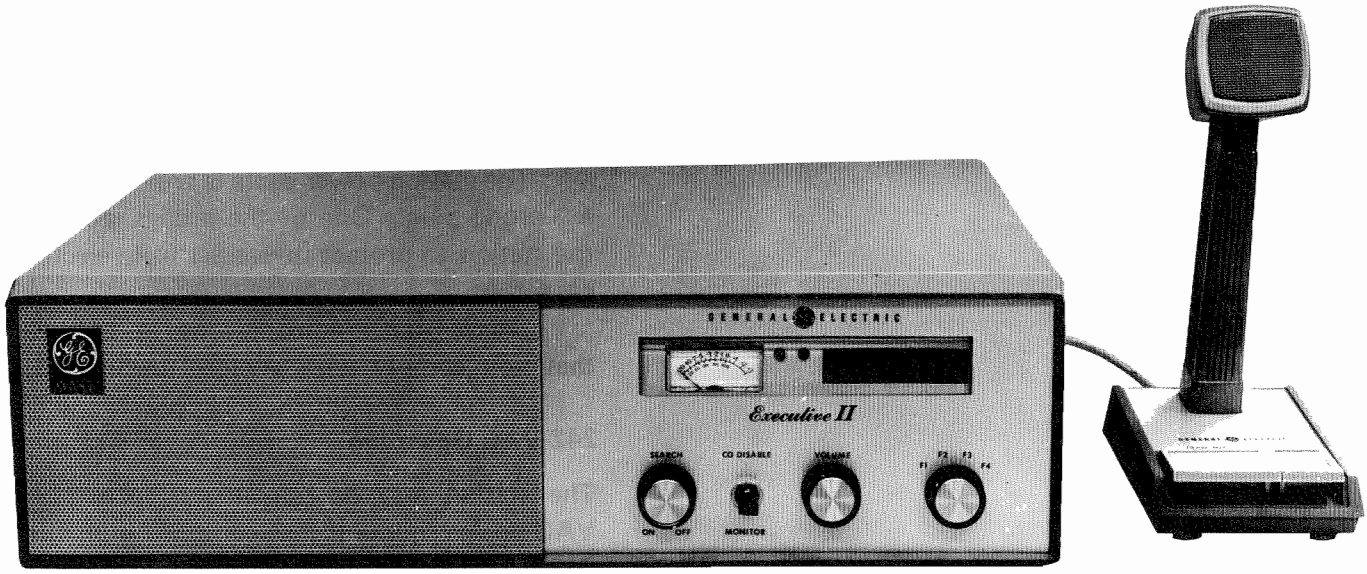
MOBILE RADIO

INSTALLATION OF
MASTR *Executive II*
TWO-WAY FM DESK TOP STATION



- Local Control
- Local/Remote Control

The Desk Top Station Combination provides you with two-way radio communications right at your fingertips. Its attractive styling blends with any office decor, and its compactness permits it to fit neatly on a desk, shelf or table.

The station contains a built-in speaker and is supplied with a desk-style microphone and power cable. Optional equipment includes a digital clock and VU meter.

PLANNING SPECIFICATIONS

Dimensions (H x W x D)	6" x 20-3/8" x 13-3/4"
Weight	46 lbs.
Temperature Range	–30°C to +60°C (–22° F to +140° F)
AC Power Input	121/242 VAC, ±20%, 50/60 Hz (Normally Shipped Wired for 121 VAC)
Power Requirements	Standby: 0.26A Receive: 0.6A Transmit: 2.5A @ 121 VAC

GENERAL ELECTRIC

PLANNING YOUR INSTALLATION

STATION LOCATION

The Desk Top Station can be placed on a desk, shelf, table or another appropriate flat surface. Select a location that is convenient to power and antenna connections.

POWER REQUIREMENTS

The station is designed to operate from either a 121-VAC or 242-VAC power source.

121-VAC Operation

Normally the station is shipped wired for 121-VAC operation. In this case, a 15 or 20 ampere, 121-VAC, 50/60 Hertz electrical power source with a 3-prong power receptacle is required.

