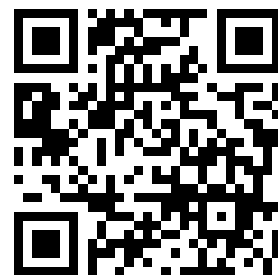

This is a reproduction of a library book that was digitized by Google as part of an ongoing effort to preserve the information in books and make it universally accessible.

Google™ books

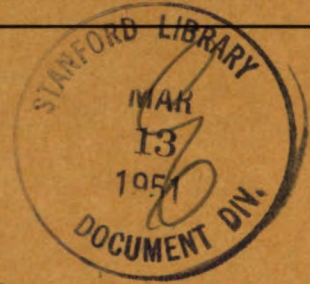
<https://books.google.com>



D101.11:11 - 487D

TM 11-487D

DEPARTMENT OF THE ARMY TECHNICAL MANUAL



DIRECTORY OF
SIGNAL CORPS EQUIPMENTS

RADIO
DIRECTION FINDING
EQUIPMENT

DEPARTMENT OF THE ARMY • JANUARY 1951



DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TM 11-487D

This manual supersedes so much of TM 11-487, 2 October 1944, as pertains to Radio Direction Finding Equipment.

DIRECTORY OF
SIGNAL CORPS EQUIPMENTS

RADIO
DIRECTION FINDING
EQUIPMENT



DEPARTMENT OF THE ARMY

JANUARY 1951

United States Government Printing Office
Washington: 1951

DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., 10 January 1951

TM 11-487D is published for the information and guidance of all concerned.

[AG 413.44 (20 Nov 50)]

BY ORDER OF THE SECRETARY OF THE ARMY:

OFFICIAL:

EDWARD F. WITSELL
Major General, USA
The Adjutant General

J. LAWTON COLLINS
Chief of Staff, United States Army

DISTRIBUTION:

Tech Svc (1) except 11 (50); Arm & Svc Bd (1); AFF Bd (ea svc Test Sec) (1); AFF (5); AA Comd (2); OS Maj Comd (5); Base Comd (2); MDW (2); A (20); CHQ (2); D (2); FC (2); Sch (3) except 11 (10); Gen Dep (5); Dep 11 (10); 4th & 5th Ech Maint Shops 11 (2); PE (5), OSD (2); Lab 11 (2); Two (2) copies to the following T/O&E's, 11-107; 11-127; 11-500, EC, EF, EG, EI, EJ, EO, IS, IT, IU, IV; 11-587; 11-592; 11-597; SPECIAL DISTRIBUTION.

For explanation of distribution formula, see SR 310-90-1.

FOREWORD

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

Items of equipment are presented in this manual in alpha-numerical sequence by nomenclature type numbers. An illustration and the following information, as applicable, are given for each item: nomenclature, status, Signal Corps stock number, technical manual reference, description and application, technical characteristics, principal components, and weight and volume.

The following abbreviations are used in this manual:

ac	..... alternating current	kva	..... kilovolt-ampere
amp	..... ampere	lg	..... long
amp-hr	..... ampere-hour	l-f	..... low-frequency
a-m	..... amplitude-modulated	mc	..... megacycle
am	..... amplitude modulation	mw	..... milliwatt
CRT	..... cathode-ray tube	mcw	..... modulated continuous wave
cw	..... continuous wave	lb	..... pound
cu ft	..... cubic foot	quan	..... quantity
cyc	..... cycle	RDF	..... radio direction finder
DF	..... direction finder	r-f	..... radio-frequency
f-m	..... frequency-modulated	std	..... standard
fm	..... frequency modulation	u-h-f	..... ultrahigh-frequency
h-f	..... high-frequency	v	..... volt
in.	..... inch	w	..... watt
icw	..... interrupted continuous wave		

CONTENTS

	<i>Page</i>
AN/CRD-2, Radio Set	1
AN/CRD-3, Radio Set	2
SCR-206-C, Radio Set	3
SCR-255, Radio Set	4
SCR-291-A, Radio Set	5
SCR-502, Radio Set	7
SCR-503-B, Radio Set	9
SCR-504-A, Radio Set	11
SCR-555-A, Radio Set	12
SCR-556-A, Radio Set	13
TC-8, Radio Direction Finder Central	14

This manual supersedes so much of TM 11-487, 2 October 1944, as pertains to Radio Direction Finding Equipment.

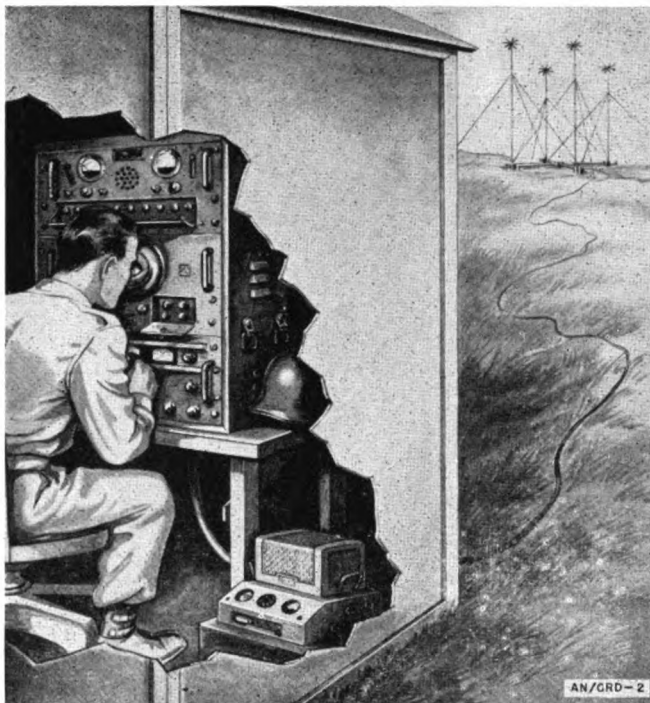


Figure 1. Radio Set AN/CRD-2.

Status: Standard. Stock No.: 2S1515-2.
Reference: TM 11-514.

Radio Set AN/CRD-2 is an air-transportable, ground-station RDF. It consists of a fixed oriented antenna array, an electronic goniometer, a highly sensitive radio receiver, a visual bearing indicator, an aural-null indicator, a modulating voltage generator, a power distribution unit, and other associated equipment. The radio set is shipped packed in 12 crates and chests.

Bearing information can be obtained on practically any radio transmitter from which signals can be received. Instantaneous visual bearing indications are displayed as fast as the receiver can be tuned to various signals. Aural-null bearings may be taken also. By the use of two or more of these equipments, the approximate location of the radio transmitter can be found. The RDF, along with similar equipment, may be used as an aid to navigation.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 0.54 mc to 30 mc.
TYPE MODULATION RECEIVED: am, fm, and cw.
TYPE OF INDICATION: Visual or aural-null.
ANTENNA: Fixed four-element spaced collector.

ANTENNA ROTATION: Electronic goniometer.
NUMBER AND TYPES OF TUBES: 1 ea 1R5, 2X2A, 3B7/1291, 5CP1, 5Y3, 6K6, 6L6, 6SJ7; 2 ea 5R4GY, 6H6, 6J5, 6SA7, 6SL7, 6SQ7; 3 ea OC3/VR105, OR3/VR150; 4 ea 6B4; 6 ea 6SG7; 7 ea 6SN7; 20 ea 6AC7.
POWER OUTPUT TO LOUDSPEAKER: 2.5 w.
POWER SOURCE: 50/60-cyc, 115- or 230-v ac capable of supplying 500 w of power.

