Eos Family Console Programming

Level 2: Enhanced

Workbook

V3.2C

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 the manual is not available on Windows XP devices but is available as a download from the web site.

▶ Overview of the Shell

Referred 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 to 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.

POWER OFF

Power Off will shut down the Eos console after confirmation.

SHELL SETTINGS

Select {Settings} when buttons are highlighted

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

TEMPLATE SHOW FILE

A template show file can be assigned in the Shell via Settings > General.
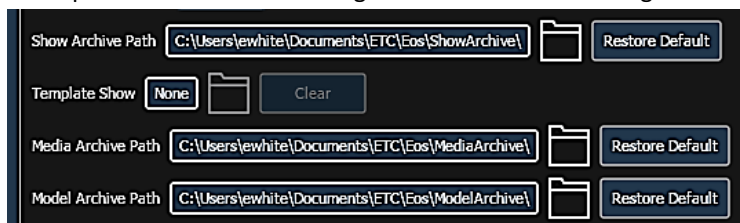
When a show file is assigned as a template, Eos will create a copy of the file in the Templates folder to be used as the default starting point for any new show files. A new option will appear in the CIA under File > New From Template (Template Show File Name) to create a new show file identical to the template. A blank show file can always be created with the File > New option.

MONITOR ARRANGEMENT

The selected monitor will display in yellow. Monitors can be dragged to any of the surrounding black boxes to mimic the 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 placed.
- {Configure Touchscreens} and {ELO Settings} for external touchscreens
- Hit {Apply} – and {Keep Changes} to save your settings.
- Then {Close}
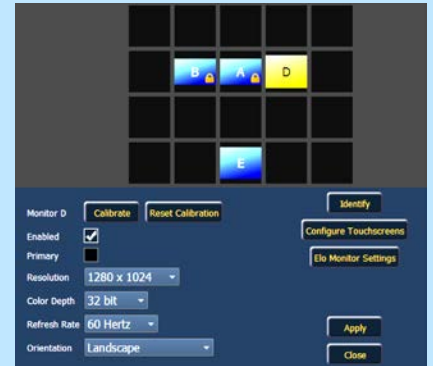
SWITCH SOFTWARE VERSIONS

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

- **Network**   Device Network settings - IP Address, Subnet Mask. Output Protocols, Interface Protocols (Wi-Fi Remote, OSC Settings), Network Services (DHCP, SNTP)
- **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 Face panel Buttons
- **RFR**   RFR Base Station Frequency and Network ID

When finished reviewing the Shell:

{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 CIA 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]**, and Intensity Master operations.

{INVERT PAN OR TILT}

A moving light attribute is 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

On Apex consoles, **[Offset]** is a hard key (button).

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

<u>Something to be done before you start cueing your show, otherwise every cue that has been written will be affected by these changes.</u>

{SWAP P/T}

A moving light attribute is 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.

{COLOR PATH}

A default Color Path can be assigned at the channel level in Patch. That color path will be used for all that channel's color fades unless overridden at the cue level. *(More on Color Paths in Level 4)*

▶ INDEXED PARAMETERS

CREATING A NEW CUSTOM SCROLL OR WHEEL

Function keys are on the lower left side of the monitor, 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]	
In Attributes (far left), under Scrollers/Wheels (right), select {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
Press {Edit} softkey on lower left side of display, then {Insert}	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
{Legacy}, then the subcategory {Common Color}, and then {010}	returns to the frame list and adds color
Under Name, 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 pressing the gray box in the C/G list, make sure that the {Gobo} is selected. {Effect} bring up manufacturers of prisms and effect wheels.

OTHER INDEXED PARAMETERS

Back in Patch, [101] [Enter] {Attributes}	selects channel and opens the Wheel Picker in the CIA for wheel selection
{Color Select} (Default HES Color Wheel 38)	used to change the dichroics loaded in a color wheel for a moving light.
{Gobo Select} and possibly {Gobo Select 2} (HES Gobo Wheel 37 & 39)	used to change the gobo wheel loaded in a moving light
{Beam FX Select} (Acme Effect Wheel 3)	
{Animation Select} (HES Effect Wheel 14)	

{SHUTTER ORDER}

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

{Shutter Order} (Default clockwise with A at top)	opens the Shutter Order display

▶ Display Layouts and Workspaces

Upon start up or creation of a new show file, any connected monitor that is not already displaying the Live (Tab 1) or Playback Status Displays (Tab 2) will show a blank screen. the Workspace Layout Menu. This screen will also display when a new tab is opened.

WORKSPACE LAYOUT MENU

Click on the large + sign or press the monitor icon in upper left-hand corner of the display
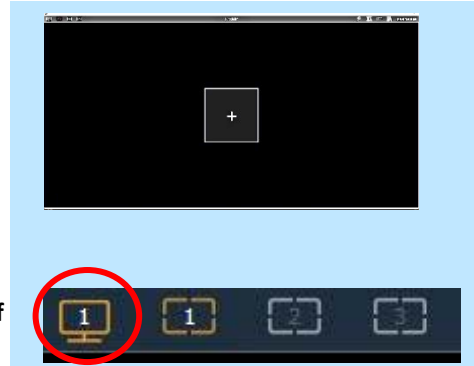
Layout options are basically different ways to split the screen. A workspace can have up to sixteen frames. Each frame can have multiple tabs open.

