

ETC® Supplement

Eos Family v2.2 Supplement to Operations Manual



The following information is new for version 2.2.0. This document is supplemental to and should be used in conjunction with information in the Eos Titanium, Eos, and Gio v2.0 Operations Manual, Ion v2.0 Operations Manual, and the Element v2.1.0 User Manual..



CAUTION:

If you choose to update fixture definitions in your existing show files after upgrading to version 2.2, it is recommended that you verify that your show plays back as expected. Changes have been made to the fixture library to make fixtures in future shows easier to control, however, these changes will impact existing shows after you manually update fixture definitions. For more information, see [Changes to Fixtures on page 16](#)

Display Management Tools

One of the most significant improvements to the Eos family in this software release are the enhanced display management tools. The software provides improved capabilities for opening and navigating displays and control tools.

Increasing the depth of individual displays, this software introduces the ability to have one of three different workspaces active on individual monitors, as well as to have up to four areas (called frames) in use in any workspace. Each frame can hold multiple tabs.

Display
Controls
Menu Button

Workspaces



Monitors

Any physical monitor or touchscreen device connected to your console. The integral touchscreens on Eos Ti are examples of monitors as are external monitors used with any of the Eos Family consoles.



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Workspaces

Further expanding your monitor capabilities, workspaces have been added to offer independent display control on all of your connected monitors. Every monitor can have up to three workspaces, identified by the workspace icons in the upper left corner of any monitor (including any integrated touchscreens with your console).

You can use **[Tab] + [Page ▲]** and **[Tab] + [Page ▼]** to cycle through the workspaces. This will increment or decrement the current workspace and will then force all of the other workspaces to match the current workspace's number (1, 2, or 3). This is so you can quickly step through the workspaces.

Workspaces 1, 2, and 3

These three monitor icons are used to switch between each monitor's available workspaces. Each can be set up to include any of the desired layout, displays, and controls options offered on the Home Screen ([page 4](#)) or the Display Controls Screen ([page 6](#)).

Frames

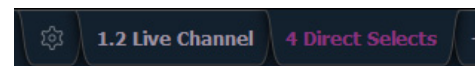
Each workspace can have up to four frames in its layout. The number of frames in a workspace layout is determined by choosing from the Layout Options ([page 4](#)) offered in the Home Screen ([page 4](#)) or the Monitor Options Screen ([page 6](#)).

Tabs

Any frame can have multiple tabs open. Tabs are now broken down into two categories: Control and Display. Control tabs (see [page 6](#) for a list of tabs) are the virtual control options that were formerly available in the browser, such as the color picker and the virtual keyboard. Display tabs (see [page 5](#) for a list of tabs) are the various displays available on the console, such as the playback status display and the park display.

You can open or close tabs using the Display Icons ([page 5](#)), Control Icons ([page 6](#)), or all of the methods used in previous versions of software. Pressing **[Shift] + [Tab]** once will clear all tabs on the selected monitor but tabs in locked frames will remain. Pressing **[Shift] + [Tab]** twice will clear all tabs on all monitors but tabs in locked frames will remain. Pressing **[Shift] + [Tab]** a third time will clear all tabs on all monitors including those in locked frames.

White text in the tab indicates a Display Tab, and magenta text indicates a Control Tab.



All Display and Control Tabs have fixed tab numbering under which they open (for example, "Live" opens under Tab 1, "Patch" under Tab 12, and "Color Picker" under Tab 27). These numbers are identified on the Home Screen in each icon and in the following table. For multiple instances of the same display, the tab number will be followed with a decimal number. Additional tabs will start their numbering with n.2. When you press **[Tab]**, active focus will move numerically through all open tabs on active workspaces.



Note:

*Using just the **[Tab]** key to cycle through tabs will skip over any Control Tabs in locked frames. Pressing **[Tab] [n]** will select the tab regardless of if it is in a locked frame or not.*

This table lists the tab number for each of the Control and Display tabs.

1	Channels	11	Show Control List	21	Curve List	31	Lamp Controls
2	Playback Status Display	12	Patch	22	Intensity Palettes	99	Diagnostics
3	Magic Sheet Display	13	Effect List	23	Focus Palettes		
4	Direct Selects	14	Magic Sheet List	24	Color Palettes		
5	ML Controls	15	Submaster List	25	Beam Palettes		
6	Effect Status	16	Cue List Index	26	Preset List		
7	Virtual Keyboard	17	Group List	27	Color Picker		
8	Effect Channels	18	Macro List	28	Virtual Faders		
9	Pixel Map List	19	Snapshot List	29	About		
10	Pixel Map Preview	20	Park	30	Command History		

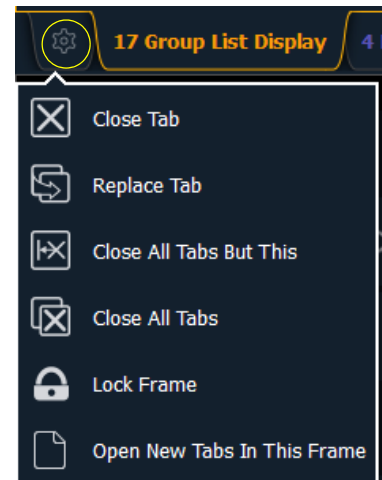
Focus Rules for Control and Display Tabs

Single clicking on a Controls Tab will bring it to the front of the frame but will not move focus to that tab unless the tab's frame already has focus. Double clicking on a Controls Tab will bring it to the front and grab focus. Single clicking on a Display Tab will bring it to the front and grab focus.

Tab Tools

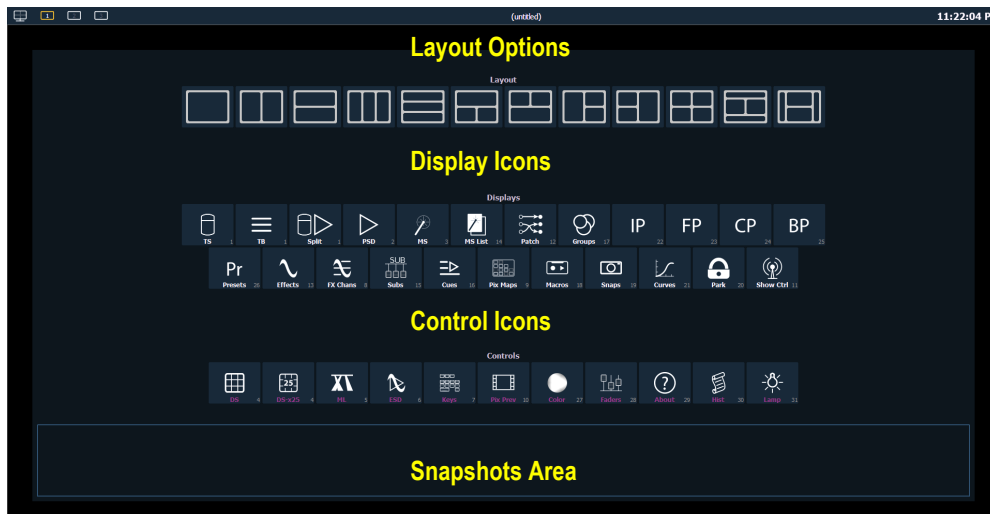
Every frame has a tab tools menu in the lower left corner of the frame. Selecting this menu icon will open the tab tools menu, which provides options for opening and closing tabs in that frame. You can left click with a mouse or double tap a tab in focus to also see this menu. Most options are self-explanatory with the following exceptions:

- “Replace Tab” allows you to close the current tab and choose from the Home Screen which display to replace it with. Pressing escape will return you to the previously selected tab.
- “Lock Frame” prevents any additional tabs from being opened in the selected frame.
- “Open New Tabs In This Frame” specifies that any new tabs opened will automatically open in the specified frame. Only one frame can have this option selected at a time.



Home Screen

Upon start up or creation of a new show file, any connected monitor that is not already displaying the Live or Playback Status Displays will show the Display Management Home Screen.



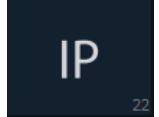
This screen consists of four general areas, each offering different display-related options.

Layout Options

These tools offer you greater flexibility in the number of tabs you can view in any given workspace. A workspace can have up to four frames. Selecting a layout icon will assign the frame layout identified in the icon. Once a layout is assigned, you can select which displays and controls will be in which frames.

