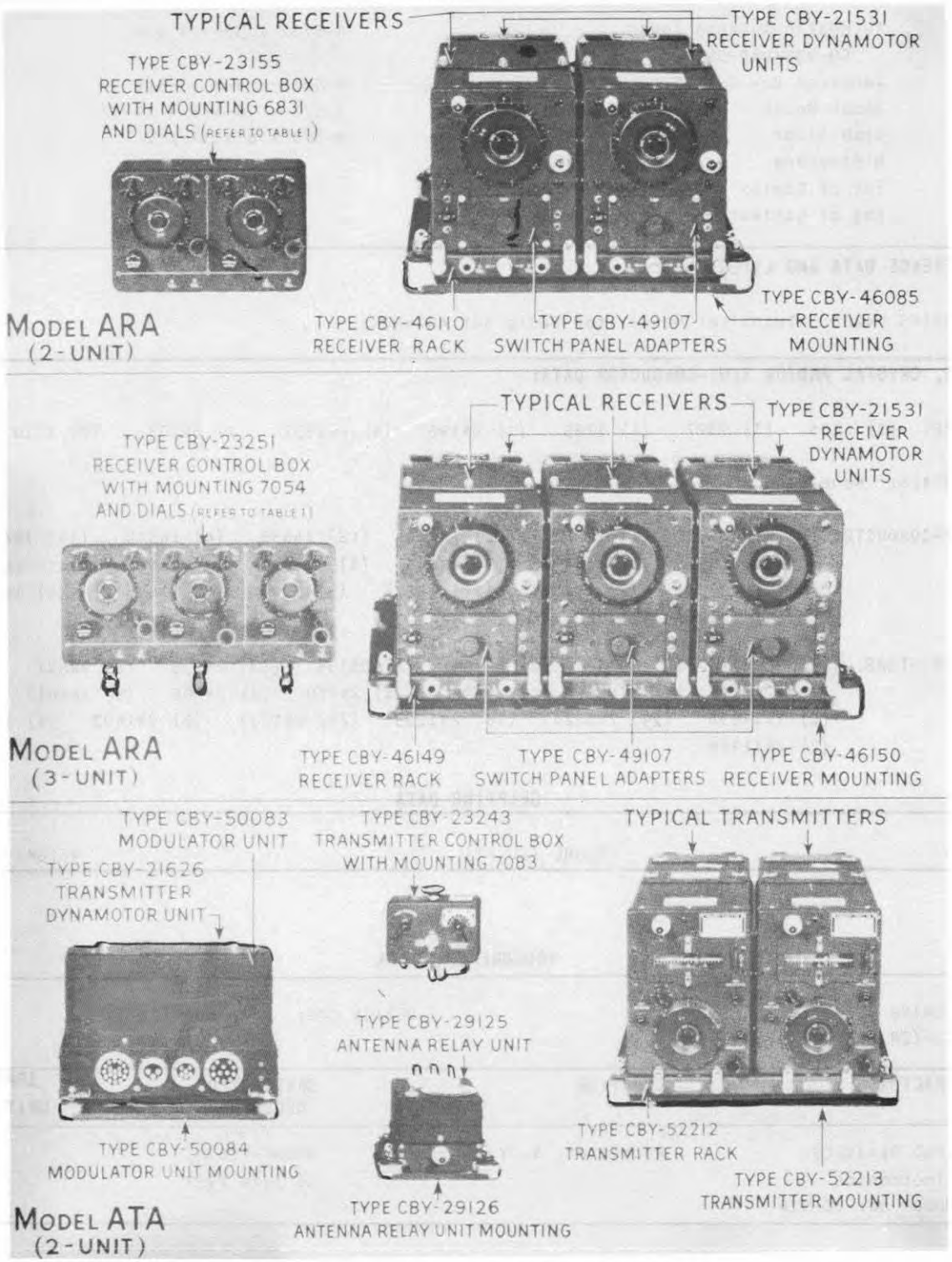
RADIO TRANSMITTING AND RECEIVING EQUIPMENT



Radio Transmitting and Receiving Equipment

Radio-Transceivers

ATA/ARA RADIO TRANSMITTING AND RECEIVING EQUIPMENT

FUNCTIONAL DESCRIPTION

The model ATA transmitter and model ARA receiver together make up a complete multichannel radio transmitting and receiving set for use on airplanes equipped with a 24 volt DC power supply. It is designed to transmit and receive voice, tone-modulated, or continuous-wave signals.

The receivers cover the frequency range of 190 to 9100 kilocycles in five independent units, any two or three of which may be installed and operated one at a time or simultaneously, depending upon the requirements. The bands are 190 to 550 kc, 520 to 1500 kc, 1.5 to 3 mc, 3 to 6 mc, 6 to 9.1 mc.

The transmitters cover the frequency range of 2.1 to 9.1 megacycles in five independent units, any two of which may be installed and operated one at a time, depending upon the requirements. The bands are 2.1 to 3 mc, 3 to 4 mc, 4 to 5.3 mc, 5.3 to 7 mc, 7 to 9.1 mc.

No field changes in effect at time of preparation (18 October 1956).

RELATION TO OTHER EQUIPMENT

ARA receivers are interchangeable with RAV receivers in corresponding frequency ranges except those in 190 to 550 kc and 520 to 1500 kc ranges. The receiver units of the RAT-1 equipment may be operated in the ARA receiver racks, or vice versa.

Equipment Required but not Supplied: Antennas as required, Receiver Test Set, Transmitter Test Set.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEIVER DATA

FREQUENCY RANGE: 190 to 9100 kc in 5 bands.
RECEPTION: Voice, CW, MCW.
FREQUENCY ACCURACY: 0.3%.
TYPE: Superheterodyne.
POWER REQUIREMENTS: 22 to 30 v DC, 1.6 amp at 28 v DC for each receiver.

TRANSMITTER DATA

FREQUENCY RANGE: 2.1 to 9.1 mc in 5 bands.
POWER OUTPUT: Exceeds 40 W for CW and 15 W for voice at 28 v DC input under optimum antenna loading conditions for each transmitter, nominal 25 W CW, 12 W MCW, 8 W voice.
FREQUENCY ACCURACY: 0.04%.
EMISSION: Voice, CW, MCW.
POWER REQUIREMENTS: 22 to 30 v DC, 8.8 amps at max power output on CW, 2.5 amps heater current.

MANUFACTURER'S OR CONTRACTOR'S DATA

Aircraft Radio Corporation, Boonton, New Jersey.
Contract NOs 74912, dated 29 June 1940.

TUBE AND/OR CRYSTAL COMPLEMENT

Receiver

(3) 12SK7	(1) 12K8
(1) 12SR7	(1) 12A6

Total Tubes: (6) Each Receiver

Transmitter

(2) 1625	(1) 1626
(1) 1629	

Total Tubes: (4) Each Transmitter

Modulator

(1) 12J5GT	(1) 1625
(1) VR150-30	

Total Tubes: (3) Each Modulator

(1) DC-8-A

Total Crystals: (1) Each Transmitter

REFERENCE DATA AND LITERATURE

NA-08-5Q-4: Technical Manual for Model ATA Aircraft Radio Telegraph and Telephone Transmitting and Receiving Equipment

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE
STOCK NO.

RADIO TRANSMITTING AND RECEIVING EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	QUANTITIES AS REQUIRED		
	Radio Receiver NT-46129 (190 to 550 kc)	4-3/4 X 5-3/4 X 10-7/16	5.7
	Radio Receiver NT-46145 (520 to 1500 kc)	4-3/4 X 5-3/4 X 10-7/16	5.7
	Radio Receiver NT-46104 (1.5 to 3 mc)	4-3/4 X 5-3/4 X 10-7/16	5.7
	Radio Receiver NT-46105 (3 to 6 mc)	4-3/4 X 5-3/4 X 10-7/16	5.7
	Radio Receiver NT-46106 (6 to 9.1 mc)	4-3/4 X 5-3/4 X 10-7/16	5.7
	Radio Transmitter NT-52232 (2.1 to 3 mc)	5-1/2 X 7-1/4 X 11-3/16	8.3
	Radio Transmitter NT-52209 (4 to 5.3 mc)	5-1/2 X 7-1/4 X 11-3/16	8.3
	Radio Transmitter NT-52208 (3 to 4 mc)	5-1/2 X 7-1/4 X 11-3/16	8.3
	Radio Transmitter NT-52210 (5.3 to 7 mc)	5-1/2 X 7-1/4 X 11-3/16	8.3
	Radio Transmitter NT-5211 (7 to 9.1 mc)	5-1/2 X 7-1/4 X 11-3/16	8.3
	Antenna Relay Unit NT-29125	4-5/8 X 4-7/8 X 6-9/16	1.9
	Antenna Relay Unit Mounting NT-29126	29/32 X 5 X 5-5/8	0.3
	Auxiliary Outlet Adaptor NT-62036 (for NT-46145 receiver only)		0.15
	Modulator Unit NT-50083	6-11/16 X 7-1/8 X 10-1/8	9.0
	Modulator Unit Mounting NT-50084	1 X 8-7/8 X 10-3/16	0.7
	Receiver Control Box (2-unit) NT-23155 with dials for receiver frequency	3 X 4-1/8 X 6-3/8	1.8
	Receiver Control Box (3-unit) NT-23251 with dials for receiver frequency	3 X 6-3/8 X 9-1/2	2.7
	Dials, Receiver Control Box, 190-550 KC, 520-1500 KC, 1.5-3 mc, 3-6 mc, 6-9.1 mc		
	Receiver Control Box Mounting (2-unit)	1/4 X 5-15/32 X 6-3/8	
	Receiver Control Box Mounting (3-unit)	1/4 X 5-15/32 X 9-1/2	
	Receiver Dynamotor Unit NT-21531		3.0
	Receiver Mounting NT-46085 (2-unit)	1-7/16 X 10-23/32 X 11-5/8	0.8
	Receiver Mounting NT-46150 (3-unit)	1-7/16 X 10-23/32 X 16-9/16	1.0
	Receiver Rack NT-46110 (2-unit)		2.7
	Receiver Rack NT-46149 (3-unit)		4.0
	Switch Panel Adapter NT-49107 (for NT-46129, 46104, 46105, 46106 receivers)		0.15
	Transmitter Control Box NT-23243	2-11/16 X 4-1/8 X 4-3/8	0.9
	Transmitter Control Box Mounting	3/16 X 4-1/8 X 4-3/16	
	Transmitter Dynamotor Unit NT-21626		8.0
	Transmitter Mounting NT-52213 (2-unit)	1-3/8 X 11-13/16 X 12-3/4	0.8
	Transmitter Rack NT-52212 (2-unit)		2.0
	Set of Cable Assemblies		
	Technical Manual NA-08-50-4	3/4 X 8-1/2 X 11	
	Set of Mechanical Linkage		
	Set of Tools		
	Set of Spare Parts	9-3/4 X 10-1/2 X 17-1/4	26

June 1957

Radio-Transceivers

RADIO RECEIVER AND TRANSMITTER BC-1000-A

Radio Receiver and Transmitter BC-1000-A

FUNCTIONAL DESCRIPTION

The BC-1000-A is a low power, portable, frequency modulated radio receiver and transmitter powered by dry batteries. The set is designed for two-way voice communication over short ranges.

The equipment is an 18 tube, FM low-power receiver and transmitter operating over a frequency range of 40 to 48 megacycles.

No field changes in effect at time of preparation (18 Sept 1956).

RELATION TO OTHER EQUIPMENT

Similar to BC-1000-B except for component parts.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 40.0 to 48.0 mc.
RANGE: 3 mi or more w/long antenna; slightly less w/short antenna.
POWER OUTPUT
RECEIVER: 2 milliwatts.
TRANSMITTER: 300 milliwatts.
1ST I.F: 4.3 mc.
2ND I.F.: 2.515 mc.
POWER SOURCE: 4-1/2, 90 and 60 v DC from batteries.

MANUFACTURER'S OR CONTRACTOR'S DATA

Order No. 15025-PH-43
Order No. 26925-Phila-44-01
Order No. 29316-Phila-44-01

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1A3	(6) 1T4/VT173
(5) 1L4	(3) 1S5/VT172
(1) 1R5/VT171	(2) 3A4

Total Tubes: (18)
(2) Crystals
Total Crystals: (2)

REFERENCE DATA AND LITERATURE

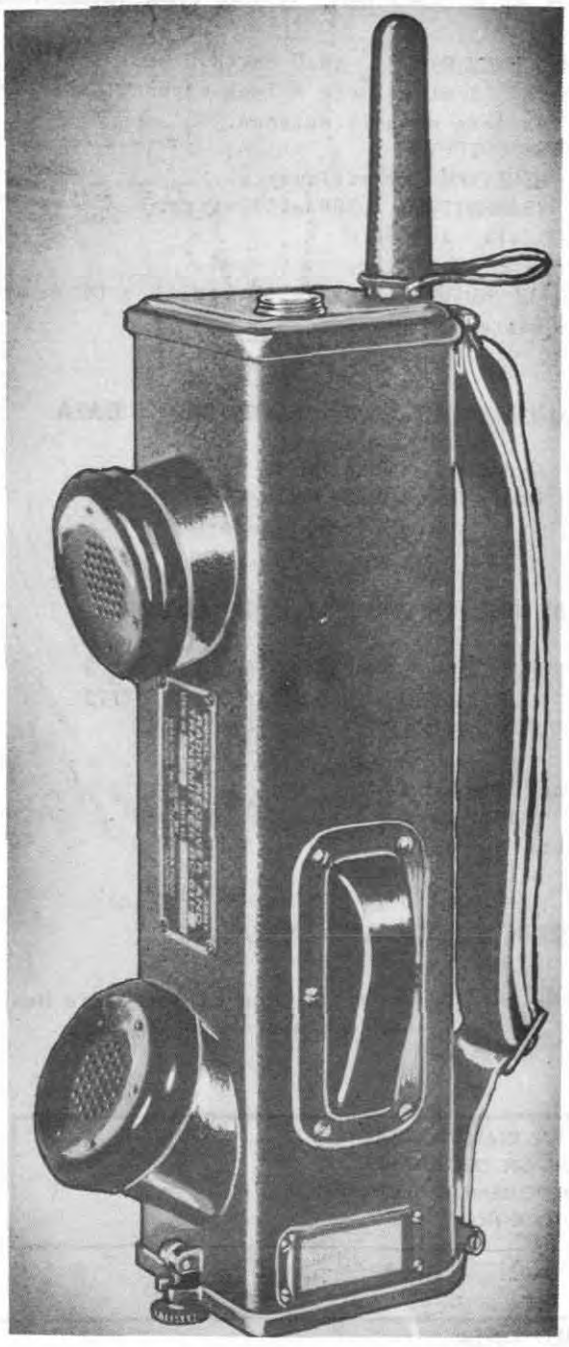
TM11-4024: Technical Manual for Radio Receivers and Transmitters BC-1000-A.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver and Transmitter BC-1000-A	6-5/8 x 7-1/8 x 11-15/16	13

RADIO RECEIVER AND TRANSMITTER BC-611,-A,-B,-D,-C,-E,-F



Radio Receiver and Transmitter BC-611,-A,-B,-C,-D,-E,-F

FUNCTIONAL DESCRIPTION

The BC-611,-A,-B,-C,-D,-E,-F are low-powered dry-battery operated receiving and transmitting sets used for A-3 communication between ground units. The outstanding feature of these units is portability; the weight of the entire unit in operation is 5.5 pounds. They are used to communicate with Radio Sets AN/GRC-9, AN/TRC-2, AN/VRC-1, SCR-188-A, SCR-399-A, SCR-499-A, SCR-694, SCR-193 and SCR-506-A.

