CONFIDENTIAL
Security Information

Catalogue of
ELECTRONIC
EQUIPMENT

NavShips 900,116 — Supplement No. 5
1 October 1952

VOLUME THREE OF THREE
S SERIES THROUGH MISCELLANEOUS

US Army Signal Corps Equipments
used by US Navy
(Extracts from Volume Three)

BUREAU of SHIPS • NAVY DEPARTMENT

CONFIDENTIAL
ARMY EQUIPMENTS
RADIO RECEIVERS BC-312-N, BC-312-NX, AND BC-342-N

Use—Part of radio set SCR-299.
Frequency range.—1.5 to 15 megacycles in six bands.

Power required for operation

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Volts</th>
<th>Amperes</th>
<th>Watts</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC-312-N</td>
<td>12-14 d-c.</td>
<td>4.2-4.8</td>
<td>51.5-67.3</td>
</tr>
<tr>
<td>BC-312-NX</td>
<td>24-28 d-c.</td>
<td>2.5-2.4</td>
<td>52.8-67.3</td>
</tr>
<tr>
<td>BC-342-N</td>
<td>110-120 a-c.</td>
<td>0.64-0.71</td>
<td>70.0-85.0</td>
</tr>
</tbody>
</table>

Description.—Radio Receivers BC-312-N, BC-312-NX, and BC-342-N are of the multi-band, integralized signals. The circuit also provides reception using either automatic or manual control of volume. Each receiver has two stages of r-f amplification, a first detector (mixer) stage, two stages of i-f amplification, a combined second detector and first stage of a-f amplification, and a separate stage of a-f amplification. Also each receiver has a separate high-frequency oscillator and a separate c-w beat-frequency oscillator. The i-f amplifier in Radio Receiver BC-342-N only is designed to permit the use of a crystal filter circuit.

Receiver BC-312-N is designed to operate on 12 volts d-c and uses Dynamotor DM-21-B for its plate power source; Receiver BC-312-NX operates on 24 volts d-c and uses Dynamotor DM-21-CX; Receiver BC-342-N uses 110-220 volts a-c and Rectifier RA-20. These are the main differences between these receivers.

Tube complement.—Radio receiver BC-312-N:
6K7, First r-f amplifier.
6K7, Second r-f amplifier.
6L7, First detector (mixer).

CATHODE OF NAVAL ELECTRONIC EQUIPMENT—APRIL 1946
BC-312-N  BC-342-N
BC-312-NX BC-329

6K7GT, First i-f amplifier.
6K7GT, Second i-f amplifier.
6R7GT, Second detector, a-c, and first a-f amplifier.
6C5, R-F oscillator.
6C5, C-W oscillator.
6F6, A-F amplifier.

Radio receiver BC-312-NX: Same as radio receiver BC-312-N except that the a-f amplifier tube is a 12A6 instead of a 6F6.
Radio receiver BC-342-N: Same as radio receiver BC-312-N, except that an additional rectifier tube—5W4—is used.

Type of receiver.—Superheterodyne.
Type of reception.—A1, A2, and A3.

Frequency bands:
Band A, 1.5 to 3.0 megacycles.
Band B, 3.0 to 5.0 megacycles.
Band C, 5.0 to 8.0 megacycles.
Band D, 8.0 to 11.0 megacycles.
Band E, 11.0 to 14.0 megacycles.
Band F, 14.0 to 18.0 megacycles.

RADIO TRANSMITTER BC-329

Use.—Transmit.
Frequency range.—200 to 410 kilocycles.
Power output.—25 watts.
Emission.—A1, A2, and A3.

Description.—Radio transmitter BC-329 is a complete radio transmitter. It was developed to provide low power radio transmission for airport traffic control on any frequency between 200 and 410 kilocycles. It is contained in one cabinet and derives its power from the usual 115-volt 60-cycle power or lighting circuits. It is designed to be operated in conjunction with Remote Control Unit RM-6-C and contains all necessary power conversion units so that no batteries are required.

Tube complement:
50, Oscillator.
VT100, Buffer amplifier.
830B, Class C amplifier.
809, Class B zero bias modulator.
809, Class B zero bias modulator.
6V6G, Class A driver.
6V6G, Class A driver.
VT146A, Rectifier.
VT146A, Rectifier.
VT146A, Rectifier.
VT146A, Rectifier.

Frequency control.—Crystal.
Power supplies available.—115/1/60 a-c.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio transmitter</td>
<td>BC-329</td>
<td>215 x 318 x 31</td>
<td>215</td>
</tr>
<tr>
<td>Remote control unit</td>
<td>RM-6-C</td>
<td>19 x 354 x 104</td>
<td>22</td>
</tr>
</tbody>
</table>
Use—Transmit.
Frequency range.—4.0 to 26.5 megacycles.
Power output.—Over 1 kilowatt.
Emission.—A1.
Description.—Radio Transmitter BC-339 is a single, self-contained unit designed to work into a balanced 600-ohm line, or Power Amplifier BC-340, if higher output is desired. All r-f circuits, power supply rectifiers, and control equipment are contained within the main unit. All operating controls and indicating instruments are located on the front panels, and a section of the front panel, with a chassis attached, may be slid forward to give access to the crystal holders and low power r-f exciter stages.

Provision is made for remotely starting, stopping, and keying the transmitter through a two-wire telephone cable and ground at distances as great as 6 miles and at speeds as high as 300 words per minute. It is also possible to connect remote indicating lamps to indicate when plate power is “ready” or “on”.

Tube complement:
833, Power amplifier.
833, Power amplifier.
813, Fourth intermediate amplifier.
837, Keying tube.
5Z3, Oscillator plate supply rectifier.
866A, Low voltage plate supply rectifier.
866A, Low voltage plate supply rectifier.
837, Third intermediate amplifier.
837, Second intermediate amplifier.
837, First intermediate amplifier.
6F6, Oscillator.
872A, Power amplifier plate supply rectifier.
872A, Power amplifier plate supply rectifier.
872A, Power amplifier plate supply rectifier.
5Z3, Bias supply rectifier.

Frequency control.—Crystal or master-oscillator.
Power supplies available.—220/3/60.

Operating power required:
Key open:
Phase A, 1 ampere;
Phase B, 7 amperes;
Phase C, 7 amperes; 1,610 watts.

Key closed:
Phase A, 7 amperes;
Phase B, 11 amperes;
Phase C, 13 amperes; 4,300 watts.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter</td>
<td>BC-309</td>
<td>8½x18x30½x7½</td>
<td>1275</td>
</tr>
<tr>
<td>Spare parts box</td>
<td></td>
<td>14½x24½x15½</td>
<td>60</td>
</tr>
</tbody>
</table>
Use.—Part of Radio Set SCR-299.
Frequency range.—2.0 to 8.0 megacycles.
Power output.—Over 300 watts of A3; 400 watts of A1.
Emission.—A1 and A3.
Description.—Radio transmitter BC-610 and associated equipment is designed for use as a high power vehicular radio telephone and radio telegraph transmitter. The principal component units are provided with shock-proof mountings which permit their installation in a suitable vehicle. When installed, and provided with a whip antenna and an adequate source of power (as power unit PE-95), transmission may be effected over a distance of one hundred miles or more while the vehicle is either stationary or in motion.

**Tube complement:**

Radio transmitter BC-610:
2A3, Audio driver.
2A3, Audio driver.
100TH, Modulator.
100TH, Modulator.
5Z3, Rectifier.
5Z3, Rectifier.
866A, High-voltage rectifier.
866A, High-voltage rectifier.
6V6, Oscillator.
6L6, Doubler-buffer.
807, Intermediate amplifier.
807, Intermediate amplifier.
250TH, Class C power amplifier.
VT139.
VT139.

Speech amplifier BC-614:
6SQ7, Microphone input amplifier.
6J5, Voltage amplifier.
6SN7GT, Voltage amplifier and phase inverter.
6SN7GT, Push-pull output tube.
6SR7, Amplifier-rectifier for voice limiter circuits.
6SN7GT, Audio oscillator.
80, Rectifier.

**Frequency control.**—Crystal or master-oscillator.

**Power supplies available.**—105-125/1/50-60 a-c and 12 volts d-c.

**Operating power required.**—2,000 watts—approximately.

**Antenna.**—15- to 21-foot whip.

**Weights, dimensions, and Army type numbers of principal equipment units**

<table>
<thead>
<tr>
<th><strong>Unit</strong></th>
<th><strong>Type No.</strong></th>
<th><strong>Dimensions</strong></th>
<th><strong>Weight</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter, antenna tuning unit, and shock mount</td>
<td>BC-610, BC-729</td>
<td>Jacked</td>
<td>432.5</td>
</tr>
<tr>
<td>Speech amplifier and shock mount</td>
<td>BC-614</td>
<td>91&quot; x 17½&quot; x 12&quot;</td>
<td>35.0</td>
</tr>
</tbody>
</table>
FREQUENCY METER BC-638-A

Use.—With fighter-control equipments.
Frequency range.—100.0 to 156.0 megacycles.
Emission.—A1 and A2.
Description.—Frequency Meter BC-638-A is a crystal controlled signal generator with a frequency range of 100 to 156 megacycles (3 to 1.92 meters). It is tone modulated approximately 30 percent at 1,000 cycles. The frequency meter is used to pre-test, test, and align radio receivers whose frequency range is within the frequency limits of the frequency meter.

