

October 1957

Radio-Transceivers

## RADIO SET

AN/MRC-12

## FUNCTIONAL DESCRIPTION

The AN/MRC-12 is a mobile communication equipment of medium range for use with aircraft, ships and portable equipment operating in the same range.

No field changes in effect at time of preparation (29 March 1957).

## TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Set AN/MRC-12 dated 26 May 1945.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF SIGNAL: Voice and MCW.  
 TRANSMITTER OUTPUT: 8 to 10 W.  
 FREQUENCY RANGE: 225 to 390 mc.  
 NUMBER OF BANDS: Single.  
 NUMBER OF CHANNELS: 10.  
 POWER SOURCE REQUIRED: 12 v DC.

TYPE CLASSIFICATION  
 DESIGN COGNIZANCE BUSHIPS  
 PROCUREMENT COGNIZANCE  
 STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	1/4 ton truck 10182-D		
1	Installation Kit MX-802/MRC		
1	Radio Transmitter and Receiving Equipment (less AC-DC power supply) model MAR		
1	Portable Radio Receiving Equipments (less AC-DC power supply) model RDR		

October 1957

Radio-Transceivers

## RADIO SET

AN/MRC-13

## FUNCTIONAL DESCRIPTION

The AN/MRC-13 is a mobile communication equipment for the transmission and reception of voice and modulated continuous wave signals in the medium frequency range from 225 to 390 mc in one band. The equipment is for use with aircraft, ships and portable equipment operating in the same range.

No field changes in effect at time of preparation (29 March 1957).

## RELATION TO OTHER EQUIPMENT

Similar to Radio Set AN/MRC-12 except does not include Navy Model RDR Portable Radio Receiving Equipment.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF SIGNAL: Voice and MCW.  
 TRANSMITTER POWER OUTPUT: 8 to 10 W.  
 FREQUENCY RANGE: 225 to 390 mc.  
 NUMBER OF BANDS: Single.

NUMBER OF CHANNELS: 10.  
 POWER SOURCE REQUIRED: 12 v DC.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Willys Overland.

## TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Set AN/MRC-13 dated 26 May 1949.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.
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## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	1/4 ton Truck 10182-D		
1	Installation Kit MX-802/MRC		
1	Radio Transmitting and Receiving Equipment (less AC-DC power supply) MAR		

June 1957

Radio-Transceivers

## RADIO SET

AN/MRC-16

## FUNCTIONAL DESCRIPTION

The AN/MRC-16 provides communication between aircraft in flight and a command center on the ground. In addition this radio set provides communication to other ground installations. It consists of a receiver shelter, a transmitter shelter, a power shelter, two power trailers and ten remote control stations. It provides facilities for CW, MCW and Voice transmission and reception.

No field changes in effect at time of preparation (29 October 1956).

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied:  
Field Wire W-110 as required, (2 per telephone) flashlight batteries BA-30 (1-1/2 v ea).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

## FREQUENCY RANGE

TRANSMITTERS: 2 to 18 mc, 115 to 156 mc and 1.5 to 12 mc.

RECEIVERS: 54 to 30 mc, 115 to 156 mc and 27 to 38.9 mc.

EMISSION: CW, MCW and Voice.

## POWER OUTPUT

## TRANSMITTERS

CW: 400, 500, 45 and 40 W.

MCW: 350 and 25 W.

VOICE: 100, 350, 25 and 20 W.

RECEIVERS: 300 mw, 15 mw, 6 mw, 2 to 200 mw.

SIGNAL MODULATION: AM and FM.

ANTENNAS: Long wire, half-wave dipole, 25 ft whip.

## TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6K7	(1) 860
(2) 6J7	(1) 12SN7/GT
(2) 6C8G	(1) 8X5GT
(1) 6F8G	(2) 5R4GY
(1) 6K6GT/G	(5) 12A6
(4) 6J5	(4) 1625
(1) 5Z3	(3) 12SA7
(1) 956	(1) 12SQ7
(3) 717A	(1) 6D6
(8) 6AB7	(3) 807
(3) 6H6	(1) 803
(1) 6U6GT	(1) 1616
(1) 5U4G	(1) 25Z5
(1) VR-150/30	(1) 837
(1) 77	(1) 813
(1) 6A7	(1) 6SQ7
(1) 76	(2) 6SK7
(3) 6AC7	(1) 6K8
(2) 12SG7	(1) 6SC7
(1) 6U6G7	(1) 6SJ7
(2) 6SL7G7	(1) 836
(7) 1619	(1) 6SN7
(1) 1624	(1) 6X5
(1) 861	(1) 829B

Total Tubes: (89)

(1) NT-40023B (1000KC)

Total Crystals: (1)

