Welcome to the EOS! This guide assumes that you are familiar with the Obsession line of consoles but are new to the EOS and will explain some core features and how to translate from Obsession syntax to EOS syntax, but in no way should be considered an exhaustive resource.

The following text conventions will be used throughout this document:
Facepanel buttons are indicated in bold [brackets]. For example, [LIVE] or [Enter].
Softkeys are indicated in bold {braces}. And optional variables are indicated in <angle brackets>. For example, <channels>, or <next cue>.

First, here a few things that catch new users, as they are significantly (and purposefully) different from the Obsession:

**Block and Assert**

This is a very significant change from the Obsession. On the Obsession, Block had 2 functions:
- Editing — If a channel/cue had a blocked value it would prohibit changes tracking into the cue.
- Playback — If a channel/cue had a blocked value it would override previous playback instructions and would fade the channel/cue in the time of the blocked cue.

On the EOS, the Editing function of Block is the same, except that now if a cue has a full block on it and you [@][Enter] a channel it retains the full block. The big difference is that the Playback function of Block has been separated into a completely different function called “Assert”.

**Example:**
The perennial example is that of the bump blackout: If you have a slow fade running then want the stage to blackout in a time of 0 when you hit [GO] on your next cue, before the slow fade cue has completed, you would just put a block on the blackout cue. However, now that these 2 functions have been separated, instead, you need to put an Assert on the blackout cue (and a Block as well to make sure you don’t track any values into the cue). Blocks and Asserts can also be placed on specific channels instead of whole cues.

**Groups**

Groups are now only a channel selector tool, and do not store any intensity values.
If you have Channel 1 @ FL, Channel 2 @ 50, and Channel 3 @ 30 and you record Group 1, the only data that is stored is the selection of Channels 1 thru 3, but not their intensity values. If you then try to recall [Group] [1] [@] [FL], you will get Channels 1 thru 3 @ FL.

Fear not, you can still have your old style groups, they are now called Intensity Palettes. In the above example, instead of recording Group 1, record Intensity Palette 1, and to recall those levels the syntax is:
[Recall From] [Intensity Palette] [1]

**Part Cues**

There are two changes here you should be aware of:
- The default part is now Part 1 (not part 8).
- To assign a channel to a part in Blind the syntax is:
  <Channel(s)> [Part] [Enter]

**Example:**
If you want to assign channel 4 into part 3:
Channel [4] [Part] [3] [Enter]
If you are already sitting in Part 3 while in Blind, then simply:
Channel [4] [Part] [Enter]
The primary means of interacting with your console will be your two screens: The Channel Display and the Playback Status Display.

The biggest change here is the introduction of the channel “Tombstones”. The channel number is at the top, the intensity is below and in the case of multi parameter fixtures such as a unit with a scroller (ch 61) there is Color information below the intensity, and for MLs (ch 96) there is Focus, Color, and Beam information below the intensity. There are also some new text indicators.

Much of this should seem familiar as color conventions have not changed:

- Blue is Up (ch 1)
- Green is Down (ch 2)
- Magenta is Tracking (ch 3)
- Red is Manual Data (ch 4)
- White is Blocked (ch 5)
- White with an underscore “_” is “auto-blocked” (ch 6)
- Yellow is information from a submaster (ch 7)

You will now also see some text indicators, the most common of which are:

- “P” in the lower left corner means the channel is parked (ch 32)
- “I” to the right of the intensity means it is being inhibited by a submaster (ch 22)
- “A” to the right of the intensity means it is Asserted (ch 32)
- “t” in the lower right corner means the channel has discrete timing (ch 32)

(Discrete timing will be explained later in this document.)
The channel numbers also have some new color delineations:

• White is a regular channel (ch 24)
• Bright White is a parked channel (ch 25)
• Grey is an unpatched channel (ch 26)
• Grey without a Tombstone is a “deleted” channel (ch 27). Deleted channels cannot have any data. (This is, visually, a good way to set up systems)

