

## FEATURES

- **Electrically isolates ground, power, and signaling of two intercom systems**
- **Breaks the ground loop between power stations to eliminate "hum"**
- **Allows independent shut down of two connected intercom systems**
- **Transformer isolates the audio signals**
- **Opto-isolates the "Call" signals**
- **Provides termination for the connected intercom systems**

## APPLICATIONS

- **Eliminates ground-loop problems from large or long-run systems with multiple power supplies**
- **Ideal for house systems that connect to mobile or visiting systems**
- **Small, portable size is perfect for tech kits**

## DESCRIPTION

The MT-1 party-line isolator circuit card is an accessory for Clear-Com party-line systems that will electrically isolate the ground, power, and signaling of two intercom systems.

If two power supplies or main stations are connected together in a system but located in different buildings or on different AC power systems, an objectionable "hum" may be caused by a ground loop. The MT-1 will eliminate the "hum" by breaking the ground loop between the powered stations.

This device also allows channels from two separate Clear-Com systems to be connected together and because of the power isolation it provides, each system can be shut down independently. In addition, the system isolator will pass the "Call" signaling from one system to the other with complete electrical isolation.

The MT-1 offers transformer isolation for the audio signal and opto-isolation for the "call" signal. It also provides the termination for both systems.

## SYSTEM TERMINATION

One system isolator circuit card must be used for each channel of the intercom systems being connected together. The system isolator card becomes the termination for the connected channels from each system. The station- or power-supply-based terminations for these channels must be turned off.

Power is provided by the attached intercom stations or power supplies. The MT-1 is intended for standard Clear-Com intercom lines only and cannot be used on "TW" powered lines. The MT-1 is mounted with four adhesive feet, supplied from the factory.

## SPECIFICATIONS

### GENERAL

Line Level: -14 dB nominal, +10dB max  
 Call Signaling Voltage: 11 volts DC on audio line  
 Call Signal Sensitivity: 4 volts DC  
 Call Signal Delay: 50 mS  
 Power Source: Passive, via intercom line

### CONNECTORS

Line: 3-screw terminal block for each intercom line

### ISOLATION

Voltage: 120 VAC max  
 CMRR: 65 dB min

### AUDIO

Insertion Loss (each direction): 3 dB nominal  
 Frequency Response: 100 Hz – 20 kHz +/- 1 dB  
 Distortion: 0.1% THD at -10 dB input, 100 Hz – 20kHz

### DIMENSIONS

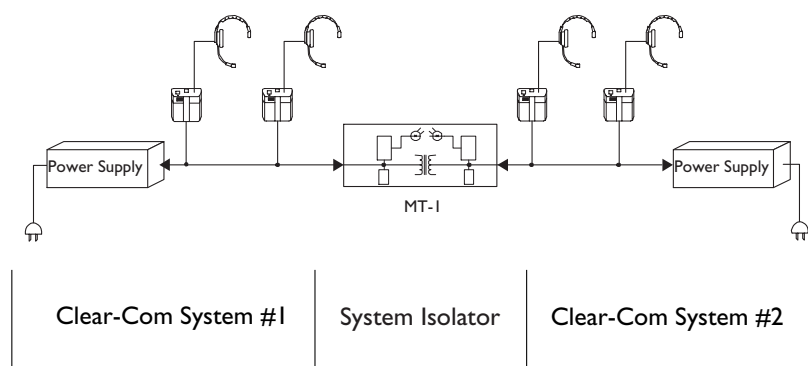
1.25" H x 2.88" W x 1.88" D  
 (30 mm H x 73mm W x 47mm D)

### WEIGHT

2.25 oz (0.07 kg)

*All specifications are subject to change without notice.*

## SYSTEM DIAGRAM

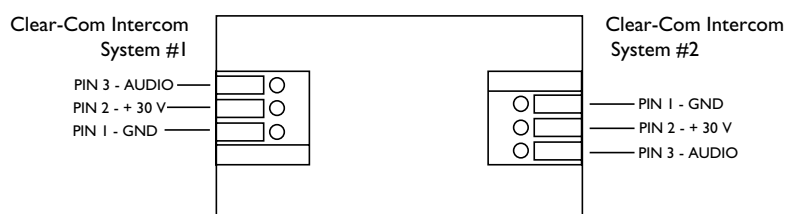


## INSTALLATION

The MT-1 is provided as a stand-alone printed circuit board with self-adhesive feet and screw terminals for connections.

- Mount the MT-1 with self-adhesive feet and screw terminals provided.
- Prepare the intercom lines to be connected to it. Connect as shown in the Block Diagram to the right.
- Note: Either system can be connected to either end of the MT-1.
- Turn off all terminations in Clear-Com System #1 and Clear-Com System #2.

## BLOCK DIAGRAM



**Check-out procedure:** Before turning power on, ascertain that all terminations in both systems have been disabled. Measure resistance between Pin 1 and Pin 3 on both sides of the MT-1. Resistance should be approximately 4,700 ohms. If the resistance is 2,300 ohms or less, then one or more of the stations or power supplies is the system is still terminated. Disconnect stations one at a time until the terminated station is identified (the resistance will go up) and turn off the termination on the identified station. Check side-tone adjust on stations as levels may have changed.