Tube complement:
6SK7, Oscillator.
9002, R-F rectifier.
9005, Frequency multiplier.
9005, Frequency multiplier.
5V4G, Power supply rectifier.
6L5G, 1,000-cycle oscillator and modulator.
6E5, Electron-ray-tube resonance indicator.

Frequency control.—Crystal. 5555.5 to 8666.6 kc. (one eighteenth of the final output frequencies).
Power supplies available:
110-120 volts, single phase, 50-60 cycles.
200-250 volts, single phase, 50-60 cycles.
6 volts d-c (with Dynamotor Unit PE-100-A).
Operating power required.—30 watts from a-c line; 7.5 amperes at 6.0 volts from battery.

Antenna.—12.5-inch vertical rod.

Weights, dimensions, and Army type numbers of principal equipment units:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency meter</td>
<td>BC-638-A</td>
<td>7 x 9 x 11.5</td>
<td>35</td>
</tr>
<tr>
<td>Dynamotor unit</td>
<td>PE-100-A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RADIO RECEIVER BC-639

Use: Receive.
Frequency range.—100.0 to 156.0 megacycles (1.92 to 3.0 meters).
Power required for operation:
180-240 volts d-c at approximately .060 ampere.
6.3 volts a-c or d-c at 3.5 amperes.
Description.—Receiver BC-639 is designed for reception of radio signals on the ultra-high frequency band from 100 to 156 megacycles. Complete coverage of the band is accomplished without switching, using a slow-motion drive dial. The receiver is used at ground stations for reception of both radiophone communication and direction finding signals from aircraft.

The receiver consists of an r-f amplifier stage, an oscillator followed by a doubler which in turn feeds a mixer stage, three i-f amplifier stages, a second detector

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Ar-5
stage combined with the first a-f amplifier stage in a single tube, and an a-f output amplifier stage. A beat frequency oscillator feeds into the second detector and can be switched into the circuit when necessary. The beat frequency oscillator is provided to enable D-F bearings to be taken on an unmodulated carrier. The power supply is not built into the receiver, but a cable which plugs into the rear of the chassis connects the receiver to a separate power supply.

The output of the receiver is fed directly into a telephone line system. The receiver output impedance has been chosen to satisfy this requirement. The output transformer has a balanced output and an electrostatic shield between the windings to ensure that the receiver output circuit is suitable for the direct connection to the telephone line circuit. Two telephone jacks are provided on the front panel. One titled MONITOR is used for monitoring the receiver at any time. The other, titled LINE is wired so that when a plug is inserted into it, the output of the receiver is disconnected from the telephone line system by opening both sides of the output circuit. The receiver is designed to work into a 600-ohm load, but satisfactory operation will be obtained when operating into any load between 200 and 20,000 ohms.

The entire receiver unit is mounted on a shelf-type chassis with a front panel to provide easy accessibility to all necessary controls. The chassis is inclosed by a dust proof cover which is held securely in place by fifteen round head screws. Since the heat (power) dissipated by the receiver is relatively small, ventilating louvres have been satisfactorily left out, and the receiver is completely dust proof.

**Tube complement:**
- 9003, R-F amplifier.
- 9003, Mixer.
- 9002, Heterodyne frequency oscillator.
- 9003, Heterodyne frequency doubler.
- 68G7, First i-f amplifier.
- 68G7, Second i-f amplifier.
- 68G7, Third i-f amplifier.

6SQ7, Detector, avc, and first a-f amplifier.

6K6GT/6, Second a-f amplifier.

**Type of receiver.**—Superheterodyne.

**Type of reception.**—A1, A2, and A3.

**Output impedance.**—600 ohms.

**Power output.**—1 watt—less than 15 percent distortion.

**Band coverage.**—One band only.

**Weights, dimensions, and Army type numbers of principal equipment units**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio receiver</td>
<td>BC-639</td>
<td>19 x 6 1/2 x 13 1/2</td>
<td>28</td>
</tr>
<tr>
<td>Rectifier</td>
<td>RA-42-A</td>
<td>19 x 6 1/2 x 8 3/4</td>
<td>26</td>
</tr>
<tr>
<td>Dynamotor unit</td>
<td>PE-100-A</td>
<td>19 x 6 1/2 x 8 3/4</td>
<td>24</td>
</tr>
</tbody>
</table>

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Ar-6
RADIO TRANSMITTER BC-640

Use.—Part of Radio Set SCR–574.
Frequency range.—100 to 156 megacycles.

Power output.—Not less than 51.5 watts from 100
to 125 megacycles inclusive; 50 watts at 140 megacycles;
and 46 watts at 156 megacycles.

Emission.—A2 and A3.

Description.—Radio Transmitter BC–640 is designed
to provide a modulated signal, on any predetermined
frequency in the range from 100 to 156 megacycles (3 to
1.92 meters), of sufficient power to permit communica-
tion with stations on the ground 11.5 miles distant, and
aircraft 135 miles distant when the aircraft is at an
altitude of 10,000 feet. The distance ranges described
above are considered conservative for reasonably
level country. Under certain conditions of terrain or
altitude the range will be substantially greater. In
very hilly or mountainous country, the range will
probably be reduced, and reflection effects might be
expected which would give rise to zones of low signal
strength.

For practical purposes, it may be considered that
the signals from the BC–640 Radio Transmitter will
follow optical paths and the reliable range of the trans-
mitter will be limited to the line-of-sight from the
transmitter radiator to the receiving antenna.

Tube complement:
2—HK24G, Class C amplifier.
1—6J5, Rectifier (monitor signal).
1—1613, Oscillator.
1—907, Tripler.
1—HK24G, Tripler.
1—HK24G, Doubler.
1—HK24G, Intermediate power amplifier.
2—6J5, Push-pull voltage amplifier.
2—1613, Push-pull driver.
2—811, Class B modulator.
1—6J5, 1,000-cycle audio oscillator.
8—523, Rectifiers.

Frequency control.—Crystal (5555.5 to 8666.6 kilo-
cycles).

Power supplies available:

110–125/1/50/60 a-c.
220–250/1/50/60 a-c.

Operating power required:

Unmodulated: .891 kva; 815 watts.
Modulated: .918 kva; 860 watts.

Antenna.—Antenna Equipment RC–81 mounted on
either 90-foot Mast AN–56 or 50-foot Mast AN–57.

Weights, dimensions, and Army type numbers of
principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter</td>
<td>BC-640</td>
<td>72½ x 21½ x 20</td>
<td>601.5</td>
</tr>
</tbody>
</table>

Radio transmitter BC–640.

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AR–7
RC-120-B FACSIMILE EQUIPMENT

Use.—Facsimile-Radio Photo Transmitting and Receiving Equipment for shore and ship.

Power required for operations.—105-130 volts, 60 cycles, single-phase, 200 watts.

Design.—Commercial.

Description.—Facsimile Equipment RC-120-B provides for the transmission and reception of printed, written, drawn or photographic copy over voice communications channels (radio or wire) and over frequency shift radio circuits when used with the Model FSD Keyer and Model FRB Receiver Converter.

As a transmitter the equipment will scan a 7- by 8½-inch copy in a 7-minute interval. The transmitter may be adjusted so that either a positive or a negative of the original copy will be received at the recorder. Copy to be transmitted may be of any color but will be received in shades of black, white or gray.

As a receiver the equipment will record either on photographic film, photographic paper, Teledictos paper or on Timefax paper. The latter two papers are direct recording papers on which the image is formed by a stylus and an electrical burning process. The Timefax paper lends itself to duplication by means of the conventional gelatin pad hectograph process. Eastman Kodak Co. type A Transmission film and Royal Bromide paper should be used for the photographic recording. The equipment is required to operate in a dark room when used for photographic recording.

Synchronization of the transmitter with the receiver is maintained in the following manner. The motor of the transmitter is driven by power from a vacuum tube amplifier, which in turn is driven by a tuning fork controlled oscillator operating at 1,800 c. p. s. The tuning fork is temperature compensated to maintain frequency stability within 1 part in 100,000 over a temperature range of plus 10° C. to 65° C.

