Only have CTO on the 4th encoder.
In the map, page 1 was RGB and this fixture doesn't have RGB parameters.	
{Color} to go to page 2 of Color	Now see CMY and CTO
{Color} to go to page 3	
These parameters were not assigned to the default map, so Eos puts them at the end of the category. This is only true on the default map.	
[51] [Enter], switch to first page of color encoders	
As this fixture doesn't have CMY or CTO, the encoder page is blank	
[{Custom}]	Removes custom map – back to standard maping – RBG and Lime
{Color} to go back to page 2	It's blank!
{Color} to page 3	Shows rest of parameters: lime, hue, sat

USE OF DEFAULTS IN CUSTOM MAPPING

If you are planning on having the same parameter on an encoder throughout the category, like we are doing with CTO, you can use the defaults on the Encoder Maps tab.

Back in the Encoder Maps – Tab 40

On Map 1, page 2, in Color, click encoder 4 {CTO} and then {Clear} — To unmap the encoder

Select the 4th tile in the Defaults section at the top of the screen

Search and select {CTO}

Defaults follow the By-Type logic and color scheme. Default at top is equivalent of a leader (blue). If you add another page in the map, CTO will automatically be populated on the 4th encoder (magenta).

On page 3, click the first tile and select {Blue} — CTO is mapped to encoder 4 on the new page

CTO on page 1 is white because it is a discrete value. It was there before we assigned it to the default.

On page 1, click {CTO} and then {Clear} – remains CTO but changes color — Turns magenta to match the default

On page 3, click {CTO} and select {Shutter Strobe} — Can change parameter at any time

Click on the Page 3 tile and select {Delete} — To delete the 3rd page

Click the {Show/Hide Dedicated Encoders} — Toggles the 2 dedicated encoders on consoles with 6 encoders (Ti)

The 2 dedicated encoders default to Pan/Tilt, but may be edited the same way as the other 4 parameter encoders.

CREATE A MAP FOR A FIXTURE TYPE

[2] [Enter]

[Label] SolaFrame Theatre [Enter]

Use the softkey {Create from Fixture} and choose {SolaFrame Theatre}

This premaps all parameters of this fixture to the standard categories that they would be in with the standard Eos mapping, based on the profile from Patch.

Note that this works just like adding a new fixture in Patch. It defaults to the Show menu, but any fixtures from the library can be added if needed.

MAP TO FIXTURE

The console auto maps to the fixture type from which it was created. Fixture-specific maps can be added using the {Map to Fixture} softkey or deleted using the red trash can.

EDIT A MAP

Select {Intensity} on the left	Only want the first intensity parameter
Click on each of the last 3 tiles and select {Clear}	
While programming, if those parameters are needed, can easily disable the Custom Map and use the standard Eos map.	
Select {Form} on the left	Only want the first intensity parameter
Click on the Page 2 tile and select {Delete}	To delete the 2nd page
On page 1, click {Shutter Strobe}, {Change Parameter}, select {Diffusion}	
On page 2, add {Shutter Strobe} on the first tile	

COPY/PASTE PAGES OF PARAMETERS

[3] [Enter] [Label] ColorSource Spot [Enter]	
Use the softkey {Create from Fixture} and choose {ColorSource Spot Direct}	
Select {Color}	Only want the first intensity parameter
Click on the Page 1 tile and select {Clear}	Clears the parameters but does not delete the page.
Click on the first box, then open {Parameter Sets}. Select {RGB Group}	Shortcut to assign multiple parameters that go together to one page
Select the 4th tile on page one and make it {Lime}	
Click on the Page 2 tile and select {Delete}	To delete the 2nd page

ASSIGN THE PAGE TO EVERY CATEGORY

Since the ColorSource Spot doesn't have any Focus, Shutter or Image parameters those encoder pages would be blank. By assigning the color page to each category, any time the fixtures are selected, no matter what category page is selected, color control is at your fingertips.

In {Color}, select the Page 1 tile and select {Copy}	
Select {Focus}, select the page number and {Paste}	
Select {Shutter}, select the page number and {Paste}	
Select {Image}, select the page number and {Paste}	

{Form} has the Shutter Strobe parameter on it, so let's not paste there.

CREATE A MAP FOR MULTIPLE FIXTURES

[2] [Copy To] [4] [Enter] [Label] SF Theatre & CS Spots [Enter]	
Touch the {Map to Fixture} softkey	Notice SF Theatre was carried over
Select {ColorSource Spot Direct} to add to the Map	

Note: If you add a fixture type that you don't want, simply click on the red trash can to remove the type.

