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:

![Fit to Screen vs Classic Format](image)

**[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 [+][-] 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.
**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/Blackout Display](image)

**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.

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][0][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_symboloutline0, etc_symboloutline, and/or etc_symboloutline2. The base section needs to be tagged as etc_symbolbase0, etc_symbolbase, and/or etc_symbolbase2. Tags can be layered, and they will render in the order listed below:

- etc_symbolbase0 - uses fill color intensity link (not color)
- etc_symbolbase - uses fill color and intensity link
- etc_symbolbase2 - uses fill color intensity link (not color)
- etc_symboloutline0 - uses outline intensity link (not color)
- etc_symboloutline - uses outline color and intensity link
- etc_symboloutline2 - 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.
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.
• 

**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 a 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.

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.
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.

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.

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.