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).

## 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.

## 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.

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 hand. 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. | |

## 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 | | |

# 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

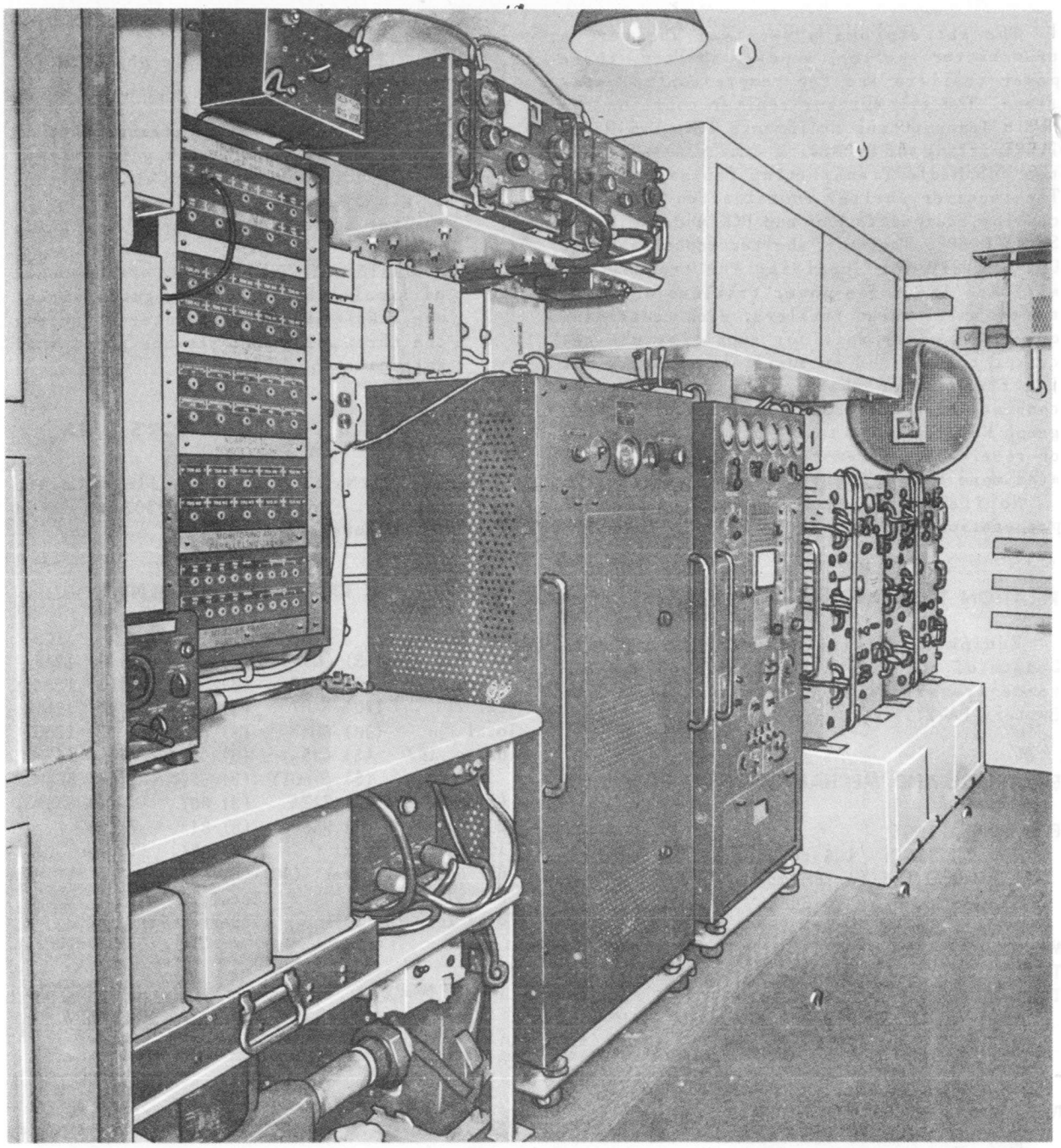
NAVSHIPS 91607: Technical Manual for Radio Set AN/MRC-16.

| | |
|---|---|
| **TYPE CLASSIFICATION** | |
| **DESIGN COGNIZANCE** | BUSHIPS |
| **PROCUREMENT COGNIZANCE** | |
| **STOCK NO.** | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | 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 | | |

# 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



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) OD3W | (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) 6V6GTY | (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) 6V6GTY | Tubes: (90) | (6) 837 | |
| (5) 80 | | Total | |
| Total Tubes: (50) | | 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 | 98 X 100 X 173 | 9700 |
| | (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 | 12 lg | |
| | (10) Patchcord-49095 | 18 lg | |
| | (5) Patchcord-49097 | 36 lg | |
| | (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 | 18 lg | |
| | (10) Patchcord 49123B | 36 lg | |
| | (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) | | |
| 1 | Transmitter Shelter S-1/MRC-18 | 98 X 100 X 173 | 8150 |
| | (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 | | |

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 | 98 X 100 X 173 | 9950 |
| | (1) Power Unit PE-85M and Accessories | | |
| 3 | Power Trailer | 74 X 75 X 95 | 4200 |
| | (1) Power Unit PE-95 | | |

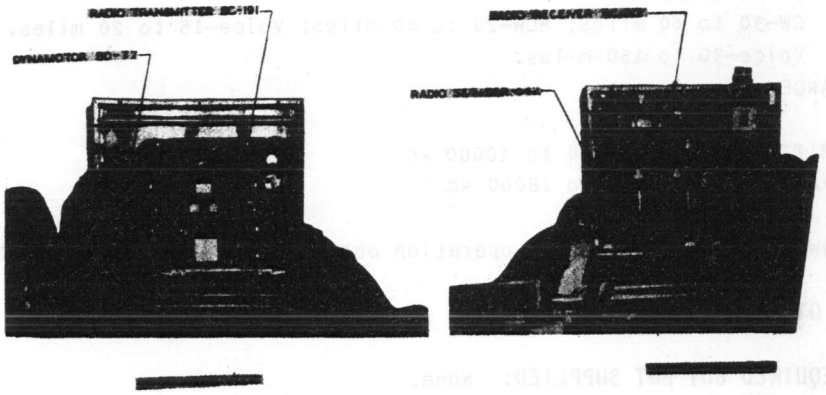
22 June 1962 RADIO SET AN/MRC-19

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.

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 | |

| 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: | | 5-7/8 x 8-3/4 x 15-3/8 | |
| | Crystal Unit, Quartz | | 11/16 x 1-9/16 x 2-5/16 | |
| 1 | Track, Automotive 1/4 ton, 4 x 4 | | | |

## 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
DESIGN COG: USMC
SPEC &/OR DWG:

AN/MRC-19 RADIO SET

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

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).

## 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.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tubes and Crystal Data not available.

## REFERENCE DATA AND LITERATURE

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

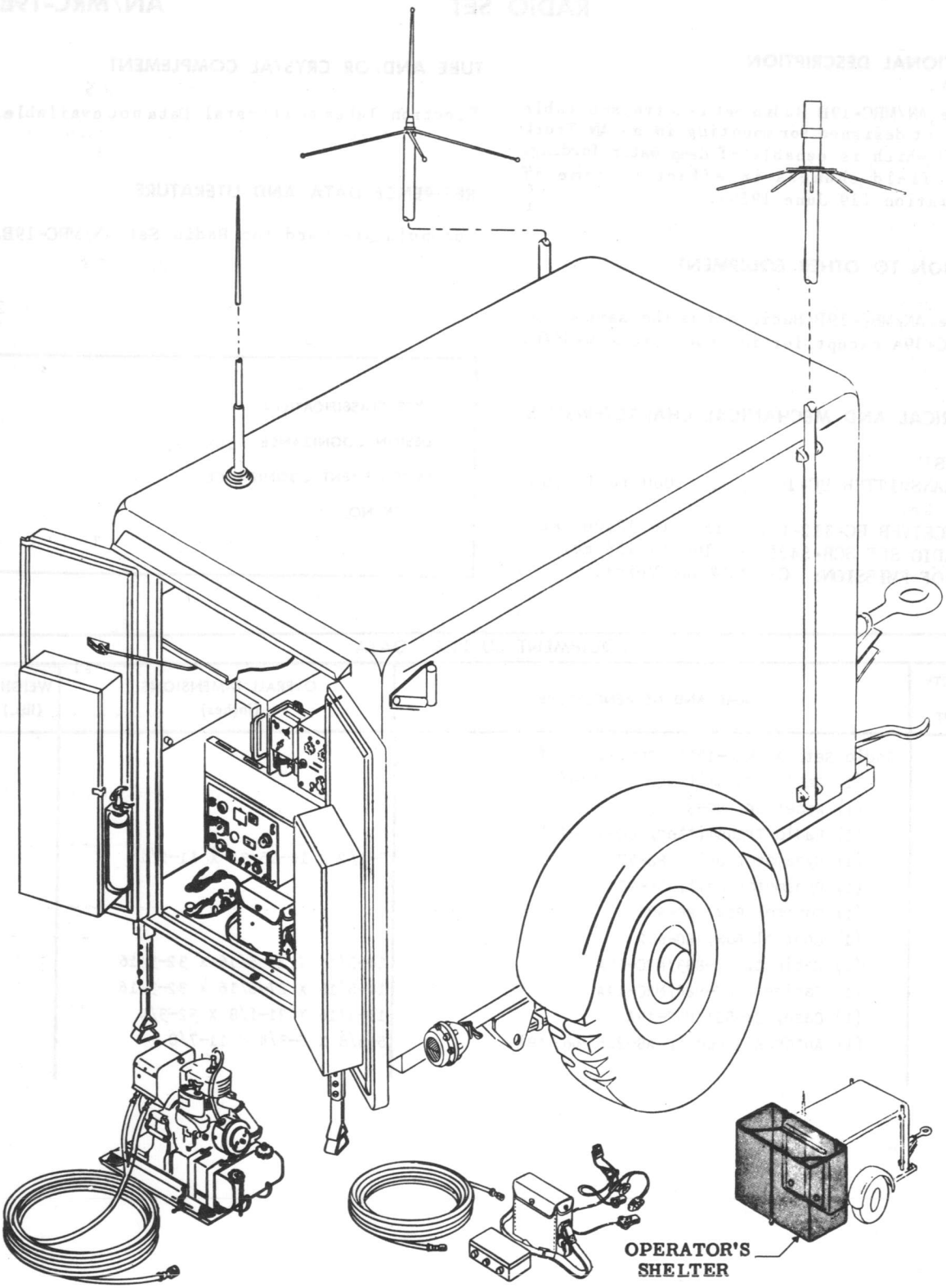
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

