Eos Family Console Programming

Level 2: Enhanced

Workbook

V3.0 Rev. A

Table of Contents

Purpose of the Class

This class will provide a more in-depth look at basic operations and working with multi-parameter devices on an Eos family console.

LEARNING OBJECTIVES:

After completing this class, one should be able to:

*   Edit device attributes
*   Understand display layouts and workspaces
*   Record and recall Snapshots
*   Create more elaborate Groups
*   Be more effective using Submaster properties
*   Record and recall Palettes and Presets
*   Set up and use Direct Selects
*   Understand and use Update, Auto-Mark, and other cue attributes
*   Take advantage of Discrete Timing and Multipart cues
*   Create and use Relative and Absolute Effects
*   Feel comfortable with configuration and test functions in the Shell
*   Create and use a basic Magic Sheet

SYNTAX ANNOTATION

*   **Bold**   Browser menus
*   **[Brackets]**   Face panel buttons
*   **{Braces}**   Softkeys or buttons on touchscreen
*   **<Angle brackets>**   Optional keys
*   **[Next] & [Last]**   Press & hold simultaneously
*   **«Direct Selects»**   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.

▶ Overview of the Shell

Refered to as the Eos Configuration Utility (ECU) in the manual, this area is used for both system configuration and performing basic level test functions.

[Displays], in Browser, {Exit} {Ok} . Don't forget to save your show first!   to exit to Shell

> Note: When you exit to the shell, the console will stop outputting to the rig (No DMX!!),

STARTING SCREEN

PRIMARY OR BACKUP

Primary is a mode for using a single console on a network where the primary output of data is from that single console. **Backup** requires a primary console be online to synchronize.

CLIENT OR OFFLINE

A **Client** console acts as an extension of the primary console, more like   a remote controller, remote video station, or an expensive keyboard for a system. Whereas **Offline** mode puts the software in a state where there is no network activity, no control, and no connections to other consoles or any other network devices.

SHUTDOWN

Clicking Shutdown will shut down the Eos console after a confirmation.

SHELL SETTINGS

Select {Settings} when highlighted

- **General**   Device Name, Clock Time/Date, Use Shift Key as Eos Shift, Monitor Arrangement, Software Update, Switch to Eos 2.9.

SWITCH SOFTWARE VERSIONS

Eos has the ability to switch between v3.0.0+ and previous versions of software. A restart is required for changes to take effect.

MONITOR ARRANGEMENT

The selected monitor will display in yellow. Monitors can be dragged to any of the surrounding black boxes to mimic actual monitor layout.

- **{Calibrate}** and **{Reset Calibration}** for internal touchscreens
- **{Enabled}** - When checked, the monitor is available for use. It will be checked for any monitors the console recognizes.
- **{Primary}** - selects which monitor will display the Eos Configuration Utility and Central Information Area (CIA)
- **{Resolution}, {Color Depth}**, **{Refresh Rate}** and **{Orientation}** will help configure the monitors appropriately.
- **{Identify}** - displays the video port numbers that your monitors are connected to on the monitors to confirm where placement.
- **{Configure Touchscreens}** and **{ELO Settings}** for external touchscreens
- Hit **{Apply}** – and **{Keep Changes}** to save your settings.
- Then **{Close}**

- **Network**   Console IP Address, Output Protocols, Interface Protocols (Wi-Fi Remote), Network Services
- **Maintenance**   Deep Clear, Save Logs, Backup Show Archive, File Manager, Face Panel Test

SAVE LOGS

Logs are useful tools for diagnosing issues. If you experience software problems with your system, sending log files to ETC Technical Services helps us isolate the issue.

Log files can be generated by clicking on the **{Save Logs}** button here or from within the show file by going to **Displays > File > Export.**. When complete, email the zip file to eos@etcconnect.com.

- **Buttons**   RPU/RVI Button Setup, Eos Ti/Gio Facepanel Buttons
- **RFR**   RFR Base Station Frequency and Network ID

{Accept} to exit back to the starting screen	to exit back to the starting screen
{Primary}	to go back into the console

▶ Device Attributes

Start in same show file as day before or in Level 1 Complete file

In Patch, {Attributes} on the left hand side of the display	opens the Attributes module

{PREHEAT}

To specify an intensity value to preheat fixtures. When a preheat flag is applied to a cue, any channels that are fading from zero to an active intensity and have been assigned a preheat value in Patch will preheat in the immediately preceding cue. **A two-step function.**

Step 1 [1] {Preheat} [03] [Enter]	assigns a preheat value of 3% (if enter 30, get 30%)
Step 2 [Live] [Cue] [4] {Attributes} {Preheat} [Enter]	puts the Preheat flag on the cue (P)

See the "P" in the Flags column of the PSD for Cue 4.

{PROPORTION}

Proportion is a mathematical modifier for recorded levels or intensities. This value is set numerically in a range of 0% to 200%.

Back in Patch, Attributes, [2] {Proportion} [77] [Enter]	applies a 77% proportion to channel - for a 750w lamp that should be a 575w
[2] {Proportion} [Enter]	removes the applied proportion

{CURVE} & {FAN CURVE}

A curve affects how a fade happens over time.

[Displays] {Curves} or Add-a-Tab (the {+} sign) - #21	to view pre-programmed curves
[Next]…[Next]…[Next]…	to step though the curves

The control input is what the console is telling the fixture to go to. The output is actual value that is being output via DMX.

Back in Patch, [3] [Enter] {Curve} [905] [Enter]	applies curve 905 (Full at 1%) to the intensity parameter of channel 1

Note: Curve 909 (Hot Patch) is a great way to have relays powering moving lights and LEDs always be on when the console is on.

[3] {Curve} [Enter]	removes the curve

{LD FLAGS} – A TOGGLE PER CHANNEL

By default, Live and Dark flags are enabled. If there is a Live or Dark move, an 'L' or 'D' will be displayed in the move flags (MV) column in the PSD. This can be disabled on a channel-per-channel basis.

{GM EXEMPT} – A TOGGLE PER CHANNEL

A toggle state, if selected, channels are exempt from a Grandmaster fader or Blackout button, **[Rem Dim]**, **[Go To Cue] [Out]/[0]** and Intensity Master operations.

{Invert Pan or Tilt}

A moving light attribute used to invert the output of pan, tilt, or both.

[Live], [Group] [7] [Full] [Enter], tilt them up and pan	note how they move – all together
Back in Patch: [Group] [7] {Offset} [2] {Invert Pan} {Invert Tilt}	inverts the output of the pan and tilt parameters
Back to [Live]: [Group] [7] [Enter]. Tilt, then pan	note how they move now

Using Invert to set up encoders

To make sure your encoders work the same way your eyes do. Dial left, lights move left; dial right, move right.

[Group] [5] [Full] [RemDim] [Enter], tilt them up on stage, **turn Pan encoder to right**	note how they move opposite of encoder
Back in Patch: [Group] [5] {Attributes} {Invert Pan}	inverts the output of the pan parameter
Back to [Live]: [Select Last] [Enter], and pan	note how they move now

Definitely something to be done before you start cueing your show, otherwise every cue that has been written will be affected by these changes.

{Swap P/T}

A moving light attribute used to exchange pan and tilt levels, such as when a fixture is hung sideways on a boom. Pan becomes Tilt and Tilt becomes Pan.

INDEXED PARAMETERS

CREATING A NEW CUSTOM SCROLL OR WHEEL

When using the editor, function keys are on the lower left side of the CIA, either mouse or touch selected. They change depending on device editing.

- **{Clear}** - clears the current wheel selection
- **{New}** - to create a new scroll or wheel
- **{Copy}** - copy an existing and then modify
- **{Edit}** - opens the editor to modify
- **{Delete}** - removes the selected device

Scroller Exercise - see Appendix 1

In Patch, [151] [Thru] [158] [Part] [2] [Enter], {Attributes} {Scroller}	
Press {New} on lower left side of display	{new wheel#1} appears in list
[Label], [Label] to clear, then type 'Training' [Enter]	labels the new scroll
In Frame List on far left, press the gray box under 'C/G'	available color selections displayed
Press {Open Frame} softkey on lower left side of display	display returns to the new wheel frame list and adds 'Generic open open'
Press next gray box under 'C/G'	available color selections displayed
{Rosco}, then the sub category {Roscolux}, and then {R010}	returns to the frame list and adds color
In the Name column, Press 'New' in the next box. Type [5] [/] [27] [Enter]	another way to add color to the scroll
Complete the scroll in Appendix 1 of the workbook	
Press {Done}	completes the scroll, applies to fixture
[Live], [Group] [10] [Full] [Rem Dim] [Enter]	use the encoder to flip through frames
Check the frames in the Encoder Display or ML Controls	
[Home] [Enter]	

NOTE: When creating a gobo wheel: after you press the gray box in the C/G list, make sure that the softkey {Gobo} is selected. There is also an {Effect} softkey that will bring up manufacturers of prisms and effect wheels.

OTHER INDEXED PARAMETERS

All indexed parameters have the same editing experience.

Back in Patch, [101] [Enter] {Attributes}	selects channel and opens the Wheel Picker in the CIA for wheel selection
{Color Select}	used to change the dichroics loaded in a color wheel for a moving light.
{Gobo Select} and possibly {Gobo Select 2}	used to change the gobo wheel loaded in a moving light
{Beam FX Select}	
{Animation Select}	

{SHUTTER ORDER}

Invert the shutter order or rotate the order using the arrow buttons. Can be set on a per fixture basis, so if if hung sideways, can still have the shutters line up and work the way you want them to.

