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Field Test: API A2D Dual Microphone Preamp

Jan 1, 2007 12:00 PM, By Bobby G. Frasier

VINTAGE-INSPIRED DESIGN WITH CONVERSION

The A²D dual mic preamp from API is the company's first foray into the digital realm, melding tried-and-true analog technology with two channels of A/D conversion in a 1U package. The A²D offers a discrete, Class-A design and has identical circuitry found in API's current 3124+ 4-channel mic/line preamp, including the 2520 op amp, RE-115 K mic input transformer and 2503 output transformer.



Each channel has an XLR input with a 1,500-ohm input impedance and a ¼-inch 470k-ohm jack for DI use. Gain starts at +34 dB and tops out at +65 dB. A 20-segment LED meter shows precise level control from -30 dB to +27 dB for each channel. Calibration is set at standard reference level: 0 VU = +4 dBu. Polarity reverse is provided (on the mic input only), and 48-volt phantom power is switchable individually for both pre's. A -20dB input pad is also built in. The 2:1 transformer tap gives an additional 10 dB of attenuation at the back end, letting me drive the front end harder. It offers user-selectable rates of 44.1, 48, 88.2, 96, 176.4 and 192 kHz.

Digital output is simultaneously fed to a standard single-wire AES/EBU XLR and an S/PDIF RCA connector. A 9-pin D-sub master output will slave multiple A²D units; all units will then clock to the first master. Converter timing is provided by an internal super clock generator. A sync-in BNC connector allows external clocking via super clock.

To access converters separately, a ¼-inch line input connector offers a direct insert into the digital section. This input is normaled to the mic pre's output. However, by taking the XLR output of the mic pre and sending that signal to additional processors, you can then return the signal back to the A/D converters at this jack, making this an insert send and return.

MAKING THE STUDIO ROUNDS

In use, the A²D is quiet (EIN is -129; at +4 it's 91 dBm) and flexible. You can get several sounds out of one mic position simply by using the gain, pad and 2:1 transformer tap. With two Audio-Technica AT4051 cardioid condenser mics in an ORTF configuration on a Fender Deluxe amp, a rhythm guitar sounded natural and punchy, as if the listener was standing next to the amplifier. Very little was needed to get the track to cut through in the mix.

Next up was a pair of BLUE Bottles above a drum kit. Again, the sound was natural; the cymbal tone was clear and forward. The room sound around the kit was great, adding in the space that I couldn't get from close-miking. The transient response will take you by surprise if you haven't worked with a preamp of this caliber.

On kick drum, using a Beta 52, the percussive click on top really gave some nice snap to the already well-defined fundamental. This is where the 2:1 transformer tap worked well. This track responded well to additional EQ, blending perfectly with an additional kick track recorded using Yamaha's Subkick. On snare, using a Sennheiser MD504, both the pad and the 2:1 tap had to be used as it was just too hot. All the superlatives apply: punchy, natural, a faithfully reproduced tone and that stellar transient response.

Recording cajon with an AT4051 was a piece of cake. For this track, I placed the mic 18 inches out and 45 degrees from the drum's leading

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edge to roll off some of the low end so that it wouldn't muddy the track. The preamp's midrange and transient response did the job. When miking a piano using two Neumann U87s, the midrange was too pronounced, making it come forward in the mix. The upper "interactive" harmonics were reproduced almost too faithfully, but the pad seemed to attenuate those harmonics and the 2:1 transformer tap in this situation. The particular "character" of the A²D coupled with the U87s would not have been my first choice on this particular cut.

I'M BEING CONVERTED

To test the A²D's digital capabilities, I fed the analog outputs directly to a Digidesign 192 I/O line input and the digital outputs into the 192 I/O AES/EBU input, going to two separate tracks. In comparing the tracks, I found that the 192 produced more information in the high bass and low-midrange regions, although it was slight, while the A²D reproduced the upper-harmonics with a bit more clarity.

The A²D converters also handled a guitar's dynamic range quite well, from heavy-handed rhythm to delicate finger-style, and the results were quite accurate. Approaching 0 dBFS, these converters (by comparison) gave me the sense of standing next to the instrument. The guitar sounded clean and accurate, with no "splatter" coming from the 5- and 8kHz region as I've experienced with other converters. The bass was solid and defined, and was in no way boomy or muddy; I simply heard what was there in the first place.

NEW SENSATION

API has taken its time jumping into the already-crowded converter market; the company has done its homework and produced pristine digital components that stand alongside some of the best stand-alone units currently available. This is a highly recommended addition to any engineer's collection and a definite upgrade for every project studio. Price: \$1,995.

API, 301/776-7879, www.apiaudio.com.

Bobby Frasier is a digital audio product specialist, consultant and educator.

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