PRINCIPAL COMPONENTS

- | | <i>Name</i> |
|----|--|
| 15 | Antenna Coupling Unit CU-34/CRD-2. |
| 1 | Antenna System AS-87/CRD-2. |
| 1 | Azimuth Indicator ID-240/CRD-2. |
| 1 | Counterpoise MX-313/CRD-2. |
| 1 | Coupling Unit CU-68/CRD-2. |
| 1 | Coupling Unit CU-69/CRD-2. |
| 1 | Junction Box J-95/CRD-2. |
| 1 | Rack MT-332/CRD-2 including— |
| 1 | Bearing Indicator ID-64/CRD-2. |
| 1 | Modulating Voltage Generator O-15/CRD-2. |
| 1 | Radio Receiver R-127/CRD-2. |
| 1 | Radio Transmitter BC-1149-A. |
| 1 | Voltage Distribution Unit J-59/CRD-2. |
| | ¹ One is spare. |

WEIGHT AND VOLUME

	<i>Unpacked</i>	<i>Domestic pack</i>	<i>Export pack</i>
Total weight (lb) -----	2,959	3,551	5,599
Total volume (cu ft) -----		148	327
Ship tons -----			8.2

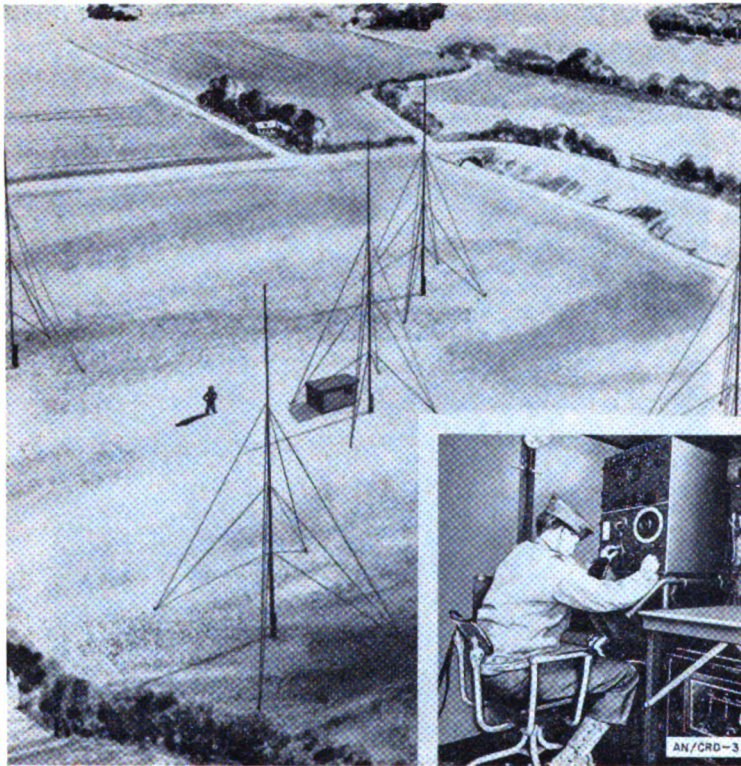


Figure 2. Radio Set AN/CRD-3.

Status: Standard. Stock No.: 2S1515. Reference: TM11-513.

Radio Set AN/CRD-3 is designed as a medium-frequency RDF. The equipment is transportable by air or vehicle. It consists of a receiving and indicating system, crossed-U Adcock antennas, a sense antenna, and accessory equipment. Shelter HO-20-B is a part of Radio Set AN/CRD-3. The equipment may be operated from commercial power or from the power generator supplied with the radio set. Radio Set AN/CRD-3 is shipped packed in 42 crates and cases.

TECHNICAL CHARACTERISTICS

- FREQUENCY RANGE: 0.25 mc to 1.5 mc.
- TYPE MODULATION RECEIVED: Cw, mcw, and icw.
- TYPE OF INDICATION: Visual or aural-null.
- ANTENNA: Directional:
 - Crossed-U Adcock, monopole-type masts with phase inverters.
 - Sense:
 - Monopole-type with phase inverter.
- ANTENNA ROTATION: Electronic goniometer.
- NUMBER AND TYPE OF TUBES: 1 ea OD3/VR150, 2AP1, 5NP1, 6J5, 6L6G, 6SA7, 6SN7GT, 6SQ7, 6V6-GT; 2 ea 2X2A, 5U4G, 6SJ7, 6X5GT/G; 4 ea 6H6; 6 ea 6AC7; 7 ea 6SK7; 20 ea 7V7.

- POWER OUTPUT: To loudspeaker, 1.5 w.
To headphones, 15 mw.
- POWER SOURCE: 60-cyc, single phase ac supplying 0.5 kva at 115 v. Power Unit PE-197.

PRINCIPAL COMPONENTS

- | | <i>Name</i> |
|----|--|
| 1 | Amplifier-Rectifier Power Unit PP-151/CRD-3. |
| 17 | Antenna Assembly AS-204/CRD-3. |
| 17 | Antenna Mooring Platform AB-82/CRD-3. |
| 1 | Bearing Indicator ID-121/CRD-3. |
| 1 | Control-Rectifier Power Unit PP-135/CRD-3. |
| 17 | Counterpoise MX-318/CRD-3. |
| 22 | goniometer (Navy No. CFT-47372). |
| 1 | Junction Box J-99/CRD-3. |
| 14 | Junction Box JB-91-A. |
| 1 | Junction Box JB-126. |
| 1 | Mounting Table MT-347/CRD-3. |
| 16 | Phase Inverter MC-411-A. |
| 22 | Phase Inverter MC-413-A. |
| 22 | Power Unit PE-197. |
| 1 | Radio Receiver Assembly R-128/CRD-3. |
| 1 | Shelter HO-20-B. |
| | ¹ Two are spares. |
| | ² One is spare. |

WEIGHT AND VOLUME

	<i>Unpacked</i>	<i>Domestic pack</i>	<i>Export pack</i>
Total weight (lb) -----	10,060	12,076	14,491
Total volumn (cu ft) ----		749	900
Ship tons -----			22.5

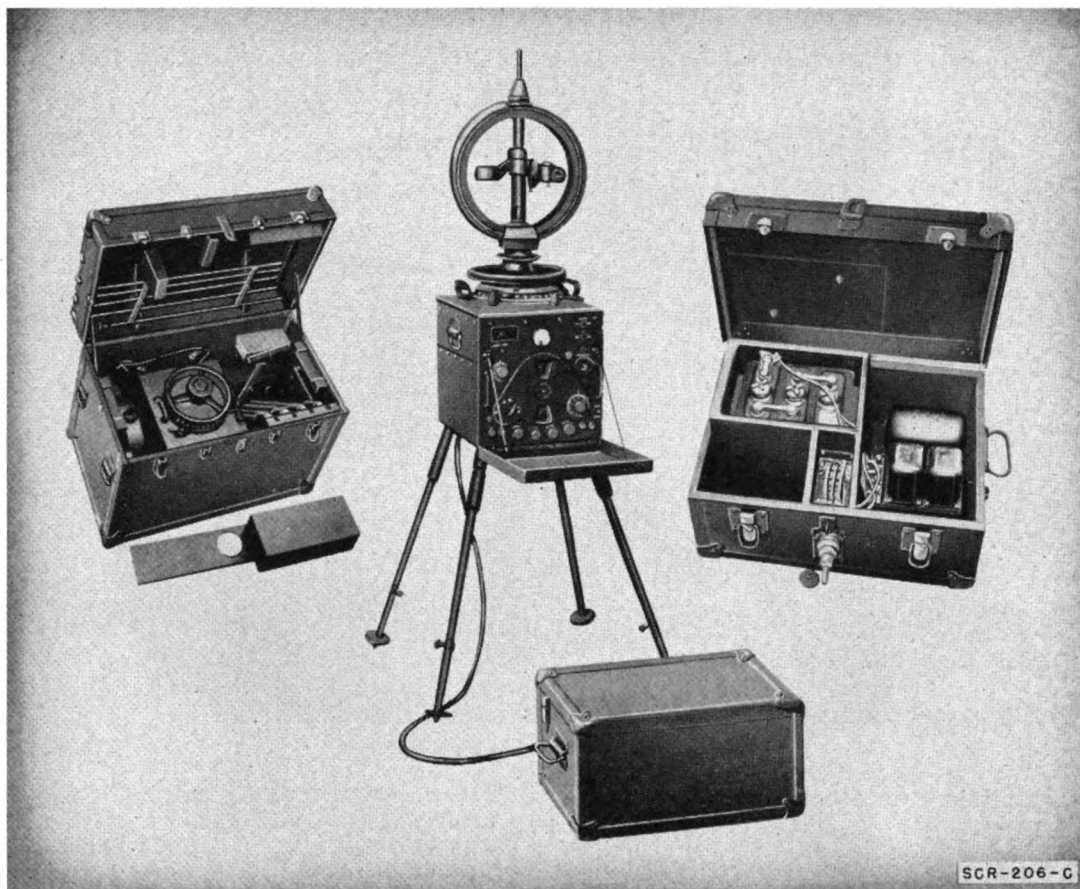


Figure 3. Radio Set SCR-206-C.

