LBI3738E

GE MOBILE RADIO

INSTALLATION OF

MASTR® Progress Line TWO-WAY FM

DESK TOP STATION COMBINATIONS

STYLE 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, built-in tune-up meter, and fan kit.

PLANNING SPECIFICATIONS

Dimensions (H x W x D)	5¾" x 20" x 13¾"
Weight	43½ lbs
Temperature Range	—30° C to +60°C (—22° F to +140° F)
AC Power Input	117/220 VAC, ±20%, 50/60 Hz (Normally Shipped Wired for 117 VAC)
Power Requirements	Standby—28 watts Transmit—150 watts @ 117 VAC, 50/60 Hz

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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 117-VAC or 220-VAC power source.

117-VAC Operation

Normally the station is shipped wired for 117-VAC operation. In this case, a 15 or 20 ampere, 117-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.

220-VAC Operation

The station may be operated from a 220-VAC power source if it is equipped with the 220-VAC factory installed option, or if it has been wired for 220-VAC operation as shown on the Power Supply Schematic Diagram in the Station Maintenance Manual.

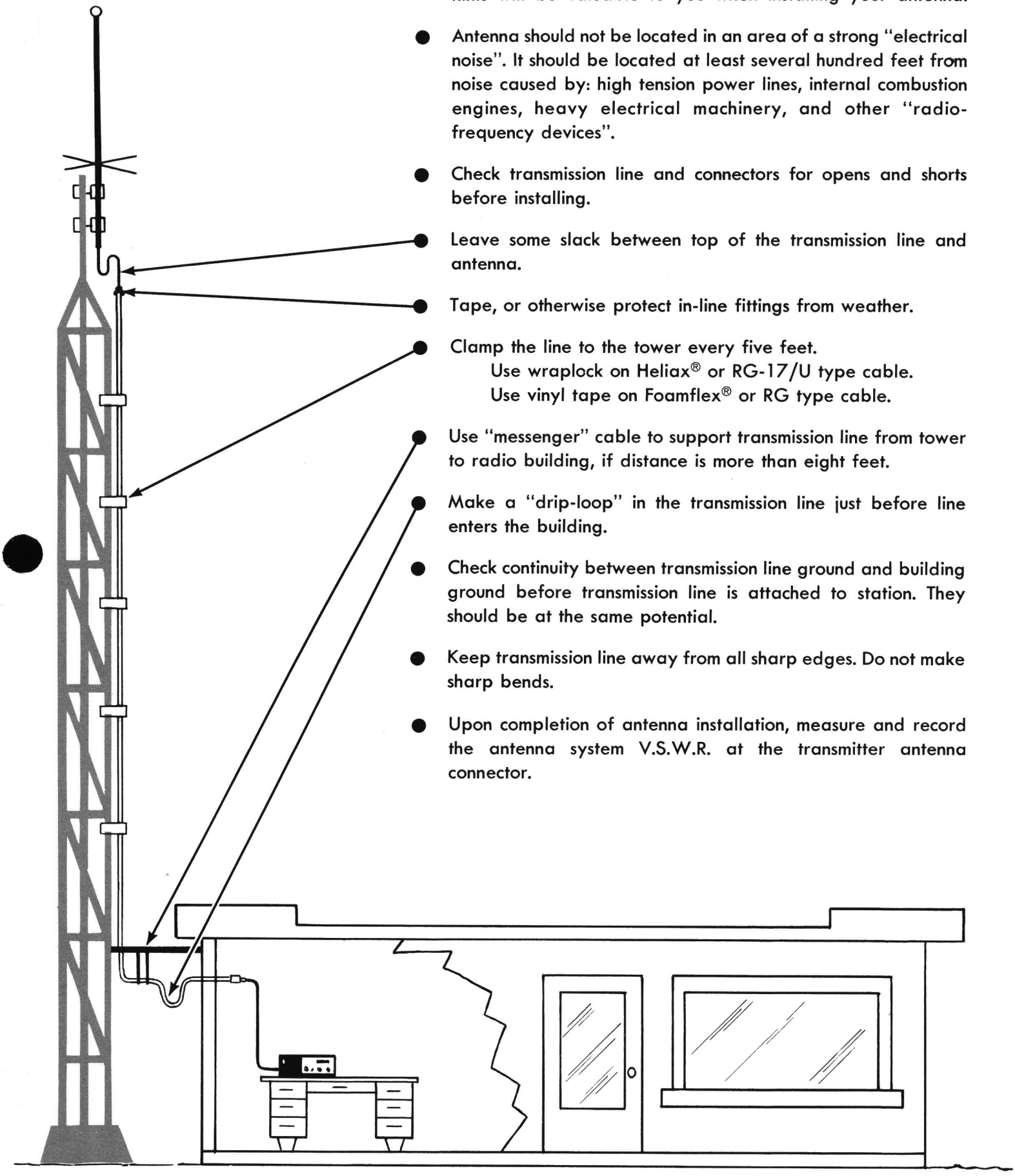
ANTENNA REQUIREMENTS

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.



