



On Stage
with
the Best

TradeTools™

MS42A
4-CHANNEL MIC SPLITTER



ONE OF FOUR CHANNELS

FEATURES:

- » Provides 2-Way Split for Low-Impedance Microphones
- » 4 Splitter Channels in Single Rack Space
- » Allows Assembly of Economical Expandable Splitting System
- » Great for Musicians' Monitoring and Recording
- » ENG Uses Include Press Conferences and Speeches
- » Connects with Standard Microphone Cables
- » High-Quality Transformer-Isolated Output
- » Rugged "Uni-Box" construction provides protection and EMI/RMI shielding
- » All Connectors Accessible from Front Panel

DESCRIPTION:

The Pro Co TradeTools MS42A Quad Mic Splitter splits the signals from each of four low-impedance microphones (or similar sources) into two outputs, enabling two microphone preamplifiers to be fed from one source. The primary applications for the MS42A are stage monitor systems for musicians, where an on-stage mixer is used, and in remote or live recording applications, where the P.A. system microphones must also be fed to a recording mixer. Transformer isolation in such situations minimizes interference from EMI/RFI and ground loops. The transformer-isolated feeds retain the advantage of common-mode noise rejection inherent in the use of balanced lines.

The MS42A is fitted with standard 3-pin XLR-type connectors for MIC IN, DIRECT, and ISO OUT, so hookup requires only standard microphone cables. The use of the Pro Co MBT-1 transformer allows the MS42A to provide floating, low-impedance outputs with wide, flat frequency response, ultra-low distortion, and minimal ringing or overshoot to degrade

transient response. The transformer's dual electrostatic shields and GND/LIFT switches provide isolation and buzz-free operation in virtually any environment.

The MS42A'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® front and back panel overlays. Inside, the specially designed transformers combine superb audio quality with unsurpassed noise rejection.

The MS42A can be mounted in any standard 19" (482.6mm) rack. Top quality connectors and switches provide trouble-free service even in abusive situations such as remote broadcast and recording operations. The rack-mounting design allows the user to assemble a conveniently packaged, expandable splitting system that combines top quality audio performance and isolation with an economical price.

ENGINEERING SPECIFICATIONS:

The microphone signal splitting unit shall be suitable for interfacing each of four (4) balanced or floating low-impedance (150 ohm nominal) microphones or similar signal sources to two (2) balanced or floating low-impedance (1.0 kohm nominal) microphone preamplifier inputs. There shall be four (4) channels with features as follows: There shall be a 3-pin female XLR-type connector for input from the source. There shall be a parallel or direct output from a 3-pin male XLR-type connector. There shall be a transformer-isolated low-impedance output from a 3-pin male XLR-type connector. The transformer shall be a Pro Co MBT-1 Microphone Bridging Transformer. The primary electrostatic shield shall be connected to pin 1 of the source input and direct output connectors. The secondary electrostatic shield shall be connected to pin 1 of the transformer-isolated XLR output. There shall be a ground-lift switch to allow the shields to be connected together or isolated as required.

The enclosure shall be the Pro Co "Uni-box" design with 16-gauge steel black zinc finish top and bottom plates, 1/8" black anodized aluminum front plates, back plates and side channels. Control functions shall be identified by a printed Lexan® front and back panel overlay. Switches shall be of the miniature "rocker" type and shall be front-mounted. The enclosure shall be provided with 2 miniature handles mounted on the front plate. The enclosure shall be suitable for standard 19"

EIA rack mounting. The dimensions of the unit shall be approximately 4-3/4" D by 19" W by 1-3/4" H. (120.7mm D by 482.6mm W by 44.5mm H).

The microphone signal splitting unit shall be a Pro Co TradeTools MS42A Mic Splitter.

The MBT-1 is a carefully designed, custom-built 1:1 microphone bridging transformer whose characteristics are optimized for use with balanced low-impedance microphones or similar sources. 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 main and stage monitor or recording mixers, eliminating annoying 60-Hz hum and buzz. The source impedance of the MBT-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:

All measurements made with 150 ohm source feeding INPUT and 1.0 kohm loads on ISOLATED OUTPUTS to simulate typical "real world" microphone and mic preamps. 0 dBv ref. = .775 volt.

NOTE: Phantom power (if required) must be supplied by mixer (or suitable power supply) connected to DIRECT OUTPUT.

- FREQUENCY RESPONSE:** 20 Hz-20 kHz, +/- .5 dB @ -15 dBv output.
-3 dB @ approximately 65 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:** < -20 degrees @ 20 kHz (ref. 1.0 kHz).
- RISE TIME:** < 4.5 microseconds (2.0 kHz square wave, 10%-90%).

- VOLTAGE LOSS:** < 1.0 dB @ 1.0 kHz.
- INPUT IMPEDANCE:** > 1050 ohm @ 1.0 kHz.
> 1080 ohm @ 10 kHz.
- OUTPUT IMPEDANCE:** Nominal source impedance is 150 ohm.
< 270 ohm @ 1.0 kHz.
< 300 ohm @ 10 kHz.
Nominal output impedance is 1.0 kohm.
- MAXIMUM INPUT LEVEL FOR 1% THD:**
0 dBv @ 20 Hz.
+4 dBv @ 30 Hz.
+8 dBv @ 50 Hz.

CONTROLS:

- MIC IN:** Female 3-pin XLR-type connector accepts signal from low-impedance (150 ohm nominal) microphone or similar source. Input impedance (with 1.0 kohm loads on DIRECT and ISO OUT): approx. 500 ohm.
- DIRECT:** Male 3-pin XLR-type connector wired in parallel with MIC IN provides signal to feed mixer input.

- ISO OUT:** Male 3-pin XLR-type connector provide floating transformer-isolated low impedance output to feed mixer inputs. Recommended load impedances: 1.0 kohm.
- GND/LIFT:** GND position connects pin 1 of MIC IN/DIRECT to pin 1 of ISO OUT. LIFT position "floats" ISO OUT. Used to reduce hum and buzz by eliminating ground loops and providing proper grounding for various conditions.

PRO CO MODEL: MS42A

(1) OF (4) CHANNELS

DIMENSIONS 4.75" D x 19" W x 1.75" H
120.7mm D x 482.6mm W x 44.4mm H

WEIGHT 4.70 lb/2.14 kg

SHIPPING WEIGHT 5.00 lb/2.25 kg

NOTE: ODD CHANNELS SHOWN EVEN CHANNELS MAGNETIC POLARITY REVERSED.