

Why Congo and Eos?

Congo and Eos are the two latest control systems available from ETC, so what makes them so similar, and so different?



Congo and Eos are the results of work by two totally different development teams. Congo is derived from the Avab product line and was developed by the team responsible for those products (hence the moniker "Avab by ETC"). Avab joined ETC a number of years ago.

Eos is a "from the ground up" product designed by a development team at ETC's head office in Wisconsin, USA.

While you will see many common features (both use a browser and tab format for displays, both have an effects engine, both have referenced data called palettes, both are designed for fully integrated control over conventional and moving lights) there are fundamental operational differences. You could use either Congo or Eos to program the same type of show. How you get there would be substantially different.



Back in the day when lighting control consoles were first computerised, they were based on the lighting control philosophies already in place. There are two basic ideas that all products are based on (every console on the market - regardless of its origin - embodies parts of these old analogue ideas). Eos and Congo represent each of those philosophies.

Resistance dimmers - which were essentially single-scene preset controllers - gave rise to the "tracking, move, last-takes-precedence" school of thought. If you looked at the cue sheets written for a resistance dimmer board (called a piano board in America), you would see that each cue contained only the values for dimmers that had to be changed from the previous cue. Therefore, they were considered tracking desks (move instructions tracked forward until the value needed to be changed). They were considered move machines (since only the move instructions were executed). And finally, they were considered last-takes-precedence (since there was only one handle for each dimmer, the last value that you gave the dimmer was the one it would use.) This philosophy was used for ETC's Obsession. Eos follows this basic philosophy as well.

Multi-scene presets, which provided remote control over dimmers, had multiple possible settings for each dimmer. If you looked at the cue sheets for a multi-scene preset desk, you would see that the necessary values to create a cue were written down for each and every cue. This was because of the way multi-scene preset desks were used. You would setup the values for cue 1 on the A set of faders and setup all of the values for cue 2 on the B set for faders. Fade up the master for cue 1 (A) and then crossfade the master for A out and B up. While cue 2 was active, you'd reset the A faders for cue 3. This operational style gave rise to what we call "Preset/State/Highest-Takes-Precedence" operation. Each cue was a stand alone look (preset), the entire cue was reset and replayed (State machine). If you had two masters up, the highest value for each dimmer was the value that would be used - HTP. This was the operational style of the Expression product line, and its the default behavior of Congo.

Other moving light desks use a combination of these ideas. Some are tracking/state/LTP. Some are preset/move/LTP (HTP is not used much anymore except sometimes for intensity since HTP for non-intensity parameters is pretty meaningless).

One more key difference between Congo and Eos is the way commands are constructed. Congo uses RPN (Reverse Polish Notation). Essentially the number is entered and then you tell the system what that number is. [1] [Channel] [5] [Level] sets channel 1 to 50%. RPN has the advantage of short, stream-of-consciousness operation.



Eos uses a different syntax and has a command line, which allows you to see what commands you are building. [1] [at] [5] [Enter] - sets channel 1 to 50%. In these examples, the command to set channel 1 to 50% is the exact same number of keystrokes. But there are instances in which a command line will require an additional button press.

RPN allows very flexible, very short instructions. Command lines allow very complex, very long commands that are visible before execution.

If you look at the spec sheets for the two desks, the "stats" look very much the same. Each desk does have some unique features. Congo's fader mapping and live mode independents; Eos' referenced marks and query functions - just to name a couple. Both desks have a very definitive point of view. They can do a lot of the same things, but they do them following their own operational style. People may have an empathy toward one or the other because of how they think about the task of lighting, or how the desk feels to them.