

TRANSMIT OPERATION (contd)

3. Pull out the RF Gain knob to turn on the filaments in the final transmitter stages.

4. Operating Frequency: The transmit section of the Sidewinder may be either crystal controlled or VFO tuned. The crystal socket on the front panel is one of four that may be used for crystal control. The other three are inside the Sidewinder and are readily accessible by removing the top cover of the Sidewinder. The VFO/Crystal switch on the front panel selects the operating crystal with the front panel socket being wired to position 1. If VFO operation is selected, the following procedure should be used to determine frequency:

The main tuning dial covers a band segment one megacycle wide. The frequency at the low or 'zero' end of the dial is selected by the frequency sector switch and the dial tunes over the megacycle above. Thus, if the sector switch is on 51, and the dial is on .8, the operating frequency is 51.8 megacycles. The minor dial divisions are 25 kcs apart.

5. To tune-up the transmitter for any mode of operation, use this procedure:

- A. Turn the mode selector knob to "CW".
- B. Pull out the Mike Gain knob which will switch the unit to transmit.
- C. Use the PA Tune knob to obtain maximum meter deflection.
- D. Use the Ant Tune knob to increase the RF meter deflection.
- E. Repeat steps C and D until further tuning will not increase the RF meter reading.
- F. Push the Mike Gain knob back in.

NOTE: The PA Tune and the Ant Tune controls have no stops and are continuously variable.

NOTE: The Ant Tune control is normally very broad. Critical tuning, great interaction with the PA Tune control, or, failure of this control to tune-up properly, are all indications of a seriously mis-matched antenna system which should be corrected if the Sidewinder is to operate properly.

In some parts of the band, particularly with a slightly reactive antenna, the output meter may go off scale when the Sidewinder is transmitting in the "CW" mode. In order to tune-up with this condition, switch to the "USB" mode and adjust the Carrier Balance control for convenient reading on the meter, and then tune-up as usual.

- G. Select the desired mode of operation as per step 6, 7, or 8; for "CW", "USB", or "AM" respectively.

6. CW Operation; (after completing step 5)

- A. Switch to "CW" mode and plug in your key (lower jack on the left side, rear).
- B. Pull out the Mike Gain knob to use the key.
- C. Push in the Mike Gain knob to receive.

7. USB Operation; (after completing step 5)

- A. Turn the mode selector knob to "USB".
- B. Pull out the Mike Gain knob.
- C. Turn the Carrier Balance knob slowly clockwise and watch the RF meter.

NOTE: This control is a ten-turn device and must be adjusted carefully. If the meter reading increases, the null has been passed and the control must be rotated in the opposite direction. If the meter reading decreases, allow it to go through the null and bring it up until it indicates the lowest division on the meter scale. Using the dot on the knob for reference, note its position in relation to the printing on the panel behind it. Now slowly rotate the knob the opposite way; the meter reading should decrease to a null and then increase. Bring the meter reading back to the same scale division used previously. Again using the dot on the knob for reference, note its angular relation to the first position when the meter indicated the same scale division. The correct setting will be a point that is half-way between these two positions, and the meter should read below scale.

8. AM Operation; (after completing step 5)

- A. Turn the mode selector knob to "AM".
- B. Turn the Mike Gain control fully counterclockwise and pull it out.
- C. Set the carrier by adjusting the Carrier Balance control until the output meter reads 3 on the 0 to 10 scale. Push the Mike Gain control back in after this adjustment is completed.
- D. Press the microphone press-to-talk switch and speak into the microphone.
- E. While speaking into the microphone, rotate the Mike Gain control until the RF meter just 'kicks' positive.

Crystal Controlled Operation for any Mode:

The 910A Sidewinder requires fundamental-mode crystals operating between 5.50 and 6.5 mc for transmitter spot frequency control. Use of crystals outside this range will result in spurious response and is not recommended. The crystal sockets are designed for HC-6 holders with .050" diameter pins. If the exact frequency of operation is not too critical, within 15 kc or so, either series or parallel mode crystals may be employed. The oscillator is purposely designed to be tolerant of low-activity crystals, so that 'junk-box' crystals may be ground to frequency with good probability of success. Crystals in older type holders may be fitted to the front panel socket by means of an adapter.

When an exact frequency is desired, within 1 or 2 kc, a series-mode crystal in the correct holder should be ground to your frequency. The transmitter output frequency will be the crystal frequency minus 5.5 mc, plus the frequency indicated by the "Sector" switch. For instance, a 5.650 mc crystal would provide output at 50.150 mc when the "Sector" switch is set at 50. The same crystal produces a signal 51.150 mc when the "Sector"