Display Icons

The following displays can be selected, and they will open in a new tab in the selected frame:

Channel (Tombstones)  TS 1	Channel (Table)  TB 1	Split Channel  Split 1	Playback Status Display  PSD 2	Magic Sheet Display  MS 3	Magic Sheet List  MS List 14
Patch  Patch 12	Groups  Groups 17	Intensity Palettes  IP 22	Focus Palettes  FP 23	Color Palettes  CP 24	Beam Palettes  BP 25
Presets  Presets 26	Effects  Effects 13	Effect Channels  FX Chans 8	Submasters  Subs 15	Cue List  Cues 16	Pixel Maps  Pix Maps 9
Macros  Macros 18	Snapshots  Snap 19	Curves  Curves 21	Park  Park 20	Show Control  Show Ctrl 11	

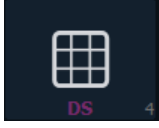
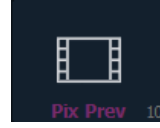
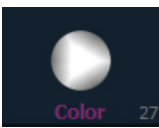
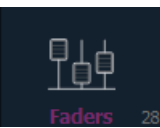
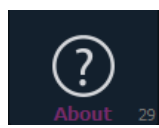

The following displays can have multiple instances open:

- Channel (Tombstone)
- Channel (Table)
- Split Channel
- Playback Status Display
- Magic Sheet Display
- Effect Channels
- Park

For multiple instances of the same display, the tab number will be followed with a decimal number. Additional tabs will start their numbering with n.2. If you have only one instance, there will be no decimal number.

Control Icons

The virtual controls that were located in the browser are now part of the home screen. You can select from the following list of virtual controls, and they will open in a new tab in the selected frame:

Direct Selects Classic  DS 4	Direct Selects x25  DS-x25 4	ML Controls  ML 5	Effect Status  ESD 6	Virtual Keyboard  Keys 7	Pixel Map Preview  Pix Prev 10
Color Picker  Color 27	Fader Module  Faders 28	About  About 29	Command History  Hist 30	Lamp Controls  Lamp 31	

Snapshots

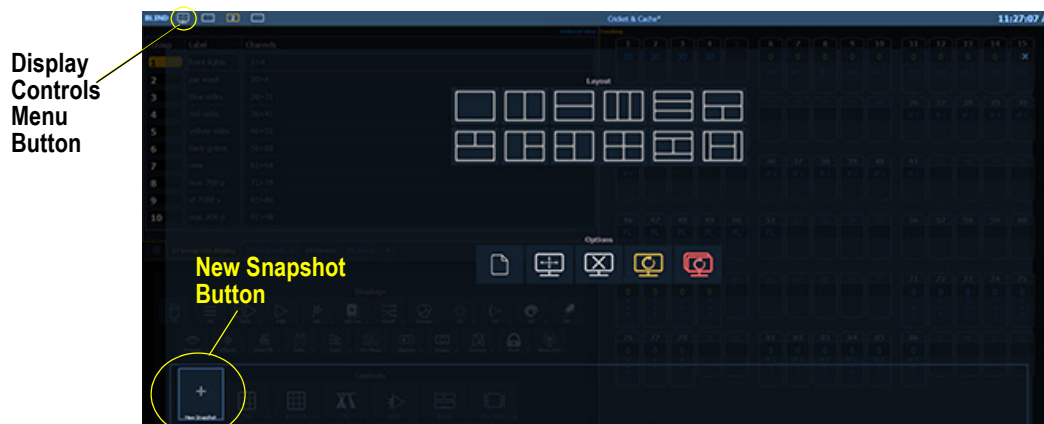
The snapshots displayed here are single monitor-only snapshots recorded for the visible workspace. These snapshots can be recalled from any selected monitor from the Home Screen or the Display Controls menu screen. You can recall a monitor-only snapshot from the command line by using the syntax **[Snapshot] [n] [Enter]**. When recalled from the command line, the selected snapshot will only affect the monitor from which it was originally recorded.

To record a monitor-only snapshot, press the **{New Snapshot}** button on the Display Controls menu screen. **[Delete] [Snapshot] [n] [Enter] [Enter]** will delete a monitor-only snapshot.

All snapshots can be viewed on the snapshot list display, which can be opened by pressing **[Snapshot] [Snapshot]** or from the home screen.

Display Controls Screen

Selecting the display controls icon will grant you access to the [Layout Options](#) previously described. Choose the layout icon for the arrangement and number of frames you want to use on the monitor.



This screen also offers options for opening and closing tabs as well as resizing and resetting the monitor(s). The icons are:

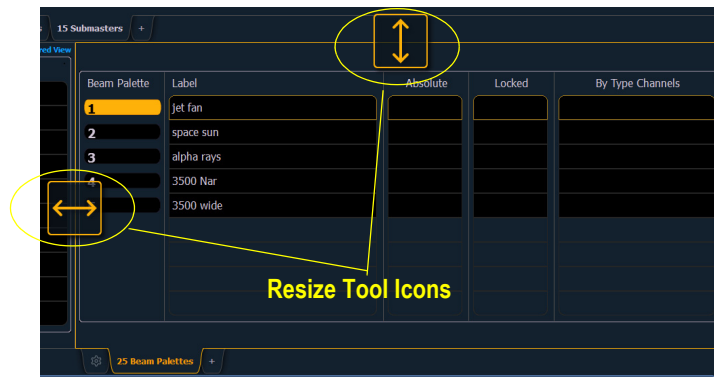
Open New Tabs On This Monitor

Select this icon to redirect to the [Home Screen](#) where you can open new tabs using the Display and Controls icons.



Resize Frames In This Workspace

Select this icon to resize frames in any of the workspaces on the monitor. After selecting, resizing tools will appear between frames of the workspace and you can select and drag the resize tool icons to adjust sizing as needed.



Close All Tabs In This Workspace

Select this icon to close all of the tabs in the active workspace on this monitor only.



Reset This Display

This icon will close all of the tabs and frames and will reset the layout for the active workspace to a single frame displaying the Home Screen, from which you can select new tabs to open.



Reset All Displays

This icon will close all of the tabs and frames on *all* monitors, reset all layouts to a single frame, and return their workspaces to the Home Screen, from which you can select new tabs to open.



Changes to Displays

Blind Indicators

The blind indicators have changed with version 2.2. Now while in blind, the background color of the displays will be blue, the title bar will be bright blue, and the word “Blind” will display in the top left corner of each monitor. You can click on “Blind” to go back to live.

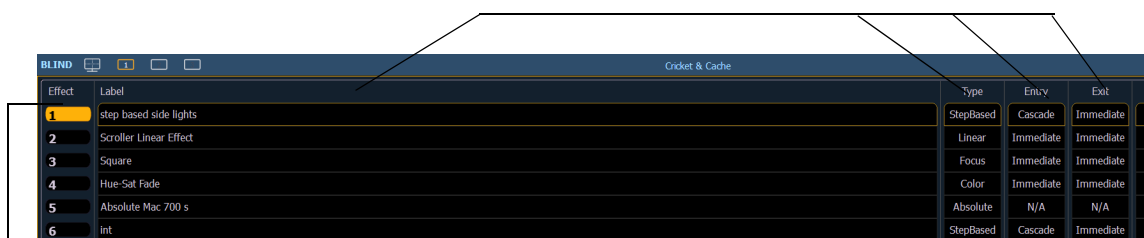


Clickable Support to Displays

Several displays are more interactive now with click supported cells. Clicking on a row header will select and place it on the command line. You can click on multiple row headers to select a range of items. Double-clicking a row header will select that row and deselect any other rows. Clicking on a column header will place that action on the command line. You can click on multiple column actions that can be combined, such as cue times, to place those on the command line.

Column Headers

Row Headers



The following displays have added clickable support:

- Show Control List
- Cue List
- Playback Status Display
- Palette Lists
- Sub List
- Preset List
- Effect List
- Group List
- Snapshot List
- Curve List
- Partition List
- Pixel Map List
- Magic Sheet List
- Park Address List

- Patch Display
- Spreadsheet Display
- Macro List

Displaying Fader Pages with Content

When using **[Fader Page]** or **[Shift]+ [Fader Page]**, the displayed page will jump to the next page with content, and then to the next incremental page before skipping to the next page with content.

For example, pages 1-3 and page 11 have content. If on page 2 you press **[Fader Page]**, you will see pages 3 then 4 then 11 then 12 displayed. After page 12, you will jump back to page 1.

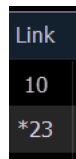
When on page 11, as you press **[Shift]+ [Fader Page]** you will see page 10 then page 3.

Playback Fader/Page Displayed in Cue List Index

Previously only the playback fader's ID displayed in the cue list index. Now the page and fader number display after the playback ID.

Links to Non-existent Cues

When a cue is linked to a non-existent cue, a "*" will display next to the cue number in the link column of the playback status display and the cue list index.



Beam Subcategories Rearranged

The order of beam parameters has changed from (Shutters, Image, Form) to (Form, Image, Shutters). This change impacts the live/blind displays, ML controls, the fixture editor parameter list, and the parameter tiles in the CIA. This change does not affect the physical keycaps.

Virtual Media Server Crossfade

The Virtual Media Server crossfade parameter level will display in subscript beside the intensity.



Element Playback Status Display

Scrolling with a mouse is now enabled for the Playback Status Display on Element. This behavior was already available on the other Eos Family consoles.

Changes to Direct Selects

There are now two different direct select modes: direct selects classic and direct selects x25.