The BC-611,-A,-B,-C,-D,-E,-F are functional interchangeable but differ in their component parts.

Data on this sheet reflects the following field changes: (MWD SIG 11-235-2) (13 May 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Batt BA-37 and batt BA-38.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

GENERAL
- FREQUENCY RANGE: 3.5 to 6 mc, any one of 50 channels.
- FREQUENCY CONTROL: Crystal.
- DISTANCE RANGE
  - OVER LAND: 1 mi approx.
  - OVER SALT WATER: 3 mi approx.
- POWER SOURCE REQUIRED: Self-contained dry batt BA-37 1.5 v and BA-38, 103.5 v.

TRANSMITTER
- OUTPUT POWER: 0.181 W.
- EMISSION: A3.

RECEIVER
- TYPE: Superheterodyne.
- RECEPTION: A3.
- IF: 455 kc.

ANTENNA
- TYPE: 40 in. telescopic rod.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg Corp, Chicago, Illinois.
Approximate Cost: $89.00 with equipment spares.

Radio-Transceivers

BC-611,-A,-B,-D,-C,-E,-F RADIO RECEIVER AND TRANSMITTER

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3S4
(1) 1R5
(1) 1T4
(1) 1S5

Total Tubes: (5)
Crystal Type Data not Available.
Total Crystal: (2)

REFERENCE DATA AND LITERATURE

TM11-4019: Technical Manual for Radio Receivers and Transmitters BC-611,-A,-B,-C,-D,-E,-F, Repair Instructions.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver and Transmitter w/Accessories BC-611 or BC-611-A or BC-611-B or BC-611-C or BC-611-D or BC-611-E or BC-611-F	0.6	7-3/8 X 10-1/2 X 21-1/4	17

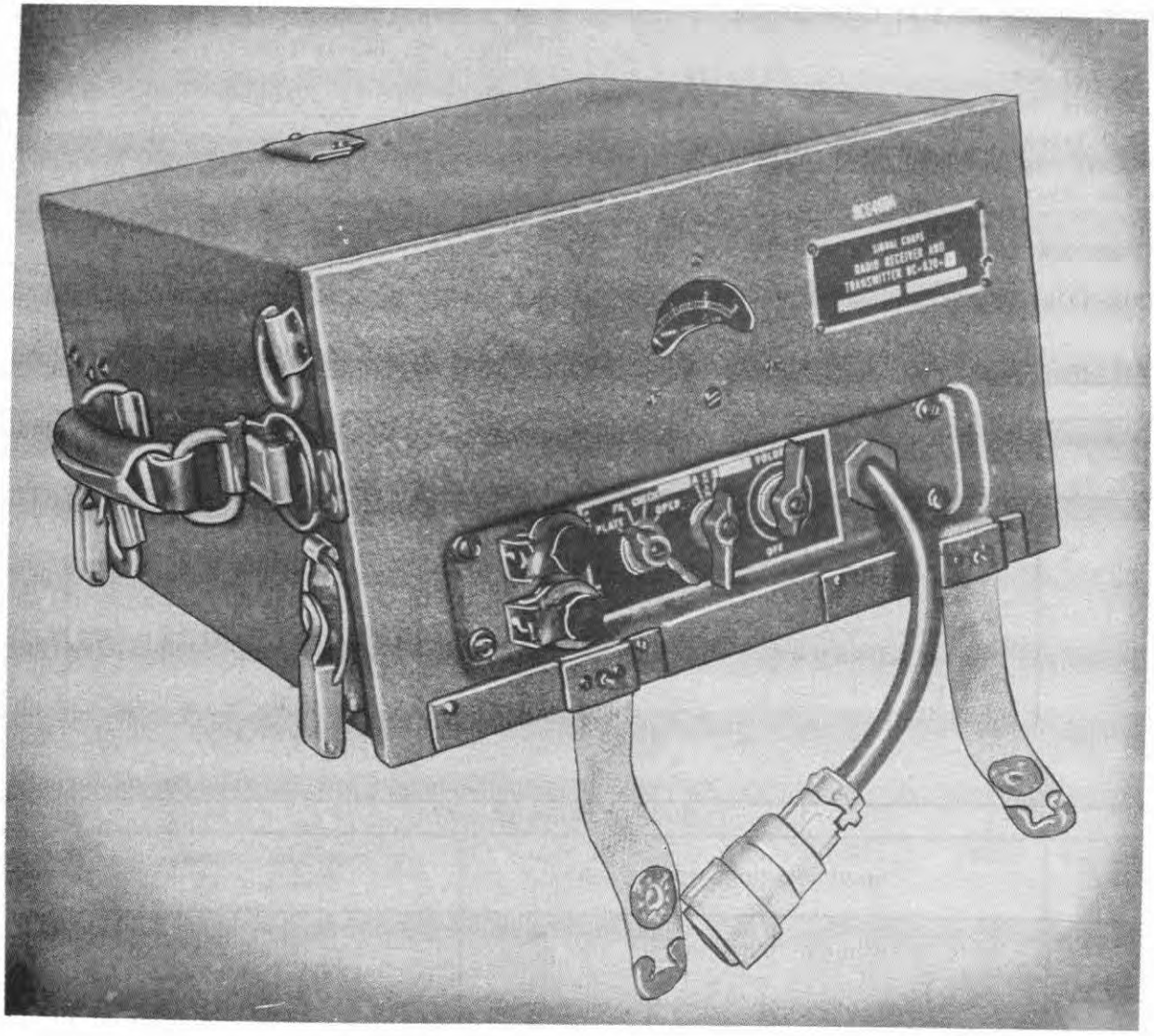
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver and Transmitter BC-611 or BC-611-A or BC-611-B or BC-611-C or BC-611-D or BC-611-E or BC-611-F	3-5/8 X 5-3/8 X 15-3/4	3.85

June 1957

RADIO-RECEIVER-TRANSMITTER

Transceivers
BC-620-A,F



Radio-Receiver-Transmitter BC-620-A

FUNCTIONAL DESCRIPTION

The BC-620-A and F are designed for short range two-way voice communication. It is a low power, portable frequency-modulated radio receiver and transmitter. The set is designed to operate over distances up to 5 miles. The max range will be greater when operating from an elevated position.

No field changes in effect at time of preparation (5 November 1956).

RELATION TO OTHER EQUIPMENT

Similar to BC-620-B, G, H, J.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 20,000 to 27,900 kc, 2 channels.
TYPE CONTROL: Crystal.
DIFFERENT CHANNELS: 2 to 80.
AUDIO OUTPUT IMPEDANCE: 4,000 ohms.
OPERATING POWER: Batteries BA-39 and BA-40 or 6 v or 12 v vehicular battery.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B7/1291	(4) 3DC/1299	(4) 1LN5
(1) 1LH4	(1) 1R4/1294	(1) 1LC6

Total Tubes: (13)

(2) Crystals
Total Crystals: (2)

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

REFERENCE DATA AND LITERATURE

TM11-4022: Technical Manual for Radio Receivers and Transmitters. BC-620-A, B, F, G, H, J.

RADIO TRANSMITTER

BC-655-A

Radio Transmitter BC-655-A

No field changes in effect at time of preparation (7 December 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 17.5 to 36 mc, 34 to 76 mc, 75 to 160 mc.
OPERATING POWER: 1.5 v DC and two 45 v DC batteries.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 958A (1) 1A5GT/G
Total Tubes: (2)

REFERENCE DATA AND LITERATURE

TM11-4050: Technical Manual for Radio Transmitter BC-655-A.

FUNCTIONAL DESCRIPTION

The BC-655-A is a low-powered, portable continuous-wave transmitter used to determine the sight error of a high-frequency, direction-finding receiving station. It may be mounted on the surveyor type tripod LG-23-B when in use or carried in an airplane or captive balloon.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter BC-655-A		
1	Cover BG-123-A		
1	Antenna AN-103-A		

June 1957

Radio-Tranceivers

RADIO RECEIVER AND TRANSMITTER BC-659,A,H,J

Radio Receiver and Transmitter BC-659, A,H,J

FUNCTIONAL DESCRIPTION

The BC-659, BC-659-A, BC-659-H, and BC-659J are designed for short range two-way F3 communication. They are low power, portable, radio receiver-transmitters. These sets are designed to operate over distances up to 5 miles. The max, range will be greater when operating from an elevated position. The unit is crystal controlled in reception but not in transmission, and will operate in parts of the HF and VHF frequency ranges. The unit is designed to operate on either of two preset channels within its frequency range, the channel being selected by the use of a band change switch located on the front panel. There are no operational or mechanical differences in the models of BC-659.

RELATION TO OTHER EQUIPMENT

Equipment Required but not Required: (1) Maintenance Equipment ME-13, (1) Alignment Equipment ME-73.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEIVER

TYPE: Superheterodyne.
IF: 4.3 mc.

Radio-Tranceivers

June 1957

BC-659,A,H,J RADIO RECEIVER AND TRANSMITTER

RECEPTION: F3.
TRANSMITTER
EMISSION: F3.
RECEIVER-TRANSMITTER
FREQUENCY RANGE: 27 to 38.9 mc.
POWER SOURCE REQUIRED: 6 or 12 v vehicular voltage supply.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg Co, Chicago, Illinois.
Purchase Order: 32905-Phila-43.
Purchase Order: 16129-Phila-44.
Approximate Cost: $1,000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B7	(5) 1LN5	(1) 1LH4
(1) 1LC6	(4) 3D6	(1) 1R4

Total Tubes: (14)

REFERENCE DATA AND LITERATURE

TM11-4023: Radio Receiver and Transmitters BC-659-A, B, H, and J Repair Instructions.

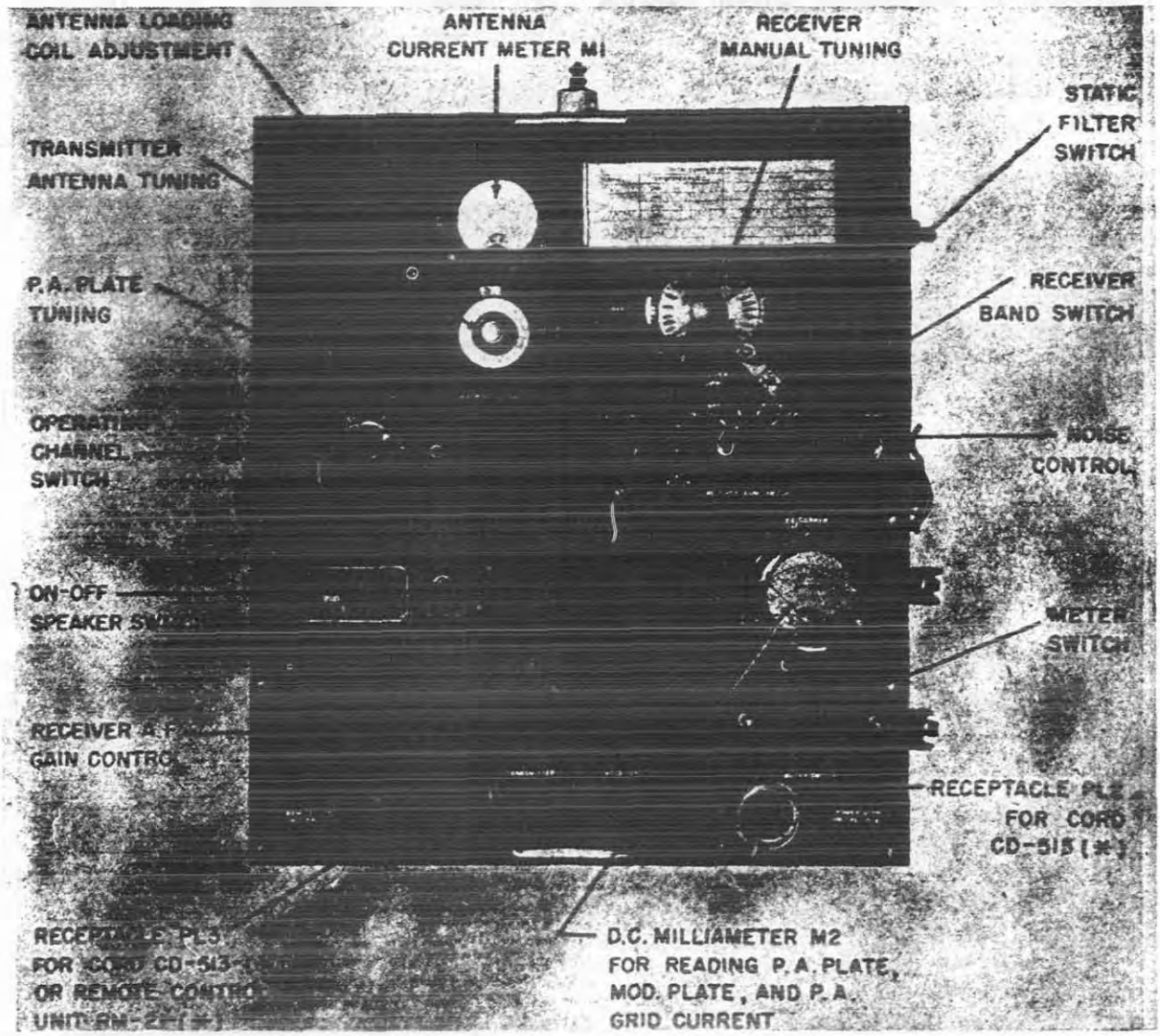
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver and Transmitter BC-659, BC-659-A, BC-659-H, BC-659-J		

RADIO RECEIVER AND TRANSMITTER

BC-669-A,B,C,D, AM,BM,CM



Radio Receiver and Transmitter BC-669-(*)

FUNCTIONAL DESCRIPTION

The BC-669-A,B,C,D,AM,BM,CM provide instant change from reception to transmission and is suitable for operation by personnel of limited radio experience. The equipment is designed to operate either as a field station or a vehicular radio providing radio telephone and continuous-wave communication to anti-aircraft brigades and regiments.