In {Color}, click the Page 1 tile and select {Insert Before}	Adds a page at the top
[Last] to select the ColorSource Spot Map, click Page 1 tile, select {Copy}	
[Next] to SF Theatre & CS Spot Map, click the Page 1 tile and select {Paste}	Can copy/paste between maps
[Live] [51] [Enter]	Just ColorSource Spot selected
[Encoder Display] and select {Color}	Default mapping – 4 colors, Hue/Sat
[{Custom}] - applies map 3 – ColorSource Spot	See RGB Lime on all pages

[51] [+] [101] [Enter]	Both Fixture types selected
With Custom maps still enabled, the console will use Custom Map 4 because both fixture types are in the selection. RGBL is on the first page.	
{Color}, {Color}	SF Theatre parameters are on the subsequent pages
[101] [+] [121] [Enter]	
Selecting a fixture with a custom map and selecting a fixture without a custom map, Eos will stack the maps. In this case, it is stacking Map 1 and Map 2. You can select (or deselect) which map to use in the encoder display.	
[121] [Enter] – a SolaWash 2000	
With Custom maps still enabled, the console will use the Default Encoder Map. Page 1 of Color, which is just CTO, because the map's first page is setup with RGB. If multiple maps meet the same criteria, then the lower map number will be used.	
[{Custom}]	To disable the custom maps and return to standard mapping

FILTER TO USERS

Back in the Encoder Maps – Tab 40	
[2] [Copy To] [2.1] [Enter]	
[2] [Enter] and touch the {Filter to Users} softkey, [1] [Enter]	Assigns the map to user 1
[Next], {Filter to Users} [2] [Thru] [3] [Enter]	Assigns the map to users 2 and 3
This allows each user to layout the encoders the way that they would like to see the parameters. In Custom mode, if user 1 selects SolaFrame Theatre fixtures, the console will use map 2. If user 2 or 3 selects SolaFrame Theatres, the console will use map 2.1. If another user, user 4, selects SolaFrame Theatres, the console will default back to map 1 as there is not a map currently mapped to user 4 for that fixture type.	
{Filter to Users} [Enter]	Restores a map's User Filter to "All"

Fader Configuration

The Eos Fader Configuration display is where one can set up the mapping and configuration of the faders. Various targets, including cue lists, submasters, and palettes can be assigned to faders.

Color Palette on Fader

Recall Snapshot 4

[Live] [Go To Cue] [104] [Enter] [Clear]

Hold [Fader Page], type [3], let go of Fader Page — takes you to page 3 which is open

Fader Page button only advanced to pages with content.

[Load] button of first fader on page 3
On Ion Xe, press both buttons (▶ & ■) for the fader to load — posts Fader 3 / 1 to the command line

«Red» (CP1) [Enter] — command line reads "Mapped to Color Palette 1"

Playback data is shown on the screen in an orange color.

Run the fader up — every channel in that palette is faded to that palette color

Even though 51 through 85 are not on, the fader still controls their non-intensity parameters because they are stored in that palette.

[Group] [3] [Thru] [4] [Full] [Full] — adds channels – notice already in the color on the fader

[Clear] [Sneak] [Enter] and run the fader down — to clear both intensity and playback data

Focus Palette List on Fader

Load button of second fader (Ion Xe) Two (▶ & ■) buttons — posts Fader 3 / 2 to the command line

[Focus Palette] [1] [Thru] [5] [Enter] — command line reads "Mapped to Focus Palette 1 Thru 5", moves to Full

Note: Non-motorized faders need to be placed at Full position to run the cues.

Hit [▶] the bump button of the fader, again, again, again, again — watch as you step through each Focus Palette on the selected channels

Notice that, after the 5th Focus Palette, the fader is released, sending the channels to their background state (in this case, it's Cue 104).

Pressing the bump button again starts the list again, with Focus Palette 1

Fader Configuration Display

Recall Snapshot 1

Click on Add-a-Tab (the {+} sign), then on the Fader Config icon (#36) — opens Fader Config display (Tab 36)

Fader properties

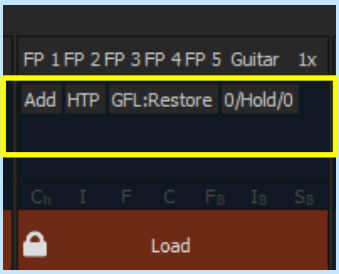
Scroll down to page 3

Or use the Page Selection tools to select Fader Page 3;

Click on the blue box of the 2nd fader on that page

Select Wrap for both Back from 1st and Go from Last

Change the Dwell time to 1



Hit bottom bump button of fader just once — watch and see the difference from above example, runs indefinitely

Now how do I stop it?

