INSTALLATION • OPERATION • MAINTENANCE

INSTRUCTIONS

TYPE JY AUDIO REJECTION FILTERS

CAUTION Before working on this equipment, turn off the power supply and ground or open circuit the RF lead.

APPLICATION

Type JY audio rejection filters are used to prevent interference between audio tone and voice frequencies when voice communication and low frequency tone modulation must be carried on simultaneously over the same carrier channel. Two types are used; one for use in conjunction with the carrier transmitter and one for use with the receiver.

Style 867685 transmitter high pass filter is used in the transmitter circuit to filter from the voice signal all frequencies below approximately 500 cycles. There is no speech component transmitted, therefore, which will interfere with a tone of a frequency below 500 cycles.

Style 867686 receiver high pass filter is used in the circuit between the carrier receiver and the telephone receiver to prevent tone frequencies below 500 cycles from interfering with voice reception.

CONSTRUCTION AND OPERATION

The outline dimensions for the style 867685 transmitter filter are shown in Fig. 1 and for the style 867686 receiver filter in Fig. 2. All of the components are mounted on the rear of the panel. The filter unit consists of a sealed container, housing all the components required for the band pass filter.

The transmitter filter is connected between the telephone transmitter and a type JY modulator panel, and has an input and output transformer to match the filter unit to a 50 ohm input and output impedance.

The receiver filter is designed to operate directly from the 600 ohm output of the type JY carrier receiver. There is, therefore, no input transformer on the style 867686 filter.

Output transformer T-1 of the receiver filter is arranged with taps to match several values of impedance. The usual connection to the telephone receiver is as shown on the schematic diagram, Fig. 4, namely between transformer T-1 terminals 3 and 4. This matches the telephone receiver impedance of 150 ohms. A table showing the values for the other connections will be found in the section on "Adjustments and Maintenance."

CHARACTERISTICS

The receiver filter will attenuate tone signals at frequencies below 500 cycles so they will not interfere with the speech reception and the transmitter filter attenuates voice frequencies below 500 cycles to prevent interference with tone frequencies.

INSTALLATION

These units are usually supplied as part of a type JY power line carrier equipment assembly. In these cases, it is shipped assembled with the other units in a cabinet, completely wired.

When the unit is shipped separately, proceed as follows: Unpack the unit and install it on a standard relay rack in the equipment assembly with which it is to be used, using the mounting screws in the bag attached to the unit for this purpose. For both the transmitter and receiver filter, terminals 4 and 5 are the input terminals and terminals 2 and 3 are for the output. Terminal 1 should be connected to ground.

