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ART Tube MP Studio and D/IO

 by [Barry Rudolph](#)
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Applied Research and Technology has two new desktop recording units that provide the necessary links from the analog world to your workstation or digital tape deck. Expanding on the original Tube MP, the Tube MP Studio is a single-channel mic preamp/direct box with VU meter and peak limiter. The DI/O is a stereo, 24-bit and up to 96kHz AD/DA converter with 128x oversampling. Both units are packaged in small, 1.5-lbs. desktop boxes measuring 5x5.5x2 inches (DxWxH) and use 12AX7A dual-triode vacuum tubes and are powered by 9VAC wall wart supplies.

TUBE MP STUDIO

The Tube MP Studio has a lighted VU meter for monitoring both the output level and the action of the output peak limiter (OPL) circuit. A bicolored LED glows green with low-level mic signals present and turns red when the tube's output is either about to clip or when the OPL limits the signal. The MP Studio has XLR and 1/4-inch I/O connections, a phase reverse switch and +48-volt phantom powering for condenser mics.

Using the Tube MP Studio with a Shure KSM44 mic provided good results. This gave a clear, clean sound without harshness in the top end. Plugging an electric guitar into the 1/4-inch jack turned the unit into an instant direct box. The direct sound compared with a FET-based direct box was clean, without coloration or compression. The Input Level Control sets gain from 6 to 40 dB or in High mode, 26 to 60 dB. The Equivalent Input Noise (EIN) is -129 dBu (A-weighted). By deliberately overdriving the input for a little tube distortion, you can still adjust the final output level with the Output Level control. Maximum output level is an impressive 28 dBu into 600 ohms.

The Output Peak Limiter uses a FET-based peak limiter to control output peak levels. With the OPL active, the output level is limited to 0 dBu at the 1/4-inch output jack and 6 dBu at the XLR output. The attack time is internally set to very fast, while the release time is set to slow. These presets worked well for most situations and contributed to the overall sound of this cool little box.

The Tube MP Studio is designed to sit next to your computer keyboard for easy access. But I found that in the High Gain mode, I had some increased noise and interference caused by my computer's monitor. After I moved the MP a little further away, all noise stopped. Using the OPL is simple: Just crank up the Input control and you'll see the red LED light up more and more. The limiter action is very affirmative: an absolute peak clamp! On one recording, I used it as an effect and loved it. The sound of this "brickwall" limiter is reason enough for me to own the MP.



THE D/O

The D/O has stereo analog inputs and outputs, 24-bit S/PDIF digital input and output connections, and switchable 44.1, 48, 88.2 and 96kHz sample rates. The unit will also sync to external digital systems automatically in External mode. Multichannel workstation users will use this mode, because you'll want to sync with the rest of your A/D converters. The D/A converter syncs to incoming audio up to 100kHz sample rates and will mute audio if something is wrong. However, this action does not affect A/D conversion.

D/O's simple front panel has an input gain for adjusting analog audio levels from 0 to 20 dB. The 12AX7 tube in the D/O's signal path can be adjusted with the Tube Warmth control to add "character" to the A/D conversion. The control ranges from a very clean and pristine sound to a more warm and fuzzy nature. At higher tube warmth settings, a yellow LED lights to show saturation of the tube; the same LED moves up to red when the A/D is three dB from clipping. Sample rate is selected with a "Function Tree" pushbutton: Just push it until the right combination of LEDs light up, indicating your desired sample rate.



Using both the D/O and Tube MP units together (they stack on one another), I can skip the analog front end of my cheap soundcard by going through the S/PDIF ports. The D/O's D/A converter was better than the one in my old DAT machine. On another session, I tried plugging the analog output of the D/A converter into the analog input of the A/D converter. As silly as this sounds, I was able to add a tubey sound to an already recorded Pro Tools file.

The D/O is a great portable stereo AD/DA converter that sounds different enough from your other converters to make it more than worth its \$249 MSRP. The ART Tube MP Studio is \$159; both units include one-year warranties.

ART at 215 Tremont St. Rochester, NY 14608. Phones: 716-436-2720 or FAX at: 716-436-3942.

Web to: www.artproaudio

Tube MP Studio

D/O

Max Input Level: XLR +14dBu
Max Input Level: 1/4-inch +22dBu
Max Output Level: XLR +28dBu
Max Output Level: 1/4-inch +22dBu
CMRR greater than 75 dB @1 kHz
Freq. Response: 10 Hz to 30 kHz, ± 0.5 dB
Dynamic Range is greater than 100 dB
Total Harmonic Distortion less than 0.1%
Max Gain is 60 dB
Equivalent Noise (EIN) -129 dB

AD/DA Converter: 24-bit 96kHz 128x oversampling
Sample Rate: 44.1, 48, 88.2, 96kHz switchable
External Sync Range: 22 kHz to 100 kHz
Digital Interface: S/PDIF
Freq. Response: 10 Hz to 30 kHz, ± 0.5 dB
Dynamic Range (D/A) 108 dB (A-weighted)

Barry Rudolph is an L.A.-based recording engineer. Visit his Web site at: WWW.BARRYRUDOLPH.COM



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