The station power cable is provided with a 3-prong plug. One of the prongs grounds the station to protect personnel from electrical shocks.

Check your electrical code to be sure that you comply with all local ordinances.

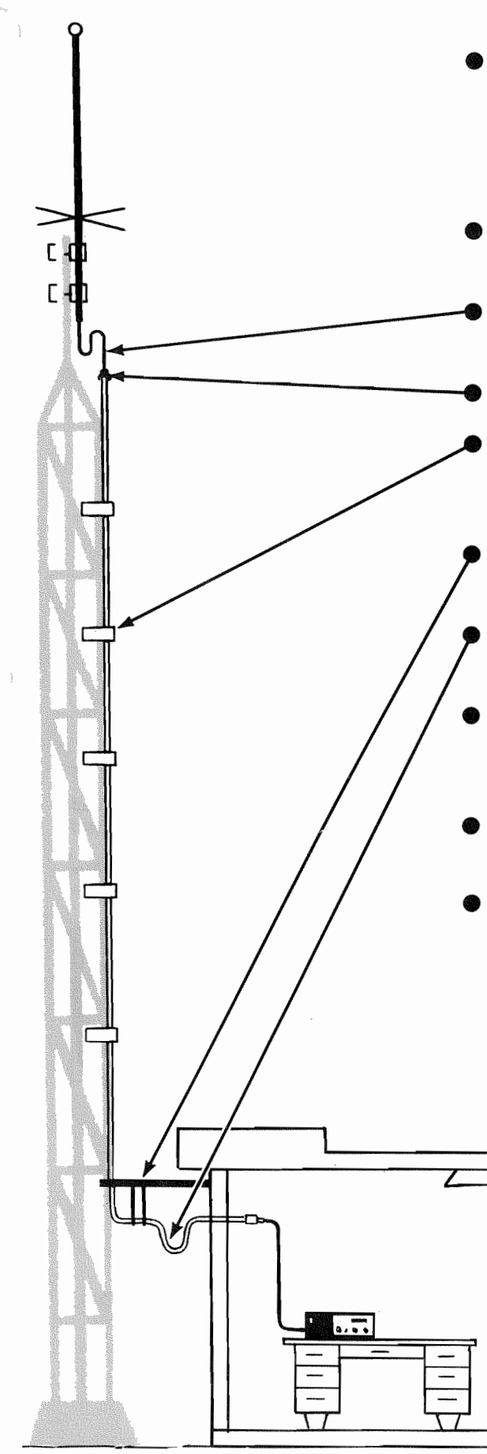
242-VAC Operation

The station may be operated from a 242-VAC power source if it is equipped with the 242-VAC factory installed option, or if it has been wired for 242-VAC operation as shown on the Power Supply Schematic Diagram in the Station Maintenance Manual.

ANTENNA REQUIREMENTS

The antenna should be located as close as possible to the Desk Top Station, so that the antenna transmission line can be kept short. Receiving and transmitting efficiency decrease as the length of the transmission line increases.

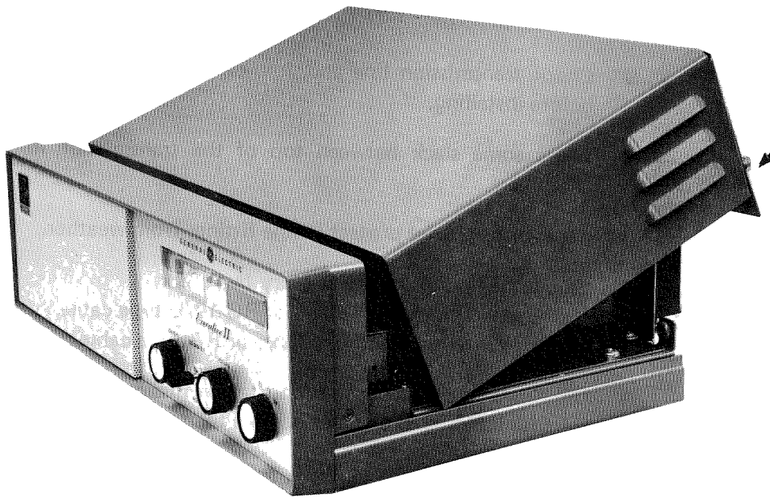
The antenna, tower, other antenna supports, and transmission line are ordered separately from the station combination, but proper installation of the antenna is essential for proper operation of the radio system. The system will not perform satisfactorily unless the antenna is installed in accordance with good engineering practice. Installation instructions are furnished with the antenna.