Communications may be carried on over distances from 20 to 30 mi when the unit is operated as a field station. As a vehicular radio (vehicles in motion) the range is approximately 15 miles. Actual distances vary according to conditions of weather, height location or operating frequencies.

The BC-669-AM,BM, and CM differ from the A,B,C,D in that they can be operated without the use of Remote Control Unit RM-21-A,B,C.

No field changes in effect at time of preparation (28 January 1957).

Radio-Transceivers

October 1957

BC-669-A,B,C,D, AM,BM,CM — RADIO RECEIVER AND TRANSMITTER

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1680 kc to 4450 kc.
TYPE OF SIGNALS: CW and MCW.
RECEIVER TYPE: Superheterodyne.
CHANNELS: 6.
FREQUENCY CONTROL: crystal.
OPERATION: Preset or manual.
POWER INPUT: 220 W for receiving; 550 W for transmitting.
TRANSMITTER OUTPUT: 45 W.
CW TONE FREQUENCY: 1000 cps.
POWER SOURCE REQUIRED: 12 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6SK7GT
(5) 6L6GA
(1) 6SA7
(2) 6J5GT/G
(1)* 6H6GT/G
(2) 807
(1) 12J5GT
Total Tubes: (15) *12SN7GT used in model -D

(12) FT-171-B
Total Crystals: (12)

REFERENCE DATA AND LITERATURE

TM11-4058: Technical Manual for Radio Receivers and Transmitters BC-669-A,B,C,D, AM,BM and CM.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver and Transmitter BC-669-A or BC-669-B or BC-669-C or BC-669-D or BC-669-AM or BC-669-BM or BC-669-CM		

Radio-Transceivers

RADIO RECEIVER AND TRANSMITTER BC-745-A,-B, -C,-D,-E

Radio Receiver and Transmitter BC-745-A,-B, C,-D and -E

FUNCTIONAL DESCRIPTION

The BC-745-A, -B, -C, -D and -E are low powered, portable, amplitude modulated (a-m) voice-communication transceivers with interrelated components powered by either dry or wet batteries. Seven tubes are used in a superheterodyne circuit and six tubes are used in a grid-modulated transmitter circuit. Rapid changeover from receive to transmit is accomplished through a manually operated change-over switch.

The chassis base and housing of each set is located near the top of a three foot hollow metal staff which houses a three-section 90-inch telecoping antenna.

The equipments operate on specific channels in the frequency range from 2000 to 6000 kc. The set can be made to operate on any channel in this range by choosing the appropriate frequency of tuning unit BC-746-A, -B. For correct performance, each set must be adjusted to the tuning unit used.

Under favorable conditions, the operating range is about 5 mi. The range, however, may vary depending upon the terrain over which it is used.

There are no operational differences between models. They differ in the physical arrangement and utilization of component parts.

No field changes in effect at time of preparation (19 December 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 to 6000 kc.
RANGE: 5 mi.
SENSITIVITY: 6 uv input with 0.3 v output.
TRANSMITTER OUTPUT: 25 ma output current.
MODULATION CAPABILITY: 90% modulation with a 0.2 v, 1000 cps modulation signal.
ANTENNA: Telescopic rod.
RECEIVER IF FREQUENCY: 455 kc.
FREQUENCY CONTROL: Crystal.
TYPE OF MODULATION: AM, grid-modulation.
TYPE OF SIGNAL: Voice.
CONTROLS: A press-to-talk switch operated by a thumb ring located around the staff and above the housing actuates a spring-loaded, seven-pole, double-throw, change-over switch within the set. By fully extending the telescopic antenna rod, the set is automatically turned on. When the telscopic antenna rod is fully retracted, the set is automatically turned off. The bottom section of the antenna operates the on-off power switch. No volume control is used. The volume in the earphone is set to a normal level by the design of the equipment.
POWER SOURCE REQUIRED
RECEIVER: 1.5 v DC at 355 ma and 67.5 v DC at 20 ma.
TRANSMITTER: 1.5 v DC at 490 ma and 105 to 125 v DC at 50 ma.

Radio-Transceivers

August 1957

BC-745-A,-B, -C,-D,-E RADIO RECEIVER AND TRANSMITTER

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 3S4
(3) 1T4
(1) 1S5

Total Tubes: (9)

(2) Quartz

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

TM11-4018: Technical Manual for Radio Receiver and Transmitter BC-745-A, -B, -C, -D and -E, Repair Instructions.

TYPE CLASSIFICATION
DESIGN COGNIZANCE Tassa
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver and Transmitter BC-745-A or BC-745-B or BC-745-C or BC-745-D or BC-745-E c/o 1 Tuning Unit BC-746-A or BC-746-B		

RADIO SET CMS

FUNCTIONAL DESCRIPTION

The CMS (Electronic Research Mfg Co) is designed as a single frequency Receiver-Transmitter. It provides two-way voice communication with a similar equipment operating on the same frequency.

No field changes in effect at time of preparation (17 March 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF CIRCUIT: Superheterodyne.
TYPE OF EMISSION
TRANSMITTER AND RECEIVER: A1 type.
NUMBER OF BANDS
TRANSMITTER AND RECEIVER: 2 bands.
OUTPUT POWER: 25 W max.
FREQUENCY RANGE
TRANSMITTER AND RECEIVER: 3.1 to 13.5 mc.
OPERATING POWER RQMT: 425 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electronic Research and Mfg Co., Cleveland, Ohio.
Model No. CMS.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 3S4 (3) 6L6 (3) 6V6GT

Total Tubes: (10)

Crystal Data not available.

REFERENCE DATA AND LITERATURE

Electronic Research and Mfg Corporation Catalog No. 1540 for Radio Set Model CMS.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver CMS-R		
1	Transmitter CMS-5		
3	Antenna Coils (for transmitter)		
2	Antenna Reel (w/132 ft of wire)		
4	Antenna Insulator		
1	Pair of Phone (600 ohms)		
1	Key (w/knob, cord & plug)		
1	Tool Kit		
1	Cord and Receptacle (for receiver)		
1	Cord and Receptacle (for Transmitter)		

20 July 1962 SINGLE SIDEBAND RADIO COMMUNICATION EQUIPMENT CRV-SSB-1

Cog Service: USN FSN: 5820-519-4255 Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Radio Corp. of America.

Single Sideband Radio Communication Equipment CRV-SSB-1

FUNCTIONAL DESCRIPTION:

Single Sideband Radio Communication Equipment CRV-SSB-1 is a single-sideband, low-power, suppressed carrier system designed for simplex telephone or telegraph operation. It may also be operated as a single-sideband-with-carrier equipment to make it compatible with existing amplitude modulated (AM) systems. It covers the frequency range of 3 to 15 mc, with the actual operating frequency selected from one of four pre-tuned channels. The peak envelope power output of the transmitter is nominally 60 watts.

Data on this sheet reflects the following field changes: FC 1, 2, 3, 4.

TECHNICAL CHARACTERISTICS:

CHANNELS: 4.
TYPE OF OPERATION: Simplex ("Push-To-Talk" telephone, or telegraph).
FREQUENCY RANGE

CHANNELS 1 AND 2: 3.0 to 6.7 mc.
CHANNELS 3 AND 4: 6.7 to 15.0 mc.

ANTENNA REQUIRED
RESISTANCE: 10 to 80 ohms.
CAPACITANCE: 300 uuf (min).
TYPE: Single wire not to exceed 1/4 wave length at highest channel frequency.

EMISSION
PHONE: Single Sideband Suppressed Carrier; Single Sideband with Carrier.
TELEGRAPH: A1; Single Sideband Keyed Tone.

RECEPTION: Single Sideband with Carrier, Single Sideband Suppressed Carrier, A1; A2; A2 Keyed Tone; Single Sideband Keyed Tone; A3.

KEYING SPEED
MANUAL (BREAK-IN) OPERATION: 30 wpm.
TELEPRINTER OPERATION: 60 wpm.

TRANSMITTER
POWER OUTPUT: 60 W.
FREQUENCY STABILITY: Porm 0.0005%.
CLARIFIER RANGE: Porm 75 cps.
TRANSMITTED SIDEBAND: Lower.
UNWANTED SIDEBAND SUPPRESSION: 50 db.
CARRIER SUPPRESSION: 50 db.
HARMONIC SUPPRESSION: 56 db.
AUDIO INPUT: Single button carbon microphone from local handset or from standard Navy Remote System; M6 dbm in 600 ohm line for full transmitter output.
AUDIO FIDELITY: Porm 2 db, 350 to 3000 cps.
AMOUNT OF SPEECH CLIPPING: 20 db.
TRANSMITTED SIDEBAND DISTORTION: Single tone, full power output, no clipping, 2.5% at 1000 cps.
TWO-TONE TEST: Distortion products M26 db.

RECEIVER
SENSITIVITY: Better than 1 mv for 50 mw output with 6 db signal-to-noise ratio.
SELECTIVITY: 3.2 kc nominal band width for 6 db attenuation; 6.5 kc band width for 60 db attenuation
AUDIO FIDELITY: Porm 2 db, 350 to 3000 cps.
AUDIO OUTPUT: 2 W max. in speaker; with 50 mw output in loud speaker, audio level in 600 ohm line is M7 dbm.
AUDIO DISTORTION: 2.5% (1000 cps at 50 mw output).
TWO-TONE TEST: Distortion products M26 db.

POWER REQUIREMENTS: 115 v porm 10%, 50 to 60 cyc, single ph.

POWER LOAD
RECEIVER ONLY: 85 W.
RECEIVER AND TRANSMITTER
NO SIGNAL, POWER ON: 210 W.
SINGLE SINEWAVE INPUT: 310 W.
FULL OUTPUT: 310 W.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Single Sideband Radio Communication Equipment CRV-SSB-1		16-3/8 x 22-3/8 x 24-1/8	150

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92917: Technical Manual for Single Sideband Radio Communication Equipment SSB-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A3/VR-75 (1) 0D3/VR-150 (6) 12AT7 (3) 5R4GY (1) 6AL5 (1) 6AQ5
(4) 6BA6 (4) 6BE6 (2) 6CL6 (1) 6U8 (1) 5726/6AL5 (1) 5814/12AU7 (2) 6146

CRYSTALS: (1) CR-27/U(1150 kc) (1) CR-47/U(250 kc) (4) CR-27/U(one per channel).

SEMI-CONDUCTORS: (2) IN34A.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

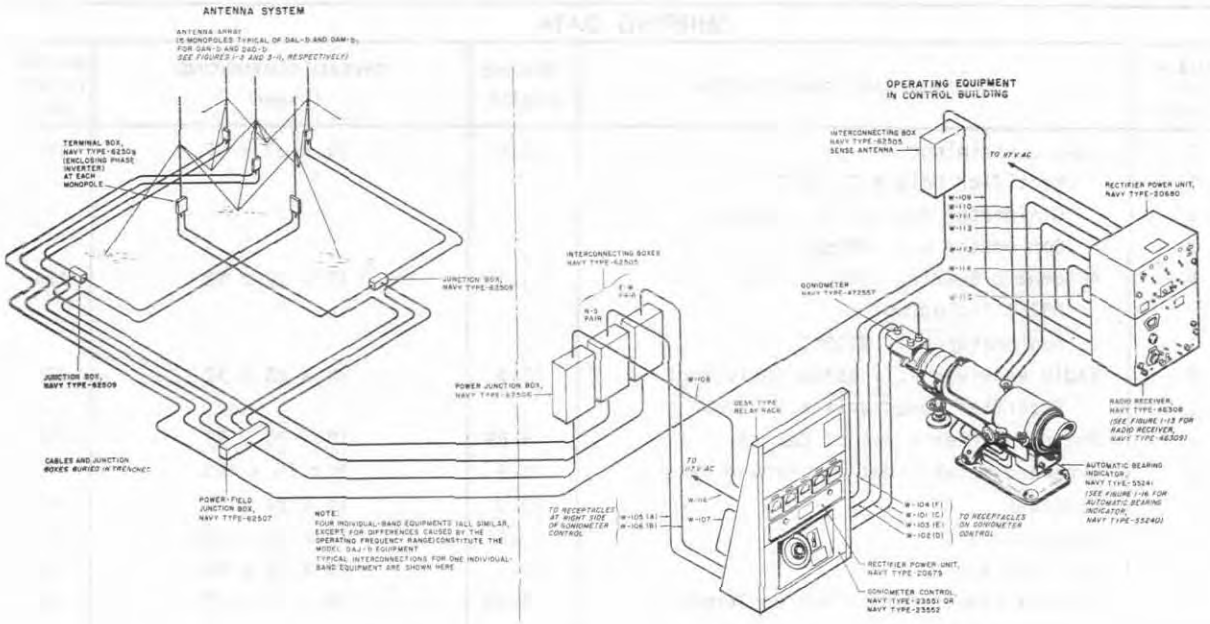
PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: Commercial
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Corp. of America Type no. SSB-1	New York, New York	NObsr-71747 NObsr-72666 NObsr-75131, 25 February 1958	$1,483.60 $1,483.60

Radio-Transceivers

RADIO DIRECTION FINDER SET DAJ-a



Radio Direction Finder Set DAJ-a

FUNCTIONAL DESCRIPTION

The DAJ-a is designed as a High Frequency Direction Finder; it is installed at shore stations and is used to determine the bearings of received signals within the frequency range of 1.5 to 30 megacycles (MC).

No field changes in effect at time of preparation (19 April 1960).

RELATION TO OTHER EQUIPMENT

The DAJ-a is similar to the DAJ except for: Improved R.F. Transmission lines and boxes used in a non-pressurized system: Terminal Box housings for phase inverters; improved antenna components and guy wire system.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INDICATION: Bearing by Cathode Ray tube type.
NUMBER OF BANDS: 4 bands.
FREQUENCY RANGE: 1.5 to 30 MC.
OPERATING POWER RQMT: 115 to 125 v, 55 to 65 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hazeltine Electronic Corporation, Little Neck, N.Y.
Contract NObsr-42510, dated 1 March 1948.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 2X2A	(4) 5NP1	(12) 5U4G
(8) 6AC7	(8) 6AG7	(8) 6H6
(4) 6J5	(8) 6SA7	(3) 6SG7
(5) 6SH7	(8) 6SJ7	(16) 6SK7
(4) 6SQ7	(4) 6V/6/GT or 6K6/GT	
(40) 7V7	(4) OC3/UR-150	
(8) OD3/UR-150	(4) 10-4A	

Total Tubes: (152)
No Crystals used.

REFERENCE DATA AND LITERATURE

SHIPS 382: Technical Manual for High Frequency Radio Direction Finder Equipment DAJ-a.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.S. IDENT. NO.

