

PRO AUDIO REVIEW

Gear & Software Reviews For The End-User

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Studio

BY BOB KATZ

I've been building or customizing my monitor controllers for many years, finding most commercial gear lacking in some way. A monitor controller is just a professional word for a preamp or line amp with a volume control. But professionals need features that cannot be found in a typical consumer preamp (like 1 dB calibrated steps, speaker or amp switching, balanced +4 dBu levels, talkback and level trims). Conversely, we shun tone and balance controls, reverb or other special effects, which abound in the consumer sector. Sonically, we demand absolute transparency in our monitor controllers. Let's see how the new Avocet from Crane Song (\$2,800) measures up.

FEATURES

The Avocet consists of two boxes, a heavy 2RU rackmountable mainframe connected to a lightweight but sturdy remote control by a generous cable about 25 feet long. The remote can rest on or beside your console or computer or even on your lap, which is where I put it when I'm sitting on the listening couch in my mas-

Fast Facts

- **Applications:**
Studio, post production
- **Key Features**
Level matching between sources, headphone and talkback circuit
- **Price:**
\$2,800
- **Contact:**
Crane Song at 715-398-3627, www.cranesong.com.

Crane Song Avocet Monitor Controller



tering room. The mainframe has a brushed aluminum front panel with just a power indicator and a 1/4-inch headphone jack. Unlike many monitor controllers that use awkward, hard-to-wire DB-25 connectors, Crane Song has opted for standard, three-pin XLRs, which amounts to considerable cost savings for you and an easy installation. On the back are stereo XLR analog and digital inputs plus an RCA digital input, another headphone output, and three outputs designed to feed power amplifiers or powered speakers. An auxiliary connector carries talkback, solo, mute, and other control signals, allowing integration with any standard console, or it can be used independently.

It can switch among three stereo digital sources and three analog sources, at sample

rates up to 192 kHz, in single or dual AES mode, though I did not test rates higher than 96 kHz. The "minimalist philosophy" analog signal path uses just three Class A discrete amplifiers per channel and level is controlled by a relay-operated switched attenuator (see sidebar). An upgrade path to surround is planned.

Additional features include switches for mute, dim, mono, phase (actually, polarity of one channel) and talkback to headphones, with a mic jack on the remote. Dim level during talkback is user-adjustable to allow two-way contact with the artist. Headphones can be fed a separate source from the speakers, such as a cue mix. The level meter, whose smallest step is 2 dB, serves as a rough indicator of signal level. For me a strange feature is a 16-bit trun-

caution button ostensibly to hear what 16 bits would sound like, but without dither I can hardly imagine a use for this button.

Most power amplifiers and powered monitors have far too much gain and lack input level controls. This means hiss and hum from your studio speakers — sound familiar? Crane Song takes the perfectionist approach of maintaining a high signal level within the box, and reducing noise by supplying an adjustable trimmer pad that plugs directly into the power amplifier, which is where you calibrate the monitor levels. I used the SMPTE RP200 standard that I've discussed in various articles. The result is that with no signal applied, at any position of the volume control, I could only hear noise with my head up against the loudspeaker drivers. You will need pads for each set of monitors in your control room (up to three stereo pairs). If working with an unbalanced input power amplifier, add an XLR to RCA adapter after the pad.

The virtual position of the volume control is indicated by 24 flush-mounted LEDs that surround the knob. Though the LEDs are 2 dB apart, a clever approach of lighting one or two LEDs at a time unambiguously provides 48 1 dB steps.

I have longed for an all-analog monitor controller with level matching between sources, and the Crane Song provides two facilities that make this a snap, perfect for a mastering studio where we must compare sources to mastered output, or match consumer and pro levels. The first is a multiturn screwdriver fine trim next to each analog input jack, with a range of 8 dB. This is a passive balanced attenuator, in keeping with Crane Song's insatiable desire to avoid unnecessary active stages. The next level-matching feature is an innovative level offset that allows the user to compare all sources at matched levels, within 1 dB in the earliest units to ship, and .5 dB starting with the next batch. The first tap of an input button selects the source, and a second tap engages the offset mode, allowing any amount of additional gain or loss to be instantly programmed, as indicated by LEDs on the volume control. The system remembers all offsets and user levels even if power is lost.