Notice in the Fader Config tab, looking at the fader, the buttons are defaulted as a Bump Button and a Release Button.

Hit the top button just once, (Release) — stops the cycle

Manual Time Fader

Can easily create a fader that makes it possible to change Manual time on the fly.

On the 5th fader, at the top, click on {Unmapped}

Under Target, click on {Man Time}, click off the dialogue box — everything else grayed out

Click on the fader graphic, box pops up, make sure max is 5, min is 0

Remember Manual Time is the time a channel goes to full when you type 1 Full Enter

[Live] with Man Time fader at 0 [1] [At] [Full] [Enter] — goes to full in 0 seconds

Put Man Time Fader at Full position — remember set as 5 seconds

[2] [At] [Full] [Enter] — goes to full in 5 seconds

Recall Snapshot 4

«All Cycs» (G22), «Red» (CP1) — applies manual time to non-intensity parameters as well, fades in 5 seconds

Pull Man Time Fader down to about 2.5 seconds

«Orange» (CP2) — fades in 2.5 seconds

Pull Man Time Fader all the way down

«Yellow» (CP3) — fades immediately

Moving the Man Time fader while channel is fading has no effect.

Effects on Faders

Channels running effects can be loaded onto a submaster. By default pressing the bump button of the submaster starts or stops the effect.

[Clear] [Sneak] [Enter]	
«FOH Movers» (G5), «100%» (IP1), «Singer» (FP2), «Yellow» (CP3), «Circle» (FX901)	set levels
[Select Last] [Record] [Load] on 6th fader, [Enter] **(Ion Xe) (▶ & ■) [Enter]**	record a sub with an effect
[Clear] [Sneak] [Enter]	remove manual data
Move fader up to see what it does…	fader controls both intensity and size and rate of the effect

Fader List Display

Recall Snapshot 1	
Click on Add-a-Tab (the {+} sign), in Displays, Fader List Display (#35)	opens Fader List display (Tab 35)
{Fader} [3] [/] [6] [Enter]	fader page (1 to 100) / fader number on that page (1 to 10)
Click on the 1X in upper right of fader icon. Change to 3x	changes from 1 physical fader to 3 faders
Click on 2nd fader in the group and make Effect Size	
Click on 3rd fader and make Effect Rate	
On manual faders, LEDs blinking, not at correct position. Raise to 50%	
Click on bottom button of 2nd fader and select Freeze	
Click on bottom button of 3rd fader and select Solo	
Click on load button of 3rd fader and select Macro, [11] [Enter]	

[Live]	
Raise first fader to full to start effect, play with size and rate faders	
Use Freeze Button (bottom button of Fader 7)	pauses/resumes the effect
Use Solo Button (bottom button of Fader 8)	forces all other channels to zero while it's held
Push load button on 8th fader, Macro 11	resets all Faders to home position

Great macro to have with motorized faders! Still have to move the manual faders - Inhibitive subs should be at Full, Proportional subs should be at 0, FX Size/Rate faders should be at 50%

Global Effect Fader

A fader can be mapped as a global effects fader in the Fader Configuration display. This fader type is used to master all effects or specific effects based off of the current filtering applied to the fader. You can use multiple global effects faders.

In Tab 36, use the Page Selection tools to change to Fader Page 3

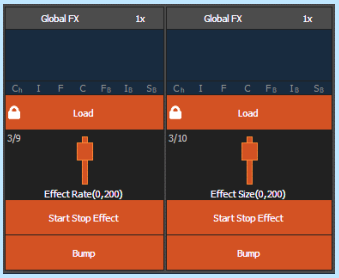
On Fader 10, change the fader target type to Global FX	by deafult, that is set as Effect Size
{Fader} [3] [/] [10] [Copy To] [9]	assumes the same page, unless you specify otherwise
On fader 9, change the fader type to Effect Rate	

Note: Non-motorized faders need to run faders up to about 50%.

[Go To Cue] [37.3] [Enter]

Move Global Effects Size fader up and down	changes size of all running effects
Move Global Effects Rate fader up and down	changes rate of all running effects

Note: These are just temporary overrides. They are not intended to allow content to be changed and stored in a cue.