## 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 | 7-1/2 X 10-15/32 X 11-1/16 | |
| | (1) Dynamotor Unit, PE-98 | | |
| | (1) Control Box, BC-606 | | |
| | (1) Control Box, BC-602 | | |
| | (1) Cabinet, CY-883/MRC-19A | 14-5/16 X 27-5/16 X 32-3/16 | |
| | (1) Cabinet, CY-980/MRC-19A | 14-5/16 X 27-5/16 X 32-3/16 | |
| | (1) Case, CY-981/MRC-19A | 11-1/16 X 21-1/8 X 32-3/4 | |
| | (1) Antenna Support, AB-205/MRC-19A | 5-5/8 X 5-3/4 X 11-7/8 | |

# RADIO SET






*Radio Set AN/MRC-22*

# AN/MRC-22 RADIO SET



## 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 reciving 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 v DC 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 CR-1A/AR |
| (1) CR-27/U | |
| 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.

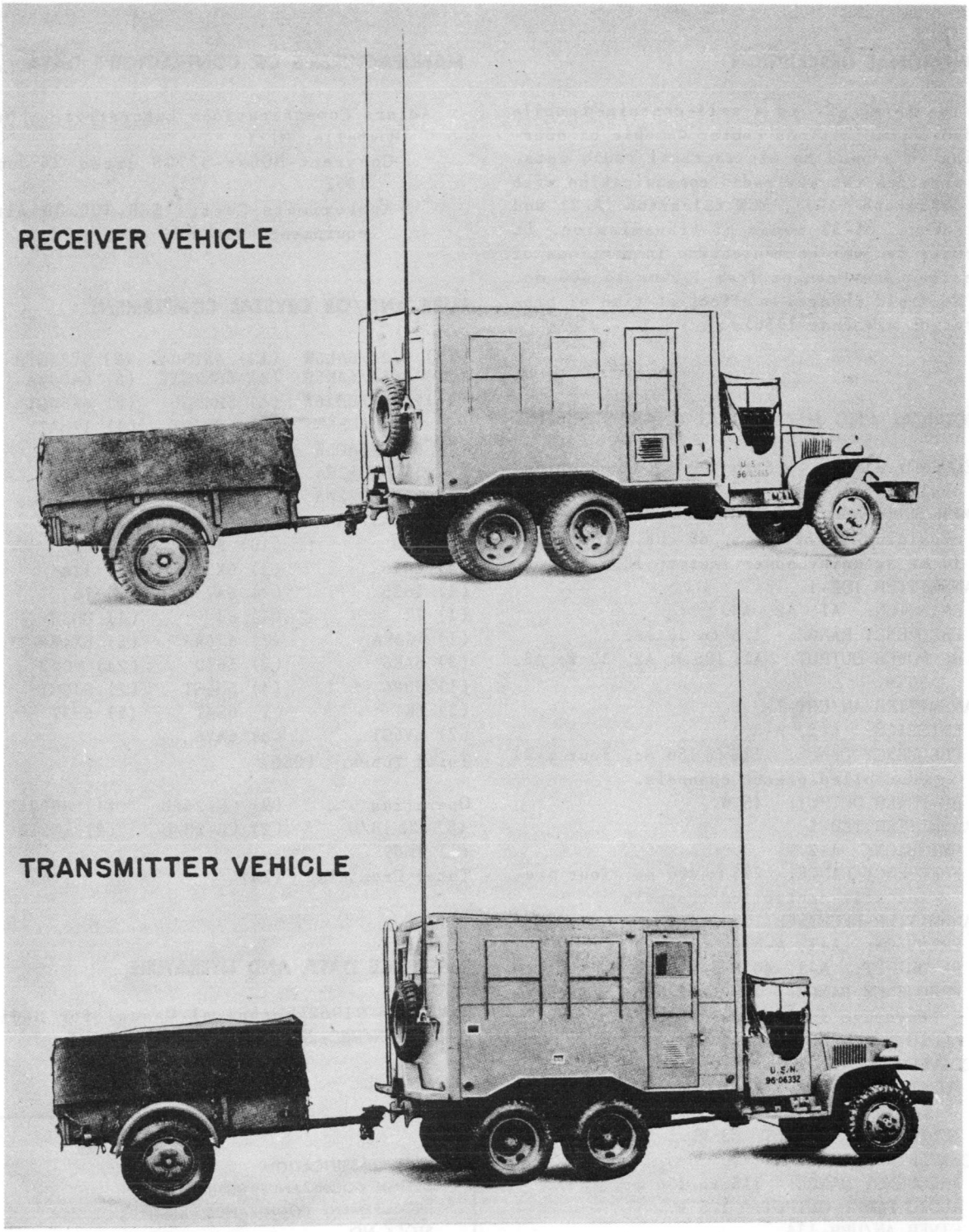
### EQUIPMENT SUPPLIED DATA

| 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 | | |

# 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 | 2-15/16 X 6-15/16 X 7 | 3.25 |
| | Interconnecting Cables | | |
| 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*

# AN/MRC-23 RADIO SET



## 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) 6005/6AQ5W | (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.

# 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 | 1556 |
| 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 | | 19 |
| 2 | Typewriter | | |
| 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 | 10-1/8 X 11-11/16 X 17-1/4 | 94 |
| 1 | Power Supply-PP-338/U | 10 X 10-1/2 X 26 | 120 |
| 1 | Field Telephone EE-8- () | | 11.5 |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Antenna Mast-AB-334/G | (49 foot) | 100 |
| 2 | Antenna Assy-NT-66095 | (4 foot) | |
| 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 AN/MRC-24

## 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 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 | | |

# 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) | | |

# RADIO SET AN/MRC-40

## FUNCTIONAL DESCRIPTION

The AN/MRC-40 is a mobile ground radio unit, trailer mounted, designed to receive and transmit radio signals for air to ground communications.

No field changes in effect at time of preparation (3 December 1958).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A2 and A3 type.
NUMBER OF CHANNELS: 1750 channels.
CHANNEL SPACING: 100 kc.
NUMBER OF PRESET FREQUENCY CHANNELS: 10.
METHOD OF OPERATION: Engine generator operated.
TYPE OF INSTALLATION: Ground mobile.
POWER OUTPUT: 100 W.
OPERATING FREQUENCY RANGE: 225 to 400 mc.
OPERATING POWER REQUIREMENT: 115 v AC, 50 to 60 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

United States Marine Corps.
Contract MIPR-57-881C-77038.
Contract EN24/75011(57).

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

## REFERENCE DATA AND LITERATURE

Nomenclature Card AN/MRC-40 for Radio Set.

| | |
|---|---|
| TYPE CLASSIFICATION | |
| DESIGN COGNIZANCE | BUSHIPS |
| PROCUREMENT COGNIZANCE | |
| STOCK NO. | |
| R.D.B. IDENT. NO. | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Radio Set AN/MRC-40 Including: | | |
| 1 | Radio Transmitter T-217A/GR | 12-1/4 X 19 X 22 | |
| 1 | Radio Receiver R-278B/GR | 12-1/4 X 19 X 21 | |
| 1 | AN Mast AB-155A/U | | |
| 1 | AN Modulator-Power Supply MD-129A/GR | 12-1/4 X 19 X 22 | |
| 1 | AN Radio Set Control C-1335/TRC-32 | 8-3/4 X 12-1/4 X 19 | |
| 1 | AN Radio Set Control C-1336/TRC-32 | 8-3/4 X 12-1/4 X 19 | |
| 1 | Sig Power Unit PE-75 | | |
| 1 | AN Antenna AS-390/SRC | 6-3/4 h X 23-3/4 dia | |
| 1 | AN Terminal Box J-306/GR | 2 X 5 X 10 | |

June 1961

Radio-Transceivers

# RADIO SET AN/MRC-47A

## FUNCTIONAL DESCRIPTION

The AN/MRC-47A is designed as a mobile, general-purpose, ground equipment used to provide communications between aircraft in flight and a command center on the ground.

No field changes in effect at time of preparation (10 April 1961).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Mobile, truck-mounted.
TYPE OF EMISSION: A1, A2 and A3.
POWER OUTPUTS
TCS TRANSMITTER: 40 W, A1 emission and 20 W, A3 emission.
TCK TRANSMITTER: 400 W, A1 emission and 100 W, A3 emission.
T-217/GR TRANSMITTER: 100 W, A2 emission and 100 W, A3 emission.
FREQUENCY DATA
TCS TRANSMITTER
NUMBER OF BANDS: 3 bands.
FREQUENCY RANGE: 1500 to 12,000 kc.
T-217/GR TRANSMITTER
NUMBER OF CHANNELS: 1750 channels.
FREQUENCY RANGE: 225 to 339.9 mc.
CHANNEL FREQUENCY: 100 kc wide.
TCK TRANSMITTER
NUMBER OF BANDS: 6 bands.
FREQUENCY RANGE: 2000 to 18,000 kc.
OPERATING POWER RQMT: 120 v ac, 60 cps, single ph.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube, Crystal and/or Semi-Conductor Device data not available.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Set AN/MRC-47A.

