

EMERGENCY POINT-TO-POINT RADIO

EC-1 SYSTEM (MOTOROLA)

EC-T1 TRANSMITTER

1. GENERAL

1.01 The EC-T1 radio transmitter is a component of an EC Emergency Radio Terminal. The unit consists of a Motorola WE-8497-A transmitter chassis; a Motorola WE-8464 power supply chassis; and a panel on which is mounted a Motorola P-8295-A RF probe and a Motorola K-8293-A relay kit. In addition, this panel mounts a blower motor for cooling the transmitter, a bridged T attenuator for adjusting the modulator sensitivity, a primary power input connector, a connector for audio, control circuits and receiver power, an audio input test jack, and an antenna cable connector.

1.02 The EC-T1 radio transmitter is housed in a portable aluminum cabinet 22 inches wide by 17 inches high by 13 inches deep with removable covers on both the front and the back.

2. DESCRIPTION AND OPERATING PRINCIPLES

2.01 The EC-T1 radio transmitter is a phase modulated, crystal controlled transmitter designed to operate in the frequency range of 152 to 174 megacycles. In this application it is intended for use primarily in the range of 152 to 162 megacycles. Circuit arrangements of this unit are shown in Fig. 1.

2.02 The transmitter delivers a minimum of 45 watts power to a 50 ohm load.

2.03 Primary AC power is delivered to the unit through the AC IN connector, J22.

2.04 A cable carrying audio and control circuits and B+ and filament voltage to the EC-R1 radio receiver is connected at J21.

2.05 The transmitter antenna is connected to the transmitter at the ANT connector.

2.06 The attenuator AT1 provides a means for adjusting the level of the audio input to the WE-8497-A transmitter chassis to the desired value. It has an adjustment range of 0 to 26 db.

2.07 Local cabling interconnects the various components of the EC-T1 radio transmitter.

2.08 Refer to Section 404-502-ZZZ for complete information on the Motorola WE-8497-A transmitter; Section 404-230-ZZZ for information on the Motorola WE-8464 power supply; and Section 404-207-ZZZ for information on the Motorola Start Dial Indicator.

3. GENERAL SAFETY PRACTICES

3.01 Follow all general safety practices when working on the transmitter. For a detailed discussion of safety precautions to be observed, refer to Section 010-110-001.

4. MAINTENANCE

4.01 Periodically inspect the wiring and connectors for loose or broken connections and remove any accumulation of dust or dirt.

4.02 The KS-5897, L03 blower motor ball bearings should be thoroughly cleaned and lubricated with Texas Company RCX-169 Uni-temp grease after every 1000 hours of operation, and at least once every three years.

4.03 For detailed maintenance instructions on the Motorola items used in the EC-T1 radio transmitter refer to the sections listed in par. 2.08.

SECTION 403-802-101

5. PHOTOGRAPH AND PARTS LIST

A. Photograph

5.01

DESIG-NATION	SUBJECT	PAGE
A	EC-T1 Radio Transmitter Front View	4

B. Parts List

5.02 The electrical component parts list is attached. This list does not cover Motorola parts which are listed in the separate sections listed in par. 2.08.

REFERENCE SYMBOL	DESCRIPTION
AT1	Potentiometer, KS-14177, L3
B21	Motor, KS-5897, L03
C21	Capacitor, 1.25 mf 220V AC KS-5897, L02

REFERENCE SYMBOL

DESCRIPTION

J21	Receptacle, AN-3102A-20-27SW
J22	Receptacle, Male Hubbell 7486-G
P23	Part of ED-45575-90, G2 Cable Assembly
P24	Part of ED-45575-90, G1 Cable Assembly
P25	Part of ED-45575-90, G3 Cable Assembly
P26	Part of ED-45568-90, G3 Cable Assembly
P27	Socket, EBY No. 9308 with No. 5876 Connectors
R501	Resistor, 51 ohm KS-13490, L1
R502	Resistor, 619 ohm, WE 145A
R503	Resistor, 619 ohm, WE 145B