Direct Selects Classic

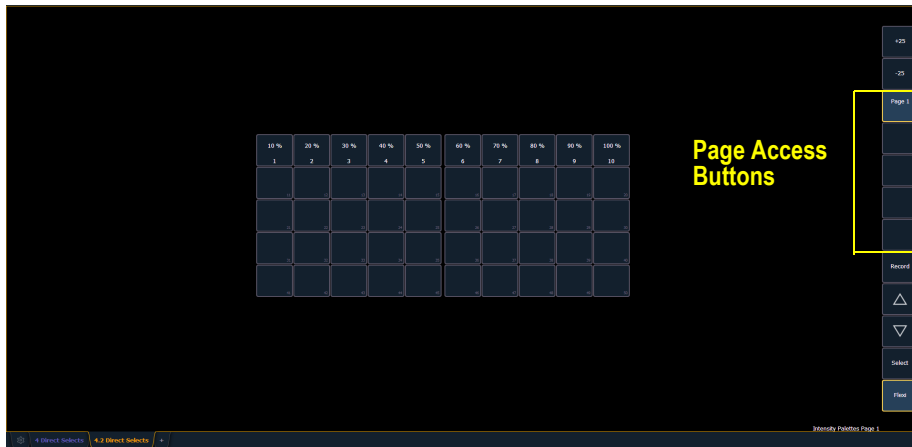
In classic mode, you have two options, fit to screen and classic layout, that were first made available in version 2.1. You can change between fit to screen and classic layout by toggling the **{Classic/Fit}** button.

A couple of new options have been added for version 2.2:

- A **{1x/2x}** button allows you to toggle the direct selects to show one bank of 5 rows or two banks of 5 rows.
- A **{Record}** button has been added that posts Record to the command line.

Direct Selects x25

The Direct Selects x 25 mode displays only a single category of direct selects at a time.



By using the **{+25}** and **{-25}** buttons, you can change the number of available buttons in increments of 25. You can select a page of direct selects by using the page access buttons or by using the page up and down buttons. The **{Select}** and **{Flexi}** buttons work the same as in previous software versions.

Changes to About

The number of patched channels and number of cues have been added to the default **[About]** display. The number of cues is a count across all cue lists. Multipart cues are only counted once. To see this display, press **[About]** when the command line is clear.

About Palette/Preset

A **{Usage}** button has been added to the About Palettes and About Presets displays.

{Usage} displays the following information about palettes and presets:

- Number of cues that move
- List of channels that use the palette/preset in a cue
- List of channels stored in the palette/preset that are not used in a cue
- List of cues in which the palette/preset have a move instruction
- List of effects that use the palette/preset

About Macro

An **[About]** Macro display has been added. This display shows a list of cues that will execute a selected macro. To view this display, you must be in the Macro Editor Display. While in that display, press **[About]** and then select the macro by using a mouse or touchscreen.

About Cuelist

Cue List 7		
Proportional, LTP Active Cue: 2 Num Of Cues: 17 First Cue: 1 Last Cue: 17 Partition Running On Master Playback		
Channels	Channels > 0	Channels = 0
6>20 26>31 36>41 46>51 61>64 71>78	6>20 26>31 36>41 46>51 71>78 81>86	61>64
81>86 91>98	91>98	

The following information will be displayed when a cue list is selected:

- Cue List Attributes

- Active Cue
- The number of cues in the list (Multipart cues are only counted once)
- First cue in the list
- Last cue in the list
- Partition
- Playback number and physical fader location of the cue list
- Channels currently controlled in live by the cue list
- Channels with any intensities above 0 in the cue list
- Channels with Parameters stored in the cue list but no intensities

Changes to User Interface

Changes to Snapshots

The following changes have been made to the snapshot screen (**[Snapshot]** **[Snapshot]**):

- The **{Faders}** button is no longer selected by default.
- A **{Visible Workspaces}** button has been added to snapshot only the visible workspaces.
- An **{All Workspaces}** button has been added to quickly include all workspaces, including those not visible at the time of recording.
- Direct selects is no longer a separate option.

See [Snapshots on page 6](#) for information on single monitor snapshots.

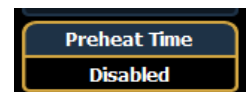
Snapshots Added to Element

Snapshot functionality has been added to the Element console with the addition of a **{Snapshot}** softkey. You can now store all of the monitor configurations for your Element console. All displays are automatically included in all snapshots.

Changes to Setup

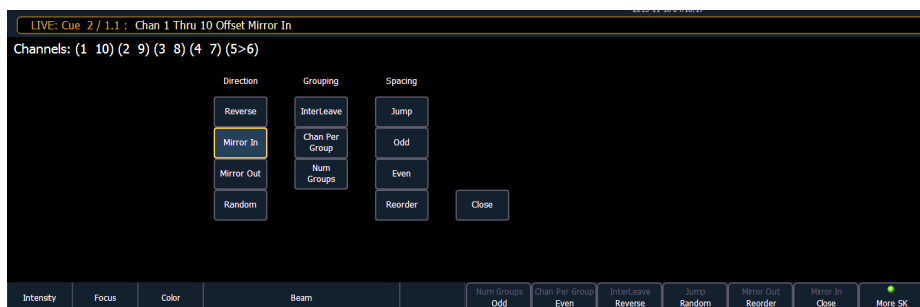
Default Preheat Time

An option for default preheat time has been added to **Setup>ShowSettings**. If this option is disabled, the cue's up intensity time will be used when preheating. The default setting is "Disabled".



Changes to Channel Distribution

When **{Offset}** is pressed, a new channel distribution display will open.



The following options are available as extensions of **{Offset}**. Previously only **{Reverse}**, **{Random}**, **{Odd}**, **{Even}**, and **{Reorder}** were available. Options can be used together. These extensions can be used to create subgroups. For more information on subgroups, please see the Eos Family v2.0.1 Operations Manual Supplement.

Direction

- **{Reverse}** creates a group with the channels in the reverse order that they were selected in.
- **{Mirror In}** creates subgroups of channels that mirror inward.
 - **[1] [Thru] [8] {Mirror In} [Enter]** would create 4 subgroups in this order: (1,8) (2,7) (3,6) (4,5).

Ch 1	Ch 2	Ch 3	Ch 4	Ch 5	Ch 6	Ch 7	Ch 8
X							X
	X					X	
		X			X		
			X	X			

- **{Mirror Out}** creates subgroups of channels that mirror outward.
- **[1] [Thru] [8] {Mirror Out} [Enter]** would create 4 subgroups in this order: (4,5) (3,6) (2,7) (1,8).

Ch 1	Ch 2	Ch 3	Ch 4	Ch 5	Ch 6	Ch 7	Ch 8
			X	X			
		X			X		
	X					X	
X							X

- **{Random}** creates a random order to the channels.

Grouping

- **{Chan Per Group}** creates a specified cluster of channels.
 - **[1] [Thru] [1][2]{Chan Per Group} [3] [Enter]** would create these 4 subgroups of 3 channels each: (1,2,3) (4,5,6) (7,8,9) (10,11,12).
- **{InterLeave}** creates a number of distributed sets of channels, that are not clustered together.
 - **[1] [Thru] [1][2]{Chan Per Group} [4] {InterLeave} [Enter]** would create these 4 subgroups: (1,4,7,10) (2,5,8,11) (3,6,9,12).
 - **[1] [Thru] [5] [+] [1][1] [Thru] [1][5] [+] [2][1] [Thru] [2][5] {Chan Per Group} [3] {InterLeave} [Enter]** would create these 5 subgroups: (1,11,21) (2,12,22) (3,13,23) (4,14,24) (5,15,25).
- **{Num Groups}** creates a specified number of subgroups.
 - **[1] [Thru] [1][2]{Num Groups} [3] [Enter]** would create these 3 subgroups: (1,2,3,4) (5,6,7,8) (9,10,11,12).

Spacing

- **{Jump}** is used to skip over a specified number of channels.
 - **[1] [Thru] [1][2]{Chan Per Group} [3] {Jump} [1] [Enter]** would create these 3 subgroups of 3 channels each: (1,2,3) (5,6,7) (9,10,11). Channels 4, 8, and 12 will be jumped over and will not be in the subgroups.
- **{Odd}** selects only the odd numbered channels.
- **{Even}** selects only the even numbered channels.
- **{Reorder}** is used to reorder the channels of a group into numeric order.

{Offset} Button Added to Some Displays

Submaster, palette, and preset blind views now all include an **{Offset}** button. Step-based effects have an **{Offset}** button now as well.

Changes to Effects

Effect Channel Display

The ability to override certain effect properties per channel at the cue level has been added.

The effect channel display has been added for this. To open this display, press **[Shift] + [Effect]** or select the effect channel icon from the display management home screen, see [Display Icons on page 5](#).

Effect	Channel	Rate	BPM	Size	Axis	HForm	VForm
E 1	26	50					
	27						
	28						
	29						
	30	50					
	31						
	36	50					
	37						
	38						
	39						
	40	50					
	41						
	46	50					
	47						
	48						
	49						
	50	50					
	51						

The following properties can be overridden:

- Rate
- BPM
- Size (Relative Effects Only)
- H Form (Focus Effects Only)
- V Form (Focus Effects Only)
- Axis (Focus Effects Only)



Note:

To add a channel level override, first you will need to be in the Effect Channel display with the effect running. The effect status display also needs to be open. To learn how to apply an effect, please see the Apply an Existing Effect section of the Creating and Using Effects chapter of your console's manual.

