

INSTRUCTION MANUAL

COMMUNICATIONS RECEIVER

MODEL GR-212

Your GONSET GR-212 communications receiver provides all of the features required for outstanding reception of amateur radio and shortwave transmissions in the 1.9-30 Mc. range, and for superior broadcast-band operation from .54 to 1.6 mc. The receiver is transformer operated and features an "S-meter" for signal strength monitoring, a separate tunable beat-frequency oscillator for stable reception of code (CW) and single side-band (SSB) voice transmissions, and a highly effective automatic noise limiter to suppress pulse-type ignition noise or other similar interference.

The receiver uses three 455 kc IF amplifier stages and 12 tuned IF circuits. Coupling between these circuits is designed for optimum band-pass characteristics and "steep-skirt" response.

The overall intermediate-frequency band-pass response results in excellent audio intelligibility with sufficient selectivity to reduce interference from adjacent signals to a minimum.

The receiver may be externally muted by connecting a switch, a pair of normally-closed relay contacts, or other similar device across the EXT MUTE terminals on the rear of the cabinet. These terminals are in parallel with the RECEIVE-STANDBY switch contacts. With the RECEIVE-STANDBY switch in STANDBY position, the receiver will be silenced when the external contacts are open, and will operate normally with these contacts connected. The Mute terminals are both above chassis potential, and so, neither should be grounded. However, there is no D.C. voltage or other shock hazard at the terminals.

TECHNICAL SPECIFICATIONS

Sensitivity: 1 microvolt provides 8 db $\frac{S+N}{N}$ on all hi-frequency bands.

Selectivity: 4.8 kc at 6 db points
12.5 kc at 16.0 db points

Frequency Range: 550 to 1600 kc (Band A)
2.0 to 5.7 mc (Band B)
5.7 to 13 mc (Band C)
13 to 20 mc (Band D)
20 to 25 mc (Band E)
25 to 30 mc (Band F)

Audio Output: 2.0 microvolts 30% modulated produces 2.7 watts output.

Types of Signals Received: AM, CW, SSB

Tube complement: 1 - 6U8 Mixer and Oscillator
2 - 6BA6 I.F. Amplifiers
1 - 6AL5 Detector and Noise Limiter
1 - 6AQ5 Audio Output
1 - 6BE6 Second Converter
1 - 12AX7 Audio Amplifier and B.F.O.
2 - Silicon Diodes as Rectifiers

ANTENNA INSTALLATION

The GR-212 receiver requires an external antenna. For a simple installation, a piece of wire (30-40 ft.) can be connected to the ANT. terminal on the rear of the receiver, and the GND terminal connected to a good ground point (such as a water pipe or radiator) with a short piece of wire. The antenna wire should be stretched out to its full length, and may be run vertically, horizontally, or in a "bent" configuration, as convenient. When the receiver is located inside a house or building with a metallic frame, the antenna must be run outside the building for as much of its length as possible.

The GR-212 input circuits are designed for a low-impedance line from the antenna, either balanced or un-balanced. The GR-212 has a built-in Low Pass Filter which has been optimized around an antenna input of fifty ohms. Therefore, the filter will function best when coaxial line lead-in is used for high frequency band reception. For single-band operation (optimum reception over a narrow range of frequencies), low-impedance transmission line such as 75-ohm "twin lead", or coaxial line, should be used in preference to 300 ohm line.

When the receiver is used in conjunction with a transmitter for amateur-band station operation, best results are usually obtained if the same antenna is used for both transmitting and receiving. This requires the addition of an external antenna change-over relay or "T-R" tube type relay. The relay may be actuated by the normal station transmit-receive function switch. The receiver antenna input terminals must be protected from high RF voltages while transmitting. This is usually accomplished by shorting out the antenna terminals with "back contacts" on the transmit-receive relay during transmitting periods.