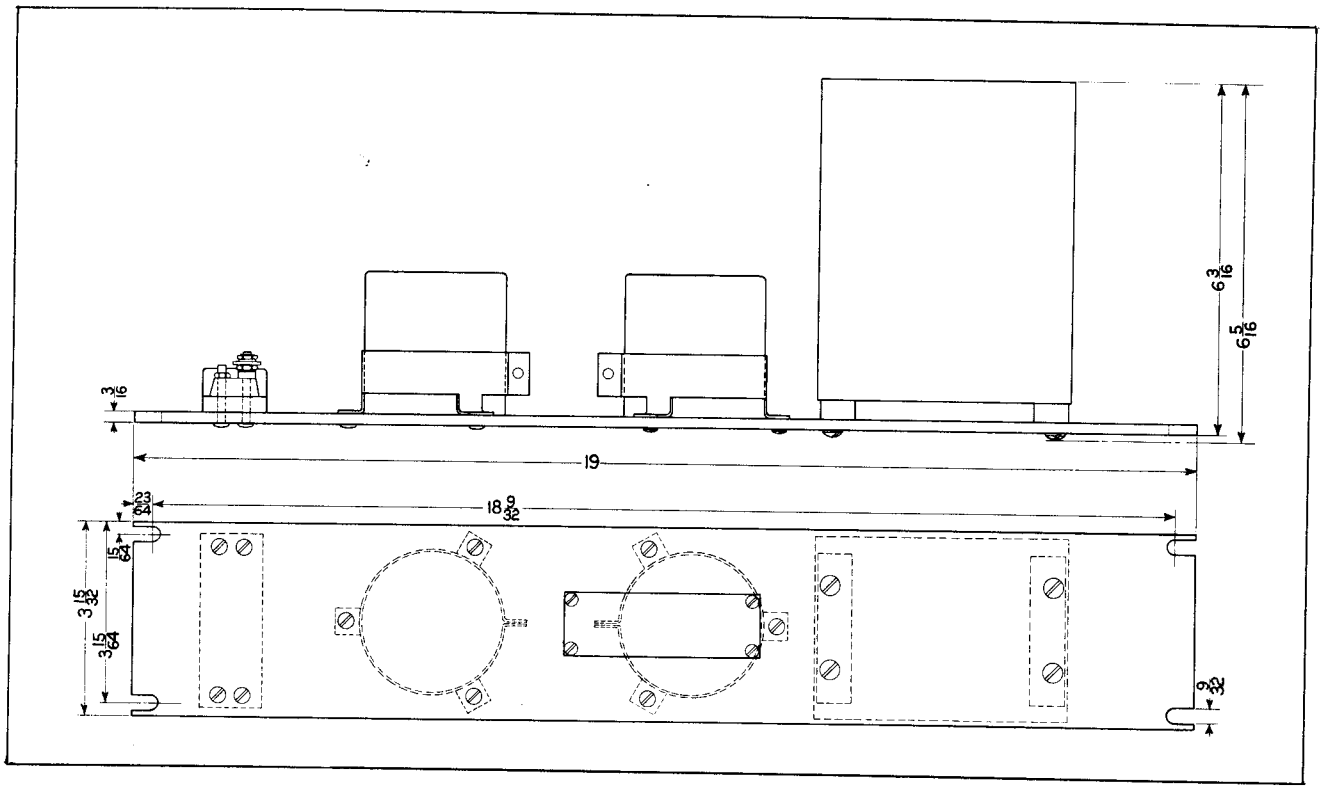

Fig. 1—Outline of the Transmitter Type JY Audio Rejection Filter.