Click on the 2 x 2 (bottom, second one)

Click on the monitor icon in the upper left again (first one)

Click on Resize Frames in this Workspace

RESIZE FRAMES IN THIS WORKSPACE

Allows you to freely resize and edit the frames in any of the workspaces on the monitor. The grid includes the following tools:

Adds a horizontal split, dividing the frame horizontally into upper and lower rows.

Inserts a vertical split, dividing the frame vertically into left and right columns.

Drag left or right to freely **adjust the width** of the frames. Double press to reset to the default horizontal size.

Drag up or down to freely **adjust the height** of the frames. Double press to reset to the default vertical size.

Eliminates a split by closing the frame to the right and **merging** its contents into the frame to the left.

Eliminates a split by closing the frame below and **merging** its contents into the frame above.

Frames of the same size can be freely merged without altering the rest of the grid. Smaller frames can be merged with larger frames, but this may alter adjacent splits. A larger frame will absorb any smaller frames it is merged towards.

The grid is limited to a maximum of three splits in either direction, for up to 16 total frames per monitor/workspace.

After playing, use the Reset all Monitors and Workspaces icon

Play with the tools!

close all the tabs and frames on *all* monitors

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] (Direct Selects)	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 the tabs in the active workspace on this monitor only.
- **Reset This Workspace** - closes all 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 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	closes all the tabs and frames on *all* monitors
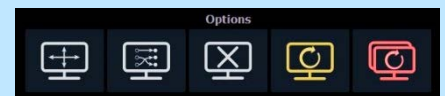
▶ Snapshots

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
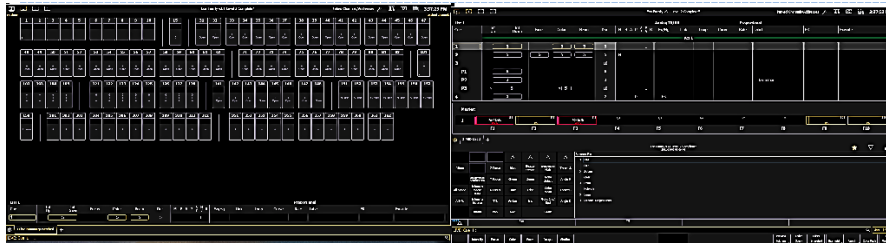
Press the display controls icon in upper left-hand corner of the left monitor	
Select the side-by-side layout	
Highlight the PSD display on the right monitor. **Hold [Tab] and press [Page ▶] or [Page ◀]**	move the PSD tab onto the same monitor as the Live display
Press the display controls icon in upper 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
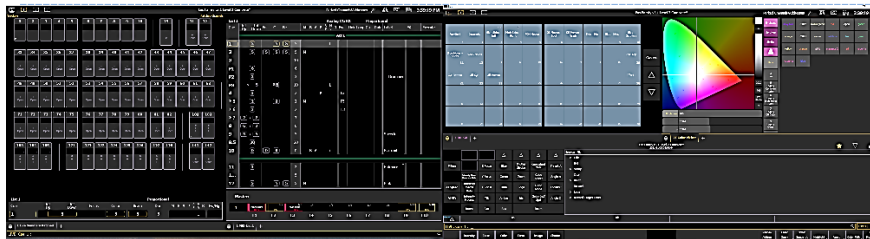
RECALLING SNAPSHOTS

[{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 1	recalls the content of snapshot 1.
[{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 parentheses and open the next.	
Back in 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.

On Apex consoles, **[Offset]** is a hard key (button).

[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]	

CREATING A QUICK INTENSITY EFFECT

[Effect] [Effect] [Effect] [99] [Enter] <Type> {Absolute}	Leave as the default
In Live, [Group] [101] [Full] [Enter], [Effect] [99] [Enter]	Mirror out Intensity Effect
[Group] [102] [Effect] [99] [Enter]	Mirror in Intensity Effect
[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 not 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

Result:

50	49	48	47	46
45	44	43	42	41
40	39	38	37	36
35	34	33	32	31
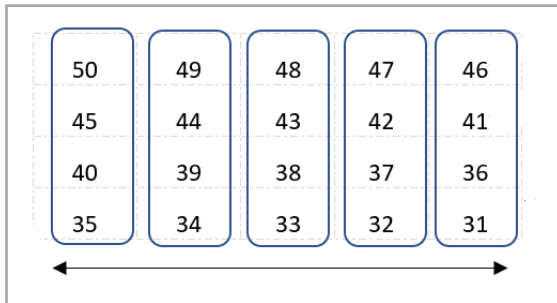
[Group] [104] [Full] {Chan Check} [Enter]… [Next]… [Next]… [Next]	Watch the viz to see sub-groups

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 made 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 downfade
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, LED flashes
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] Fronts [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

FADER

The list shows the location of the submaster – page / fader number.

