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Field Test: AEA TRP Ribbon Mic Preamp

PHANTOM PROTECTION AND 84 DB OF CLEAN GAIN

4/01/2007 8:00 AM Eastern



With the popularity of ribbon microphones in today's recording world, it's surprising that few manufacturers have stepped up to the plate with a ribbon-specific preamp. The Audio Engineering Associates (AEA) TRP from Wes Dooley and company is a deceptively simple yet powerful little box that will answer most, if not all, ribbon (and other) mic needs.

Some major concerns when using these highly prized thoroughbreds include having enough clean gain to get their signals onto your chosen recording medium, the need to provide a high-impedance load and the danger of damaging the mic by accidentally applying phantom power. The TRP takes care of all these issues in an elegant manner.

CAPITAL GAINS

Everything necessary for a full-featured, 2-channel ribbon pre is included in this half-width, single-rack-height box. For starters, it offers balanced XLR I/Os, an additional unbalanced 1/4-inch output, level-indicator LEDs, polarity-reverse switch and a 12dB/octave low-cut/highpass switch at 100 Hz.

The input gain switch allows for precise, stepped increments of 4.5 dB (+6 through +63), and the buffered output fader delivers another 15 dB of gain. A differential output op amp delivers an additional +6dB gain at the balanced XLR outs. Input impedance is a deliberately high 18k ohms, with maximum total gain of 83 or 84 dB at the XLR outs and 77.5 dB at the unbalanced 1/4-inch jack. The unbalanced output is +22 dBu (into an unbalanced load), while +28 dBu can be achieved into a balanced load.

Three overload LEDs help you properly set gain: A green LED lights up at -5, while the yellow one glows from 0 to +20. If you're really pushing things, the red LED is your final warning, popping on at +20.

WATT, ME WORRY?

Concerns over phantom power damaging precious ribbon microphones are now a thing of the past. If phantom power is applied on the DC-coupled input side, then internal circuitry shorts out. On the output side, capacitors protect the balanced outputs from being accidentally back-fed destructive voltages from the next piece of gear.

The Fred Forssell-designed circuit is pristine and quiet. The only noise I was able to detect or generate was on the input side while over-cranking various ribbon and condenser mics. It will, however, reveal bad cables and any stray AC hum, so you'll want to keep your cable connections from mic to preamp as short as possible. The preamp also functions especially well for a wide range of condenser (powered separately, of course) and moving-coil (dynamic) microphones. With its high input impedance, there's virtually no loading on the microphone's output, either.

Popping the top of the prototype sent for review (PN #4), it was easy to see the care and attention to detail in the TRP. The 2-channel JFET preamp design is all surface-mounted technology, with precision resistors coupled to the Grayhill-stepped, input-trim switches for repeatable, accurate settings.

RIBBON-WORTHY PERFORMANCE

For this test, I used an AEA R84 along with several other manufacturers' ribbons, including a Royer SF-12. On male voice-over work for a local radio broadcast, I easily re-created the full-bodied sounds of an almost-lost era when ribbons were more commonly used. With Irish balladeer Danny O'Flaherty singing into the R84 and TRP, the vocals came across as lush and smooth, with plenty of level no matter how soft and warm — or boombingly loud — he sang. I can't recall ever hearing such a wide dynamic range of vocals and acoustic instruments (including bodhran and pennywhistle, among others) captured this evenly, with no processing whatsoever.

<http://www.mixonline.com/news/outboard-gear/field-test-aea-trp-ribbon-mic-preamp/369696>

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Several shoot-outs and tests against other preamps went about as expected: None had the flexibility for reliable, stable settings, nor had the kind of overall gain structure or repeatable results found in the TRP. The TRP held its own against a variety of other fine preamps, including an API Legacy's stock console pre's, the Grace Design m802's ribbon-selected +10dB boost inputs and a Mackie Onyx 1220 input set at maximum gain. After I made sure their phantom power was safely turned off, they all worked just fine with the same ribbons used, but none did the job or inspired confidence quite like the TRP.

RIBBON IN MY SKY

In my tests, the TRP provided a smooth, effortless quality of sound and all the gain anyone would ever need, without phantom power worries. With such a smart blend of technology, it's difficult to tell where the beauty of the ribbon microphone experience ended and the preamp began, but the unit's lack of coloration and built-in features more than kept up with — and perhaps exceeded — the quality of the microphones I used.

The TRP is a must-have for any ribbon mic you already own, let alone the expensive ones still on your wish list, especially at its reasonable \$868.50 price. Add to that the surprisingly great sound it delivered on many of my other condenser and dynamic mics, and it prompts me to say I wouldn't purchase or use an expensive ribbon microphone without having a TRP directly in-circuit with it.

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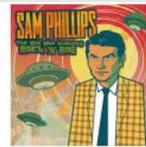
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