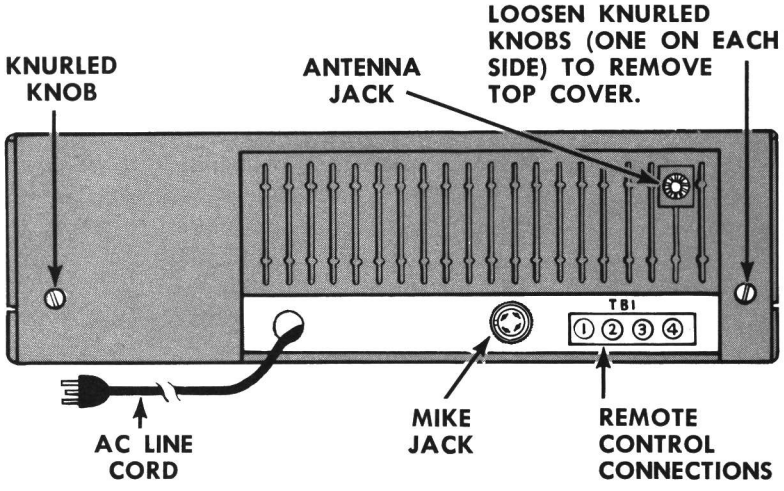
TELEPHONE LINE REQUIREMENTS

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 simplexed from line to line.	Economical; dependable where earth currents may be large; keying clicks will be heard in paralleled Remote Control Units.
2	*One metallic pair:* for both audio and control voltages with control voltage simplexed from line to ground.	Economical; earth ground currents (encountered near power company sub-stations) may interfere with control functions; keying clicks minimized.
3	*Two telephone pairs;* one for audio voltage and one for control voltage (metallic pair).	Provides best performance; keying clicks will not be heard; least susceptible to earth ground currents which may interfere with control functions.

INSTALLING YOUR STATION



LOCAL CONTROL CONNECTIONS

- Connect antenna cable to ANTENNA JACK.
- Connect microphone cable to MIKE JACK.
- Insert plug of AC line cord into the power socket.

LOCAL/REMOTE CONNECTIONS

- Connect antenna cable, microphone cable and AC line cord as indicated for LOCAL CONTROL.
- Attach telephone lines and make jumper connections according to the following chart.

The station is normally shipped with jumpers connected on the Remote Control Board (Models 4KC18A-10—13 or 4KC20A10—12) as described in Method 1. If Method 2 or 3 is used, connect the jumpers as shown in the chart. To gain access to the Remote Control Board, remove the top cover. Then push the "snap on lock" (on left side of the chassis) down, and pull chassis back. This exposes the Remote Control Board on the right front of the chassis mounting frame. Jacks J1-J5 are clearly marked.

CONTROL METHOD	TELEPHONE LINE CONNECTIONS	JUMPER CONNECTIONS
1	Connect telephone lines to TB1-1 and -2.	Jumper J3 to J5 and J2 to J4.
2	Connect telephone lines to TB1-1 and -2. Connect TB1-4 to earth ground.	Jumper J1 to J4 and J2 to J3.
3	Connect audio telephone lines to TB1-1 and -2 and control telephone lines to TB1-3 and -4.	Jumper J2 to J3.

SETTING THE CLOCK

The Digital Clock is an optional accessory that may be ordered for operation on 117-VAC @ 50 hertz, 117-VAC @ 60 hertz, 220-VAC @ 50 hertz, or 220-VAC @ 60 hertz. To set the clock for the correct time, simply loosen the knurled knobs holding the top cover and slide the cover back far enough to reach the clock. Then turn the indicator wheels for correct time as viewed from the front of the station.

FINAL CHECKS BEFORE PLACING YOUR STATION IN OPERATION

After completing the installation of your station, the following final operations should be performed:

- Final adjustments should be made to the receiver and transmitter. Transmitter adjustments must be made by a 1st or 2nd Class Radiotelephone or Radiotelegraph licensed electronic technician. Instructions for making these adjustments are included in the station Maintenance Manual. The adjustments include:

  Transmitter
  - final tuning and loading
  - deviation and frequency checks
  - plate power input

> Transmitter measurements should be entered in the permanent station records along with the signature and license number of the technician.

  Receiver
  - matching to antenna and netting frequency to transmitter.

  Control Panel
  - 4KC18A10—17—Local/Remote only—Set MIC LEVEL ADJUST Control.
  - 4KC20A10—12—Local/Remote only—Set REMOTE LINE LEVEL Control.

- Be sure the station license is displayed as required by FCC rules.
- A transmitter identification card (FCC Form 452-C or GE Nameplate NP270303) must be attached to the transmitter.
- Give the alignment tools to the maintenance technician.

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