Status: Limited/Std. **Stock No.:** 2S206C.
Reference: TM 11-240C.

Radio Set SCR-206-C is a complete RDF, capable of being used as a radio receiver. Circuits are provided for the connection of a telephone circuit to a position-finding telephone system. A simple DF can determine the direction of any transmitter operating within its frequency and sensitivity limits. Two DF's are necessary to fix accurately the location of such a transmitter. This equipment is intended for portable ground use and for this reason is completely battery operated.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 0.2 mc to 18 mc.
TYPE MODULATION RECEIVED: Cw, tone, and voice.
TYPE OF INDICATION: Visual (Tube 6U5/6G5) and aural-null.
ANTENNA: Loop and sense antenna.
ANTENNA ROTATION: Manual (handwheel and crank).

NUMBER AND TYPE OF TUBES: 1 ea 6AB7, 6H6, 6K6GT, 6L7, 6U5/6G5; 2 ea 6SK7; 3 ea 6J5.
POWER SOURCE: 6-v storage battery.

PRINCIPAL COMPONENTS

Name
1 Antenna AN-35-C.
1 Box BX-29-C.
1 Chest CH-63-C.
1 Cord CD-476.
4 Leg LG-12-C.
1 Loop LP-22-C.
¹ 2 Plate Supply Unit PE-91-C.
1 Radio Receiver and Loop Rotator BC-470-C.
² 3 storage battery (type 3-LXL-9, 6-v, 70 amp-hr).
¹ One is spare.
² Two are spares.

WEIGHT AND VOLUME

	Unpacked	Domestic pack	Export pack
Total weight (lb) -----	383	460	552
Total volume (cu ft) ----	42	50	60
Ship tons -----			1.5

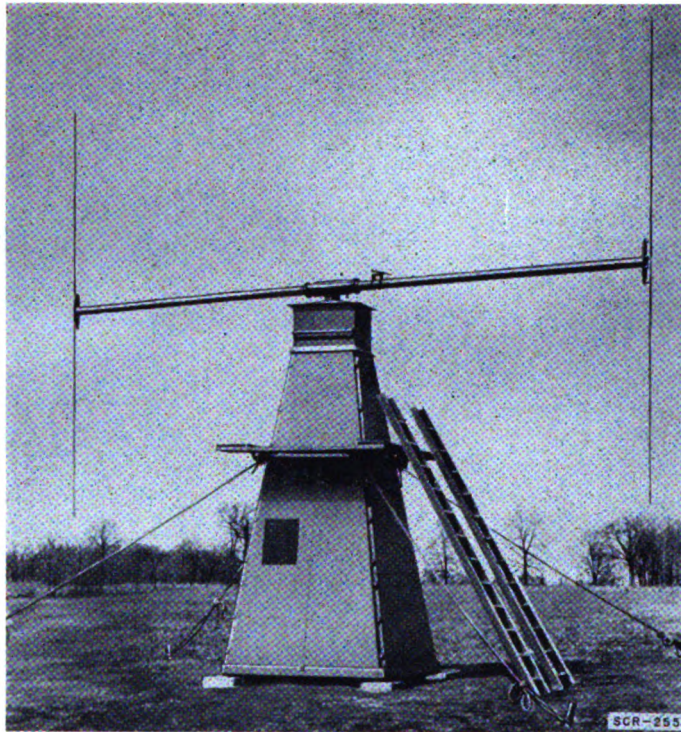


Figure 4. Radio Set SCR-255.

Status: Limited/Std. Stock No.: 2S255. Reference: TM 11-861.

Radio Set SCR-255 is a semiportable, ground-station RDF. The radio receiver, power supply, and loudspeaker are contained in an aluminum cabinet at the top of the supporting tower. The antenna system is secured to a control shaft extending through the cabinet and terminating at the control position within the lower section of the tower. From this position, rotation of the antenna and all operating adjustments of the radio receivers are accomplished. The tower is completely inclosed by detachable wooden panels that provide a weatherproof shelter. A door and window are located in the lower front panel of the shelter. The tower is equipped for guying if desirable. The equipment is designed to operate as an aural-null DF employing a rotating Adcock antenna system.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 0.55 mc to 30 mc.
 TYPE MODULATION RECEIVED: Cw, tone, and voice.
 TYPE OF INDICATION: Aural-null.
 ANTENNA: Rotating Adcock antenna; each dipole collector has one fixed and one adjustable dipole element.
 ANTENNA ROTATION: Manual (handwheel).

NUMBER AND TYPE OF TUBES: 1 ea 6C8G, 6F6G, 6F8G, 6X5; 3 ea 6J7, 6K7.
 POWER OUTPUT TO LOUDSPEAKER: 3.2 w.
 POWER SOURCE: Two 6-v storage batteries connected in parallel.

PRINCIPAL COMPONENTS

- | | <i>Name</i> |
|----|---|
| 1 | anchor assembly (Sig C stock No. 2A3459A/A1). |
| 2 | Beam M-264-A. |
| 1 | Beam Socket MC-263-A. |
| 13 | Box BX-35-A. |
| 1 | Cabinet CS-95-A. |
| 1 | Control Unit MC-265-A. |
| 2 | Dipole Collector AN-63-A. |
| 2 | Ladder LC-55-A. |
| 1 | magnetic compass (Sig C stock No. 2Z3242A/C2). |
| 1 | Radio Receiver BC-903-A. |
| 1 | Radio Transmitter BC-904-A. |
| 26 | storage battery (Sig C stock No. 3B98). |
| 1 | telescope (type 7C; Sig C stock No. 7A1770). |
| 1 | telescope and compass mount (Sig C stock No. 2Z57-4A/M1). |
| 1 | Tower TR-19-A. |
| | ¹ Two are spares. |
| | ² Four are spares. |

WEIGHT AND VOLUME

	<i>Unpacked</i>	<i>Domestic pack</i>	<i>Export pack</i>
Total weight (lb -----)	2,974	3,569	4,283
Total volume (cu ft) -----	540	648	777
Ship tons -----			19.5