{Shutter Order}	opens the Shutter Order display

▶ Display Layouts and Workspaces

DISPLAY TOOLS

[Live], Press the monitor 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

On right hand frame, select the large +, then select Color Picker (Tab 27)

Press the Displays Tool icon again

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

Use the arrows to choose how wide or tall 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 [12] (Patch)	moves focus to a specified tab
Hold [Tab] & press [4]	opens a specific tab
Hold [Tab] & press [4.2]	opens a secondary tab

WORKSPACES

A workspace is made up of multiple frames, each with its own tabs. For each monitor, you can have up to three workspaces.

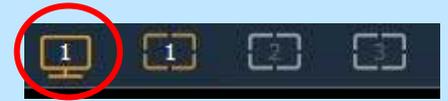**Hold [Tab] & press [Page ▲] or [Page ▼]**

to change workspaces across all monitors

Note: This key combination will only switch into workspaces with open tabs.

OPTIONS

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

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

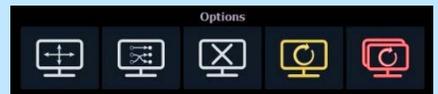**After playing, use the Reset all Monitors and Workspaces icon**

close all of the tabs and frames on *all* monitors

▶ Snapshots

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.

RECORDING SNAPSHOTS

In [Live], be in Table View, and in Flexi - Patched Channels on one monitor and have the PSD & CIA on the other	
[Record] [{Snapshot}] [1] [Enter]	records the snapshot
Press the display controls icon in upper left hand corner of the left monitor	
Select the side-by-side layout	
Highlight the PSD display on the right monitor. **Hold [Tab] and press [Page ▶] or [Page ◀]**	move the PSD tab onto the same monitor as the Live display
Press the display controls icon in upper left hand corner of the right monitor	the monitor with the CIA
Select the side-by-side layout	
Select the Direct Selects display on one side and choose Groups for the type	bottom row, first icon – Tab 4
Select the Color Picker on the other side	bottom row, middle – Tab 27
[Record] [{Snapshot}] [2] [Enter]	records the snapshot

RECALLING SNAPSHOTS

[{Snapshot}] [1] [Enter]	recalls the content of snapshot 1.
[{Snapshot}] [2] [Enter]	recalls the content of snapshot 2.
NOTE: When recalling snapshot, the command does not appear on the command line, it appears above the command line (red text)!	
Use Snapshot Quick Access Tool (pop-up icon) to select Snapshot 2	recalls the content of snapshot 2.
[{Snapshot}] [{Snapshot}]	opens the Snapshot list

Groups

SUB-GROUPS

You can create subsets of channels within a group that are treated as a single channel in group/channel selection and in effects.

[Group] [Group] [Group] [103] [Enter]	creates group 103
[Shift]&[/] [51] [Thru] [53] [Shift]&[/] [Shift]&[/] [54] [Thru] [56] [Shift]&[/] [Shift]&[/] [57] [Thru] [59] [Shift]&[/] [Shift]&[/] [60] [Thru] [62] [Shift]&[/] [Enter]	puts sidelights in sub-groups
[Shift]& [/] [/] will close one set of parenthesis and open the next.	
[Live] [Clear] [Sneak] [Enter]	
[Group] [103] [Full] {ChanCheck} [Enter] [Next]…	does a channel check with sub-groups

Each set of three channels is treated as one channel in the channel check, and if we apply an effect to the group.

[Clear]	
[Shift]&[/] [Group] [5] [Shift]&[/] [Shift]&[/] [Group] [7] [Shift]&[/] [Record] [Group] [23] [Enter] [Label] All Movers [Enter]	creates sub-groups of movers in Live

CREATE GROUPS USING OFFSET

Using Offset to create groups is a quick way to reorder channels as well as create sub-groups more easily.

[Clear] [Sneak] [Enter]	
[301] [Thru] [312] {Offset} {Mirror Out} [Record] [Group] [101] [Label] Cyc Mirror Out [Enter]	Offset graphic displayed in CIA area
[Group] [Group]	Back in the Group List
[Group] [101] [Copy To] [Group] [102] [Enter]	
{Reverse} [Enter]	Reverse is a softkey option
[Label] Cyc Mirror In [Enter]	
[Live]	
[Group] [101] [Full] [Thru] [10] [Enter]	Notice cyc is brightest in center
[Clear] [Sneak] [Enter]	

ADDITIONAL OFFSET MODIFIERS

[71] [Thru] [82] {Offset}	
{Chan per Group} [3] … [Clear] Then [5] … [Clear] Then [4]	Watch graphic in CIA for differences
{Interleave}…[Clear]	Reorders the subgroups so they are no sequential
{Jump} [3]	Notice the gap between the subgroups
[Shift]&[Clear]	Clears the command line
[31] [Thru] [50] {Offset} {Mirror Out} {Chan Per Group} [4] {Interleave} [Record] [Group] [104] [Enter]	Watch graphic in CIA as you build
[Group] [104] [Full] {Chan Check} [Enter]… [Next]… [Next]… [Next]	Watch the viz to see sub-groups

GROUP LIST

All Groups should be in the show after the previous exercises.

If not labeled, take a moment and do so.

Group #	Label	Channels
1	Frontlight	1 > 10
2	Downlight	31 > 50
3	High Sides – Left	51 > 62
4	High Sides – Right	71 > 82
5	FOH Movers	101 > 105
7	OS Mover Wash	121 > 128
9	Side Mids	141 > 148
10	Side Scrollers	151 > 158
20	Cyc Top	301 > 312
21	Cyc Bottom	351 > 362
22	All Cyc	301 > 312 351 > 362
23	All Movers	(101 > 105) (121 > 128)
30	Effect 1	34, 31, 33, 35, 32
101	Cyc Mirror Out	(306 > 307) (305 308) (304 309) (303 310) (302 311) (301 312)
102	Cyc Mirror In	(301 312) (302 311) (303 310) (304 309) (305 308) (306 > 307)
103	Left Hi Sides	(51 > 53) (54 > 56) (57 > 59) (60 > 62)
104	Offset Subgroup	(33 38 43 48) (32 37 42 47 34 39 44 49) (31 36 41 46 35 40 45 50)

▶ Submaster Properties

TIMING ON SUBMASTERS

Changes can be done in Live or in Sub List. Bump button is the Go.

[Live]	
[Sub] [1] [Time] [3] [Time] [4] [Time] [3] [Enter]	adds a 3 sec upfade, dwells 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] {Hold} [Enter]	changes the dwell time to 'hold'
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 in Live of each submaster.

LABEL

[Sub] [1] [Label] Front Light [Enter]	displayed in List as well as Sub displays
{Edit} [10] [Full] [Enter]	add a channel into this sub in Blind
[Sub] [Sub]	back to Submaster List

MODE: ADDITIVE, INHIBITIVE, OR EFFECT

Mode has 3 options, the first is the default and that mode is **Additive** (contributes to the live output). **Inhibitive** (limits live output) restricts the values as the fader comes down. It acts as a mini grand master for the contents of the sub. The final mode is **Effect**.

[Sub] [1], under Mode, {Inhibitive}	makes sub 1 an inhibitive sub, LED turns red
Push Fader 1 up if on non-motorized hardware	
{Edit} to be in Blind	notice the 'INs' as channel values
[Live] [Go To Cue] [1] [Enter]	runs the cue with specials
Slowly bring the fader out	channels go out - notice small 'I' in channel display
Bring the fader back up	leave up for duration
[Go To Cue] [Out] [Enter]	

FOH INHIBITIVE SUB

A good example of using an Inhibitive Submaster is for FOH lights on main curtain - would never use as an additive – great for multiple curtain calls

[Group] [1] [+] [Group] [5] [Full] [Enter]	select only intensity for channels
[Select Last] [-] {All NPs} [Record] [Sub] [3] [Label] FOH Inhib [Enter] **[Load] to fader 3**	record and load the sub
[Sub] [3], {Properties}, under Mode, {Inhibitive}	FOH lights on main curtain - would never use as an additive – curtain calls
Bring fader up	for rest of class

MASTER: PROPORTIONAL OR INTENSITY MASTER

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

[Clear] [Sneak] [Enter]	
[Group] [5] [Full] [Full], tilt up on cyc	
[Record] [Sub] [10] [Enter], Load to fader 10, [Clear] [Sneak] [Enter]	records sub and clears manual values
Then bring fader up, see live changes Bring fader down	shows proportional control of contents

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

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

EXAMPLE WITH LED COLOR

[Group] [20] [Full] [Full], make them blue	
[Record] [Sub] [11] [Enter], Load to fader 9, [Clear] [Sneak] [Enter]	records sub and clears manual values
[Sub] [11], {Properties} under Master, {Int}	toggles the submaster to an I-Master
Press the bump button, bring fader up and down	only see color as fades up

If the bump button is not pressed, as soon as the fader hits 1%, the non-intensity parameters will mark as fast as possible and the rest of the fader travel will be intensity only.

There is an option in Properties called **Unmark 0**. If selected, the non-intensity parameters of the submaster will be released when the fader reaches 0%.

Then bring fader 9 up slowly and down	see the live change, watch the RGB values

EXCLUDE

Another property is **Exclude**. There are 4 options: the most common is **{Record},** which means its output is not recorded into any other record target.

[Sub] [11], {Properties}, under Exclude, {Record}	contents will not be stored in any record targets

Think about Houselights on a Sub that is set to Exclude from Record.