## REFERENCE DATA AND LITERATURE

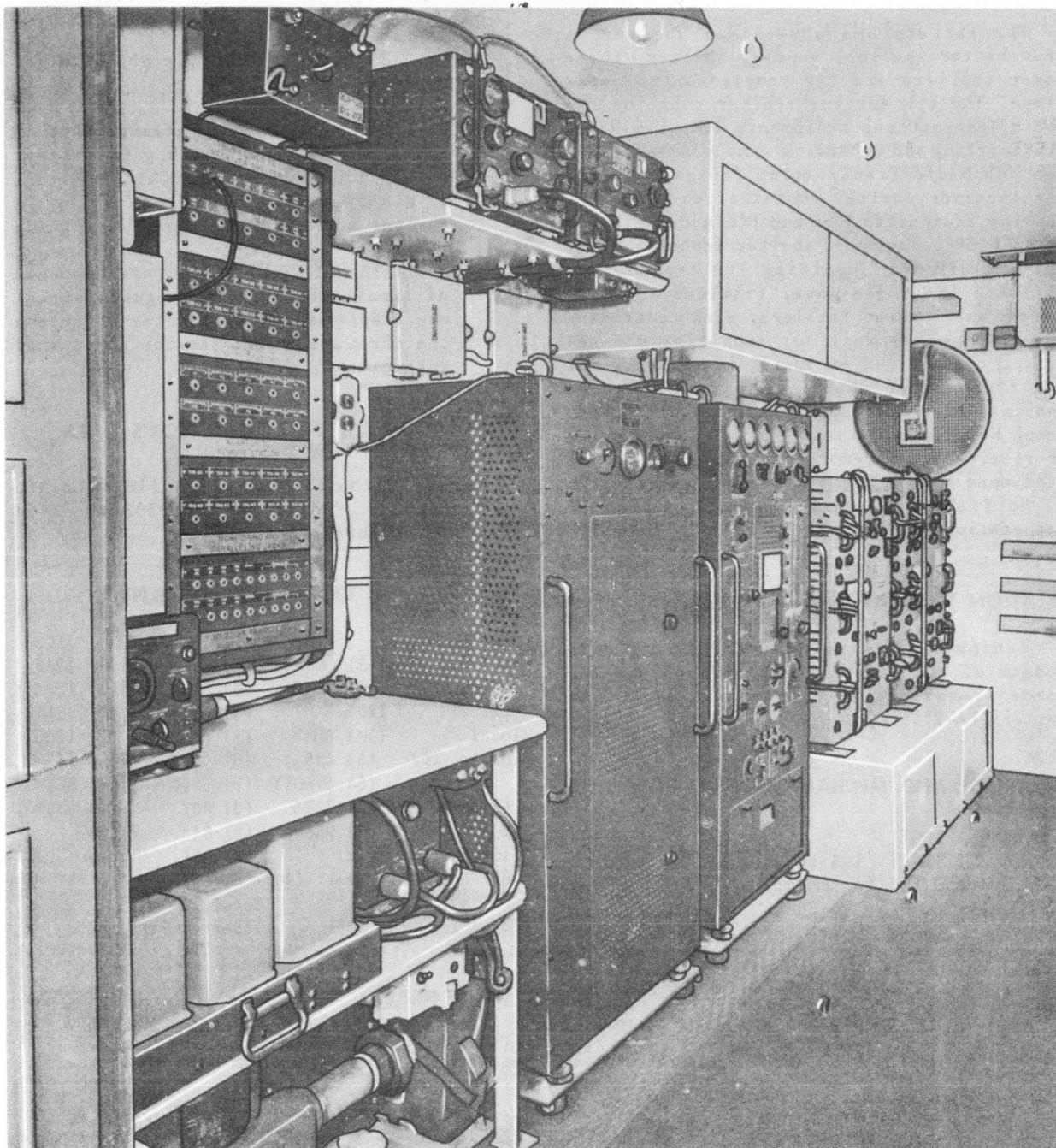
NAVSHIPS 91607: Technical Manual for Radio Set AN/MRC-16.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.
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## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Shelter S-1/MRC-16		
1	Power Shelter S-2/MRC-16		
1	Receiver Shelter S-3/MRC-16		
2	Power Units PE-95		
1	Receiver Antenna System		
1	Transmitter Antenna System		

April 1958

**RADIO SET****AN/MRC-18**

Radio Set AN/MRC-18

**FUNCTIONAL DESCRIPTION**

The AN/MRC-18 is a mobile medium frequency (MF), high frequency (HF) and very high frequency (VHF) equipment operating as a ground

command center in two-way communication with aircraft or with other ground installations. Provision is made for general air warning and fighter air defense operation, general air-to-ground communications, and short range communications.

## AN/MRC-18

## RADIO SET

April 1958

The set employs a receiver shelter, a transmitter shelter, a power shelter, three power trailers and ten remote control stations. The transmitter shelter contains two Radio Transmitting Equipments TCK, two Radio Transmitting and Receiving Equipments TCS and two VHF Radio Transmitting Equipments TDQ. The receiver shelter contains two Radio Receiving Equipments RAO and RCK and one Radio Set SCR-608. The power shelter contains Power Unit PE-85M for supplying the transmitter shelter. The three power trailers are one-ton two wheel cargo trailers, each containing one PE-95 power unit for supplying the receiver trailer and as auxiliary supplies for the transmitter shelter. A remote station consists of a telephone set and a hand telegraph Key connected to any of the transmitters or receivers. No remote stations can be operated more than 1/2 mile from the equipment.

No field changes in effect at time of preparation (10 October 1957).

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied:  
Length of field wire W-110 as required for voice transmission (2) battery BA-30, (1) Battery BA-27.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

## FREQUENCY RANGE

TRANSMITTING: 1.5 to 18 mc, 27.0 to 38.9 mc and 115 to 156 mc.

RECEIVER: 0.54 to 30 mc, 27.0 to 38.9 mc and 115 to 156 mc.

MODULATION: AM or FM.

TYPE SIGNAL: AM, A1, A2, A3; FM A3.

## TRANSMITTER POWER OUTPUT

TCK: 400 W on A1; 100 W on A3.

TDQ: 45 W on A1; 25 W on A2 or A3.

TCS: 40 W on A1, 20 W on A3.

SCR-608: 20 W.

## RECEIVER OUTPUT

RAO: 0.3 W into 600 ohms.

RCK: 15 mw into 600 ohms.

TCS: 6 mw.

SCR-608: 2 W to loudspeaker, 200 mw to headset.

POWER SOURCE REQUIRED: Self-contained except for (24) flashlight battery, and (1) Battery BA-27 for remote control unit.

## POWER SUPPLY EQUIPMENT

PE-85M: 220 v, 60 cps, 3-ph, 10 kw for

transmitter shelter

PE-95: 220 v, 60 cps, single ph, 5 KW for receiver shelter.

## ANTENNA

RECEIVING SYSTEM: 5 field arrangements of turnstile atop mast with guide wires; 4 whip antennas installed atop shelter, 1 single-wire antenna connected to shelter and to mast assembly with guide wires.

TRANSMITTING SYSTEM: 3 field arrangements of sipole atop mast with guide wires; one single wire antenna interconnecting the three guide wire set-ups and 4 whip antenna atop shelter.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Mare Island Naval Shipyard, Vallejo, Calif.  
Contract Project Order 58703/49 dated 18 March 1949.

## TUBE AND/OR CRYSTAL COMPLEMENT

LM	RCK	TCK	TCS
(2) 6A7	(5) 0D3W	(6) 6F8G	(10) 12A6
(2) 76	(5) 5U4G	(3) 6K8	(2) 12SA7Y
(2) 77	(40) 6AB7	(3) 6SC7	(6) 12SK7
Total	(10) 6H6	(3) 6SJ7	(2) 12SQ7
Tubes: (6)	(5) 6J5	(3) 6SK7WA	(8) 1625
RAO	(5) 6V6GT	(3) 6SQ7	(4) 5R4WGB
(5) 6C5	(15) 717A	(3) 807	(4) 6X5WGT
(20) 6J7	(5) 956	(6) 813	Total
(15) 6K7	Total	(18) 836	Tubes: (36)
(5) 6V6GT	Tubes: (90)	(6) 837	
(5) 80	Total		
Total Tubes: (50)	Total	Tubes: (54)	

TDQ		
(8) 5R4WGB	(4) 6J5	(4) 6SK7WA
(2) 6SN7WGTA	(2) 6X5WGT	(6) 807
(6) 829B		
Total Tubes: (32)		

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91487, Technical Manual for Radio Set AN/MRC-18.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

April 1958

**RADIO SET****AN/MRC-18****SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter Shelter S-1/MRC-18	980	98 X 100 X 173	9700
1	Power Shelter S-2/MRC-18	980	98 X 100 X 173	9950
1	Receiver Shelter S-3/MRC-18	980	98 X 100 X 173	8150
3	Power Trailer PE-95	305	74 X 75 X 95	4200

