

AN/GRC-9

Section II. DESCRIPTION AND DATA

4. Purpose and Use

a. Radio Set AN/GRC-9(*) is a low-power radio transmitter and receiver that may be used in either ground or vehicular installations. The radio set receives and transmits continuous-wave (cw), amplitude-modulated (am), and modulated continuous-wave (mcw) radio-frequency (rf) signals in the 2- to 12-megacycle (mc) range.

b. A complete radio set consists of a basic unit plus an installation kit. The basic set which includes the power supplies, the installation kit, that varies for each type of vehicle (par. 22h), and the complete radio set each have individual stock numbers. A general purpose kit (par. 22i) is also available for ground installations.

c. Power supplies are interchangeable in the radio sets (fig. 2). Gasoline-engine-driven generator Power Unit PE-162-A, PE-162-B, or PE-162-C (not supplied) may also be used. Battery BA-48 (not supplied) can be used for the receiver and part of the transmitter. The nomenclature of the radio set, the power supplies furnished, and how they are used are shown in the chart below:

Radio set	Power supplies
Radio Set AN/GRC-9	Vibrator Power Supply PE-237 (for vehicular use). Generator GN-58-(*) (for ground use).
Radio Set AN/GRC-9A	Dynamotor-Power Supply DY-88/GRC-9 (for vehicular use). Generator GN-58-(*) (for ground use).
Radio Set AN/GRC-9X	Dynamotor-Power Supply DY-105/GRC-9X (for vehicular use). Generator GN-58-(*) (for ground use).
Radio Set AN/GRC-9Y	Power Supply PP-327(*)/GRC-9Y (for ground use). Generator GN-58-(*) (for ground use).

d. Microphone T-45 or T-17 (not supplied) is used for voice and Key J-45 is used to key the transmitter. A 6-, 12-, or 24-volt direct-current

(dc) vehicular storage battery (not supplied) furnishes input power to Vibrator Power Supply PE-237 and Dynamotor-Power Supply DY-88/GRC-9. Only a 24-volt storage battery (not supplied) can be used with Dynamotor-Power Supply DY-105/GRC-9X. When an electronic power supply is not available, the receiver-transmitter may be operated by using the generator power supply. If the battery power supply is to be used, it must be used in conjunction with the generator power supply. Alternating current (ac) of either 115 or 230 volts is required at the input source of Power Supply PP-327(*)/GRC-9Y.

5. System Application

Radio Set AN/GRC-9(*) is used to communicate with any cw, mcw, or phone equipment that operates within the 2- to 12-mc band. It can be used as an isolated unit or in a net group. Figure 3 shows some of the communication sets than can be used with the radio set in system operation.

6. Technical Characteristics

a. Transmitter.

Frequency range:

Band 1.....6.6 to 12 mc.
Band 2.....3.6 to 6.6 mc.
Band 3.....2.0 to 3.6 mc.

Transmitter type.....Crystal or master-oscillator power amplifier.

Crystal channels.....Two in each band.

Types of signals transmitted.....Cw, mcw, and phone.

Distance range:¹

Cw:

Ground operation...30 miles.
Vehicular operation...20 miles.

Mcw:

Ground operation...20 miles.
Vehicular operation...10 miles.

Voice:

Ground operation...10 miles.
Vehicular operation...10 miles.

Antennas:

Ground operation...Whip or long-wire.
Vehicular operation...Whip.

Type of modulation.....Amplitude.

Number of tubes.....5.

Weight.....29 pounds.

¹ These values are approximations, since the range will vary considerably according to terrain, atmospheric conditions, frequencies, and time of year, month, and day.