MODE: ADDITIVE, INHIBITIVE, OR EFFECT

Mode has 3 options, **Additive** (contributes to the live output), **Inhibitive** (limits live output) restricts the values as the fader comes down, like a mini grand master for the contents of the sub, and **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] [4] [Enter]	runs the cue
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, its 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, when the fader hits 1%, the non-intensity parameters mark quickly. The rest of the fade is intensity only. An option in Properties called **Unmark 0** releases the non-intensity parameters of the submaster 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},** where its output is not recorded into any other record target.

[Sub] [10], {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 101	Image	- Gobo Rot	Sneak Enter

You don't have to use something from every column each time, but you must 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

Another option is to use **[Sneak] [Sneak]** which will take all the non-intensity parameters to their background level or out. It is a self-terminating command.

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

[102] [Thru] [105] [Recall From] [101] [Enter]	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 the four data categories – **Intensity, Focus, Color,** and **Beam**. These record targets quickly recall stored data. Palettes can only contain information within their category. For example, color palettes can only store color information – they cannot contain intensity, focus, or beam data.

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

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

When done…

[Group] [22] [Full] [Enter]   [Color Palette] [1] [Thru] [7] [Enter]

LABELS

To display labels or values:

- Per Tab, press the **Gear** tab and check **Show Reference Labels**
- Per Device, in Setup > Device > Displays > enable Show Ref Labels
- **[Data]** – if in an active cue, displays background level data
- **[About]&[Label]** – toggles the display between referenced labels and target numbers.
- **[About]&[Label] [Label]** – locks reference labels on. Press **[About] & [Label]** again to unlock.

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 guitar 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:

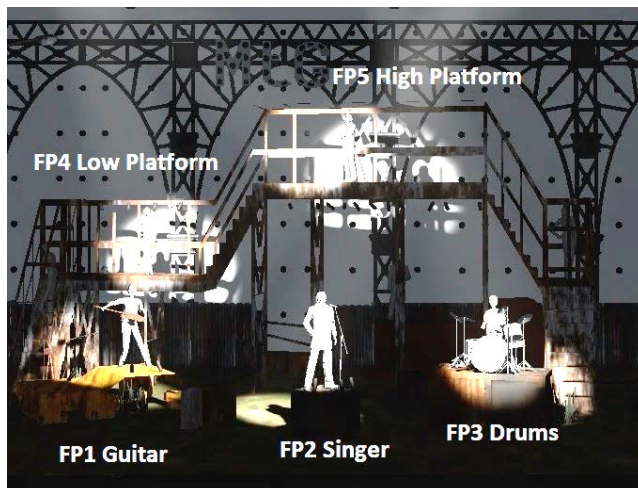| FP1	Guitar (SR)
FP2	Singer (CS)
FP3	Drums (SL)
FP4	Low Platform (USR Platform) *behind guitarist*
FP5	High Platform (USL Platform)

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 image category only
[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
[Shift]&[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], **Change focus - tilt down, then zoom out**	put the lights back on stage and manually focus
[Select Last] [-] {Intensity} [Record] [Preset] [2] [Enter]	records cue with referenced data, but selective (without intensity)
Press and hold [Data]	Pan & Tilt have absolute data, color is referenced

▶ HOME PRESET

Home Presets are a quick way to redefine home values of any or all 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} Select Preset 999 from the drop-down menu	define the home preset that you created
[Live], [Group] [5] [Full] [Full]	bring the channels to full
Group 5 hasn't had any move instructions 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 – enter the number of different target banks desired

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 Jump To** – displays {Jump To} button – use to jump to pages in same list or different list
– **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
– **Icon Position** – drop down menu – location of icon on the tile
– **Icon Opacity** – configures transparency of the image – lower levels allow the label to be more visible in front of the image
– **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, based on highest channel's color
– **Maximize Button Size** – like Fit to Screen – depending on layout, allows buttons to expand to fill the screen
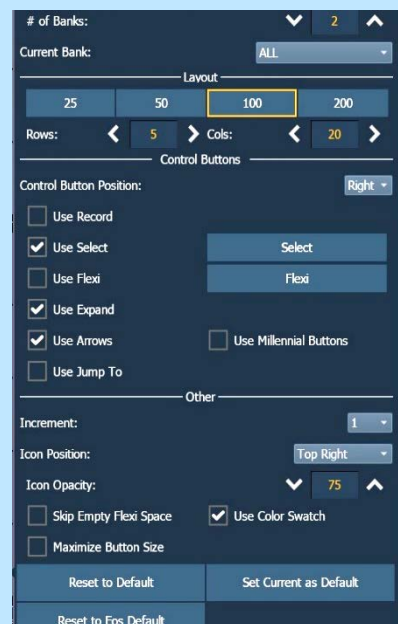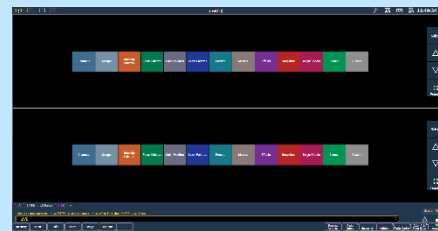
ICONS

You can apply and view Direct Select icons to associate images with your targets. Go to the target's list to apply the images.