▶ Syntax / Command Line Filtering

EXPECTED SYNTAX

The command line expects instructions to be entered in a specific structure, or syntax:

Channel Selection and/or Categories & Parameters →→ Modifiers and/or Action.

Channel Selection	Categories & Parameters	Modifiers	Action
Chan 1			At Full
Group 6	Color		Record Preset 4
Group 6	Cyan		At /50
Chan 1	Image	- Gobo Rot	Sneak Enter

You don't have to use something from every column each time, but you have to enter it in this order.

USING SNEAK

[Group] [5] [Full] [Enter], tilt up on cyc, in orange, with gobo, zoom out, and make it sharp (edge full)	set levels
[101] [Sneak] [Enter]	sneaks all parameters including intensity back to default
[102] [Shift]&[Focus] &[Color] &[Beam]* [Sneak] [Enter]	everything but intensity sneaks
* To put Beam on the command line, double hit Form, Image or Shutter.	
[103] [-] [Intensity] [Sneak] [Enter]	same as 102 but stating the exception
[104] {Beam} [-] {Gobo Select} [Sneak] [Enter]	everything in Beam category except Gobo Select sneaks

Command Line filtering lets us be as broad or as specific as we need to when we are modifying or storing information.

▶ COPY TO AND RECALL FROM

[Copy To] takes the information from here and puts it over there.

[101] [Thru] [104] [Sneak] [Enter]	leaves 105 on stage
[105] [Copy To] [101] [Thru] [104] [Enter]	copies all values to other channels
[102] [Thru] [105] [-] [Shift]&[Intensity] [-] [Shift]&[Focus] [Sneak] [Enter]	resets most values to background state

[Recall From] takes the information from over there and brings it here.

[102] [Thru] [105] [Recall From] [101] [Enter]	channels pulls info from 101 and pulls into selected channels
[Select Last] [Home] [Enter]	resets the values to default
[101] [Shift]&[Intensity] &[Focus] &[Color] [Copy to] [103] [Enter]	copies intensity, focus & color but not beam

Copy To and Recall From also works between targets. Channel information can be recalled from other cues or palettes that are not currently live.

Palettes

Palettes are building blocks for programming. There are four types of palettes that correspond with our four data categories – Intensity, Focus, Color, and Beam. These particular types of record targets are used to quickly recall stored data. Palettes can only contain information within their category. For example, color palettes can only store color information – they can't contain any intensity, focus or beam data.

It is important to remember that Palettes are referenced data. This means that the changes to the palettes are propogated into all the places the palette is stored such as presets, cues and effects.

We will learn about everything palettes can do later in the workbooks, but for now we will be using them as programming shortcuts. After we create them once, we can use them over and over for fast recall of data.

COLOR PALETTES

[Clear] [Sneak] [Enter]	clears the stage
[Group] [2] [Thru] [9] [+] [Group] [22] [Record] [Group] [99] [Enter]	sets up a group for use with color palettes
[Group] [99] [Full] [Enter] {Color Picker} and select a red	notice not all the same
[Group] [99] [Record] [Color Palette] [1] [Label] Red [Enter]	records Color Palette 1
[Clear] [Sneak] [Enter]	
[Group] [2] [Full] [Full] [Color Palette] [1] [Enter]	the downlights go to red
[Group] [99] [Full] [Enter] {Color Picker} and select an orange	
[Select Last] [Record] [Color Palette] [Next] [Label] Orange [Enter]	records Color Palette 2

Color Palette Exercise

Record five more Color Palettes using Group 99:

CP1	Red
CP2	Orange
CP3	Yellow
CP4	Green
CP5	Lt blue
CP6	Dk blue
CP7	Magenta

To display labels or values:

- **[About]&[Label]** – toggles the display between referenced labels and target numbers.
- **[About]&[Label] [Label]** – locks reference labels on. Press **[About]&[Label]** again to unlock.
- **[About]&[Data]** – displays non-manual levels.

▶ Focus Palettes

[Clear] [Sneak] [Enter]	
[Group] [5] [Full] [Enter] and tilt up on stage	brings up FOH lights
[Next]…[Next] and focus each light on the Guitar Player	
[Select Last] [Record] [Focus Palette] [1] [Label] Guitar [Enter]	records Focus Palette 1
[Clear] [Sneak] [Enter]	
[103] [Full] [Full] [Focus Palette] [1] [Enter]	The test – did the light go to the quitar player?

Remember, to view reference labels, right click or tap on the display tab, select the bottom option, and then check the Show Reference Labels option.

[About]&[Label] - (a maintained press) - toggles between referenced label and target number. Keep **[About]** depressed to page.

[About]&[Label] [Label] - double press to lock reference labels on.

Press **[About]** again to unlock.

Focus Palette Exercise

Record four more Focus Palettes using Group 5:

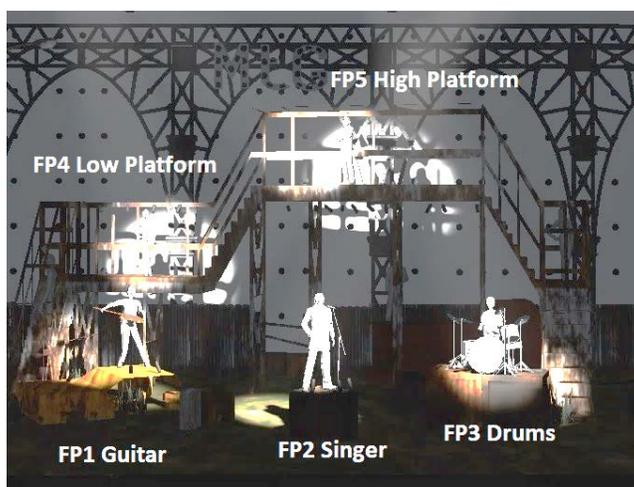|	
FP1	Guitar (SR)
FP2	Singer (CS)
FP3	Drums (SL)
FP4	Low Platform (USR Platform)
FP5	High Platform (USL Platform)

When done…

[Group] [5] [Full] [Enter] [Focus Palette] [1] [Thru] [5] [Enter]	fans the lights across all 5 palettes
OR [Group] [5] [Focus Palette] [3] [+] [4] [Enter]	fans lights from palette 3 to 4 in a line

▶ BEAM PALETTES

[Live], [Format] to table view, [Page ▶] to see Beam parameters	make sure you are in Live Table View
[Clear] [Sneak] [Enter] [Group] [5] [Full] [Enter] Tilt on stage	put lights back on stage
{Form}, {Zoom} [26] [Enter], {Image}, {Gobo Select} {Bars 2}	zoom fixtures and in bars gobo
Make it sharp	
[Select Last] [Record] [Beam Palette] [1] [Enter]	records BP info for all beam parameters

Notice that all parameters in the Beam category have been recorded into the Beam Palette (BP1). Not just zoom and gobo select.

USING COMMAND LINE FILTERING

[Select Last] [Shift]&[Image] [Record] [Beam Palette] [2] [Enter]	records Zoom, Edge and Gobo
[Page ▶] to see Beam parameters	see that just parameters from Image category are stored in BP2
[Blind], [Format] to table view,	
[Beam Palette] [1] [Enter], [Group] [5] [Enter], [Page ▶]	see that BP stored data in all parameters
[Next] to see Beam palette 2	only see data for image parameters

When applying BP2, any form or shutter parameter values will not be overridden, since there are no form or shutter values stored in that BP.

[Live]	
[Group] [5] {Gobo Select} [Record] [Beam Palette] [3] [Label] Bars [Enter]	see that only Gobo Select is recorded in BP3, "Bars" shows up as label
[Group] [5] {Zoom} [Record] [Beam Palette] [4] [Label] 26 deg [Enter]	see that only Zoom is recorded in BP4, "26 deg" shows up as label

▶ INTENSITY PALETTES

[Clear] [Sneak] [Enter] [1] [Thru] [Full] [Full] [Enter]	set levels, notice 1 Thru Full selects all channels in your current flexi state
Don't recommend doing this in a real theater!	
[Record] [Intensity Palette] [1] [Label] 100% [Enter]	records active channels at 100% in IP1
[Clear] [Sneak] [Enter]	
[Group] [101] [At] [Full] [Thru] [0] [Enter]	set levels, fans the intensity of the cycs
[Select Last] [Record] [Intensity Palette] [2] [Label] Hot Center [Enter]	records active channels in Intensity Palette 2
[Clear] [Sneak] [Enter]	
[Group] [101] [Intensity Palette] [1] [Enter]	brings back the levels recorded in Intensity Palette 1 – cyc at 100%
[Intensity Palette] [2] [Enter]	brings back the levels recorded in Intensity Palette 2 – cyc at fanned values
Press & Hold [Data] **If press [Data] [Data] will latch, [Data] again to unlatch**	to see actual values in Intensity Palette 2 Data Latched at top of screen
[Clear] [Sneak] [Enter]	
[Group] [101] [Recall From] [Intensity Palette] [2] [Enter]	brings back absolute data – without reference

▶ Presets – All Palettes

Presets can collect all data for a given channel (intensity, focus, color, and beam palettes as well as absolute data) rather than just one parameter type like with a palette.

[Clear] [Sneak] [Enter]	
[Live] [Group] [5] [IP1] [FP2] [CP1] [BP2] [Enter]	create look with referenced data
[Record] [Preset] [1] [Label] Singer Red [Enter]	records all parameter data for all channels and adds a label to preset 1
Press and hold [Data]	to view referenced palettes
[Clear] [Sneak] [Enter]	
[Group] [5] [Full] [Enter], [Color Palette] [2] [Enter], manually focus, tilt up, zoom out	put the lights back on stage
[Select Last] [-] {Intensity} [Record] [Preset] [2] [Enter]	records cue with referenced data, but selective (without intensity)
Note: Designers tend to record presets without intensity – a common practice	
Press and hold [Data]	see Pan & Tilt have absolute data, color is referenced

▶ Home Preset

Home Presets are a quick way to redefine home values of fixtures.

