

## MODEL TM-1 TELEPHONE MATCHING ADAPTOR OPERATING INSTRUCTIONS

The RAYMER TM-1 TELEPHONE MATCHING ADAPTOR has been designed to match a 500/600 ohm line or telephone line to the input of any amplifier or receiver. The input of the TM-1 Adaptor correctly matches the output of a telephone switchboard, a dial access telephone, or internal telephone system as a paging source for an amplifier or receiver. The TM-1 may also be used with any amplifier for distributing background music which has been transmitted over leased telephone lines.

Two outputs are provided on the TM-1. The high level output is designed to match the auxiliary (Phono/Line) input of any amplifier. The low level output matches the microphone input of any amplifier either Hi-Z or Lo-Z; for optimum performance use the Hi-Z input.

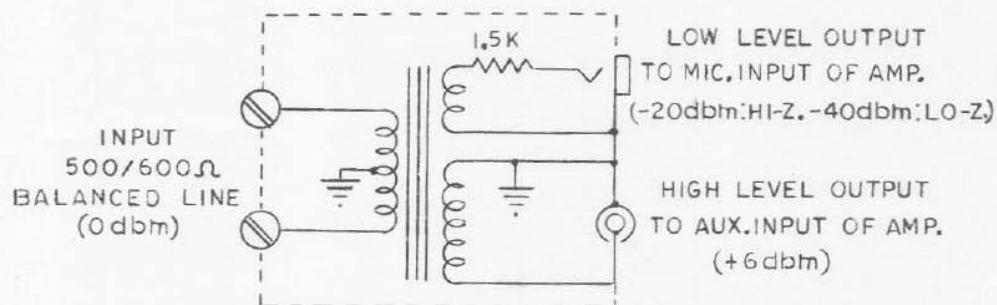


FIGURE 1: TM-1 CIRCUIT

### CONNECTION AND OPERATION

Connect the telephone line or audio pair from the telephone system to the two terminals marked PHONE LINE on the TM-1 Adaptor. Use a shielded cable with suitable connectors to connect either the HIGH LEVEL output of the TM-1 to the Aux (Phono/Line) input of the amplifier, or the LOW LEVEL output of the TM-1 to the microphone input of the amplifier.

#### **NOTE - WHEN USING THE MICROPHONE INPUT:**

1. USE A PHONE PLUG WITH A METAL COVER ONLY AND NOT A PLASTIC COVER. THIS PREVENTS OSCILLATION CAUSED BY FEEDBACK FROM THE SPEAKER LINES.
2. IN ORDER TO PREVENT HUM CAUSED BY "GROUND LOOPS", DO NOT BOLT THE TM-1 TO THE AMPLIFIER CHASSIS. THE CASE OF THE TM-1 SHOULD BE GROUNDED TO THE AMPLIFIER ONLY THROUGH THE CONNECTING CABLE.

To mute the music during paging in a system using a receiver or an amplifier and tuner combination, the circuit across the microphone precedence terminals must be closed. Interfacing to the Telephone Company system requires two pairs of lines which are to be furnished by the Telephone Company. These are the RELAY PAIR (Control) and AUDIO PAIR (Ring and Tip). The audio pair is connected to the PHONE LINE input on the TM-1 and the CLOSING RELAY PAIR is connected to the microphone PRECEDENCE terminals of the amplifier or receiver.

To use the TM-1 Adaptor in a private internal telephone system, a telephone relay is required in place of the telephone instrument so as to provide the paging signal source. The audio signal is obtained across the relay coil through a pair of blocking capacitors, and the relay contacts are used to mute the music as shown in Figure 2.

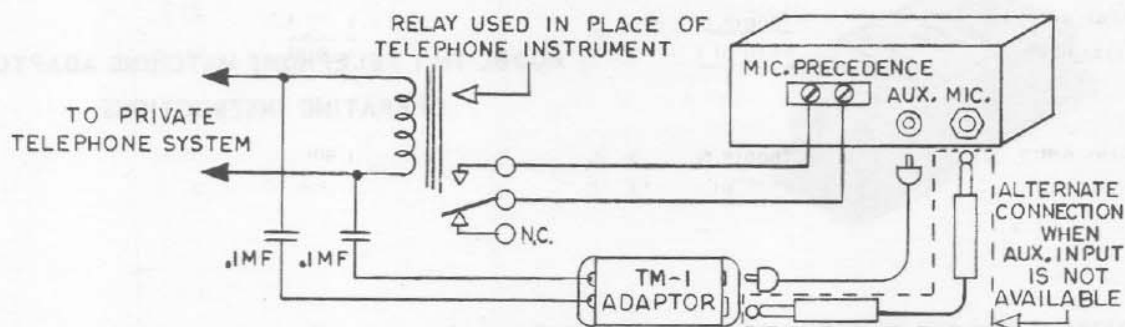


FIGURE 2.

### GUARANTEE

Each adaptor is guaranteed to be free from electrical and mechanical defects for a period of one year from date of shipment from the factory. If any adaptor appears to be defective, return to the factory for repair. This guarantee is void if the adaptor shows any sign of having been damaged or tampered with.

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