

BY RUSS LONG

Millennia Media TD-1 Recording Channel

If there ever was a Swiss Army recording tool, it would have to be the TD-1. This box practically does it all. It's a vast culmination of devices that is both compact and portable. The box provides several signal path topologies including vacuum tube, discrete transistors, monolithics, three different audio transformers, Speaker Soak, REAMPs, etc. TD-1 employs Millennia's HV-3 microphone preamplifier, which provides a high quality front end to virtually any audio recording application. Its Twin Topology DI input stages can be switched to employ high voltage vacuum tube (12AT7) or 100 per cent discrete transistor (JFET) amplifiers. The user also has the option of selecting low, medium, or high input impedance on both input topologies, giving the box a multitude of sonic options. The TD-1 also provides two hands of Millennia's NSEQ-2 fully parametric equalization.



FEATURES

The TD-1's main signal path employs 100% discrete circuitry from input to output for critical sonic transparency and a wide dynamic range. The box provides polarity reversal (on all inputs), relay controlled -20 dB auto-balanced pad (on all inputs), three ground lift switches plus isolations (power/input/output), logic-controlled switch mutes, and worldwide internal toroidal power supply (user selectable 100V - 240V). The rock solid box features gold connectors, gold tube sockets, 100,000,000-cycle gold relays, silver/Teflon power wiring, and Neglex oxygen-free audio wiring. The 8.5 inches wide x 13 inches deep x 3.5 inches high TD-1 is packaged in

a rugged steel chassis and weighs approximately 15 pounds. When equipped with the leather carrying handle and optional padded, glove-fitted Cordura gig bag (\$100), the box becomes the perfect portable recording channel which can easily be transported from studio to studio. Optionally, two TD-1 units can be attached to create a 19-inch 2RU rackmount device.

The TD-1 has four audio inputs: line input (front panel XLR connector), DI instrument input (front panel 1/4-inch jack), and Power Amplifier/Speaker Soak Input (same jack as DI Instrument Input), and the HV-3 Mic Preamp Input (rear panel XLR connector). The selected input is followed by the NSEQ parametric equalizer. The box provides numerous routing, output, and grounding options including the rear panel's nine simultaneous audio outputs and distribution points: REAMP Stratocaster (filtered) Guitar Simulation output (1/4-inch jack), REAMP Les Paul (linear) Guitar Simulation output (1/4-inch jack), balanced line level output (male XLR), unbalanced line level output (male XLR), balanced mic level output (transformer-coupled male XLR), balanced line level output (1/4-inch jack), unbalanced line level output (1/4-inch jack), headphone output (1/4-inch jack with gain control), and a direct "pass-through" output (1/4-inch jack).

The TD-1's Twin Topology is Millennia's

innovative integration of solid state and vacuum tube circuit topologies. The box offers the option of either a high voltage 100 per cent vacuum tube instrument amplifier or a transparent 100 per cent discrete FET solid state instrument amplifier and comparison between the two circuits is available at the push of a button (awesome!). Additionally, both topologies can be switch selected and musically tuned via three selectable input impedances (470 Kohm/2 Mohm/10 Mohm). Up to 65 dB of adjustable microphone and instrument gain is available via the front panel control.

The input "TT" Twin Topology switch selects the amplifier topology used to buffer the DI Instrument Input. When switch is depressed and illuminated, the Instrument Input is routed to an all-discrete, solid state JFET (field-effect transistor) DI buffer amplifier providing accurate audio performance. When the switch is not depressed and not illuminated, the Instrument Input is routed to a high voltage twin triode vacuum tube (12AT7) DI buffer amplifier which provides a softer, rounder tonal coloration. The Twin Topology input amplifiers are unfortunately available only on the DI input, not on the mic or line inputs.