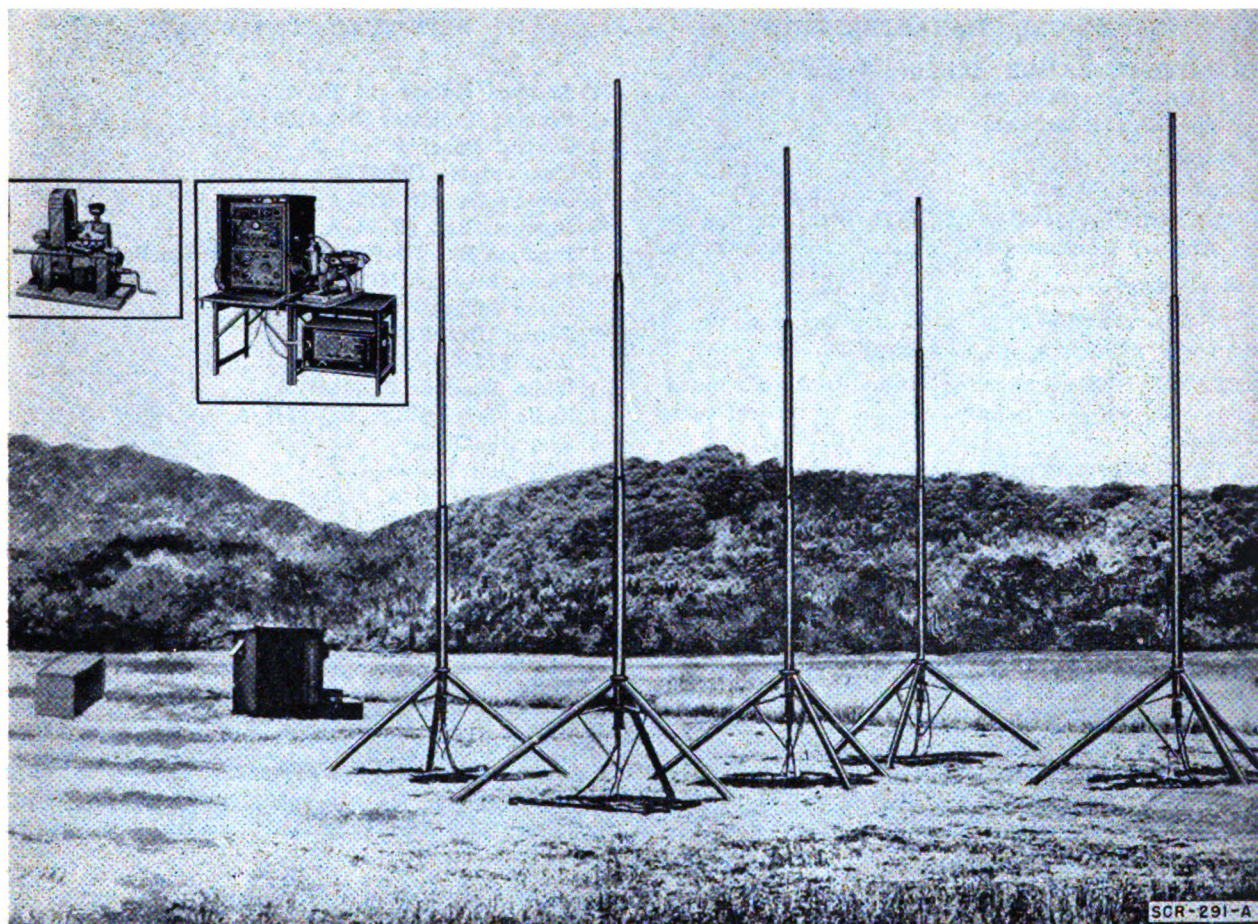


Figure 5. Radio Set SCR-291-A.

Status: Limited/Std. *Stock No.:* 2S291A.
Reference: TM 11-243.

Radio Set SCR-291-A is a semiportable, visual-indicator type, ground-station RDF. The bearing indicator, radio receiver, control panel, and telephone panel are installed in Shelter HO-20-A. The antenna system is composed of crossed-U Adcock antennas and a vertical sense antenna. The necessity for rotating the antenna system is eliminated by a motor-driven goniometer which produces electrically the equivalent of mechanical rotation. The power source,

Power Unit PU-41/G, is located in Shelter HO-19-A.

Azimuth bearings can be taken on any type of radio transmitter within the r-f ranges of the radio set. Simultaneous bearing indications and audio monitoring signals are available over the DF range; any transmission within the range of the receiver can be monitored. Bearing indications are continuously and automatically traced on the screen of the CRT, and bearings can be taken as rapidly as the receiver can be tuned to various transmitters.

SCR-291-A

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: Direction finding:
 Normal, 2 mc to 10 mc.
 Special, 2 mc to 20 mc

Monitoring:
 1.5 mc to 30 mc.

TYPE MODULATION RECEIVED: Direction finding:
 Any r-f transmission within the frequency range.

Monitoring:
 C-w, a-m, or f-m signal within the frequency range.

TYPE OF INDICATION: 5-in. CRT.

ANTENNA: Two stationary, crossed-U Adcock antennas each with phase inverters and a vertical sense antenna.

ANTENNA ROTATION: Electronic goniometer.

NUMBER AND TYPE OF TUBES: 1 ea OC3/VR105, OD3/VR150, 1R5, 2X2A, 3B7/1291, 5NP1, 6AC7Y, 6H6, 6J5, 6L6G, 6SA7, 6SH7, 6SJ7, 6SQ7, 6V6GT/G; 2 ea 5U4G; 4 ea 6SK7; 18 ea 7V7. If Bearing Indicator BC-1159-A is replaced by Bearing Indicator BC-1338, delete one tube 5NP1 and add the following tubes: 1 ea OD3/VR150, 2X2A, 5CP1A, 5U4G, 6SA7Y, 6SH7, 6SN7GT, 6SQ7, 6V6GT; 2 ea 6L6G-A; 4 ea 6AC7W.

POWER OUTPUT TO LOUDSPEAKER: 1.5 w.

POWER SOURCE: 60-cyc, 115- or 230-v, single-phase ac that will furnish 1.5 kw; usually a gasoline-engine-driven generator.

PRINCIPAL COMPONENTS

- Name*
- 17 Antenna Equipment RC-223-A.
 - 21 Bearing Indicator BC-1159-A.
 - 1 Control Panel PN-31-A.
 - 5 Counterpoise CP-17-A.
 - 1 Goniometer MC-412-A.
 - 15 Junction Box JB-91-A.
 - 1 Junction Box JB-95-A (or 1 Junction Box JB-126).
 - 35 Phase Inverter MC-411-A.
 - 32 Phase Inverter MC-413-A.
 - 32 Power Unit PU-41/G.
 - 1 Rack FM-61-A.
 - 1 Radio Receiver BC-1147-A.
 - 1 Radio Transmitter BC-1149-A.
 - 4 Reel DR-10-A.
 - 1 Reel Unit RL-49-A.
 - 1 Shelter HO-19-A.
 - 1 Shelter HO-20-A.
 - 1 Telephone Panel PN-32-A.

¹Two are spares.
²If Bearing Indicator Kit MC-551 is used to replace Bearing Indicator BC-1159-A, it includes Bearing Indicator BC-1338, Goniometer Drive Unit RC-295, and accessories.
³One is spare.

WEIGHT AND VOLUME

	<i>Unpacked</i>	<i>Domestic pack</i>	<i>Export pack</i>
Total weight (lb) -----	6,683	8,020	12,529
Total volume (cu ft) ---	580	638	702
Ship tons -----			17.6