[2][6]<Effect><1>{Rate}[6][Enter] - to change the rate for just channel 26. With the effect running, the console will default to the running effect number. You may need to select the effect first (**[Effect]** **[n]** **[Enter]**). This will open the effect status display, and you will have access to the effect softkeys.

In the effect status display, an “+” will display by any effect property that has a channel level override.

You can then store these channel overrides in a cue by using **[Record]** or **[Update]**.

BPM as a Cue Level Override

BPM can be applied to an effect or individual channels as only a cue level override in live and blind. As a cue level override, the effect step/action times will not be affected.



Note:

*The effect editor cannot be open when applying a cue level override. The effect status display does need to be open though. You can open the effect status display from the home screen or by pressing **[Effect]** while in live.*

With an effect recorded into a cue and playing back in live, **[Effect] [1] {BPM} [3][0] [Enter]** will change the BPM of the effect running. This change will happen immediately but the step or action times will not change. You can see the BPM value, which will be in red, in the Effect Status display.

When the cue is updated or recorded with the new BPM, an “*” will appear next to the effect number in the Ext Links column of the PSD and the cue list. The BPM value in the effect status display will now be displayed in blue.

[1] [Effect] [1] {BPM} [3][0] [Enter] will only change the BPM for channel 1. A “+” will display in the BPM column of the effect status display, and the BPM will display in red in the effect channel display.

Once the cue is updated or recorded, the BPM will display in blue in the effect channel display. The “+” will still be displayed in the effect status display, and an “*” will appear next to the effect number in the Ext Links column of the PSD and the cue list.

BPM Impacts All Times of a Step-based Effect

Applying BPM to a Step based effect will now override all timing in the effect. Previously BPM only impacted the step times. Now the Step, In, Dwell, and Decay times are all affected.

Step/Action Selection

If an effect step/action is on the command line or indicated in the blue text to the left of the command line, entering a number on the command line will default to selecting a step/action for the previous selected effect.

If no step/action is displayed, the command line will default to effect number.

Effect List Navigation

Using the **[Next]/ [Last]** keys will now only move between effects in the effect list display. To navigate the effect editor, you will need to use the page arrow keys.

Confirming Effects changes

When using **[Page ▼]** to create a new effect step/action in the Effects Editor display, you will first be asked to confirm the new step/action number before continuing. This is to prevent new step/action from being created by mistake. To bypass this confirmation, you can hold down **[Shift]** while using **[Page ▼]** or enter the step/action number manually.

Changes to the ECU

Client Mode Consoles

Consoles in client or backup mode now by default will not output on their local DMX ports. This option is found at **ECU>Settings>Local I/O**. Click on **{Output Local DMX in Client mode}** to enable the ability to output.

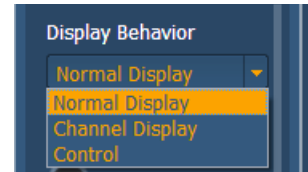
24 Hour Format Clock Added

In the **ECU>Settings>General**, an option has been added to display the clock in the 24 hour format.

Changes to Magic Sheets

Display Behavior

In the Background Settings tab of the magic sheet editing tools, there is a new option for display behavior. This option was added to go along with the new focus rules for display and control tabs. See [Focus Rules for Control and Display Tabs on page 3](#) for more information.



The following display behaviors are now available:

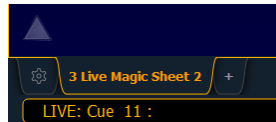
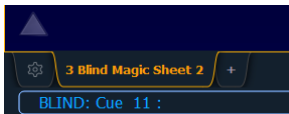
- **Normal Display** - The display will behave the same as a Display Tab.
- **Channel Display** - This mode uses the following rules:
 - When focus is drawn to the playback status display, a magic sheet channel display will be brought to the front.
 - Using **[Shift] + [Live]** cycles through the magic sheet channel displays.
 - Pressing **[Live]** or bringing a Live tab into focus will restore your last focused magic sheet channel display.
 - Magic sheet channel displays in the locked frame will not be skipped when using the **[Tab]** key to cycle through tabs.
- **Control** - The display will behave the same as a Controls Tab.

Changes to Background Settings

You can now select live and blind backgrounds for magic sheets. These backgrounds can either use a solid color, gradient of two colors, or an image. One of these backgrounds will be used when editing a magic sheet. Select the **{Use While Editing}** button to use either the live or blind background.

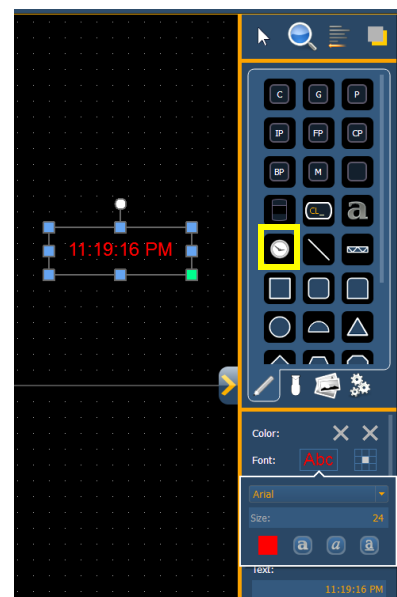
Live and Blind Indicators

Magic Sheets now indicate Live or Blind on their tab.



Clock

A clock has been added to the MS Object Library. You can now add a clock to any magic sheet. By using the MS Object properties, you can edit the color, font, and size of the clock.



Changes to Fixtures

Changes have been made to the fixture library in version 2.2 to make fixtures easier to control. These changes affect the fixture definitions.

These changes include:

- More mode parameters for complex fixtures
- More calibrated ranges
 - For example, DMX ranges are calibrated in real units (25 to 50 Hz or 5 to 20 RPM) instead of their absolute DMX values.
- Changes to the index type parameters
 - For example, some index parameters that used to be 0-360 degrees are now -180-180 degrees.

Pixel Mapping Installer Update

Eos Family v2.2 includes an enhancement for operating file system support for ETCnomad systems running on a PC or Macintosh. This changes the default location for storing show files and media to the main "User" documents location of the system; **[Windows Drive]:\Users\<<Your User Name>>\My Documents\ETC\Eos** for Windows 7 & 8, **~/Documents/ETC/Eos** on Mac platforms.

An update to the Eos Family Pixel Mapping Installer is available (v1.0.1). You may obtain this release of software by downloading it from the Downloads section of the ETC website, www.etcconnect.com. First time ETCnomad installs of Eos Family v2.2 should use Eos Family Pixel Mapping Installer v1.0.1. This is not required for upgrades to Eos Family v2.2, but it is recommended.

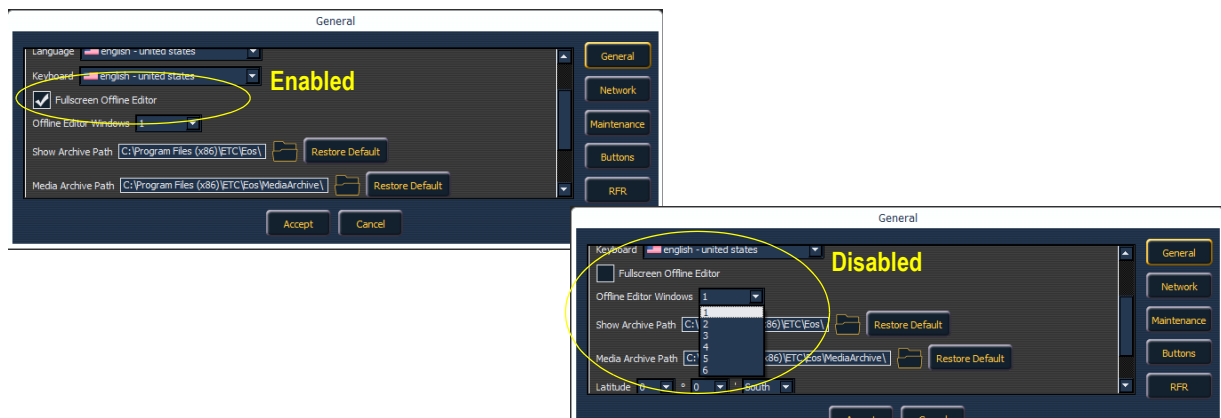


Note: For consoles updating from v1.9.2 or earlier, it is recommended that you install pixel map installer v1.0.1



Note: Please be sure to check your media archive location in **ECU>Settings>General>Media Archive Path** to ensure proper configuration. Restoring defaults will use the updated locations configured by Eos v2.2 and the v1.0.1 pixel map installer.

