

Rear Panel Connector Pin-out Information

521

500 SERIES ZDT PREAMP

User's Guide



"Like Wire with Gain"

Earthworks, Inc.

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Description

Based on the ZDT Preamp technology designed by David Blackmer, the Earthworks 521 brings the exacting standards of the Zero Distortion Technology preamplifiers to the convenient 500 series format, providing a pristine amplification option to the 500 series rack.

The solid state 521 features switchable phantom power, polarity invert, and peak amplitude clip detection, just as in the original ZDT Preamplifier Series. The transformerless output stage of the 521 will easily drive long cable runs without loss of quality. Transparent gain is switchable from 5dB to 60dB in 5dB steps.

The Earthworks microphone preamplifier topology provides outstanding common mode rejection, excellent overload margin and an incredibly low noise floor, combined with the ultra-wide bandwidth of the ZDT Preamps (1Hz to 200kHz ± 0.5 dB) and distortion of less than 1 part per million (0.0001%). This exceptional level of performance is maintained over an extensive range of impedances applied to the input, making the 521 suitable for practically any microphone – ribbon, dynamic or condenser.

Key Features

- Clean, pristine, uncolored sound
- Solid-state, transformerless
- Switchable 48V phantom power
- Polarity invert switch
- Peak amplitude clip detection
- Transparent gain switchable from 5dB to 60dB in 5dB steps
- Ultra-low noise floor
- Ultra-wide bandwidth
- Front panel t-r-s connector with adjustable output level
- Suitable for most ribbon, dynamic or condenser microphones
- Requires a 500 series rack

Specifications

Preamp Type: Solid State

Number of Channels: 1

Frequency Response: 2Hz to 100kHz ± 0.1 dB, 1Hz to 200kHz ± 0.5 dB

Impulse Response: 1.4 μ s

Distortion: main output: less than 1ppm (0.0001%); 1/4" out: 0.001%

Input Noise: 1.6nVHz $^{1/2}$ at 20dB gain; 0.6nV/Hz $^{1/2}$ at 60dB gain

EIN: -132dBV at 20dB gain; -143dBV at 60dB gain

Slew Rate: 22V/ μ s

Output DC Offset: ± 1 mV typical, servo balanced

Input / Output Connector: 500 Series EDAC Edge connector

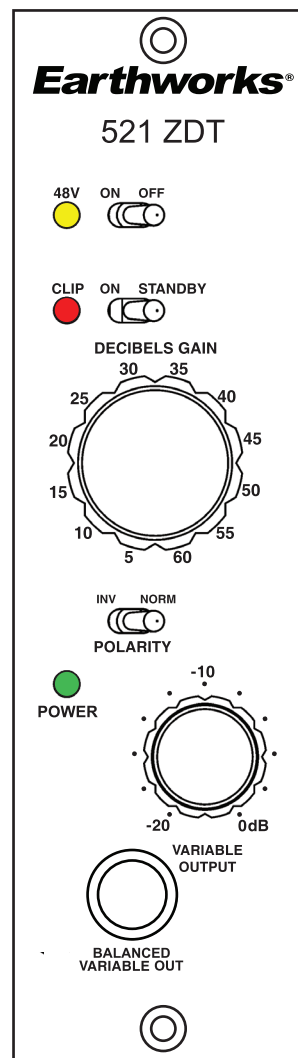
Input Impedance: 10K Ω phantom on, 100K Ω phantom off

Front Panel Balanced Out: 1/4" t-r-s Fem. balanced transformerless (variable)

Dimensions: 1 500 series rack space 1.5" x 5.25" x 6"

Weight: 0.8 lb. (0.36kg)

*Specifications subject to change without notice



521 Front Panel Diagram

Phantom Power Switch - Phantom Power On/Off Switch supplies full-spec 48V Phantom Power to the input. Yellow LED will indicate when Phantom Power is engaged.

Clip Indicator - peak amplitude clip detection. The red LED beside the standby switch will indicate at 10% prior to reaching the max output level of 19dBV (21dBu).

Standby Switch - mutes the output signal when desired

Decibels Gain Rotary Switch - This twelve-position switch selects preamplifier gain in 5dB stepped positions from +5dB to +60dB.

Polarity Invert Switch - to select normal or inverted phase of the audio signal.

Power - The green LED, beside the variable output control will indicate when power is being supplied to the 521.

Variable Output - This continuously variable attenuator adjusts the output level from 0dB to -20dB with respect to the setting of the stepped decibels gain control knob.

Variable Balanced Output t-r-s Connector - with tip signal +, ring signal - and sleeve is ground. Will feed either balanced or unbalanced lines. Level of the t-r-s output is controlled by the variable output control.

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