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver Shelter S-3/MRC-18 c/o (5) RAO Receivers (5) RCK Receivers (1) Radio Set SCR-608 (1) Crystal Calibrated Frequency Indicating Equipment LM (11) Telephone Set EE-8 (10) Telegraph Key-26012A (1) Heater (10) Patchcord-49094 (10) Patchcord-49095 (5) Patchcord-49097 (1) Head and Chest Set TD-3 (1) Emergency Electronic Repair Kit-10223 (1) Remote Control Unit RM-29-A (1) Test Set OZ-1 (6) Patchcord 49122B (10) Patchcord 49123B (7) Typewriter, Telegraph Keyboard MC-88 (7) Chairs (1) Power Supply PP-388/U or (1) Rectifier Power Unit-20350 (6) Antenna Assemblies AS-110/TRC-7 Long Wire Antenna (RAO or SCR-608) (4) Whip Antenna (RAO or SCR-608)	98 X 100 X 173             12 1g 18 1g 36 1g   18 1g 36 1g	9700
1	Transmitter Shelter S-1/MRC-18 (3) Radio Transmitting Equipment TCK (3) VHF Radio Transmitting Equipment TDQ (2) Radio Transmitting and Receiving Equipment TCS (1) Crystal Calibrated Frequency Indicating Equipment LM (1) Telephone Set EE-8	98 X 100 X 173	8150

AN/MRC-18

RADIO SET

April 1958

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	(1) Microphone T-45 (1) Headset HS-30 (1) Chest Set TD-3 (10) Patchcord-49094 (10) Patchcord-49095 (5) Patchcord-49097 Heater (1) Emergency Electronic Repair Kit-10223 (1) Chair (3) Antenna Assembly-66095 (4) Whip Antenna (1) Long Wire Antenna (3) Mast Assemblies		
1	Power Shelter S-2/MRC-18 containing (1) Power Unit PE-85M and Accessories	98 X 100 X 173	9950
3	Power Trailer (1) Power Unit PE-95	74 X 75 X 95	4200

22 June 1962

RADIO SET AN/MRC-19

Cog Service: USMC FSN:

Functional Class:

USA

USN

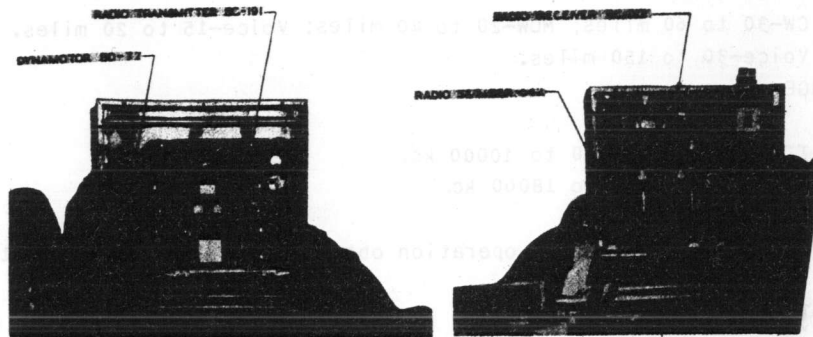
USAF

USMC

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: U. S. Marine Corp, Electronic Division, (80372).



Radio Set AN/MRC-19

**FUNCTIONAL DESCRIPTION:**

The Radio Set AN/MRC-19 is designed as a combination High-Frequency (HF) and Very-High-Frequency (VHF) vehicular mounted radio receiver and transmitter. The high-frequency section uses Radio Set SCR-193 and is normally employed for communication in a point-to-point net. The very high-frequency section uses Radio Set SCR-542 and is used for air-ground communication with aircraft fitted with VHF equipment.

No field changes in effect at time of preparation (23 February 1962).

**TECHNICAL CHARACTERISTICS:**

**TYPE OF ANTENNA**

SCR-193: Whip Type.

SCR-542: 1/4 wave vertical mast.



# AN/MRC-19 RADIO SET

## TYPE OF TUNING

SCR-193: Master oscillator.

SCR-542: Crystal.

## TYPE OF SIGNAL

SCR-193: CW MCW and voice.

SCR-542: Voice.

## NUMBER OF PRESET FREQUENCIES

SCR-193: None.

SCR-542: 4 (Push Button Selection).

## TRANSMITTER POWER OUTPUT

SCR-193: CW-100 W; MCW-70 W; Voice-30 W.

SCR-542: 8 to 9 W.

## RANGE

SCR-193: CW-30 to 60 miles; MCW-20 to 40 miles; Voice-15 to 20 miles.

SCR-542: Voice-30 to 150 miles.

## FREQUENCY RANGE

SCR-193

TRANSMITTER BC-191: 1500 to 10000 kc.

RECEIVER BC-312: 1500 to 18000 kc.

SCR-542: 100 to 156 mc.

OPERATING POWER SOURCE: Dynamotor operation obtained from 12 volt dc battery.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/MRC-19 includes:			
1	Cabinet (Housing Transmitter BC-191 & Dynamotor Unit BD77)		14 x 27 x 31	
1	Cabinet (Housing Receiver BC-312 & Radio Set SCR-542)		14 x 27 x 31	
1	Case (Housing SCR-542 Components)		10-1/2 x 12-1/2 x 17	
1	Case (Housing Transmitter BC-191 Spare Parts)		7-1/2 x 8-1/4 x 9-7/8	
1	Case (Housing Receiver BC-312 Spare Parts)		2 x 4 x 12	
1	Case (Housing Boxes BX-8 & BX-19)		9-1/8 x 11-1/4 x 13-1/4	
1	Control, Interphone BC-606		2 x 4 x 4	
1	Control, Radio Set BC-602		2-1/2 x 5-1/16 x 7-5/8	
1	Dynamotor Unit BD-77 for Radio Set SCR-193		7-1/2 x 11 x 11	37.3
1	Dynamotor Unit PE-98-F, for SCR-542		6-1/2 x 8-1/4 x 12-1/2	

**RADIO SET AN/MRC-19**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Dummy, Load		3-1/2 x 4-1/2 x 6	
1	Meter, Ammeter I-139		2 x 4 x 4	
2	Carbon, Microphone T-17		2 x 2 x 6	0.88
1	Mount, Vibration (Mounts Receiver BC-312 to Cabinet)		1-1/16 x 2-3/8 x 2-3/8	
1	Receiver, Radio BC-312 Part of SCR-193		10-3/4 x 18 x 19	40
1	Receiver, Radio BC-624 consists of:		5-7/8 x 8-3/4 x 15-3/8	
1	Crystal Unit, Quartz		11/16 x 1-9/16 x 2-5/16	
1	Radio, Transmitter BC-191 Part of SCR-193		9-5/16 x 20-13/16 x 23-1/8	55.75
1	Terminal Box for Radio Set SCR-193		2-3/4 x 7 x 8	
1	Terminal Box J-33/VRC-1		2 x 4-1/2 x 8	
1	Transmitter, Radio BC-625 Part of SCR-542 includes: Crystal Unit, Quartz		5-7/8 x 8-3/4 x 15-3/8	
1	Track, Automotive 1/4 ton, 4 x 4		11/16 x 1-9/16 x 2-5/16	

**REFERENCE DATA AND LITERATURE:**

U.S.M.C. Catalog of Electronic Material of which Radio Set AN/MRC-19 is a part.

