

AIR-GROUND RADIO PRIVATE SYSTEMS ERCO TYPE 2040 CARRIER-ON MONITOR DESCRIPTION, INSTALLATION, AND MAINTENANCE

1. GENERAL

1.01 This section describes the Erco type 2040 carrier-on monitor for use with Erco type 361-TB radio transmitter. It also provides information for installation, adjustment, and maintenance of the monitor.

2. DESCRIPTION

2.01 The type 2040 carrier-on monitor is constructed on a sheet metal chassis for mounting in the transmitter cabinet. A space of 6-1/2" x 3" x 3-1/2" is required.

2.02 A type 12AX7 tube is used as a dc amplifier to operate relay K-1 when a positive voltage derived from and of proper value in relation to the RF output of the transmitter is applied to terminals 1 and 2 (Fig. 2). Potentiometer R-2 controls the grid bias of the 12AX7 tube, which in turn determines the proper value of the positive input voltage. When K-1 is operated, a closed circuit appears across terminals 5 and 6 which are used to control a lamp at the control location to indicate when the RF output from the transmitter is within usable limits. Terminal 4 supplies power to operate a 6-8 volt 150 ma lamp.

2.03 The dc excitation voltage to the 12AX7 tube is obtained from the RF monitor E-5 which is a part of the 361-TB transmitter.

2.04 Filament voltage for the 12AX7 tube is obtained from a transformer on the chassis. Plate voltage is obtained from the transmitter modulator unit.

3. INSTALLATION

3.01 Position the unit on the left inside wall of the cabinet near the top rear with the terminal strip toward the bottom of the cabinet. Drill two 3/16" diameter holes on 6" centers. Fasten unit to cabinet with bolts, lockwashers, and nuts.

3.02 Connect the free end of the power cable to TS-1 on the transmitter modulator unit as follows:

CABLE LEAD	TS-1 TERMINAL	FUNCTION
White	2	115 volts fil
Green	3	115 volts fil
Red	10	+180 volts dc
Blue	18	ground