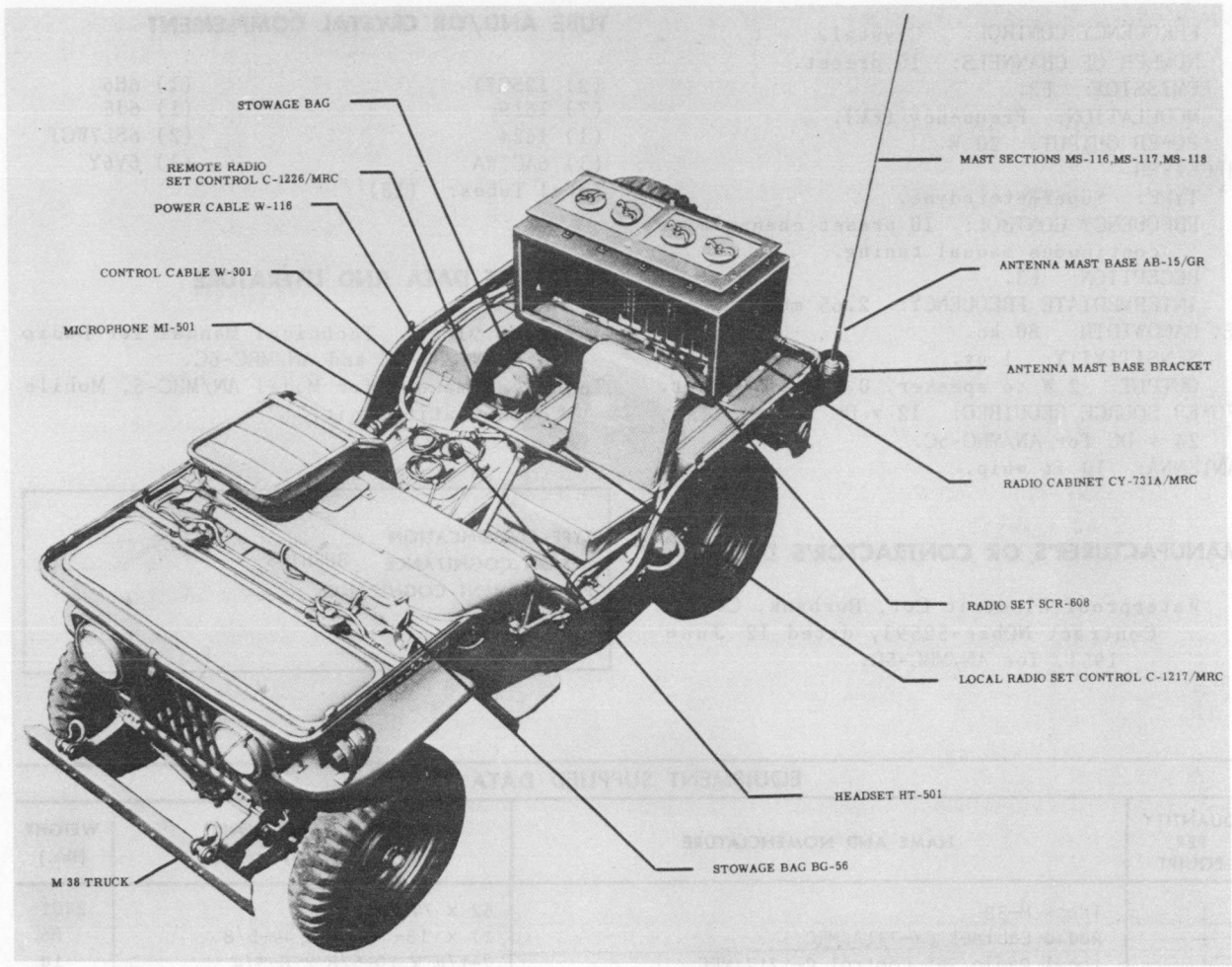
| | |
|---|---|
| TYPE CLASSIFICATION | (NAVY) |
| PROCUREMENT COGNIZANCE | |
| DESIGN COGNIZANCE | TASSA |
| STOCK NO. | |
| R.O.B. IDENT. NO. | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Radio Set AN/MRC-47A consists of: | | |
| 1 | Transmitter Group OA-777A/MRC-47 | | |
| 1 | Receiver Group OA-778A/MRC-47 | | |
| 2 | Truck, Cargo M-35 or equal | | |
| 1 | Shelter, Electrical Equipment S-103A/MRC-47 | 65-3/4 x 69-1/2 x 132 | |
| 1 | Shelter, Electrical Equipment S-104A/MRC-47 | 65-3/4 x 69-1/2 x 132 | |

April 1958

# RADIO SET AN/MRC-5, AN/MRC-5C




*Radio Set AN/MRC-5C*

## FUNCTIONAL DESCRIPTION

The AN/MRC-5 and AN/MRC-5C are complete mobile radio stations designed for short range ground communication in field and internal security operations. It consists of Radio Set SCR-608 installed in a type M-38, 1/4 ton (jeep) truck. Headset reception and push-to-talk transmission are possible at the local radio set control, located between the seats, or on the dash of the vehicle, and at the remote radio set control, which may be located up to a distance of one-mile from the vehicle. The local radio set control also provides loudspeaker reception and on-off power control of the radio set. The equipments are submersion proof.

The major difference results in the use of a 12 v DC power supply for the AN/MRC-5 and a 24 v DC souce for the AN/MRC-5C.

No field changes in effect at time of preparation (4 October 1957).

## RELATION TO OTHER EQUIPMENT

The AN/MRC-5, -5C are similar to AN/MRC-6C except that the AN/MRC-6C consists of an M-38A, 1/4 ton, 4 x 4 truck and a radio transmitting and receiving equipment TCS.

Equipment Required but not Supplied: One mile of Infantry Field Wire WD-1/TT or equivalent.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

RANGE: 5 to 15 mi.
TRANSMITTER
FREQUENCY RANGE: 27 to 38.9 mc.

Radio-Transceivers

# AN/MRC-5, AN/MRC-5C RADIO SET

April 1958

FREQUENCY CONTROL: Crystal.
NUMBER OF CHANNELS: 10 preset.
EMISSION: F3.
MODULATION: Frequency (FM).
POWER OUTPUT: 20 W.

RECEIVER
TYPE: Superheterodyne.
FREQUENCY CONTROL: 10 preset channels or continuous manual tuning.
RECEPTION: F3.
INTERMEDIATE FREQUENCY: 2.65 mc.
BANDWIDTH: 80 kc.
SENSITIVITY: 1 uv.
OUTPUT: 2 W to speaker, 0.2 W to headset.

POWER SOURCE REQUIRED: 12 v DC for AN/MRC-5, 24 v DC for AN/MRC-5C.

ANTENNA: 10 ft whip.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Waterproof Electric Co., Burbank, Calif. Contract NObsr-52593, dated 12 June 1951, for AN/MRC-5C.

## TUBE AND/OR CRYSTAL COMPLEMENT

| | |
|---|---|
| (2) 12SG7Y | (1) 6H6 |
| (7) 1619 | (1) 6J5 |
| (1) 1624 | (2) 6SL7WGT |
| (3) 6AC7WA | (1) 6V6Y |

Total Tubes: (18)

## REFERENCE DATA AND LITERATURE

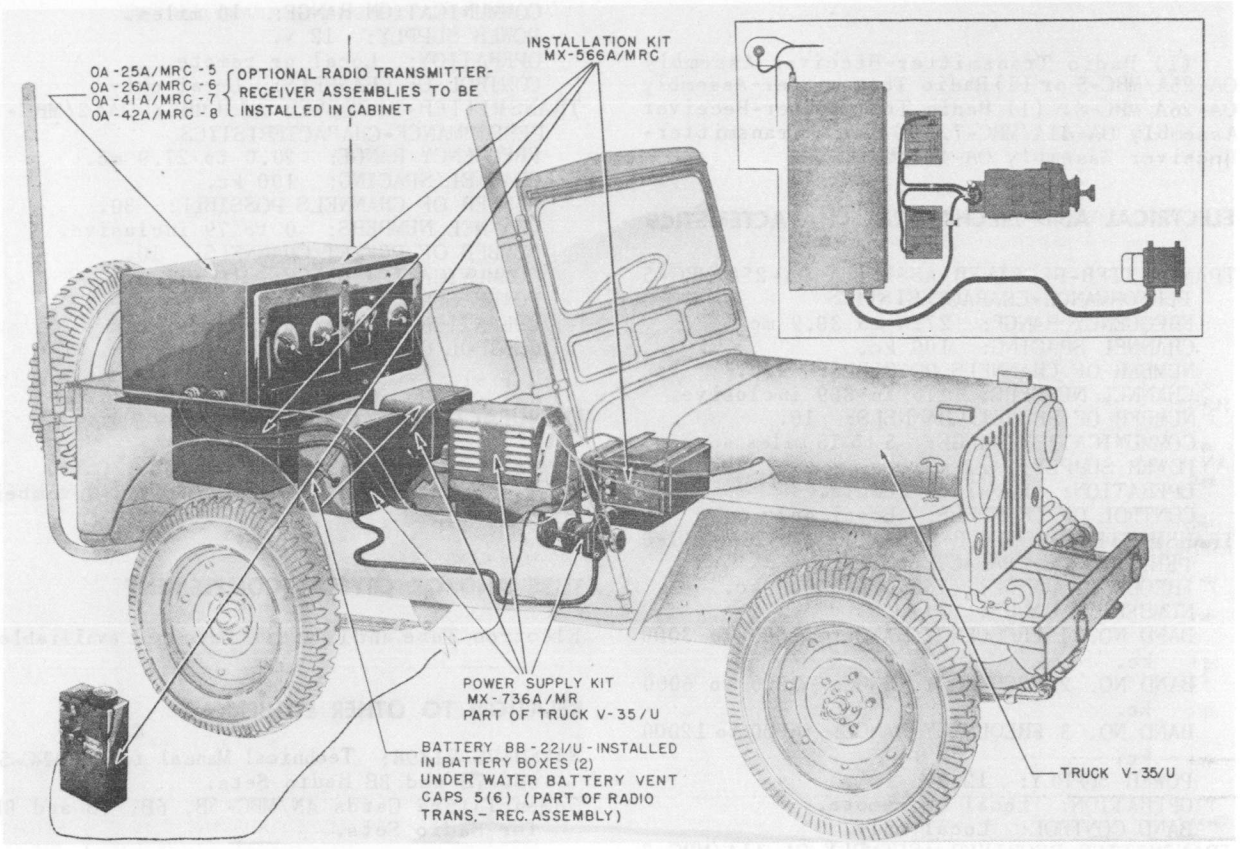
NAVSHIPS 91811: Technical Manual for Radio Sets AN/MRC-5C and AN/MRC-6C.
Technical Manual for Model AN/MRC-5, Mobile Communication Unit.