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: (1) 10Y (4) 211 (2) 6C5 (1) 6F6 (1) 6K7 (1) 6L7 (1) 6G6G (2) 6SS7  
 (2) 832A (7) 12A6 (4) 12AH7GT (3) 12C8 (2) 12J5GT (9) 12SG7Y (3) 9002  
 (9) 9003 (2) 12H6

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	248	3300

**PROCUREMENT DATA**

PROCURING SERVICE: USMC  
 SPEC &/OR DWG:

DESIGN COG: USMC

**AN/MRC-19 RADIO SET**

<b>CONTRACTOR</b>	<b>LOCATION</b>	<b>CONTRACT OR ORDER NO.</b>	<b>APPROX. UNIT COST</b>
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U.S. Marine Corp,  
Electronic Division  
Code 80372

UNCLASSIFIED

April 1959

Radio-Transceiver

# RADIO SET

## AN/MRC-19B

### FUNCTIONAL DESCRIPTION

The AN/MRC-19B Radio Set is a transportable radio set designed for mounting in an AN Truck V-35/U which is capable of deep water fording.

No field changes in effect at time of preparation (19 June 1958).

### TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tubes and Crystal Data not available.

### REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Set AN/MRC-19B.

### RELATION TO OTHER EQUIPMENT

The AN/MRC-19B Radio Set is the same as the AN/MRC-19A except for improved Truck V-35/U.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

#### RANGES

TRANSMITTER BC-191-( ): 1000 to 100,000 kc.

RECEIVER BC-312-( ): 1500 to 18,000 kc.

RADIO SET SCR-542( ): 100 to 156 mc.

TYPE OF EMISSION: CW, MCW and Voice.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

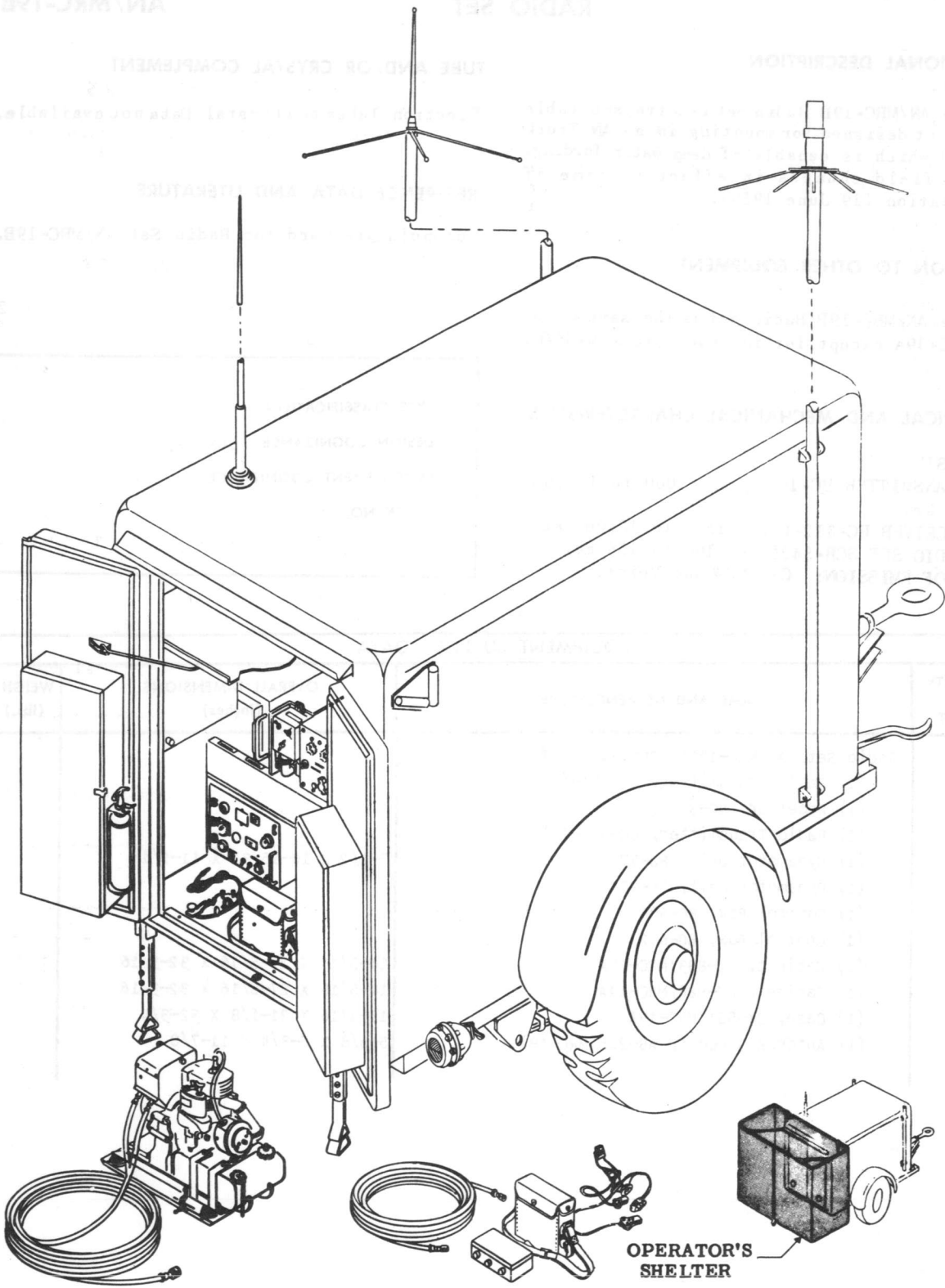
### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set, AN/MRC-19B; consisting of: (1) Radio Transmitter, BC-191-( ) (1) Receiver, BC-312-( ) (1) Radio Transmitter, BC-624-( ) (1) Dynamotor Unit, BD-77 (1) Dynamotor Unit, PE-98 (1) Control BOX, BC-606 (1) Control BOX, BC-602 (1) Cabinet, CY-883/MRC-19A (1) Cabinet, CY-980/MRC-19A (1) Case, CY-981/MRC-19A (1) Antenna support, AB-205/MRC-19A	7-1/2 X 10-15/32 X 11-1/16       14-5/16 X 27-5/16 X 32-3/16 14-5/16 X 27-5/16 X 32-3/16 11-1/16 X 21-1/8 X 32-3/4 5-5/8 X 5-3/4 X 11-7/8	