[Group] [Group]	To open the Group List
Select Group 3, press the {Icon} softkey or click in the Icon column	
Click the Import icon in the CIA	
Double click "Stock Icons"	
Double click "Directional Arrows" folder (009)	
Double click on "Arrow Right" (003) and make outline and fill white	It now appears in the folder list
Choose it from the folder list	
Select Group 4, press the {Icon} softkey	
Click the Import icon	
Double click the Arrow Left and make outline and fill white	It now appears in the list
Choose it from the list	
[Live], on the Direct Select tab	Notice these images are displayed
In the Direct Select gear settings – try Icon Position as top center, bottom left, then center	Note that center fills the whole square
Change Opacity to 100, change it to 50	

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.

HIGHLIGHTS

Note that specifically for Group Direct Selects, any Direct Select containing channels within the current command line channel selection will highlight.

[31] [Enter]	Groups 2 + 30 are highlighted as each contains the selection of channel 31
[31] [+] [51] [Enter]	Groups 2, 3, + 30 are partially highlighted as each contains part of the selection

ANOTHER SNAPSHOT

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 the new frame on right, open another Direct Select tab
Select Color Palettes
[Record] [{Snapshot}] [3] [Label] Programming [Enter]
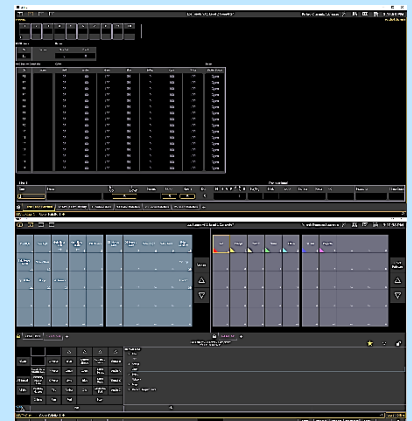
▶ APEX TARGET KEYS AND KEYPAD TOUCHSCREEN

TARGET KEYS

The number of Target Keys on the Apex console will depend on the model. The APEX 5 console has 2 banks of 10 target keys while the larger models, the Apex 10 and the Apex 20 have 4 banks and 5 banks respectively.

Target keys are OLED buttons that can be populated with existing Direct Selects.

TARGET KEY EDITOR

Hold down [Displays]	{Edit} appears on each of Target key bank
Press {Edit} on Bank 1	a pop-up appears in the CIA

To change the target type, like Direct Select editing, the current Target Type is displayed on the far-right top button.

Press the target type and select {Focus Palettes}	Focus Palettes are populated on Target key bank 1

ARROW MODES

A drop down menu is used to select Both Top, Both Bottom, Both Split, Next Only Top or Bottom, or Hide them completely, allowing use of all 10 keys for targets.

Using Arrow Mode, hide the arrows on Bank 1	
Hold down [Displays] and press {Edit} on Bank 2, select {Color Palettes}	Bank 2 Target keys are populated with the Color Palettes
Using Arrow Mode to hide the arrows	

*If arrows are hidden, you can hold **[Displays]** and get temporary navigation arrows.*

STARTING TARGET NUMBER

Select {Color Palette 5} (Lt Blue)	it becomes the first target on the bank
Select {Color Palette 1} (Red)	to reset the first target

USING TARGET KEYS

Using Target keys is exactly like using Direct Selects on a touchscreen except there is a physical button.

[Select Last] or [101] [Thru] [105] [Enter]	select channels
Press the various Target keys – Focus and Color Palettes	appears on command line

ICONS

If using icons associated with your targets, in the Editor, you can change how they are displayed on the Target key independently of how they are displayed on the Direct Selects.

*NOTE: If you want them to be large, select **{Icon Center}** and the icon will fill the Target key.*

!! Target Key Mapping is stored in Snapshots!   Remember to Record !!

Each bank has a unique number, up to 5. The bank numbers are like monitor numbers and mapping. When the show file is opened on a different console, Bank 1 in the show file is going to be populated on Bank 1 of the new console.

KEYPAD TOUCH SCREEN

The keypad touchscreen is right above the keypad and serves several functions. Across the bottom of the screen are the standard softkeys. They are also accessible on other monitors. Apex also has physical keys labeled SK1 through SK6 plus a More SK button for paging the softkeys.

The other function of the Keypad Touchscreen is to display a Magic Sheet or Custom Direct Selects.