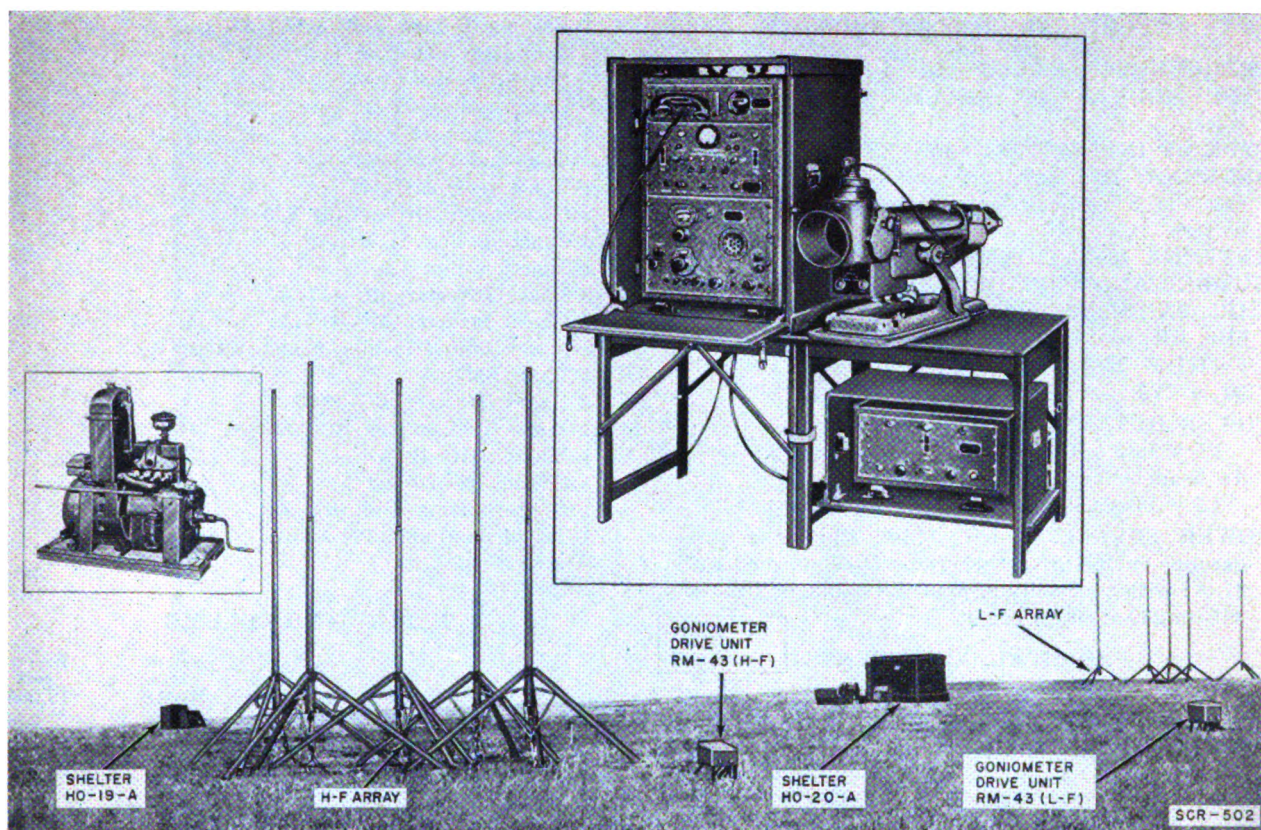


Figure 6. Radio Set SCR-502.

Status: Limited/Std. *Stock No.:* 2S502. *Reference:* TM 11-256.

Radio Set SCR-502 is a semiportable, visual-indicator type, ground-station RDF. The bearing indicator, radio receiver, control panel, telephone panel, and synchronizing unit are installed in Shelter HO-20-A. Shelter HO-19-A, which houses the power unit, is located approximately 140 feet from Shelter HO-20-A. Goniometer Drive Units RM-43 are located outside Shelter HO-20-A and on the opposite side from Shelter HO-19-A.

H-f and l-f antenna arrays are located approximately 290 feet and 240 feet, respectively, from Shelter HO-20-A. Each antenna array consists of a pair of crossed-U Adcocks with a goniometer and sense antenna. All monopoles

are alike for a given array. They are 16 and 24 feet high, respectively, in the h-f and l-f arrays. The phase inverters, transmission cords, junction boxes, and goniometer drive assembly form the output system of each array.

Instantaneous visual azimuths are indicated on the screen of the 5-inch CRT by means of deflection coils driven in synchronism with the motor-driven goniometer. These indications are fully automatic and continuous, and provision is made for simultaneous, aural monitoring of the received signal. Azimuths may be read directly from the illuminated 360°-azimuth scale with the aid of a crossed-hairline alidade. Azimuths may be obtained on c-w or a-m signals as quickly as the various stations can be tuned in.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 1.5 mc to 30 mc.
TYPE MODULATION RECEIVED: Cw, tone, and voice.
TYPE OF INDICATION: 5-in. CRT.
ANTENNA: Two stationary, crossed-U Adcock antennas and a vertical sense antenna with phase inverters.
ANTENNA ROTATION: Electronic goniometer.
NUMBER AND TYPE OF TUBES: 1 ea OC3/VR105, 1R5, 2X2/879, 3B7/1291, 5NP1, 5Y3GT, 6AC7/1852, 6H6, 6J5, 6L6G, 6SA7, 6SH7, 6SJ7, 6SL7GT, 6SQ7, 6V6GT/G, 2050; 2 ea 5U4G; 4 ea OD3/VR150, 6SK7; 30 ea 7V7.
POWER OUTPUT: To loudspeaker:
 1.5 w into a 4-ohm load.
 To headphones:
 1.5 w into a 250-ohm load.
POWER SOURCE: 60-cyc, 115-v, single-phase, a-c, gasoline-engine-driven generator (Koehler model 1M-21-A) with a capacity of approx 1.5 kva, or from any 115- or 230-v, 60-cyc source.

PRINCIPAL COMPONENTS

Name
¹ 12 Antenna Equipment RC-223-A.
5 Antenna Filter MC-474.

- 1 Bearing Indicator BC-1159-A.
 - ²2 Contactor MC-473.
 - 1 Control Panel PN-31.
 - 5 Counterpoise CP-17-A.
 - 5 Counterpoise CP-18.
 - 1 Goniometer MC-412-A.
 - 1 Goniometer MC-472.
 - 2 Goniometer Drive Unit RM-43.
 - 6 Junction Box JB-91-A.
 - 1 Junction Box JB-126.
 - ²9 Phase Inverter MC-411-A.
 - ²3 Phase Inverter MC-413-A.
 - ²2 power unit (Koehler model 1M-21-A).
 - 1 Rack FM-61-A.
 - 1 Radio Receiver BC-1147.
 - 1 Radio Transmitter BC-1149-A.
 - 1 Shelter HO-19-A.
 - 1 Shelter HO-20-A.
 - 1 Synchronizing Unit RM-44.
 - 1 Telephone Panel PN-32-A.
- ¹Two are spares.
²One is spare.

WEIGHT AND VOLUME

	Unpacked	Domestic pack	Export pack
Total weight (lb) -----	9,015	10,818	17,066
Total volume (cu ft) ---	693	762	840
Ship tons -----			21

