DIRECTORY OF SIGNAL CORPS EQUIPMENTS
RADIO COMMUNICATION EQUIPMENT
FOREWORD

This is the first of a series of nine separate manuals, each covering the standard, substitute standard, and limited standard Signal Corps equipments in a particular field. This manual covers radio communication equipment. Succeeding manuals will cover, respectively, wire communication equipment, ground radar and recognition equipment, radio direction finding equipment, power equipment, photographic equipment, meteorological equipment, test equipment, and miscellaneous equipment.

Items of equipment are presented in this manual in alpha-numerical sequence by type numbers. When the type number is known, use the Contents to find the page on which the equipment is illustrated and described. When the type number is unknown, it may be found in the Index, which is arranged alphabetically by nomenclature.

An illustration and the following information are given for each item of equipment listed: nomenclature, status, Signal Corps stock number, technical manual reference, description, technical characteristics, general application, principal components, and weight and volume.

The following abbreviations are used in this manual:

ac... alternating current
af... audio frequency
am... amplitude modulation
a-m... amplitude-modulated
amp... ampere
ave... automatic volume control
bfo... beat-frequency oscillator
coml... commercial
cps... cycles per second
cu ft... cubic foot
c-w... continuous-wave
eye... cycle
db... decibel
dc... direct current
FCC... Federal Communications Commission
f-m... frequency-modulation
ft... foot
hf... high frequency
iew... interrupted continuous waves
ke... kilocycle
kva... kilovolt-ampere
kw... kilowatt
lb... pound
lf... low frequency
lg... long
ma... milliamperc
max... maximum
me... mega-cycle
mcw... modulated continuous wave
mi... mile
mmf... micromicrofarad
mo... master oscillator
mv... microvolt
mw... milliwatt
r-f... radio-frequency
SOS... International distress signal
std... standard
v... volt
v-f... voice-frequency
v-h-f... very-high-frequency
w... watt
Figure 94. Radio Set SCR-506-A installed in truck, $\frac{1}{4}$ ton, 4 x 4.

**Status:** Standard. **Stock No.:** 2S506/12 for 12-volt operation; 2S506/24 for 24-volt operation. **Reference:** TM 11-630.

Radio Set SCR-506-A is a medium-power, a-m set consisting of Radio Receiver BC-652-A, Radio Transmitter BC-653-A, and certain operating components. It is designed for installation in tanks, amphibian trucks, personnel carriers, and other vehicles to provide e-w and voice communication from one vehicle to another or between these vehicles and airplanes or base stations.
TECHNICAL CHARACTERISTICS
FREQUENCY RANGE: Transmitter 2.0 to 4.5 mc. Receiver continuously tunable in two bands: 2.0 to 3.5 mc and 3.5 to 6.0 mc.
NUMBER OF CRYSTALS: 1 (for calibration only).
PRESET FREQUENCIES: 4.
ANTENNA:
Whip antenna: 15 ft long (Mast Sections MS-49 to MS-53).
Extended whip antenna: 25 ft long (Mast Sections MS-49 to MS-53 plus 3 additional mast sections MS-54).
Straight wire antenna: Antenna AN-24-A, 22½ ft long.
TYPE MODULATION: Amplitude.
FREQUENCY CONTROL: Mo.
POWER SOURCE:
Transmitter: 12-v vehicular battery through Dynamotor DM-42-A, or 24-v vehicular battery through Dynamotor DM-43-A.
Receiver: 12-v vehicular battery through Dynamotor DM-40-A or 24-v vehicular battery through Dynamotor DM-41-A.
POWER OUTPUT: Transmitter: C-w operation, 50 to 90 w. Voice operation, 10 to 25 w. Depending upon frequency.
RANGE: For c-w: stationary, 75 mi; moving, 35 mi. Voice: stationary, 25 mi; moving 15 mi.
NUMBER OF TUBES: 18.

GENERAL APPLICATION
USE: To provide c-w and voice communication from one vehicle to another or between these vehicles and airplanes or base stations.
INSTALLATION: Designed for installation in tanks, amphibian trucks, personnel carriers, and other vehicles.

PRINCIPAL COMPONENTS
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<thead>
<tr>
<th>Name</th>
<th>Dimensions (in.)</th>
<th>Weight (lb)</th>
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<tbody>
<tr>
<td>Radio Transmitter BC-653</td>
<td>12½ x 25½ x 14½</td>
<td>148</td>
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<tr>
<td>Radio Receiver BC-652-A</td>
<td>12½ x 7½ x 14½</td>
<td>46.5</td>
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<tr>
<td>Mounting FT-253-A</td>
<td>2 x 33 x 12½</td>
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WEIGHT AND VOLUME
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<tr>
<th></th>
<th>Domestic pack</th>
<th>Export pack</th>
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<td>377</td>
</tr>
<tr>
<td>Total volume (cu ft)</td>
<td>16.1</td>
<td>16.1</td>
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</tbody>
</table>
MIL-HDBK-161A

DEPARTMENT OF THE ARMY TECHNICAL MANUAL
DEPARTMENT OF THE NAVY PUBLICATION
DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER

MILITARY STANDARDIZATION HANDBOOK

ELECTRONIC COMMUNICATION EQUIPMENT

Third and Final Increment to MIL-HDBK-161A, 12 March 1964
Radio Set SCR-506-( ) is a medium power, am (voice) and cw, vehicular radio transmitting and receiving equipment used by motorized tactical units for ground-to-ground and ground-to-air communication in the medium-frequency range.

This equipment consists of a radio transmitter and a radio receiver mounted on a vehicular shock mounting common to both, and includes antenna, cording, and accessory items. It is usually installed in tanks, armored and amphibious vehicles, personnel carriers and similar vehicles. The set has provision for rapidly adjusting, and operating over any of five preselected channels.

It operates from the storage battery of the vehicle in which it is installed.

This equipment has been replaced by Radio Set AN/GRC-19

RELATIONSHIP TO SIMILAR EQUIPMENT:

TECHNICAL DESCRIPTION:

*Frequency Range in Mc:*

Transmitter: 2.0 to 4.5 (126 channels)

Receiver: 2.0 to 6.0 (210 channels, 2 bands)
AN/VRC-type
RADIO SET

SCR-506-( )

Type Modulation: am
Type of Signal: voice and cw
Power Output:
Voice: 10 to 25 w
Cw: 50 to 90 w
Power Requirements: 12/24-v dc from vehicular storage battery

Major Units:
1 DM-42
1 BC-652
1 BC-653

7" x 4" (dia)
12½" x 14½" x 7⅝"
12½" x 14½" x 25½"
46.5 lbs
143.0 lbs

TUBES, CRYSTALS, TRANSISTORS:

REFERENCE DATA AND LITERATURE:

TM 11-630