The keypad touchscreen is a haptic touchscreen which sort of bridges the gap between buttons and a touch screen. The screen does not react to a light touch, but when a button is held down or given a deep press, it reacts with a 'thunk'. This allows for customization of a touchscreen but still allows the programmer to keep their eyes on the stage while waiting to engage a button.

The level of haptic feedback can be changed in Setup or even disabled completely. (Setup, Device Settings, Face Panel, Haptics tab)

MAGIC SHEETS OR CUSTOM DIRECT SELECTS

Selecting what is displayed above the softkeys is simple.

On the keypad touchscreen, press the small gear near Softkey 6 (far right)	this is the Setup button
Select {Custom DS} or {Magic Sheet}	screen is populated with targets
Select the desired target	screen remaps to the selected target

Custom Direct Selects are covered in Level 3. They are a way to combine target types in one frame.

▶ Write Cues with Palettes

USING THE COMMAND LINE

Recall Snapshot 1

[Go To Cue] [27] [Enter]	(Last cue recorded in Level 1 class)
[Group] [3] [Full] [Enter] [Color Palette] [7] [Enter]	
[102] [+] [105] [Full] [Enter] [Focus Palette] [1] [Enter]	Lights on Guitar 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» (G20) (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
Holding [Shift] and pressing a Direct Select will leave the command line unterminated so another command can be added.	
[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 the other group
[Record] [30] [Time] [2] [/] [7] {Color} [Time] [3] [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 Rs 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 will not affect the palette as a whole. If you want to update the palette, you need to 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 that is 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]	(If strobing, [Home] and then refocus)
[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 parameters 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 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 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

Go ahead and leave AutoMark on for the rest of the class.

▶ Cue Attributes

CUE SOFTKEYS

When **[Cue]** is pressed, a softkey **{Attributes}** (S1) is displayed. When **{Attributes}** is pressed, several new softkeys appear.

SCENE

Scenes are a cue organization tool that provides 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 will stay locked as long the cue list is in that scene. Brackets around the label indicate that the cue at 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 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.

CUE ALERTS

Eos can learn the time between manual [Go] commands and, in future runs, display a cue alert timer counting down to the next expected [Go]. The cue alert timer is informational only and is not a follow time.

Click on the gear on the far left of the tabs or double click on the PSD tab	to open the PSD Configuration menu
On the right-hand side, bottom, click on Alert Time (Alert)	enables the Alert column
Click outside of the PSD menu	closes the PSD Configuration menu
[Go To Cue] [1] [Enter]	resets the cue list to cue 1

LEARNING ALERTS

[Live] [Learn] {Learn Alert Time}	"Learning Alerts After GO" appears above the command line
[▶] (Go) into cue 2	notice countdown time in red in Alert column
[▶] (Go) into cue 3	the time is stored and the process repeats
[Learn]	to stop learning alert timings
[Go To Cue] [1] [Enter]	resets the cue list to cue 1
[▶] (Go)	notice countdown time in red in Alert column

When the countdown is below 5 seconds, the time will change to <u>gold</u>, and an alert advisory sound will play if enabled.
The sound is enabled and adjusted in volume via Setup > Device > Face Panel > Sounds
When the countdown reaches 0, the time will change to <u>green</u> and display until the next manual [Go].

Instead of learning an Alert, the time can simply be entered directly.

[Cue] [1] {Alert Time} [15] [Enter]	adds an Alert Time to a cue

PLAYBACK STATUS DISPLAY (PSD) CONFIGURATION MENU

The following options are available in the PSD Configuration Menu:

On the left side, (Lock Status)

- **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.

- **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.

On the **Reorder Columns** side, you can choose what data is displayed and what order it displays in. By default, all columns except Notes and Alert Times will be displayed. The check boxes disable or enable the data. Click on the name and use the arrow keys (above right) to move columns.

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

[Record] [{Snapshot}] [1] [Enter]   [Enter]
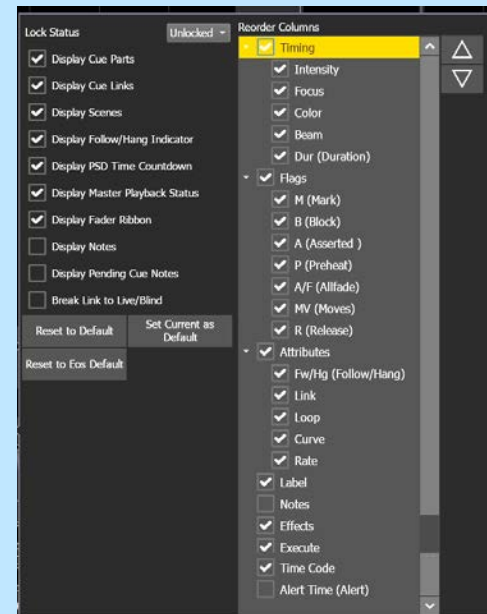
Move Labels up to the top – will appear next to cue number

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 channel 103 take 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 complete at different times.*

DISCRETE TIMING WITH DELAY

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

Command	Description
[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

Command	Description
[Live] [Go To Cue] [2] [Enter]	
[Group] [2] [At] [Full] [Enter] [Color Palette] [7] [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] [Enter]	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

Command	Description
[Cue] [3] [Time] [6] [Enter]	not specifying a part assumes part 1
[Part] [2] [Time] [3] [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 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 encoder

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

{Cycle Time} – Speed of the effect

> Use the encoders. Watch both the viz and graph on the display

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.