DAJ-a RADIO DIRECTION FINDER SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
3	Rack Containing:	11.0	19 x 27 x 37	190
1	Rectifier Unit N.T. 20679			
1	Goniometer Control N.T. 23551			
1	Goniometer N.T. 472557			
4	Automatic Bearing Indicator N.T. 55241 Including:	11.3	17 x 22 x 52	195
1	Goniometer N.T. 472557			
3	Radio Receiver N.T. 46308 Including:	11.6	25 x 25 x 32	275
1	Rectifier Power Unit N.T. 20680			
4	Phase Inverter & Set of Cables	6.89	18 x 20 x 33	100
4	Expanded Metal Sheet for Ground Mats	21.9	5 x 75 x 101	770
4	Pedestal	22.2	16 x 32 x 75	340
4	Base Insulator	23.6	14 x 15 x 208	470
4	Guy Wire Ass'Y	14.0	21 x 24 x 48	255
4	Plate & Clamps for attaching Terminal Boxes N.T. 62508	6.89	18 x 20 x 33	155
4	Terminal Box N.T. 62508	7.15	17 x 25 x 29	175
4	Anchor Rod (Ground Straps, Ground Rods, Copper Bus Bars)	1.05	3 x 5 x 121	163
4	Power Field Junction Box N.T. 62507 Including:	14.0	21 x 24 x 48	297
1	Junction Box N.T. 62509			
1	Interconnection Box N.T. 62505			
1	Power Junction Box N.T. 62506			
1	Set of Thimbles & Clamps			
3	Antenna Mast Sections	26.4	13 x 14 x 250	735
1	Expanded Metal Sheets for Ground Mats	21.9	5 x 75 x 101	737
1	Accessory Box	5.21	10 x 15 x 60	100

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
3	Radio Receiver N.T. 46308	13-21/32 x 17-9/16 x 19	97
1	Radio Receiver N.T. 46309	13-21/32 x 17-9/16 x 19	97
4	Rectifier Power Unit N.T. 20680	10-1/2 x 17 x 19	50
4	Rectifier Power Unit N.T. 20679	8-3/4 x 12-1/4 x 19	40
3	Automatic Bearing Indicator (With Goniometer N.T. 472557) N.T. 55241	11-15/16 x 17-1/4 x 45-3/4	110
1	Automatic Bearing Indicator (With Goniometer N.T. 47234) N.T. 55240	11-15/16 x 17-1/4 x 48-1/4	112

RADIO DIRECTION FINDER SET DAJ-a

EQUIPMENT SUPPLIED DATA

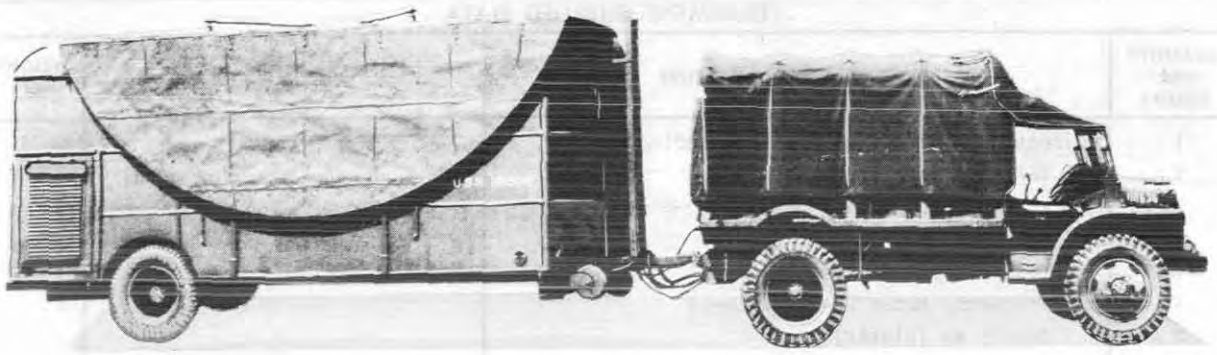
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
3	Goniometer Control (With Goniometer N.T. 472557) N.T. 23551	10-1/2 x 11 x 19	28
1	Goniometer Control (With Goniometer N.T. 47234) N.T. 23552	10-1/2 x 11 x 19	30
20	Phase Inverter	4-1/4 x 4-1/4 x 5-3/8	1
20	Terminal Box N.T. 62508	6-3/4 x 8-1/8 x 22-1/2	20
8	Junction Box N.T. 62509	5-1/2 x 14-1/2 x 18-1/2	29
4	Power Field Junction Box N.T. 62507	5-1/2 x 9-3/4 x 18-3/4	19
12	Interconnecting Box N.T. 62505	5-1/2 x 9-3/4 x 14-1/2	16
4	Power Junction Box N.T. 62506	5-7/16 x 9-5/8 x 11	10
4	Desk Type Relay Rack	12 x 22-1/2 x 32-1/8	23
1	Target Transmitter N.T. 52300	8-3/8 x 8-3/8 x 10-3/4	21
1	Demagnetizer		
2	Armor Bending Clamp		
1	Set of Interconnecting Cables		
1	Set of Test Cables		

RADIO DIRECTION FINDER SET

DAW-1

Radio Direction Finder Set

DAW-1 RADIO DIRECTION FINDER SET



Mobile H.F. Direction Finder Model DAW-1

FUNCTIONAL DESCRIPTION

The DAW-1 is designed as a Mobile Radio High Frequency Direction Finder. It affords High Frequency coverage and frequency guard plus provisions for radio communications with other mobile units or a "control" station, and be capable of rapid removal to necessary for use.

No field changes in effect at time of preparation (15 April 1960).

RELATION TO OTHER EQUIPMENT

The DAW-1 is similar in operation to the DAW-2 except that it differs in equipment supplied and the tube compliment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION RECEIVED: F0 and F3 types.
TYPE OF PRESENTATION: Cathode ray tube type.
NUMBER OF BANDS: 2 bands.
FREQUENCY RANGE: 1.5 to 22 mc.
OPERATING POWER RQMT: 110 v AC, 60 cps, single ph; 6 VD (internal batteries).

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Laboratory Navy Yard, Washington, D.C.
P.O. 692/43 and P.O. 412/44, dated 9 September 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OC3W	(2) OD3W
(3) 1R5	(1) 1S4
(5) 1T4	(5) 12A6
(1) 12SA7Y	(3) 12SK7
(1) 12SQ7	(4) 1625
(1) 2X2A	(1) 3B7-1291
(1) 5NP1	(2) 5R4WGB
(2) 5U4GB	(1) 6AC7WA
(1) 6C5	(2) 6H6
(1) 6J5	(1) 6K6GT
(1) 6K8	(1) 6SA7Y
(2) 6SH7	(8) 6SK7WA
(1) 6SQ7	(1) 6V6Y
(3) 6X5WGT	(2) 65J7Y

Total Tubes: (58)

No Crystals used.

REFERENCE DATA AND LITERATURE

SHIPS 303: Technical Manual for Mobile Radio H.F. Direction Finding Equipment DAW-1 and DAW-2.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

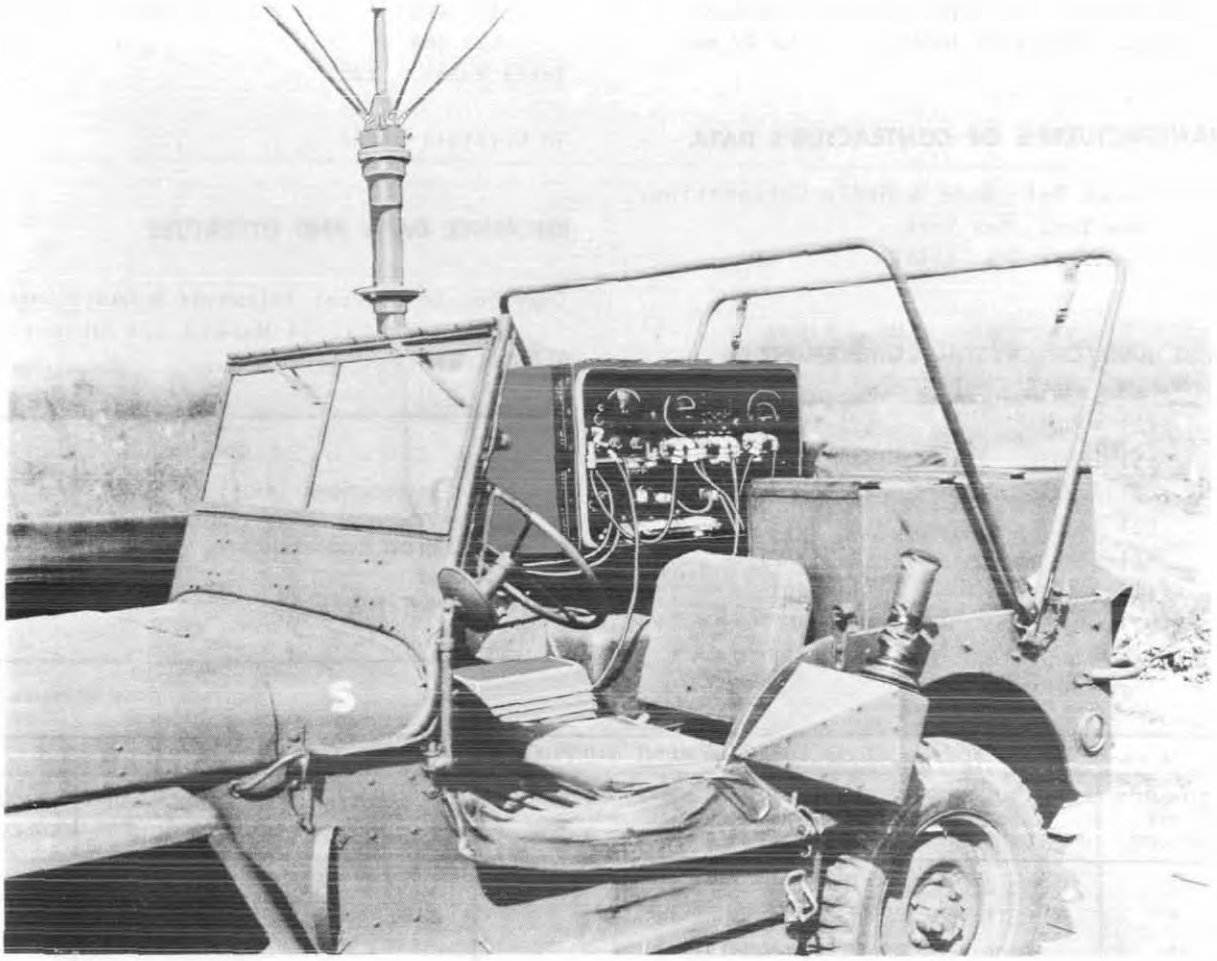
RADIO DIRECTION FINDER SET DAW-1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Direction Finding Set DAW-1 Including:	83 X 119 X 244	9400
1	Target Transmitter DAQ HF/DF		
1	Portable HF/DF DAG		
1	Receiver RBG		
1	Transmitter-Receiver TCS-9		
1	Frequency Meter LM-12 or LM-18		
2	Onan 3 kw (plants)		
1	Tube Tester OZ-1		
1	Truck Ford Model OTB (1.5 ton)	4 X 4	
1	Trailer		

DIRECTION FINDER SET

DAX



Direction Finder Set, DAX

FUNCTIONAL DESCRIPTION

The DAX is a Radio Direction Finder covering the frequency range from 1.5 to 22 megacycles (MC), which provides instantaneous cathode ray tube indications of bearing of vertically polarized signals tuned in anywhere within the range. Provisions are also made for frequency scanning the band of frequencies extending plus and minus fifty kilocycles from the frequency to which the receiver unit of this equipment is tuned, and making instantaneously visible on the face of the cathode ray tube indicator suitable patterns which indicate the presence of signals existing within this scanned band.

The DAX is designed for vehicular service where ruggedness, lightweight, ease of installation and performance under conditions of wide variations in temperature and humidity are important considerations. It is designed to operate from a 12 volt direct current (DC) source.

No field changes in effect at time of preparation (14 April 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION RECEIVED: F3 type.
NUMBER OF BANDS: 3 bands.
NUMBER OF CHANNELS: 1 channel.
AUDIO OUTPUT: 50 mw into 600 ohms impedance.
SCANNED BAND WIDTH: 100 kc.
AMBIENT TEMPERATURE RANGE: -40° C to $+65^{\circ}$ C.
POWER CONSUMPTION: Approx 150 W max.

DAX DIRECTION FINDER SET

POWER SOURCE: 12 v DC (2-6 v batteries).
OPERATING FREQUENCY RANGE: 1.5 to 22 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone & Radio Corporation,
New York, New York.
Contract NXsr-45457.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 12SH7
(5) 12SJ7
(1) 12SR7
(1) 12SG7
(1) 3GP1
(1) 12SH7
(1) 6AQ6
(2) 12SA7
(1) 12H6
(2) 0D3/VR150
(1) 8016
(2) 6X5GT/G
(1) 9001
(1) 6AG7
(1) 2D21
(1) 6H4
(1) 6J6

Total Tubes: (26)

No Crystals used.

REFERENCE DATA AND LITERATURE

Copy No. 16 Federal Telephone & Radio Corporation Technical Manual for Direction Finder Equipment DAX.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY 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 Direction Finder DAX Including:		
1	Collector System FT & RL No. NUS-189		
1	Receiver FT & RL No. NUS-192		
1	Indicator Power Supply FT & RL No. NUS-193		
1	Goniometer Motor Distributor FT & RL No. NUS-190		
1	Submersion Proof Container FT & RL No. NUS-197		
1	R. F. Transmission Line and Power Cables FT & RL No. NUS-191		
1	Target Transmitter FT & RL No. NRT-40		
1	Set of Equipment Spares FT & RL No. NUS-194		

RADIO DIRECTION FINDER

Day Radio Direction Finder

FUNCTIONAL DESCRIPTION

The DAY is designed as a high frequency vehicular Radio Direction Finder, which provides instantaneous visual indications of the bearings of received signals in the frequency range of 20 to 100 megacycles (MC) through the use of a scanner, a cathode-ray tube and a motor driven loop. The indications are automatic with simultaneous monitoring of the received Interrupted Continuous Wave (ICW) and keyed reception. The scanner permits the operation to see a bandwidth of 500 kilocycles (KC) on either side of the frequency to which the receiver is tuned.

No field changes in effect at time of preparation (14 April 1960).

RELATION TO OTHER EQUIPMENT

The DAY is similar in operation to the DAX but differs in the frequency coverage and tube compliment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION RECEIVED: CW, MCW, ICW and FM.
BEARING INDICATIONS: Instantaneous automatic visual.
TYPE OF RECEIVER: Superheterodyne.
NUMBER OF BANDS: 2 bands.
CURRENT RATING: 7 amps.
RECEIVER INTERMEDIATE FREQUENCY: 4.0 mc.
FREQUENCY RANGE: 20 to 100 mc.
POWER SOURCE: 12 v DC (2-6 v batteries).

