ANTENNA

The 6 meter band is borderline territory between the DX frequencies and those normally employed for local work. Thus, just about every form of wave propagation found throughout the radio spectrum appears, on occasion, in the 50 megacycle region. For this reason, the choice of an antenna will depend largely upon the type of operation the user intends.

For mobile operation, the standard mobile whip cut to 50 mc (54"), should prove satisfactory if loaded and tuned properly. For maximum signal, the antenna should be as long as possible, consistent with wave-length, with a low-loss, high-Q loading coil, mounted fairly high on the body of the car and carefully tuned to exact resonance. The addition of a matching network at the feed point is of some help, and at times may be a necessity, to get the SWR below 2:1. Top capacitive loading will decrease the amount of coil necessary and raise the efficiency of the antenna by reducing coil losses. Always use an SWR bridge in tuning the mobile antenna for a Standing Wave Ratio of 2:1 or better. The various antenna manufacturers include installation and tuning procedures with their products.

If portable use of the Sidewinder is desired in "transmitter hunts", "field days", etc., the Gonset telescoping antenna, part number 621-018, is available at modest cost.

For fixed station operation, various antennas will perform satisfactorily, however, the multi-element beam is perhaps the best. The antenna handbook published by the ARRL should be consulted in determining the type of antenna which will afford the user the optimum efficiency for his particular application.

RECEIVE OPERATION

1. Before the unit is turned on, make sure that the Mike Gain knob is pushed in to prevent any accidental transmissions.

2. Rotate the AF Gain knob about half way; this will turn on the unit and allow audio output.

   NOTE: The tuning dial and the "S" meter will not be illuminated unless the RF Gain knob is pulled out. This switches on the dial lamps and the filaments in the transmitter final stages. For conserving battery power in mobile receive operation, the RF Gain knob may be left in.

3. Select the desired mode of operation with the mode switch: CW, USB, or AM.

4. Turn the Sector switch to the desired sector of the band to be monitored:

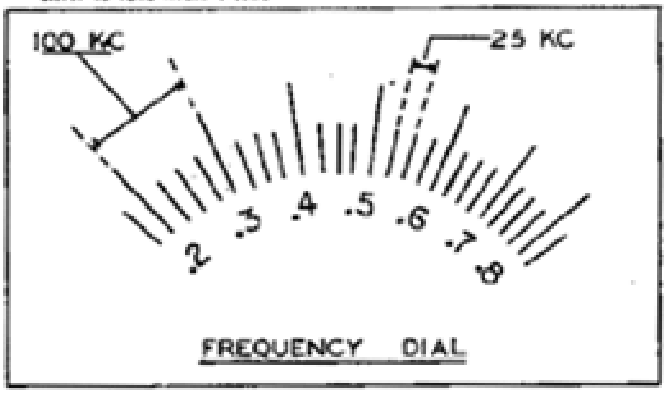
   50 = 50-51 megacycles,
   51 = 51-52 megacycles,
   52 = 52-53 megacycles,
   53 = 53-54 megacycles.

5. Rotate the RF Gain control fully clockwise until the "S" meter shows some deflection and receiver noise can be heard from the speaker.

6. Use the coarse tune frequency knob to tune across the selected sector of the band. See Step 4. The frequency dial is divided into ten equal parts which span the one-megacycle selected by the sector control. Each of these ten equal parts is divided into sections 25 kc wide. See Figure 6. When the desired frequency is found, use the fine tune knob for closer adjustment. When the transmitter is being used also, the final receive adjustment for "naturalness" of voice should always be made with the "Offset Tuning" control. This control tunes only the receiver. Since it does not disturb the transmit frequency, 'tracking' or re-tuning on the part of the other operator is avoided.

7. If the received station is extremely strong, the RF Gain control may be rotated counterclockwise for clearest reception and reduction of background noise. Note, however, that the "S" meter does not function if the RF Gain control is not fully advanced.

8. If the transmitter is switched from VFO to crystal control while listening to a station on the receiver, it may be necessary to re-tune the receiver slightly for continued reception. This is a normal consequence of switching Q19 from a receive VFO buffer to a transmit crystal oscillator, and has no practical affect on dial accuracy, as the frequency shift is less than 1 kc.



ALL SMALL DIVISIONS ARE 25 KC, INCLUDING THE ONES BELOW "0" AND ABOVE "1.0".

Figure 6

TRANSMIT OPERATION

NOTE: For proper transmitter performance, the Sidewinder dial lamp must be operating as it forms a part of the filament circuit. Should this lamp burn out, the recommended replacement is a GE long-life type #755, Gonset part number 471-024. If this lamp is not readily available, a #1847 medium life or an ordinary #47 lamp may be used as a substitute. All these lamps are electrically identical, but the life of the #47 lamp is considerably shorter than that of the recommended lamp.

1. Do not pull out the Mike Gain knob or press the microphone press-to-talk switch until you are ready to transmit.

2. Rotate the AF Gain knob clockwise to turn on the unit.