

SECTION I

DESCRIPTION

BC-1306

1. **GENERAL.** Radio Set SCR-694-C is a compact and efficient two-way radio telephone and radio telegraph unit which will provide communication between moving or stationary vehicles, or as a portable field radio set. The net weight of the complete radio set is 191.5 pounds.

2. RANGE.

a. Operating Range. This set will provide communication up to 15 miles on voice and up to 30 miles on continuous wave (cw) between moving vehicles.

b. Frequency Range. Radio Set SCR-694-C covers the frequency range 3,800 to 6,500 kilocycles (kc). Crystals used in the transmitter operate at one-half of the transmitting frequency.

3. TYPES OF TRANSMISSION AND RECEPTION.

a. Radio Set SCR-694-C will transmit and receive:

(1) Continuous-wave (c-w) radio telegraph.

(2) Voice-modulated radio telephone (phone), amplitude-modulated.

(3) Tone-modulated radio telegraph, modulated continuous wave (mcw), amplitude-modulated.

b. All types of transmission are master-oscillator-controlled or crystal-controlled.

(1) A calibration chart for master-oscillator operation is attached to the front of the transmitter.

(2) A 200-kc crystal in the receiver furnishes standard-frequency check points against which to check and correct the calibration of the transmitter or receiver.

(3) Provision has been made for two crystals to be plugged into a receptacle on the front panel of the transmitter in order to control frequency during crystal-controlled operation.

(4) A three-position switch selects the frequency-controlling element: MO, CRYSTAL A, or CRYSTAL B.

(5) A chart attached to the front of the crystal cover provides a convenient place to record the frequencies of the crystals inside and the corresponding dial settings.

4. COMPONENTS.

a. Radio Set SCR-694-C includes the following items:

1 Antenna AN-160.

1 Bag BG-172 (for accessories).

1 Bag BG-173 (for radio receiver-transmitter).

1 Bag BG-175 (for Generator GN-58).

1 Box BX-53-A (for spare tubes).

1 Box BX-54-A (for spare crystals).

2 Cord CD-307-A (headset extension cord), 1 in use, 1 spare.

1 Cord CD-318-A (cord and control switch for Microphone T-45).

2 Cord CD-604 (for headset), 1 in use, 1 spare.

2 Cord CD-933 (attached to headset), 1 in use, 1 spare.

1 Cord CD-1086 (7 ft.), (connects generator to set).

1 Cord CD-1086 (44 in.), (connects vibrator unit to set).

1 Cord CD-1119 (connects Battery BA-48 to set).

1 Counterpoise CP-12.

1 Counterpoise CP-13.

2 Crank GC-7 (for Generator GN-58).

- 1 Generator GN-58, including one set spare brushes inside case.
- 1 Guy GY-12.
- 1 Guy GY-42 (two 20-ft. lengths of Twine RP-11, with 2 insulators and $\frac{5}{16}$ -inch collar clamp).
- 1 Halyard M-378.
- 1 Halyard M-379.
- 2 Headset HS-30, 1 in use, 1 spare.
- 1 Insulator IN-127.
- 1 Key J-45.
- 2 Lamp, Pilot (installed in spare tube box).
- 1 Leg LG-2-A.
- 2 Leg LG-3.
- 1 Mast Base MP-65.
- 1 Mast Bracket MP-50.
- 6 Mast Section MS-116-A, 3 in use, 3 spare.
- 2 Mast Section MS-117-A, 1 in use, 1 spare.
- 2 Mast Section MS-118-A, 1 in use, 1 spare.
- 1 Microphone T-17.
- 1 Microphone T-45.
- 1 Mounting FT-482.
- 3 Neon Bulb, stock number 2Z5889-3, $\frac{1}{4}$ -watt (installed in spare tube box).
- 1 Panel Cover M-404.
- 1 Receiver and Transmitter BC-1306, including:
 - 1 Crystal Holder FT-241 with 200-kc crystal.
 - 1 Set of Tubes as follows:
 - 1 Tube JAN-2E22.
 - 2 Tube JAN-3A4.
 - 1 Tube JAN-OC3/VR-105 (VT-200).
 - 1 Tube JAN-3Q4 (VT-264).
 - 1 Tube JAN-1S5 (VT-172).
 - 2 Tube JAN-1L4.
 - 2 Tube JAN-1R5 (VT-171).
 - 2 Pilot Lamp, 2 volts, 60 ma.
 - 1 Neon Bulb, stock number 2Z5889-3, $\frac{1}{4}$ -watt.
- 2 Reel RL-29.
- 1 Roll BG-174 (for generator legs, mast sections, etc.).
- 4 Stake GP-27-A.
- 2 Technical Manual TM 11-230C (for Radio Set SCR-694-C).
- 1 Vibrator Power Unit PE-237, including:
 - 2 Tube JAN-1005 (VT-195).
 - 2 Tube JAN-1006 (VT-249).
 - 2 Vibrator VB-1.
 - 2 Vibrator, heavy duty.
 - 5 ft. Wire W-128.

b. The following items taken from a complete Radio Set SCR-694-C constitute the equipment for field use:

- 1 Antenna AN-160.
- 1 Bag BG-172 (for accessories).
- 1 Bag BG-173 (for receiver-transmitter).
- 1 Bag BG-175 (for Generator GN-58).
- 1 Box BX-53-A (for spare tubes).
- 1 Box BX-54-A (for crystals).
- 2 Cord CD-307-A (headset extension cord), 1 in use, 1 spare.
- 1 Cord CD-318-A (cord and control switch for microphone T-45).
- 2 Cord CD-604 (for headset), 1 in use, 1 spare.
- 2 Cord CD-933 (attached to headsets), 1 in use, 1 spare.
- 1 Cord CD-1086 (7 ft.) (connects generator to receiver-transmitter).
- 1 Cord CD-1119 (connects Battery BA-48 to receiver-transmitter).
- 1 Counterpoise CP-12.
- 1 Counterpoise CP-13.
- 2 Crank GC-7 (for Generator GN-58).
- 1 Generator GN-58 (including one set of spare brushes inside case).
- 1 Guy GY-12.
- 1 Guy GY-42 (two 20-ft. lengths of Twine RP-11, with 2 insulators and $\frac{5}{16}$ -inch collar clamp).
- 1 Halyard M-378.
- 1 Halyard M-379.
- 2 Headset HS-30; 1 in use, 1 spare.
- 1 Insulator IN-127.
- 1 Key J-45.
- 2 Lamp, Pilot (installed in spare tube box).
- 1 Leg LG-2-A.
- 2 Leg LG-3.
- 6 Mast Section MS-116-A, 3 in use, 3 spare.
- 2 Mast Section MS-117-A, 1 in use, 1 spare.
- 2 Mast Section MS-118-A, 1 in use, 1 spare.
- 1 Microphone T-17.
- 1 Microphone T-45.
- 3 Neon Bulb, $\frac{1}{4}$ -watt (installed in spare tube box).
- 1 Panel Cover M-404.
- 1 Receiver and Transmitter BC-1306, including:
 - 1 Crystal Holder FT-241 with 200-kc crystal.
 - 1 Set of Tubes as follows:
 - 1 Tube JAN-2E22.
 - 2 Tube JAN-3A4.
 - 1 Tube JAN-OC3/VR-105 (VT-200).
 - 1 Tube JAN-3Q4 (VT-264).
 - 1 Tube JAN-1S5 (VT-172).
 - 2 Tube JAN-1L4.
 - 1 Tube JAN-1R5 (VT-171).
- 2 Lamp, Pilot, 2 volts, 60 ma.
- 1 Neon bulb, $\frac{1}{4}$ -watt.