Since the motor of the receiver is driven by similar means, both transmitter and receiver rotate at the same exact speed. Therefore, once the two machines are phased (i.e., a condition effected when the instantaneous position of the clamp bar on the receiving equipment coincides with the instantaneous position of the clamp bar on the transmitting equipment) the two equipments will operate in perfect synchronism without the transmission of synchronizing pulses under varying conditions of temperature, humidity, and power-line frequency.

TECHNICAL FEATURES

The equipment is contained in two units, the transceiver and the power supply. Characteristics are as follows:

- Drum speed ........................................... 90 r. p. m.
- Drum diameter ....................................... 2.75 inches.
- Line feed ............................................. 96 lines per inch.
- Output carrier frequency ............................. 1,800 cycles per second.
- Highest modulation frequency ...................... 800 cycles per second.
- Terminal impedance ................................. 600 ohms.
- Output level ........................................... 0 dbm. to +20 dbm.
- Weight, transceiver .................................. 65 pounds.
- Power supply .......................................... 48 pounds.
- Dimensions transceiver ............................. 22 by 8 by 14 inches.
- Power supply .......................................... 10 by 8½ by 12 inches.

Tube complement:

Transceiver:
- 71.7. Fork pick-up.
- 7C5. Fork driver.
- 7N7. Fork amplifier.
- 7C7. First signal amplifier.
Transceiver—Continued

7L7. Second signal amplifier.
7C5. Third signal amplifier.
7N7. Fourth signal amplifier.
6AC5G. Signal power amplifier.
7L7. Voltage regulator.
7C5. Voltage regulator.
7C5. Voltage regulator.
7C5. Motor voltage amplifier.
6AC5. Motor power amplifier

Transceiver—Continued

6AC5. Motor power amplifier.
7L7. Phasing amplifier.

Power supply:

5F3. Rectifier.
7L7. Exciter lamp voltage amplifier.
7N7. Exciter lamp voltage amplifier.
7C5. Exciter lamp power amplifier.
7C5. Exciter lamp power amplifier.
7L7. Voltage regulator.
RADIO SET SCR-188-A

Use: Transmit and receive.

Frequency range.—Transmitter: 1.5 to 12.5 megacycles. Receiver: 1.5 to 18.0 megacycles.

Power output.—75 watts.

Emission.—A1, A2, and A3.

be operated by means of a separate gasoline engine driven generator. Battery power cannot be used under any circumstances. The transmitting units are provided with rugged operating chests and can be erected out-of-doors, but the receiving units must be installed under adequate shelter.

Tube complement.—1-5W4; 3-6C5; 1-6F6; 4-6K7; 1-6L7; 1-6R7; 1-6X5GT; 1-10; 4-211SPL; and 2-866A.

Frequency control.—Master-oscillator.

Supplies available.—100/120/150.

Antennas.—Transmitting: The antenna system provided with this set is of the inverted L type. It consists of one antenna assembly and one counterpoise assembly supported between two masts 85 feet apart. The antenna and the counterpoise are made by joining several lengths of wire, using insulators between the various lengths. This permits combining the various lengths of wire (by means of jumpers across the insulators) to form the antenna and counterpoise required to cover the frequency range of 1.5 to 12.5 megacycles.

Receiving: No prepared antenna is provided in this radio set for attachment to the receiver antenna post. It is intended that about 50 feet of insulated wire W-29, furnished with the set, be attached to the antenna binding posts and the far end hung over a tree or other convenient support.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter</td>
<td>BC-321</td>
<td>Inches</td>
<td>lbs</td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power unit</td>
<td>PE-75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectifier</td>
<td>RA-34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>1,385</td>
</tr>
</tbody>
</table>

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Ar-8
RADIO SET SCR-193

Use.—In reconnaissance cars.
Frequency range.—Transmitter: 1.5 to 4.5 megacycles. Receiver: 1.5 to 18.0 megacycles.
Power.—75 watts.
Emission.—A₁, A₂, and A₃.

Description.—Radio set SCR-193 is designed for installation in vehicles for the purpose of providing intervehicular communication whether the vehicles are stationary or moving. Modifications may appear from time to time to adapt this radio set to new types of vehicles. These sets may be installed in many different types of vehicles, if a proper battery is available, and if proper shielding against ignition noise is provided.

Tube complements:
8—VT4B—4 in use, 4 spare.
2—VT25—1 in use, 1 spare.
6—VT36—3 in use, 3 spare.

2—VT38—1 in use, 1 spare.
8—VT49—4 in use, 4 spare.

Frequency control.—Master oscillator.
Power supplies available.—12-volt vehicular storage battery.
Antenna.—15-foot fishpole on flexible mast base MP-14 or MP-37.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Volume</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter</td>
<td>BC-101</td>
<td>20½ x 23½ x 9¾&quot;</td>
<td>35.75</td>
<td>50.00</td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-312</td>
<td>9½ x 18 x 7</td>
<td>37.8</td>
<td>40.00</td>
</tr>
<tr>
<td>Dynamotor</td>
<td>BD-77</td>
<td>11 x 11 x 7½</td>
<td>37.8</td>
<td>40.00</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>7</td>
<td>200.0</td>
</tr>
<tr>
<td>Total volume</td>
<td></td>
<td></td>
<td>7</td>
<td>200.0</td>
</tr>
</tbody>
</table>
Use.—Transmit and receive.

Frequency range.—Transmitters: 4.0 to 5.3 megacycles; 5.3 to 7.0 megacycles; and 7.0 to 9.1 megacycles. Receivers: 0.19 to 0.55 megacycle; 3.0 to 6.0 megacycles; and 6.0 to 9.1 megacycles.

Power output.—A₁, 40 watts; A₂, 20 watts.

Emission.—A₁, A₂, and A₃.

Description.—Radio set SCR-274-N is a multi-channel aircraft radio receiving and transmitting equipment.

The receiving equipment consists of radio receivers BC-453-A (190-550 k. c.), BC-454-A (3.0-6.0 mc.), and BC-455-A (6.0-9.1 mc.); three dynamotors DM-32-A; and either radio control box BC-450-A (for three receivers) or radio control boxes BC-473-A (for one receiver) and BC-496-A (for two receivers). This receiving equipment has been designed for either local or remote control, but only remote control accessories are provided as part of this radio set. Manual control of sensitivity is employed, aided by a built-in auxiliary control circuit which prevents strong radio signals from blocking reception. No provision is made for complete automatic gain control. All tuning dials are calibrated directly in kilocycles or megacycles. All of the receivers are of the superheterodyne type and except for elements forming the r-f and i-f tuned circuits, they are essentially alike, electrically and physically.

The transmitting equipment consists of radio transmitters BC-457-A (4.0-5.3 mc.), BC-458-A (5.3-7.0 mc.), and BC-459-A (7.0-9.1 mc.) (any two of which may be installed); dynamotor DM-33-A and modulator unit BC-456-A which supply the high volt-

tage d-c and the modulating power to either transmitter; radio control box BC-451-A for remote control of the transmitting equipment; and antenna relay unit BC-442-A for switching a single antenna between the receivers and the transmitters.

The master-oscillator and the r-f power amplifier tuning capacitors are ganged for simplification of controls. Continuously variable magnetic coupling between the power amplifier tank circuit and the antenna circuit is controlled by the antenna coupling knob on the front panel. The antenna circuit is tuned by a continuously adjustable series inductor. A piezocrystal resonator is built into each transmitter for use in connection with an electron resonance indicator to check the accuracy of the calibration at one frequency. The transmitter dials are calibrated in megacycles.

Tube complement:

Each receiver:
12SK7, R-F amplifier.
12K8, Mixer.
12SK7, First i-f amplifier.
12SK7, Second i-f amplifier.
12SR7, Second detector—c-w oscillator.
12A6, A-F amplifier.

Each transmitter:
1625, R-F power amplifier.
1625, R-F power amplifier.
1626, Master-oscillator.
1629, Resonance indicator.
Modulator unit BC-456-A:
12J5GT, Tone oscillator.
1025, Modulator.
VR-150-30, Voltage regulator.

Frequency control.—Master-oscillator.

Power supplies available.—20-30 volts d-c.

Operating power required.— Receivers (each): 1.0 amperes at 28 volts. Transmitters (each): Transmitting, 9 amperes at 28 volts; stand-by, 2.5 amperes at 28 volts.

Antenna.—A single antenna may be used for all receivers and transmitters provided only that it is suitable for each. It may be desirable to use a long fore and aft inverted L or T antenna for all receivers and transmitters except Radio Receiver BC-453-A. If the latter is to be used for reception of airways radio range signals, a suitable antenna such as a vertical mast or a nearly vertical wire should be specified for this receiver only.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inches</td>
<td>Pounds</td>
</tr>
<tr>
<td>Total weight of receiving equipment</td>
<td></td>
<td></td>
<td>35.3</td>
</tr>
<tr>
<td>Total weight of transmitting equipment</td>
<td></td>
<td></td>
<td>41.2</td>
</tr>
</tbody>
</table>

Catalogue of Naval Electronic Equipment—April 1946

AR-10
RADIO SETS SCR-299, SCR-399 AND SCR-499

Use.—Portable and mobile.

