





RADIO SET SCR-506-T2  
3/4 View

**RESTRICTED**  
Security Information

**TM 11-487A**

TO 16-1A-2

**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**

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**DIRECTORY OF  
SIGNAL CORPS  
EQUIPMENTS  
RADIO COMMUNICATION  
EQUIPMENT**

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**DEPARTMENT OF THE ARMY**  
**RESTRICTED**  
Security Information

**AUGUST 1950**

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**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.

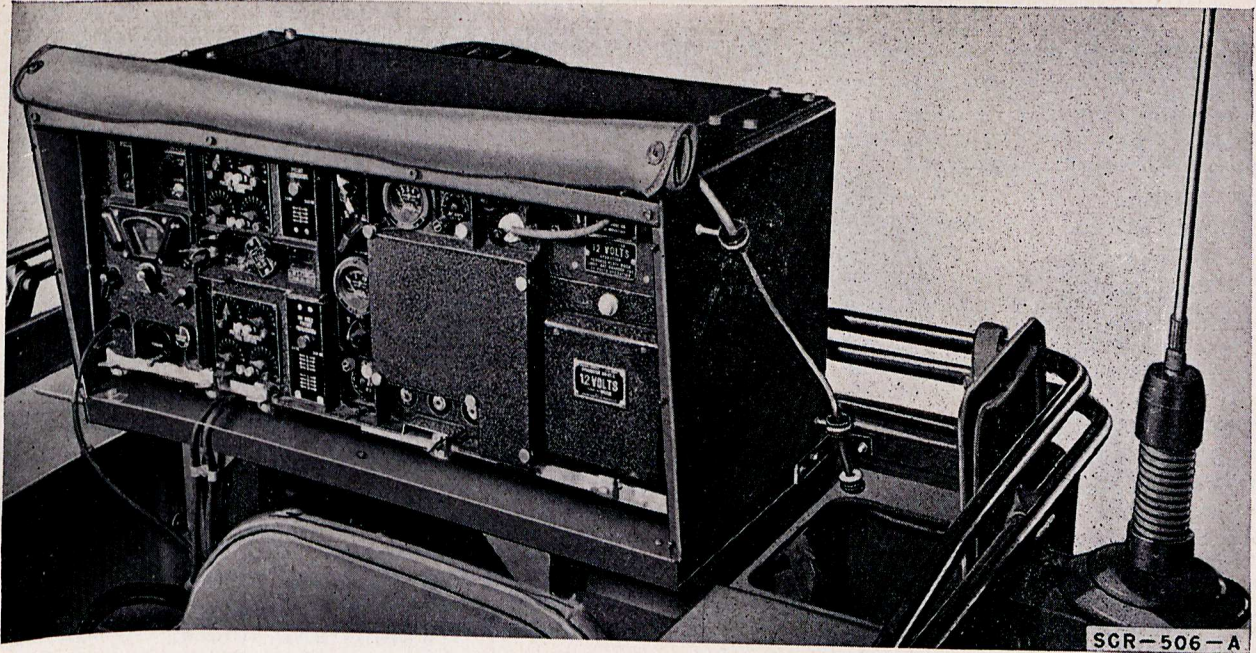
Items of equipment are presented in this manual in alpha-numerical sequence by type numbers. When the type number is known, use the Contents to find the page on which the equipment is illustrated and described. When the type number is unknown, it may be found in the Index, which is arranged alphabetically 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	kw.....	kilowatt
af.....	audio frequency	lb.....	pound
am.....	amplitude modulation	lf.....	low frequency
a-m.....	amplitude-modulated	lg.....	long
amp.....	ampere	ma.....	milliampere
avc.....	automatic volume control	max.....	maximum
bfo.....	beat-frequency oscillator	mc.....	megacycle
coml.....	commercial	mew.....	modulated continuous wave
eps.....	cycles per second	mi.....	mile
cu ft.....	cubic foot	mmf.....	micromicrofarad
e-w.....	continuous-wave	mo.....	master oscillator
eye.....	cycle	mv.....	microvolt
db.....	decibel	mw.....	milliwatt
dc.....	direct current	r-f.....	radio-frequency
FCC.....	Federal Communications Commission	SOS.....	International distress signal
f-m.....	frequency-modulation	std.....	standard
ft.....	foot	v.....	volt
hf.....	high frequency	v-f.....	voice-frequency
icw.....	interrupted continuous waves	v-h-f.....	very-high-frequency
kc.....	kilocycle	w.....	watt
kva.....	kilovolt-ampere		

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*Figure 94. Radio Set SCR-506-A installed in truck, 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 c-w and voice communication from one vehicle to another or between these vehicles and airplanes or base stations.