To supplement the manufacturer's instructions, the following hints will be valuable to you when installing your antenna:

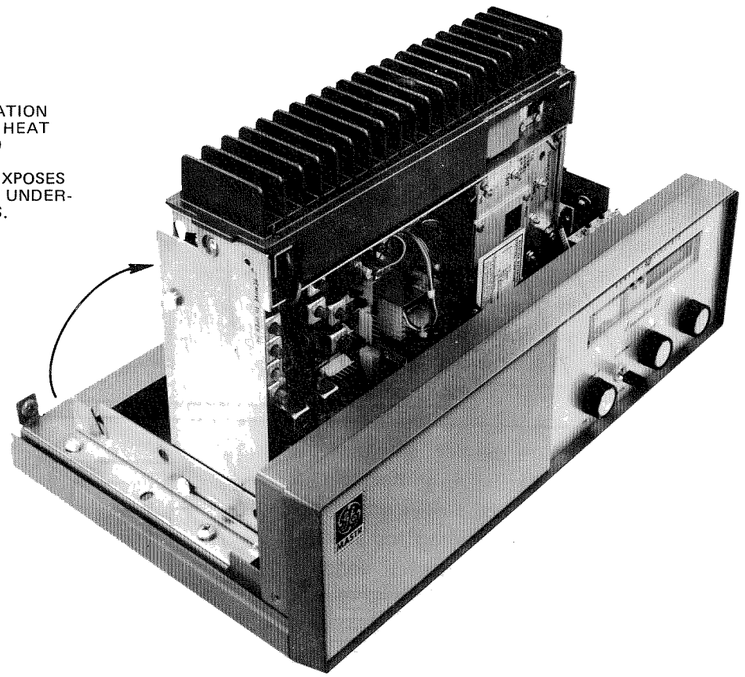
- Antenna should not be located in an area of a strong "electrical noise". It should be located at least several hundred feet from noise caused by: high tension power lines, internal combustion engines, heavy electrical machinery, and other "radio-frequency devices".
- Check transmission line and connectors for opens and shorts before installing.
- Leave some slack between top of the transmission line and antenna.
- Tape, or otherwise protect in-line fittings from weather.
- Clamp the line to the tower every five feet.
  Use wraplock on Heliax® or RG-17/U type cable.
  Use vinyl tape on Foamflex® or RG type cable.
- Use "messenger" cable to support transmission line from tower to radio building, if distance is more than eight feet.
- Make a "drip-loop" in the transmission line just before line enters the building.
- Check continuity between transmission line ground and building ground before transmission line is attached to station. They should be at the same potential.
- Keep transmission line away from all sharp edges. Do not make sharp bends.
- Upon completion of antenna installation, measure and record the antenna system V.S.W.R. at the transmitter antenna connector.

INSTALLING YOUR STATION

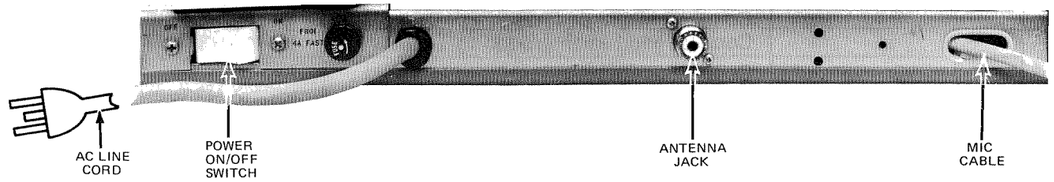


● LOOSEN KNURLED KNOBS (ONE ON EACH SIDE) AND REMOVE TOP COVER.