Frequency range.—Transmitter: 2.0 to 8.0 megacycles. Receiver: 1.5 to 18.0 megacycles.

Power output.—400 watts A1; 300 watts A2.

Emission.—A1 and A2.

Description.—Radio sets SCR-299, SCR-399, and SCR-499 are high power radio stations providing voice or c-w communication over a range of more than 100 miles under all conditions of atmosphere and terrain, either from a stationary position, or while moving at high speeds over rough roads.

Radio set SCR-299 consists of a completely equipped radio station installed in a 1½-ton truck K-51-D, combined with a power plant carried in a 1-ton cargo trailer K-52-D.

Radio set SCR-399 comprises the same components as radio set SCR-299 and consists of a completely equipped radio station normally installed in shelter HO-17-A, combined with a power plant normally carried in a 1-ton cargo trailer K-52-E. The shelter is usually installed on a 2½-ton 6 x 6 truck or similar motor vehicle.

Radio set SCR-499 includes all of the principal components of radio set SCR-399, except that none of the radio equipment is installed in the shelter and the power unit is not installed in a trailer. Canvas covers are provided for protection for the major radio components and the various units may be transported by air or other means to a desired destination where they may be quickly set up as a field radio station either in a tent, shelter or vehicle.

Radio sets SCR-299 and SCR-399 will accommodate a crew of four. Two seats, one of them for the driver, are provided in the forward part of the radio truck. Behind them is the radio, where two operators may sit at the operating positions provided at the operating table. From there it is possible, by remote control, to start or stop the power unit PE-95 located in the trailer. All receiving and transmitting controls as well as tuning units, coils, and crystals (when required for changing frequency) are within reach of the operating positions.

Tube complement:
Radio transmitter BC-610:

2A3, Audio driver.

100TH, Modulator.

5Z3, Rectifier.

806A, High-voltage rectifier.

6V6, Oscillator.

6L6, Doubler-buffer.

807, Intermediate amplifier.

250TH, Class C power amplifier.

VR-150-30.
VR-150-30.
VR-150-30.

Speech amplifier BC-614:
6SQ7, Microphone-input amplifier.
6J5, Voltage amplifier.
6SN7GT, Voltage amplifier and phase inverter.
6SN7GT, Push-pull output tube.
6SR7, Amplifier-rectifier for voice limiter circuits.
6SN7GT, Audio oscillator.
80, Rectifier.

Radio receiver BC-342:
- 6K7, First r-f amplifier.
- 6K7, Second r-f amplifier.
- 6L7, First detector-mixer.
- 6K7GT, First i-f amplifier.
- 6K7GT, Second i-f amplifier.
- 6R7GT, Second detector, a-c, and first a-f amplifier.
- 6C5, R-F oscillator.
- 6C5, C-W Oscillator.
- 6F6, A-F amplifier.
- 5W4, Rectifier.

Radio receiver BC-312: Same as radio receiver BC-342, except that no rectifier tube is included.

Frequency control.—Master-oscillator and crystal control (three pre-set frequencies).

Power Supplies Available.—105-125/1/60 a-c and a 12-Volt Battery.

Antenna.—Whip or long wire.

Weights, dimensions, and Army type numbers of principal equipment units:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type number</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio set SCR-299:</td>
<td></td>
<td>Inches</td>
<td>Pounds</td>
</tr>
<tr>
<td>Transmitter</td>
<td>BC-610</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech amplifier</td>
<td>BC-614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna tuning unit</td>
<td>BC-726</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power unit</td>
<td>PE-96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truck</td>
<td>K-31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
<td>K-32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (radio components only)</td>
<td></td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Radio set SCR-399:</td>
<td></td>
<td>Inches</td>
<td>Pounds</td>
</tr>
<tr>
<td>Transmitter</td>
<td>BC-610</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech amplifier</td>
<td>BC-614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna tuning unit</td>
<td>BC-726</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power unit</td>
<td>PE-96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
<td>K-32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>HO-17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junction box</td>
<td>JB-70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio set SCR-499:</td>
<td></td>
<td>Inches</td>
<td>Pounds</td>
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<tr>
<td>Transmitter</td>
<td>BC-610</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver</td>
<td>BC-312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech amplifier</td>
<td>BC-614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna tuning unit</td>
<td>BC-726</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power unit</td>
<td>PE-96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junction box</td>
<td>JB-70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Use.—Portable transmitter and receiver.

Frequency range.—40.0 to 48.0 megacycles.

Power output.—1 watt.

Emission.—A, (FM).

Description.—Radio set SCR-300 is a low power, portable, frequency modulated radio receiver and transmitter powered by dry batteries. The set is designed for two-way voice communication over short ranges and is designed primarily for use by combat troops on foot.

The normal operating range, using the long antenna AN-131-A, is 3 miles or more, depending upon operating conditions. The range with the short antenna AN-130-A will be slightly less.

Tube complement:

3A4, R-F power amplifier.
3A4, Transmitter mixer.
1T4, Transmitter-receiver doubler.
1T4, Transmitter-receiver master-oscillator.
1L4, Receiver AFC control; transmitter reactance modulator.

1T4, Receiver r-f amplifier.
1L4, First mixer.
1T4, First i-f amplifier.
1T4, Second i-f amplifier.
1R5, Second mixer and crystal oscillator.
1T4, Third i-f amplifier.
1L4, First limiter.
1L4, Second limiter.
1A3, Discriminator.
1S5, Discriminator and a-f power amplifier.
1S5, Noise amplifier—rectifier.
1L4, D-C amplifier.
1S5, Squelch oscillator—rectifier.

Frequency control.—Master-oscillator.

Power supplies available.—Battery BA-70, consisting of three sections—4.5 volts, 90 volts, and 60 volts—furnishes power for filament and plate circuits of the receiver and transmitter.

Antennas.—Antenna AN-130-A consists of two sections and is 33 inches in length when assembled. The two sections are held captive by means of a kink-
less, stainless steel cable, eliminating the possibility of losing a section and permitting rapid assembly of the antenna.

Antenna AN-131-A is a lightweight tapered flexible antenna consisting of eight sections and is 10 feet 8 inches in length when assembled. The eight sections are held captive by means of a kinkless, stainless steel cable which runs the entire length of the antenna and is under spring tension. This cable eliminates the possibility of losing a section and permits rapid assembly of the antenna.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver and transmitter</td>
<td>HC-1000</td>
<td>15 x 10 x 0.5</td>
<td></td>
</tr>
<tr>
<td>Battery</td>
<td>BA-70</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Antenna</td>
<td>AN-130</td>
<td>7.59 x 10.96 x 4.5</td>
<td></td>
</tr>
<tr>
<td>Do</td>
<td>AN-131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>38.25</td>
</tr>
</tbody>
</table>

Weights, dimensions, and Army type numbers of principal equipment units
RADIO SETS SCR-508, SCR-528, AND SCR-538

Use.—Amphibian tractors.
Frequency range.—20.0 to 27.9 megacycles.
Power output:
  SCR-508—25 watts.
  SCR-528—25 watts.
  SCR-538—No transmitter.
Emission:
  SCR-508—A2.
  SCR-528—A2.
  SCR-538—No transmitter.

Radio sets SCR-508, SCR-528, and SCR-538 all use the same equipment components, but differ in the quantity of each component employed. Radio set SCR-508 uses one transmitter and two receivers; radio set SCR-528 uses one transmitter and one receiver; and radio set SCR-538 uses one receiver and no transmitter.

These equipments are intended to operate within a temperature range of minus 40° to plus 130° F. Care must be exercised to avoid prolonged operation in inclosed spaces when the operating temperature may become excessively high.

The range of the equipment, while in motion, is 7 miles.

Description.—Radio sets SCR-508, SCR-528, and SCR-538 provide frequency modulated radio-telephone communication facilities. Interphone communication facilities are provided for personnel in noisy applications. The radio sets may be installed and operated in combat vehicles of the Armored Force, such as tanks, scout cars, command cars, and any other vehicle which may be specified. The radio sets may be operated by personnel unskilled in radio technique.

Tube complement:
  Radio receiver BC-603-D:
    6A67, R-F amplifier.
    6A67, Modulator.
    6J5, R-F oscillator.
12SG7, I-F amplifier.
12SG7, I-F amplifier.
6AC7, Limiter.
6H6, Detector.
6V6GT, Second a-f amplifier.
6SL7GT, AVC and squelch.
6SL7GT, First a-f amplifier and i-f oscillator.