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### 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.

TO COMMUNICATE WITH: Radio Sets SCR-177-B, SCR-188-A, SCR-193, SCR-399-A, SCR-499-A, SCR-506-A, SCR-536-A, SCR-543, SCR-694.

INSTALLATION: Designed for installation in tanks, amphibian trucks, personnel carriers, and other vehicles.

TYPE OF SIGNAL: Transmitter: c-w and voice. Receiver: c-w, tone, and voice.

### PRINCIPAL COMPONENTS

Name	Dimensions (in.)	Weight (lb)
Radio Transmitter BC-653.....	12½ x 25 <sup>5</sup> / <sub>8</sub> x 14 <sup>5</sup> / <sub>8</sub>	143
Radio Receiver BC-652-A.....	12½ x 7 <sup>5</sup> / <sub>8</sub> x 14 <sup>5</sup> / <sub>8</sub>	46.5
Mounting FT-253-A.....	2 x 33 x 12 <sup>3</sup> / <sub>4</sub>	34

### WEIGHT AND VOLUME

	Domestic pack	Export pack
Total weight (lb).....	377	377
Total volume (cu ft).....	16.1	16.1

**MIL-HDBK-161A**

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

**TM 11-487A-3  
NAVEXOS P-2058  
TO 31-31-3-73**

**MILITARY STANDARDIZATION HANDBOOK**

**ELECTRONIC COMMUNICATION  
EQUIPMENT**



**Third and Final Increment to MIL-HDBK-161A, 12 March 1964**

**FSC MISC**

AN/VRC-type  
RADIO SET

SCR-506-( )

15 March 1962

Cog. Serv: USN FSN: 5820-196-1743

USA Line Item No.: 653000

USA

USN

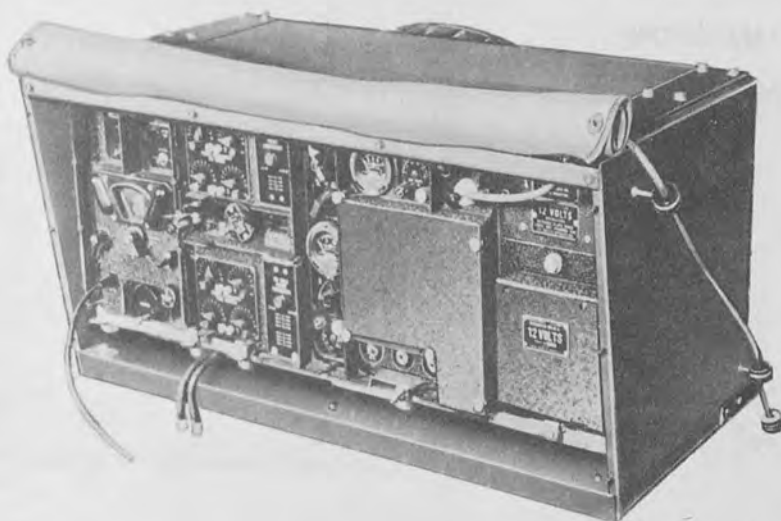
USAF

USMC

STATUS OR TYPE CLASS.:

L/Std

Manufacturer:



SCR-506

**FUNCTIONAL DESCRIPTION:**

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	7" x 4" (dia)	
1	BC-652	12 $\frac{1}{2}$ " x 14 $\frac{5}{8}$ " x 7 $\frac{5}{8}$ "	46.5 lbs
1	BC-653	12 $\frac{1}{2}$ " x 14 $\frac{5}{8}$ " x 25 $\frac{3}{32}$ "	143.0 lbs

**TUBES, CRYSTALS, TRANSISTORS:**

**REFERENCE DATA AND LITERATURE:**

TM 11-630