> Click on 1 and press [Enter].
> Watch the effect.
> Click on 2, 6, 32,…

TRAIL

{Trail} determines how fixtures 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 are distributed evenly throughout the path. This is calculated by dividing the cycle time of the effect by the number of channels. Will put Trail 0 on the command line.

– **{Solo}** – puts Trail 100 on the command line, requires an [Enter]. The first fixture executes the entire path. Then the second fixture does,…

– **{10%} - {90%}** – when the first fixture is 10% through the effect, the second fixture will start the effect. 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

On Apex consoles, **[Shift]&[Effect]** is the Stop Effect Command. Also **[Effect] [#] [At]** will post Stop Effect on the command line.

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 runs 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
- **Scale** – increase or decrease overall size of the effect on both axis
- **Rotate** – rotate focus effects around center of the selected points

The following actions are available when editing the curve:

- **Clear Selection** – removes selected points and defaults to 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, 4th one

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 there is no partial selection)
- **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)
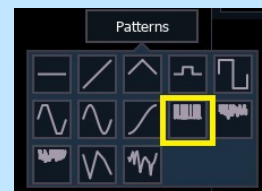
Don't forget to hit {Apply}!	
[Live], [Group] [5] [Home] [Enter] [At] [50] [Enter], [Effect] [12] [Enter]	
[Effect] [Enter]	to stop effect
[Effect] [Effect]	
{Duration} [3] [Enter]	Short flash – maybe a lightning effect
[Live], [Group] [5] [Effect] [12] [Enter]	
[Clear] [Sneak] [Enter]	

COLOR EFFECT

Color effects impact only color parameters. Like 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 like 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
- 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, {Console Status}. To exit, press [About] again.	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} {About Console} takes you back	shows Network Devices, status, and address
{What's New}	opens the Manual, Tab #100

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

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

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

[101] [Enter]	lots of information about the channel
[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

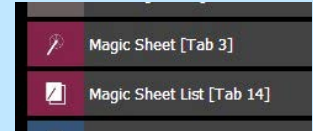**Use Add-a-Tab (the {+} sign) and select the magic wand (Tab 3)**

OR

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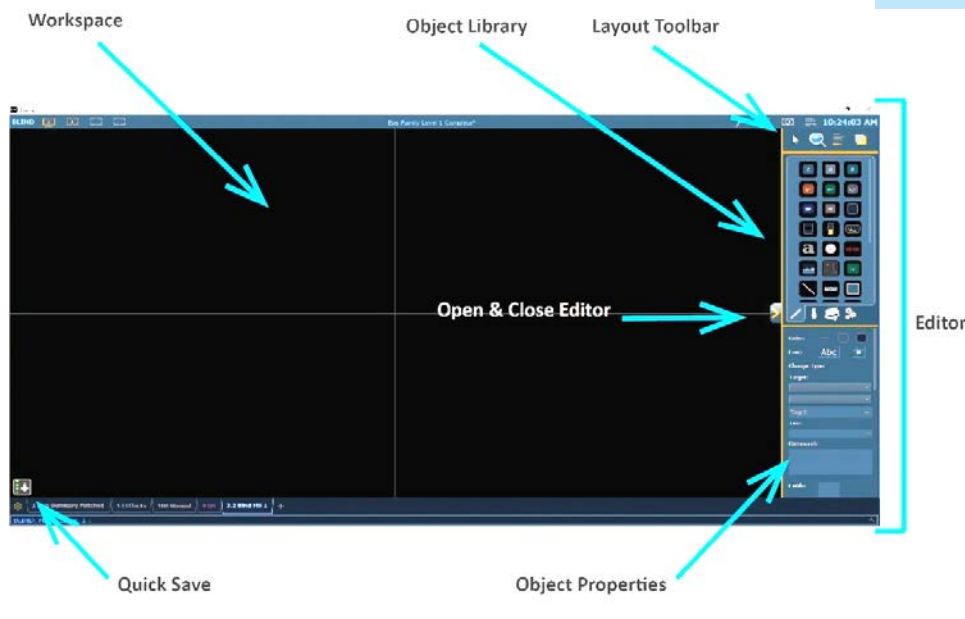
Click or touch "create a new Magic Sheet…"

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:
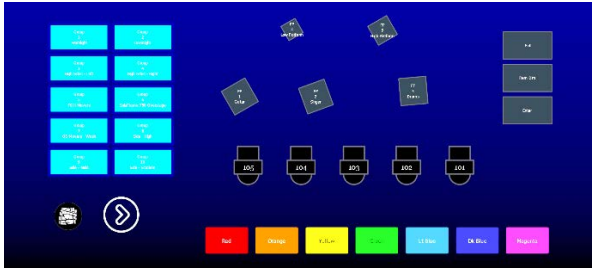
SIMPLE TOOLS