Temporary Playlist

Can mix content types on a fader

Recall Snapshot 4

[Go To Cue] [18] [Enter]	
[Macro] [11] [Enter]	ensure all the playbacks (faders) home
[Clear]	
Press [Load] on the 3rd fader	puts fader 3/3 on the command line
«Guitar» (FP1), «Orange» (CP2), «Drums» (FP3), «Lt Blue» (CP5) [Enter]	loads selected targets in a list
Press bottom bump button of 3rd fader….again….again…again.	steps through the targets

Bump button plays each step of the play list. Without a wrap, a bump at the end of the list will release the channels to their background state.

This will affect all channels that are stored in the targets.

[Group] [21] [Full] [Full]

Continue to hit the bump button	Color Palettes affects the cyc channels

Notice when a Focus Palette is played, cyc goes to background state.

Note: This is currently only a TEMPORARY fader mapping. While it can be moved and copied to different faders, if cleared off the fader, the list is gone.

Virtual Faders

Without physical faders?

Add-a-Tab (the '+' sign), in the controls area, select Tab 28 – Faders opens a Fader Module display

Remember that a single page of faders is a bank of 10. So a single page of faders is shown by default. On the right of the display are page buttons to navigate to other pages. The faders themselves behave just like physical faders.

Fader Module Configuration Menu

The Fader module has a configuration menu, which is accessed by double tapping on the tab name or using the gear on the left.

The following options are available in this configuration menu:

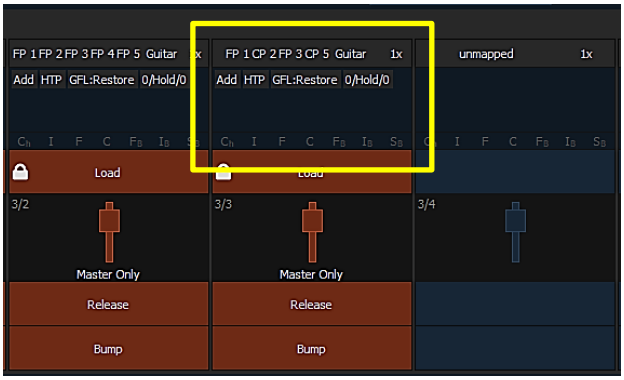
- **Rows** - sets the number of rows used for the module. Maximum number of rows is six.
- **Columns** - sets the number of columns used for the module. Maximum number of columns is six.
- **Slider Format** - shows buttons only or the entire fader. This is useful if you want a module of just the configurable fader buttons.
- **Display Master Fader Pair** - toggles the Master Fader Pair on and off

If more faders are needed, simply open another Fader Module.

Playback Filters

Playback filters can be applied on a fader by fader basis, which will allow only specified data to be played back. Data can be filtered by channel, parameter, effect and target. Playback filters do not impact how data is stored.

By Channel Filter

Recall Snapshot 1	
In Fader Config Tab, go to the third page of faders	
Click on the blue box under Fader #3	opens Channel/Parameter Filter box
{Chan Filter}, [Group] [5] [Enter] touch out of the box	watch command line
	
In Live, push bump button of 3rd Fader… Bump… Bump…	the temporary playlist only affects the group 5 channels
Back in Fader Config Tab, looking at Page 3	
{Fader} [3] [/] [5] [Copy To] [3] [/] [4] [Enter]	copies contents of fader
On Fader 3/4, {Param Filter}, {Intensity} at top and touch out of the box	filters only intensity
On Fader 3/5, {Param Filter}, {Focus}, {Color}, {Form}, {Image}, {Shutter}	filters everything but intensity
Recall Snapshot 4	
Put the Manual Time fader filtered to Intensity (fader 3/4) at 0	
Put the Manual Time fader filtered to Non-Intensity parameters (Fader 3/5) at Full (5 sec)	
[Group] [3] [Thru] [4] [At] [50] [Enter] «Yellow» (CP3),	intensity snaps, color fades in 5 secs.
Push Fader 4 up to Full, Fader 5 down to 0	reverse the faders
[At] [Full] [Enter] «Dk Blue» (CP6)	intensity fades in 5 secs., color snaps
Pull both Fader 4 & 5 down to 0	
[Go To Cue] [37.3] [Enter]	now only changes rate on Effect 3 (Color Chase on cyc)
Run Fader 9 (Global Effects rate) up and down, leave at 100 (mid-way)	all 3 chases run faster, then slower

Use Filter Button

On Eos Ti, Gio, Gio@5, Ion Xe and Element 2, there is a half-moon **[Filter]** button above the rate wheel that can be used instead of the **{Filters}** button in the CIA.