| | |
|---|---|
| TYPE CLASSIFICATION | |
| DESIGN COGNIZANCE | BUSHIPS |
| PROCUREMENT COGNIZANCE | |
| STOCK NO. | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Truck M-38 | 62 x 74 x 133 | 2401 |
| 1 | Radio Cabinet CY-731A/MRC | 17 x 18-11/16 x 44-5/8 | 86 |
| 1 | Local Radio Set Control C-1217/MRC | 7-1/4 x 10-5/8 x 8-3/4 | 14 |
| 1 | Remote Radio Set Control C-1226/MRC | 1-9/16 x 3-3/16 x 4-7/8 | 1.2 |
| 1 | Maintenance Parts Box CY-732/MRC | 8-7/8 x 15-1/2 x 30 | 41.4 |
| 1 | Antenna Mast Base Bracket | 5-1/2 x 5-3/4 x 12-1/2 | 6.6 |
| 1 | Radio Set SCR-608 | 13-1/8 x 13-9/32 x 35-5/8 | 181. |
| 1 | Set of Cables, Brackets, Plates, Hardware | | |

# RADIO SET AN/MRC-5B,6B,7B and 8B




*Radio Set AN/MRC-5B, AN/MRC-6B, AN/MRC-7B or AN/MRC-8B*

## FUNCTIONAL DESCRIPTION

The radio sets designated as AN/MRC-5B, 6B, 7B and AN/MRC-8B, each consist of a transmitter-receiver assembly (OA-25A/MRC-5, OA-26A/MRC-6, OA-41A/MRC-7 or OA-42A/MRC-8), a 1/4 ton 4 X 4 Truck (V-35/U), a power supply kit (MX-736A/MR), an installation kit (MX-566A/MRC), and two six volt storage batteries (BB-221U) with special underwater vent caps installed. The design of the major truck units as well as the electronic equipment containers is such that operation is possible even after the material has been submerged as in fording or landing operations.

These radio sets provide compact and highly maneuverable mobile radio-telephone communication for organizational commanders in all echelons, for anti-aircraft and anti-tank warning and control nets, for base stations at command posts, for fire control and fire direction nets, and for intra-organizational communications.

This series of radio sets are similar in their mode of transportation and source of power and differ from one another according to the type of transmitter-receiver assembly installed. Common to all sets are the Truck V-35/U, the Power Supply Kit MX-736A, the installation Kit MX-566A, and the Batteries BB-221/U.

No field changes in effect at time of preparation (17 June 1958).

## RELATION TO OTHER EQUIPMENT

The AN/MRC-5B, 6B, 7B and 8B radio sets are similar in their mode of transportation and source of power, and differ from one another according to the type of transmitter-receiver assembly installed.

Radio-Transceivers

# AN/MRC-5B,6B,7B and 8B RADIO SET

(1) Radio Transmitter-Receiver Assembly OA-25A/MRC-5 or (1) Radio Transmitter-Assembly OA-26A/MRC-6. (1) Radio Transmitter-Receiver Assembly OA-41A/MRC-7. (1) Radio Transmitter-Receiver Assembly OA-42A/MRC-8.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TRANSMITTER-RECEIVER ASSEMBLY OA-25A/MRC-5
PERFORMANCE-CHARACTERISTICS
FREQUENCY RANGE: 27.0 to 38.9 mc.
CHANNEL SPACING: 100 kc.
NUMBER OF CHANNELS POSSIBLE: 120.
CHANNEL NUMBERS: 270 to 389 inclusive.
NUMBER OF PRESET CHANNELS: 10.
COMMUNICATION RANGE: 5 to 15 miles approx.
POWER SUPPLY: 12 v.
OPERATION: Local or remote.
CONTROL OF CHANNELS: Local only.

TRANSMITTER-RECEIVER ASSEMBLY OA-26A/MRC-6
PERFORMANCE-CHARACTERISTICS
FREQUENCY RANGE: 1500 to 12000 kc.
NUMBER OF BANDS: 3.
BAND NO. 1 FREQUENCY RANGE: 1500 to 3000 kc.
BAND NO. 2 FREQUENCY RANGE: 3000 to 6000 kc.
BAND NO. 3 FREQUENCY RANGE: 6000 to 12000 kc.
POWER SUPPLY: 12 v.
OPERATION: Local or remote.
BAND CONTROL: Local only.

TRANSMITTER-RECEIVER ASSEMBLY OA-41A/MRC-7
PERFORMANCE-CHARACTERISTICS
FREQUENCY RANGE: 20.0 to 27.9 mc.
CHANNEL SPACING: 100 kc.
NUMBER OF CHANNELS POSSIBLE: 80.
NUMBER OF PRESET CHANNELS: 10.
CHANNEL NUMBERS: 0 to 79 inclusive.
COMMUNICATION RANGE: 10 miles.
POWER SUPPLY: 12 v.
OPERATION: Local or remote.
CONTROL OF CHANNELS: Local only.

TRANSMITTER-RECEIVER ASSEMBLY OA42/MRC-8
PERFORMANCE-CHARACTERISTICS
FREQUENCY RANGE: 20.0 to 27.9 mc.
CHANNEL SPACING: 100 kc.
NUMBER OF CHANNELS POSSIBLE: 80.
CHANNEL NUMBERS: 0 to 79 inclusive.
NUMBER OF PRESET CHANNELS: 10.
COMMUNICATION RANGE: 10 miles.
POWER SUPPLY: 12 v.
OPERATION: Local or remote.
CONTROL OF CHANNELS: Local only.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Willys-Overland Motors, Toledo, Ohio.
Contract N8SS-2660, dated 22 November 1950.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not availiable.

## RELATION TO OTHER EQUIPMENT

NAVSHIPS 91398: Technical Manual for AN/MRC-5B 6B, 7B and 8B Radio Sets.
Nomenclature Cards AN/MRC-5B, 6B, 7B and 8B for Radio Sets.

| | |
|---|---|
| TYPE CLASSIFICATION | |
| DESIGN COGNIZANCE | BUSHIPS |
| PROCUREMENT COGNIZANCE | |
| STOCK NO. | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Truck V-35/U including:<br>(1) Installation Kit MX-566A/MRC<br>(1) Power Supply Kit MX-736/MR<br>(2) Care and Operational Manual NAVSHIPS 91306<br>(1) Technical Service Manual NAVSHIPS 91310<br>(2) Radio Set Technical Manual NAVSHIPS 91398<br>(2) SIGM 8 Pamphlet for:<br>MX-566A/MRC<br>MX-736A/MR<br>(1) Parts Catalog NAVSHIPS 91310.4 | 60-5/8 X 68 X 134-1/4 | 2726 |

Cog Service: USN FSN: Functional Class:

| USA | USN | USAF |
|---|---|---|

**TYPE CLASS:** Used by Used by

**MANUFACTURER'S NAME/CODE NUMBER:** Federal Telephone and Radio Company, (21964).

*(No Illustration Available)*

**FUNCTIONAL DESCRIPTION:**

The Radio Set AN/MRC-55 is designed as a mobile transmitter and receiver, which provides high frequency two-way communications. It has retransmission facilities and provides frequency shift keying teletype transmissions using field teletype. It has remote control up to one (1) mile.

No field changes in effect at time of preparation (16 January 1962).

**TECHNICAL CHARACTERISTICS:**

TYPE OF INSTALLATION: Mobile (transportable).
TYPE OF EMISSION: A1, A3 and FSK.
RECEIVER DATA
TYPE OF TUNING: Continuous.
NUMBER OF BANDS: 4 bands.
FREQUENCY RANGE: 2 to 32 mc.
TRANSMITTER DATA
NUMBER OF CHANNELS: 56,000 channels.
INDIVIDUAL CHANNEL FREQUENCY: 500 cycles.
FREQUENCY RANGE: 2 to 29.9995 mc.
TRANSMITTING POWER OUTPUT: 100 W.
OPERATING POWER RQMT: 110 v ac, 60 cps, single ph; 24 v dc, operated from 24 v dc, 100 amp 1/4 ton 4 x 4 truck generator system.

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Multimeter (VTVM) Type ME-25A/U; (1) Frequency Meter (1.6 to 40 mc) AN/USM-29; (1) Megger (0.1 to 10,000 megohms, 500 volt test); (1) Adapter Set (NT49416, 49598, 49992); (1) Dummy Antenna (2-8 mc, 8-16 mc, 16-32 mc); (1) Dummy Load (600 ohms, 2 W); (1) R.F. Signal Generator (9.5 to 30,000 kc).