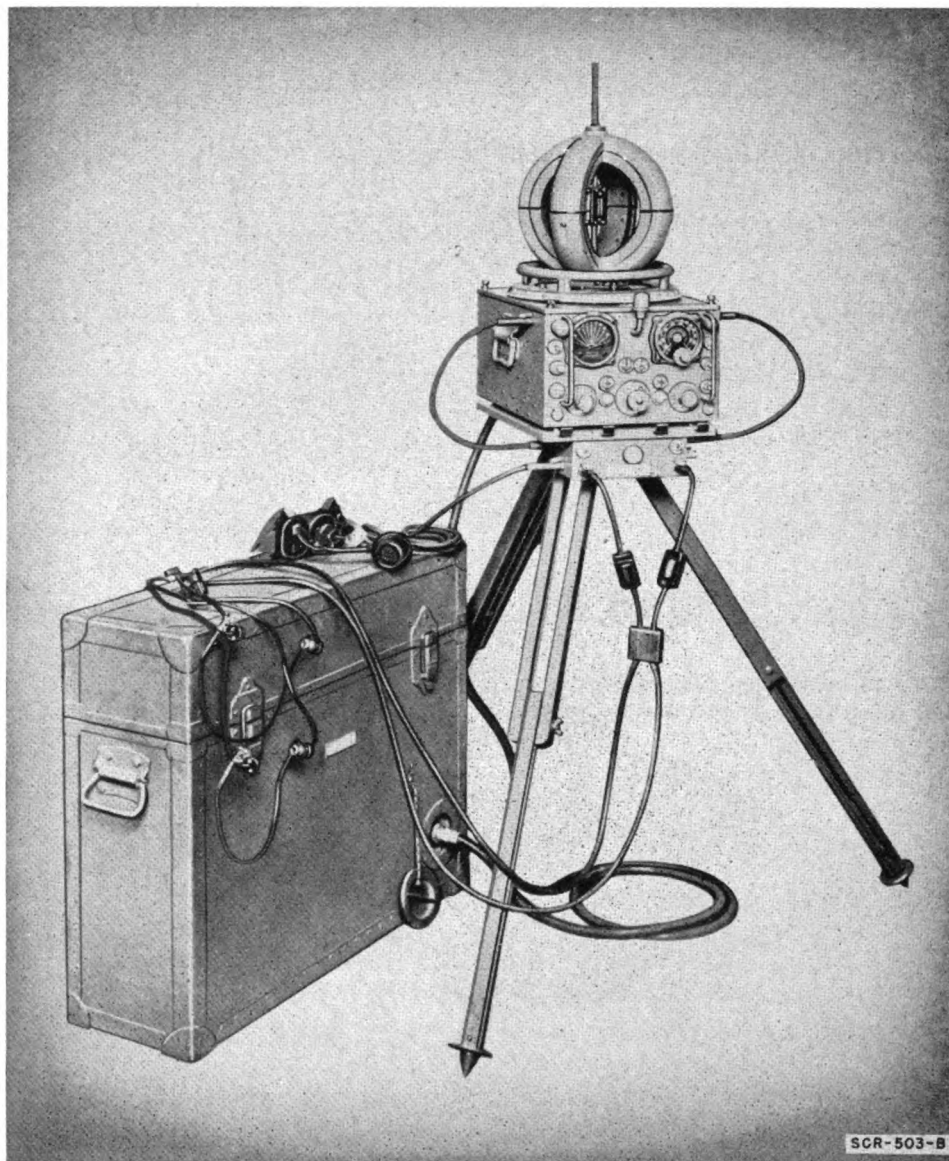


Figure 7. Radio Set SCR-503-B.

Status: Substitute/Std. *Stock No.:* 2S503.
Reference: TM 11-246.

Radio Set SCR-503-B consists of two portable field RDF's. Each covers a different frequency range and is capable of receiving both c-w and a-m signals. Each is supplied with a storage battery, power supplies, and all other equipment necessary to make the units self-contained. The set also includes two control units which connect the radio receiver into a

two-way telephone system for communication with other DF's. The set is packed in six chests.

Radio Set SCR-503-B may be used to determine the direction of a transmitter of unknown location operating within the frequency range. It also provides for understandable reception of either a-m or c-w signals from transmitters operating within the frequency range. The equipment also provides for the location of a transmitter in conjunction with another DF.

SCR-503-B**TECHNICAL CHARACTERISTICS**

FREQUENCY RANGE: 0.1 mc to 3 mc.

TYPE MODULATION RECEIVED: Cw, tone, and voice.

TYPE OF INDICATION: Visual (meter) and aural-null.

ANTENNA: Loop; telescopic sense antenna vertically mounted on top of loop (collapsed, 16½ in. lg; extended, 96½ in. lg).

ANTENNA ROTATION: Loop rotation manual (hand-rail).

NUMBER AND TYPE OF TUBES: Radio Receiver BC-973-B:
1 ea 6V6GT; 2 ea 12C8 special, 12SA7, 12SJ7; 4 ea 12SG7.

Radio Receiver BC-1003-B:
1 ea 12A6, 12SJ7; 2 ea 12C8 special, 12SA7; 6 ea 12SG7.

POWER OUTPUT: 0.75 w, receiver without Control Unit RM-35-B. 0.375 w, receiver with Control Unit RM-35-B.

POWER SOURCE: 12.6-v storage battery. Dynamotor Unit PE-133-B converts power to 230 v for receiver plate supply.

PRINCIPAL COMPONENTS

	<i>Name</i>
2	Antenna AN-45-F.
2	Azimuth Scale M-333-B.
2	battery cable.
2	Compass MC-323-B.
2	Control Unit RM-35-B.
4	Cord CC-66.
2	Cord CD-673.
2	Cover BG-133-B.
2	Cover BG-134-B.
2	Dynamotor Unit PE-133-B.
2	Headset HS-29-E.
1	Loop LP-23-B.
1	Loop LP-33-B.
2	Microphone T-35.
2	Mounting Plate FT-363-B.
1	Radio Receiver BC-973-B.
1	Radio Receiver BC-1003-B.
1 ⁴	storage battery (12.6-v).
2	Tripod LG-15-B.

¹Two are spares.**WEIGHT AND VOLUME**

	<i>Unpacked</i>	<i>Domestic pack</i>	<i>Export pack</i>
Total weight (lb) -----	602	722	867
Total volume (cu ft) -----		85	93
Ship tons -----			2.4

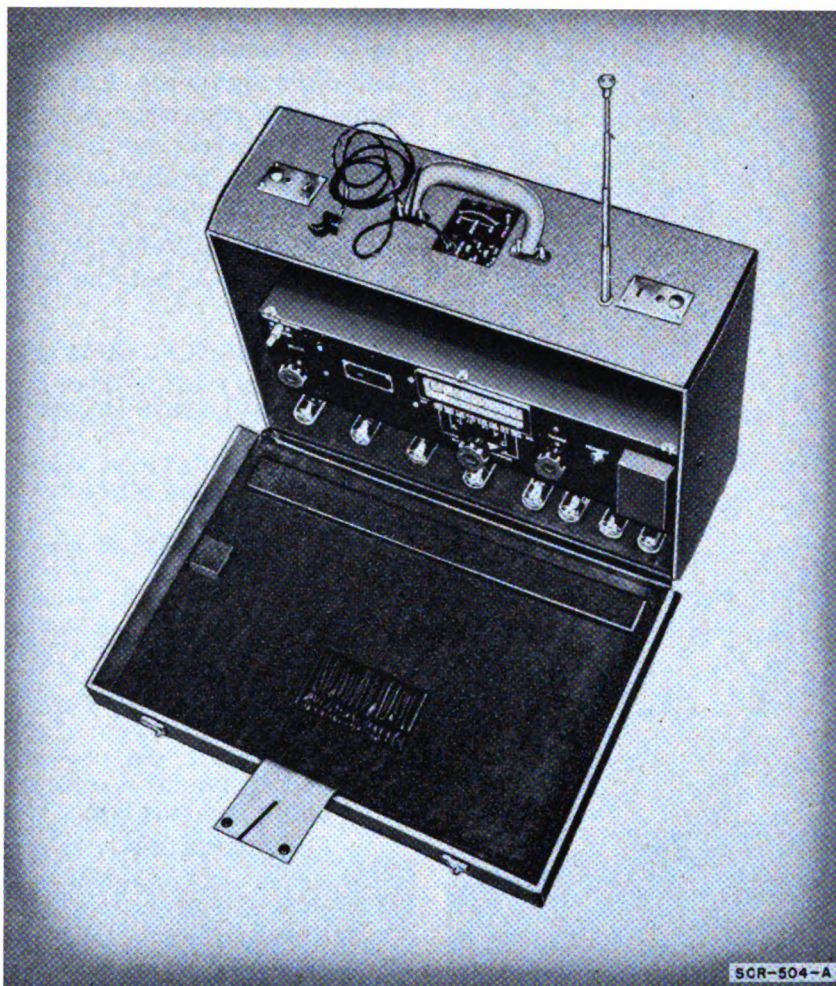


Figure 8. Radio Set SCR-504-A.

Status: Standard. *Stock No.:* 2S504. *Reference:* TM 11-862.

Radio Set SCR-504-A is a lightweight, portable RDF. Radio Receiver BC-792-A is contained in a suitcase-type carrying case. Battery Charger PE-128-A and spare parts are packed in Case CS-96-A. Direction finding may be accomplished while the operator is carrying Radio Receiver BC-792-A or with the equipment resting on a suitable surface.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 0.1 mc to 65 mc.

TYPE MODULATION RECEIVED: Cw, tone, and voice.

TYPE OF INDICATION: Aural-null.