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corporation,
New York, New York.
Contract NXsr-45457.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6AK5 (1) 6AS6

Radio-Transcievers

DAY

RADIO DIRECTION FINDER

(1) 6C4
(1) 12SA7
(1) 6J6
(1) 2021
(1) 8016
(2) 6X5GT
(1) 3A5
(6) 9001
(1) VR-150-30
(1) 6AQ6
(1) 6AG7
(1) OB2
(1) 3GP1
(1) 12SH7
(1) 9006

Total Tubes: (25)

No Crystals Used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95082: Technical Manual for High Frequency Radio Direction Finder Equipment DAY.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY 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 Direction Finder DAY Including:		
1	Scanner FT & RL No. NUS-203	5 X 14 X 78	10
1	Radio Receiver Ass'y FT & RL No. NUS-1068	10 X 14 X 78	12
1	Loop & Sense Antenna Ass'y FT & RL No. NUS-200	5-1/8 X 11-1/4 X 25-1/2	12-1/2
1	Rectifier Power Unit FT & RL No. NUS-192	8 X 10 X 14	20
1	Set of Interconnecting Cables FT & RL No. NUS-202		
1	Set of Special Tools and Maintenance Equipment FT & RL No. NUS-204		
1	Target Transmitter FT & RL No. NRT-41	6-1/2 X 6-1/2 X 8	7-1/2

DIRECTION FINDER SET DZ-a

FUNCTIONAL DESCRIPTION

The DZ-a is designed for installation in all types of Naval Aircraft whose space limitations are such as will permit access for operation of the receiver and loop controls, and which, by absence of closed loops or other obstructions, permits successful direction finding. It operates in the frequency range of 15 to 70 kiloocycles (KC), and from 100 to 1500 kilocycles (KC).

No field changes in effect at time of preparation (15 April 1960).

RELATION TO OTHER EQUIPMENT

The DZ-a is similar in operation to the DZ-1 except that it differs in equipment supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION RECEIVED: AO, A2, A3 type.
TYPE OF PRESENTATION: Audio type.
TYPE OF CIRCUIT: Superheterodyne.
NUMBER OF BANDS: 6 bands.
FREQUENCY RANGE: 15 to 70 kc and 100 to 1500 kc.
POWER SOURCE: 220 v DC (internal batteries).

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Mfg Co., Inc., Camden, New Jersey.
Contract NOs-67427, dated 29 June 1939.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6D6	(2) 76
(2) 6C6	(1) 41

Total Tubes: (8)

No Crystals used.

REFERENCE DATA AND LITERATURE

Nomenclature Card DZ-a for Direction Finding - Set.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY 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	Dynamotor Filter Mtg Base N.T. 21422	4-5/16 X 6-1/16 X 7-7/8	7.2
1	Dynamotor Filter Unit N.T. 21562	4-5/16 X 6-1/16 X 7-7/8	7.2
1	Loop Antenna N.T. 69067	14 dia	
1	Loop Mtg Pedestal N.T. 69068	4-3/16 h X 8 dia	
1	Loop Pedestal Extension N.T. 69030	4-3/4 dia X 6-1/2	
1	Receiver N.T. 46124	10-5/8 X 12 X 19-5/8	
1	Receiver Mtg Base N.T. 46087	1-3/4 X 11 X 16-3/4	

RADIO TELEGRAPH TRANSMITTER RECEIVER ET-8053

Portable Radiotelegraph Transmitter-Receiver Model ET-8053

ET-8053 RADIO TELEGRAPH TRANSMITTER RECEIVER

FUNCTIONAL DESCRIPTION

The Model ET-8053 is a portable radiotelegraph transmitter and receiver, powered by a built-in hand driven generator for use in lifeboats or other survival craft. It includes a collapsible metal rod antenna, wire and insulators for an optional "single wire" antenna and other accessories.

No field changes in effect at time of preparation (2 October 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A2 type.
TRANSMITTER DATA
NUMBER OF BANDS: 2 bands.
FREQUENCY RANGE: 500 kc and 8364 kc.
RECEIVER DATA
NUMBER OF BANDS: 2 bands.
FREQUENCY RANGE: 500 kc and 8250 to 8750 kc.
ANTENNA SYSTEMS: Vertical rod, single wire supported by vertical rod and sailing mast, or single wire supported by sailing mast.
POWER SUPPLY: Hand driven generator.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corp. of America, New York, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6AK6
(1) 6BE6
(1) 12AU7
(1) 6146
(1) 6BH6
(1) OA2

Total Tubes: (8)
(1) 1N34
(1) 8364KC
(1) 500KC
Total Crystals: (3)

REFERENCE DATA AND LITERATURE

Radiomarine Corporation of America, Technical Manual for the Radiotelegraph Transmitter Receiver Model ET-8053.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radiotelegraph Transmitter Receiver Model ET-8053 Including:	12-1/2 X 13-1/4 X 20	58.8
1	Set of Equipment Spares		

RADIO SET FMTR 25

FUNCTIONAL DESCRIPTION

The FMTR-25 (Motorola) is designed as a crystal controlled single frequency (FM) radiotelephone transmitter and receiver for installation in commercial vehicles, specifically passenger automobiles. It provides two way voice communication with similar fixed or mobile equipment operating on the same frequency. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter. This equipment employs a dynamotor power supply operated from a 6 volt storage battery of the vehicle.

No field changes in effect at time of preparation (21 March 1960).

RELATION TO OTHER EQUIPMENT

Similar to the FMTR-500 except for power output. It is also similar to the AN/VRC-2X except for mechanical and electrical differences and in accessories supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION
TRANSMITTER AND RECEIVER: F3 type.
TYPE OF RECEIVER: Double superheterodyne.
NUMBER OF BANDS
TRANSMITTER AND RECEIVER: 1 band.
TYPE OF ANTENNA: 1/4 wave telescopic whip type.
POWER OUTPUT: 25 W max.
OPERATING FREQUENCY RANGE
TRANSMITTER AND RECEIVER: 30 to 40 mc.
OPERATING POWER RQMT: 6 v DC, battery.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg Co., Chicago, Illinois.
Model FMTR-25.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 6SD7GT
(1) 6K6GT
(1) RK-39
(1) 6C8G
(1) 6V6
(2) 6H6GT
(3) 7C7
(1) 6K8GT
(2) 6X5GT
(2) 7A8
Total Tubes: (22)
(1) 48A
(1) 48B81488
(1) 48B81487
Total Crystals (3)

REFERENCE DATA AND LITERATURE

FMR-13, FSR-13 and FMT-FMTR-FMATR-30 and 50-D Installation and Operating Instruction for Model FMTR-30D.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Galvin Part No. 25UFM		
1	Receiver Galvin Part No. 11UF		
1	Power Supply Part No. VPA-3A		

RADIO SET FMTR-30

FUNCTIONAL DESCRIPTION

The FMTR-30(Motorola) is a crystal controlled single frequency Frequency Modulated (FM) radiotelephone transmitter and receiver designed for installation in commercial vehicles, specifically passenger automobiles. It provides two-way voice communication with a similar fixed or mobile equipment operating on the same frequency. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter. The equipment employs a dynamotor power supply operated from a six volt storage battery of the vehicle.

No field changes in effect at time of preparation (16 March 1960).

RELATION TO OTHER EQUIPMENT

The FMTR-30 is similar to the FMTR-25 and FMTR-50D except for power output. It is also similar to the AN/VRC-2X except for mechanical and electrical differences and accessories supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF RECEIVER: Double superhetrodyne.
TYPE OF EMISSION
RECEIVER AND TRANSMITTER: A3.
NUMBER OF BANDS
RECEIVER AND TRANSMITTER: 1 Band.
FREQUENCY RANGE
RECEIVER AND TRANSMITTER: 30 to 40 mc.
TYPE OF ANTENNA: 1/4 wave telescopic whip type.
POWER OUTPUT: 25 W max.
POWER SOURCE REQUIRED: 6 v storage battery.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg., Chicago, Illinois.
Model FMTR-30.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 6SD7GT	(2) 6H6GT	(1) 6K6GT
(3) 7C7	(1) RK-39	(1) 6K8GT
(1) 6C8G	(2) 6X5GT	(1) 6V6
(2) 7A8		

Total Tubes: (22)

(1) 48A (1) 48B81487 (1) 48B81488

Total Crystals: (3)

REFERENCE DATA AND LITERATURE

FMR-13, FSR-13 and FMT-FMTR-FMATR-30 and 50-D Installation and operating Instructions for Model FMTR-30.

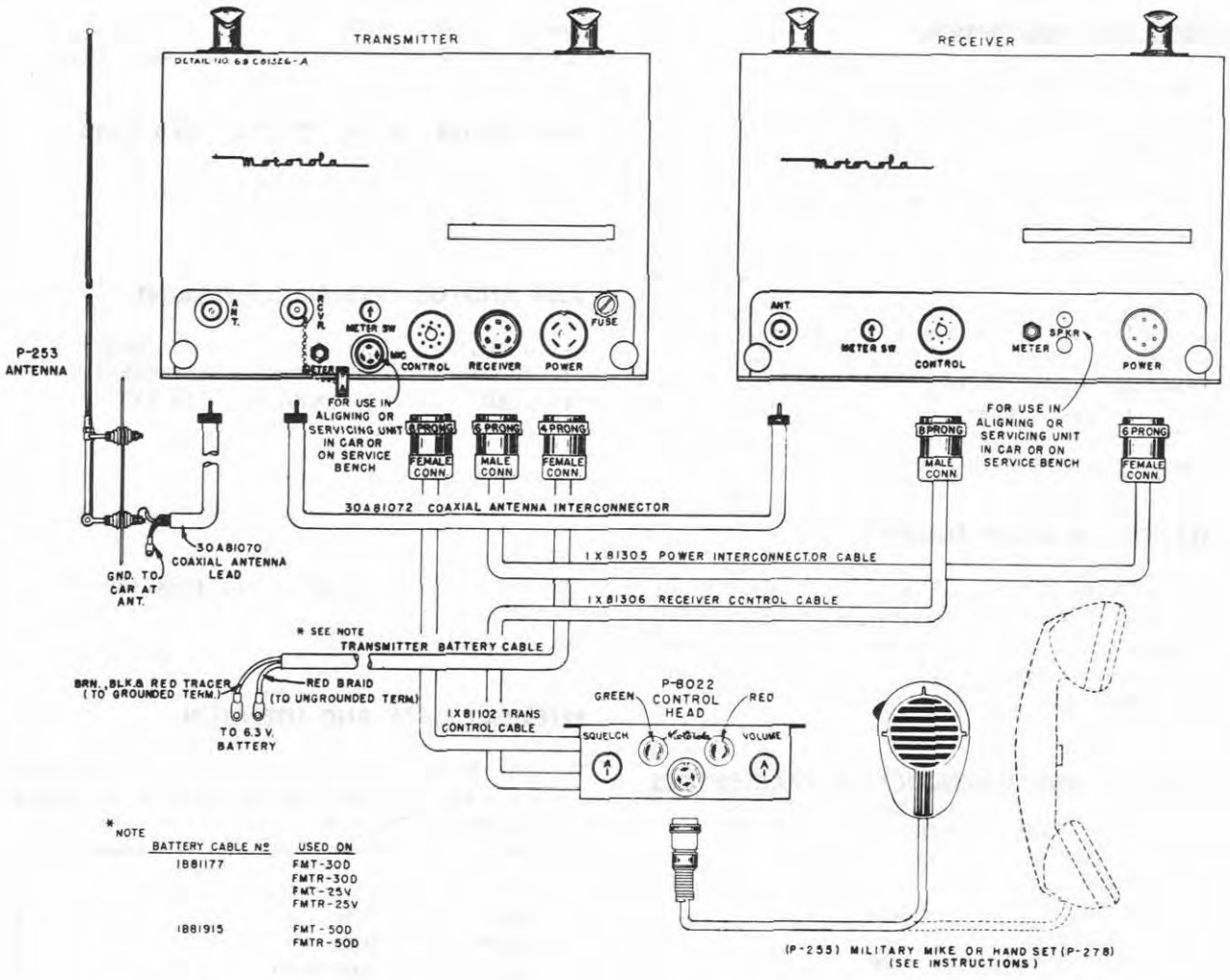
TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE Commerical
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Unit Galvin Type No. 8021		
1	Antenna Galvin Type No. 253		
1	Control Head Galvin Type No. 8022		
1	Microphone Galvin Type No. 258 or 278		
1	Receiver Unit Galvin Type No. 8033		
1	Connecting Cable Kit Galvin Type No. 8025		
1	Generator Filter Galvin Type No. 346		

Radio-Transceivers

TRANSMITTER-RECEIVER FMTR-30D



* NOTE

BATTERY CABLE Nº	USED ON
1881177	FMT-30D FMTR-30D FMT-25V FMTR-25V
1881915	FMT-50D FMTR-50D

Transmitter-Receiver FMTR-30D

FUNCTIONAL DESCRIPTION

The FMTR-30D (Motorola) is a crystal controlled single frequency FM radiotelephone transmitter and receiver designed for installation in commercial vehicles, specifically passenger automobiles. It provides two way voice communication with a similar fixed or mobile equipment operating on the same frequency. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter. The equipment employs a dynamotor power supply operated from the 6 v storage battery of the vehicle.

No field changes in effect at time of preparation (8 June 1956).

RELATION TO OTHER EQUIPMENT

Similar to the FMTR-25 v and FMTR-50D except for power output It is also similar to the AN/VRC-2X except for mechanical and electrical differences and in accessories supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 30 to 40 mc.
FREQUENCY CONTROL: crystal.
TYPE SIGNAL: F3
TYPE RECEIVER: Double superheterodyne.
RECEIVER IF: 4.3 mc and 455 kc.
POWER OUTPUT: 30 W.
POWER SOURCE REQUIRED: 6 v storage battery.
ANTENNA: 1/4 wave telescopic whip type.