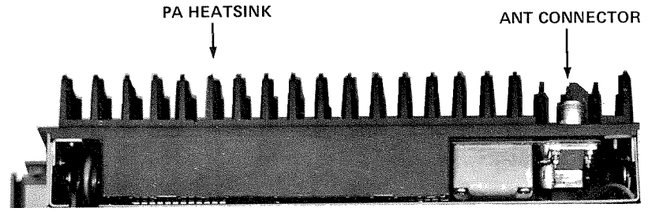
● TO GAIN ACCESS TO THE STATION SYSTEM BOARD, GRASP THE HEAT SINK AND SWING THE RADIO CHASSIS INTO THE UPRIGHT POSITION AS SHOWN. THIS EXPOSES THE SYSTEM BOARD ON THE UNDERSIDE OF THE RADIO CHASSIS.



LOCAL CONTROL CONNECTIONS



The antenna connector on the 806–870 MHz stations is located on the Heat Sink.



- Connect antenna cable to ANTENNA JACK.
- Insert microphone cable in oval hole and connect leads to system board as follows:
  - Green lead to TB901-1 (CG MONITOR)
  - White lead to TB901-2 (MIC HI)
  - Blue lead to TB901-3 (MIC LO)
  - Red lead to TB901-4 (LOCAL PTT)
  - Black lead to TB901-5 (GROUND)
- Insert plug of AC line cord into the power socket.

TELEPHONE LINE REQUIREMENTS

Local/Remote Stations require the addition of telephone lines between the station and the Remote Control Console (see Methods 1 through 3).

When choosing one of the following methods, consider both cost and performance. One of the methods may be available at a decidedly lower rate. Local telephone companies will sometimes offer no choice of these methods, but will provide an audio pair and a control pair (Method 3).

METHOD	DESCRIPTION	ADVANTAGES OR DISADVANTAGES
1	One metallic pair: for both audio and control voltages with control voltage from line to line.	Economical; dependable where earth currents may be large; slight keying clicks will be heard in paralleled Remote Control Units. In most applications, preferred over Method No. 2.
2	One metallic pair: for both audio and control voltages with control voltages from line to ground.	Economical; earth ground currents may result in interference with control functions; keying clicks minimized. Good earth to ground required at station and all control points.
3	Two telephone pairs; one for audio voltage and one for control voltage (metallic pair).	Provides best performance; keying clicks will not be heard. Requires 2 pair.

LOCAL/REMOTE CONNECTIONS

- Connect antenna cable, microphone cable and AC line cord as indicated for LOCAL CONTROL.
- The station is normally shipped with jumpers on the Remote Control Board connected as described for Method 1. If Method 2 or 3 is to be used, connect the jumpers as shown in the following chart.

CONTROL METHOD	TELEPHONE LINE CONNECTIONS	JUMPER CONNECTIONS
1	Connect telephone lines to TB1-1 and -2.	Jumper H32 to H33 and H34 to H35.
2	Connect telephone lines to TB1-1 and -2. Connect good earth ground to TB1-4.	Move jumper from H34 – H35 to H33 – H35.
3	Connect audio telephone lines to TB1-1 and -2 and control lines to TB1-3 and -4.	Remove jumpers from H32 to H33 and H34 to H35.

FINAL CHECKS BEFORE PLACING YOUR STATION IN OPERATION

After completing the installation of the Two-Way Radio, the following final operations should be performed:

Have an electronics technician who holds a 1st or 2nd Class FCC Radiotelephone license make the final adjustments.

These include:

Transmitter: Measure Forward and Reflected Power and adjust antenna length for optimum ratio. Set transmitter to rated power output (or to the specific output or input that may be required by the FCC station authorization). Measure the frequency and modulation and enter these measurements on the FCC-required Station Records.

Receiver: Tune the input circuit to match the antenna.

Instructions for making these adjustments are included in the Maintenance Manual for the Two-Way Radio. Give the alignment tools (packed with the unit) to the technician.

Be sure that a RADIO TRANSMITTER IDENTIFICATION form (FCC Form 452-C or General Electric Form NP270303) is filled out and attached to the transmitter.

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