ECU Change for ETCnomad



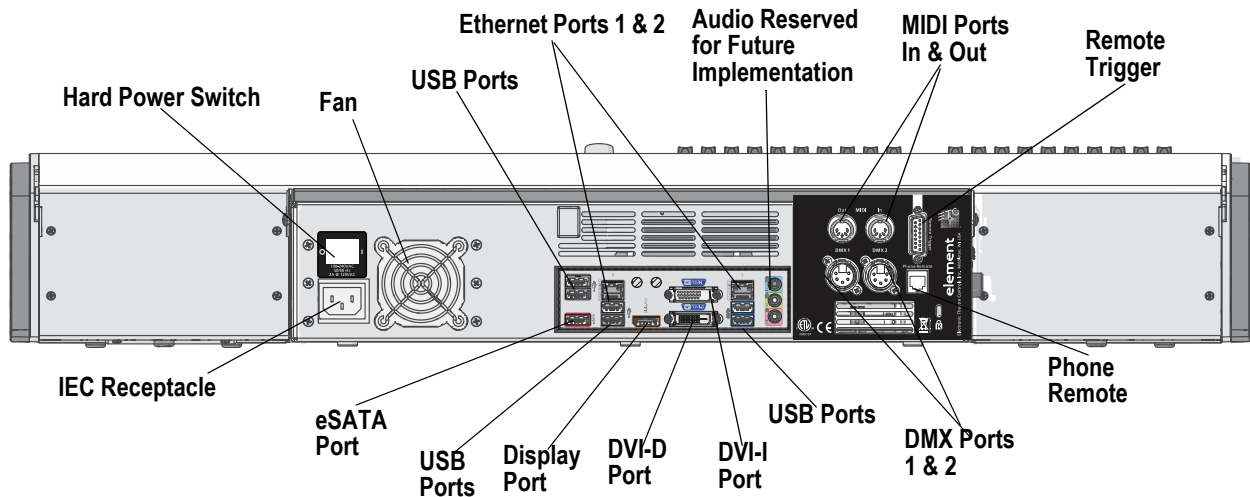
For ETCnomad, a new option has been added to the ECU to allow Fullscreen Offline Editor mode. Instead of separate windows, the displays will be fullscreen.

With this mode disabled, you can choose up to six windows to display. Fullscreen Offline Editor mode is enabled by default.

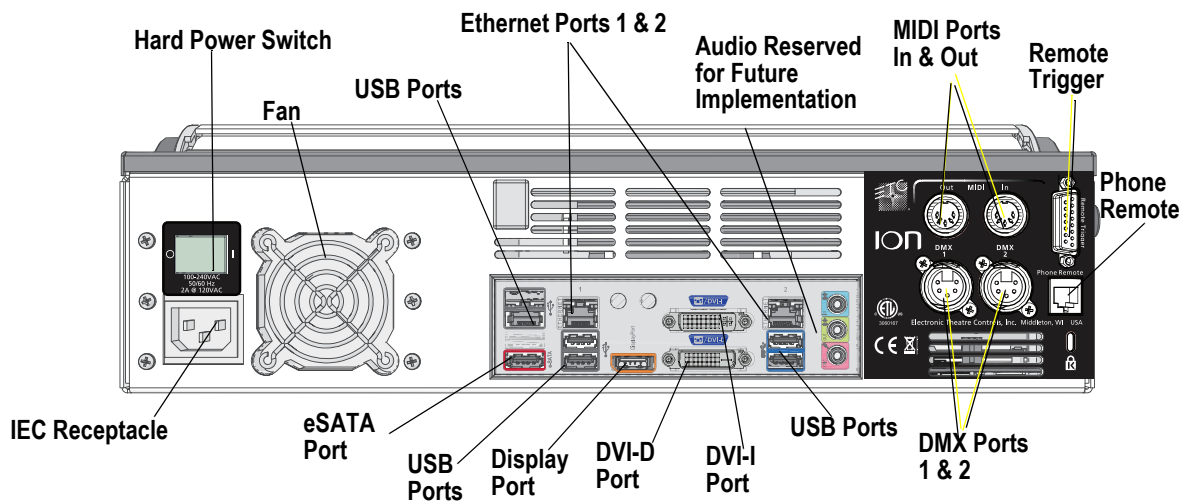
Hardware Changes

Element and Ion are now shipping with Windows 7 and a revised motherboard/SSHD.

Element



Ion



Ion & Element support up to 2 monitors using the following combinations:			
Signal Type Physical Port	Display Port	DVI	VGA
Display Port	Yes	Yes with Adapter	Yes with Active Adapter
DVI-I Port	No	Yes	Yes with Adapter
DVI-D Port	No	Yes	No
Multitouch monitors need to be Windows 7 or 8 Compatible.			

ETC® Supplement

Eos Family v2.1.0 Supplement to Operations Manual



The following information is new for version 2.1.0. This document is supplemental to information in the Eos Titanium, Eos, and Gio v2.0 Operations Manual, and Ion v2.0 Operations Manual, and should be used in conjunction with it. For Element users, the Element User Manual has been updated for version 2.1.0.

Eos Ti

Eos Ti consoles cannot automatically update the software on other devices running software versions prior to 2.1.0. Once those units are updated to version 2.1.0, Eos Ti consoles will be able to auto update all system devices via the update setting in the ECU.

System Overview Change

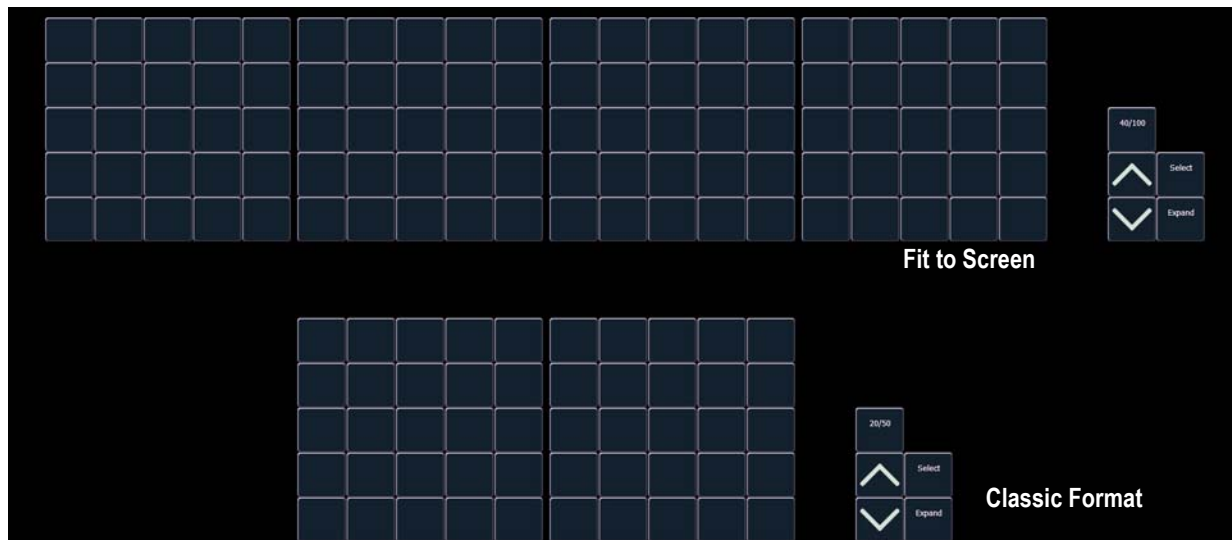
Channel Counts

The maximum number of allowed channels that can be defined in patch has increased from 10,000 to 16,000, (can be any number from 1 to 99,999). This change impacts Eos Ti, Eos, Gio, and Ion.

System Basics Changes

Direct Selects

There are two options for opening the direct select modules, which are Fit to Screen and Classic Layout. Fit to Screen is designed for wide format displays. For standard size monitors, use the Classic Layout. The following example shows both options on a wide format display:

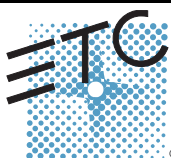


[Shift] + Direct Select

Selecting record targets from direct selects will terminate the command line. To post a control to the command line without terminating it, hold down **[Shift]** while pressing the direct select. This allows multiple commands to be selected and executed at once, and an optional sneak time to be entered.

Modifying a Terminated Channel Selection

It is possible to add or remove channels from a previously terminated command line. You will need to first press **[+]** or **[-]** and then you can add to or remove from your current channel selection. This includes selecting channels from the direct selects, summary view, and Magic Sheets.



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Grandmaster/Blackout

If a grandmaster is set to a value other than 100%, a grandmaster button with the set value will be shown at the top of each display. If blackout is currently on, a blackout button will be shown at the top of the displays. Clicking on either button will open a new display which will allow you to turn off blackout and set the grandmaster to a different level.

Grandmaster 10%

BLACKOUT

Managing Show Files Change

Show File Advisory

If the loaded show file exceeds the console's output capacity, an advisory will display in the CIA. You will need to dismiss the advisory by pressing **{Ok}** before continuing. To see the capacity of the console, press **[About]**.

Setup Changes

High Contrast Display

By default, High Contrast Display is now enabled in **Setup>Desk>Displays**.

100 Channel Display

Additional options have been added to 100 Channel Display in Setup, **Setup>Desk>Displays**, to help accommodate different display dimensions.