Channel Selection
And now there are some very useful new hard keys which will aid you in calling up channels:

- [Select Last]
- [Select Manual]
- [Select Active]

Select Last recalls the last channel selection you made. If you called up channel [1] [Thru] [5] [@] [Full] [Enter], and then [1][1] [Thru] [1][5] [+][2][1] [Thru] [2][5] [@][5][0] [Enter], [Select Last] will select 11 through 15 and 21 through 25. So if you wanted to update only channels 11 through 15 and 21 through 25 to a previous cue, you can call for “[Select Last] [update] <previous cue>”.

- [Select Manual] selects all channels with Manual data (values in Red).

- [Select Active] selects all channels with Active data (channels with values above 0). This is the fastest way to make a blackout.

- [Select Active] [@] [0] [Enter]

The other great use of [Select Active] is with a channel range. If channels 1 through 4 and 6 and 9 are at Full, and all other channels are at 0, calling for Channel [1] [Thru] [1][0] [Select Active] will only select channels 1 through 4 and 6 and 9. This is a great time saving trick and your programmer will thank you.

And finally, double hitting [Select Active] results in “Select NonSub Active”, which, unsurprisingly, selects all active channels except for channels whose values are being contributed by a submaster.

There is now a softkey called {offset}, which is used to grab a subset of channels in a range. When {offset} is pressed the softkeys repaint to {odd}, {even}, and some other options.

- [1] [Thru] [1][0] {offset} {even} will select channels 2, 4, 6, 8, 10
- [1] [Thru] [1][0] {offset} {odd} will select channels 1, 3, 5, 7, 9
- [Group] [1] {offset} {random} will select the channels in group 1 in a random order

You can also specify the number of the offset:

- [1] [Thru] [1][0] {offset} [3] will select every third channel within that range: 1, 4, 7, 10
- [1] [Thru] [1][0][0] {offset} [2][0] will select channels 1, 21, 41, 61, 81
- [2] [Thru] [1][0][0] {offset} [2][0] will select channels 2, 22, 42, 62, 82

Channel Modification

Now that you have all of these means of selecting channels there are some new ways of modifying their data. You can of course still call up a specific level (e.g. @ 50, @ out, @ level), but here are some new tricks:

Instead of the [+10] and [-10] hardkeys on the Obsession, on the EOS there are [+%] and [-%] keys, the % of which can be defined in the desk setup menu (under the manual control tab). The default level is 10%. If defined as 5%, every press of the [+%] key will raise the level of the selected channel(s) 05%.

- [1] [@] [+%] [+%] [+%] will raise the level of channel 1 by 15%.

You can also increase or decrease levels by a specific percentage right from the command line by using the [+ and -] keys:

- [1] [@] [+][3][0] [Enter] will add 30% to the level of channel 1
- [1] [@] [-][2][0] will subtract 20% to the level of channel 1

But wait, there’s more! You can increase or decrease levels by a specific proportion from the command line, as well:
Two powerful new tools are [Copy To] and [Recall From]. [Copy To] can copy data from one channel to another and [Recall From] can be used to recall data from a channel or a cue:

- **Channel [1] [Copy To] [2]** will copy the value from channel 1 and paste it into channel 2 (e.g. if channel 1 is @ 50%, channel 2 will now be @ 50%, too)
- **Channel [1] [Recall From] [2]** will take the value from channel 2 and paste it into channel 1 (e.g. if channel 2 is @ 40%, channel 1 will now be @ 40%, too)

Both of these functions work with ranges as well. So if channels 11 thru 13 are @ FL and 14 thru 16 are @ 50:

- **Channel [11] [Thru] [16] [Copy To] [21]** will take channels 21 thru 23 to FL and 24 thru 26 to 50.
- **Channel [1] [Recall From] [Cue] [4]** will pull the value of channel 1 as it is recorded in cue 4 (this is similar to the “group cue” feature on the Obsession).