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
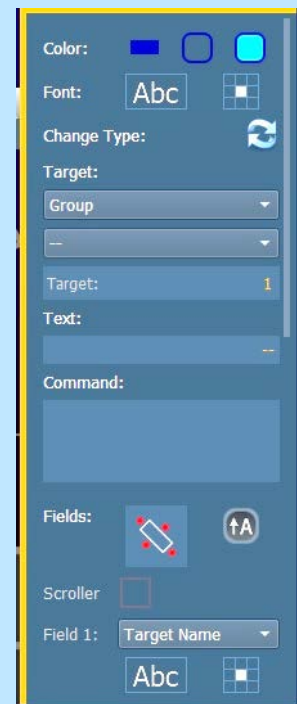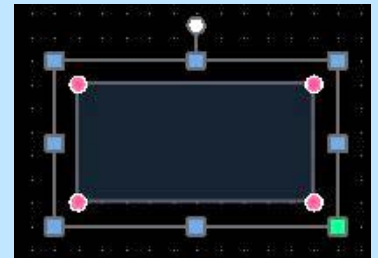
FIELD SELECTION

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

- • None
- • Target ID
- • Target Name
- • Label
- • Icon

- • **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 number of columns to 2, rows to 5, and spacing to 15 on both

Click OK.
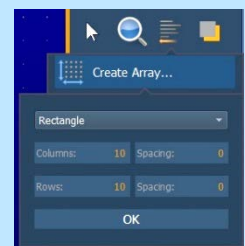
AUTO-NUMBER

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)
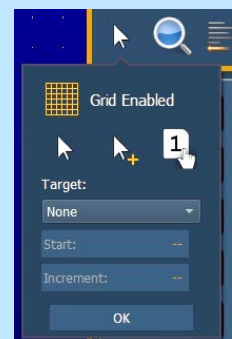
INSERTING CHANNEL OBJECTS

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 are selected. There are also 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!

Move an end fixture farther away from the rest

Select all 5 fixtures

Click on the Align tool

Align Middle and then Distribute Horizontally

{Quick Save}!!

FLIP

Add a Channel object, copy and paste it 3 more times   to copy and paste (CTRL+C & CTRL+V)

Move them into a horizontal line

Select all 4

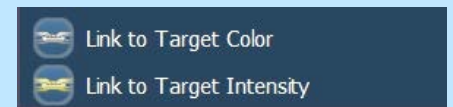**In the array Menu, Flip is at the bottom**

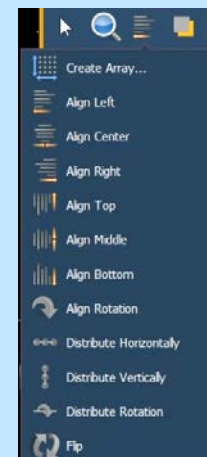**Flip the objects horizontally**

Flip the objects vertically

Check "Always keep text upright"

Flip the objects horizontally again

Delete the objects

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, double click the HES Gobo Wheel 37 fracture   to add the gobo to the Image Library

Click on it and drop it in the Magic Sheet in the bottom left corner

Make the target 'Beam Palette' and target number is 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
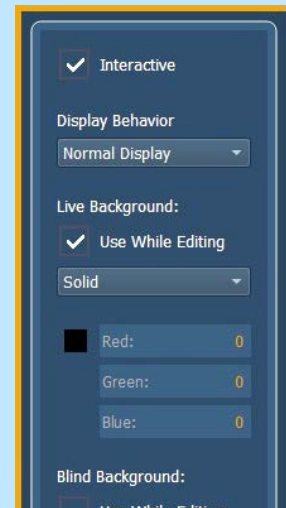
LET'S ADD OTHER OBJECTS

**Select the Color Palette Object – 2nd down on the right – and add it to the
Magic Sheet below the fixtures**

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 a 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 like stage focus areas

Remember the Direct Select icons we added to a couple of our Groups? We can display those on our Magic Sheets as well.

Select all 10 Group rectangles.	
In Field 4, change it to Icon. Leave it centered. Close the Editor	to see the icons on Groups 3 and 4.
Reopen the editor. Font size on Field 4 adjusts the size of the Icon.	

Note that all the rectangles show the Icon symbol, but when we closed the Editor, we only see 2 icons – only two groups have icons assigned to them.