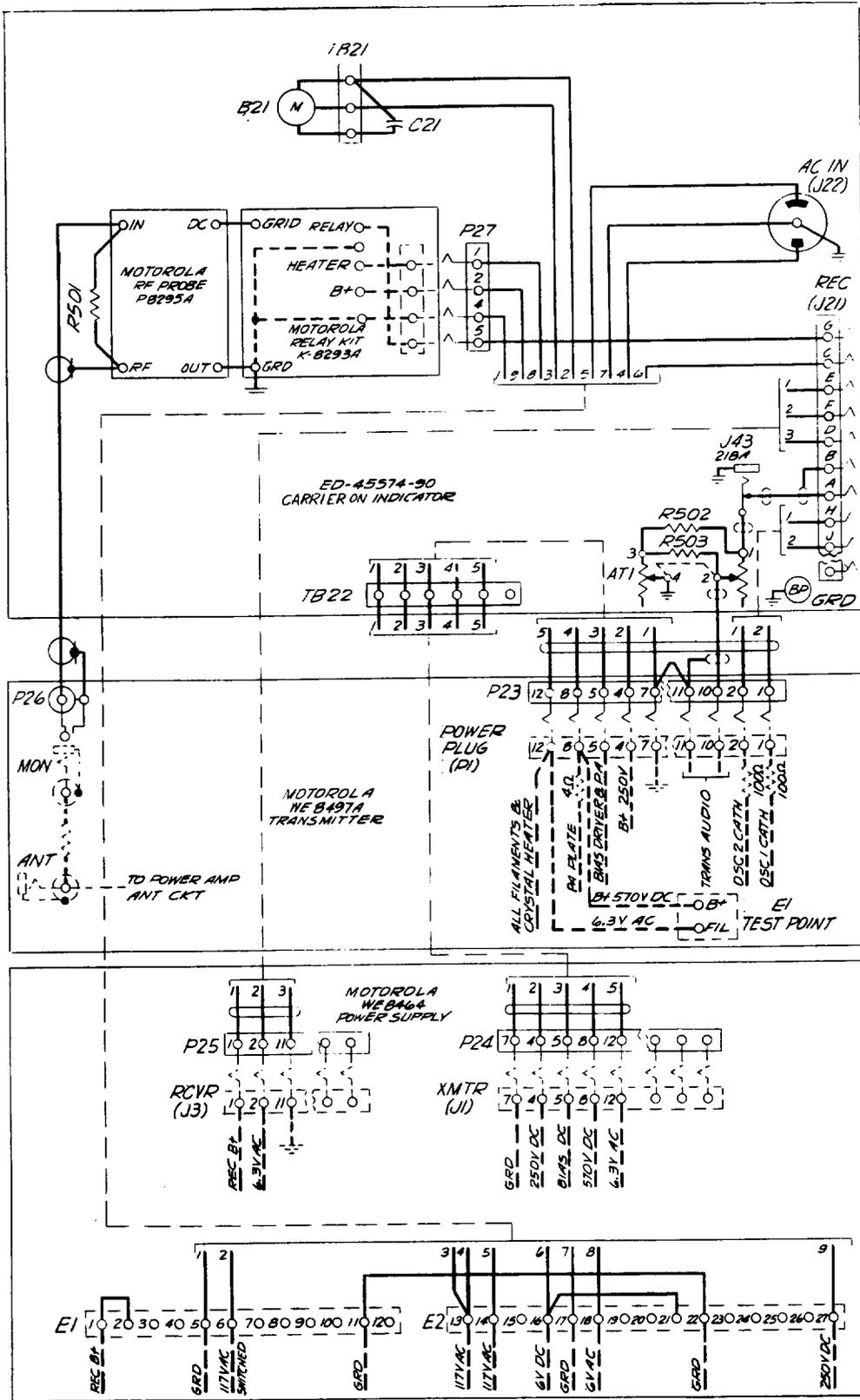


Fig. 1 - EC-T1 Radio Transmitter Circuit