[Go To Cue] [Out] [Enter]	
[Group] [5] [Full] [Full], tilt up on stage	move the fixtures to a place where you want them to be at their home position
[Select Last] {Focus} [Record] [Preset] [999] [Label] Home [Enter]	create a preset for the home value
[Sneak] [0] [Enter]	clear the manual values
[Displays] {Setup} {System} {System}	go into setup
{Home Preset} [999] [Enter]	define the home preset that you created
[Live], [Group] [5] [Full] [Full]	bring the channels to full
Still in last location since haven't had a move instruction since defining the home preset.	
Pan & Tilt the units, drop in some color	change the fixtures
[Select Last] [Home] [Enter]	channels go back to the new home.
Pan and Tilt have gone to new home values and are no longer manual data.	

Another Example:

[Group] [99] [Full] [Enter]	bring all color changing fixtures to full
Using color picker, {Standard Colors} {3500K}	change them to warm white
[Group] [99] [-] {Intensity} [Update] [Preset] [999] [Enter]	update this as their new home color
[Sneak] [0] [Enter]	clear the manual values
[Group] [2] [Full] [Full]	notice the warmer color

A Home command will use data stored in the home preset. If there is no data stored for a parameter or channel, it will use the console's default home values for that parameter.

▶ Direct Selects

On the right monitor, collapse the CIA

Select Add-a-Tab (the {+} sign), select the DS Direct Select Module (Tab 4)   opens Direct Select display

DIRECT SELECT LAYOUT

When open, there are two banks of targets.

Select {Groups} on top and {Color Palettes} on bottom

To scroll through more direct selects, use the **{△} {▽}** buttons.

To change the Direct Select type, press the **{Select}** button. Please note that it may have the current target type label instead of the word 'Select'.

{Expand} opens the bank to a full screen of direct selects and displays the century and millennial buttons that allow you to jump to pages in the hundreds and thousands.

TO ACCESS THE CONFIGURATION MENU FOR THE DIRECT SELECT DISPLAY:

Press the Gear tab all the way to the left

Can also right click or double-left click on the tab!

CONFIGURATION MENU OPTIONS

# of Banks – select a number of different target banks

Current Bank – which bank are you editing

Layout – select banks of 25, 50, 100, or 200
- **Custom Rows/Columns** – can add rows or columns,

Control Buttons – select which buttons are displayed on the screen
- **Position** – where do you want to place the control buttons
- **Use Record** – displays the {Record} button on the display
- **Use Select** – displays the {Select} button on screen, may have the current target type label instead of the word 'Select'
- **Use Flexi** – {Flexi} button on screen
- **Use Expand** – displays the {Expand} button on screen
- **Use Arrows** – displays the page up and down arrows
- **Use Millennial Buttons** – displays the 100/1000 target buttons
- **Select** – to change the Direct Select target from this window
- **Flexi** – toggles the Flexi state on and off from this window

Other
- **Increment** – display targets by whole number, 10ths or 100ths
- **Skip Empty Flexi Space** – shows a visual break instead of a full button space between recorded targets
- **Use Color Swatch** – displays a color tag that previews the color recorded in the Color Palette
- **Maximize Button Size** – similar to Fit to Screen – depending on layout, allows buttons to expand to fill the screen
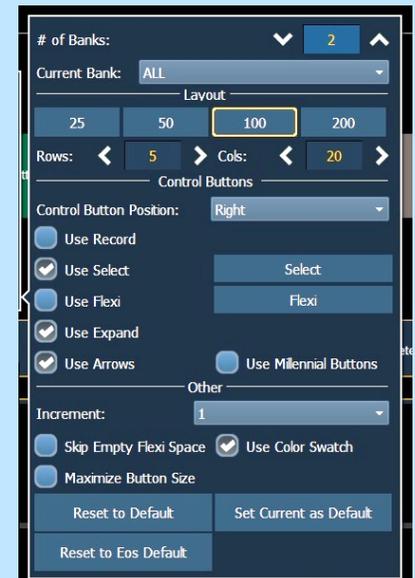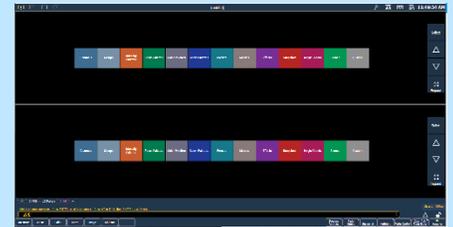
Defaults

You can save your settings as a default state.
- **Set Current as Default** – uses the current settings to create a default state.
- **Reset to Default** – restores the settings to the default state.
- **Reset to Eos Default** – restores settings to Eos factory defaults.

On the right monitor, open the CIA

Create two frames, side by side

Change the existing Direct Select tab on left from 2 banks to 1 bank

Select Groups

On new frame on right , open another Direct Select tabe

Select Color Palettes

[Record] [{Snapshot}] [3] [Label] Programming [Enter]

▶ Write Cues with Palettes

USING THE COMMAND LINE

[Go To Cue] [27] [Enter]	
[Group] [3] [Full] [Enter] [Color Palette] [7] [Enter]	
[102] [+] [105] [Full] [Enter] [Focus Palette] [1] [Enter]	Lights on Quitar player
[101] [+] [104] [Full] [Enter] [Focus Palette] [3] [Enter]	Lights on Drummer
[Group] [5] [Select Active] [–] {Intensity} [–] {Focus} [Home] [Enter]	removes Color and Beam parameters
[Record] [Next] {Color} [Time] [1] [Enter]	(28)

USING DIRECT SELECTS AND THE COMMAND LINE

[{Snapshot}] [3] [Enter]	
Touch «Side Mids», [Full] [Full], «Lt Blue» (G9) (CP5)	
Touch «High Sides – Left» and «Orange» (G3) (CP2)	
Touch «Cyc Top» and «Dk Blue» (G22) (CP6)	
[Record] [29] [Time] [3] [Enter]	(29)
[Group] [102], hold [Shift] & touch «Red», release [Shift], touch «Dk Blue»	command line shows Color Palette 1 + 6
Or release [Shift] after touching «Red» and touch «Dk Blue»	same results, gradient across the cyc
[103] [Full] [Enter] [Focus Palette] [2] [Enter] (Singer)	
[Select Last] [-] {Intensity} [-] {Focus} [Home] [Enter]	removes beam parameters
Touch «FOH Movers» [-] [103] [Out] (G5)	takes out group with an exception
Touch «High Sides – Right» [Full] [Full] (G4)	
{Color} [Recall From] «High Sides – Left» (G3)	brings color in from other group
[Record] [30] [Time] [2] [/] [7] {Color} [Time] [2] [Enter]	(30)

▶ Update

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

UPDATE - MAKE ABSOLUTE

Sometimes we want to make a change to a palette in one cue and not change the palette itself. This is the default way that update works – it's called Make Absolute, and stores changes directly to the cue rather than to the palette. This is useful if you need to make a one-time change to your palette data – for example, if a chair moves from one location to another for one moment in the show, you can simply update the cue for that singular moment.

[Go To Cue] [28] [Enter] and be in Live Table View	
[102] [+] [105] [Enter]	the guitar player is doing this part from the floor
Tilt them downstage a bit	makes a manual change to the channels – note the red R's in the table view
[Update] Notice default Make Absolute style [Enter]	absolute data is now stored in cue

Notice that 102 and 105 now have absolute data, no longer references a focus palette

UPDATE A PALETTE

Other times, we want to update the palette itself. Be aware that when you update a palette, every place in your show that uses that palette will also be changed. This is useful if the idea behind the palette has changed – for example, if the chair is now two feet away from its original location for the entire show. You can update the chair focus palette and now every place in your show that references that palette will also be changed.

[104] [Enter], tilt down a bit and pan a little	make a change - note the red R's
[Update] [Focus Palette] [3] [Enter]	changes stored in FP3, but still manual (red) in 'old' cue 28 on stage
[Go To Cue] [Enter]	refreshes the cue

The console defaults to make absolute meaning that any changes you make to palettes will be stored only in the cue and not affect the palette as a whole. If you want to update the palette, you need specifically call it out on the command line.

▶ Auto-Mark

MARKS IN GENERAL

A Mark automates the process of presetting non-intensity parameters to their required state in a cue, prior to fading intensity up. All move info about marked fixtures is stored in the reference or source cue.

AUTO-MARK

A system default setting, turned on or off at a global level.

When AutoMark is enabled, non-intensity parameter transitions will occur in the cue *immediately preceding* the cue in which the changes are stored, if intensity in that preceding cue is zero or moving to zero. Marked cues are indicated by an "M" in the Flags column of the playback status display.

In [Live], Look at the PSD/Cue List	Live moves displayed with 'L' flag
[Go To Cue] [30] [Enter]	
[121] [Full] [Enter], pan/tilt the fixture onto the singer, [At] [5/385] [Enter]	
[Record] [31] [Enter]	(31)
Press [Back] and then press [▶] (Go)	notice live move
[Displays] {Setup} {System} {Cue Settings}	
Click on {Auto-Mark} <Enabled> and watch the cue list	now see 'M' flags, and a few 'D' flags, but notice all the 'L' flags are gone
[Live], [Go To Cue] [28] [Enter]	
[▶] (Go) on Cue 29	notice Q30 in green on Ch. 103
[▶] (Go) on Cue 30 – watch Ch. 121 marking	intensity of Ch. 121 says Mk and non-intensity parameter show Q31 in green
[▶] (Go) on Cue 31	no live move this time

NOTE   If you begin programming with Auto-Mark enabled, and then disable the feature, all of the Auto-Marks in the show are converted to referenced marks.

