

SECTION IV

SINGLE SIDE BAND OPERATION

4-1. SINGLE SIDE BAND OPERATION (SSB).

4-2. After the transmitter has been tuned properly for CW operation, it may be placed in SSB operation, as follows:

- a. Place the TRANSMIT switch, modulator PLATE and FILAMENT switches in OFF position.
- b. Place SSB-AM switch in SSB position.
- c. Connect SSB signal source to the SSB-VFO connection on the rear of the R.F. section. The SSB driver unit must deliver 10-15 watts power AT THE FINAL GRID.
- d. Place the FUNCTION switch in CW position.
- e. Place the TRANSMIT switch in the ON position.
- f. Feed a steady tone into the audio input of the SSB exciter, in the range of 1,000 to 1,500 cycles. An audio signal generator is excellent for this purpose. Should no generator be available, the operator may whistle into the microphone, holding the tone as steady as possible. Final amplifier grid current should NOT exceed 5 Ma. (A grid cur-

rent of about 1 Ma. on peaks is excellent).

g. The final plate current swing for full input should not exceed 260 Ma. PEAK. The resting current will be approximately 90 Ma. In SSB operation, the power amplifier grid and plate current swings are entirely controlled by the amount of excitation from the SSB exciter. Heat dissipation at the resting current of 80-100 Ma. on the final plate will be evidenced by a slight color on the plate of the tube, however, this will disappear under modulation.

h. Settings of the tuning controls will hold over a slight frequency shift. For large frequency excursions, the transmitter should be retuned as described in Section II.

4-3. The best way to tune any SSB amplifier for maximum efficiency is to use a R.F. current indicating device in the antenna system, along with a scope to monitor linearity. Using the two tone test, adjust drive to the final for about 1 Ma. Load the final for maximum R.F. output, as indicated by the R.F. indicator so long as the waveshape stays linear.

SECTION V

EMERGENCY SHUT-OFF

5-1. EMERGENCY SHUT-OFF.

5-2. For emergency shut-off, place filament switch (Power Supply panel) in OFF position. This action removes all voltages.

5-3. TYPICAL INSTRUMENT READINGS-PHONE & CW. 20 METER BAND.

OSC. PLATE 15 Ma.	BUFFER PLATE 30 Ma.	P.A. GRID 15 Ma.	P.A. SCREEN 40 Ma.	P.A. PLATE 330 Ma.
SSB operation		Peak 3-5 Ma.	0-30 Ma. PEAK	90-260 Peak Ma.

5-4. PRECAUTIONS TO BE OBSERVED

5-5. All meter readings should be noted occasionally. Should the readings deviate considerably (20% P.A. SCREEN, 10% others) from that listed in the typical readings, operation should be suspended until the cause is determined. Failure to do this may result in damage to the equipment, or in any event cause a poor signal to be transmitted.