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 Ctrl-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:

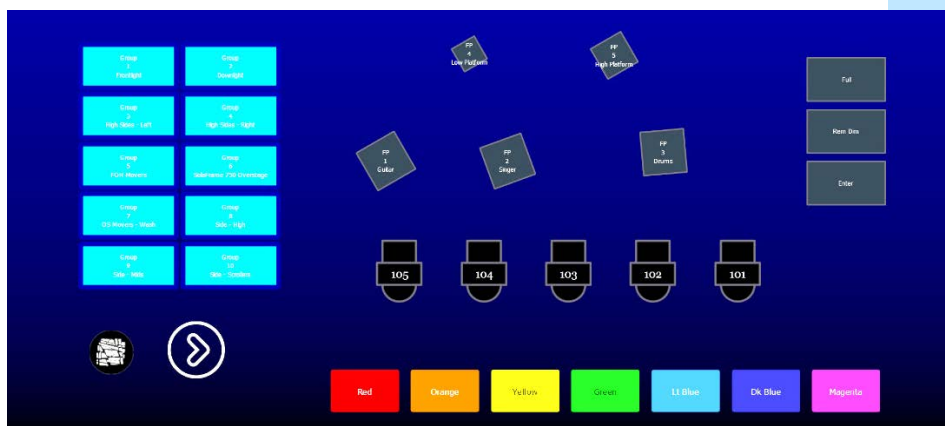|	
Click on⌈Group 5⌉(FOH Movers)⌈Full⌉⌈Enter⌉	to bring FOH Movers up
Click on the Color Palette objects - ⌈Red⌉⌈Orange⌉⌈Lt. Blue⌉	changes color of fixtures – also notice channel objects are changing color
Click on⌈Singer⌉(FP2)	
Roll down intensity wheel	channel objects slowly fade to black.

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 must 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	**Legacy Common Color 010**	
3	**Legacy Common Color 027**	
4	**Legacy Common Color 339**	
5	**Legacy Common Color 351**	
6	**Legacy Common Color 359**	
7	**Legacy Common Color 370**	
8	**Legacy Common Color 038**	
9	**Legacy Common Color 065**	
10	**Legacy Common Color 085**	
11	**Legacy Common Color 090**	

DON'T FORGET TO HIT DONE WHEN FINISHED!

Appendix 2 – Magic Sheet

Appendix 3 – PSD Flags

Flags can be applied to cues to change specific behaviors. Flags can be set for "Mark - M", "Block - B", "Assert - A", "Preheat - P", "AllFade - AF" and "Moves - MV."

M - Mark (Auto Mark Disabled)		
	m	A cue that has been set as a Mark cue but has nothing marking in it.
	M	A cue that has been set as a Mark cue and has channels marking in it.
	R	A Reference cue, which stores move instructions for channels that are being marked in a previous Mark cue.
	+	A cue that is both a Mark cue (with or without marking channels) AND a Reference cue.
	x	A broken Mark. Always appears in the cue directly before a Reference. A Mark gets broken when the channels become Active between their Mark cue and their Reference cue. When a Mark is broken, the software will use Auto Mark behavior to try to get the parameters marked in the cue immediately preceding the Reference cue.
M - Mark (Auto Mark Enabled)		
	M	A cue that the software is using for an Auto Mark and has channels marking in it. The 'M' always appears in the cue directly before the Reference (which is not indicated when Auto Mark is enabled).
	D	A cue where Auto Marks have been disabled, allowing live moves.
B - Block		
	B	Cue-Level Block
	b	Discrete channel/parameter Blocks are present
	b	Auto-Blocks are present
	I	Intensity Block
A - Assert		
	A	Cue-Level Assert
	a	Discrete channel/parameter Asserts are present
P - Preheat		
	P	A cue that is set for Preheating. The cue before it will use each channel's preheat value from patch.
AF - All Fade		
	*	Plays the cue in an All-Fade mode, which sends any intensities that are not owned by the cue to zero.
MV - Moves		
	D	A cue with Dark Moves. There are channels that have an intensity of zero and non-intensity moves stored in this cue. This is where you might want to delete unnecessary moves.
	L	A cue with Live Moves. There are channels that have an intensity of zero stored in the previous cue, and an intensity above zero and non-intensity moves stored in this cue. This is where you might want to Mark channels to a previous cue.
	+	A cue where both Dark Moves and Live Moves are present.
R - Release		
	R	Like Make Null, but releases data to a background state or out. Tracks through until removed or a move instruction happens.

HELPFUL SUPPORT AND TRAINING LINKS

ETC Support Website

All the support and training resources you might need in one handy place

ETC Technical Support

Contact our 24/7 technical support team to help troubleshoot your ETC gear

Community - Eos Consoles

Hop on the ETC forums to ask the Eos user community your questions about Eos programming

Video Tutorials - Eos Family

Experience hands-on Eos training anywhere, anytime with this series of videos and workbooks

Support Knowledge Base Articles

Get quick answers to your technical questions with thousands of support articles created by a team of ETC experts

ETC Training

Find in-person training opportunities near you, as well as other learning resources

ETC Search Manuals

Search for manuals, datasheets, release notes, and more on the ETC website

ETC Learning Stage

Take part in a wide variety of online training courses for technicians and operators— including some that offer credit

ETC Custom Training

ETC offers multiple custom training options to fit your needs

Eos Family Training Materials

Find all of our Eos Family Learning Series workbooks and other training materals in one convenient place

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