



## FEATURES:

- » High Input Impedance Minimizes Source Loading for Maximum Performance
- » Floating Transformer-Balanced XLR Output for Maximum Isolation
- » GND/LIFT Switch Eliminates Hum and Buzz
- » Handles Line-Level Inputs to +20 dBv at 20 Hz
- » Rugged "Uni-box™" Construction Provides Protection and Shielding
- » Flush-mounted Switches and Connectors Resist Damage
- » Passive Design Requires No Batteries or Phantom Power.

## DESCRIPTION:

The Pro Co TradeTools CB1 is a simple passive direct box that offers clean, reliable performance with nearly any unbalanced signal source, including electric bass, acoustic guitar pickups, keyboards, drum machines and mixer outputs.

Using the CB1 is a convenient, low-cost alternative to mic'ing speakers. It reduces distortion and coloration and eliminates "bleed" and leakage from other instruments. The signal delivered to the P.A. or studio mixer is crisp, clean and full - a vital element in retaining the awesome bass and brilliant sound of digital instruments such as synthesizers and digital-sampling drum machines.

The CB1 shares the heavy-duty "Uni-box" construction with Pro Co's premium TradeTools DB1 Direct Box. The rugged 16-gauge steel and aluminum box is finished in black with a bold blue Lexan® overlay emblazoned with high-visibility control and connector identification graphics. The uniquely slotted side channels allow for stacking on top or strapping side-to-side of virtually any number of Pro Co TradeTools devices using the Uni-box construction.

# ENGINEERING SPECIFICATIONS:

The signal splitting/impedance matching unit shall be suitable for interfacing one (1) unbalanced high- or low-impedance source to one (1) balanced or floating low-impedance (1.0 kohm nominal) microphone preamplifier input. There shall be two (2) 1/4" (6.3mm) 2-conductor phone jacks wired in parallel to provide input and loop-through output for the source. There shall be a transformer-isolated low-impedance output from a 3-pin male XLR-type connector. The transformer shall be a Pro Co CBT-1 Direct Box Transformer. There shall be a ground-lift switch to allow the source ground and pin 1 of the output XLR to be connected together or isolated as required. The XLR output connector shall be wired with pin 2 "hot" or "in-phase" with respect to the input, and pin 3 "cold" or "anti-phase".

The enclosure shall be constructed in the Pro Co "Uni-box" 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 CB1 Direct Box.

The CBT-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. It is also very applicable to other unbalanced sources such as keyboard instruments. Special winding techniques and a high-permeability (50% nickel) core lamination preserve full frequency response while minimizing signal losses and other "loading" effects. The source impedance of the CBT-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.

# TYPICAL PERFORMANCE:

NOTES: All measurements made with 20 kohm source feeding INPUT and 1.0 kohm load on LO-Z OUTPUT to simulate typical "real world" instrument pick-up and mic preamp. 0 dBv ref. = .775 volt.

- FREQUENCY RESPONSE:** 20 Hz-20 kHz, +/- 1.0 dB @ -15 dBv output.  
-3 dB @ approximately 57 kHz.
- TOTAL HARMONIC DISTORTION:** < .1% 20 Hz-20 kHz @ -30 dBv output.  
< .5% 30 Hz-20 kHz @ -15 dBv output.  
< 1.0% 20 Hz-20 kHz @ -15 dBv output.
- PHASE RESPONSE:** < -25 degrees @ 20 kHz (ref. 1.0 kHz).
- RISE TIME:** < 6.0 microseconds (2.0 kHz square wave, 10%-90%).
- VOLTAGE STEPDOWN:** < 23 dB @ 1.0 kHz.

- INPUT IMPEDANCE:** > 185 kohm @ 1.0 kHz.  
> 140 kohm @ 10 kHz.  
Nominal source impedance is <20 kohm.
- OUTPUT IMPEDANCE:** < 130 ohm @ 1.0 kHz.  
< 155 ohm @ 10 kHz.  
Nominal load impedance is >1.0 kohm.
- MAXIMUM INPUT LEVEL FOR 1% THD:**  
+20 dBv @ 20 Hz.  
+26 dBv @ 30 Hz.  
+32 dBv @ 50 Hz.

# CONTROLS:

- INPUT:** 1/4" (6.3mm) phone jack accepts signals from instrument or other source. Input impedance greater than 185 kohm. Handles signals of up to +20 dBv at 20 Hz.
- OUTPUT:** 1/4" (6.3mm) phone jack provides "loop-through" connection from input jack. Used when inserting CB1 between instrument and amplifier.

- LO-Z OUTPUT:** Male 3-pin XLR-type connector provides balanced floating low-impedance output (pin 2 hot) 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.

**PRO CO MODEL: CB1**

**DIMENSIONS .....4.88" D x 4.38" W x 1.75" H**  
**123.8mm D x 111.1mm W x 44.4mm H**  
**WEIGHT .....1.00 lb**  
**.46 kg**  
**SHIPPING WEIGHT .....2.00 lb**  
**.92 kg**