ALLOW A LIVE MOVE

When you want to see a live move on stage, but the AutoMark is enabled, you can disable AutoMark for an individual cue.

[Cue] [31] {AutoMark Off} [Enter]	notice the 'D' in the flags column and L for Live move is back
[Go To Cue] [29] [Enter]	
[▶] (Go) on Cue 30	notice no marking
[▶] (Go) on Cue 31	watch the live move

▶ Cue Attributes

CUE SOFTKEYS

When **[Cue]** is pressed, a softkey called **{Attributes}** is displayed. When **{Attributes}** is pressed, several new softkeys appear.

Let's look at **{Scene}** and **{Note}**.

SCENE

Scenes are a cue organization tool that provide a visual identifier for breaks in the show. Scenes allow for quick cue list navigation without needing to remember a cue.

CREATING A SCENE BREAK

Using Snapshot pop-up, recall Snapshot 1	
[Cue] [1] {Attributes} {Scene}	
The virtual alphanumeric keyboard opens: Act 1 [Enter]	adds a Scene marker to cue 1

SCENE END

[Cue] [10] {Attributes} {Scene End} [Enter]	adds an End of Scene marker to cue 10

CUE RANGE SCENE

[Cue] [11] [Thru] [14] {Attributes} {Scene} Act 2 [Enter]	adds a Scene marker above cue 11 and an End of scene marker after cue 14
Notice the line above Cue 11 and below Cue 14	
[Cue] [15] [Thru] [17] {Attributes} {Scene} Act 3 [Enter]	adds a Scene marker above cue 15 and an End of scene marker after cue 17

Notice as you page up and down on the cue list (PSD), the scene break stays locked as long the cue list is in that scene. Brackets around the label indicate that the cue a the top of the screen is not the first cue in that scene.

NAVIGATION TO SCENE

[Go To Cue] {Scenes}* {Act 2} [Enter]	goes to cue at the top of that scene

* *The CIA opens and shows all of the different scene breaks created.*

UPDATING A SCENE

The **{Scene End}** softkey can also be used when updating the cues in a scene. For example, **[Update] <Cue> [5] [Thru] {Scene End}** will put the last cue of that scene on the command line.
Don't forget to add **[Q Only/Track]** to stop tracking if needed!

REMOVE A SCENE BREAK

[Cue] [11] {Attributes} {Scene} [Label] [Enter]	to remove a scene
[Cue] [14] {Attributes} {Scene End} [Enter]	to remove a scene end

SCENES IN DIRECT SELECTS

Add-a-Tab (the {+} sign), select Direct Selects (Tab 4), choose Scenes	open a Direct Select Tab
[Go To Cue] «Act 1» - self-terminating	use DS to navigate to scenes

As with all Direct Selects, if don't want it to terminate, can press [Shift] & «DS»

NOTES

Cues can have notes attached to them. This is more of a long form phrase instead of a label which is generally a short reminder of what a cue is doing.

[Cue] [11] {Attribute} {Notes}   Band improvs while waiting for quick change   [Enter]

to add a note

Notice in the label field of the PSD, a little plus (+) mark has appeared. Hover over that label field to see the note as a floating dialog box.

PLAYBACK STATUS DISPLAY (PSD) CONFIGURATION MENU

The following options are available in the PSD Configuration Menu:

- **Target Grid** – selects top or bottom when the PSD is split
- **Lock Status** – allows you to lock the PSD to a certain cue list.
- **Display Cue Parts** – displays the individual parts of a part cue. When not enabled, the number of parts for that cue will display as a superscript number beside the cue's number.
- **Display Cue Links** – displays the Link/Loop information.
- **Display Scenes** – displays cue scene information.
- **Display Follow/Hang Indicator** – displays the Follow/ Hang arrow indicator before the cue number of any cue that will be triggered by a follow or hang.
- **Display PSD Time Countdown** – displays the cue category times countdown in the PSD as a cue is fading.
- **Display Master Playback Status** – displays the current cue's status information. Current and pending cue status
- **Display Fader Ribbon** – displays the fader ribbon, which shows the current fader page under the Master Playback Status.
- **Display Notes** – displays the Cue Notes in a horizontal bar at the bottom of the PSD.
- **Display Pending Cue Notes** – displays the Cue Notes for the pending cue in a horizontal bar at the bottom of the PSD.
- **Break Link to Live/Blind** – When selecting the Live/ Blind display, the PSD will also come into view if it is currently hidden. This option allows you to break the link between the PSD and the Live/ Blind displays so that the PSD will no longer come into view when selecting Live/ Blind.

In the **Reorder column** section, you can choose what data displays in the PSD and what order it displays in. By default, all columns except notes will be displayed. Click or tap the name and use the arrow keys on the right to move columns around. The check boxes suppress or enable.

- **Set Current as Default** – uses the current settings to create a default state for all other instances of the PSD.
- **Reset to Default** – returns the settings to the default state that you created.
- **Reset to Eos Default** – returns all settings to the Eos defaults.

Feel free to set up the PSD the way that you prefer.

[Record] [{Snapshot}] [1] [Enter]   [Enter]

to re-record Snapshot 1
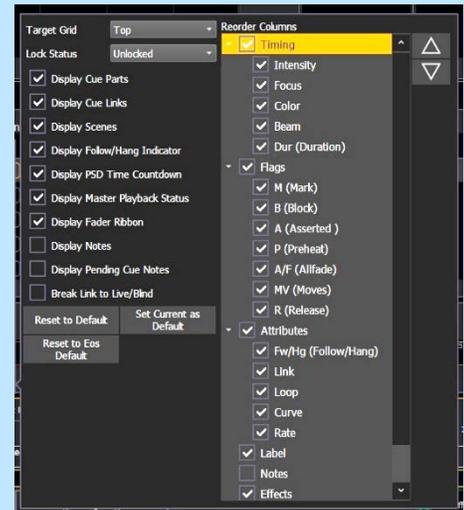
▶ Discrete Timing

Timing can be applied directly at a channel or parameter level.

DISCRETE CHANNEL TIMING

[Go To Cue] [31] [Enter] if not already there	
[Select Active] [Out]	fastest way to a blackout
[Record] [Next] [Time] [3] [Block] [Assert] [Label] Fade to Black [Enter]	records fade to black with block, assert, and label (32)
[103] [Time] [10] [Enter]* [Update] [Enter]	records time for channel 103 only in cue 32

> ** Notice the small red "t" displayed on the channel. Reminder – manual data! When updated, the "t" becomes blue. A '+' is also displayed on the cue in the PSD.*

Hold the Timing Displays button, **[Time],** (right hand side of the board) or hold **[About]&[Time]** to see the time displayed on the channel. It is displayed as 'D/T' where D is the Delay time and T is the Channel Time.

[■] (Stop/Back) to cue 31 [▶] (Go) and watch the timing	watch ch 103 takes 10 secs. to fade out
Hold [Flexi] and press {Time} in the CIA	Only channels with discrete timing are displayed
[{Snapshot}] [1] [Enter]	

▶ DISCRETE TIMING BY RANGE

[Group] [20] [Full] [Enter], [Color Palette] [4] [Enter]	set level of cyc full in green
[Record] [Next] [Enter]	records next cue (33)
[Group] [20] [Time] [1] [Thru] [15] [Enter] [Update] [Enter]	adds a distributed timing of 1 to 15 secs across the channel list, blue "t" and '+'
[■] (Stop/Back) and hit [▶] (Go)	watch the fade

> *Fan Time of 0 thru 15 – the fades start all at the same time but take times to complete.*

DISCRETE TIMING WITH DELAY

[Group] [101] [At] [50] [Enter], [Color Palette] [6] [Enter]	set level of cyc full in blue
[Record] [Next] [Time] [2] [Enter]	records next cue (34)
[Select Last] [Delay] [0] [Thru] [3] [Enter] [Update] [Enter]	adds a delay timing of 0 to 3 secs, blue "t" and '+' in Time column
[■] (Stop/Back) and hit [▶] (Go)	watch the fade

▶ DISCRETE TIMING BY PARAMETER

[Group] [5] [Full] [Enter] [Record] [35] [Enter]	set levels and records cue (35)
[Select Last] [Focus Palette] [5] [Enter]	
[Select Last] {Tilt} [Delay] [5] [Enter]	adds a delay of 5 sec to tilt
[Record] [36] [Enter]	records next cue (36)
[■] (Stop/Back) and hit [▶] (Go)	watch the fade

▶ CLEAR DISCRETE TIMING

[Group] [5] [Delay] [Enter] [Update] [Enter]	removes the discrete timing and the '+'

> ** Notice the + on Focus time has gone away and the duration is reset.*

▶ Multipart Cues

Multipart cues can be used to organize channels, and affect their playback attributes and timing as a group. A cue can have up to 20 parts.

