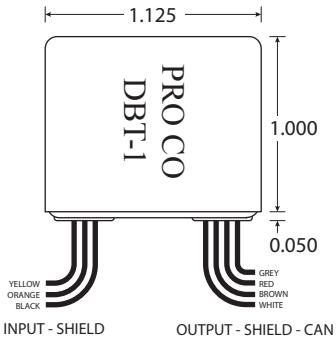
On Stage with the Best

DBT-1

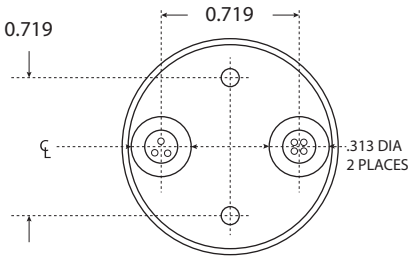
IMPEDANCE MATCHING TRANSFORMER

DESCRIPTION:

The DBT-1 is a carefully designed, custom-built impedance-matching transformer whose characteristics are optimized for use with high-impedance sources such as electric bass guitars and other unbalanced sources such as keyboard instruments. Special winding techniques and a high-permeability (80% nickel) core lamination preserve full frequency response while minimizing signal losses and other "loading" effects. Mu metal can and separate electrostatic shields for primary (input) and secondary (output) windings reduce capacitive coupling of ground-borne electrical noise between stage amps and PA or recording mixers, eliminating EM/RF and ground noise. The source impedance of the DBT-1 is very similar to that of a low-impedance microphone to ensure proper matching to the input circuitry of the mixer. The result is clean transient response (minimal overshoot or ringing) and low distortion even at low frequencies and high input levels.



28 AWG, STRANDED, TINNED COPPER
COLOR-CODED LEADS
9" MINIMUM LENGTH



PHYSICAL CHARACTERISTICS

PACKAGE: MU metal can
TERMINATION: 9" (228mm) 28 AWG tinned copper, color-coded leads
DIMENSIONS: 1.125" L x 1.125" W x 1.050" H
(28.575 L x 28.575 W x 26.670 H)
MOUNTING: 2 holes, 0.09375" (2.38mm) dia, 0.7185" (18.25mm) centers

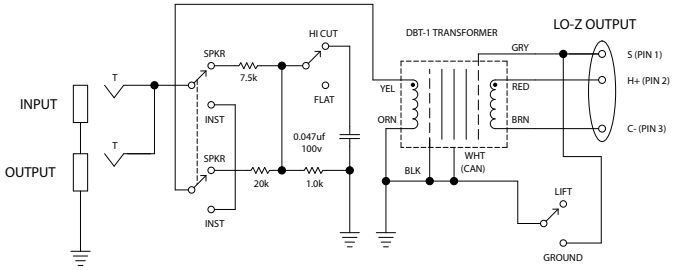
Note: Pro Co recommends using only #4 Type B self-tapping screws to mount transformer through mounting holes. Allow no more than 0.15" penetration into the transformer housing.

TYPICAL PERFORMANCE:

All measurements made with 20 kohm source and 1.0 kohm load to simulate typical "real world" instrument pickup and mic preamps. 0 dBv ref. = .775 volt.

VOLTAGE LOSS: < 22.0 dB @ 1.0 kHz.
INPUT IMPEDANCE: > 130 kohm @ 1.0 kHz.
> 105 kohm @ 10 kHz.
Nominal source impedance is 20 kohm.
SECONDARY SOURCE IMPEDANCE: < 210 ohm @ 1.0 kHz.
< 215 ohm @ 10 kHz.
Nominal output impedance is 1.0 kohm.
TOTAL HARMONIC DISTORTION: < .03% 20 Hz-20 kHz @ -30 dBv output.
< .1% 30 Hz-20 kHz @ -15 dBv output.
< .25% 20 Hz-20 kHz @ -15 dBv output.
MAX INPUT LEVEL FOR 1% THD: +16 dBv @ 20 Hz.
+21 dBv @ 30 Hz.
+26 dBv @ 50 Hz.
FREQUENCY RESPONSE: 20 Hz-20 kHz, +/- 0.5 dB @ -15 dBv output.
-3 dB @ approximately 85 kHz.
PHASE RESPONSE: < -18 degrees @ 20 kHz (ref. 1.0 kHz).
RISE TIME: < 4.5 µ Sec. (2.0 kHz square wave, 10%-90%).
OVERSHOOT: < 1%
COMMON-MODE VOLTAGE (MAXIMUM): > 1500V RMS
COMMON MODE REJECTION RATIO: > 80 dB @ 1.0 kHz

TYPICAL APPLICATION



PRO CO MODEL DB1 DIRECT BOX

GENERAL CHARACTERISTICS

TURNS RATIO: 11.55:1
IMPEDANCE RATIO: 20 kohm:150 ohm.
PRIMARY SOURCE IMPEDANCE: 20.0 kohm (typical instrument pickup)
SECONDARY LOAD IMPEDANCE: 1.0 kohm (typical microphone preamp)
FARADAY SHIELD: 2 shields with separate leads
CORE MATERIAL: 80% nickel alloy
MAXIMUM INPUT LEVEL AT 20 HZ: +16 dBv (ref. = 0.775 v)

Pro Co Sound
225 Parsons Street | Kalamazoo, MI 49007
800-253-7360

» www.procosound.com