

- a. Tune RF generator for peak reading on audio meter (1) and peak volume from the speaker (12). The frequency of the audio output will vary as the signal generator frequency is changed. If no tone output can be obtained on the meter and speaker, receiver sensitivity is poor and a much higher RF generator level may be required.
 - b. Read the audio output level in watts from audio meter (1). Adjust the receiver volume control for $\frac{1}{2}$ of the receiver's rated maximum audio power (if the receiver is rated at 2 watts of audio, adjust for 1 watt). If audio output is less than $\frac{1}{2}$ of the receiver's rated maximum audio output, leave the volume control set at maximum.
 - c. Note the audio meter (1) reading on the dB scale.
 - d. Turn off the RF generator.
 - e. Again note the audio meter (1) reading on the dB scale.
 - f. If step 13e is more than 10 dB below step 13c, decrease the level of the RF generator output and repeat steps 13a thru 13e. If step 13e is less than 10 dB below step 13c, increase the level of the RF generator output and repeat steps 13a thru 13e.
14. Read sensitivity in microvolts from the attenuator of the RF generator.

NOTE

It is not always necessary to measure the sensitivity in microvolts, but merely to note whether or not the receiver meets the manufacturer's specification. In this case, merely set the RF generator to the specification level and note the meter reading. Next, turn off the RF generator and again note the meter reading. If there is 10 dB or greater difference between the meter readings, the receiver meets specification; if less than 10 dB, it does not meet specification. Also note that the audio output level equals or exceeds the specification value. (For a specification of $0.5\mu\text{V}$ or 10 dB (S+N)/N at $\frac{1}{2}$ watt audio, set the RF generator level at $0.5\mu\text{V}$ and note at least $\frac{1}{2}$ watt of audio and at least 10 dB difference between the signal and no-signal conditions).

15. Select the lower sideband mode (LSB) on the receiver being checked and repeat the check. Sensitivity should be the same as for the upper sideband mode
16. Check USB and LSB mode sensitivity for each channel of operation. Sensitivity should be approximately the same for all channels.

SSB RECEIVER ADJACENT SIDEBAND REJECTION CHECK (Refer to Fig. 17)

This check measures the ability of a single sideband receiver to suppress signals received on the opposite sideband. When the receiver is set for USB reception, any LSB input signals should be suppressed at least 40 dB, and

when the receiver is set for LSB reception, any USB input signals should be suppressed at least 40 dB.

This check should be performed after the SSB RECEIVER SENSITIVITY CHECK and is applicable to all types of receivers listed for that check. If desired, the steps of this procedure may be incorporated into the procedure for the sensitivity check. This check needs to be performed on only one channel. Any channel is satisfactory.

1. After performing the SSB RECEIVER SENSITIVITY CHECK, leave connections and controls as at the conclusion of that check.
2. Select the USB mode on the receiver being checked.
3. Set the RF generator to the CW mode.
4. Adjust the RF generator to the 10 dB (S+N)/N sensitivity level.
5. Tune the RF generator frequency for maximum receiver output on audio meter (1).
6. Note the meter reading for reference.
7. Switch the receiver to the LSB mode.
8. Increase the output level of the RF generator until the audio meter (1) equals the reading in step 6, if possible.
9. Read the level from the attenuator of the RF generator. It should require at least a 40 dB increase in signal level to produce this condition. If less than 40 dB suppression of the opposite sideband is measured, be sure the RF generator frequency is not shifted toward the opposite sideband by the level adjustment. Recheck RF generator tuning on the desired sideband.
10. Repeat procedure, except set RF generator to LSB frequency and measure USB suppression.

SSB RECEIVER SQUELCH SENSITIVITY CHECK (Refer to Fig. 18)

This check measures the minimum amount of on-frequency RF carrier required to unsquelch the receiver when adjusted at squelch threshold (the point which barely suppresses receiver noise), and at tight squelch. The receiver should meet the receiver manufacturer's specifications for squelch threshold sensitivity, which is typically 0.5 microvolt or less. It should also meet the receiver manufacturer's specification for tight squelch which may vary from 30 microvolts to 500 microvolts. The receiver should not block strong signals, even when set at tight squelch.

This check should be performed after the SSB RECEIVER SENSITIVITY CHECK and is applicable to all types of receivers listed for that check. The check is very similar to the squelch sensitivity checks for the AM mode except that the receiver is operated in the USB or LSB mode and a CW signal is injected from the RF generator. This check needs to be performed on only one channel. Any channel is satisfactory.