MAKE A MULTIPART CUE FROM AN EXISTING CUE IN BLIND

[Live] [Go To Cue] [36] [Enter]	
[Group] [3] [Full] [Full] {Color} [Home] [Enter]	put channels at full, sets color to warm white
[Record] [37] [Enter]	creates cue 37
[Blind], [Format] to Spreadsheet view **Hold [Shift]&[Format] to hide non-intensity parameters**	switch to Spreadsheet View
[51] [Thru] [53] [Part] [2] [Enter] [Enter]	moves channels into Part 2 – 2nd Enter to confirm the break into parts
[54] [Thru] [56] [Part] [3] [Enter]	moves channels into new part of cue
[57] [Thru] [59] [Part] [4] [Enter]	moves channels into another part

MAKE A MULTIPART CUE FROM AN EXISTING CUE IN LIVE

[Live] [Go To Cue] [2] [Enter]	
[Group] [2] [Color Palette] [7] [Enter] [At] [Full] [Enter]	
[Update] [Enter] [▶] (Go) on Cue 3	
[102] [Full] [Enter] [Focus Palette] [3] [Color Palette] [5] [Enter]	
[Select Last] [Record] [Part] [2] [Time] [1] [Enter] [Enter]	moves selected channels to part 2, all data that has not moved is in part 1
[Group] [2] [Color Palette] [2]	takes only the color parameters of the channels and moves them into part 3
[Select Last] {Color} [Record] [Part] [3] [Delay] [5] [Enter] [Enter]	moves selected channels to part 3
[Clear], press [Last] to see parts in PSD	

CHANGE ATTRIBUTES OF A MULTIPART CUE

[Cue] [3] [Time] [6] [Enter]	not specifying a part assumes part 1
[Part] [2] [Time] [3] [Enter] [Label] Drummer [Enter]	changes the fade time for the channels in part 2 to a time of 3 and labels part
[Go To Cue] [2] [Enter] [▶] (Go) on cue 3	run cue, watch the fade times.

[Delete] <Cue> [3] [Part] [3] [Enter] [Enter] deletes part 3 of cue 3. When you delete parts of a multipart cue, any move instructions in the deleted part are moved to the first available part.

MULTIPART CUES BEST PRACTICES

- Unlike discrete timing, Multipart cues show all of their timing information on the surface, and can have labels. This makes complex timing changes easier to identify and track.
- Use parts to group like-types of data together – all channels that are marking, for example.
- Display Cue Parts can be toggled on or off in the PSD Configuration menu.

▶ Effects

WORKING WITH A PRE-PROGRAMMED EFFECT

Effects 901 – 918 are preprogrammed effects

[Live], [Go To Cue] [Out] [Enter], [Group] [5] [Full] [Enter], [FP2] [Enter]	
[Group] [5] [Effect] [901] [Enter]	

EFFECT PROPERTIES

[Effect] [Effect]	to open the Effects Editor

Effect properties include: **{Type}, {Scale}, {Cycle Time}, {Duration/Cycle}, {Parameters}, {Attributes}** as well as **{Entry} & {Exit}** methods, **{Time}, {Grouping}** and **{Trail}**.

ENCODERS

{Scale} - Size (default 25)

{Horizontal} – (Default), press and hold [Shift] for vertical or tap the encoder

{Axis} – Rotates the shape (Watch the graph as well)

{Cycle Time} – Speed of the effect

ATTRIBUTES

{Grouping} determines how channels currently running the effect will be distributed throughout the pattern. Grouping defaults to **{Spread}**. Every light runs individually, based on the channel order, cycle time, and trail times. A grouping of 2 means every other light will move together. Grouping of three means every third light, and so on.

TRAIL

{Trail} determines how fixtures are to follow each other through the effect; it is a percentage of the cycle time. Trail can be any value from 0-200%, even, or solo. The default is even.

- **{Even}** – the fixtures will be distributed evenly throughout the path. This is calculated by dividing the cycle time of the effect by the number of channels.
- **{Solo}** – the first fixture will execute the entire path. When done, the second fixture will execute the entire path.
- **{10%} - {90%}** – when the first fixture is 10% through the effect, the second fixture will start the effect, and so on through the remaining fixtures. Therefore, the fixtures will trail n% behind each other, as a percentage of the cycle time.

STOPPING AN EFFECT

[Live] [Group] [5] [Out]	takes out intensity, but effect still running
[Group] [5] [Effect] [Enter]	stops the effect on selected channels
OR [Effect] [901] [At] [Enter]	stops selected effect
OR [Stop Effect] [Enter]	stops all effects

COPY AN EFFECT

You can copy effects to another effect location and modify them from there. This will leave the original effect untouched.

[Effect] [Effect]	
[Effect] [901] [Copy To] [2] [Enter]	copies the effect to a new number
[Label] [Label] Modified Circle [Enter]	can also label the new effect

DELETE AN EFFECT

[Delete] [Effect] [2] [Enter] [Enter]	deletes the effect

If you delete one of the default effects (901 through 918), that effect will return to its default values.

[Delete] [Effect] [901] [Enter] [Enter]	deletes the effect - in this case, returning it to its default values

CREATE A RELATIVE EFFECT

Relative effects are mathematical based effects that can run on any fixtures that have similar parameters. A focus effect can be run on any fixtures that have pan and tilt parameters.

FOCUS EFFECT

[Effect] [Effect]	
[Effect] [2] [Enter] {Focus}	creates a new focus effect

Graph: X is Pan, Y is Tilt; center is where the light is focused.

{Edit}, then {Clear All}, on the grid, left click & drag to create a closed path	draw something – a heart, clover

The following tools are also available to edit the curve:

- **Draw** – draw lines for linear effects or append points to focus effects
- **Select** – select points of the curve (if none selected, all are changed)
- **Move** – move selected points, can also phase-shift the curve of linear effects in steps of 30 degree
- **Form** – scale linear effects on y-axis and focus effect separately on x- and y-axis
- **Size** – scale focus effects on both axis
- **Rotate** – rotate focus effects around center of the selected points

The following actions are available when editing the curve:

- **Select All** – selects all points
- **Smooth** – smooths the selected points
- **Mirror Hor. /Vert.** – mirrors the curve
- **Subdivide** – adds one point on each selected segment (useful to move that point or change the behavior of smooth)
- **Remove** – removes the selected points
- **Undo** – undoes the last operation
- **Redo** – redoes the last operation

Don't forget to hit {Apply}! {Grouping} {1} [Enter]	easier to see them all move as one
[Live] [Group] [5] [Full] [Enter] [FP2] [Enter] [Effect] [2] [Enter]	if not already there

CREATE A LINEAR EFFECT

A linear effect does not have to be parameter specific. Rather it can simply be a reference to a linear diagram which can be applied to any parameter.

[Effect] [Effect]	
[Effect] [12] [Enter] {Linear}, {Edit}, {Patterns}	creates a new linear effect
Select the NTX Flicker Pattern	in patterns, 2nd row, middle

The tools are slightly different for a linear effect:

- **Draw** – draw a new line for linear effects or append points to focus effects
- **Select** – select points of the curve (if no points are selected, all are changed)
- **Move** – move selected points, can also phase-shift the curve of linear effects in steps of 30 degree (only if no partial selection was made)
- **Form** – scale linear effects on y-axis and focus effect separately on x- and y-axis
- **Gamma** – apply a log function to the curve (linear effects only)

Don't forget to hit {Apply}!	
[Live], [Group] [5] [Home] [Enter] [At] [50] [Enter], [Effect] [12] [Enter]	
[Effect] [Enter]	to stop effect
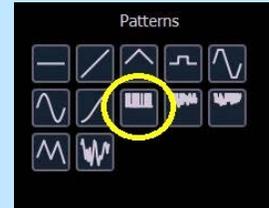
COLOR EFFECT

Color effects impact only color parameters. Similar to Focus Effects, they default to a circle pattern, with hue and saturation offsets. The **{Parameters}** key within the Effects Editor displays the various color mechanisms used in any patched channels.

CREATE AN ABSOLUTE EFFECT

Absolute effects are similar to step-based effects in that they contain a series of sequential actions. However, unlike step-based effects, absolute effects can be applied to any fixture that contains the parameter(s) specified in the effect. For example, an absolute effect that affects intensity can be applied to virtually any fixture; an absolute effect with color palettes as actions can be applied to any fixtures that have data stored in those color palettes.

WITH COLOR

[Effect] [Effect] [Effect] [3] [Enter]	creates a new effect
<Type> {Absolute}	selects Absolute and changes display
{Action} [1] [Thru] [7] [Enter] [Enter]	creates 7 actions
[Page▶] to {Level} column,	
[Color Palette] [1] [Thru] [7] [Enter]	enters CP1 – 7 into the 7 actions
[Live] [Group] [2] [Full] [Rem Dim] [Enter] [Effect] [3] [Enter]	plays effect across downlights
[Group] [9] [Full] [Enter] [Effect] [3] [Enter]	effect runs on sidelights
[Group] [101] [Full] [Rem Dim] [Enter]	brings up the cyc
[Select Last] [Effect] [3] [Enter]	plays effect running out from center
[Group] [102] [Effect] [3] [Enter]	plays effect running in toward center

Watch the effect on the color picker display too!
Play with grouping on this effect – note that a grouping of 1 will do a solid color change of the whole cyc.