FMTR-30D TRANSMITTER-RECEIVER

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg. Corp. Chicago, Ill.
Model-FMTR-30D

TUBE COMPLEMENT

(8) 6SD7GT	(1) 6K8GT
(2) 6H6GT	(1) 6C8G
(1) 6K6GT	(2) 6X5GT
(3) 7C7	(1) 6V6
(1) RK-39	(2) 7A8

Total Tubes: (22)

(1) 48A (1) 48B81487 (1) 48B81488
Total Crystals: (3)

REFERENCE DATA AND LITERATURE

FMR-13, FSR-13 and FMT-FMTR-FMATR-30 and 50-D Installation and Operating Instructions for Model-FMTR-30D

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	COMMERCIAL
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs)
1	Transmitter Unit PA-8021		
1	Receiver Unit PA-8033		
1	Antenna P-253		
1	Control Head P-8022		
1	Microphone P-255 or P-278		
1	Connecting Cable Kit K-8025		
1	Accessory Bag P-8055		
1	Speaker (3 Ohm V.C.) (as selected)		
1	Generator Filter P-346		
1	Instruction Manual		

RADIO SET FMTR-50

FUNCTIONAL DESCRIPTION

The FMTR-50 (Motorola) is designed as a crystal controlled single frequency FM radio telephone transmitter and receiver for installation in commerical vehicles, specifically passenger automobiles. It provides two way voice communication with a similar fixed or mobile equipment operating on the same frequency. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter. This equipment employs a dynamotor power supply operated from the 6-volt storage battery of the vehicle.

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

RELATION TO OTHER EQUIPMENT

Similar to the FMTR-25 v and FMTR-50-D except for power output. It is also similar to the AN/VRC-2X except for mechanical and electrical differences and in accessories supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION
RECEIVER AND TRANSMITTER: F3 type.
NUMBER OF BANDS
RECEIVER AND TRANSMITTER: 1 band.
TYPE OF RECEIVER: Double superheterodyne
TYPE OF ANTENNA: 1/4 wave telescopic whip type.
TYPE OF FREQUENCY CONTROL: Crystal.
OPERATING FREQUENCY
RECEIVER: 25 to 44 mc.
TRANSMITTER: 30 to 40 mc.
POWER OUTPUT: 35 W max.
OPERATING POWER RQMT: 6 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago, Illinois.
Model No. FMTR-50.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 6SD7GT	(2) 6H6GT
(1) 6K6GT	(3) 7C7
(1) RK-39	(1) 6K8GT
(1) 6C8G	(2) 6X5GT
(1) 6V6	(2) 7A8

Total Tubes: (22)

(1) 48A	(1) 48B81487
(1) 48B8148	

Total Crystals: (3)

REFERENCE DATA AND LITERATURE

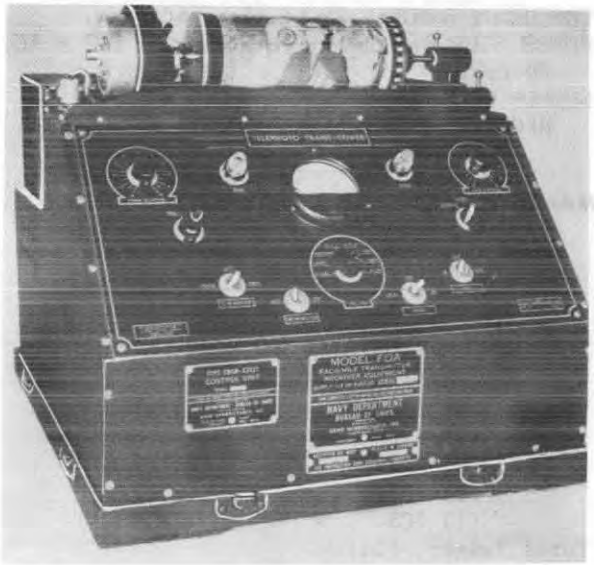
FMR-13, FSR-13 and FMT-FMTR-FMATR-30 and 50-D Installation and Operating Instructions for Model FMTR-50.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERICAL
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Part No. 35UFM		
1	Receiver Part No. 11UF		
1	Power Supply Part No. VPA-3A		

TRANSMITTER-RECEIVER-EQUIPMENT FOA,FOC



Transmitter-Receiver Equip FOA,FOC

FUNCTIONAL DESCRIPTION

The FOA and FOC is designed for transmission and reception of pictures to and from remote points. As a transmitter it generates signals which may be carried by the telephone wires or by radio waves; as a receiver it is capable of recording the signals on film for negative operation or on photographic paper for positive operation.

When negative reception is employed the exposed film is handled like any other photographic negative from which any number of prints in any size may be made by projection printing; or any number of prints of the same size may be made by contact printing.

The difference between the FOA and FOC is; capable of receiving or transmitting either 100 lines per inch or 300 lines per inch.

No field changes in effect at time of preparation (31 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CARRIER FREQUENCY: 1500 to 2500 cps.
PAPER ACCOMMODATED: 7 in. by 9 in. sheet.
POWER SOURCE REQUIRED: 110 or 220 V AC, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Acme Newspicture, Cleveland, Ohio.
Contract NXsr-85015.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) VR-150-30	(1) 5V4G	(1) 6SN7GT
(3) 6SL7GT	(5) 6N7	(1) 5Z4
(1) 6H6	(1) 6F6	(1) 5.5V
(1) X2A	(2) CE36C	(2) 5122
(1) CR2/R1131A		

Total Tubes: (22)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95004 and 95005: Technical Manual for Transmitter-Receiver FOS-FOC.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Trans-Ceiver Unit FOA and FOC consisting of:	17-1/4 X 17-1/2 X 18	160
1	Front Panel	10-3/4 X 17	
1	Bed	5 X 16-3/8	
1	Optical Unit	3-1/2 X 4-1/2 X 4-3/4	
1	Picture Amplifier Drawer	3-1/8 X 11 X 15-3/4	
1	Lamp Supply Drawer	5 X 11 X 15-3/4	
1	Multi-Vibrator Drawer	4 X 11 X 15-3/4	
1	Power Supply Drawer		

RADIO SET FSATR-50BR

FUNCTIONAL DESCRIPTION

The Motorola Model FSATR-50BR is designed as a transmitter-receiver type Radio Set. It is a fifty (50) watt upright and console fixed station installation. Operating within the 25 to 44 megacycle (mc) band.

No field changes in effect at time of preparation (21 October 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: F3 type of emission for both transmitter and receiver.
TRANSMITTER CONTROL: Remote control over a two wire 500 ohm line.
ANTENNA: Antenna relay mounted on transmitter chassis permits use of single antenna for both receiving and transmitting. Antenna switched to receiver during standby periods.
NOMINAL LINE INPUT
SINGLE RECEIVER INSTALLATIONS
STANDBY RECEIVE: 117 v AC, 60 cps, 135 W.
TRANSMIT: 117 v AC, 60 cps, 315 W.
TWO RECEIVER INSTALLATIONS
STANDBY RECEIVE: 117 v AC, 60 cps, 200 W.
TRANSMIT: 117 v AC, 60 cps, 380 W.
TRANSMITTER PROTECTION: Adequate fusing of primary circuits.
OUTPUT IMPEDANCE: 50 to 72 ohms for 7/8 in. coaxial transmission line to antenna.
NOMINAL OUTPUT: 50 W.
FREQUENCY CONTROL: Quartz crystal adjusted at the factory to one specified frequency within 0.005%.
FREQUENCY RANGE: 25 to 44 megacycles.
POWER SOURCE: Two wire service, 117 v AC, 60 cps.
NUMBER OF BANDS
RECEIVER AND TRANSMITTER: 1 band.

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago 51, Illinois.

TUBE AND/OR CRYSTAL COMPLEMENT

(10) 7C7	(3) 7A8
(1) 6V6	(2) 5Z3
(2) RK39/807	(1) 7AG7
(1) 7F7	(2) 7A6
(1) 7C5	(1) 80

Total Tubes: (24)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91097: Technical Manual for Transmitter-Receiver 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	Radio Set Model FSATR-50BR Including:	15 X 22-1/2 X 68	
1	Receiver Type No. PA-8135	13 X 13 X 40	
1	Transmitter Type No. PA-8032		
1	Operators Console Type No. P-8280		
1	Handset and Hangup Box Type No. P-348-E		
1	Control Head Type No. P-8022		

RADIO SET FSTR-50-BRL

FUNCTIONAL DESCRIPTION

The FSTR-50-BRL (Motorola) is designed as a crystal controlled single frequency FM radio telephone transmitter receiver. It provides two way voice communication with a similar equipment on the same frequency. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter.

No field changes in effect at time of preparation (23 March 1960).

RELATION TO OTHER EQUIPMENT

The FSTR-50-BRL is similar to the FSTR-25 except that it differs in max power output.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION
TRANSMITTER AND RECEIVER: F3 type.
NUMBER OF BANDS
TRANSMITTER AND RECEIVER: 1 band.
NUMBER OF CHANNELS
TRANSMITTER AND RECEIVER: 1 channel.
FREQUENCY RANGE
TRANSMITTER AND RECEIVER: 25 to 44 mc.
POWER OUTPUT: 50 W max.
OPERATING POWER RQMT: 117 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg Corporation, Chicago, Illinois
Model No. FSTR-50-BRL.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5Z3	(1) 6V6	(2) 7A6
(3) 7A8	(1) 7AG7	(1) 7C5
(10) 7C7	(1) 7F7	(2) 807

Total Tubes: (23)

Crystal Data not Available.

REFERENCE DATA AND LITERATURE

FSATR-50BRL and FSTR-50-BRL Operating Instruction for Radio Set.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Coaxial Junction Box Model P-8073-A		
1	Control Head Model P-8022		
1	Control Unit Model P-8066-A		
1	Receiver Model PA-8043		
1	Transmitter Model PA-8032		
1	Radio Set FSTR-50-BRL	15 X 22-1/2 X 68	

RADIO SET FSTR-50-BR

FUNCTIONAL DESCRIPTION

The FSTR-50-BR (Motorola) is designed as a crystal controlled single frequency FM radio telephone transmitter and receiver. It provides two way voice communication with similar equipment operating in the same frequency range. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter.

No field changes in effect at time of preparation (23 March 1960).

RELATION TO OTHER EQUIPMENT

The FSTR-50-BR is similar to the FSTR-50BRL except that it differs in the frequency coverage.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION
TRANSMITTER AND RECEIVER: A3 type.
TYPE OF FREQUENCY CONTROL: Crystal.
NUMBER OF BANDS
TRANSMITTER AND RECEIVER: 1 band.
FREQUENCY RANGE
TRANSMITTER AND RECEIVER: 30 to 40 mc.
POWER OUTPUT: 50 watt.
OPERATING POWER RQMT: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago, Illinois.
Model No. FSTR-50-BR.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5Z3	(1) 6V6	(2) 7A6
(3) 7A8	(1) 7AG7	(1) 7C5
(10) 7C7	(1) 7F7	(2) 8O7

Total Tubes: (23)

Crystal Data not Available.

REFERENCE DATA AND LITERATURE

FSTR-50-BR and FSTR-50-BRL Operating Instruction Book for Radio Set.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERCIAL
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 FSTR-50-BR Consisting of:	15 X 22-1/2 X 68	
1	Transmitter Model No. PA-8032		
1	Receiver Model No. PA-8043		
1	Remote Control Unit Model No. P-8066-A		

RADIO SET FTR-101B

FUNCTIONAL DESCRIPTION

The FTR-101B (Federal Telephone & Radio Corp) is designed as a crystal controlled, single frequency FM radio telephone transmitter and receiver designed for installation in commerical vehicles, specifically passenger automobiles. It provides two way voice communication with a similar fixed or mobile equipment operating on the same frequency.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION
TRANSMITTER AND RECEIVER: A2 type.
TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF ANTENNA: Telescopic whip type.
POWER OUTPUT: 25 W max.
OPERATING POWER RQMT: 12 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Newark, New Jersey.
Type No. FTR-101B.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal Data not available.

REFERENCE DATA AND LITERATURE

Federal Telephone and Radio Corporation Commerical Catalog for Radio Set FTR-101B.

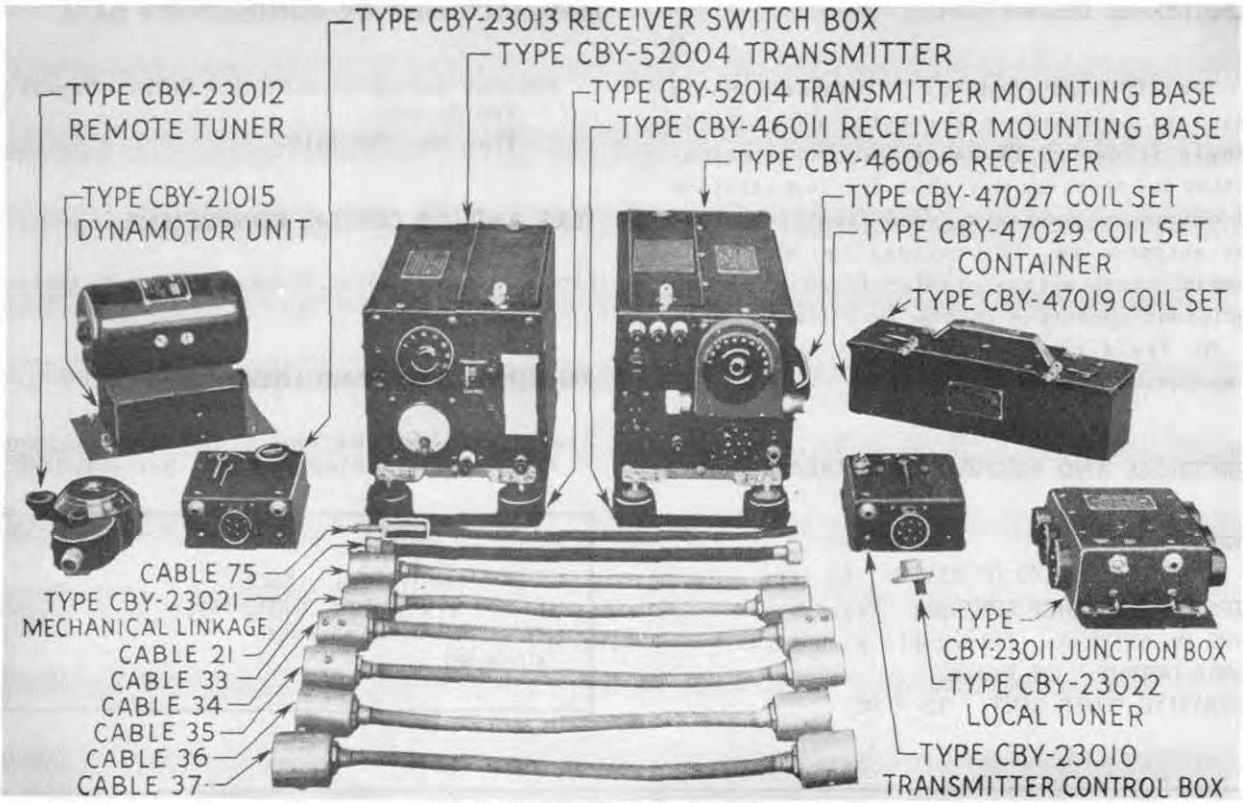
TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE COMMERICAL
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter-Receiver Federal Telephone and Radio Corp Type 101B		
1	Battery Federal Telephone and Radio Corp (12V)		
1	Battery Charger Federal Telephone and Radio Corp Type No. 120A		
1	Control Charger Unit Federal Telephone and Radio Corp Type No. 101A		
1	Headset Western Electric Co. Type No. 509		

TRANSMITTING AND RECEIVING EQUIPMENT

GF



Transmitting and Receiving Equipment GF

FUNCTIONAL DESCRIPTION

The Navy Model GF is a complete radio transmitting and receiving set designed for use on aircraft. It is adapted for installation and operation in airplanes of all types. It may be used to receive modulated or damped-wave signals within the two bands 224 to 350 kilocycles (kc) and 5400 to 8100 kilocycles (kc) and to transmit modulated and unmodulated signals in the band of 6200 to 7700 kilocycles (kc) signals.