Hold [Filter] above the rate wheel, press [Load] on Fader 10 [Enter]	
[Effect] [3] [Enter]	Command line says "Fader 3/10 Filter Effect 3"
Push Fader 10 up	only the color effect is changed
[Clear] [Sneak] [Enter]	
«Reset Faders» (M11)	
[▶] (Go) in to blackout [▶] (Go) again to Cue 101	

To remove filters

Hold [Filter], press [Load] again on Fader 10 [Enter]	removes any filters on fader 10

Recall Snapshot 1	
Add-a-Tab (the '+' sign), under Controls, open Fader Config (Tab 36)	
Scroll down to page 3	

Faders that are filtered are indicated by gray boxes on the parameter types.

Click on the blue box under Fader #3, Temporary Playlist	
Click on the red 'X' next to the Chan Filter	clears the filters on fader #3
Click on the blue box under Fader #4, Manual Time -Intensity	
Click on the red 'X' next to the Param Filter	clears the filters on fader #4
Click on the blue box under Fader #5, Manual Time -Non-Intensity	
Click on the red 'X' next to the Param Filter	clears the filters on fader #5

Playback filters are a quick way to change what the faders are outputting without having to change the content.

[Live] Recall Snapshot 4 Be in cue 101 if not already there	
Hold [Filter], press [Load] on Fader 1 «All Cyc» (G22) [Enter]	Fader 1 is CP1, now filtered to cyc only
Run Fader 1 up and it only changes the color of the cyc	
Hold [Filter], press [Load] on Fader 1 «FOH Movers» (G5) [Enter]	now filtered to FOH Movers
Run Fader 1 up again and it only changes the color of those fixtures	

Record Filters

Record filters allow only specific parameter data to be stored to targets. When no filters are selected, all parameters can be stored.

Filters are most effective to execute repetitive record commands that have similar content requirements, such as Palettes. Filters will affect recording ANY target including palettes, presets, cues, and submasters. Filters are applied using the CIA.

On consoles with internal touchscreens, there is a **[Filter]** button on the angled touchscreen panel. On consoles without internal touchscreens the **{Filters}** button is with the parameter tiles in the CIA.

All consoles: Do not use the **[Filter]** button located above the Rate wheel – center of console. It is for Channel and Parameter Filters on Faders.

APPLYING FILTERS

Recall Snapshot 1, press [Displays] to open CIA	in table view
[Go To Cue] [28] [Enter]	
[101] [Enter], scroll to see beam parameters	
Hold [Filter] and select {Gobo Select} on the CIA, then release [Filter]	select the categories using parameter tiles – notice the gray 'N's
OR in the CIA, {Filters}, {Gobo Select}, {Filters}	select the categories using parameter tiles – notice the gray 'N's

- Filters will remain active until cleared.
- FILTER ON will appear below category names where parameters are active and being recorded.
- All parameters and categories that will not be recorded are grayed out on the Live display, and the Null "N" will appear. **Any item that is nulled WILL NOT be recorded.**

RECORDING WITH FILTERS ACTIVE

[▶] (Go) into cue 29 [▶] (Go) into Cue 30.	Record Filters have no affect on playback.
[Group] [5] [Record] [Beam Palette] [11] [Label] OPEN [Enter]	records filtered Beam Palette – all channels have null value or 'n' except Gobo Select
[Select Last], put next gobo into the fixture (Foliage 2)	
[Select Last] [Record] [Beam Palette] [12] [Label] Foliage [Enter]	records filtered Beam Palette with just the first Gobo
[Blind], in table view, flexi active	
[Beam Palette] [11] [Enter] [Next] to see Beam Palette 12	view filtered Beam palettes

Even though palettes were stored using the Record command, which typically stores all parameters of a selection, because filters were on, only the filtered parameters were stored.

[Live] [Go To Cue] [18] [Enter]	
[{Filters}]	
Deselect {Gobo Select}, select {Gobo Ind/Speed} & {Gobo Mode}	
[101] [Enter], scroll to the beam	
[Group] [5] [Record] [Beam Palette] [22] [Label] Slow Rot [Enter]	only stores the rotation mode and speed
Increase the gobo rotation speed using the encoder	
[Record] [Beam Palette] [23] [Label] Fast Rot [Enter]	
[Select Last] {Gobo Ind/Speed} [0] [Enter]	stop the rotation
[Select Last] [Record] [Beam Palette] [21] [Label] Stop Rot [Enter]	store a Beam palette to stop rotation
[Clear] [Sneak] [Enter]	

Storing Filter States

Filter states can be stored in Snapshots to be easily recalled later.