[Clear] [Sneak] [Enter]	

WITH INTENSITY

[Effect] [Effect]	
[Effect] [4] [Enter]	creates a new effect
<Type> {Absolute}	selects Absolute

Check out the default Absolute effect - intensity based
Action 1 = 0 and Action 2 = Background (Bkgrd)   (=At Enter)

[Live] [Go To Cue] [7] [Enter]	bring up a cue onstage
[Select Active] [Effect] [4] [Enter]	replays the effect on the cue levels
[Effect] [Effect]	
Change Action 1 = Full and leave Action 2 = Background (Bkgrd)	see how the effect has changed
[Live] [Go to Cue] [Out] [Enter]	clears effect and cue

▶ WRITING EFFECTS INTO CUES

[Go To Cue] [37] [Enter]	
[Group] [3] [Effect] [3] [Enter] [Record] [37.1] [Enter]	effect number shown in FX on PSD (37.1)
[Group] [5] [Effect] [901] [Enter] [Record] [Next] [Enter]	see how the effect has changed (37.2)
[Group] [5] [Focus Palette] [1] [Enter]	
[Group] [3] [Stop Effect] [Enter] [Record] [37.3] [Enter]	clears effect and records cue (37.3)
[Go To Cue] [37] [Enter] and run the cues	
[Go To Cue] [Out] [Enter]	

▶ About "About"

"About" displays detailed information for nearly every target type.

[Shift]&[Clear] [About]	on a clear command line, About shows you information about the console

In the CIA, **[About]** displays the following information:

- System address count
- Software version
- Fixture library version
- Copyright & Licensing notifications

- Device name
- Assigned as (Primary/Backup/Client/Offline)
- User ID
- Priority (ACN and Net2)
- IP Address(es) – may be multiple IPs listed
-

- Number of defined parameters
- Number of patched addresses
- Number of unpatched defined parameters
- Number of patched channels
- Number of cues
- Allowed output addresses

On right hand side, {What's New}	opens the Manual, Tab #100

Contents on the side bar and a Search function in upper right of the tab

Hold [Tab] & press [100]	opens the Manual Tab

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

{About Console Status}	shows Network Devices, status and address

This display shows any informational, advisory or warning messages about your console and suggested actions to solve the issues

{About System}	shows Network Devices, status and address
[About] again or [Displays]	to bring back CIA/Browser

▶ Magic Sheets

Magic Sheets is a tool that allows you to create a custom layout to display and to interact with your console functions in different ways.

OPEN A NEW OR BLANK MAGIC SHEET

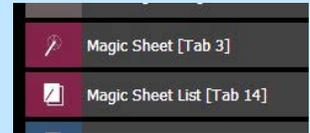**Use Add-a-Tab (the {+} sign) and select the magic wand (Tab 3)**

OR

[Displays] {Magic Sheet} [Enter]
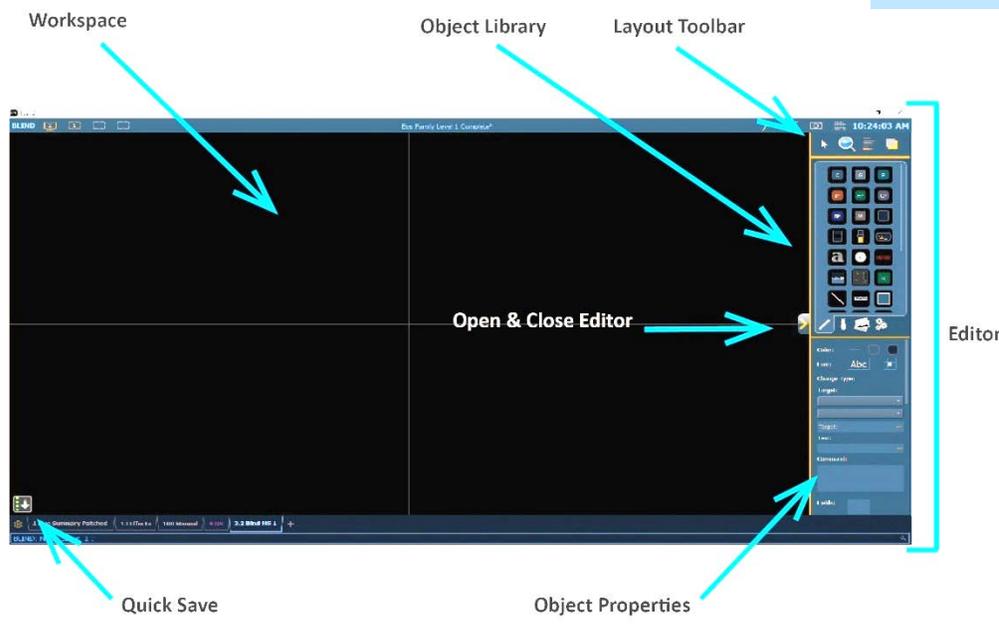
Click or touch "create a new Magic Sheet…"

OR

[Displays] {Magic Sheet} [1] [Enter]
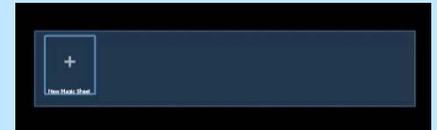
GETTING STARTED

Clicking on the Edit button (>) on the right-hand side of the magic sheet display will open the editing tools.

MOUSE NAVIGATION TOOLS

Use your mouse wheel	to zoom in and out
Right click and hold	to pan or drag the display

QUICK SAVE – CREATING RESTORE POINTS

Clicking on the **{Quick Save}** button allows you to save a restore point for the magic sheet you are working on. Once saved, a green check mark will temporarily appear next to the **{Quick Save}** button. This creates a restore point allowing you to undo back to that point.

NOTE: If no restore points are saved, [Undo] [Enter] deletes the magic sheet.

Closing and re-opening your Editor will also create an undo restore point.

PLACE AN OBJECT

We are going to make a Magic Sheet that looks something like this:
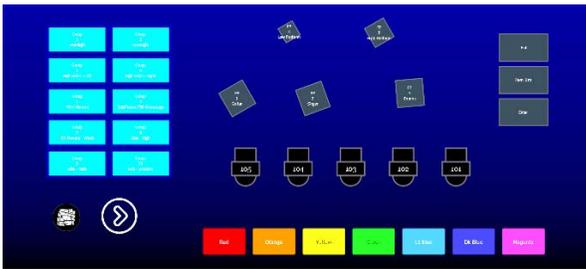
SIMPLE TOOLS

Click in the Object Library on the rectangle   7th down on the right

Drop it on the worksheet

- Green Handle for proportional stretch
- Blue handles for edge stretch
- White dot handle for rotate
- Pink handles for individual point move

Leave as a rectangle, stretch it to be double the width as the height

COLOR PROPERTIES

- Outline line weight
- Outline color
- Object fill color
  - Brightness (saturation) bar on right side
  - X is the no fill or clear.

Select a line weight and a fill color

{Change Type} allows you to quickly change the object type without having to drag a new object in or redo all the properties.

TARGET ASSIGNMENT

• Address	• Beam Palette	• Channel (default)
• Channel (By Address)	• Color Palette	• Cue
• Cue Active	• Cue Pending	• Effect
• Fader	• Focus Palette	• Group
• Intensity Palette	• Macro	• Magic Sheet
• Pixel Map	• Preset	• Response IO Relay
• Scene	• Snapshot	• Submaster
• User	•	•
• Console Button – second field, drop down of all console buttons		
• Softkey – second field, drop down of softkeys 1 - 6, including More Softkeys		
• Command – write command in command field, label in text field		
• Zoom - when clicked, the view will zoom in to show all objects within that object's group.		
• Selection - when clicked, all other objects within that object's group will be selected.		

Make the target as 'Group' and the target number as 1
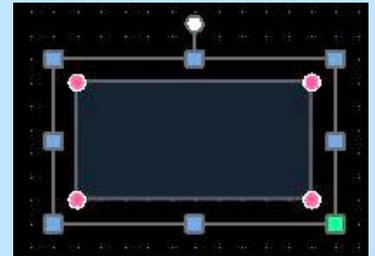
FIELD SELECTION

Up to six different fields of custom information can be displayed. Field options are context sensitive based on the object.

• Target ID	• Fixture Type
• Target Name	• Label
• Text 1-10, Text Gel	• Intensity/ Intensity Bar
• Color Swatch	• Summary
• Focus	• Color
• Beam	• Status
• Prev Move / Next Move	• Cell
• Address	• Port Offset

- **Abc or Font icon** - adjust the font type, size, color, style (bold, italic)
- **Alignment icon** - position of the field

> **Make Field 1 the Target Name, Field 2 the Target ID, and Field 3 Label**

The object might look something like the image to the right.

With the Group object selected, CTRL+C and CTRL+V	to copy and paste
Select the new Group object, CTRL+X or [Delete]	to remove

Below the Fields is a check box for Interactivity as well as displays of Position, Size and Rotation

- **Interactive** – toggles on or off. Objects set to not-interactive cannot be selected, and will only display information.

CREATE AN ARRAY

You can create multiple of the same type of object quickly, using the Array tool.

> **Select the original Group object**

> **Click on the Alignment tool, and then Create Array.**

> **Leave as a Rectangle, drop down shows circle option as well**

> **Change the amount of columns to 2, rows to 5 and spacing to 15 on both**

> **Click OK.**
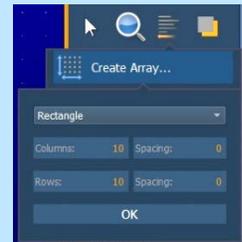
AUTO-NUMBER

> **On the Layout Toolbar, click on the Pointer**

> **Click on the Quick Number Tool (paper with hand)**

> **Target should be Group and Start = 2, Increment = 1**

> **The first object should still be 1, so click on each of the other objects across the first row, and then the second row, to renumber the groups**

Note that the pointer will display the target that will be assigned on the next click.