Radio transmitter BC-604-D:
1619, First r-f amplifier.
1619, Rectifier.
1619, Tripler.
1624, Power amplifier.
1619, First a-f amplifier.
1619, Second a-f amplifier.
1619, Oscillator.
1619, Doubler.
Interphone amplifier BC-605-D:
1619, First a-f amplifier.
1619, Second a-f amplifier.

Frequency control.—Master-oscillator or crystal (10 pushbutton pre-set frequencies).

Power supplies available.—12- or 24-volt vehicular battery.

Antenna.—A suitable antenna system is essential for satisfactory operation of the equipment. The transmitter is most easily tuned to an antenna which is quarter-wave resonant near the center of the frequency band. The antenna most universally used is a 9-foot fishpole.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio set SCR-508:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2—Receiver</td>
<td>BC-603</td>
<td>Inches</td>
<td>Pounds</td>
</tr>
<tr>
<td>1—Transmitter</td>
<td>BC-604</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>1—Mounting base</td>
<td>FT-237</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>181</td>
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<tr>
<td>Radio set SCR-528:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1—Receiver</td>
<td>BC-603</td>
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<td>55</td>
</tr>
<tr>
<td>1—Transmitter</td>
<td>BC-604</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>1—Mounting base</td>
<td>FT-237</td>
<td></td>
<td>44</td>
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<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>146</td>
</tr>
<tr>
<td>Radio set SCR-538:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1—Receiver</td>
<td>BC-603</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>1—Interphone amplifier</td>
<td>BC-653</td>
<td></td>
<td>29</td>
</tr>
<tr>
<td>1—Mounting base</td>
<td>FT-237</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>108</td>
</tr>
</tbody>
</table>
Use.—Portable transmitter and receiver.
Frequency range.—20.0 to 27.9 megacycles.
Description.—Radio set SCR-510 is a portable, low power, frequency modulated radio set capable of a dependable communication range of approximately five miles. Radio set SCR-510 is intended for (1) operation from stationary positions such as on the ground or on a stationary support; and (2) vehicular use. In case (1), the set obtains its power from dry batteries; in case (2), it obtains its power from either a 6- or 12-volt storage battery.

Either of two pre-set frequencies may be chosen by throwing the channel switch. The change from receiving to transmitting is made by pressing a button on the handset or microphone.

Tube complement:
Radio receiver and transmitter BC-620:
1291, Transmitter r-f power amplifier.
1291, Transmitter buffer.
1299, Transmitter oscillator.
1299, Transmitter react. modulator.
1LC5, Receiver i-f amplifier.
1LC5, Receiver mixer.
1299, Receiver crystal oscillator.
1LN5, Receiver first i-f amplifier.
1LN5, Receiver second i-f amplifier.
1LN5, Receiver limiter.
1294, Receiver diode rectifier.
1LH4, Repr. diode rectifier and d-c amplifier.
1299, Receiver r-f power amplifier.

Plate supply unit PE-97:
VR-90/30, Voltage regulator.
CK-1005, Rectifier.

Frequency control.—Crystal.

Power supplies available.—Dry batteries or 6- or 12-volt storage battery.
Power output.—1.8 watts.
Emission.—A2 (FM).
Operating power required:
Portable operation:
Receiving:
Recev. "A" battery—0.7 ampere at 1.5 v.
Recev. "B" battery—0.025 ampere at 90.0 v.
Transmitting:
Recev. "A" battery—0.7 ampere at 1.5 v.
Recev. "B" battery—0.045 ampere at 90.0 v.
Transmitter "A" battery—0.3 ampere at 7.5 v.
Transmitter "B" battery—0.045 ampere at 150.0 v.

Vehicular operation:
6-volt storage battery:
Receiving—2.8 amperes—17.4 watts.
Transmitting—3.5 amperes—21.7 watts.
12-volt storage battery:
Receiving—2.1 amperes—21.0 watts.
Transmitting—2.9 amperes—36.0 watts.

Antenna.—8-foot telescopic masts for portable operation; vehicular whip for vehicular operation.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Volume</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio receiver and transmitter</td>
<td>BC-620</td>
<td>6% x 13% x 13%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plate supply unit</td>
<td>PE-97</td>
<td>4% x 13% x 13%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total weight</td>
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<td>65</td>
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<tr>
<td>Total volume</td>
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<td></td>
<td>1.8</td>
</tr>
</tbody>
</table>
Use.—Portable transmitter and receiver.
Frequency range.—3.0 to 6.0 megacycles.
Power output.—0.75 watt.

Radio set SCR-511 is a battery operated portable radio receiver and transmitter intended for voice communication and designed for reconnaissance, setry, or mobile service. Under favorable conditions, communication at a distance of five miles is possible. Radio set SCR-511 consists of two units. Chest unit T-39-A is supported on the chest by shoulder straps. This unit contains the battery, spare tuning unit, and the speaker-microphone. Radio transmitter and receiver BC-745-A contains the radio circuit components. The two units are interconnected by a seven-conductor rubber-covered cord CD-571-A. Conversion from receiver to transmitter is accomplished by means of a thumb-operated "press-to-talk" switch.

Tuning units BC-746-A are pre-tuned plug-in devices and contain appropriate transmitter and receiver crystals and plug-in coils. These units permit quick change-over between any two frequency channels in the 3- to 6-megacycle band. Two of these units are issued with radio set SCR-511 for the channels authorized at the time of issue.

Tube complement:
1T4, Receiver r-f amplifier.
1T4, Receiver mixer.
1T4, Receiver i-f amplifier.
1S5, Receiver detector, ave, and a-t amplifier; transmitter microphone amplifier.
3S4, Receiver power amplifier; transmitter modulator.
3S4, Receiver power amplifier; transmitter modulator.
3S4, Receiver oscillator; transmitter oscillator.
3S4, Transmitter r-f amplifier.
3S4, Transmitter r-f amplifier.

Power supplies available.—Radio set SCR-511 operates from battery BA-49—a plug-in type which contains one 1.5 volt "A" battery and two 67.5 volt "B" batteries.

Operating power.—Receiving: 0.355 ampere at 1.5 volts, 0.01 ampere at 67.5 volts, and 0.01 ampere at 67.5 volts. Transmitting: 0.49 ampere at 1.5 volts and 0.05 ampere at 135.0 volts.

Antenna.—Telescope mast. This antenna actuates the set's on-off switch when extended.

Frequency control.—Crystal.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio receiver and transmitter</td>
<td>BC-745-A</td>
<td></td>
<td>9.3</td>
</tr>
<tr>
<td>Tuning unit</td>
<td>BC-246</td>
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<td>3.5</td>
</tr>
<tr>
<td>Chest unit</td>
<td>T-39-A</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>Battery</td>
<td>BA-49</td>
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<td>2.5</td>
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<tr>
<td>Total</td>
<td></td>
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<td>20.0</td>
</tr>
</tbody>
</table>
RADIO SETS SCR-522 AND SCR-542 (FOR SCR-528, SEE SCR-510)

Use.—Ground-air liaison.
Frequency range.—100 to 156 megacycles.
Power output.—6 watts.
Emission.—A, and special tone signal when used with contactor equipment RC-96.
Description.—Radio sets SCR-522 and SCR-542 are intended for use in aircraft and will provide two-way radio-telephone communication between aircraft in flight and between aircraft and ground stations. Operation may take place on any one of four crystal-controlled channels lying within the frequency range of 100 to 155 megacycles. Remote control only is provided. Radio set SCR-522 operates from a 28-volt source and uses dynamotor PE-94-A; radio set SCR-542 operates from a 14-volt source and uses dynamotor PE-98-A. Radio sets SCR-522 and SCR-542 differ only in the primary power supply voltage and the dynamotor unit used.

Tube complement:
Receiver:
12J5GT, Second audio amplifier.
12C8, Detector, ave, and first audio amplifier.
9002, Harmonic generator.
9003, R-F amplifier.
9003, Mixer.
9003, Harmonic amplifier.
12A17GT, Oscillator and audio squeelch.
12SG7, First i-f amplifier.
12SG7, Second i-f amplifier.
12SG7, Third i-f amplifier.
Transmitter:
832, Second harmonic amplifier.
832, Power amplifier.
12A6, First harmonic amplifier.
12A6, Modulator.
12A6, Modulator.
6887, Speech amplifier.
6887, R-F indicator diode.
Frequency control.—Crystal (four pre-set channels in the receiver and four in the transmitter).
Power supplies available:
SCR-522: 28 volts dc.
SCR-542: 14 volts dc.
Operating power:
SCR-522: Transmit—11.5 amperes at 28 volts;
Receive—11.1 amperes at 28 volts.
SCR-542: Transmit—23.0 amperes at 14 volts;
Receive—22.2 amperes at 14 volts.