[Record] [Snapshot] [11] Don't hit Enter!!	stores state of the filters (and nothing else) into Snapshot 11
Uncheck all monitors	don't want monitor status in snapshot
Select the Filters checkbox,	
Uncheck all other, boxes	visible work space will be selected…
[Label] Gobo Rot [Enter]	
[Clear]	

Clearing Filters

{Filters}, touch {Clear Filters}	removes any filters – no more null values
[Record] [Snapshot] [10], deselect all the monitors	
Select the Filters checkbox	
Uncheck all other, boxes including the tab boxes	Visible work space will be selected…
[Label] Clear Filters [Enter] [Clear]	
[Snapshot] [2]	
[Snapshot] [11]	applies filters, see all the null 'N's
[Snapshot] [1]	filters not affected (were not stored in this snapshot)
[Snapshot] [10]	clears the filters

Additional Snapshots Tools

Snapshots store layouts so that you can recall them quickly. They are stored in the show file, can be recalled on any device on the network.

Snapshot Options

[Go To Cue] [Out] [Enter]

[{Snapshot}] [3] [Enter]

Add additional tabs to custom direct selects frame — adds Patch and a Group List

[Record] [{Snapshot}] [3] **Don't hit Enter yet!** — opens snapshot selection window

You can choose to select/deselect various components, monitors, frames, etc. from your snapshot.

- You can choose to include or exclude Monitors or Frames, by selecting/deselecting them in the preview area. Use the **{Frames/ Monitors}** button to select whether you will see monitor or frame numbers in the preview area.

- **Visible Workspaces** - includes only the visible workspaces.
- **All Workspaces** - include all workspaces, including those not visible at the time of recording.
- **Faders** - captures the current state of the faders and master fader pair including: content mapping, content state, and fader wing groups, based on configuration.
- **Encoders** - records the current page of the encoders.
- **Filters** - records the current setting of the record filters.
- **Direct Selects** - when used without visible workspaces selected, recalls all direct select tabs and their settings.
- **Favorite** – stores the favorite display (★) selected for the CIA
- **Color** - assign colors ({Red}, {Green}, or {White}) or {Dark} to a snapshot. {Dark} assigns no color to the snapshot. The colors display beside the snapshots name in a direct select, and/or if that snapshot has been assigned to one of the customizable hardkeys on Eos Ti, Gio, Gio@5, and RPU.

- **Master Fader Pair and Faders** – including mapping and state
- **Top Bar Timecode List** – can be stored in a snapshot or ignored
- **Reset** - sets the menu back to its defaults.
- You can also use the list to check/ uncheck monitors, frames, and tabs

Uncheck the tabs you just added, leave your Direct Selects Tab checked

[Enter] [Enter]

Recall Snapshot 3 — Patch and Group List are not included

To change a single tab

In Direct Selects, change from Groups to Focus Palettes	
[Record] [{Snapshot}] [6], deselect {All}, then select Tab 4.2 [Enter]	
Recall Snapshot 3 then recall Snapshot 6	it just changes the Direct Selects
Recall Snapshot 4 with same Tab 4.2 then recall Snapshot 6	changes DS 4.2 to Focus Palettes

Recalling Snapshots

Recalling Snapshots does not post to the command line. You will see the command above the command line in red text!

[{Snapshot}] [1] [Enter]	recalls the content of snapshot 1
[{Snapshot}] [{Snapshot}] or Add-a-Tab (the '+' sign), (Tab 19)	opens the Snapshot list
[6] [Label] DS Change [Enter]	adds a label

Snapshot Popup

Touch Snapshot Pop-up	see all 6 snapshot in the pop up
[{Snapshot}] [{Snapshot}]	
[2] [Thru] [4] [Enter] {Favorite} [Enter]	turn Favorite column off
Touch Snapshot Popup	displays just Snapshots 1 and 6

Snapshots Best Practices

- Place your snapshots (like a Direct Select or a Magic Sheet object) in the same location on your displays so they are easy to find.
- Snapshots that include Faders do not store fader attribute states, such as Timing Disable, Rate, etc.

Eos Family Color Tools

Color Theory

Add-a-Tab (the {+} sign) and select the Color Picker — **opens the Color Picker tab**

The default is a color space and the Gel Picker. The cross hairs on the color space indicate its chromaticity, or the X-Y coordinates of a color in a two-dimensional color space. The default color space is the CIE xy space.

With an additive color system like RGB - Red, Green, Blue, when plotted on a color space, the result is a triangular plane. Imagine that each of the corner points has a string attached to the cross hairs. Moving the cross hairs changes the lengths of the strings. Every point in the color space where the x and y can hit can only be described with unique values of all three of the points. There is no way to describe the same point with different values of the three points.