You can select to have this option disabled, display the channels in 4 rows of 25 (4x25), or 5 rows of 20 (5x20), depending on the dimensions of your displays. The default for this setting is "Disabled."

Encoder Acceleration on Eos and Ion

Encoder Acceleration has been removed from Eos and Ion, which matches the behavior of the Eos Ti and Gio encoders.

In **Setup>Desk>Face Panel>Encoders**, there are two options available: **{Degrees Per Revolution}**, which is for the pan & tilt encoders, and **{Percent Per Revolution}**, which is for the other encoders. When a pan or tilt encoder is moved one revolution, the parameter will change by as many degrees as defined in Setup. The default is 30. When any other encoder is moved one revolution, the parameter will change by the set percentage of its entire range. The default is 35.

The settings for **{Encoder Degrees Per Revolution}** and **{Encoder Percent Per Revolution}** are stored with the show file. Starting a new file will reset the two settings to their default values.



Note:

*On Eos, toggling an encoder no longer works to place it into fine mode. On both Eos and Ion, hold down **[Shift]** while moving the encoder for fine control. Releasing the **[Shift]** key will restore the encoder to its default mode*

Removing Virtual Hue and Saturation Parameters

In **Setup>Show>Show Settings**, an option, **{Create Virtual HSB}**, has been added, which allows you to disable creation of virtual hue and saturation parameters. This option is “Enabled” by default.

When Virtual HSB controls are disabled, the hue and saturation columns will not display in Table view. You will not be able to record just the Hue or Saturation values into a cue, submaster, preset, or palette, and you cannot apply an effect to Hue and Saturation. You will still be able to control Hue and Saturation from the encoders, ML Controls, Color Picker, and the command line.

Fan Change

Using Subgroups with Fan

Subgroups can be used with the Fan feature. Channels in the same subgroup will act as a single channel when fanned.

For Example:

Group 1 is made up of channels 120 thru 130. Channels 120 thru 123 are one subgroup, channels 124 thru 126 are not in any subgroup, and channels 125 thru 130 are another subgroup.

- **[Group] [1] [Fan] [Enter]**

Selects group 1 and puts it into fan mode. Rolling up the level wheel creates the following result. Channels 120 thru 123 share an intensity, channels 124 thru 126 each have different intensities, and channels 127 thru 130 share an intensity.

120	121	122	123	124	125	126	127	128	129	130
0	0	0	0	28	55	82	FL	FL	FL	FL

Submaster and Patch Changes

GM Exempt and Intensity Master

For channels that have been set to GM Exempt in Patch, Intensity Master control will not impact the intensity of those channels.

[Query] {Unpatched}

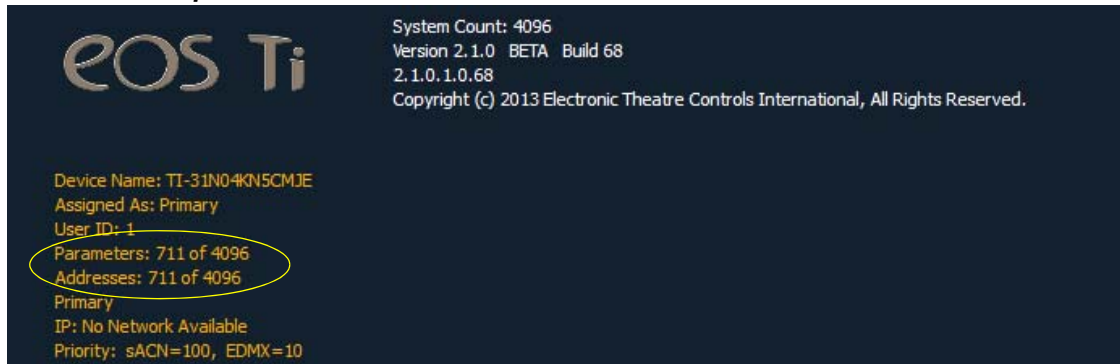
To quickly delete channels without addresses in the Patch display, you can use the command **[Query] {Unpatched} [Delete]**. This will post to the command line all channels without addresses. By pressing **[Enter][Enter]** you will delete them.

Ion users will need to press **[Shift] + [Select Last]** to access the **{Query}** softkey in Patch.

[About] Changes

In the default About display, a new field has been added called Parameters. This field references the number of parameters that have been defined in patch. This includes parameters that have been patched to output addresses and those that have not. The field below Parameters, Addresses, only calculates the number of addresses that have been used in patch (which counts toward available outputs). The Parameters field is useful as even unpatched, but defined, parameters must be displayed and calculated in the fade engine. If you are running a large show, it is helpful to delete defined, but unpatched channels. This is where the **[Query] {Unpatched}** command is helpful.

For Example:



About Cue

In the About Cue display, three new columns that show channel moves have been added. Those columns are intensity moves, live NPs moves, and dark NPs moves.

Effects Changes

Preprogrammed Rainbow Effects

Two new preprogrammed effects have been added to the effect list. Effect 917 is a Rainbow RGB effect, and effect 918 is a Rainbow CMY effect. These effects are for a rainbow on native color parameters that will fade hue from 0 to 360 with saturation at full, when the parameters are at their default levels. 0 is the default for CMY, and Full is the default for RGB.

Focus Effects

When adjusting the form of a focus effect, you can hold down **[Shift]** while using the horizontal encoder to change the vertical form.

Beats Per Minute/ Tap Rate

For step-based and absolute effects, you can set a beats per minute (BPM). For step-based effects, BPM affects the step times and for absolute effects, this affects the time/dwell. Note that BPM impacts the effect directly. It is not currently available as a cue level override.

There are two different ways for assigning BPM to effects:

Directly setting BPM

If you know the BPM, you can assign that directly to the effect by using the **{BPM}** softkey, which is available when in the effect editor display.

- **[Effect] [1] {BPM} [1][9][0] [Enter]** - sets the BPM of effect 1 to 190. The step times will be adjusted for step-based effects, or the time/dwell will be adjusted for absolute effects.

The BPM will display on the right side of the effect editor beside the effect number/label. Editing the cycle time, the step time for a step-based effect, or the time/dwell for an absolute effect will remove the BPM.

Learning BPM

If you don't know the desired BPM, you can learn the BPM.

From Live, with the effect running:

- **[Effect] [1] [Learn] [Time]** - posts Effect 1 Learn Time Sample BPM to the command line, and opens the effect editor display.

While in this mode, press **[Enter]** to establish the BPM. The console will use an average of the last four times you press **[Enter]** in this mode to calculate the BPM. Pressing **[Learn]** again will stop this mode.

In this mode, every time the BPM changes, a live running effect will be modified accordingly without stopping.

Learning Discrete Step Time

In learning discrete step time mode, every time you press **[Enter]**, the time since the last press of **[Enter]** is used to set the next step's step time for a step-based effect, or the next step's fade/dwell time of an absolute effect.

- **[Effect] [1] [Learn] [Time] [Time]** - posts Effect 1 Learn Time Discrete Steps to the command line, and opens the effect editor display.

Pressing **[Learn]** again will stop this mode.

Instead of pressing **[Enter]**, you can press **[At]** while in this mode to add new steps to the end of the effect. Pressing **[Enter]** will send you back to the first step in the effect.

Magic Sheet Changes

Address as Target Type

Address is now an available target for magic sheet objects.

Address Added to List of Fields

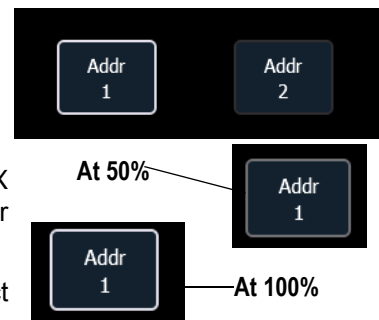
Address has been added to the list of fields that can be displayed around an object.

Address Object Color

An address object, with its outline color set to Link to Channel Color, will have a white outline if the address is patched, or a dark outline if the address is unpatched.

If the address object's outline color is set to Link to Channel Intensity, the brightness of the outline color will be tied to the DMX level of the address. The higher that the DMX value is the brighter the outline color will be.

To set the outline color to Link to Channel Color or Intensity, select the outline color icon in the color section of MS Object Properties. Then select either Link to Channel Color or Link to Channel Intensity.



Fixture Symbols

Additional fixture symbols can be imported. The symbol must be saved as a .svg image file, and needs to be tagged properly. These tags can be linked to the channel's color, intensity or both.

The outline section needs to be tagged as etc_symbol_outline0, etc_symbol_outline, and/or etc_symbol_outline2. The base section needs to be tagged as etc_symbol_base0, etc_symbol_base, and/or etc_symbol_base2. Tags can be layered, and they will render in the order listed below:

- **etc_symbol_base0** - uses fill color intensity link (not color)
- **etc_symbol_base** - uses fill color and intensity link
- **etc_symbol_base2** - uses fill color intensity link (not color)
- **etc_symbol_outline0** - uses outline intensity link (not color)
- **etc_symbol_outline** - uses outline color and intensity link
- **etc_symbol_outline2** - uses outline intensity link (not color)

Tags that only link to intensity will cause the base or outline to dim based on the channel's intensity.