No field changes in effect at time of preparation (8 August 1958).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Direct Current source of voltage between the limits 12 and 15, (1) Navy type SE-1981A or SE-1981B Helmet, (1) Navy type 61007 Lead-in Insulators, (1) Navy type 61018 Strain Insulators, (1) Navy type 47025 Coil Set, (1) Navy type 47045 Antenna Coil Assy, (1) Navy type 47044 Oscillator Coil Assy.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

NUMBER OF BANDS: 2 bands.
TRANSMITTER OUTPUT: 1.5 W.
FREQUENCY RANGE
TRANSMITTER: 6200 to 7700 kc, 224 to 350 kc.
RECEIVER: 5400 to 8100 kc.
OPERATING POWER RQMT: 12 to 15 v battery.

MANUFACTURER'S OR CONTRACTOR'S DATA

Aircraft Radio Corp., Boonton, N. J.
Contract NOs-29086, dated 10 November 1932.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) CBY-38039 (1) CBY-38037

Radio Transceivers

GF

TRANSMITTING AND RECEIVING EQUIPMENT

(1) CBY-38038 (3) CBY-38110-A
(1) CBY-38142
Total Tubes: (10)
No Crystals Used.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

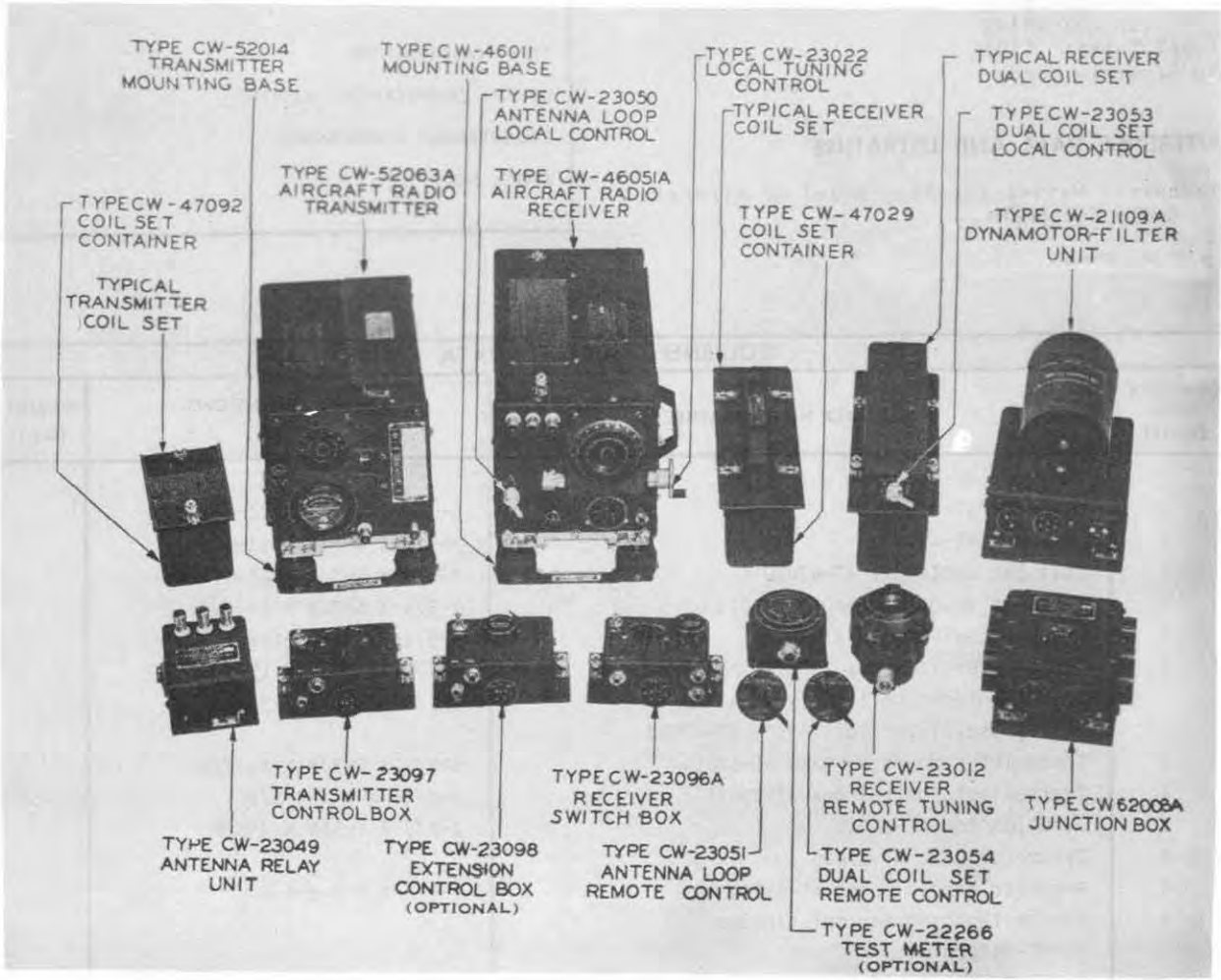
REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model GF Aircraft Radio Equipment.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver NT-46006		
1	Coil Set NT-47019	3-5/8 X 4-5/8 X 11-1/2	
1	Coil Set NT-47027	3-5/8 X 4-5/8 X 11-1/2	
1	Coil Set Container NT-47029	3-5/8 X 4-5/8 X 11-1/2	
1	Receiver Mounting Base NT-46011	1-3/4 X 5-7/8 X 14-7/8	
1	Receiver Switch Box NT-23013	2-5/16 X 4 X 4-1/8	
1	Transmitter NT-52004 Including:	6-5/8 X 7-5/8 X 13-1/4	
	(1) Antenna Coil Ass'y NT-47043	3-1/8 X 3-1/8 X 3-1/4	
	(1) Oscillator Coil Ass'y NT-47042		
1	Transmitter Mounting Base NT-52014	1-3/4 X 5-7/8 X 14-7/8	
1	Transmitter Control Box NT-23010	2-5/16 X 4 X 4-1/8	
1	Junction Box NT-23011	2-1/8 X 4-3/8 X 7-3/8	
1	Dynamotor Unit NT-21015		
1	Receiver Remote Tuner NT-23012	2-5/8 X 3 X 5-5/8	
1	Remote Tuner Mechanical Linkage NT-23021		
1	Local Tuner NT-23022		

RADIO TRANSMITTING AND RECEIVING SET



Radio Transmitting and Receiving Set GF-11/RU-16

FUNCTIONAL DESCRIPTION

The GF-11 and RU-16 Aircraft Radio Equipments together make up a complete Radio Transmitting and Receiving Set (GF-11/RU-16) for use on aircraft with a 12 volt DC power supply. This equipment is designed to transmit or receive voice, tone modulated or continuous wave signals. The receivers cover the frequency range of 195 to 13,575 kc. The transmitters cover the range of 2000 to 9050 kc. Corresponding units of GF-11/RU-16 equipments are interchangeable with those of GF-8/RU-13, serial no. 121 and above. Corresponding units of GF-8/RU-13 serial no. 1 to 120 inclusive are interchangeable with those of GF-3/RU-4A, GF-4/RU-5A and GF-5/RU-7 and differ from GF-11/RU-16 only in certain modifications in the NT-23096 Receiver Switch Box and NT-21109 Dynamotor Filter Unit. Subject to slightly modified performance, these switch boxes and dynamotor filter units are interchangeable.

No field changes in effect at time of preparation (13 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE
RECEIVER: 195 to 13,575 kc.
TRANSMITTER: 2000 to 9050 kc.
EMISSION: Voice, cw, mcw.
MODULATION: AM, voice 95%, mcw 100%.
TONE FREQEENCY: 1000 cps.

GF-11/RU-16 RADIO TRANSMITTING AND RECEIVING SET

POWER OUTPUT DATA
2000 to 3200 kc.
VOICE: 2 to 7 W peak.
CW: 2 to 7 W.
MCW: 2 to 7 W peak.
3000 to 9050 kc.
VOICE: 12 to 15 W peak.
CW: 12 to 15 W.
MCW: 12 to 15 W peak.
POWER SOURCE REQUIRED: 12 to 15 v DC at 8 amp.
DYNAMOTOR OUTPUT: 425 v at 163 ma.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., Chicago, Illinois.
Contract NOs 84530, dated 21 April 1941.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 89
(2) 77
(3) 78
(2) 837
(1) 38233
Total Tubes: (10)

REFERENCE DATA AND LITERATURE

NA 08 5G-400: Technical Manual for Model GF-11 and Model RU-16 Aircraft Radio Telegraph and Telephone Transmitting and Receiving Equipments.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE BUAER
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Dynamotor-Filter Unit*NT-21109A (with base)		13.5
*1	Test Meter-NT-22266		0.5
1	Remote Tuning Control-NT-23012 (with 0/100 Dial and 100-0 Dial)		0.9
1	Antenna Relay Unit-NT-23049 (with base)		0.8
1	Receiver Switch Box-NT-23096A (with base)		0.9
1	Transmitter Control Box-NT-23097 (with base)		0.7
1	Extension Control Box-NT-23099(with base)		0.8
1	Aircraft Radio Receiver-NT-46051A (With NT46011 Mounting Base, NT-23022 Local Tuning Control, NT-23050 Antenna-Loop Control, Set of Tubes		12.9
1 per coil set	Coil Set Containers for Mod RU-16 Aircraft Radio Equip. NT-47029		9.6
1	Model RU-16 Coil Set, Range D, 850-1330 kc NT-47068		1.7
1	Model RU-16 Coil Set, Range E, 1330-2040 kc NT-47069		1.7
1	Model RU-16 Coil Set, Range F, 2040-3000 kc NT-47070		1.7
1	Model RU-16 Coil Set, Range H, 4000-6000 kc NT-47072		1.7
1	Model RU-16 Coil Set, Range K, 9050-13575 kc NT-47075		1.7

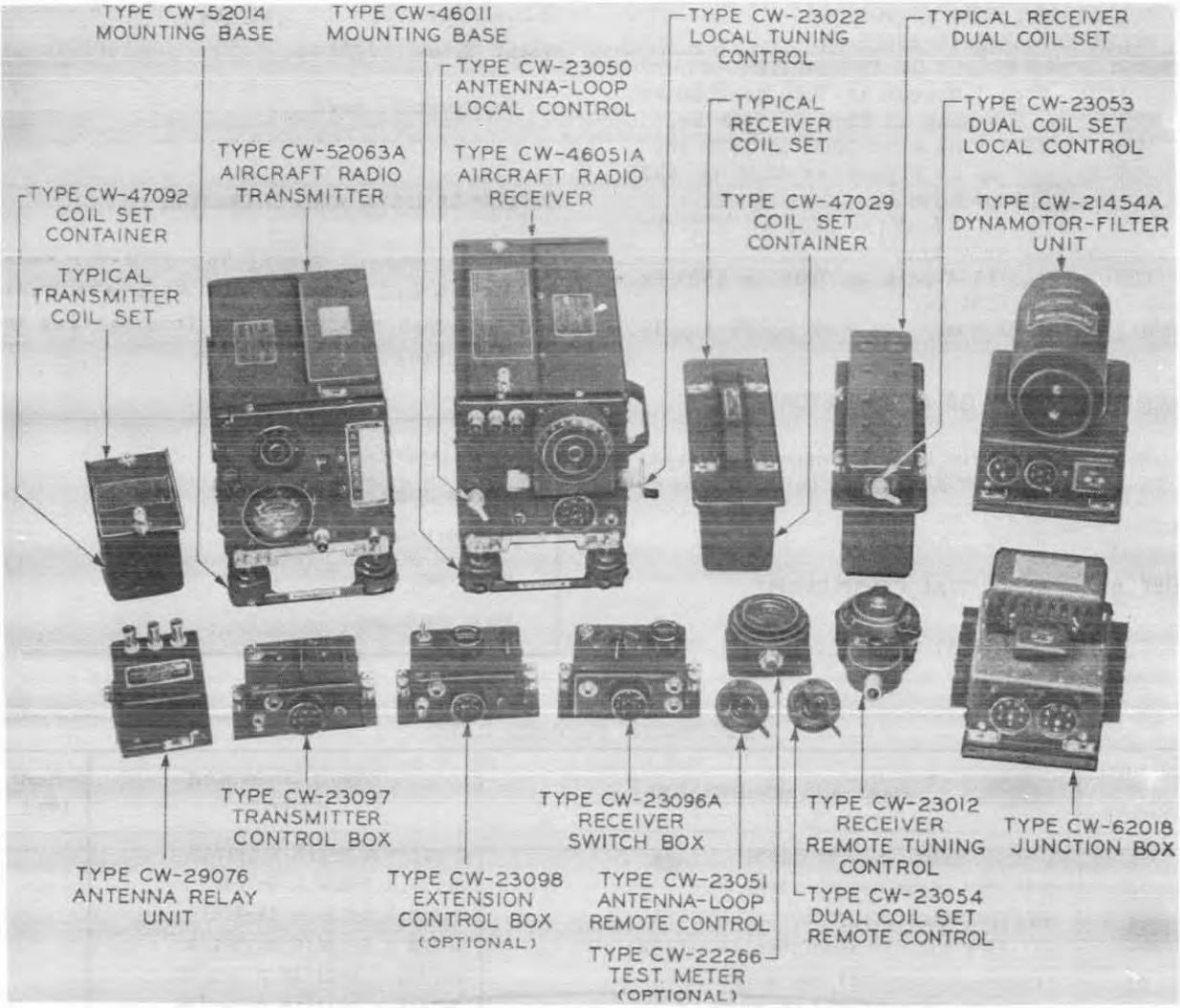
RADIO TRANSMITTING AND RECEIVING SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1 per coil set	Coil Set Containers for Model GF-11 Aircraft Radio Equipment NT-47092		0.3
1	Model RU-16 Dual Coil Set, Range O, 195-290 kc; Range P, 290-435 kc-NT-47105		2.6
1	Model RU-16 Dual Coil Set, Range Q , 540-830 kc; Range G, 3000-4524 kc-NT-47107		2.6
1	Model RU-16 Dual Coil Set, Range Q 540-830 kc; Range M, 5200-7700 kc-NT-47108		2.6
1	Model RU-16 Dual Coil Set, Range L, 400-600 kc; Range N, 600-9050 kc-NT-47112		2.6
1	Model GF-11 Coil Set, 2000-2500 kc-NT-47135		0.9
1	Model GF-11 Coil Set, 2500-3200 kc-NT-47136		0.9
1	Model GF-11 Coil Set, 3000-3675 kc-NT-47137		0.9
1	Model GF-11 Coil Set, 3675/4525 kc NT-47138		0.9
1	Model GF-11 Coil Set, 4000-4900 kc NT-47139		0.9
1	Model GF-11 Coil Set, 490C-6000 kc NT-47140		0.9
1	Model GF-11 Coil Set, 6000-7350 kc-NT-47141		0.9
1	Model GF-11 Coil Set, 7350-9050 kc-NT-47142		0.9
1	Model RU-16 Dual Coil Set, Range Q, 540-830 kc; Range F. 2040-3000 kc-NT-47204		2.6
1	Aircraft Radio Transmitter-NT-52063A (with NT-52014 Mounting Base, with Set Tubes.		10.8
1	Junction Box-NT-62008A (with base, Sub. plugs, two caps, and cap nut)		2.2
*1	Remote Tuning Control Mechanical Linkage, supplied in bulk, weight per foot assembled NT-23021		0.12
1	Antenna-Loop Remote Control-NT-23051		0.06
2	Remote Switching Mechanical linkage, bulk weight per foot assembled-NT-23052		0.14
1 per dual coil set	Dual Coil Set Local Control (on Dual Coil Sets) NT-23053		0.02
1	Dual Coil Set Remote Control-NT-23054		0.06
1	Set Cables and Plugs		
*16	Rubber Sleeves		
*1	Receiver Slip Cover		
*1	Transmitter Slip Cover		
1	Aligning Wrench		
1	Receiver Tuning Chart		
1	Instruction Book		