> **Don't forget to hit Done!**

> **Back on Layout Toolbar, change back to Normal pointer (simple arrow)**
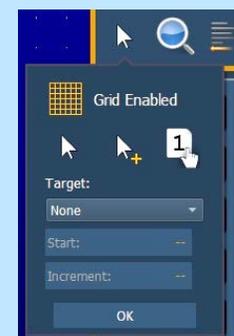
INSERTING CHANNEL OBJECTS

Click on the Fixtures Library tab

Select the Moving Wash – 4th down on left side, drop it on the workspace

Rotate it to face upstage

Make the target as 'Channel' and the target number as 101

On Field 1, Target ID, select Georgia as the Font and make the Font Size 25

You can also choose a color for the font. Be aware that some fields use system colors like Channel Intensity levels so those will override any colors that selected. There are also have options for Bold, Italic or Underline.

On Field 2, Intensity, set the Justification (Checkerboard icon) to behind the fixture

Change font size to 25

Remove Field 3 data

Click on the Object Fill Color icon

Click on both 'Link to Target Color' and 'Link to Target Intensity'

With the fixture selected, copy and paste it 4 more times   to copy and paste (CTRL+C & CTRL+V)

Click on the Quick Number Tool (paper with hand)

Target should be Channel and Start = 102, Increment = 1

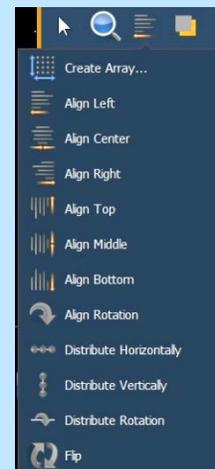**Renumber the 4 new fixtures and don't forget to hit Done!**

Select all 5 fixtures

Click on the Align tool

Align Middle and then Distribute Horizontally

{Quick Save}!!

INSERTING PALETTE OBJECTS

Click in the Images Library, then click on Import Image icon

Images can be imported into magic sheets for two different purposes: background images or as objects.

- **Gobo** – a direct link to the console gobo library, populates based on the fixtures patched in the show
- Accepted image formats: .bmp, .gif, .ico, .jpg, .pbm, .pgm, .png, .ppm, .svg, .svgz, .tga, .tiff, .xbm, and .xpm.
- The maximum image size allowed is 1920 x 1920

Select the [Gobos] folder, select the HES Gobo Wheel 37 fracture   puts gobo in the Image Library

Click on it and add it to the Magic Sheet in the bottom left corner

Make it a bit bigger, target is 'Beam Palette' and target number as 5

BACKGROUND SETTINGS

- **Interactive** - toggles interactivity on or off for the entire magic sheet. If toggled on, all objects respect their per-object settings. If off, no objects will be interactive, regardless of their settings.

You can select Live and Blind backgrounds for magic sheets. To select the background to be used when editing, check the **{Use While Editing}** box.

- **Solid** – use Red, Green and Blue to select a color or click on the small square next to 'Red' to open a color picker,
- **Gradient** – select top and bottom colors and display will scale between the two colors
- **Image** – click on the image icon to select a background image, set width, height and opacity, options for inverted or normal
    - Currently accepts image files: jpg, tif, bmp, png

Select Gradient in the pull-down menu	
Choose a top color and a bottom color	
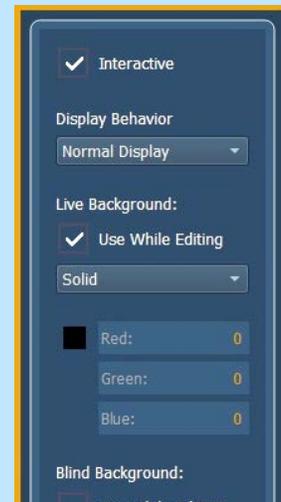
LET'S ADD SOME OTHER OBJECTS

Select the Color Palette Object – 2nd down on the right	
Stretch it out a bit longer,	
Make Field 1 the Label and set font size to 20, and leave other fields empty	
Under Color Fill, Link to Target Color	uses color of highest channel in Palette
Create an rectangle array of 7 columns, 1 row with 25px spacing	
Select all 7 Color Palettes, then make the Field 1 text 20pt and black	
Select a Square object, stretch it a bit, maybe rotate it	
Target should be Focus Palette and Target number is 1	
Fields should be Target Name, then Target ID and third the Label	
Copy and paste 4 more times and arrange similar to stage focus areas	
Click in the Images Library , then click on Import Image icon	
Select the USB Thumb Drive, select arrow.png	puts gobo in the Image Library
Click and add it to the Magic Sheet next to the beam palettes	now will be saved in the show file
{Quick Save}!!	

CONSOLE BUTTONS

Add a Square Object, make it a bit bigger	
In the Target drop down, towards the bottom, select 'Console Button'	
Drop down menu below Target says None. Find 'Full'	
Change Field 1 to Target Name	
Add 2 more console buttons: 'Rem Dim' and 'Enter'	use Ctrl-C and Crtl-V again

How it works in Live

Close the Editor	now in Live

Notice all the labels are visible and the FOH lights are dark because they have no level. Also the Color palettes automatically take the color that is stored in them

Use the Magic Sheet now to do the following:

Click on ⌈Group 5⌉ (FOH Movers) ⌈Full⌉ ⌈Enter⌉	to bring FOH Movers up
Click on the Color Palette objects - ⌈Red⌉ ⌈Orange⌉ ⌈Lt. Blue⌉	changes color of fixtures – also notice channel objects are changing color
Click on ⌈Singer⌉ (FP2)	
Roll down intensity wheel	channel objects slowly fade to black.

The magic sheet might look something like this:
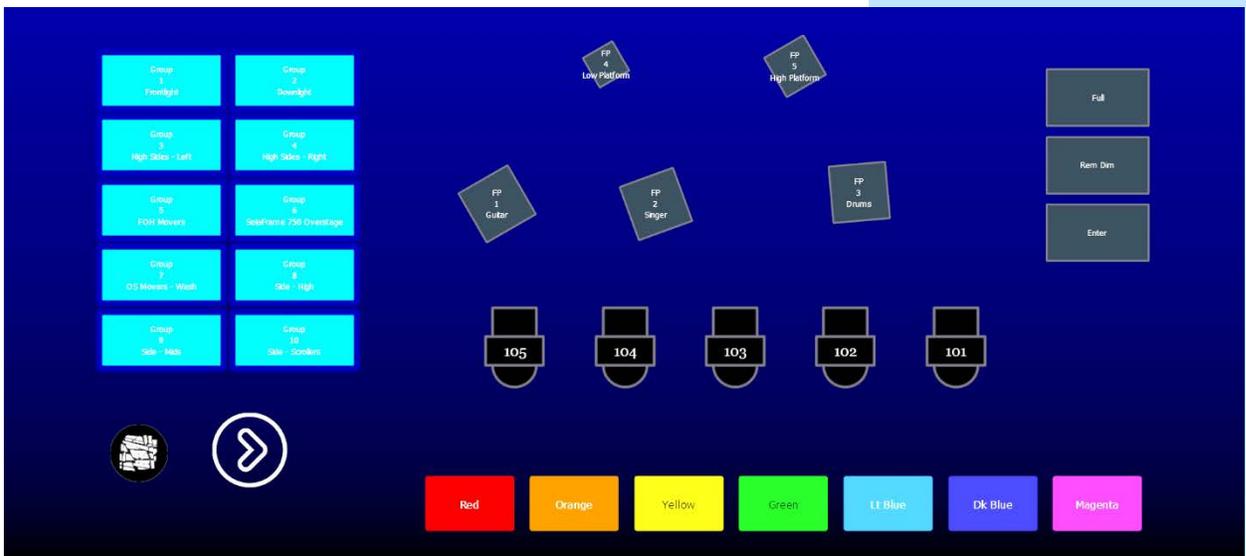
MAGIC SHEET NAVIGATION

MULTI-TOUCH GESTURES

The following multi-touch gestures can be used with an external multi-touch touchscreen or the onboard monitors on other Eos family consoles.

- **Scroll** – touch with two fingers to move around the page.
- **Zoom Out** – touch with two fingers and then move your fingers toward each other.
- **Zoom In** – touch with two fingers and then move your fingers away from each other.
- **Zoom to All** – double tap with two fingers.
- **Open Magic Sheet Browser** – tap with three fingers.

DISPLAY TOOLS

Right click or tap on the Magic Sheet tab   to see configuration settings

You can also click on the Gear tab for the same options.

- **< ■ Add View >** – for each magic sheet, multiple views may be created, then < and > allow for scrolling through the views.
- **Save Screenshot** – saves a png image of magic sheet to a USB
- **Magic Sheet Browser** – opens a filmstrip view of magic strips to scroll through.
- **Lock / Unlock** – locks the magic sheet so it cannot be zoomed or panned. also hides the edit chevron (to edit have to unlock)
- **Zoom to All** – zooms to show all objects on magic sheet
- **Zoom to Selection** – zooms to show all selected objects
- **Center to Selection** – centers the display on the selected objects without changing the zoom
- **Show Reference Labels** - labels displayed rather than target number
- **Limited Expand Mode -** also known as Full Screen Mode – hides the edit chevron, but also suppresses the rest of the user interface.
  - Upper right corner – 3 dots flashing – console is operational
  - **[Shift]&[Displays]** take you back
  - Also can **{Disable Keyboard Input}** and **{Lock Fader Page}**

Appendix 1 – Scroll Setup

Generic Scrolls (Channels 151 – 158)

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**
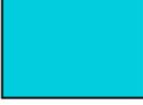
8   **R38 – Light Rose**

9   **R65 – Daylight Blue**

10   **R85 – Deep Blue**

11   **R90 – Dark Yellow Green**