UNCLASSIFIED

1.7 AN/MRC-19B: 1

**RADIO SET**



Radio Set AN/MRC-22

## AN/MRC-22

## RADIO SET

December 1956

## FUNCTIONAL DESCRIPTION

The AN/MRC-22 is a mobile radio vehicle providing high frequency (HF), very high frequency (VHF) and ultra high frequency (UHF) communication from ground to aircraft and from point to point. The radio consists of a trailer body mounted on a M-115 Trailer Chassis, a Power Unit PU-250/U, a control panel, TCS radio transmitting and receiving equipment, Radio Set AN/ARC-1, Radio Set AN/ARC-27, remote control unit, and accessories necessary for communications, such as antennas, headsets, microphones and field telephones.

No field changes in effect at time of preparation (26 June 1956).

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: 10 ft of telephone wire.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 28 vDC obtained from Power Unit PU-250/U.

RADIO TRANSMITTING AND RECEIVING EQUIPMENT  
TCS

FREQUENCY RANGE: 1.5 to 12 mc.

POWER OUTPUT: 20 W, voice; 40 W, CW.

AN/ARC-1

FREQUENCY RANGE: 100 to 156 mc.

AN/ARC-27

FREQUENCY RANGE: 225 to 399.9 mc.

RECEIVER OUTPUT: 50 mw.

TRANSMITTER OUTPUT: 9 W.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Waterproof Electric Co., Burbank, Calif.  
Contract NObsr-52518, dated 8 June 1951  
Approximate Cost: \$8300.00 with Equipment Spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(15) 12AT7/12AT7WA	(2) 6V6GT/G	(7) 12A6
(9) 6BA6/5749	(1) 12SQ7	(4) 1625
(4) 6AL5W/5726	(1) 12SA7	(2) 6C4
(1) 6AQ5/6005	(3) 12SK7	(2) 6J6
(1) 6AK5W/5654	(2) 2C39A	(13) 6AG5
(8) 6J4/6J4WA	(2) 832A	(1) 2C43
(1) 12SL7GT	(18) 6AK5	(1) 829B

Total Tubes: (98)

(12) CR-18/U	(1) (15950 kc)
(11) CR-23/U	(9) CR-1B/AR or
(1) CR-27/U	CR-1A/AR
Collins Spec. #290	(3) CR-1A/AR

Total Crystals: (37)

## REFERENCE DATA AND LITERATURE

NAVSHIPS-91876: Technical Manual for Radio Set AN/MRC-22.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-16037B(SHIPS)
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/MRC-22 consisting of:	58-1/4 X 83 X 110-1/4	975.00
1	Trailer Body	47 X 58-1/4 X 76-1/4	250.00
1	Trailer Chassis M-115	30-1/2 X 38-1/4 X 106	280.00
1	Power Unit PU-250/U	18-1/4 X 21-1/4 X 27	126.00
1	Radio Transmitter (TCS) NT-52245-A	11 X 11-13/16 X 13-3/4	48.00
1	Radio Receiver (TCS) NT-46159-A	11-1/16 X 11-7/8 X 13-13/16	38.13
1	Dynamotor Power Unit (TCS) NT-211330-B	8-25/32 X 9-5/8 X 12-15/16	35.00
1	Remote Control (TCS)(Modified) NT-23270-A	4-3/8 X 6-15/16 X 7-3/8	6.13
1	Radio Transmitter-Receiver RT-18/ARC-1	9-1/32 X 10-19/32 X 24-3/16	47.00
1	Mounting (Modified) MT-230/ARC	5 X 10-15/16 X 24-3/16	4.25
1	Mast Base AB-15/GR		
3	Mast Sections MS-116		
1	Mast Section MS-117		
1	Mast Section MS-118		
1	Antenna NT-66150A		
1	Antenna AS-390/SRC		

December 1956

## RADIO SET

AN/MRC-22

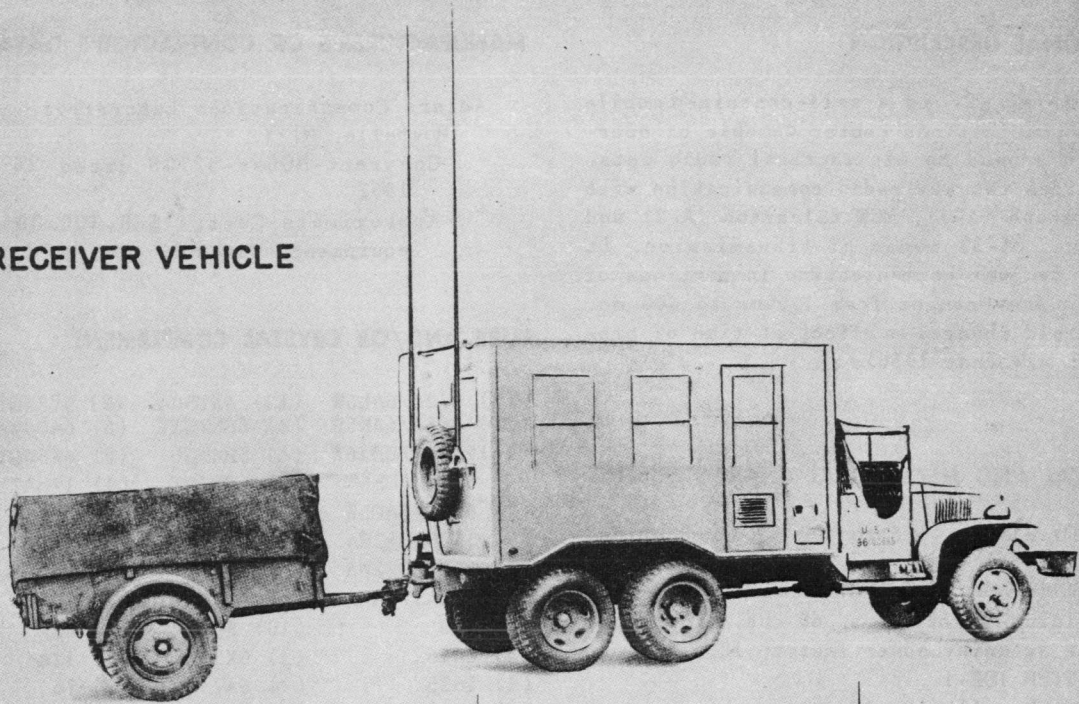
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Control Unit C-45/ARC-1	2-5/8 X 3-3/8 X 6-1/8	1.00
1	Receiver-Transmitter RT-178/ARC-27	11-1/4 X 12-3/8 X 27-7/8	72.20
1	Mounting (modified) MT-822/ARC-27	2-1/2 X 11-11/16 X 19-3/4	3.50
1	Radio Set Control C-626/ARC-27	5-1/2 X 6-3/8 X 9-9/16	9.75
1	Control Panel		
1	Radio Set Control Interconnecting Cables	2-15/16 X 6-15/16 X 7	3.25
2	Telephone EE-8	3-1/2 X 7-11/16 X 9-9/16	19.50
2	Headset-Microphone H-63/U		
2	Chest Set Group AN/GSA-6		
1	Telegraph Key 26026		
1	Leg Band, Telegraph Key NT-10531		
1	Technical Manual NAVSHIPS-900,705	3/8 X 8-3/4 X 11-1/4	1.50
1	Technical Manual AN08-30ARC1-2	1/4 X 8-3/4 X 11-1/4	1.25
1	Technical Manual AN16-30ARC27-2	3/8 X 8-3/4 X 11-1/4	1.50
1	Technical Manual NAVSHIPS-91731	1/4 X 8-3/4 X 11-1/4	1.25
2	Technical Manual NAVSHIPS	3/4 X 8-3/4 X 11-1/4	3.00
1	Technical Manual NAVSHIPS 91338	1/4 X 8-3/4 X 11-1/4	