**MAJOR COMPONENTS**

| QTY | ITEM | STOCK NUMBERS | DIMENSIONS (INCHES) | WEIGHT (LBS) |
|---|---|---|---|---|
| 1 | Radio Set AN/MRC-55 consists of: | | | |
| 1 | Radio Set Control OA-1444/GRC-14 | | | |

## AN/MRC-55 RADIO SET

| QTY | ITEM | STOCK NUMBERS | DIMENSIONS (INCHES) | WEIGHT (LBS) |
|---|---|---|---|---|
| 1 | Power Supply PP-1711/GRC-14 | | 10 x 17-3/8 x 29 | |
| 1 | Radio Receiver R-808/GRC-14 | | 10 x 13-3/4 x 17-1/2 | |
| 1 | Radio Transmitter T-631/GRC-14 | | 13-3/4 x 17-1/2 x 29 | |

### REFERENCE DATA AND LITERATURE:

NAVSHIPS 92911: Technical Manual for Radio Set AN/MRC-55.

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

TUBES: (1) GE4JA411BC (1) ZA8 (9) 12AT7WB (1) 12AU7 (1) 12BA6 (7) 26A6
(2) 4JA60A (3) 4X250F (1) 5651WA (4) 5654-6AK5W (2) 5687WA (1) 5725-6AS6W
(2) 5750-6BE6W (3) 5751 (1) 5814A (6) 6AH6WA (14) 6AJ5 (1) 6CL6
(2) 6005-6AQ5W (2) 6082

CRYSTALS: None used.

SEMI-CONDUCTORS: (6) 1N540 (13) 1N645 (11) 1N69A

TRANSISTORS: (1) 2N117 (2) 2N174 (6) 2N340 (1) 2N83A

### SHIPPING DATA

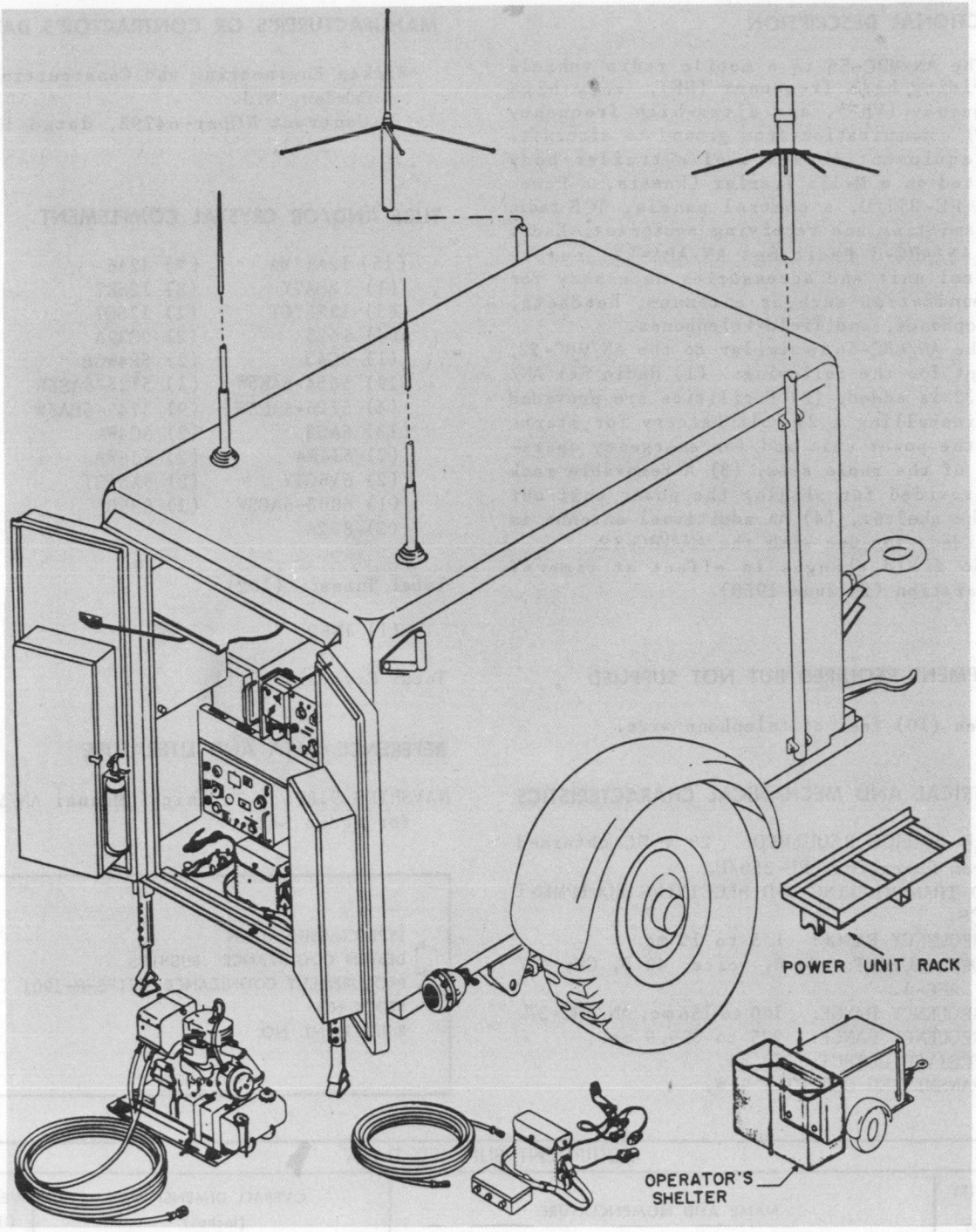
| PKGS | VOLUME (CU FT) | WEIGHT (LBS) |
|---|---|---|

### PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG:

| CONTRACTOR | LOCATION | CONTRACT OR ORDER NO. | APPROX. UNIT COST |
|---|---|---|---|
| Federal Telephone and Radio Company | Clifton, New Jersey | | |

# RADIO SET AN/MRC-56




*Radio Set AN/MRC-56*

# AN/MRC-56 RADIO SET

## FUNCTIONAL DESCRIPTION

The AN/MRC-56 is a mobile radio vehicle providing high frequency (HF), very high frequency (VHF), and ultra-high frequency (UHF) communication from ground to aircraft. The equipment consists of a trailer body mounted on a M-115 Trailer Chassis, a Power Unit PU-250/U, a control panels, TCS radio transmitting and receiving equipment, Radio Set AN/ARC-1 Radio Set AN/ARC-27, remote control unit and accessories necessary for communication such as antennas, headsets, microphones, and field-telephones.

The AN/MRC-56 is similar to the AN/MRC-22, except for the following: (1) Radio Set AN/VRC-32 is added, (2) Facilities are provided for installing a 24 volt battery for starting the power unit and for emergency operation of the radio sets, (3) A removable rack is provided for sliding the power unit out of the shelter, (4) An additional antenna is provided, for use with the AN/VRC-32.

No field changes in effect at time of preparation (24 June 1958).

## EQUIPMENT REQUIRED BUT NOT SUPPLIED

Ten (10) feet of telephone wire.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 28 v DC 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

Wickes Engineering and Construction Co., Camden, N.J.
Contract NObsr-64793, dated 10 June 1955.

## TUBE AND/OR CRYSTAL COMPLEMENT

| | |
|---|---|
| (15) 12AT7WA | (7) 12A6 |
| (1) 12SA7Y | (3) 12SK7 |
| (1) 12SL7GT | (1) 12SQ7 |
| (4) 1625 | (2) 2C39A |
| (1) 2C43 | (2) 5R4WGB |
| (19) 5654-6AK5W | (1) 5725-6AS6W |
| (4) 5726-6AL5W | (9) 5749-6BA6W |
| (13) 6AG5 | (2) 6C4WA |
| (7) 6J4WA | (2) 6J6WA |
| (2) 6V6GTY | (2) 6X5WGT |
| (1) 6005-6AQ5W | (1) 829B |
| (2) 832A | |

Total Tubes: (102)

(1) 1N69

Total Crystals: (1)

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91876: Technical Manual AN/MRC-56 for Radio Set.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-R-1901
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

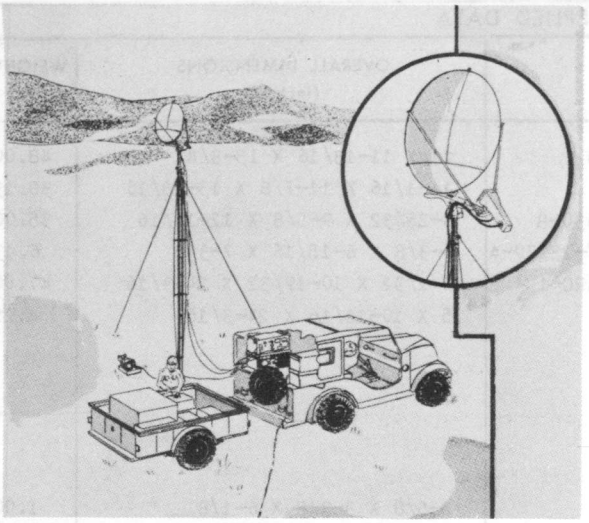
| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Radio Set AN/MRC-56 including: | 58-1/4 X 83 X 110-1/4 | 975.00 |
| | (1) Trailer Body | 47 X 58-1/4 X 76-1/4 | 250.00 |
| | (1) Trailer Chassis M-115 | 30-1/2 X 38-1/4 X 106 | 280.00 |
| | (1) Power Unit PU-250/U | 18-1/4 X 21-1/4 X 27 | 126.00 |

# RADIO SET AN/MRC-56

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| | (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<br>(3) Mast Section MS-116<br>(1) Mast Section MS-117<br>(1) Mast Section MS-118<br>(1) Antenna NT-66150A<br>(1) Antenna AS-390/SRC | | |
| | (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<br>(1) Radio Set Control | | |
| | (2) Telephone EE-8 | 3-1/2 X 7-11/16 X 9-9/16 | 19.50 |
| | (2) Headset-Microphones H-63/U<br>(2) Chest Set Group AN/GSA-6<br>(1) Telegraph Key 26026<br>(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 AN16-30ARC-27-2 | 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 | |
| | (1) Radio Set AN/VRC-32 | | |

# RADIO SET AN/MRC-59



*Radio Set AN/MRC-59*

## FUNCTIONAL DESCRIPTION

The AN/MRC-59 is designed as a small, lightweight, mobile radio communications system which provides one (1) to eight (8) duplex communication channels and is primarily for use in forward operation areas. Facilities are provided for net operations with the AN/GRC-37. It provides two-way microwave radio transmission for eight (8) telephone channels.