The Obsession’s [@] [Enter] feature in Blind (removing any changes and tracking the channel from the previous cue) works the same way on the EOS in Blind, but now also works similarly in Live:

- **[1] [@] [Enter]** takes the value of channel 1 from the previous cue and makes it manual (red). In essence, this yields the same result as **[1] [Recall From] [Cue] [Last]**

[Rem Dim] has been altered slightly in two ways:

1) Instead of all other channels going to 0, you can now define the low level of Rem Dim in the desk setup menu (under the manual control tab). The default level is 0. If the level is defined as 20%:

- **[1] [@] [Full] [Rem Dim] [Enter]** Channel 1 will go to FL and all other active channels (with values above your defined rem dim level) will go to 20% (if you have channels with values less than 20% they will stay at their current level)

2) You can specify your rem dim low level from the command line:

- **[1] [@] [Full] [Rem Dim] [50] [Enter]** Channel 1 will go to FL and all other active channels (with values above your specified rem dim level) will go to 50% (if you have channels with values less than 50% they will stay at their current level)

**Fan**

Fan provides the ability to spread parameter (and timing) values in a range across a channel selection set and have those values be evenly spaced.

*Example:*

**[1] [Thru] [10] [@] [10] [Thru] [Full] [Enter]** sets channel 1 to 10, 2 to 20, 3 to 30... 10 to Full

There is also a key labeled [Fan] which give you more options to the order in which your channel selection is affected. When you select channels and then hit [Fan], you can also grab intensities on the wheel (or parameters on the encoders) and your softkeys will repaint to:

- **{Center}**: Start from the middle of the channel selection and the level wheel will decrease the lower number channels and increase the higher number channels (This function only works with the level wheel)
- **{Reverse}**: selects channels in the reverse order
- **{Mirror}**: The middle channel in the selected order is used as the starting channel and the first and last channels in the order are the end channels.
- **{Random}**: Selects channels in a random order
- **{Repeat}**: This acts similar to offset. **{Repeat} [3]** grabs Channels in groups of every third channel: 1,4,7; 2,5,8... And treats each group as a single selection
- **{Cluster}**: This grabs channels in groups of contiguous channels. **{Cluster} [3]** grabs 1,2,3; 4,5,6; 7,8,9... And treats each group as a single selection.
Viewing Channels

There are a few new ways to view channels on the screen using Format and Flexichannel.

Format

There are two formats to view channels:
• Compacted View (with just Tombstones)
• Table View (with expanded parameters)

FlexiChannel

FlexiChannel now has a few more viewing options (and is much easier to navigate, making it much more useful). To change the Flexi state simply hit [Flexi]; this will cycle through Flexi states. Or when you hold down [Flexi] your soft keys will repaint, and you can jump to that state:
• {All Channels}: The default state
• {Patch}: View only channels that are patched
• {Show}: View only channels that have data stored in cues or subs
• {Active}: View only channels that have values above zero or a move instruction
• {Selected}: View only channels that are selected or selected before the command line was cleared
• {View Channels}: View only channels that are defined by the you
• {Manual}: View only channels that have manual (red) data
• {Flexi Time}: View only channels with Discrete Timing data (Note: This is the only state not accessible via soft key, it is accessed by holding down [Flexi] & [Time] -near the [Data] key

The current Flexi state is shown in the upper right hand corner of the screen (if there is no text, you are viewing all channels).

***One thing that bears repeating, is that, like the Obsession, the [Thru] command only affects channels that are being displayed in the current flexi view.

Example:
If you are in Flexi-Active and only channels 4, 6, and 10 are being viewed, typing:
[4] [Thru] [10] [@] [Full] [Enter]
Will only take channels 4, 6, and 10 to full.
The only exception to this is if both the first channel and the last channel in the channel list are not in the current flexi view all of those channels will be selected:

Example:
[2] [thru] [11] [@] [Full] [Enter]
Will take channels 2 thru 11 to full.