A simultaneous pair of REAMP outputs allows the TD-1 to emulate both Les Paul and Strat pickups (Les Paul himself plays through a Millennia Origin). The REAMP

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Fast Facts

Applications:

Studio, post production

Key Features:

Single-channel; HV-3 mic preamp; tube and solid state signal paths; two-band NSEQ EQ; Speaker Soak; Reamp mode

Price:

\$1,675

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circuit causes the guitar amplifier to think it's connected to a high impedance passive guitar pickup, instead of a low impedance tape machine or DAW output which provide an output impedance roughly 100 times lower than what is found on passive electric guitar pickups. Driving a guitar amplifier from such active sources will often result in a signal that sounds too clean. The TD-1's REAMP guitar simulation magnetics provide both level and impedance matching characteristics which mimic traditional electric guitar pickups. Millennia's uncompromised DIT-01 mic-level DI output transformer (frequency response -3 dB @ 3 Hz and 300 kHz) is also included.

The TD-1 also includes Millennia's innovative Speaker Soak technology which makes it possible to record directly from a guitar amplifier's speaker output. An audiophile-grade headphone output with separate level control is also provided for pre-auditioning.

The box has a two-band NSEQ-style parametric equalizer that provides an unlimited range of adjustable tonality. Each band has an In switch that activates the associated EQ band. A master EQ on/off switch activates the entire EQ circuit. Frequency bands are labeled LF and HF and are controlled by the frequency control potentiometers. The low band (LF) sweeps 20 Hz to 250 Hz or 200 Hz to 2.5 kHz, depending on the status of Frequency Range Switch and the high band (HF) sweeps 250 Hz to 2.5 kHz or 2.5 kHz to 25 kHz, depending on the status of Frequency Range Switch. This control is optionally available with 21-step detents for accurate repeatability and logging. Each band's boost/cut

potentiometer offers up to 15 dB of boost or cut. The frequency curve shape is a peak/dip type. The boost/cut pot has 21 detent positions for accurate repeatability and session logging (the detents can be removed by the factory at the customer's request). The Q control adjusts the Q from 0.4 to 4.0. "Q" is defined as the ratio of the center frequency to the bandwidth. This control is optionally available with 21-step detents for accurate repeatability and session logging.

IN USE

First of all, as a DI box the TD-1 is untouched by anything that I've ever encountered. The TD-1 is a bass player's dream piece offering precise sonic options for virtually any situation. I had fantastic results recording bass guitars with both active and passive pickups along with stomp box compressors (usually the Aphex 1404 Punch Factory) before the TD-1 or high-end studio compressors (my favorites were the Tube Tech CL-1B, the Empirical Labs Distressor, and the compressor section of the Pendulum Quartet II). I also had great results using the TD-1 instrument input to record keyboards. In every situation that I used the box, I compared the various options (impedance, tube or solid state, etc.) and found that I was almost always using something different. This was refreshing since typically when a box has options there is only one good choice and the others go unused forever. Not true with the TD-1.

I had good results using the microphone input to record electric guitar with the TD-1 (my best results were with the Royer R-122) and I found the Reamp feature to be priceless. It's great having both Strat and Les Paul options and being able to run them simultaneously is killer. The speaker soaker worked fairly well though there is still no replacement for the real thing. If you can't have the real thing this works better than most of the DAW plug-in options that I've seen.

In most situations I found that the TD-1's two bands of EQ were more than powerful enough for the high-resolution sonic sculpting of acoustic and electric guitar, bass, keyboard, and percussion. When I used the box on kick drum and occasionally on snare drum and vocals I found that I intermittently had to patch into the GML 8200 for additional EQ power.

Overall I found the HV-3 preamp to be extremely accurate. I'm used to getting a fair amount of color out of my mic preamps but this isn't possible with the HV-3. It's no surprise that the HV-3 mic preamp is one of the industry standards when it comes to classical recording.

Ultimately, I found the TD-1 to be one of those devices that will be hard to live without. It is amazingly quiet, solid as a rock and it has as much versatility as a Swiss Army knife. It should be a welcome addition to virtually any recording setup.

SUMMARY

When combined with a fine compressor, the TD-1 delivers practically everything you'd ever need in a recording channel. It provides mobility without compromise, two features that are rarely packed into the same piece of equipment, and all at a reasonable price.

Russ Long, a Nashville-based producer/engineer, owns The Carport recording studio. He is a regular contributor to Pro Audio Review.