No field changes in effect at time of preparation (24 April 1959).

## RELATION TO OTHER EQUIPMENT

The AN/MRC-59 is similar in operation to the AN/TRC-27 and AN/MRC-60 except that it differs in equipment supplied.

## EQUIPMENT REQUIRED BUT NOT SUPPLIED

(5) Packboard Standard Army FII-8465-262-5281, (1) Sledge Hammer (5 lb), (1) Telephone type EE-8 or equivalent, (1) Telephone Line (three ft or suitable length), (1) Fuel Can, (1) Compass, (1) Protracter. A set of maps, of installation area as required.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION:- P3f type of emission.

TYPE OF FREQUENCY CONTROL

TRANSMITTER: Variable frequency triode oscillator.

RECEIVER: Variable frequency klystron local oscillator.

TYPE OF RECEIVER: Superheterodyne, 60 mc IF.

RANGE DATA

ATTENUATION: Max allowable attenuation is 158 db.

SPACE ATTENUATION: For various ranges at 4700 mc shown below:

| RANGE (MILES) | ATTENUATION (DB) | FADE MARGIN (DB) |
|---|---|---|
| 1 | 110 | 48 |
| 5 | 124 | 34 |
| 10 | 130 | 28 |
| 20 | 136 | 22 |
| 30 | 140 | 18 |
| 40 | 142 | 16 |
| 50 | 144 | 14 |
| 60 | 146 | 12 |
| 80 | 148 | 10 |
| 100 | 150 | 8 |

TEMPERATURE RANGE: -54° C to +65° C.

MULTIPLEX CHARACTERISTICS

NUMBER OF CHANNELS: 4 duplex (8 per terminal).

CHANNEL TERMINATION: 2-wire, 600-ohm.

TYPE OF MULTIPLEXING: Time Division.

TYPE OF MODULATION: Pulse-position.

AUDIO BANDWIDTH: 300 to 3500 cps.

RINGING FREQUENCY: 25 cps.

FRAME FREQUENCY: 8 kc.

PULSE WIDTH: 0.45 ±0.05 microsecond.

ANTENNA TYPE: Paraboloid reflector with off-center diplexing horn, vertical and horizontal polarization.

FREQUENCY RANGE: 4400 to 5000 mc.

POWER SUPPLIES: Self contained in receiver-transmitter and multiplexer units.

PRIMARY POWER SOURCES: 400 cycle Gasoline Engine Generator PU-278/TRC-27 (1 supplied) plus 28-v DC generator and 28 v DC to 400 cps, 115 v AC converter PU-391/GRC.

Radio-Transceivers

April 1959

# AN/MRC-59 RADIO SET

## MANUFACTURER'S OR CONTRACTOR'S DATA

Raytheon Mfg Co., Waltham, Mass.
Contract NObsr-71035, dated 28 September 1955.

## TUBE AND/OR CRYSTAL COMPLEMENT

| | |
|---|---|
| (4) 0A2WA | (2) 6005/6AQ5W |
| (1) SV-9 | (1) 2K22 |
| (3) 6AU6WA | (2) 6X4W |
| (12) 12AT7WA | (13) 5654/6AK5W |
| (1) 5670 | (2) 5726/6AL5W |
| (3) 5727/2D21W | (1) 5814A |
| (1) 5933WA | (20) 6021 |
| (1) 6280 | |

Total Tubes: (67)

| | |
|---|---|
| (1) 1N659 | (41) 1N460 |
| (8) 1N458 | (1) 1N459 |
| (3) 1N21C(R) | (8) 1N67 or 1N198 |
| (17) 1N422 | (2) 1N252 or 1N251 |
| (1) 1N295 | (3) 1N482 or 1N457 |

Total Crystals: (85)

## REFERENCE DATA AND LITERATURE

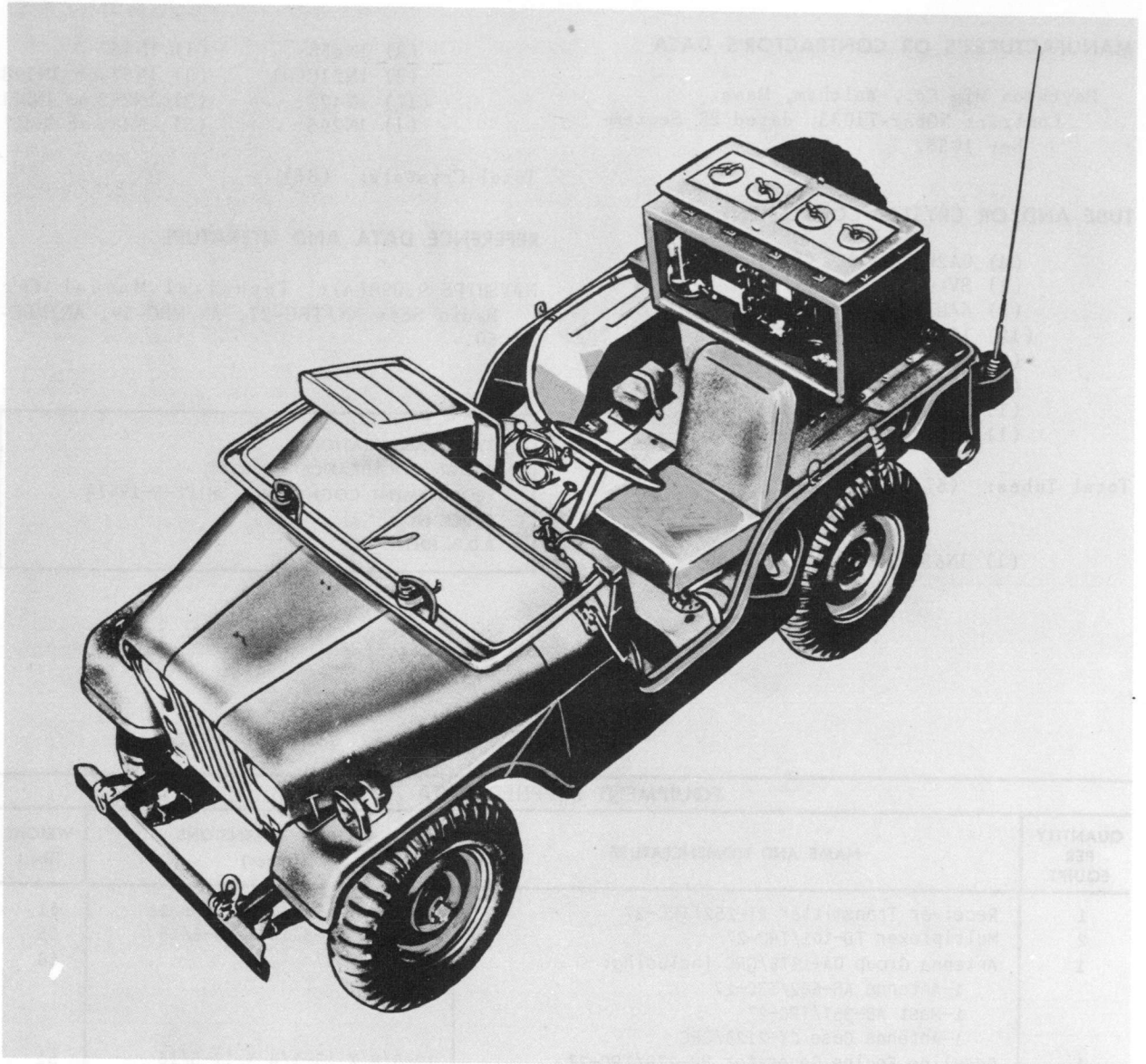
NAVSHIPS 93098(A): Technical Manual for Radio Sets AN/TRC-27, AN/MRC-59, AN/MRC-60.