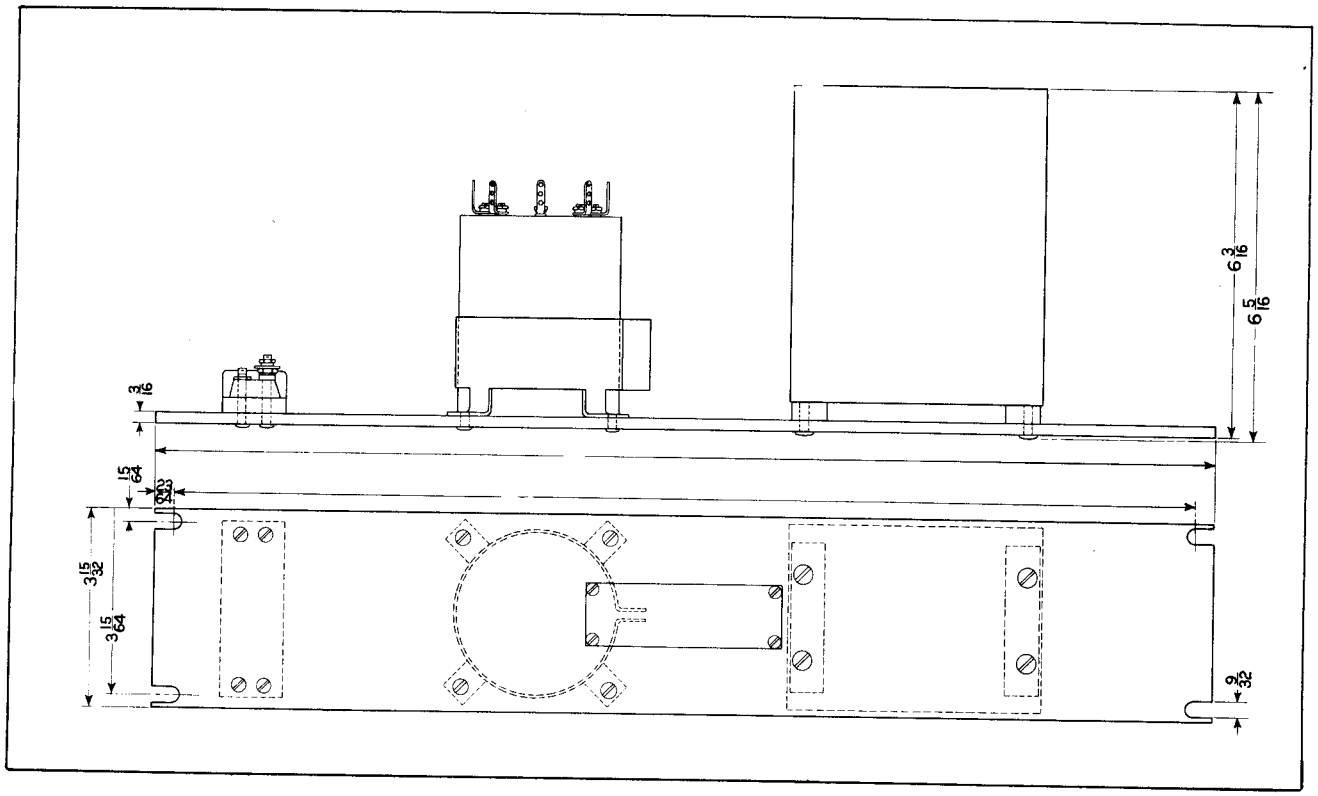

Fig. 2—Outline of the Receiver Type JY Audio Rejection Filter.

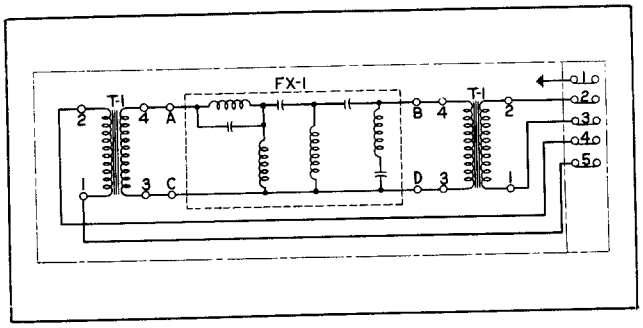

Fig. 3—Internal Schematic of the Transmitter Type JY Audio Rejection Filter.

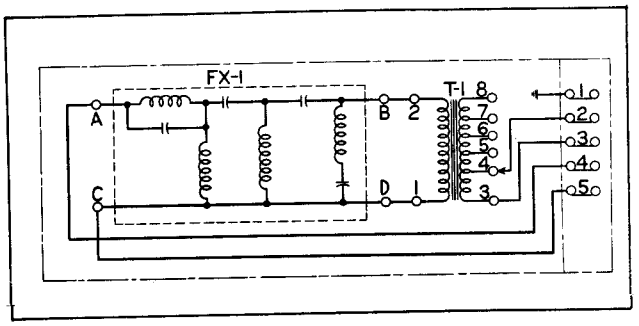

Fig. 4—Internal Schematic of the Receiver Type JY Audio Rejection Filter.

ADJUSTMENTS AND MAINTENANCE

The output of the receiver filter is connected to terminals 3 and 5 on the secondary of transformer T-1. The approximate impedances of the output with various connections on the secondary of transformer T-1, are as shown on the table below. If necessary, change the connection to match the impedance of the circuit into which it is to be connected.

APPROXIMATE OUTPUT IMPEDANCE TERMINALS	OUTPUT OF TRANSFORMER T-1 IMPEDANCE (OHMS)
3 to 4	150
3 to 5	300
3 to 6	450
3 to 7	600
3 to 8	900
3 to 9	1200

After the proper connections have been made, both of the units operate entirely automatically. No other adjustments or changes are necessary.

These units require no maintenance except for a periodic inspection. The electrical equipment should be kept free of dust and dirt. Exposed electrical equipment such as terminals must be kept free of corrosion. All screw terminals should be checked periodically to see that they are tight.

If either unit should fail to function properly, and the terminal connections are correct, it is possible to find the electrical part which is not functioning by checking with a high impedance headset.

Connect the high impedance headset to the input and output terminals of each transformer and filter unit. High frequencies or speech should be heard at each point, except following the unit which has failed.

RENEWAL PARTS

When ordering renewal parts for this unit, include the following data from the nameplate.

(1) The name of the unit.
(2) The style or DL number.
(3) The serial number.

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