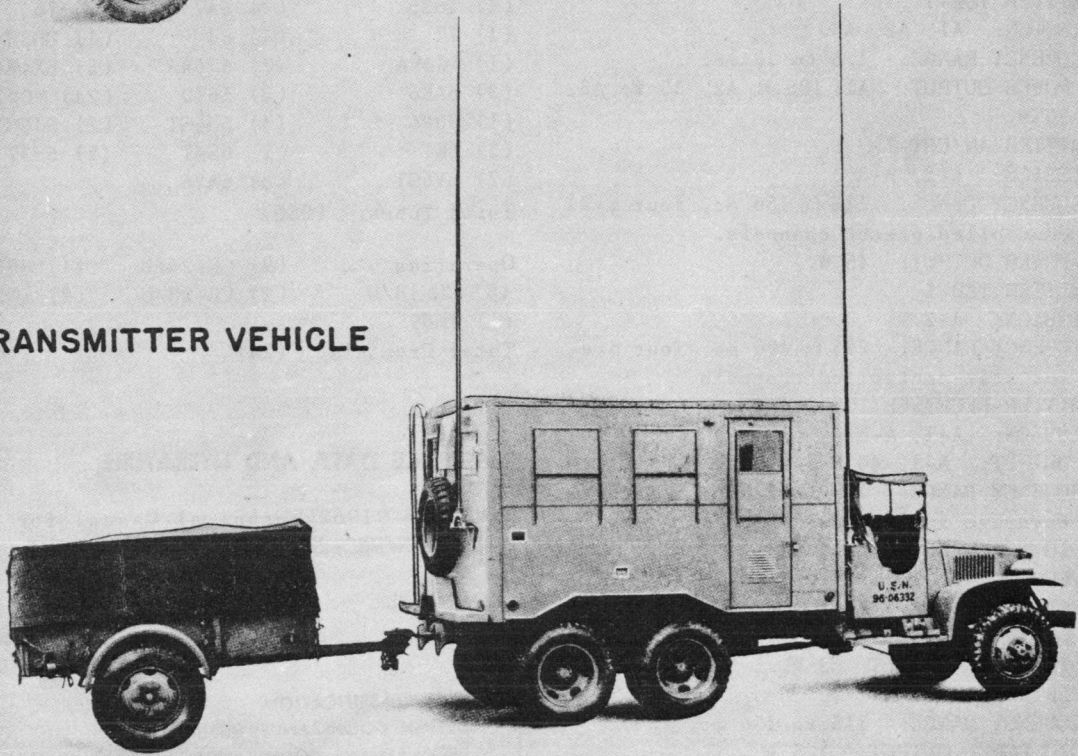
RADIO SET

AN/MRC-23

RECEIVER VEHICLE



TRANSMITTER VEHICLE



Radio Set AN/MRC-23



## AN/MRC-23

## RADIO SET

September 1956

## FUNCTIONAL DESCRIPTION

The AN/MRC-23 is a self-contained mobile radio communications center capable of operating in ground to air tactical radio nets. It provides two way radio communication with CW telegraph (A-1), MCW telegraph (A-2) and telephone (A-3) modes of transmission. It permits two way communication in portions of the frequency ranges from 1.5 mc to 400 mc.

No field changes in effect at time of preparation (27 June 1956).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1.5 to 400 mc, not continuously.

POWER SOURCE: Gasoline-engine-generator providing 120 or 240 v, 60 cps, single ph, 10 KW at unity power factor; 12.5.

## TRANSMITTER TDE-1

EMISSION: A1, A2, A3.

FREQUENCY RANGE: 1.5 to 18 mc.

RF POWER OUTPUT: A1, 125 W; A2, 35 W; A3, 30 W.

## TRANSMITTER AN/URT-7

EMISSION: A-2, A-3.

FREQUENCY RANGE: 115 to 156 mc, four xtal controlled preset channels.

RF POWER OUTPUT: 45 W.

## TRANSMITTER TED-1

EMISSION: A-2.

FREQUENCY RANGE: 225 to 400 mc, four preset xtal-controlled channels.

## TRANSMITTER-RECEIVER TCS-1

EMISSION: A-1, A-3.

RF OUTPUT: A-1, 40 W; A-3, 20 W.

FREQUENCY RANGE: 1.5 to 12 mc, continuous coverage in 3 bands.

AUDIO POWER OUTPUT: 1.5 W.

## RECEIVER-RCH

FREQUENCY RANGE: 80 to 560 kc, 1.9 to 24 mc in 5 bands.

AUDIO POWER OUTPUT: 2 W.

## RECEIVER AN/FRR-27

FREQUENCY RANGE: 115 to 156 mc.

AUDIO POWER OUTPUT: 1.5 W.

## RECEIVER AN/URR-13A

FREQUENCY RANGE: 225 to 400 mc.

AUDIO POWER OUTPUT: 0.06 W.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Adlers Communications Laboratories, New Rochelle, N. Y.

