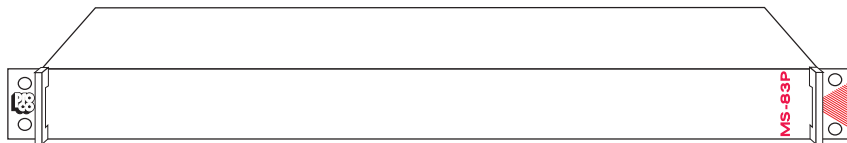


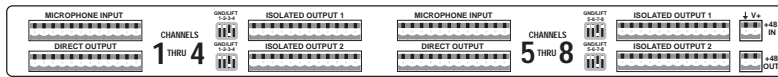
# MS-83P

## FEATURES

### 8-CHANNEL MICROPHONE SPLITTER WITH PHANTOM POWER BUSS



FRONT OF UNIT



BACK OF UNIT

- Provides 3-Way Split for Low-Z Microphones
- 8 Splitter Channels in Single Rack Space
- Phantom Power Buss for Powering Condenser Mics from an External Power Source
- Allows Assembly of Economical Expandable Splitting System
- Great for Musicians' Monitoring, Remote Recording and Broadcast
- Connects with Phoenix COMBICON™ Plug-in Screw Connectors
- High-Quality Transformer-Isolated Outputs
- Rugged "Uni-box™" Construction for Super Strength and Shielding

## DESCRIPTION

The Pro Co Multiface MS-83P Eight-Channel Mic Splitter splits the signals from each of eight low-impedance microphones (or similar sources) into three outputs, enabling three microphone preamplifiers to be fed from one source. Additionally, the MS-83P features a phantom power buss to facilitate the powering of condenser microphones from an external power supply. This allows microphone patching without fear of transients due to the interruption of phantom power, often a problem when the console power supply is used.

The primary application for the MS-83P is in large sound reinforcement systems, where the P.A. system microphones must also be fed to a stage monitor system and a broadcast or remote recording mixer. In such complex systems, grounding problems can cause both unacceptable noise levels and severe shock hazards. Transformer isolation in such situations minimizes interference from SCR lighting dimmers, radio transmitters and 60 Hz AC power wiring. The transformer-isolated feeds retain the advantage of common-mode noise rejection inherent in the use of balanced lines.

The MS-83P is fitted with Phoenix COMBICON plug-in screw connectors for MIC IN, DIRECT OUT, and ISO OUT 1 and 2, so hookup requires only bare conductors and a screwdriver.

The use of the Pro Co MBT-2 transformer allows the MS-83P to provide a floating, low-impedance output with wide, flat frequency response, ultra-low distortion, and no ringing or overshoot to degrade transient response.

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

The MS-83P's rugged 16-gauge steel and aluminum "Uni-box™" construction 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 MS-83P 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.

## CONTROLS

### MICROPHONE INPUT

Phoenix COMBICON plug-in screw connector accepts signals from low-impedance (150 ohm nominal) microphones or similar sources. Input impedance (with 1.0 kohm loads on DIRECT and ISO OUT) is approximately 333 ohm.

### DIRECT OUTPUT:

Phoenix COMBICON plug-in screw connector wired in parallel with MIC IN provides signal to feed mixer input.

### ISOLATED OUTPUTS:

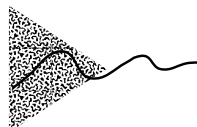
Phoenix COMBICON plug-in screw connectors provide floating transformer-isolated low-impedance outputs to feed mixer inputs. Recommended load impedances: 1.0 kohm.

### GND/LIFTS:

GND position connects pin 1 of MIC IN/DIRECT OUT to pin 1 of ISO OUTS. LIFT position "floats" ISO OUTS. Used to reduce hum and buzz by eliminating ground loops and providing proper grounding for various conditions.

### +48V IN/OUT:

2-pole Phoenix COMBICON plug-in screw connectors provide input and loop-through output for external phantom power supply.



# PRO CO MODEL MS-83P MICROPHONE SPLITTER

## TYPICAL PERFORMANCE

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

### FREQUENCY RESPONSE:

20Hz-20kHz, +/- .25dB @ -15dBv output.  
-3dB @ approximately 140kHz.

### TOTAL HARMONIC DISTORTION:

Less than .03% 20Hz-20kHz @ -30dBv output.  
Less than .1% 30Hz-20kHz @ -15dBv output.  
Less than .25% 20Hz-20kHz @ -15dBv output.

### PHASE RESPONSE:

Less than -13 degrees @ 20kHz (ref. 1.0kHz).

### RISE TIME:

Less than 2.4 microseconds (2.0kHz square wave, 10%-90%).

### INPUT IMPEDANCE:

Greater than 570 ohm @ 1.0kHz.  
Greater than 570 ohm @ 10kHz.  
Nominal source impedance is 150 ohm.

### OUTPUT IMPEDANCE:

Less than 255 ohm @ 1.0kHz.  
Less than 270 ohm @ 10kHz.  
Nominal load impedance is 1.0kohm.

### VOLTAGE LOSS:

Less than 2.5 dB @ 1.0kHz.

### MAXIMUM INPUT LEVEL FOR 1% THD:

0 dBv @ 20 Hz.  
+4 dBv @ 30 Hz.  
+8 dBv @ 50 Hz.

## ENGINEERING SPECIFICATIONS

The microphone signal splitting unit shall be suitable for interfacing each of eight (8) balanced or floating low-impedance (150 ohm nominal) microphones or similar signal sources to three (3) balanced or floating low-impedance (1.0 kohm nominal) microphone preamplifier inputs. There shall be eight (8) channels with features as follows:

There shall be a Phoenix COMBICON™ plug-in screw connector for input from the source. There shall be a parallel or direct output from a Phoenix COMBICON plug-in screw connector. There shall be two (2) transformer-isolated low-impedance outputs from Phoenix COMBICON plug-in screw connectors. The transformer shall be a Pro Co MBT-2 Microphone Bridging Transformer. The primary electrostatic shield shall be connected to pin 'G' of the source input and direct output COMBICON connectors. The secondary electrostatic shields shall be connected to pin 'G' of their respective transformer-isolated COMBICON connector outputs. There shall be a ground-lift switch for the isolated output to allow the secondary shields to be connected to the primary shield or isolated as required.

There shall be a phantom power buss accessible via 2-pole Phoenix COMBICON plug-in screw connectors. The phantom power buss shall be suitable for powering condenser microphones from an external phantom power supply.

The enclosure shall be constructed in 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 type and shall be recessed. 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 Multiface MS-83P Mic Splitter.

## THE PRO CO MBT-2 TRANSFORMER

The MBT-2 is a carefully designed, custom-built 1:1:1 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. Separate electrostatic shields for primary (input) and each secondary (output) winding reduce capacitive coupling of ground-borne electrical noise between main, stage monitor and recording or broadcast feed mixers, eliminating annoying 60-Hz hum and buzz. The source impedance of the MBT-2 is very similar to that of a low-impedance microphone to ensure proper matching to the input circuitry of the mixers. The result is clean transient response (no overshoot or ringing) and low distortion even at low frequencies and high input levels.