**TYPE CLASSIFICATION**
**DESIGN COGNIZANCE** BUSHIPS
**PROCUREMENT COGNIZANCE** SHIPS-R-1947A
**STOCK NO.**
**R.D.B. IDENT. NO.**

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Receiver Transmitter RT-252/TRC-27 | 11-3/8 X 14-5/16 X 25-5/16 | 61 |
| 2 | Multiplexer TD-101/TRC-27 | 9-7/8 X 14-5/16 X 25-5/16 | 55 |
| 1 | Antenna Group OA-1378/GRC Including:<br>1-Antenna AS-682/TRC-27<br>1-Mast AB-357/TRC-27<br>1-Antenna Case CY-2123/GRC | 9 X 17 X 27 | 58 |
| 1 | Gasoline Engine Generator PU-278/TRC-27 | 12-5/8 X 13-1/4 X 17-5/16 | 51 |
| 1 | Kit DC Generator System | | |
| 1 | Motor Generator PU-391/GRC | 14-5/16 X 15-3/8 X 25-5/16 | 150 |
| 1 | Installation Kit, Truck | | |
| 1 | Installation Kit, Trailer | | |
| 2 | 22 ft Coaxial Antenna Cable (included with RT-252/TRC-27) | | |
| 5 | 5 ft Coaxial Cable (included with RT-252/TRC-27) | | |
| 1 | 50 ft Power Cable (included with OA-1378/GRC) | | |
| 1 | Set of Equipment Spares | | |
| 2 | Technical Manual NAVSHIPS 93098(A) | 1 X 9-1/4 X 11-1/2 | |

# RADIO SET AN/MRC-6, -6C



*Radio Set AN/MRC-6C*

## FUNCTIONAL DESCRIPTION

The AN/MRC-6 and AN/MRC-6C are complete vehicular radio stations for short-range, ground-to-ground tactical field use. The design and construction of these sets is such that operation is possible after material has been submerged during deep water fording or landing operations, provided applicable precautionary measures are adhered to by operative personnel.

The AN/MRC-6 differs from the AN/MRC-6C in the power source required, the AN/MRC-6 requiring 12 v while the AN/MRC-6C requires 24 volts.

Transmission and reception on a predetermined frequency may be carried on, in the AN/MRC-6, from the dash Speaker-Remote Control position, and in the AN/MRC-6C, at the local radio set control, located between the seats of the vehicle and at the remote radio set control which may be located at any distance up to one mile from the vehicle.

No field changes in effect at time of preparation (29 January 1958).

Radio-Transceivers

# AN/MRC-6, -6C

# RADIO SET

April 1958

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Field wire for remote operation.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1500 to 12000 kc.
EMISSION: A1, A3.
POWER OUTPUT: 25 W for A1, 10 W for A3.
FREQUENCY CONTROL: Xtal or MO.
POWER SOURCE REQUIRED
AN/MRC-6: 12 v DC.
AN/MRC-6C: 24 v DC.
SPECIAL FEATURES: Waterproof case.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Waterproof Electric Co, Burbank, Calif.
Contract NObsr-52593 dated 15 April 1951 (AN/MRC-6C).
Contract NObsr-57476 dated 15 April 1951 (AN/MRC-6C).

## TUBE AND/OR CRYSTAL COMPLEMENT

AN/MRC-6C

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

Total Tubes: (18)

AN/MRC-6
Not Available.

No Crystals.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91811, Technical Manual for Radio Sets AN/MRC-5C and AN/MRC-6C.
Technical Manual for Model AN/MRC-6, Mobile Communication Unit.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

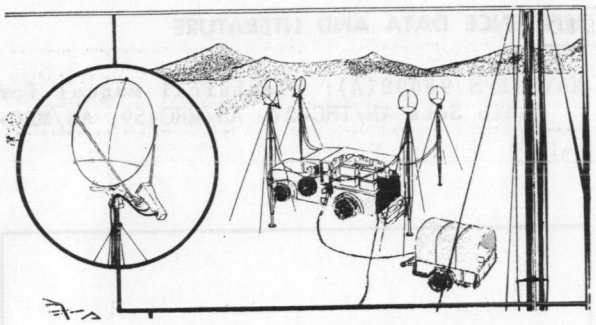
## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| | AN/MRC-6 | | |
| 1 | Submersion-proof radio cabinet | | |
| 1 | Submersion-proof chest for spare parts | | |
| 1 | Ant mast base bracket | | |
| 1 | Dash Speaker-Remote Control Box | | |
| 1 | Radio Transmitter-552245A | | |
| 1 | Radio Receiver-46159A | | |
| 1 | Ant Loading Coil-47205 | | |
| 1 | Power Supply Unit-21881B | | |
| 1 | 12 volt DC radio battery charging generator | | |
| 1 | Power-take-off device | | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 2 | 6-volt storage batteries, 60AH (Sig Corps H-2 with water tight caps) | | |
| 1 | Ant Mast Base M-57(Modified) | | |
| 2 | Sets of Mast Sections MS-49-53 incl | | |
| 1 | -26018 telegraph key w/cord O plug | | |
| 2 | Headsets-49507 | | |
| 2 | Extension Cord for Headset-49534 | | |
| 2 | Microphone-51071 | | |
| 2 | Extension Cord for microphone-49561 | | |
| 1 | Sig Corps 56A roll for ant sections | | |
| 1 | Sig Corps BG-67 Boot to cover mast base | | |
| 1 | Hold down rope, 20 ft w/insulator IN-88 | | |
| 1 | Roll W-110 Field wire 200 ft | | |
| 1 | Remote Control Unit-23398 | | |
| 2 | Technical Manuals for Navy Type TCS, Radio Transmitting and Receiving Equipment AN/MRC-6C | | |
| 1 | Truck M38A1 | 60-7/8 X 73-3/4 X 138-5/8 | 2665 |
| 1 | Radio Cabinet CY-731A/MRC | 17 X 18-11/16 X 44-5/8 | 86 |
| 1 | Local Radio Set Control C-1217/MRC | 7-1/4 X 8-3/4 X 10-5/8 | 14 |
| 1 | Remote Radio Set Control C-1228/MRC | 1-9/16 X 3-3/16 X 4-7/8 | 1.2 |
| 1 | Maintenance Parts Box CY-732/MRC | 8-7/8 X 15-1/2 X 30 | 41.4 |
| 1 | Antenna Mast Base Bracket | 5-1/2 X 5-3/4 X 12-1/2 | 6.6 |
| 1 | Radio Transmitter-52245A | 11 x 11-13/16 x 13-3/4 | 48 |
| 1 | Radio Receiver-46159A | 11-1/16 X 11-7/8 X 13-13/16 | 38.1 |
| 1 | Dynamotor Power Unit-211330B | 8-25/32 X 9-5/8 X 12-15/16 | 35 |
| 1 | Set of Cables, Brackets, Plates, Hardware, etc | | |
| 2 | Technical Manuals NAVSHIPS 900-705 | 1-1/2 X 8-3/4 X 11-1/4 | 3 |
| 2 | Technical Manuals NAVSHIPS 91811 | 1 X 8-3/4 X 11-1/4 | 2 |

# RADIO SET AN/MRC-60



*Radio Set AN/MRC-60*

## FUNCTIONAL DESCRIPTION

The AN/MRC-60 is designed as a mobile radio communication system, basically consisting of four (4) AN/TRC-27 mounted in a shelter which is in turn mounted on a M-37 truck with various power units mounted on a M-101 trailer. It also operates from PU-381/GRC with the following input: 103-1/2 to 126-1/2 v, 57 to 63 cps, single phase, or from PU-392/GRC with the same input as listed above or with PU-391/GRC with the following input: 26 to 28 v DC.

No field changes in effect at time of preparation (27 April 1959).

## RELATION TO OTHER EQUIPMENT

The AN/MRC-60 is similar in operation to the AN/TRC-27, AN/MRC-59 except that it differs in equipment supplied.

## EQUIPMENT REQUIRED BUT NOT SUPPLIED

(5) Packboard Standard Army FII-8465-262-5281, (1) Sledge Hammer (5 lb), (1) Telephone type EE-8 or equivalent, (1) Telephone Line (three ft or suitable length), (1) Fuel Can, (1) Compass, (1) Protracter. A set of maps, of installation area as required.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: P3f type of emission.

TYPE OF FREQUENCY CONTROL

TRANSMITTER: Variable frequency triode oscillator.

RECEIVER: Variable frequency klystron local oscillator.

TYPE OF RECEIVER: Superheterodyne, 60 mc IF.

RANGE DATA

ATTENUATION: Max allowable attenuation is 158 db.

SPACE ATTENUATION: For various ranges at 4700 mc shown below:

| RANGE (MILES) | ATTENUATION (DB) | FADE MARGIN (DB) |
|---|---|---|
| 1 | 110 | 48 |
| 5 | 124 | 34 |
| 10 | 130 | 28 |
| 20 | 136 | 22 |
| 30 | 140 | 18 |
| 40 | 142 | 16 |
| 50 | 144 | 14 |
| 60 | 146 | 12 |
| 80 | 148 | 10 |
| 100 | 150 | 8 |

TEMPERATURE RANGE: -54° C to +65° C.

MULTIPLEX CHARACTERISTICS

NUMBER OF CHANNELS: 4 duplex (8 per terminal).

CHANNEL TERMINATION: 2-wire, 600 ohm.

TYPE OF MULTIPLEXING: Time Division.

TYPE OF MODULATION: Pulse-position.

AUDIO BANDWIDTH: 300 to 3500 cps.

RINGING FREQUENCY: 25 cps.

FRAME FREQUENCY: 8 kc.

PULSE WIDTH: 0.45 ±0.05 microsecond.

ANTENNA TYPE: Paraboloid reflector with off-center diplexing horn, vertical and horizontal polarization.

FREQUENCY RANGE: 4400 to 5000 mc.

POWER SUPPLIES: Self contained in receiver transmitter and multiplexer units.

PRIMARY POWER SOURCES: (a. and b. interchangeable).

a. 400-cycle Diesel Engine Generator PU-345/G (2-supplied).

b. 400-cycle Motor Generator PU-392/GRC (1-supplied).

c. One-quarter of AN/MRC-60 can be operted from 400 cycle Gasoline Engine Generator PU-278/TRC-27 (4-supplied).

## MANUFACTURER'S OR CONTRACTOR'S DATA

Raytheon Mfg Co., Waltham, Mass.
Contract NObsr-71035, dated 28 September 1955.