Contract-NObsr-52703 dated 26 June 1951

Approximate Cost: \$48,400.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(15) 5726/6AL5W	(12) 4X150A	(2) 5Y3WGTB
(21) 5654/6AK5W	(4) 6SK7GTY	(6) 6AU6WA
(16) 5749/6BA6W	(4) 5R4WGB	(2) 6X5WGT
(1) 5750/6BE6W	(2) 6SQ7GT	(1) 12SA7Y
(7) 6005/6AO5W	(10) 3B28	(18) 6189
(3) 6626/OA2WA	(2) 5R4GY	(3) 12SK7
(3) 6627/OB2WA	(2) 12AU7	(1) 12SQ7
(21) 12AT7WA	(4) 5U4G	(2) 801A
(2) 803	(10) 807	(1) 837
(4) 6AT6	(2) 6X5	(5) 12A6
(4) 1625	(1) 6A7	(1) 76
(1) 77	(1) 84	(1) OD3W
(1) 6J4WA	(7) 6J6WA	(5) 6X4WA
(3) 6AK6	(3) 5670	(24) 9003
(1) 9006	(4) 6H6GT	(2) 6J5GT
(2) 6K7	(2) 6SA7	(2) 6SJ7
(2) 6V6GT	(6) 6AV6	

Total Tubes: (266)

Operating	(9) CR-24/U	(1) 40023B
(8) CR-18/U	(2) CR-23/U	(2) IN21B
(1) IN69		

Total Crystals: (24)

## REFERENCE DATA AND LITERATURE

NAVSHIPS-91962 Technical Manual for Radio Set-AN/MRC-23.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE BUSHIPS
STOCK NO.

September 1956

## RADIO SET

AN/MRC-23

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Receiver Truck			14,500
1	Transmitter Truck			15,000
2	Power Units-PE-95-G			1,650

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	(With Receiver Truck-6x6 K-53)		
1	Power Unit-PE-95-G	28-1/4 X 38-1/2 X 67-1/2	1056
1	Power Distribution Box	4-7/8 X 7 X 31	
2	Radio Receiving Set-Model RCH	12-1/8 X 20-7/16 X 20-13/16	106
3	Radio Receiving Set-AN/FRR-27	5-7/32 X 14-1/2 X 19	
3	Radio Receiving Set-AN/URR-13	6-31/32 X 17-1/2 X 19-1/3	57
1	Control Panel SB-293/MRC-23	7-5/8 X 15-23/32 X 19	36
2	Radio Set Control-C-1235/MRC	3 X 4 X 4	2
1	Power Supply-PP-952/MRC-23	5-1/4 X 8-3/4 X 19	19
2	A. F. Amplifier AM-215A/U	7 X 8-3/8 X 12	23.5
2	Loudspeaker-CUL-49546	7-3/4 X 8 X 10-15/16	
1	Telephone EE-8-()		11.5
2	Antenna Mast-AB-334/G	(49 foot)	100
3	Antenna Assy-NT-66095	(4 foot)	17
3	Antenna Assy-AT-150/SRC	(4-3/4)	4.5
2	H.F. Whip Antenna-AT-441/MRC-23	(35 foot)	19
2	Antenna Duplexer-CU-359/MRC-23	2-1/16 X 4-5/16 X 6-1/8	2.5
3	Headset-Microphone-H-63/U		
2	Telegraph Key		
2	Typewriter		19
2	Operator's Desk		
1	Supervisor's Desk		
3	Desk Lamp		
3	Chairs		
1	Heater Type P		15
1	Exhaust Fan		
1	Clock, 24-hour		
6	R.F. Cable Assy.	(100 ft.)	
1	Ground Stake	(5 ft.)	4
1	Ground Cable	(5 ft.)	
1	Jack Box-J-545/MRC-23	2-3/4 X 4-1/2 X 9-1/4	5.5
	(With Transmitter Truck 6x6 K-53)		
1	Power Unit PE-95-G	28-1/4 X 38-1/2 X 67-1/2	1556
1	Power Distribution Box	4-7/8 X 7 X 31	
1	Radio Transmitting Equipment Navy Model-TDE-()	20-1/2 X 28-1/4	334
2	Radio Transmitting Equipment- AN/URT-7	13-23/32 X 16-1/2 X 19	146
2	Radio Transmitting Equipment- Navy Model-TED-()	13-23/32 X 15 X 19	146
1	Radio Transmitting and Receiving Equipment-Navy Model-TCS-()		180
1	Control Panel-SB-294/MRC-23	7-1/4 X 10-1/8 X 14-1/2	15
1	Rectifier Power Supply Unit Navy Type-CBEQ20218-A		94
1	Power Supply-PP-338/U	10-1/8 X 11-11/16 X 17-1/4	120
1	Field Telephone EE-8-()	10 X 10-1/2 X 26	11.5

AN/MRC-23

## RADIO SET

September 1956

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Mast-AB-334/C	(49 foot)	
2	Antenna Assy-NT-66095	(4 foot)	100
2	H.F. Whip Antenna-AT-441/MRC-23	(35 foot)	
2	Antenna Assy-AS-390/SRC	(16 inc.)	3.625
1	Heater Type-P		15
1	Exhaust Fan		
1	Control Position Desk		
1	Chair		
1	Desk Lamp		
1	Clock		
4	R.F Cable Assy	(100 foot)	
3	Reels and Wire-Reels-DR-4		
	Wire-WD-1/TT		87
1	Ground Rod	(5 foot)	4
1	Ground Cable	(5 foot)	
1	Terminal Box-J-544/MRC-23		2.5
2	Jack Box-J-546/MRC-23	1-15/16 X 4-1/4 X 5-3/4	2.5
1	Crystal Calibrated Frequency Indicating Equipment-LM-18		25.5
1	R.F. Signal Generator Set AN/URM-25B	10-1/4 X 10-1/4 X 13	35
1	R.F. Wattmeter-AN/UBM-43	4-3/4 X 6-1/2 X 9-1/2	7.5
1	Multimeter-TS-352/U		15
1	Emergency Electronic Repair Kit		

## RADIO SET

### FUNCTIONAL DESCRIPTION

The AN/MRC-24 and ( ) are designed for use as a mobile radio communication set. Point to point high frequency and line of sight very high frequency communication are available with A1 or A2 emission. Point to point communication is possible when vehicle is moving. Auxiliary equipment, such as mobile power supply, test equipment, antenna materials, maintenance parts and tools are included with each radio set. The major equipments are permanently installed a 2-1/2 ton, 6 X 6 truck provided with a built-in heater and exhaust ventilation fan.

No field changes in effect at time of preparation (29 October 1956).

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

#### TCK-4 TRANSMITTER

FREQUENCY RANGE: 2000 to 18100 kc.

EMISSION: CW or AM.

POWER OUTPUT: 400 W on CW, 100 W on AM.

#### TCS-12 TRANSMITTER-RECEIVER

FREQUENCY RANGE: 1500 to 12000 kc.

EMISSION: CW or AM.

POWER OUTPUT: 40 W on CW, 20 W on AM.

TUNING: Manual tuning with 4 crystal channels available.

#### TDQ TRANSMITTER

FREQUENCY RANGE: 115 to 156 mc.