The edits to the tags in the .svg file can be made in any text editor program, such as Notepad, or in a .SVG editor program, such as Inkscape.

ECU Changes

Enable Sensor/ FDX3000 Feedback

Clicking in the enable box will allow your console to receive feedback over the network from a CEM+, a CEM3, or FDX3000. This option is "Enabled" by default.

Enable FDX2000 Feedback

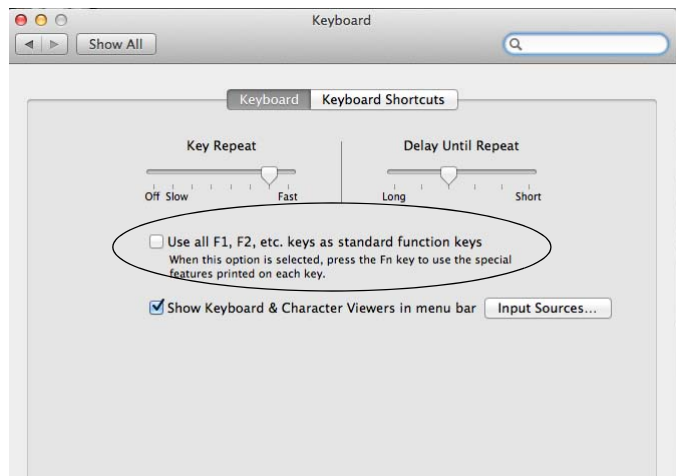
Clicking in the enable box will allow your console to receive FDX2000 dimmer feedback over the network.

Client Software Change

Using Offline or Client with Mac Laptops

When using a Mac laptop or wireless keyboard with the Mac functions mapped to the F1-F12 keys, Eos offline/client functions are not executable. The Mac functions must first be disabled before Eos offline/client functions will work:

- Step 1: Open **System Preferences** on your computer.
- Step 2: Open the **Keyboard** section.
- Step 3: Enable **Use all F1, F2, etc. keys as standard function keys** by clicking in the box.



ETC® Supplement

Eos Family v2.0.1 Supplement to Operations Manual



The following information is new for version 2.0.1. This document is supplemental to information in the Eos Titanium, Eos, and Gio v2.0 Operations Manual, Ion v2.0 Operations Manual, and Element v2.0 User Manual, and should be used in conjunction with it.

Display Changes

Changes in this section impact the System Basics chapter and the Facepanel Shortcuts appendix.

Latching Data and Time

[Data] Key

Pressing and holding **[Data]** allows you to view the values behind any referenced or marked data. **[Data]** exposes the next lower reference level. So if you view a palette reference and press **[Data]**, the absolute data will be displayed instead. If you are viewing a preset, absolute or palette data will be displayed, depending on what is contained in the preset.

On Eos Ti, Eos, Gio, and Ion, you can lock this mode by pressing **[Shift] + [Data]**. When in display reference values mode, "Data Latched" will display in the upper left of the live display and the **[Data]** key will be lit in green on Eos Ti and Gio. To exit this mode, press **[Shift] + [Data]** again.

[Time] Key

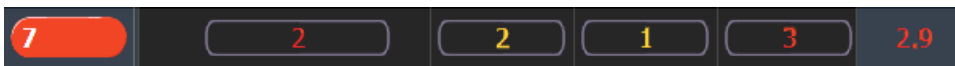
Pressing and holding the **[Time]** (the one by **[Data]** on Eos Ti, Eos, and Gio) allows you to view discrete timing data behind any channel parameter. **[Time]** exposes channel or parameter specific timing for any channels in the current cue. The first value is the delay time. If "--" is displayed, there is no delay. The value to the right of the / is the transition time.

On Eos Ti, Eos, and Gio, you can lock this mode by pressing **[Shift] + [Time]**. When in display time mode, "Timing Latched" will display in the upper left of the live display and the **[Time]** key will be lit in green on Eos Ti and Gio. To exit this mode, press **[Shift] + [Time]** again.

On Ion, you can lock this mode by pressing **[Shift] + [Time] [Time]**. To exit this mode, press **[Shift] + [Time]**.

Category Time in PSD

When the **{PSD Time Countdown}** setup option (**Setup> Desk> Displays**) is enabled, each category time will individually turn gold when that timing has completed.



Manual Control Changes

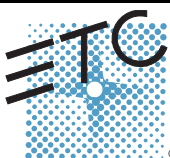
Changes in this section impact the Basic Manual Control or the Advanced Manual Control chapter.

Rem Dim /

Rem Dim levels can either be an absolute value, such as Full or 50%, or a proportional value, which would set the levels to a percentage value of their current levels. To use a proportional value, press **[/]** before entering the percentage value.

For Example:

Assume that channels 1 through 10 are selected and set to an intensity level of 60. Select channel 1 and dim the remaining channels.



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- **[1] [Rem Dim] [/] [5][0] [Enter]**

Channels 2 through 10 will be dimmed to 30.

Highlight Rem Dim

To temporarily override the **{Highlight Rem Dim}** option in Setup, you can use either of the following syntax examples:

- **[channel list] [Highlight] [Rem Dim] [#] [Enter]**
- **[channel list] [Highlight] [Rem Dim] [/] [#] [Enter]**

[-] [Select Manual] / [Select Active]

[-] [Select Manual] or **[-] [Select Active]** can be used to modify channel selections. Using **[-] [Select Manual]** will select all of the channels in the list except those that have manual data. Using **[-] [Select Active]** will select all of the channels in the list except those that are active.

- **[1] [Thru] [2] [0] [-] [Select Manual] [Enter]** - selects channels 1 through 20 except any channels that currently have manual data.

[1] [Thru] [2] [0] [-] [Select Active] [Enter] - selects channels 1 through 20 except any channels that are currently active.

[Undo] [Undo] [Enter]

Pressing **[Undo] [Undo]** will scroll to the most recent undo-able command in the command history display. To undo the command, press **[Enter]**.

Capture Latch

Previously Capture Latch would be enabled for all users when it was enabled by one user. Now Capture Latch works on a user by user basis. For more information on using Capture Latch, see the Using **[Capture]** section of the Advanced Manual Control chapter.

Recording and Playback Changes

Changes in this section impact the Cue Playback, Storing and Using Submasters, or Using Partitioned Control chapters.

Loading a Cue with Temporary Time

A cue can be loaded with a temporary time.

- **[Cue] [3] [Time] [6] [Load]** - loads cue 3 with the manual time of 6.



Note:

For multipart cues, the temporary time will be applied to the entire cue, not just the part on the command line.

For cues with discrete timing, its parameters will use the temporary time instead of the assigned discrete timing.

Submasters

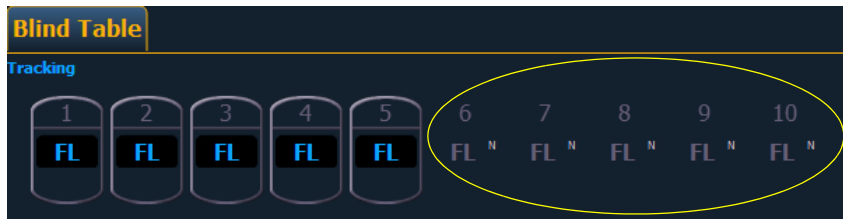
The number of submasters has increased to 999. The number of fader pages available is still 30, which means that there is still a limit of 300 submasters being used with physical faders at a time.

Partitions on Cue Lists

A partition may be assigned to a cue list. If a partition has already been applied to a cue list, any channels not in the cue list's partition will not be included in cues when they stored or replayed.

Any data for a cue list that already existed before a partition is applied, will be maintained, including data for channels not included in the partition. If data existed before the partition was assigned, in

blind, channels that are not in the partition will display without a channel graphic, any levels will be in gray, and a small superscript N will display with it.



Channels that were initially saved in the cue list but are not in the currently assigned partition

Assigned partitions will display in the external links column in the cue list index.

To assign a partition to a cue list:

- **[Cue] [n] [/] {Partition} [n] [Enter]**

To remove a partition from a cue list:

- **[Cue] [n] [/] {Partition} [Enter]**

Working with a Single Cue List Changes

Changes in this section applies to the Working with a Single Cue List chapter.

Auto-block Cleanup

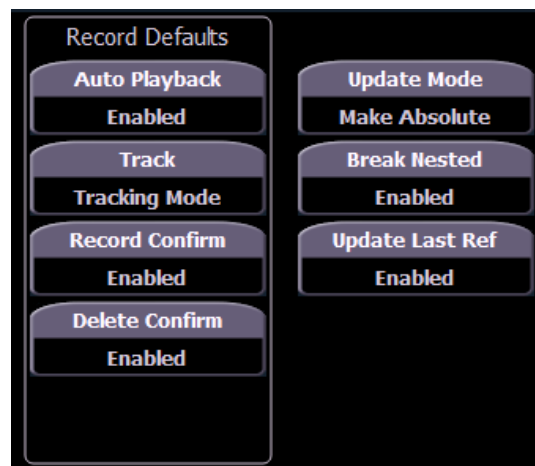
Cues that have auto-blocks will display a underscored b in the PSD. **{Autoblock Clean}** is used to remove all auto-blocks from a single cue, cue range or entire cue list. **{Autoblock Clean}** is a softkey that will be posted when a cue list and/or cue number are on the command line in the Cue List Index, Live, and Blind. A range of cues or a cue list can be specified with this command.

