

## TRANSMITTER OPERATION

To operate the transmitter portion of the HA-460 Transceiver, proceed as follows:

- (a) Connect antenna and power source.
- (b) Connect microphone to MIC receptacle on front panel.
- (c) Set XTAL-VFO switch to the desired mode of operation.  
For crystal mode of operation, insert crystal in front panel XTAL socket. The frequency of transmission is six times the crystal frequency. Since the driver stage and VFO tuning condensers are ganged, tune VFO to the approximate frequency of operation to obtain maximum excitation to the final RF amplifier.
- (d) If the VFO mode of operation is chosen, tune the VFO tuning control to the desired frequency.
- (e) Pre-set the PLATE TUNE and ANT LOAD controls to mid rotation (black line up).
- (f) Set POWER switch to ON. The dial window should become illuminated indicating power is applied to the transceiver.
- (g) With microphone push-to-talk button depressed adjust PLATE TUNING and ANT. LOAD controls for maximum meter indication. Repeat adjustments until no further increase in meter reading is obtainable.

NOTE: Any time the operating frequency is changed, the PLATE TUNE and ANT. LOAD controls must be readjusted for maximum output.

- (h) The transmitter is now ready for transmission. To transmit press the push-to-talk switch on the microphone and talk into the microphone.
- (i) To locate the frequency of transmission on the receiver dial, set the SPOT switch to ON and tune the receiver until a strong unmodulated signal is heard. Then, return the SPOT switch to OFF and proceed with operation of transceiver.
- (j) NOTE: Transmitter will not operate with the spot switch in the ON position.

## TRANSMITTER CRYSTALS

Crystals are available from Lafayette Radio, or any of the well-known crystal manufacturers. To order crystals proceed as follows:

1. Divide the desired operating frequency by 6 to determine the crystal frequency. Example: The desired operating frequency is 50.0 Mc

$$\frac{50.0}{6} = 8.333 \text{ Mc (crystal frequency)}$$

- 2 The crystal order to the manufacturer should contain the following information:  
Crystal Type ..... FT 243  
Crystal Frequency ..... Determined by formula in step 1.