Radio set SCR-522—principal components.

Antenna.—A quarter-wave vertical mast.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Volume</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case CT-80 containing</td>
<td>BC-625</td>
<td>10½&quot; x 12½&quot; x 10½&quot;</td>
<td>60</td>
<td>41</td>
</tr>
<tr>
<td>Radio Transmitter</td>
<td>BC-624</td>
<td>9½&quot; x 12½&quot; x 10½&quot;</td>
<td>54</td>
<td>44</td>
</tr>
<tr>
<td>Radio Receiver</td>
<td>FT-341</td>
<td>9½&quot; x 12½&quot; x 10½&quot;</td>
<td>54</td>
<td>44</td>
</tr>
<tr>
<td>Dynamotor</td>
<td>PE-94-A</td>
<td>12½&quot; x 13½&quot; x 0½&quot;</td>
<td>27</td>
<td>37</td>
</tr>
<tr>
<td>Dynamotor</td>
<td>PE-98-A</td>
<td>12½&quot; x 13½&quot; x 0½&quot;</td>
<td>27</td>
<td>37</td>
</tr>
<tr>
<td>Radio Control box</td>
<td>BC-602</td>
<td>8½&quot; x 9½&quot; x 2½&quot;</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td></td>
<td>91</td>
</tr>
<tr>
<td>Total volume</td>
<td></td>
<td></td>
<td></td>
<td>1.8</td>
</tr>
</tbody>
</table>

CATALOGUE OF NAVAL ELECTRONIC EQUIPMENT—APRIL 1946
Ar-19
RADIO SET SCR-536 FOR (SCR-538 SEE SCR-510)

Use.—Handy-Talky.
Frequency range.—3.5 to 6.0 megacycles.
Power output.—0.27 watt.
Emission.—A2.

Description.—Radio set SCR-536 is designed for short-range two-way voice conversation. Descriptively, it is a press-to-talk portable radiotelephone, receiving and transmitting on the same frequency. No skill is required to operate it.

The set is self-contained; all equipment necessary for reception and transmission is contained in one aluminum case. The set may be held in either hand when operating, although it is designed and balanced for left-hand operation. The microphone and earphone are attached to the case in such manner that the set resembles a hand telephone. An adjustable carrying strap is attached to the case.

The set is designed to operate over distances from 100 feet to 1½ miles. The dependability of operation at the greater distance will depend on the terrain and the freedom from signal absorbing objects such as steel buildings, trees, hills, and telephone and power lines between the two sets. This is particularly true for sets operating at the higher frequencies in the band. The maximum range may be considerably greater when operating over water or in air.

Tube complement:
VT-171, Receiver converter and oscillator; transmitter oscillator.
VT-172, Receiver second detector, avo, and a-f amplifier; transmitter microphone amplifier.
VT-173, Receiver i-f amplifier.
VT-174, Receiver r-f amplifier; transmitter r-f power amplifier.
VT-174, Receiver output amplifier; transmitter modulator.

Frequency control.—Crystal.
Power supplies available.—Radio set SCR-536 operates from a 1.5-volt “A” battery, BA-37, and a 103.5-volt “B” battery, BA-38.

Operating power.—Receiving: 0.25 ampere at 1.5 volts and 0.011 ampere at 103.5 volts. Transmitting: 0.30 ampere at 1.5 volts and 0.035 ampere at 103.5 volts.

Antenna.—44-inch whip antenna. Telescopes into set box. Receiver is turned on when antenna is extended.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions (Linear)</th>
<th>Weight (Pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transceiver</td>
<td>BC-611</td>
<td>15¼ x 5¾ x 3¾</td>
<td>5.5</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>6.0</td>
</tr>
<tr>
<td>Total volume</td>
<td></td>
<td></td>
<td>450.0</td>
</tr>
<tr>
<td>Shipping weight</td>
<td></td>
<td></td>
<td>8.0</td>
</tr>
</tbody>
</table>
RADIO SETS SCR-608 AND SCR-628

Use.—Mobile.
Frequency range.—27.0 to 38.9 megacycles.
Power output.—35 watts.
Emission.—A₂ (FM).

Description.—Radio sets SCR-608 and SCR-628 provide frequency modulated radiotelephone communication facilities for antiaircraft and antitank warning and control nets, base stations at battalion command posts for fire control and fire-direction nets and for intra-battalion communication.

The radio sets may be installed and operated in combat vehicles, such as command cars, or any other vehicle which may be specified. The radio sets may be operated by personnel unskilled in radio technique.

Tube complement:
Radio receiver BC-683:
6AC7, R-F amplifier.
6AC7, Modulator.
6J5, R-F oscillator.
128G7, I-F amplifier.
128G7, 1-F amplifier.
6AC7, Limiter.
6H6, Detector.
6V6GT, Second a-f amplifier.
6SL7GT, AVC and squelch.
6SL7GT, First a-f amplifier and i-f oscillator.

Radio transmitter BC-684:
1619, First r-f amplifier.
1619, Rectifier.
1619, Doubler.
1624, Power amplifier.
1619, First a-f amplifier.
1619, Second a-f amplifier.
1619, Oscillator.
1619, Tripler.

Frequency control.—Crystal (10 pre-set push-button frequencies).

Power supplies available.—12 or 24 volts d-c.

Operating power required.—12-volt source: Receiver 4 amperes; transmitter 20 amperes. 24-volt source: Receiver 2 amperes; transmitter 12 amperes.
Antenna.—Fishpole type.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio set SCR-608</td>
<td></td>
<td>Inches</td>
<td>Pounds</td>
</tr>
<tr>
<td>1—Transmitter</td>
<td>BC-684</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>2—Receiver</td>
<td>BC-685</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>1—Mounting</td>
<td>FT-237</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>1—Remote control unit</td>
<td>RM-29</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>305</td>
</tr>
<tr>
<td>Radio set SCR-628</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1—Transmitter</td>
<td>BC-684</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>1—Receiver</td>
<td>BC-685</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>1—Mounting</td>
<td>FT-237</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>1—Remote control unit</td>
<td>RM-29</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td>271</td>
</tr>
</tbody>
</table>

RADIO SETS SCR-609 AND SCR-610

Use.—Mobile—tanks.
Frequency range.—27.0 to 38.9 megacycles.
Power output.—2 watts.
Emission.—A₂ (FM).

Description.—Radio sets SCR-609 and SCR-610 are portable, low power, frequency modulated radio transmitting and receiving sets which differ only in that radio set SCR-610 includes additional components required for vehicular use. They will communicate with each other within a 5-mile range over average terrain, and within a 7-mile range when communicating with radio set SCR-608.

Radio set SCR-609 is intended for operation from stationary positions such as on the ground, or on a stationary support, and obtains its power from dry batteries. Radio set SCR-610, in addition to being...
used like radio set SCR-609, is also intended for vehicular use and may obtain its power from either a 6- or 12-volt storage battery.

Both radio sets are pre-set for crystal controlled operation on any two of 120 different channels, spaced 100 kilocycles apart, within the frequency range of the set. Either of these two pre-set frequencies may be instantly chosen by turning the two-position panel switch marked “chan.” To change from receiving to transmitting it is merely necessary to press a button on the handset or microphone.

**Operating power:**

**SCR-609:**

- Receiving: Receiving “A” battery: 0.94 ampere at 1.5 volts.
- Receiving “B” battery: 0.028 ampere at 90.0 volts.

- Transmitting: Receiving “A” battery: 0.94 ampere at 1.5 volts.
- Receiving “B” battery: 0.048 ampere at 90.0 volts.
- Transmitting “A” battery: 0.3 ampere at 7.5 volts.
- Transmitting “B” battery: 0.050 ampere at 150.0 volts.

**SCR-610:**

- On dry batteries: Same as SCR-609.
- On 6-volt storage battery: Receiving: 2.25 amperes, 17 watts.
- Transmitting: 3.25 amperes, 20 watts.
- On 12-volt storage battery: Receiving: 2.25 amperes, 28 watts.
- Transmitting: 2.6 amperes, 32 watts.

**Antenna:**

- SCR-609: Fishpole type antenna AN-29-C.
- SCR-610: Same as SCR-609 or vehicular whip type.

**Power supplies available:**

- SCR-610: Same as SCR-609; also 6-volt or 12-volt storage battery.