For Example:

- **[Cue] [1] [/] {Autoblock Clean} [Enter]** - clears all auto-blocks from cue list 1. Only blocks displayed with the white underscore are removed. If the **[Block]** key was previously used, this command will not unblock it.
- **[Cue][1] [/] [1][0] [Thru] [1][0][0] {Autoblock Clean} [Enter]** - clears the auto-blocks just from cues 10 through 100 of cuelist 1.

Default Update Modes

The default Update modes have changed. Eos defaults to Make Absolute for the **{Update Mode}**, with **{Break Nested}** and **{Update Last Ref}** enabled.



Default Update Setup Options

Timing Disable

This change affects the Setup and Cue Playback chapters.

You can assign a separate time value for **[Timing Disable]** in **Setup> Desk> Manual Control> Default Times> Timing Disable**. When a fader has been set to timing disable mode, cues will use the time set in Setup. The default time is 0.

[Shift] + [Go] and [Shift] + [Back]

[Shift] + [Go] and **[Shift] + [Back]** can be used to cut to the next cue in the same way as **[Timing Disable] + [Go]** and **[Timing Disable] + [Back]**.

Show File

An indicator has been added to show when a show file has been modified but not saved. An asterisk (*) will display beside the show file name.

Cricket & Cache*

Mirror Mode

This change affects the Mirror Mode section of the Multi-console and Synchronized Backup chapter.

A device that is currently in mirror mode can select which user number it is mirroring by using the alphanumeric keyboard shortcut **M + #** (# being the user number). **M + ESCAPE** can be used to leave mirror mode.



Note:

If a device is not currently in mirror mode, pressing M on an alphanumeric keyboard will post Mark to the command line.

Collapsing PSD Columns

This change affects the Playback Status Display section of the System Basics chapter.

To collapse a column in the Playback Status Display, press **[Escape]** while clicking on the column you want to collapse. Press **[Shift] + [Select]** to bring back all of the collapsed columns.

Magic Sheets on Direct Selects

Magic Sheets can now be accessed from the direct selects. Clicking on a magic sheet direct select will open the Magic Sheet tab and display the selected magic sheet. Pressing a different magic sheet direct select will change the displayed sheet.

Using Park Changes

Changes in this section impact the Using Park chapter.

Recall From Park

You can use **[Recall From] [Park]** to set a channel or parameter to the same level as the current park value.

For Example:

Let's assume that channels 1 through 5 are parked at 55. To recall that level to channels in live or blind, use the following syntax:

- **[1] [Thru] [1][5] [Recall From] [Park] [Enter]**

Channels 1 through 5 will be set to 55 and channels 6 through 15 will be unaffected.



Note:

This does not release the Park buffer.

[Thru][Thru] in Park

When parking a range of addresses in Park, using **[Thru]** will only park the intensities. If you want to park all of the addresses and parameters within the selected range, you will need to use **[Thru][Thru]**.

Patch Changes

Changes in this section impact the Patch chapter.

{Swap} in Patch

Additional options have been added to **{Swap}** in Patch.

- **{Swap}** - swaps only the patched address
- **{Swap} {Plus Show}** - swaps all show and patch data
- **{Swap} {Only Show}** - swaps only the show data and not patch data
- **{Swap} {Plus Patch}** - swaps addresses and patch data but not show data

Fixture Editor Parameters

The fixture editor parameters list is now displayed in alphabetical order.

[Thru] [Thru]

This change applies to the Multipart Cues chapter.

[Thru] [Thru] can be used in blind to create multiple cue parts in a range. For example, **[Cue] [1] [Part] [1] [Thru] [Thru] [4] [Enter]** will create parts 1 through 4. If you were to use just **[Thru]** instead of **[Thru] [Thru]** in that example you would create parts 1 and 4.

Subgroups

This change applies to the Using Groups chapter.

You can create subsets of channels within a group by using **[Shift] + [/]**. **[Shift] + [/]** will create parentheses. These subsets of channels or subgroups are treated as a single channel in the following ways:

- When applying absolute or relative effects from live, the subgroups are treated as a single channel by the effect.
- When setting a range of step's channels on a step based effect, the subgroup will not be spread out amongst multiple steps.
- When the group is selected and next/last is pressed, each subgroup is traversed.
- When a group has subgroups, **{Reverse}**, **{Reorder}**, and **{Random}** in the group editor will affect the subgroups instead of the channels in each subgroup. **{Reorder}** will order the groups based on the first channel in each group.

Subgroups can be created either in the group list or live.

Group List Display		Subgroups
Group	Label	Channels
1		(1>2) (3) (4) (5) (6>7)

To create a subgroup in live:

- **[Shift] + [/] [1] [Thru] [4] [Shift] + [/] [Record] [Group] [2] [Enter]**

To create a subgroup in the group list index:

- **[Group] [2] [Enter] [Shift] + [/] [1] [Thru] [4] [Shift] + [/] [Enter]**



Note: *Fan is not currently supported with Subgroups.*

Managing Show Files Changes

Changes in this section impact the Managing Show Files chapter.

Importing Custom Gobo Images

Custom gobo images can be imported by going to **Browser> Import> Gobo Images** and selecting an image file or folder. If a folder is selected, all image files within the folder will be imported. All standard image files are supported with the exception of .svg files.

Imported gobo images can be deleted by going into **Browser> Import> Gobo Images> Imported Gobos**, selecting the image, and pressing **[Delete] [Enter]**.

Imported Media and Partial Show Open/Merge

A new tile, **{Media}** has been added to the Partial Show Opening and Merge displays. Media is imported gobo and magic sheet images.



Note:

Media will be included by default when you select Patch, Fixtures, or Magic Sheets.

Virtual Media Server

Changes in this section impact the Virtual Media Server chapter.

Number of Pixel Maps

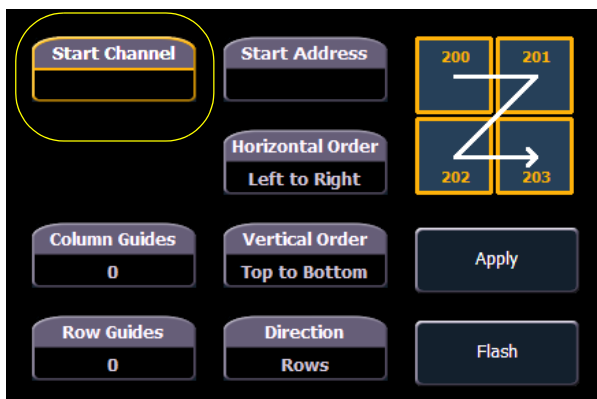
The number of pixel maps per show file is now 40. Previously it was limited to 10 maps.

{Flash}

The **{Flash}** softkey is available in the Pixel Map Editor display. **{Flash}** works the same as it does in Live. See the section on Flash in the Basic Manual Control chapter for more information.

Patch by Channel

An option for setting the starting channel has been added to the Edit display for mapping channel-based pixels.



- When either **{Starting Channel}** or **{Starting Address}** is selected, both fields will be cleared.
- Address-based pixels can not overlap with channel-based pixels. This includes the entire DMX fixture footprint.
- If using **{Starting Channel}**, any overlapping channel-based pixels will be removed and any overlapping address-based fixtures will be unpatched.
- If using **{Starting Address}**, any overlapping address-based pixels will be removed and any overlapping channel-based fixtures will be unpatched.
- When the **[Data]** key is latched, the address for channel-based pixels will display.
- When **[Format]** is pressed, the address will toggle between port/offset and address number.

Park and Address Check

You can use Park and Address Check for Virtual Media Server outputs.

Color Picker

A second color picker has been added for virtual effect layers. The second color picker will be labeled as End Color and will control RGB2.

Copying Color

You can copy or swap a color between the two color pickers using the buttons located between the two color pickers.



FDX Dimmer Feedback

ECU Settings

Changes in this section impact the ECU appendix.

FDX Feedback

Clicking in the enable box will allow Eos to receive FDX dimmer feedback over the network.

Broadcast Type

- Directed Broadcast - Broadcast packets are directed to a subnet based on the IP address and subnet mask of the sender.
- Limited Broadcast - The limited broadcast address is 255.255.255.255. It is limited because routers will never forward datagrams with that destination address. This means that datagrams with the limited broadcast address are confined to the particular network segment on which they originate.

About System

Changes in this section impact the About chapter.

Clicking on a FDX rack in the **{About System}** list will open the About Rack display, which shows the following information about the rack:

- Rack number
- Rack Type
- Phase A,B,C Voltages
- Frequency
- System Number
- IP Address
- Software Version

Device List

For information about FDX Dimmer feedback, see the Device List section in the Patch chapter.