The syntax [Thru] [Thru], however will always affect all channels in the selection:
[4] [Thru] [Thru] [10] [@] [Full] [Enter]
Will take channels 4 thru 10 to full.
Cueing

The Playback Status Display (PSD)

(Please note that the above screen shot will be referenced for all of the following examples.)

**Active Cue/Next Cue on Deck**

The Solid Gold bubble around a cue informs you that it is the completed cue currently onstage, in this case Cue 3.1. This is also displayed toward the bottom of the the Playback Status Display (PSD). Next to that is the next cue that will be executed. In this case, Cue 21, because there is a link to Cue 21 on Cue 3.1. The Gold outline and gathering element (the gray bar) on cue 5 let’s you know that this is the Cue that will be modified if you make any edits (such as a change to the Time).

**Timing:**

There have obviously been some major changes from the cue list from the Obsession to the EOS PSD in an effort to give you much more information at a quick glance. The biggest change is the timing columns; there are now 6 columns for time:
- Intensity Up
- Intensity Down
- Focus (for parameters like pan and tilt)
- Color (for scrollers, CMY, RGB, etc)
- Beam (for iris, zoom, shutters, gobos, etc)
- Duration (the total time of whole cue)
Focus, Color and Beam (FCB) times do not have separate “up” and “down” times as a change in the value of a parameter is a “lateral” move neither up nor down (panning a unit SL isn’t really up or down, just a change in value).

The times of the cue are surrounded by a “bubble”, if there is not a number in a bubble, there is no associated time for that category:
- Cue 1 has an time of 5 seconds (for both intensity up and down) but no values for FCB time which means there are no FCB parameters moving in this cue
- Cue 4 Part 1 has an Intensity Up time of 12 and an Intensity Down Time of 30
- Cue 22.01 has a Focus Time of 3, a Color Time of 7 and a Beam Time of 2, but there are no Intensities moving in this cue
- Cue 5 has no times at all (a dummy cue)

A delay (or Wait on the Obsession) is indicated by a number directly to the left of the Time Bubble:
- Cue 3 has an Up Time of 3 and a Down Time of 7 with a Delay of 2 seconds on the Downs
- Cue 21 has an Up Time of 6 and a Down Time of 6 with a Delay of 1 second on the Ups

If a number is grayed out and has no bubble, it means that there is a time associated with that category, but there is nothing actively moving in that category:
- Cue 29 has a time of 5 but nothing is moving (a dummy cue), but if a channel is assigned an intensity move it will do so in a time of 5.
- Cue 30 has channels moving Up, but not Down.

The Duration is the total time it will take the cue to complete.
- Cue 6 has a straight time of 4.9, so it will have a duration of 4.9.
- Cue 4 has various parts with split times, but the longest part of the cue is the downtime of part 1 of 30, so the every part of the cue won’t be finished until 30 seconds, therefore the duration is 30.
- Cue 21 has a time of 6 but has a delay of 1 on the Ups, so the cue will have a duration of 7.
- Cue 29 has a time of 5 but there is actually nothing moving in that cue, so the effective duration is 0

Discrete Timing

Channels may also have their own timing that is exclusive from the time of the cue or part. Any number of channels (Intensity and/or Non-Intensity Parameters) may have their own discrete timing in a cue. Channels with discrete timing essentially behave as though they are in their own Part.

Example:
If you have a Practical light switch, you can assign that channel a time of 0, but have the rest of the cue set to time 5. If you later make the cue a time 7, the Practical channel will retain it’s time of 0.

In the PSD, a “+” is displayed in the associated parameter category time field, indicating that not all of the parameters in the cue will use the cue timing; in Cue 3 some channel(s) have discrete timing on their intensities moving up.

