

# Coleman Audio

## CA500EQ 2-channel rackmount EQ

How often do we get the opportunity to revisit something we created early in our careers, with the aim of refining it for new audiences? With the release of the *CA500EQ*, Coleman Audio founder Glenn Coleman [Tape Op #88] reached back to his early days. Glenn's history in pro audio is well known. He worked for MCI in the 1970s when the company designed the JH-500 series console. Back then, everything was done in house, and Coleman has carried that build-by-hand mindset into his own company. He literally assembles each *CA500EQ* by hand in his upstate New York shop.

His aim with the *CA500EQ* was to achieve as close as possible the sound of the MCI JH-500 console EQ. His design is a clone, but with a few refinements. The low-frequency coil, for example, was a custom-made part back in the 1970s. When Coleman set out to replicate that circuitry, it took a few swings and misses, before he could find a company that could reverse engineer and manufacture it at a quantity that makes sense for a boutique pro audio product. He eventually found a company to produce those coils to his exact specs. As luck would have it, Grayhill, the company that built the original switches, is still in business, so Coleman uses Grayhill's PCB-mount switches, instead of the originals that mounted the resistors on the switch itself. This makes it easier to change resistors (or for redesign). Coleman went with metal-film capacitors instead of ceramic caps in the high-frequency circuit (and in a few other places) because, aesthetically, he preferred the sound. In the end, except for the aforementioned parts and a few capacitors, nearly all of the components in the *CA500EQ* are the same as in the original design.

And the sound? When the JH-500 console was envisioned in the 1970s, the designers were attempting to emulate Pultec EQs, using those EQ curves as a road map. The *CA500EQ* follows suit with frequencies selected at half-octaves for their musicality. You can use it as you would a console EQ after the mic preamp and before limiting, to equalize your analog signal before it hits the A/D converter. Of course, you could use it as an outboard EQ too, and in fact, my original plan was to test it in my mastering room. I wound up handing off the review unit to Scott Evans because, as much as I like to try new gear, those 2 dB steps were pretty impractical in most mastering situations. Also, it turns out Coleman will be debuting a mastering version of the *CA500EQ*, with 1 dB steps on the high and low bands, and 0.5 dB steps on both midrange bands.

—Jessica Thompson <[www.jessicathompsonaudio.com](http://www.jessicathompsonaudio.com)>

MCI consoles aren't spoken about in the same revered tones as many other classic consoles, but these US-built beasts were ubiquitous in the '70s, and tons of great records were made on them. Pink Floyd's *Animals* (probably my favorite album of all time — rumor is that Roger Waters commissioned the console with a custom set of EQ frequencies) and AC/DC's *Back in Black*, for instance. But I didn't know of any modern clones of MCI preamps or EQs — until now. As an MCI tech for years, Coleman is certainly well-qualified to build the *CA500EQ*. He's best known for utilitarian tools like speaker switchers, monitor controllers, and VU meters; the *CA500EQ* is his first signal-processing product.

The *CA500EQ* is a full-featured, 2RU-height, two-channel, four-band EQ — with chunky, dual-gang, stepped switches that cover a dozen frequency points each on the two midrange bands, and four points apiece on the high and low bands. The high band is switchable between shelving and peak modes, while the low is shelving only. The two midrange bands cover a

lot of ground, from 150 Hz to 8.5 kHz, and their frequencies are offset from one another. For instance, Mid 1 covers 200, 300, and 400 Hz, while Mid 2 does 250, 350, and 500 Hz. In addition, there's a variable high-pass filter that goes from 30 Hz, all the way up to 300 Hz. Construction is quite good. Inside, there are two simple, cleanly laid-out PCBs; a bunch of resistors per band; a couple of op-amps; and a custom coil for the low band. The front panel has that "designed by a tech" look. For example, there are buttons and LED indicators labeled "SHELF PEAK" that don't make clear which in/out state is which — that kind of thing. With that said, the same button/indicator scheme was used on the original MCI consoles. After squinting at a lot of 500-series gear (as in the module spec introduced by API, which is unrelated to the MCI JH-500 console design), I'm just happy to have something with big lettering on the faceplate.

Ergonomically, I found the *CA500EQ* pleasant to use. The big, solid switches feel great, and the knobs are big enough to easily tell at a glance what's set to what. Each channel has a bypass button, as well as input and output controls, so it's fast and easy to manage headroom and match levels against the bypassed signal. The input and output pots aren't stepped, so perfectly matching stereo levels is tough — use your ears or run tones. Each stepped control has 2 dB divisions — too much for mastering, as Jessica already explained, but fine by me for tracking and mixing. The gentle Q is too wide for surgery anyway, so if I'm turning knobs, I might as well go for it. One detail that takes some getting used to is the midrange boost/cut functionality. The midrange bands each have a single 0–14 dB gain control that can be switched between boosting and cutting. Not a bad idea when you get used to it — for cuts, it's fast to find an unpleasant frequency then cut it — but still an unusual approach. Also, the panel may feel backwards to some folks; from left to right, it's output level, high band, mid bands, low band, then input level. I know Jessica really didn't like this, but funny enough, it didn't bother me. [You guitarists with your right-to-left signal chains! —AH] Dakings and Neves, as well as channel strips turned sideways after being pulled from a console, are laid out similarly (at least in their EQ sections). Every piece of gear has quirks, and this is one of 'em.

I didn't have my review unit for as long as I would have liked, but I had some time to mix with it, and try it in a couple of tracking sessions. Sonically, I found it solid, and if it makes sense, light-handed. This isn't one of those EQs where you turn a knob and say, "Whoa!" But I thought to myself, "If I had one of these per channel, I'd be pretty happy." The high band sounded nice on overheads and vocals; the low band was beefy and sounded really good on kick drums; and I loved having a four-band EQ for drums or just about anything. Midrange cutting felt too broad for me; I strongly preferred using the mid bands for boosting.

The *CAE500EQ* ain't cheap. \$2,600 can get you a pair of 500-series EQs and a rack to put them in, or a number of very nice 19" units. Coleman's explanation is that his use of high-quality parts and his hours of careful assembly all add up to a price that compares favorably with that of EQs from other boutique manufacturers. If you love vintage MCI consoles, or you want an EQ that most studios won't be running, find a Coleman *CAE500EQ* to audition. Unlike most anything else you'll buy, this unit is handmade in the US by the designer himself, and I expect you'll get unparalleled customer support as well. (\$2,600 street; [www.colemanaudio.com](http://www.colemanaudio.com))

—Scott Evans <[antsleep.com](mailto:antsleep.com)>

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