ANTENNA: A single-turn loop as a directional pick-up and a collapsible rod antenna as a non-directional pick-up.

ANTENNA ROTATION: Manual (receiver rotation).

NUMBER AND TYPE OF TUBES: 1 ea 1LB4, 1LC6, 1LH4; 5 ea 1LN5.

POWER SOURCE: One 6-v and two 36-v miniature storage batteries.

PRINCIPAL COMPONENTS

Name

- 13 Battery BB-51.
- 26 Battery BB-52.
- 1 Battery Charger PE-128-A.
- 1 Case CS-96-A.
- 32 Headset HS-34-A.
- 1 Radio Receiver BC-792-A.

¹Two are spares.
²Four are spares.
³One is spare.

WEIGHT AND VOLUME

	<i>Unpacked</i>	<i>Domestic pack</i>	<i>Export pack</i>
Total weight (lb) -----	89	137	165
Total volume (cu ft) -----	4	8	9

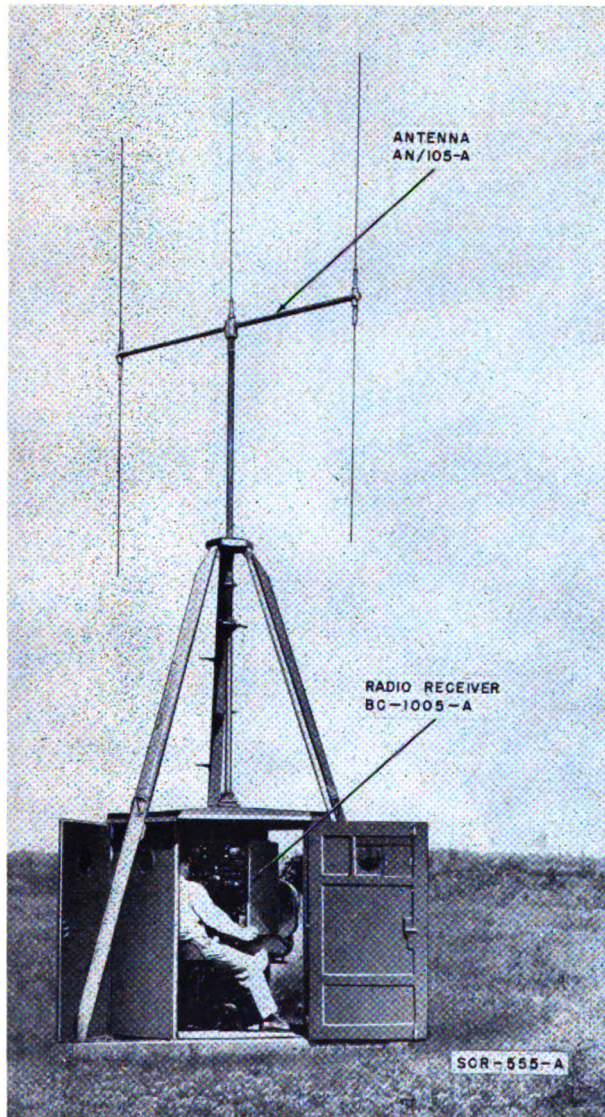


Figure 9. Radio Set SCR-555-A.

Status: Standard. Stock No.: 2S555. Reference: TM 11-251.

Radio Set SCR-555-A is a self-contained, semiportable, ground-station RDF. The equipment has a frequency range of 18 to 65 mc and provides for the reception of c-w or a-m signals. The RDF can be used to determine the direction of radio transmitters located on the ground or in aircraft. A rotatable Adcock antenna is used and signal nulls are indicated both visually and aurally. The visual indicator is a microammeter; headsets are used for aural operation. The radio operator rotates the Adcock, radio equipment, and the telephone operator by moving his

own body. After the RDF has been oriented to some reference line, by using the compass and telescopic sight, the direction of the incoming signal with respect to the reference line is indicated in degrees on the azimuth scale. The radio set can be dismantled and packed in 13 chests and crates.

Radio Set SCR-555-A is similar to Radio Set SCR-556-A, but the frequency range differs.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 18 mc to 65 mc.

TYPE MODULATION RECEIVED: Cw, tone, and voice.

TYPE OF INDICATION: Visual by use of microammeter (BEARING METER); aural-null by use of headsets.

ANTENNA: Rotatable Adcock antenna and a vertical sense antenna.

ANTENNA ROTATION: Manual (pressure of seated operator's feet against shelter floor).

NUMBER AND TYPE OF TUBES: 1 ea 1A5GT, 12A6, 12H6, 12J5GT, 12SA7, 12SR7, 958; 2 ea 6AC7, 12SG7; 3 ea 12SK7, 12SN7GT.

POWER OUTPUT: 0.3 w.

POWER SOURCE: One 12-v storage battery and one Power Unit PE-155-A. The dynamotor rating is—input—12 v, 3 amp; output—170 v, 0.1 amp.

PRINCIPAL COMPONENTS

Name

- 1 Antenna AN/103-A.
- 1 Antenna AN/105-A.
- 1 Azimuth Scale M-346-A.
- 1 Cabinet CS-155-A including:
 - 1 Cord SD-1028.
 - 1² Power Unit PE-15-A.
 - 1 Radio Receiver BC-1005-A.
- 1 carboy of electrolyte.
- 1 Chest CH-128-A (miscellaneous parts).
- 24 Chest CH-139-A (each with one storage battery without electrolyte).
- 1 Compass MC-324-B.
- 1 Ground Rod GP-28.
- 2 Headset HS-29.
- 1² Microphone T-35.
- 1 Mounting FT-365-A.
- 1 Radio Transmitter BC-655-A.
- 1 Telescopic Sight MC-325-B.
- 1 Tower TR-25-A.
- 1 Tripod LG-14-B.
- 1 Tripod LG-23-B.

¹One is spare.

²Three are spares.

WEIGHT AND VOLUME

	Unpacked	Domestic pack	Export pack
Total weight (lb) -----	1,468	2,618	3,142
Total volume (cu ft) -----		92	109
Ship tons -----			2.8

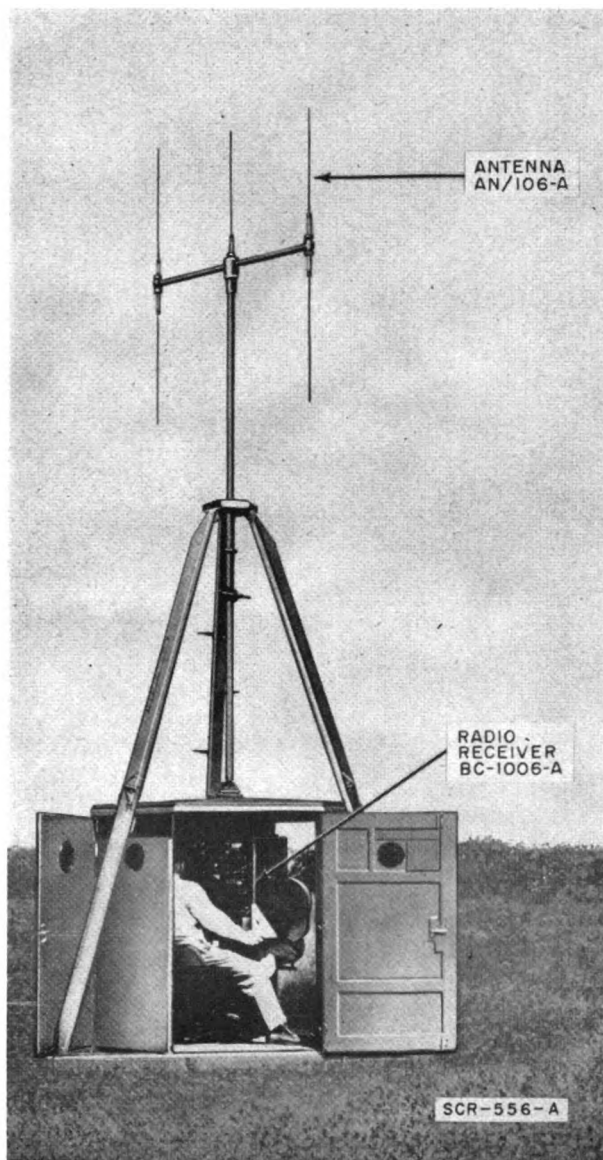


Figure 10. Radio Set SCR-556-A.