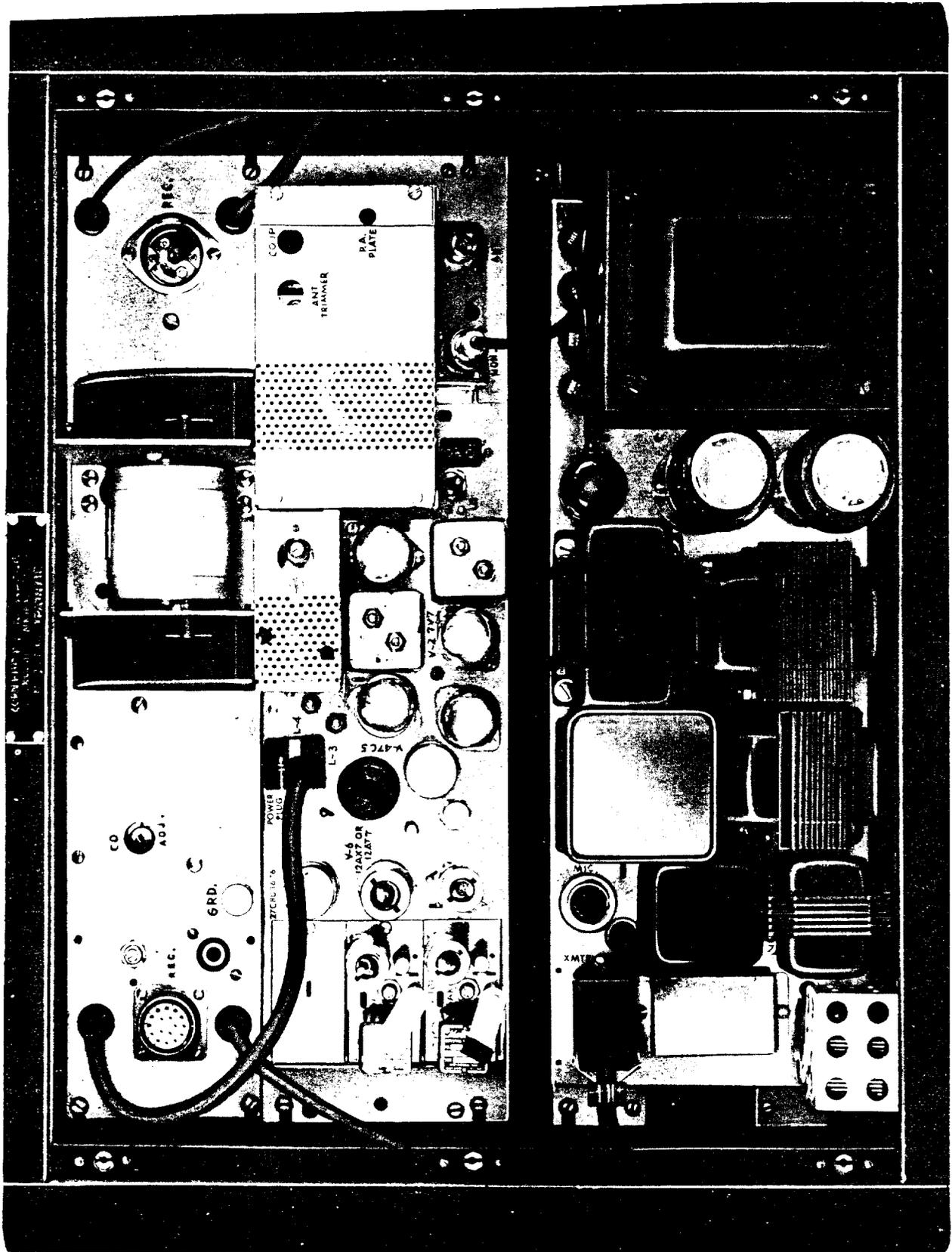


Photo A - EC-T1 Radio Transmitter - Front View