To assign discrete timing the syntax is:
<Channel(s)> [Time] <X> [Enter] or
<Channel(s)> [Delay] <X> [Enter]
For Non-Intensity Parameters
<Channel(s)> {Zoom} [Time] <X> [Enter]

To remove discrete timing the syntax is:
<Channel(s)> [Time] [Enter] or
<Channel(s)> [Delay] [Enter]

You can also Fan discrete timing with time and delay:
[21] [Thru] [30] [Delay] [1] [Thru] [10] [Enter] will give channel 21 a delay of 1, channel 22 a delay of 2, 23 a delay of 3… 30 a delay of 10.
In the Channel Display a “t” is displayed in the lower right corner of the tombstone in blue. The [Time] key (near the [Data] key) can be held down to see the discrete delay/time information for channels in Live/Blind. Delay is displayed first, followed by the timing value.

Like other channel modifications, if a change to discrete time is made in Live the “t” is displayed in red and it must then be updated into the cue, if the change is made in Blind it will automatically be updated.

Flags:

The Flag columns have 5 Flags:
- M-Mark: “M” for a mark cue, “R” for a reference cue, “+” for both, and an “X” for a broken mark
- B-Block: “B” for a full block, “b” for a partial block, and “l” for an Intensity block
- A-Assert: “A” for a full assert, “a” for a partial assert
- P-Preheat: “P” for a preheated cue
- AF-All Fade: “*” for an all fade cue
- MV- Moves: “L” for a live move, “D” for a dark move, and a “+” for both

Intensity Block

An additional change to Block is that we now have the ability to create an Intensity Block, which Blocks all Intensity values, but not scrollers or ML parameters. This is great for Blackouts as well: Suppose you have your scrollers set to R80 in Cue 11 and they track through a whole scene and then have a blackout in Cue 20. If you have a Block on Cue 20 and then decide you want to change the color of the scrollers to L201 in Cue 1, when you get to Cue 20, the intensities will go to out and the scroller will move back to R80. But if you make Cue 20 an Intensity Block, the intensity value will be blocked to go out, but the scrollers will track at their new value of L201.

The syntax to make an Intensity Block is:
[Cue] <X> [Intensity] [Block] [Enter]

Cue Attributes

Under the Attributes column there are:
- Fw/Hg: Follow/Hang- Follow behaves the same as the Obsession, but now there is a new type of follow option called “Hang”. With Follow, the next cue is executed when the count of follow time is completed, which starts counting down from the moment the [GO] is pressed. With Hang, the next cue is executed when the count of Hang time is completed, which starts counting down from the moment the duration of the cue is completed. In cue 21 the duration is 7 (delay 1 + time 6) and has a Hang 1; cue 22.01 will execute after 8 seconds. If you make cue 21 a time 10, cue 22.01 with execute after 11 seconds. The syntax for adding a Hang time is:
<Cue X> [Follow] [Follow] <Y> [Enter]
- Link: Same as Obsession.
- Loop: Causes a series of cues to loop a specified number of times. [Cue] [30] {Link/Loop} <Cue> [29] {Link/Loop} [3] [Follow] [4] [Enter] records a link from cue 30 back to cue 29. Because there is a follow time, cue 29 will automatically trigger 4 seconds after cue 30. If cue 29 also has follow time, it will automatically trigger cue 30. This sequence will run 4 times (once plus 3 loops) and then stop in cue 30. The loop value specifies the number of times the loop instruction will be performed.
- Curve: This is what was called a Profile on the Obsession. Cue 6 has Curve 902 (slow bottom) attached to it.
- Rate: Same as Obsession. Cue 1 has a rate of 200(%), or twice as fast as the specified time. Notice that in the Duration column the math is automatically done for you, showing you that it will actually execute in a time of 2.5 seconds.

External Links

This is where you can execute various actions:
- Cue 5 will execute a [GO] on a separate cue list, in this case Cue 1 in Cue List 2
- Cue 22.01 will execute Macro 702
- Cue 30 will execute Effect 1