

# MST-103 MIC SPLITTER

# EWI

## FEATURES

- > Provides 3-Way Split for Low-Z Microphone
- > Great for Musicians' Monitoring and Recording
- > ENG Uses Include Press Conferences and Speeches
- > Connects with Standard Mic Cables
- > High-Quality Transformer-Isolated Output

## DESCRIPTION

The MST-103 Mic Splitter splits a signal from a low-impedance microphone (or similar source) into three outputs, enabling three microphone preamplifiers to be fed from one source. Some applications include musicians' on-stage monitoring, live recording, ENG use at press conferences, and videotaping of lectures, public speeches, etc. It can also be used simply as an isolation transformer for long microphone lines feeding unbalanced inputs, or for any audio signal up to 0 dBv (.775 volt). 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 MST-103 is fitted with standard 3-pin XLR-type connectors for INPUT, DIRECT OUTPUT, and ISOLATED OUTPUTS 1 and 2, so hookup requires only standard microphone cables. The use of the MST-103 transformer allows the MST-103 to provide two floating, low-impedance outputs 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.

## CONTROLS

- > INPUT  
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 both ISOLATED OUTPUTS): approx. 333 ohm.
- > DIRECT OUTPUT:  
Male 3-pin XLR-type connector wired in parallel with INPUT provides signal to feed mixer input.
- > ISOLATED OUTPUTS:  
Male 3-pin XLR-type 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 INPUT/DIRECT OUTPUT to pin 1 of ISOLATED OUTPUT. LIFT position "floats" ISOLATED OUTPUT. Used to reduce hum and buzz by eliminating ground loops and providing proper grounding for various conditions.

## 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.

### > FREQUENCY RESPONSE:

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

### > TOTAL HARMONIC DISTORTION :

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

### > PHASE RESPONSE :

- Less than -10 degrees @ 20 kHz (ref. 1.0 kHz).

### > RISE TIME :

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

### > INPUT IMPEDANCE :

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

### > OUTPUT IMPEDANCE :

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

### > VOLTAGE LOSS :

- Less than 2.5 dB @ 1.0 kHz.

### > MAXIMUM INPUT LEVEL FOR 1% THD :

- 0 dBv @ 20 Hz.
- +4 dBv @ 30 Hz.
- +5 dBv @ 50 Hz.

### > DIMENSION :

- 82mm(W) x 44mm(H) x 130mm(D)

### > WEIGHT :

- 0.45 Kg

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

## ENGINEERING SPECIFICATIONS

The microphone signal splitting unit shall be suitable for interfacing one (1) balanced or floating low-impedance (150 ohm nominal) microphone or similar signal source to three (3) balanced or floating low-impedance (1.0 kohm nominal) microphone preamplifier inputs. 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 two (2) transformer-isolated low-impedance outputs from 3-pin male XLR-type connectors. The transformer shall be a MST-103 Microphone Bridging Transformer. The primary electrostatic shield shall be connected to pin 1 of the source input and direct output connectors. The secondary electrostatic shields shall each be connected to pin 1 of their respective transformer-isolated XLR outputs. There shall be a ground-lift switch for each isolated output to allow the secondary shields to be connected to the primary shields or isolated as required.

