Warranty
All Earthworks ZDT Preamplifiers carry a two-year limited warranty (parts and labor).

Product Registration
To help you get the most out of your Earthworks purchase, please take a moment and register your product with us online at earthworksaudio.com/register.

Service & Repair
If you have any problems with your Earthworks products, please contact our Service & Repair Department.
Email: returns@earthworksaudio.com
Telephone: (603) 654-2433, ext. 119
Earthworks Zero Distortion Technology™ (ZDT) precision microphone preamplifier is a discrete-component Class A bipolar input circuitry device. The primary signal path from the balanced XLR input to a balanced and symmetrical XLR output is completely differential (the signal is never converted to single-ended). The are no transformers or electrolytic capacitors in the signal path. All connectors and switches are gold-plated.

The ZDT preamplifiers have extremely flat wideband frequency response from 1Hz to 200kHz, slew rate of 22V/μs, and the lowest self-noise available from any preamplifier on the market. The nonlinear distortion is kept well below one part per million (.0001%) even at the highest signal levels (below clipping). Each channel has separate phantom power switch, polarity reversal, and mute switch that turns off the output while keeping the microphone powered and the gain unchanged. A separate 1/4” t-r-s output has additional vernier gain reduction of up to 20dB after the stepped gain.

The ZDT preamplifiers are available in single (Model 1021), two-channel (Model 1022), or four-channel (Model 1024) versions. The multi-channel preamplifiers have separate signal boards divided by electromagnetic shields to minimize crosstalk.

### Specifications

Frequency Response: 2Hz to 100kHz ±0.1dB, 1Hz to 200kHz ±0.5dB
Settling Time: 1.4μs
Distortion: XLR out: less than 1ppm (0.0001%); 1/4” out: 0.001%
Input Noise SD Enoise: 1.6 nV @ 20dB gain; 0.6 nV @ 60dB gain
EIN: -132dBV @ 20dB gain; -143dBV @ 60dB gain
Slew Rate: 22V/μs
Output DC Offset: ±1mV typical, servo balanced
Power Requirements: 120V AC (100V and 220-240V versions available)
Inputs: XLR3-F balanced transformerless
Input Impedance: 10kohm phantom ON, 100kohm phantom OFF
Outputs: XLR3-M balanced transformerless (stepped)
1/4” t-r-s jack balanced transformerless (variable)*
Output Impedance: 5 ohm nominal
Max. Output Level: +33dBu (37V peak-to-peak)
Dimensions H x W x D: 1 rack space 1.75” x 19” x 10.375” (1021 is 1/2 rack)
Weight: 1024, 1022: 6lb (ship: 10lb); 2.7kg (ship: 4.5kg)
1021: 4lb (ship: 7lb); 1.8kg (ship: 3kg)

Specifications subject to change without notice.

*note: on some units the 1/4” t-r-s outputs may be incorrectly labeled as “unbalanced”

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Important: the XLR stepped output is fully differential, that is, it has equal and opposite signal present on pins 2 and 3. No extra gain stage is used, and the preamp relies upon the signals on pins 2 and 3 to be equal and opposite for distortion correction. Never short pin 2 or pin 3 of the male XLR output connector to ground (pin 1)!