

# MST-412A 19" RACK MOUNTABLE 4-CHANNEL MICROPHONE SPLITTER

EWI

## FEATURES

- Provides 3-Way Split for Low-Z Microphones
- Allows Assembly of Economical Expandable Splitting System
- Connects with Standard Mic Cables
- 4 Splitter Channels in Single Rack Space
- Great for Musicians' Monitoring, Remote Recording and Broadcast
- High-Quality Transformer-Isolated Outputs

## DESCRIPTION

The MST-412 Quad Mic Splitter splits the signals from each of four low-impedance microphones (or similar sources) into three outputs, enabling three microphone preamplifiers to be fed from one source. The primary application for the MST-412 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 MST-412 is fitted with standard 3-pin XLR-type connectors for MIC IN, DIRECT, and ISO OUT 1 and 2, so hookup requires only standard microphone cables. The use of the MST-412 transformer allows the MST-412 to provide 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. The MST-412 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

- > 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 LOOP and both ISO OUTS): approx. 333 ohm.
- > DIRECT:  
Male 3-pin XLR-type connector wired in parallel with MIC IN provides signal to feed mixer input.
- > ISO OUTS:  
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 MIC IN/LOOP OUT 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.

## 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" micro-phon 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
- > 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.  
+8 dBv @ 50 Hz.
- > PHASE RESPONSE : Less than -13 degrees @ 20 kHz (ref. 1.0 kHz).
- > RISE TIME : Less than 2.4 microseconds (2.0 kHz square wave, 10%-90%).
- > DIMENSION : 483mm(W) x 44mm(H) x 98mm(D)
- > WEIGHT : 1.4 Kg

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

## 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 three (3) 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 two (2) transformer-isolated low-impedance outputs from 3-pin male XLR-type connectors. The transformer shall be a MST-412 Microphone Bridging Trans-former. The primary electrostatic shield shall be connected to pin 1 of the source input and direct output connectors. The secondary electro-static 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.