EMISSION: MCW or voice.

POWER OUTPUT: 45 W nominal.

CONTROL: Crystal control on 4 channels.

#### RCK RECEIVER

FREQUENCY RANGE: 115 to 156 mc.

CONTROL: Crystal control on 4 channels.

#### MAR TRANSMITTER-RECEIVER

FREQUENCY RANGE: 225 to 390 mc.

EMISSION: MCW or voice.

POWER OUTPUT: 8 W nominal.

CONTROL: Crystal control on 10 channels.

#### RCH RECEIVER

FREQUENCY RANGE: 80 to 560 kc and 1.9 to 24 mc.

RECEPTION: Radio telephone or telegraph signals.

NUMBER OF BANDS: 5 bands.

#### EAT MOBILE ENGINE GENERATOR

SUPPLY: 7-1/2 kw, 115 v, 60 cps, single phase.

### TUBE AND/OR CRYSTAL COMPLEMENT

#### TCK-4

(1) 6F89	(1) 6K8	(1) 6SC7
(1) 6SJ7	(1) 6SK7WA	(1) 6SQ7
(1) 807	(2) 813	(6) 836
Total Tubes:	(17)	(2) 837

#### RCH

(1) 5Y3WGTB	(2) 6H6GT	(1) 6J5GT
(1) 6K7	(1) 6SA7	(1) 6SJ7
(2) 6SK7GTY	(1) 6SQ7GT	(1) 6V6GT
Total Tubes:	(11)	

#### MAR

(2) 2C39A	(2) 3B28	(1) 6AG7Y
(3) 6C4WA	(1) 6J6WA	(2) 6L6WGB
(1) 12A6	(2) 12H6	(4) 12SG7Y
(2) 12SL7GT	(1) 829B	(1) 5654/6AK5W
(1) 9003		
Total Tubes:	(23)	

#### IDQ

(4) 5R4WGB	(2) 6J5	(2) 6SK7WA
(1) 6SN7WGTA	(1) 6X5WGT	
(3) 807	(3) 829B	
Total Tubes:	(16)	

#### TCS-12

(2) 5R4WGB	(2) 6X5WGT	(5) 12A6
(1) 12SA7Y	(3) 12SK7	(1) 12SQ7
(4) 1625		
Total Tubes:	(18)	

#### RCK

(1) OD3W	(1) 5U4G	(8) 6AB7
(2) 6H6	(1) 6J5	(1) 6V6GT
(3) 717A	(1) 956	
Total Tubes:	(18)	

#### LM-15

(1) 6A7	(1) 76	(1) 77	(1) 84-6Z4
Total Tubes:	(4)		

#### ME-25/U

(1) 6X4WA	(1) 6189	(1) 9006
Total Tubes:	(3)	

#### TV-3/U

(1) 5Y3WGTB	(1) 83
Total Tubes:	(2)

#### AN/URM-25

(1) OD3W	(1) 6J4WA	(1) 6J6WA
(1) 6X4WA	(1) 5726/6AL5W	
(2) 6189	(1) 9006	
Total Tubes:	(8)	

Radio-Transceivers  
**AN/MRC-24**

UNCLASSIFIED  
 June 1957

**RADIO SET**

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91603: Technical Manual for Radio  
 Set AN/MRC-24( ).

TYPE CLASSIFICATION  
 DESIGN COGNIZANCE BUSHIPS  
 PROCUREMENT COGNIZANCE  
 STOCK NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter TCK-4		
3	Receivers RCH		
1	Transmitter-Receiver TCS-12 with Remote Adapter		
1	Transmitter TDQ		
1	Receiver RCK		
1	Transmitter-Receiver MAR		
1	Multimeter TS-352/U		
1	Multimeter ME-25/U		
1	RF Signal Generator AN/URM-25		
1	Tool Set TE-113		
1	Tube Tester TV-3/U		
1	Adapter Kit NT-49992		
1	Frequency Meter LM-15		
4	Mast Sections NT-66103		
4	Mast Sections NT-66104		
4	Mast Sections NT-66105		
4	Mast Sections NT-66106		
4	Mast Sections NT-66107		
1	Antenna NT-66095		
1	Antenna NT-66147		
1	Set of Antenna Accessories		
1	Set of Accessories		
1	Truck 2-1/2 ton 6 X 6 (GMC)		
1	Set of Vehicle Accessories		
1	Mobile Engine Generator EAT		
1	Set of Technical Manual		

January 1958

Radio-Transceivers

## RADIO SET CENTRAL

AN/MRC-35A

## FUNCTIONAL DESCRIPTION

The AN/MRC-35A provides mobile radio transmitting and receiving facilities in the LF, HF and UHF bands; 0.2 to 1.5 mc, 2 to 18.1 mc and 225 to 400 mc. The equipment includes facilities for low frequency homing and remote control operation. All components housed in waterproof cabinets.

No field changes in effect at time of preparation (14 May 1957).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

SPECIAL FEATURES: Low frequency homing capabilities, moisture-fungus resistant overall.

POWER SOURCE REQUIRED: 28 v DC.

## TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Set, Central, AN/MRC-35A dated 17 October 1956.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE USMC  
PROCUREMENT COGNIZANCE  
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-390/SRC		
1	Antenna Loading Coil CU-25/ART-13		
1	Antenna Shunt Capacitor CU-24/ART-13		
1	Mast Base MP-57		
1	Radio Set Control C-626/ARC-27		
1	Dynamotor Unit DY-12A/ART-13		
1	Headset H-33E/PT		
2	Headset MHS-11		
2	Headset Microphone Assembly AN/URA-2		
1	Installation Kit MK-327/MRC-35A		
1	Telegraph Key J-37		
1	Keyer KY-132/U		
2	Antenna Mast AB-370/G		
2	Antenna Mast Section MS-49		
2	Antenna Mast Section MS-50		
2	Antenna Mast Section MS-51		
2	Antenna Mast Section MS-52		
2	Antenna Mast Section MS-53		
2	Antenna Mast Section MS-54		
1	Cover BG-67		
1	Bag BG-176		
1	Field Strength Meter		
2	Carbon Microphone T-17E		
1	Modification Kit MK-213/MRC		
1	Mounting MT-821/ARC-27		
1	Mounting MT-822/ARC-27		
1	Mounting FT-154		
1	Mounting Base MT-164/ART-13		
1	Mounting Base MT-284/ART-13		
1	Mounting Plate MT-283/ART-13		
1	Oscillator O-16/ART-13		
1	Receiver Radio BC-348-Q		
1	Radio Receiver-Transmitter RT-178/ARC-27		
2	Wire Reel RL-29		
1	Radio Transmitter T-47/ART-13		
1	Automotive Ord Truck Model No. M38A1 (2320-835-8319)		