However as soon as a fourth point is added to the color space, for example, RGBA, now there is the potential to describe an XY location with different combinations, or recipes, of the four different emitters.

This is a phenomenon called metamers, two color recipes that are at the same chromaticity. Looking at the two receipes on a white wall, the colors would look the same. As soon as it is reflected of complex spectral surfaces such as fabric, scenic paint or even skin tones, then the differences of the content of that spectrum will become apparent. With color systems that have five, six, or even seven emitters, the probablity of describing the same XY coordinate, the chromaticity, with multiple recipes from the emitters becomes much higher.

[301] [Enter] — selects a fixture with RGBA

Easily visible are the three points of the triangle, and, though hard to see, a fourth point for the amber emitter is available as well.

[141] [Enter] — selects an X7 fixture with 7 colors

With all seven emitters, all colors within the gamut are available with multiple recipes using different combination of emitters. This fixture has a cyan emitter that stretches the gamut out beyond the line from blue to green.

Something to note is that white emitters don't actually stretch the gamut; they just increase the brightness because they live at the center of the spectrum. Fixtures that are three colors plus the white emitter do not have the increased ability to have metamers.

Gel Picker

Chromaticity, gamut and metamers all matter when the gel picker is used. To better see this, open the Spectrum tool.

Select {5 Rosco Roscolux} in the center column of tiles	opens the Roscolux swatch library
Select the gear icon (✱) in the left most tab on the display	opens Display Configuration Tool
Select {Spectrum}	to change the color picker options

The Spectrum views shows the location of all the emitters in the visible spectrum and what their current values are.

Select {R052}	to change the color picker options

The spectrum view displays all of the emitter composition that it is using to get as close to R52 as it can.

The board also displays, in the spectrum display, the information about the spectral power distribution of the gel with a dotted line. This is the same information that is on the print card behind every gel in a swatch book. This shows when light passes through this filter, what spectral content is allowed to pass through.

Brightest

Sometimes the gel picker is not quite accurate. That is because the software gives you the brightest metamer of all the metamers for a specific chromaticity as the default.

In the Spectrum display for R52, the Lime emitter is brighter than where the gel distribution is. That might shift the color for costumes or scenic paint.

Spectral

Click or touch {Brightest} at the top of the center column of tiles	changes to Spectral

Software picks a metamer that is most spectrally accurate to what the gel distribution passes.

Select {R052} again	see how the composition changes

In the Channel Display, when using the Spectral match, a dot is displayed in front of the gel in all of the parameters.

Hybrid

Often the most spectrally accurate metamer gives up a lot of brightness in an additive color system.

Click or touch {Spectral} at the top of the center column of tiles	changes to Hybrid

Software picks a metamer that is half way between the brightest metamer and the most spectrally accurate metamer

Select {R052} again	see how the compostion changes again

In the Channel Display, when using the Hybrid match, two dots are displayed in front of the gel.

TINT TOOL

The color picker is great to quickly get close to the color you want. When more granular adjustments, open the Tint Tool.

Select the gear icon (✱) in the left most tab on the display — opens Display Configuration Tool

Deselect {Spectrum} — closes the Spectrum display

Select {Tint} — opens the Tint Tool

Regardless of the parameters of the fixture (RGB, CMY, X7), small adjustments such as making it a little cooler, adjusting the saturation up or down, or simply pulling some green out can be made quickly and easily. The tint tool will translate what that means to shift green out of the fixture even though there isn't a green parameter.

[Go To Cue] [116] [Enter]

[31] [Thru] [50] [At] [Full] [Enter], using the color picker, make them cyan

The tinting tool is a tool created for relative adjustments to color, or the tools used for "designer speak".

Tap {Cooler} several times

Press and hold {Saturation -}

Watch the crosshairs and you make adjustments using the Tint tool.

[101] [At] [Full] [Enter], using the color picker, make them blue

Even though no green parameter, use {Green +} of {Green -} — moves the color point away form the green part of the spectrum

Color Path

When fading LED fixtures from one color to another, sometimes they will fade through undesirable colors or with fade times that are not ideal.Color Path is a tool for editing color fades and timing between cues.

By default, color fades happen in the native space of the fixture. If you want a fade that resembles a fade in a different color space, you use color paths. There are eight preprogrammed color paths, and you can also record your own. Up to 1000 color paths are supported. Channels involved in the fade have to be selected before you can choose or modify a color path.