Status: Standard. Stock No.: 2S556. Reference: TM 11-255.

Radio Set SCR-556-A is a self-contained, semiportable, ground-station RDF. The equipment has a frequency range of 65 to 156 mc, and provides for the reception of c-w or a-m signals. The RDF can be used to determine the direction of radio transmitters located on the ground or in aircraft. A rotatable Adcock antenna is used and signal nulls are indicated both visually and aurally. The visual indicator is a microammeter; headsets are used for aural operation. The radio operator rotates the Adcock, radio equipment, and the telephone opera-

tor by moving his own body. After the RDF has been oriented to some reference line, by using the compass and telescopic sight, the direction of the incoming signal with respect to the reference line is indicated in degrees on the azimuth scale. The radio set can be dismantled and packed in 13 chests and crates.

Radio Set SCR-556-A is similar to Radio Set SCR-555-A, but the frequency range differs.

TECHNICAL CHARACTERISTICS

FREQUENCY RANGE: 65 mc to 156 mc.

TYPE MODULATION RECEIVED: Cw, tone, and voice.

TYPE OF INDICATION: Visual by use of microammeter (BEARING METER); aural-null by use of headsets.

ANTENNA: Rotatable Adcock antenna and a vertical sense antenna.

ANTENNA ROTATION: Manual (pressure of seated operator's feet against shelter floor).

NUMBER AND TYPE OF TUBES: 1 ea 1A5GT, 12A6, 12H6, 12J5GT, 12SR7, 958; 3 ea 12SK7, 12S-N7GT; 4 ea 6AG5.

POWER OUTPUT: 0.3 w.

POWER SOURCE: One 12-v storage battery and one Power Unit PE-155-A. The dynamotor rating is—input—12 v, 3 amp; output—170 v, 0.1 amp.

PRINCIPAL COMPONENTS

Name

- 1 Antenna AN/103-A.
 - 1 Antenna AN/106-A.
 - 1 Azimuth Scale M-346-A.
 - 1 Cabinet CS-155-A including:
 - 1 Cord CD-1028.
 - ¹2 Power Unit PE-155-A.
 - 1 Radio Receiver BC-1006-A.
 - 1 carboy of electrolyte.
 - 1 Chest CH-128-A (miscellaneous parts).
 - ²4 Chest CH-139-A (each with one storage battery without electrolyte).
 - 1 Compass MC-324-B.
 - 1 Ground Rod GP-28.
 - 2 Headset HS-29.
 - ¹2 Microphone T-35.
 - 1 Mounting FT-365-A.
 - 1 Radio Transmitter BC-655-A.
 - 1 Telescopic Sight MC-325-B.
 - 1 Tower TR-25-A.
 - 1 Tripod LG-14-B.
 - 1 Tripod LG-23-B.
- ¹One is spare.
²Three are spares.

WEIGHT AND VOLUME

	Unpacked	Domestic pack	Export pack
Total weight (lb) -----	1,453	2,603	3,127
Total volume (cu ft) -----		92	109
Ship tons -----			2.8

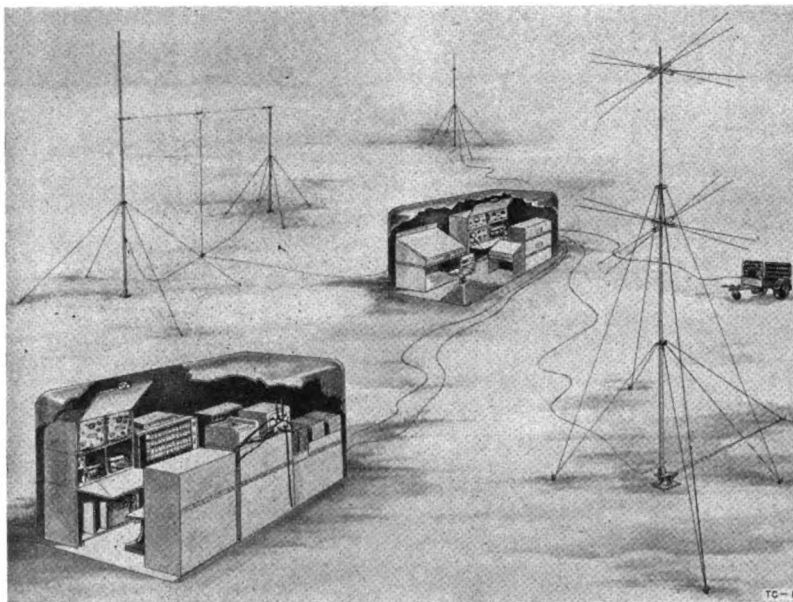


Figure 11. Radio Direction Finder Central TC-8.

Status: Limited/Std. Stock No.: 2C3739.
Reference: TM 11-248.

Radio Direction Finder Central TC-8 is an assemblage of radio receivers, antenna systems, voice and tape recorders, an intercommunication and monitoring system, plotting equipment, and a power unit. All components, except the antennas and power unit, are mounted in chests forming operating positions. They are assembled either inside two Shelters HO-27 or immediately outside. The shelters are designated Unit 1 and Unit 2, respectively. All components are transportable in two 2½-ton cargo trucks except Power Unit PE-95-() which is mounted in a 1-ton, 2 wheel cargo trailer.

The central is designed for the coordination of remote DF's. It is used also for the interception of radio signals and for recording radio signals and telephone conversations.

TECHNICAL CHARACTERISTICS

Note. Radio Direction Finder Central TC-8 includes: two Radio Receivers BC-342-(), one Radio Receiver BC-344-(), one Radio Receiver BC-787-(), one Radio Receiver BC-794-(), and one Radio Receiver BC-969-().

FREQUENCY RANGE: 0.015 mc to 145 mc.

TYPE MODULATION RECEIVED: Cw, tone and voice.

ANTENNA: One vertical, one doublet, and one u-h-f array with bidirectional characteristics.

POWER SOURCE: 60-cyc., 110-v, 7½-kva, a-c gasoline-engine-driven generator.

PRINCIPAL COMPONENTS

Name

- 1 Antenna AN-78.
- 1 Antenna Equipment RC-173.
- 1 Antenna Equipment RC-219.
- 1 Cabinet BE-89.
- 1 Cabinet BE-93.
- 1 Frequency Meter Set SCR-211.
- 1 Intercommunication and Monitoring System RC-238.
- 1 Panoramic Adapter BC-1031.
- 1 Panoramic Adapter BC-1032.
- 1 Portable Belt Recorder and Reproducer Machine TCB-2P.
- 1 Portable Reproducer Machine TCB-TV.
- 1 Power Supply Unit RA-61-().
- 1 Power Supply Unit RA-84-().
- 1 Power Unit PE-95-().
- 2 Radio Receiver BC-342-().
- 1 Radio Receiver BC-344-().
- 1 Radio Receiver BC-787-().
- 1 Radio Receiver BC-794-().
- 1 Radio Receiver BC-969-().
- 1 Recorder BC-1016.
- 1 Switchboard BD-72.
- 1 Switchboard BD-129.
- 2 Shelter HO-27.
- 1 Trailer K-52.
- 5 Typewriter MC-88.

WEIGHT AND VOLUME

	Unpacked	Domestic pack	Export pack
Total weight (lb) -----	9,470	11,364	13,637
Total volume (cu ft) -----	747	896	1,075
Ship tons -----			26.9

Stanford University Libraries



3 6105 211 234 682