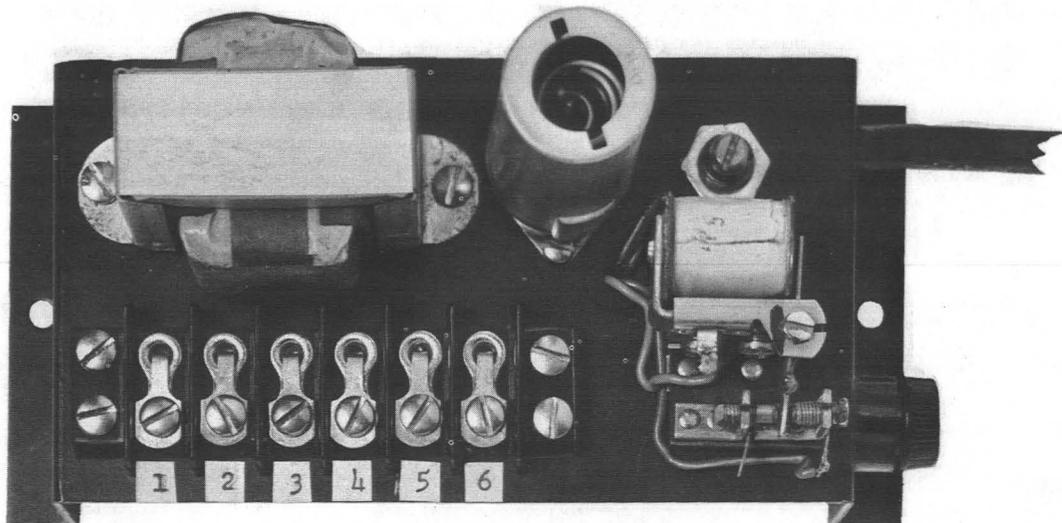


Fig. 1 - Erco Type 2040 Carrier-on Monitor

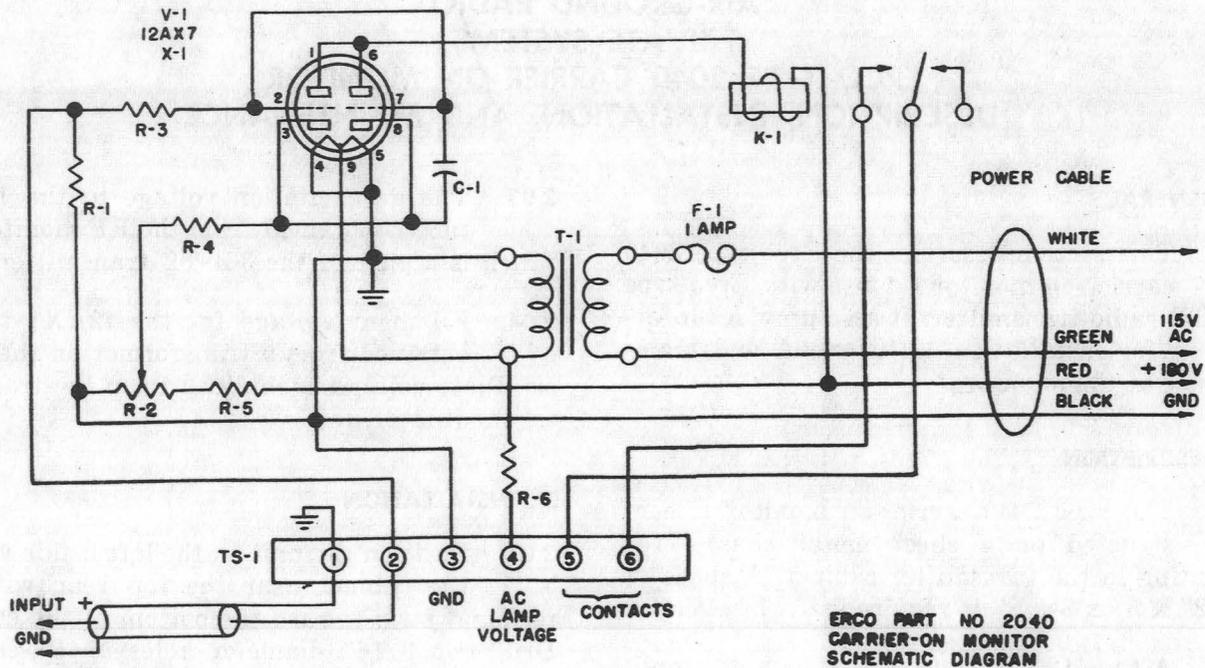


Fig. 2

3.03 Connect the spade terminal end of the input cable to terminals 1 and 2 of the unit with the center conductor to terminal 1. Attach the large clamp connector on the other end around the body of E-5 and the small clamp connector around the end of the phone tip type plug at E-5.

3.04 Terminals 5 and 6 on the unit produce a closed circuit when relay K-1 is operated. These terminals may be used to control an indicating lamp operated from local battery at the control location or a 6-8 volt 150 ma lamp may be used with power obtained from the unit by strapping terminal 4 to 5 and connecting the lamp to terminals 3 and 6.

4. ADJUSTMENT

4.01 With the transmitter operating at normal power output, operate the METER switch to ANT position and observe the reading on the EXCITER meter. Detune the PA PLATE knob for a 20 to 25 per cent reduction of EXCITER meter reading.

4.02 Adjust potentiometer R-2 on monitor to full counterclockwise position. Slowly ad-

just R-2 clockwise until relay K-1 operates. Repeat this adjustment several times to select the optimum setting of R-2 for K-1 operation.

4.03 Readjust the transmitter for normal power output.

4.04 With the transmitter energized, operate the TUNE-OPERATE switch to TUNE; K-1 shall release. Operate switch to OPERATE; K-1 shall operate.

5. MAINTENANCE

5.01 The mechanical adjustments of K-1 are:

Armature air gap 0.006"
Armature travel 0.003"

5.02 The electrical adjustments of K-1 with voltages measured across the coil winding are:

Operate on 8 to 10 volts dc
Release on 4 to 6 volts dc

Note: These requirements may be met by adjusting the hairspring tension. The operate-release ratio shall be less than 2 to 1.