As for sound, an ideal monitor controller should be the proverbial straight wire with gain, letting us evaluate our mixes and masters with no interfering coloration. You'd think a passive unit would sound better than anything active, but impedance and other issues belie our assumptions. It is very difficult to incorpo-

rate a mono switch in a passive controller without compromising the sound or functionality. But it's still a challenge to make a good-sounding active controller. For my listening tests, I used my extremely-revealing Lipinski L-707 speakers, Pass Labs X-250 amp (both recently reviewed) and Genesis Servo subs. My interconnects are designed for AES/EBU, but what could be better for analog audio than a pair of cables with extremely low capacitance, designed to pass 3 MHz! For my listening tests, I compared the Avocet to two excellent alternatives, all gain-matched to within 0.05 dB. My Benchmark DAC-1 (which has an integral volume control) can be connected direct to the power amp, or through my Forssell monitor controller, which uses only one Class A discrete, servoed op amp. I also compared the Avocet's internal DAC to the Benchmark connected through the Avocet's analog input, and I listened to LPs and SACDs. The Avocet's DAC uses an upsampling, jitter-reduction technology similar to the Benchmark's, and I could not reliably hear a sonic difference between the two DACs with the Avocet connected to the power amp, though I think the Benchmark's low end sounds better going through the Forssell or Avocet as a buffer, probably a matter of driving capability.

IN USE

So, what does the Avocet sound like? For digital (PCM) sources, its DAC sounds indistinguishable from the Benchmark, one of the best DACs I've heard regardless of price, and which holds its own against DACs costing many times its price. For analog sources, the Avocet is equal to the source without adding noise or audible distortion. I'd love to ascribe to it wonderful attributes like robust, solid, deep, sweet, smooth, clear, extended, warm, and tight — and that is what good sources sound like going through the Avocet. But bad sources are revealed with all their weaknesses. I call the Avocet transparent, accurate, and without color, which is the nicest thing anyone can say about a monitor controller. Masters and mixes that I know very well sound exactly as I would expect them to sound. You can play it as loudly as you wish and the power amp will clip long before the controller. Initially I observed a slight dryness or edge to the sound, but this disappeared after a day's warm up. Stereo separation is audibly a hair less than the Forssell, but

inconsequentially so. Designer Dave Hill is such a perfectionist that he's going to look into this issue in the next board run. The headphone sound quality is equally as quiet and clean as the loudspeaker feed.

SUMMARY

This bird not only sings, but she can fly, too. Everything about the Crane Song has been designed with attention to detail, for sonic transparency, speed, ease of use and feel. It seems like a small thing, but the ergonomically-designed, colored selector buttons are fun to use; since they rest a fraction above the surface, you can easily slide your finger along the buttons and choose a source or function with the lightest tap. The essential phase and mono switches do not cause any clicks or artifacts and the DAC mutes and unmutes cleanly and quickly when switching sources or rates. The big green volume control, a stepped shaft controller, feels better than any other I've used. It has enough resistance to feel each step with your eyes closed, but with one finger you can roll it up or down as fast and smoothly as you want. You can hear the relays click as you turn the knob, but I find this to be assuring; however, you can always put the mainframe in your machine room for totally silent operation. The Avocet has greatly improved my monitoring flexibility and power; I've bought it and it has a permanent place in my room.

Founder of the Digital Domain mastering studio in Orlando, Bob Katz has been a recording and mastering engineer for over 30 years. He has recorded or mastered three Grammy-winners and several more nominees.



2004 PAR Reviewer's Pick Awards

Studio Monitor Control

•Crane Song Avocet

