



## FEATURES:

- » Two Discrete Channels of Audio in One Enclosure
- » Floating Transformer-Balanced XLR Outputs for Maximum Isolation
- » GND/LIFT Switch Eliminates Hum and Buzz
- » Separate 20 dB PAD for each channel
- » Rugged “Uni-box” Construction for Superior Protection and Shielding
- » Flush-mounted Switches and Connectors Resist Damage
- » Passive Design Requires No Batteries or Phantom Power.

## DESCRIPTION:

The Pro Co TradeTools DB2 is a passive, two-channel (stereo) direct box that offers clean and reliable performance both on stage and in the studio environment. Like the Pro Co DB1 Direct Box, it can be used for nearly any instrument or signal source, from electric bass, keyboards and drum machines and submixers.

The DB2 preserves the “punch” and clarity of the sound that is often lost when mic’ing a speaker, while eliminating the leakage, distortion and coloration. The signal delivered to the P.A. or studio mixer is crisp and clean - a vital element in retaining the full depth and brilliant sound of digital equipment.

The DB2 incorporates the same reliable design that has made the DB1 an industry icon with the added convenience of being two direct boxes in one case. The DB2 Boasts a low noise floor, high headroom, and a generous frequency response. Using Pro Co’s DBT-P impedance matching

transformers with dual electrostatic shields, the input signals are balanced and decoupled from the output. Other features include a ground lift switch to alleviate ground loops and separate 20dB pad switches for each input, to alleviate signal overload. As an added feature, the DB2 acts as a transformer isolated signal splitter when used with only one input, presenting the same signal to both outputs.

Built for the road, but equally at home in the recording studio, the DB2’s rugged 16-gauge steel and aluminum “Uni-box” enclosure is finished in a durable black texture powder coat finish with black anodized aluminum side channels. Easy to read control graphics are incorporated into the Lexan® top panel overlay.

# ENGINEERING SPECIFICATIONS:

The signal splitting/impedance matching unit shall be suitable for interfacing two(2) high or low impedance sources to two(2) discrete balanced floating low impedance microphone preamplifier inputs. There shall be four(4) 1/4" (6.3mm), T/S phone jacks wired in parallel, in pairs to provide input and loop through output for each source. There shall be a switchable 20dB attenuator for each source to accommodate high or low level signals. There shall be two(2) transformer isolated, low impedance, balanced outputs from two(2) male XLR type connectors. The transformers shall be the Pro Co DBT-P Direct Box Transformer. The primary electrostatic shields shall be connected to the input grounds and the enclosure. The secondary electrostatic shields shall be connected to pin 1 of the low impedance XLR outputs. There shall be a ground lift switch to allow the shields to be connected together or isolated as required. The XLR output connector shall be wired with pin 2 "hot or "in phase" and pin 3 "cold or "anti-phase" with respect to the input.

The enclosure shall be the Pro Co "Uni-box" design with 16-gauge steel black zinc finish top and bottom plates, 16-gauge black texture powder coated steel end plates and black anodized aluminum side channels. Control functions shall be identified by a printed Lexan® top panel overlay. Switches shall be of the miniature "rocker" type and shall be flush-mounted. The enclosure shall be provided

with two (2) miniature handles at each end (front and back) and four (4) non-conductive feet. The dimensions of the unit shall be 4.875" D x 4.375" W x 1.75" H (123.8mm D x 111.1mm W x 44.4mm H).

The signal splitting/impedance matching unit shall be a Pro Co TradeTools DB2 Stereo Direct Box.

The DBT-P 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. Mu metal can and special winding techniques and a high-permeability (80% nickel) core lamination preserve full frequency response while minimizing signal losses and other "loading" effects. 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 annoying 60 Hz hum and buzz. The source impedance of the DBT-P 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.

# TYPICAL PERFORMANCE:

NOTES: All measurements made with a 20 kohm source feeding IN/OUT and 1.0 kohm load on LO-Z. Performance values for one of two channels.

OUTPUT to simulate typical "real world" instrument pick-up and mic preamp. 0 dBv ref. = .775 volt.

**FREQUENCY RESPONSE:** 20 Hz-20 kHz, +/- .5 dB @ -15 dBv output.  
-3 dB @ approximately 85 kHz.

**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.

**PHASE RESPONSE:** < -18 degrees @ 20 kHz (ref. 1.0 kHz).

**RISE TIME:** < 4.5 microseconds (2.0 kHz square wave, 10%-90%).

**VOLTAGE STEPDOWN:** < 22 dB @ 1.0 kHz.

**INPUT IMPEDANCE:** > 130 kohm @ 1.0 kHz.  
> 105 kohm @ 10 kHz (INST mode).  
Nominal source impedance is 20 kohm.  
Nominal source impedance is 0 ohm.

**OUTPUT IMPEDANCE:** < 200 ohm @ 1.0 kHz.  
< 215 ohm @ 10 kHz.  
Nominal load impedance is 1.0 kohm.

**MAXIMUM INPUT LEVEL @ 50 HZ FOR 1% THD:**  
+16 dBv @ 20 Hz.  
+21 dBv @ 30 Hz.  
+26 dBv @ 50 Hz.

# CONTROLS:

**INPUT1/2:** 1/4" (6.3mm) phone jack accepts signals from instrument or other source. Input impedance-greater than 100 kohm; SPKR-approx. 8 kohm. Handles signals of up to 69V RMS (approx. 600 watts across an 8 ohm load).

**THRU1/2:** 1/4" (6.3mm) phone jack provides "loop-through" parallel connection from input jack. Used when inserting DB1 between instrument and amplifier.

**20 dB PAD:** ON (up) position inserts a 20 dB PAD between INPUT and DBT-1 transformer for increased level handling capability. Used for line-level sources. OFF (down) position bypasses PAD. 20dB PAD affects LO-Z OUTPUT response only).

**LO-Z OUTPUTS:** Male 3-pin XLR-type connector provides balanced floating low-impedance output (pin 2 hot). Connect to mixing board microphone channel input. Recommended load impedance: >1.0 kohm.

**GND/LIFT:** GND position connects INPUT and LO-Z OUTPUT grounds together. LIFT position "floats" LO-Z OUTPUT. Used to reduce hum and buzz by eliminating ground loops and providing proper grounding for various conditions.