---

**Weights, dimensions, and Army type numbers of principal equipment units**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Volume</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCR-609: Receiver - transmitter</td>
<td>BC-659</td>
<td>6 1/4 x 1 3/4 x 14 1/4</td>
<td>Cubic feet</td>
<td>Pounds</td>
</tr>
<tr>
<td>Case (for batteries)</td>
<td>CR-70</td>
<td>4 1/2 x 1 3/4 x 1 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote control unit</td>
<td>RM-20</td>
<td>5 3/4 x 9 1/4 x 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-610: Receiver - transmitter</td>
<td>BC-659</td>
<td>5 1/4 x 9 1/4 x 6 1/2</td>
<td>Cubic feet</td>
<td>Pounds</td>
</tr>
<tr>
<td>Plate supply unit</td>
<td>PE-117</td>
<td>4 1/4 x 1 1/4 x 1 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>PT-250</td>
<td>4 1/2 x 11/4 x 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote control unit</td>
<td>RM-20</td>
<td>4 1/2 x 11/4 x 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case (for batteries)</td>
<td>CR-70</td>
<td>4 1/2 x 11/4 x 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tube complement:**

- Radio receiver and transmitter BC-659:
  - 1291, Transmitter r-f power amplifier.
  - 1291, Transmitter buffer.
  - 1299, Transmitter oscillator.
  - 1299, Transmitter reactance modulator.
  - 1LN5, Receiver first r-f amplifier.
  - 1LN5, Receiver second r-f amplifier.
  - 1LC6, Receiver mixer.
  - 1299, Receiver crystal oscillator.
  - 1LN5, Receiver first i-f amplifier.
  - 1LN5, Receiver second i-f amplifier.
  - 1LN5, Receiver limiter.
  - 1294, Receiver diode rectifier.
  - 1LNH4, Receiver diode rectifier and d-c amplifier.

- 1CD99, Receiver a-f power amplifier.

- Plate supply unit PE-117 (Radio Set SCR-610 only):
  - VR-90-30 (glass), Voltage regulator.
  - CK-1005 (metal), Rectifier.

**Frequency control:** Crystal.
Radio set SCR-624

Use.—Fighter control.

Frequency range.—100.0 to 156.0 megacycles.

Power output.—6 watts.

Emission.—A1.

Description.—Radio set SCR-624 is a complete very high frequency radio ground station especially designed for transportation by air. Radio set SCR-624 may be operated on any one of four crystal controlled channels within the 100-156 megacycle frequency range. Control facilities are provided so that the transmitter and receiver may be operated at the station, at a remote distance of 500 feet from the station, or at a remote distance of 2 miles. Channel selection can be made only at the station or at the 500-foot remote point of control, while only send-receive communication is possible at the 2-mile remote point. Land line telephone communication is possible between any two points of control by use of telephone EE-S-A.

Tube complement:

Radio transmitter BC-625:
- 832, Second harmonic amplifier.
- 832, Power amplifier.
- 12A6, First harmonic amplifier.
- 12A6, Modulator.
- 12A6, Modulator.
- 6S87, Speech amplifier.
- 6S87, R-F indicator diode.

Radio Receiver BC-624:
- 12J5GT, Second a-f amplifier.
- 12C8, Detector, ave, and first a-f amplifier.
- 9002, Harmonic generator.
- 9003, R-F amplifier.
- 9003, Mixer.
- 9003, Harmonic amplifier.

- 12AH7GT, Oscillator and a-f squelch.
- 128G7, First i-f amplifier.
- 128G7, Second i-f amplifier.
- 128G7, Third i-f amplifier.

Rectifier RA-62:
- 5U4G, Plate supply rectifier.
- 5U4G, Plate supply rectifier.
- 6X5GT, Bias supply rectifier.

Power supplies available:
- 100–130 volts, single phase, 40–60 cycles a-c.
- 230–260 volts, single phase, 40–60 cycles a-c.

Operating power required.—320–325 watts.

Frequency control.—Crystal (4 pre-set channels).

Antenna.—Antenna AN-94 and the coaxial h-f cable are packed separately in order to afford suitable protection against damage to the antenna. Antenna AN-94 is a J-type antenna with a long (radiator) section and a short (matching) section mounted in a base for connection to the antenna mast. The long and short sections of the antenna are telescopic for adjusting the length to accommodate the transmitting frequency. Antenna AN-94 is supported on a 50-foot high tubular plywood mast.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest</td>
<td>CH-173-A</td>
<td>34 x 101/4 x 131/4</td>
<td>134</td>
</tr>
<tr>
<td>Chest</td>
<td>CH-172-A</td>
<td>34 x 101/4 x 131/4</td>
<td>205</td>
</tr>
<tr>
<td>Chest</td>
<td>CH-170-A</td>
<td>471/4 x 101/4 x 131/4</td>
<td>41</td>
</tr>
<tr>
<td>Support pole</td>
<td>11 x 101/4 x 11</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>Stays box</td>
<td>231/4 x 161/4 x 121/4</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Spare parts box</td>
<td>27 x 101/4 x 11</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Power unit</td>
<td>PE-73</td>
<td>36 x 101/2 x 201/2</td>
<td>322</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>1,020</td>
</tr>
</tbody>
</table>

Radio set SCR-624.

Catalogue of Naval Electronic Equipment—April 1945

Ar-23
RADIO SET SCR-694

Use.—Portable—Marine Corps.
Frequency range.—3.8 to 6.5 megacycles.

Power output:
Vehicle operation: $A_1$, 25 watts; $A_2$, 7 watts.
Field operation: $A_1$, 20 watts; $A_2$, 5 watts.

Emission.—$A_1$ and $A_2$.

Description.—Radio set SCR-694 is a compact and efficient two-way radio-telephone and radio-telegraph unit for communication between moving or stationary vehicles. The set may also be removed from the vehicle and can be set up as a field station.

Tube complement:
Transmitter:
2—3A4.
1—HY65.
1—TS70.
1—VR-105-30.

Receiver:
3—1T4.
1—1R5.
1—1S5.
1—3Q4.

Frequency control.—Master-oscillator and crystal (two pre-set frequencies).

Power source.—6- or 12-volt vehicle battery with vibrator unit PE-237; hand generator GN-57; or battery BA-48 (for receiver only).

Antenna.—15-foot whip AN-123, 124.

Weights, dimensions, and Army type numbers of principal equipment units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type No.</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter-receiver</td>
<td>BC-1306</td>
<td>Inches</td>
<td>Pounds</td>
</tr>
<tr>
<td>Vibrator unit</td>
<td>PE-237</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generator</td>
<td>GN-57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
List of Naval Radio, Radar, and Sonar Equipment Arranged by Navy Model Letters

SHIPS 242A

January 1945

ELECTRONICS DIVISION

BUREAU OF SHIPS + NAVY DEPARTMENT
Section 3.

