TYPES OF SIGNALS AND HOW TO TUNE THEM IN

TUNING AM SIGNALS

The standard broadcast band and other AM transmissions are tuned in exactly the same manner as with any conventional radio, except that the SENSITIVITY control must be extreme clockwise. If the control is not in this position, the AVC will not work properly. Also, the PHONE — CW SSB switch must be in the PHONE position.

TUNING RADIOTELEGRAPH (CW) SIGNALS

To tune these signals properly, perform the following steps:

(1) Set B.F.O. PITCH control at mid setting.

(2) Turn the SENSITIVITY control fully counterclockwise. The receiver will become silent. Turn the PHONE–CW SSB switch to CW-SSB position.

(3) Turn the VOLUME control to between three quarters and full volume in a clockwise direction.

(4) Turn the SENSITIVITY control slowly clockwise (to increase the RF gain) until signals are heard at a comfortable listening level. Radio-telegraph signals will now be heard as tones forming a series of dots and dashes. The pitch of the tones is varied by careful adjustment of the BANDSPREAD control.

TUNING SINGLE-SIDEBAND-SUPPRESSED-CARRIER (SSB) SIGNALS

Single-sideband-suppressed-carrier signals are now in fairly common use on the amateur bands. When the receiver is set up for AM operation, these transmissions have a peculiar nasal quality that sounds quite "bassey," and the voice cannot be understood. To tune these signals, perform the following steps:

(1) Set up the receiver in exactly the same way as for tuning radio-telegraph (CW) signals, as explained in steps (2), (3) and (4) of the above paragraph. Set BFO PITCH for upper or lower sideband.

(2) Tune VERY CAREFULLY AND SLOWLY through the signal, using the BANDSPREAD control, until the voice can be understood and sounds natural. This will occur at *only one spot* as you tune. When you are not on this exact spot, but very near it, the voice will sound either very high-pitched or very low-pitched, but you will be able to understand it. If the SSB signal is quite strong, rotate the SENSITIVITY control counterclockwise to adjust the volume, leaving the VOLUME control at about two-thirds of the way through its range. It will require some practice to tune these signals correctly, but after a few "tries" you will be able to do it if you have followed these instructions carefully. After tuning in an SSB signal, it may be necessary to retune occasionally to keep the voice sounding natural.

USING HEADPHONES OR AN EXTERNAL SPEAKER

The PHONES - EXT. SPEAKER jack on the rear of the receiver mates with a standard headphone plug, sometimes called a "PL 55" in accordance with the military designation. (Any standard low or high impedance headphones may be used). Most headphones come equipped with the proper plug, but if your headphones have "tip-jacks" instead, the correct mating plug can be obtained from most electronics parts stores. While using headphones, the VOLUME control will have to be turned down (counterclockwise) appreciably. As soon as the headphone plug is inserted, the speaker will silence.

An external speaker of 3 to 6 ohms impedance may be used in place of the one included in the receiver. To connect an external speaker, solder two wires to the *voice coil* terminals on the external speaker, and connect the other ends of the two wires to the terminals of a type PL-55 mating plug, or its equivalent. Insert the PL-55 plug in the phone jack.

SPECIAL FEATURES OF THE GR-212 FOR AMATEUR RADIO STATIONS

VHF CONVERTERS

The GR-212 may be used as a selective RF, IF, and audio amplifier following VHF converters for the 6 meter (50-54 mc.) and 2 meter (144-148 mc.) amateur bands. Calibrations are provided on the GR-212 (25-30 mc. range) for crystal controlled converters having an I.F. output range of 26 mc. to 30 mc. Installation and operation instructions for such units are supplied by the converter manufacturer.