[Clear] [Sneak] [Enter]	
Select the gear icon (✱) in the left most tab on the display	
Deselect {Tint} and select {Color Path}	
[Group] [22] [Enter], using the color picker, make them amber	set channels at level and in color
[Update] [Enter]	updates the cue
[■] (Stop/Back) [▶] (Go) to watch the cyc fade	fades from saturate blue to amber
[Group] [22] [Enter]	shows the fade path on the color picker

With channels selected, in the color space, the path is displayed that the colors are going to take. This is the native color fade – without any intervention from the color space.

[■] (Stop/Back) [▶] (Go) to watch fade run again along the path	

Color Paths

The color path display has a drop-down list of the available paths, a color path preview bar, and time control buttons.

Run finger or mouse along Preview Bar	to see fade at any point along path

Timing control buttons are:

- **Q (#) I▶** – replays the color fade using the cue time.
- **GoToQ (#) I▶** – replays the color fade using the Go to Cue time
- **5 I▶** – replays the color fade in five seconds.
- **10 I▶** – replays the color fade in ten seconds.
- **II** – pauses the color fade.
- **▶** – plays / resumes the color fade.
- **▶I** – skips to the end of the color fade.

Color Path Types

1	Native	5	RGB
2	Gel	6	CMY
3	Sat Adjust	7	Hue Sat
4	CIE xyY	8	Auto Dim

Color Path Menu

On top (No Color Path) far right, select the drop down menu (▼) — Opens the Color paths drop-down menu

Select {2) Gel} — Gel path similar to native color space

You'll see a representation of those changes in both the color path preview bar and in the color space.

Tools

There are also individual control tools to adjust the fade. **In Color, Out Color** and **Brightness**

Drag {Delay} along the In Color bar and watch Preview ribbon — more blue and quicker to amber

This doesn't change the path that it takes through the color space, but it changes the timing characterization of the fade.

Reset that {Delay} — more blue and quicker to amber

If trying to match two incandescent fixtures with saturate gels fading between one another, often times there is a dip in brightness halfway through the fade. With LED fixtures, the fade goes closer to white and there is a pop in brightness.

Drag {Brightness} to a lower percentage, watch the Preview — prevents going though too much white

Save Color Path to CUE

Color Path information is stored in the destination cue as Absolute data. It is not a direct path through color space; it is math that determines how to get from the start color to the end color. This is beneficial if the start color or end color is changed, the path does not need to be redrawn.

In the Channel display, there is a red 'C' next to the channel numbers to indicate a change or modification to the path.

Hold [About] and press [Path] — to see which path each parameter is using

[Update] <116> [Enter] — updates the destination cue

[Group] [22] [Enter] — to select the channels

[■] (Stop/Back) [▶] (Go) to watch the cyc fade — fades from saturate blue to amber without white as brightness is less

This tends to fix most cross fades.

On top far right, select the drop down menu (▼), select {6) CMY} — selects a different color space

Different tools for this color space: **Cyan, Magenta, Yellow**

Change the Gel path to {7) Hue/Sat} — again a different color space

Adjustments here determine how closely the fade hugs the outside of the color space.

Save a new color path

[Change the Gel path to {5) RGB}	another color space
On the color picker, make the end result more yellow, closer to green	using the color picker, make them yellow

With an additive fixtures, Green is both in the start cue and the destination cue, so it will likely fade through white.

Delay Green (drag the delay on the green bar towards the middle)	watch the color path in the color picker

When saving a new path, that data will then be referenced, and any changes made to that path will be used anytime that path is used.

[Record] [Path]/{Color Path} [101] [Label] RGB-Avoid Green [Enter]	saves the color path with a label

Color Path Display List

[Path] [Path] / {Color Path} {Color Path}	opens the Color Path List

Save color path for a fixture

If a fixture always has an undesirable color path, a path can be selected to run on that fixture every time it fades without having to record it in every cue.

In Patch, {Attributes}, [301] {Color Path} [101] [Enter]	uses that path everytime it fades
[301] {Color Path} [Enter]	removes the color path

Corporate Headquarters ■ Middleton, WI, USA ■ Tel +608 831 4116 ■ Service (Americas) service@etcconnect.com
London, UK ■ Tel +44 (0)20 8896 1000 ■ Service (UK) service@etceurope.com
Holzkirchen, DE ■ Tel +49 (80 24) 47 00-0 ■ Service (DE) techserv-hoki@etcconnect.com
Hong Kong ■ Tel **+** 852 2799 1220 ■ Service (Asia) service@etcasia.com
Paris, FR +33 1 4243 3535
Web etcconnect.com ■