SIGNAL CORPS EQUIPMENT
<table>
<thead>
<tr>
<th>Model</th>
<th>Contractor</th>
<th>Type of frequency control</th>
<th>Nominal power output (watts)</th>
<th>Type of emission</th>
<th>Frequency range</th>
<th>Purpose—remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC-312</td>
<td>GFN</td>
<td>CV</td>
<td></td>
<td>A₂, A₃, A₄</td>
<td>1,500–18,000 kc</td>
<td>Radio receiver—12 volt power supply.</td>
</tr>
<tr>
<td>BC-342</td>
<td>CFN</td>
<td>CV</td>
<td></td>
<td>A₂, A₃, A₄</td>
<td>1,500–18,000 kc</td>
<td>Radio receiver—Same as BC-312 but equipped for 110 volt a-c operation. Interphone Control Box.</td>
</tr>
<tr>
<td>BC-606</td>
<td>CW, CFE, CAU, CME.</td>
<td>CV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BC-610</td>
<td>CHL</td>
<td>CC</td>
<td>400</td>
<td>A₁</td>
<td>2–8 mc</td>
<td>Radio transmitter—Hallicraft Model— Uses but does not include BC-614B. Part of SCR-299, 399, 499 and MRC-1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BC-614</td>
<td>CHL</td>
<td>CC</td>
<td></td>
<td>A₂</td>
<td>100–156 mc</td>
<td>Speech amplifier for use with BC-610.</td>
</tr>
<tr>
<td>BC-638</td>
<td>CRR</td>
<td>CC</td>
<td></td>
<td>A₂</td>
<td>100–156 mc</td>
<td>Speech amplifier for use with BC-610.</td>
</tr>
<tr>
<td>BC-639</td>
<td>CRR</td>
<td>CV</td>
<td></td>
<td>A₂, A₃, A₄</td>
<td>100–156 mc</td>
<td>Speech amplifier for use with BC-610.</td>
</tr>
<tr>
<td>BC-640</td>
<td>CRR</td>
<td>CC</td>
<td>50</td>
<td>A₂, A₃, A₄</td>
<td>100–156 mc</td>
<td>Receiver, Transmitter.</td>
</tr>
</tbody>
</table>
### SIGNAL CORPS EQUIPMENT USED BY NAVY—SCR SERIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Contractor</th>
<th>Type of frequency control</th>
<th>Nominal power output (watts)</th>
<th>Types of emission</th>
<th>Frequency range</th>
<th>Purpose—Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCR-169</td>
<td>CV</td>
<td></td>
<td>75</td>
<td>A₁, A₂, A₃</td>
<td></td>
<td>Generator-charger (600 w–32 v) for Battery Maintenance. Ground radio set.</td>
</tr>
<tr>
<td>SCR-177</td>
<td>CV</td>
<td></td>
<td>75</td>
<td>A₁, A₂, A₃</td>
<td></td>
<td>Do.</td>
</tr>
<tr>
<td>SCR-244</td>
<td>CHC</td>
<td>CV; CC</td>
<td>10</td>
<td>A₁, A₂</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-245</td>
<td>CC; CV</td>
<td></td>
<td>10</td>
<td>A₁, A₂</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-268</td>
<td>CW</td>
<td></td>
<td>800</td>
<td>A₁</td>
<td>200–400 mc.</td>
<td></td>
</tr>
<tr>
<td>SCR-284</td>
<td>CRO</td>
<td>CV; CC</td>
<td>20</td>
<td>A₁</td>
<td>3.8–5.8 mc.</td>
<td></td>
</tr>
<tr>
<td>SCR-295</td>
<td>CEX</td>
<td>CV; CC</td>
<td>5</td>
<td>A₁</td>
<td>2.0–5.8 mc.</td>
<td></td>
</tr>
<tr>
<td>SCR-299-A</td>
<td>CHL</td>
<td>CC; CV</td>
<td>400</td>
<td>A₁, A₂, A₃</td>
<td>Trans: 2.0–12 mc —Recev: 2.0–12 mc</td>
<td>Portable Transmitter-Receiver Equipment—Similar to SCR-299A but without truck. Portable Transmitter-Receiver (Walkie-Talkie)—Weight 32 pounds. Similar to SCR-299E—Uses 110/1/60 or PE-95.</td>
</tr>
<tr>
<td>SCR-299-E</td>
<td>CHL</td>
<td>CC; CV</td>
<td>400</td>
<td>A₁, A₂, A₃</td>
<td>Trans: 2.0–18 mc</td>
<td>Portable Transmitter-Receiver Equipment—Similar to SCR-299A but without truck. Portable Transmitter-Receiver (Walkie-Talkie)—Weight 32 pounds. Similar to SCR-299E—Uses 110/1/60 or PE-95.</td>
</tr>
<tr>
<td>SCR-300</td>
<td>CGG</td>
<td>CV; CC</td>
<td>300</td>
<td>A₁</td>
<td>40–48 mc.</td>
<td>Portable Transmitter-Receiver (Walkie-Talkie)—Weight 32 pounds.</td>
</tr>
<tr>
<td>SCR-399</td>
<td>CHL</td>
<td>CC; CV</td>
<td>300</td>
<td>A₁</td>
<td>Trans: 2.0–18 mc —Recev: 2.0–18 mc</td>
<td>Portable Transmitter-Receiver Equipment—Similar to SCR-299A but without truck. Portable Transmitter-Receiver (Walkie-Talkie)—Weight 32 pounds. Similar to SCR-299E—Uses 110/1/60 or PE-95.</td>
</tr>
<tr>
<td>Model</td>
<td>Contractor</td>
<td>Type of frequency control</td>
<td>Nominal power output (watts)</td>
<td>Types of emission</td>
<td>Frequency range</td>
<td>Purpose—Remarks</td>
</tr>
<tr>
<td>---------</td>
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<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SCR-508</td>
<td>CW</td>
<td>CC; CV</td>
<td>300</td>
<td>A₂</td>
<td></td>
<td>Communication—Interphone Vehicular radio set comparable to commercial police sets—80 channels.</td>
</tr>
<tr>
<td>SCR-509</td>
<td>CGG</td>
<td>CC</td>
<td>25</td>
<td>FM voice</td>
<td>20.0–27.9 mc</td>
<td>Communication—Portable radio set—Transceiver—80 channels.</td>
</tr>
<tr>
<td>SCR-510</td>
<td>CGG</td>
<td>CC</td>
<td>1.8</td>
<td>FM voice</td>
<td>20.0–27.9 mc</td>
<td>Similar to SCR-509 except vibrator power supply, shock mounting, vehicular antenna microphone and headset suitable for vehicular use are added—80 channels.</td>
</tr>
<tr>
<td>SCR-511</td>
<td>CGG</td>
<td>CC</td>
<td>0.75</td>
<td>A₁</td>
<td>3.0–6.0 mc</td>
<td>Portable Transmitter—Receiver—Cavalry—Weight 20 pounds.</td>
</tr>
<tr>
<td>SCR-522</td>
<td>CRR</td>
<td>CC</td>
<td>6</td>
<td>A₁, A₂</td>
<td>100–156 mc</td>
<td>Aircraft—Transmitting Equipment—CC-4 channels—28 v. d. c.</td>
</tr>
<tr>
<td>SCR-527-A</td>
<td>CG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ground control of interceptor planes—PPI height finding approximation—Long range search—W/O GCT if properly sited.</td>
</tr>
<tr>
<td>SCR-528</td>
<td>CW</td>
<td>CC; CV</td>
<td>25</td>
<td>A₁, FM</td>
<td>20–27.9 mc</td>
<td>Intercomm Transmitter and Receiver for motor transport and combat vehicles—Same as SCR 508 less one receiver.</td>
</tr>
<tr>
<td>SCR-536</td>
<td>CGG</td>
<td>CC</td>
<td>0.015</td>
<td>A₁</td>
<td>3.5–6.0 mc</td>
<td>Paratroops—Portable Transmitter-Receiver—Weight 5½ pounds—Dry cell pack.</td>
</tr>
<tr>
<td>SCR-538</td>
<td>CW</td>
<td>CC; CV</td>
<td></td>
<td>A₂, FM</td>
<td>20.0–27.9 mc</td>
<td>Receiver and Interphone Amplifier for motor transport and combat vehicles.</td>
</tr>
<tr>
<td>SCR-573</td>
<td>CRR</td>
<td>CC</td>
<td>40–51.5</td>
<td>A₁, A₂</td>
<td>100–156 mc</td>
<td>Aircraft Transmitting and Receiving Equipment—12–14 volts d. c.—CC-4 channel.</td>
</tr>
<tr>
<td>SCR-574</td>
<td>CRR</td>
<td>CV</td>
<td></td>
<td></td>
<td></td>
<td>Two transmitting equipments mounted in a 2½ ton truck.</td>
</tr>
<tr>
<td>SCR-588-B</td>
<td>CG; CAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Two receiving equipments mounted in truck</td>
</tr>
<tr>
<td>SCR-584</td>
<td>CYJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fire control 90 mm A. A. batteries—Auto track.</td>
</tr>
<tr>
<td>SCR-588-B</td>
<td>CYJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ground control of interceptor planes—PPI—Height finding (approximate)—Also used for search if properly sited.</td>
</tr>
<tr>
<td>SCR-602A</td>
<td>CYJ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Air transportable, early warning, aircraft detector.</td>
</tr>
<tr>
<td>Model</td>
<td>Type</td>
<td>Frequency</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SCR-608</td>
<td>CW</td>
<td>27.0–38.9 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-609</td>
<td>CGG</td>
<td>27.0–38.9 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-610</td>
<td>CGG</td>
<td>27.0–38.9 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-619</td>
<td>CGM</td>
<td>27.0–38.9 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-624</td>
<td>CRR</td>
<td>Trans: 100–156 mc, Recv: 100–156 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-625</td>
<td>CDT; CAGT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-627</td>
<td>CG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-634</td>
<td>CNO</td>
<td>100–156 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCR-693</td>
<td>CLIY</td>
<td>3.8–6.5 mc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description:**
- **Communication (remote control):** Vehicular Set for field artillery—120 channels spaced 100 kcs apart.
- **Portable, self-contained, battery operated Radio Transmitter and Receiver:** Push buttons selection of two pre-selected frequencies provided.
- **Vehicular set for field artillery:** Communication.
- **Communication Liaison Portable Set capable of being carried by man on foot, by pack animal or in any field artillery vehicle:** Similar to SCR-609 but smaller, lighter and more readily portable.
- **Transmitting and Receiving Equipment—Air transportable:** 110/220/1/60—CC-4 channel.
- **Mine Detector Set:** Ground control of intercepter planes—Height finding (approximation)—Long range search W/O C. O. I., if properly sighted.
- **Air Transportable Radio Direction Finding Equipment:** 110/1/60 consisting of Accessories, 1—SCR-624 and 1 BC-639. (CC-4 channel)—D/F is CV.
- **Light weight portable long range set for Infantry paratroopers etc.:** 2-way communication.
- **Airborne IFF Transponder:**
- **Airborne Interrogator-Responder:**
- **Radio telephone:** Portable ground, mobile.