# AN/MRC-60 RADIO SET

## TUBE AND/OR CRYSTAL COMPLEMENT

| | |
|---|---|
| (4) OA2WA | (1) SV-9 |
| (1) 2K22 | (3) 6AU6WA |
| (2) 6X4W | (12) 12AT7WA |
| (13) 5654/6AK5W | (1) 5670 |
| (2) 5726/6AL5W | (3) 5727/2D21W |
| (1) 5814A | (1) 5933A |
| (2) 6005/6AQ5W | (20) 6021 |
| (1) 6280 | |

Total Tubes: (67)

| | |
|---|---|
| (1) 1N659 | (41) 1N460 |
| (8) 1N458 | (1) 1N459 |
| (3) 1N21C(R) | (8) 1N67 or 1N198 |
| (17) 1N422 | (2) 1N252 or 1N251 |
| (1) 1N295 | (3) 1N482 or 1N457 |

Total Crystals: (85)

## REFERENCE DATA AND LITERATURE

NAVSHIPS 93098(A): Technical Manual for Radio Sets AN/TRC-27, AN/MRC-59, AN/MRC-60.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-1947A
STOCK NO.
R.D.B. IDENT. NO.

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 4 | Receiver-Transmitter RT-252/TRC-27 | 11-3/8 X 14-5/16 X 25-5/16 | 61 |
| 8 | Multiplexer TD-101/TRC-27 | 9-7/8 X 14-5/16 X 25-5/16 | 55 |
| 4 | Antenna Group OA-1378/GRC Including: | 9 X 17 X 27 | 58 |
| | (1) Antenna AS-682/TRC-27 | | |
| | (1) Mast AB-357/TRC-27 | | |
| | (1) Antenna Case CY-2123/GRC | | |
| 2 | Diesel Engine Generator PU-345/G | 19-1/2 X 27-5/8 X 28 | 421 |
| 4 | Gasoline Engine Generator PU-278/TRC-27 | 12-5/8 X 13-1/4 X 17-5/16 | 51 |
| 1 | Motor Generator PU-392/GRC | 16-3/8 X 23 X 28-3/8 | 325 |
| 1 | Shelter Electrical Equipment S-140/MRC-60 | 55-1/4 X 59-1/2 X 77-1/4 | 850 |
| 1 | Installation Kit Shelter Electrical Equipment | | |
| 1 | Installation Kit, Trailer | | |
| 8 | 22-ft Coaxial Antenna Cable (2 included with each RT-252/TRC-27) | | |
| 20 | 5-ft Coaxial (5 included with each RT-252/TRC-27) | | |
| 8 | 5-ft Power Cable (1 included with each TD-101/TRC TD-101/TRC-27) | | |
| 4 | 50-ft Power Cable (1 included with each OA-1378/GRC | | |
| 2 | 100-ft Power Cable (on seperate reels) | | |
| 1 | Set of Equipment Spares | | |
| 2 | Technical Manual NAVSHIPS 93098(A) | 1 X 9-1/4 X 11-1/2 | |
| 1 | Installation Kit, Shelter to Truck | | |

# RADIO SET AN/MRC-81

## FUNCTIONAL DESCRIPTION

The AN/MRC-81 is designed to be installed as a mobile unit. It provides two (2) way communications between aircraft in flight and a command center on the ground.

No field changes in effect at time of preparation (18 January 1960).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3 and F3 type of emission.

OPERATING POWER RQMT
- TRANSMITTING: 24 v, 15 amps.
- RECEIVING: 12 v, 5 amps.

OPERATING FREQUENCY RANGE
- AN/ARC-27: 225 to 399.9 mc.
- AN/ARC-1: 100 to 156 mc.
- AN/ARC-2: 2000 to 9050 kc.
- AN/VRC-33: 30 to 42 mc.

NUMBER OF CHANNELS
- AN/ARC-27: 18 preset frequency plus guard channel frequency.
- AN/ARC-1: 9 preset freq plus guard channel freq.
- AN/ARC-2: 8 preset channels.
- AN/VRC-33: 1 Channel.

DIRECT CURRENT VOLTAGE RATINGS
- AN/ARC-27: 27.5 v.
- AN/ARC-1: 24 V.
- AN/ARC-2: 26.5 v.
- AN/VRC-33: 6, 12 or 24 v.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Wickes Engineering and Construction Co., Camden 4, New Jersey.
Part No. 7750122-501.
Contract NObsr-71824, dated 21 June 1957.
Approximate Cost: $200,200.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not available.

## REFERENCE DATA AND LITERATURE

Nomenclature Card AN/MRC-81 for Radio Set.

| | |
|---|---|
| TYPE CLASSIFICATION | (NAVY) |
| DESIGN COGNIZANCE | USN, BUSHIPS |
| PROCUREMENT COGNIZANCE | SPEC: SHIPS-R-2694 |
| STOCK NO. | |
| R.D.B. IDENT. NO. | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Radio Set AN/ARC-27 | | |
| 2 | Radio Set AN/ARC-1 | | |
| 1 | Radio Set AN/ARC-2 | | 85 |
| 1 | Radio SEt AN/VRC-33 | | |
| 1 | Control Panel Radio Set Control C-2497/MRC-81 | | |
| 1 | Diesel Engine Generator Set PU-415/G | 19-1/2 X 27-5/8 X 28 | |
| 2 | Telephone EE-8 (TA-312)/PT | 5-1/2 X 11-1/4 X 14-1/2 | |
| 1 | Mounting MT-822/ARC-27 | 2-9/16 X 11-1/8 X 22-3/4 | 3.7 |
| 1 | Radio Set Control C-626/ARC-27 | 5-7/16 X 6-9/16 X 9-9/16 | 10-1/2 |
| 1 | Mounting MT-821/ARC-27 | | |
| 1 | Antenna Assembly AS-390/SRC | | |

Cog Service: FSN: Functional Class:

USA USN USAF

**TYPE CLASS:**

**MANUFACTURER'S NAME/CODE NUMBER:** Collins Radio Company.

*(No Illustration Available)*

**FUNCTIONAL DESCRIPTION:**

The AN/MRC-83( ) is designed to provide mobile radio transmitting and receiving facilities for voice and teletype communications in the 2 to 30 megacycle frequency range.

No field changes in effect at time of preparation (15 May 1961).

**TECHNICAL CHARACTERISTICS:**

TYPE OF INSTALLATION: Mobile.
TYPE OF MOUNTING: Jeep M38A1.
TYPE OF EMISSION: CW, AM, SSB, DSB.
NUMBER OF CHANNELS: 28,000 channels.
NUMBER OF BANDS: 1 band.
FREQUENCY RANGE: 2 to 30 mc.
POWER OUTPUT: 1 kw PEP.
OPERATING POWER RQMT: 115 v ac, 60 cps, single ph; or 24 v to 30 v dc.

**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-83( ) consists of: | | | |
| 1 | Radio Receiver | | | |
| 1 | Radio Transmitter | | | |
| 1 | Control Radio | | | |
| 1 | Antenna Adapter | | | |
| 4 | Mountings | | | |
| 1 | Inverter-Converter | | | |

**REFERENCE DATA AND LITERATURE:**

Nomenclature Card for Radio Set AN/MRC-83( ).

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

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

## SHIPPING DATA

| PKGS | VOLUME (CU FT) | WEIGHT (LBS) |
|---|---|---|

## PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: TASSA

| CONTRACTOR | LOCATION | CONTRACT OR ORDER NO. | APPROX. UNIT COST |
|---|---|---|---|
| Collins Radio Company | Cedar Rapids, Iowa | NOm-70500 | |

# RADIO SET AN/MRC-84

## FUNCTIONAL DESCRIPTION

The AN/MRC-84 is designed to provide mobile operation of Continuous Wave (CW), Amplitude Modulation (AM), and voice receiving transmitting set in the frequency range of 2 to 12 megacycles (MC).

No field changes in effect at time of preparation (22 September 1960).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF OPERATION: Mobile.
TYPE OF EMISSION: A1, A2, A3 types.
POWER OUTPUT
A1 EMISSION: 15 W.
A2 EMISSION: 15 W.
A3 EMISSION: 7 W.
FREQUENCY DATA
NUMBER OF BANDS: 3 bands.
FREQUENCY RANGE: 2 to 12 mc.
OPERATING POWER RQMT: 6, 12 or 24 v dc.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Set AN/MRC-84.

| | |
|---|---|
| TYPE CLASSIFICATION | (NAVY) |
| DESIGN COGNIZANCE | TASSA |
| PROCUREMENT COGNIZANCE | |
| STOCK NO. | |
| R.D.B. IDENT. NO. | |

## EQUIPMENT SUPPLIED DATA

| QUANTITY PER EQUIPT | NAME AND NOMENCLATURE | OVERALL DIMENSIONS (inches) | WEIGHT (lbs.) |
|---|---|---|---|
| 1 | Radio Set AN/MRC-84 consists of: | | |
| 1 | Receiver-Transmitter RT-77( )/GRC-9 | 6-3/4 x 11-1/2 x 16 | |
| 1 | Signal Hand Generator GN-58 | | |
| 1 | Mounting MT-350/GRC-9 | 1-9/16 x 11-9/16 x 16-5/8 | |
| 1 | Dynamotor-Power Supply DY-88/GRC-9 or DY-105/GRC-9X | 9-1/4 x 12-7/8 x 13-13/16 | |
| 1 | Whip Antenna consists of: | | |
| 3 | Mast Section MS-116 or MS-116A | 0.393 dia x 39-1/2 lg | |
| 1 | Mast Section MS-117 or MS-117A | 0.373 dia x 39-1/2 lg | |
| 1 | Mast Section MS-118 or MS-118A | 0.246 dia x 39-1/2 lg | |
| 1 | Mast Base MP-65 or MP-65-A | 3-1/8 dia x 18 lg | |
| 1 | Mast Bracket MP-50 | 5-1/4 x 5-3/8 x 8 | |