* Optional, not furnished with all lots of equipments.

RADIO TRANSMITTING AND RADIO RECEIVING EQUIPMENT



Model GF-12 and Model RU-17 Aircraft Radio Equipments

FUNCTIONAL DESCRIPTION

The Navy Model GF-12 and Model RU-17 Aircraft Radio Equipments together make up a complete Radio Transmitting and Receiving Set for use on aircraft equipped with a twenty-four (24) v DC power supply. This equipment is designed to transmit or receive voice, tone modulated, or continuous wave signals. The Receiver covers the frequency range of 195 to 13,575 kilocycles (kc). The transmitter covers the ranges of 2000 to 2500, 3000 to 4525, and 6000 to 9050 kilocycles (kc).

No field changes in effect at time of preparation (7 August 1958).

RELATION TO OTHER EQUIPMENT

The GF-12/RU-17 is interchangeable with the GF-9/RU-14 except for modification in Navy Type 23096 Receiver Switch Box and Navy Type 21454 Dynamotor Filter Unit.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

TRANSMITTER: 2000 to 2500 kc, 3000 to

Radio-Transceivers

GF-12 and RU-17 RADIO TRANSMITTING AND RADIO RECEIVING EQUIPMENT

4525 kc, 6000 to 9050 kc.
RECEIVER: 195 to 13575 kc.
NOMINAL POWER OUTPUT OF TRANSMITTER
VOICE: 2 to 7 W peak at 2000 to 2500 kc.
CW: 2 to 7 W peak at 2000 to 2500 kc.
MCW: 2 to 7 W peak at 2000 to 2500 kc.
VOICE: 12 to 15 W peak at 3000 to 4525 kc, 6000 to 9050 kc.
CW: 12 to 15 W peak at 3000 to 4525 kc, 6000 to 9050 kc.
MCW: 12 to 15 W peak at 3000 to 4525 kc, 6000 to 9050 kc.
OPERATING POWER RQMT: 24 v DC power supply.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., Chicago, Illinois. Contract NOs-84530, dated 21 April 1941.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 2C21 (5) 77 (5) 78
(5) 837 (5) 89Y
Total Tubes: (25)

No. Crystals used.

REFERENCE DATA AND LITERATURE

Technical Manual Serial No. 5198 for Model GF-12 and Model RU-17 Aircraft Radio Telegraph and Telephone Transmitting and Receiving Equipments.

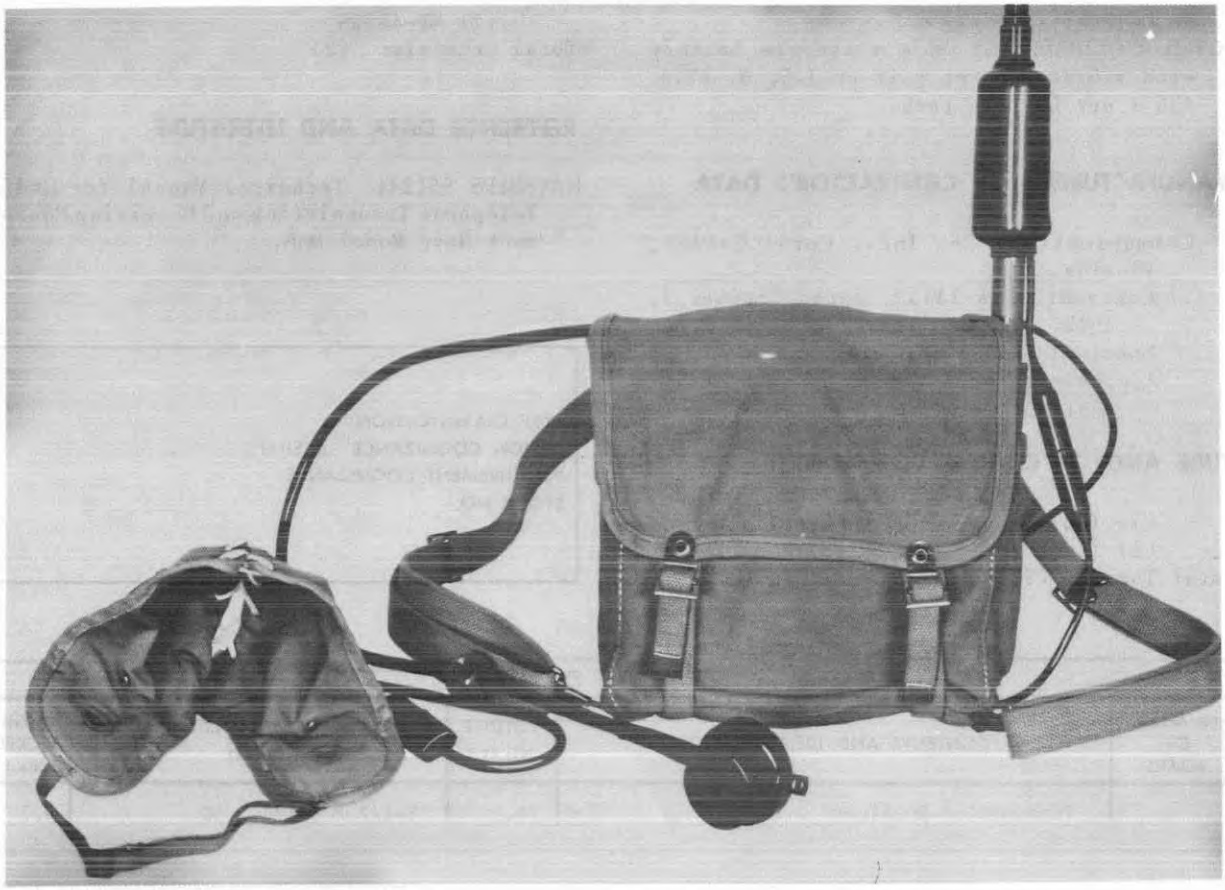
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Relay Unit NT-29076	2-11/16 X 3-1/8 X 5-1/16	
1	Coil Set Container NT-47092	3-1/8 X 3-1/4 X 5-9/16	
1	Mounting Base NT-52014	1-3/4 X 5-7/8 X 14-7/8	
1	Aircraft Radio Transmitter NT-52063A	6-5/8 X 7-13/16 X 13-1/4	
1	Transmitter Control Box NT-23097	2-7/16 X 3-11/16 X 5-1/16	
1	Extension Control Box NT-23098	2-7/16 X 3-11/16 X 5-1/16	
1	Aircraft Radio Receiver NT-46051A	7-5/8 X 8-1/4 X 15-11/16	
1	Antenna Loop Control NT-23050	1 lg X 2 dia	
1	Mounting Base NT-46011	1-3/4 X 5-7/8 X 14-7/8	
1	Receiver Switch Box NT-23096A		
1	Antenna Loop Remote Control NT-23051	1 lg X 2 dia	
1	Dual Coil Set Remote Control NT-23054	1 lg X 2 dia	
1	Receiver Remote Tuning Control NT-23012	2-5/8 X 3 X 5-5/8	
1	Junction Box NT-62018	4-1/16 X 5-1/2 X 7-3/8	
1	Dynamotor-Filter Unit NT-21454A	5-5/8 X 6-1/16 X 9-1/2	
1	Dual Coil Set Control NT-23053	1 lg X 2 dia	
1	Local Tuning Control NT-23022		
1	Coil Set Container NT-47029	3-5/8 X 4-5/8 X 11-1/2	

RADIO TRANSMITTING AND RECEIVNG EQUIPMENT

MAB



Radio Transmitting and Receiving Equipment MAB

FUNCTIONAL DESCRIPTION

The MAB is an ultra-compact, portable voice communication equipment designed to provide a link between paratroop forces. The set is also suitable for reconnaissance or outpost communications. It is satisfactory for communication over a range of approximately one mile, with somewhat increased range between aircraft and ground units.

No field changes in effect at time of preparation (8 April 1958).

RELATION TO OTHER EQUIPMENT

Similar to Radio Telephone Transmitting and Receiving Equipments MP, MU, MV, MW, and MX. The MAB may be preset to any frequency within the 2.3 to 4.5 mc limits, while the prior equipments are capable of tuning to only a portion of this band.

Equipment Required but not Supplied: (1) Vibrator Power Unit NT-20221 and (1) Lead-Acid Storage Battery NT-19046 or for emergency operation. (1) Battery Pack (Dry) NT-19027A. (1) Canvas Carrying case.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION AND RECEPTION: A3.
FREQUENCY RANGE: One preset frequency within range of 2.3 to 4.5 mc.

MAB RADIO TRANSMITTING AND RECEIVNG EQUIPMENT

POWER OUTPUT: 0.2 W.
POWER REQUIREMENTS: 6.4 v storage battery with vibrator power unit or 1.5, 6, 67.5, 135 v dry battery pack.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Co, Inc., Coral Gables, Florida.
Contract NXss-14439, dated October 1, 1942.
Spec: 145-4C-510 Rev A.
Approximate Cost: $140.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1R5 (2) 1T4
(1) 1S5 (3) 3S4
Total Tubes: (7)

(2) NT-40125
Total Crystals: (2)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95121: Technical Manual for Radio Telephone Transmitting and Receiving Equipment Navy Model MAB.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

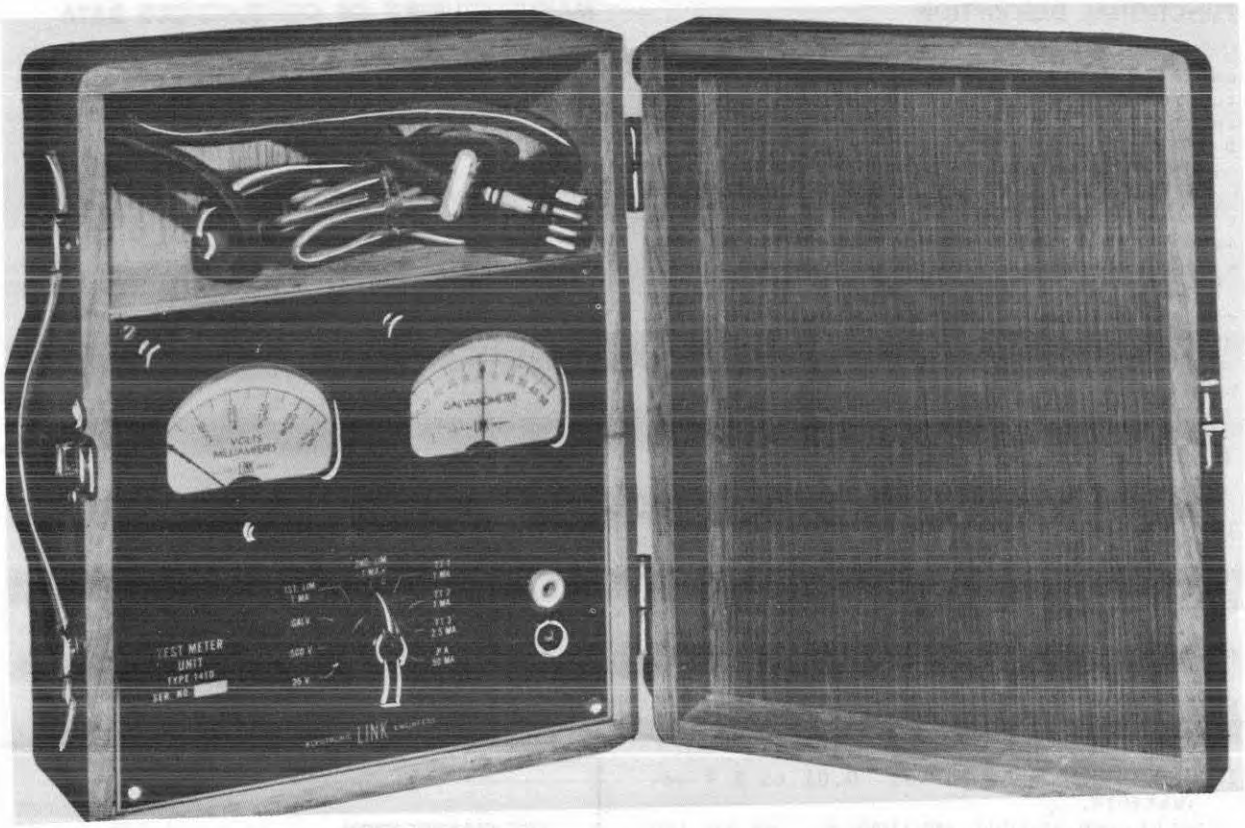
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter-Receiver	0.2	3-1/2 X 8-1/4 X 10	9.7

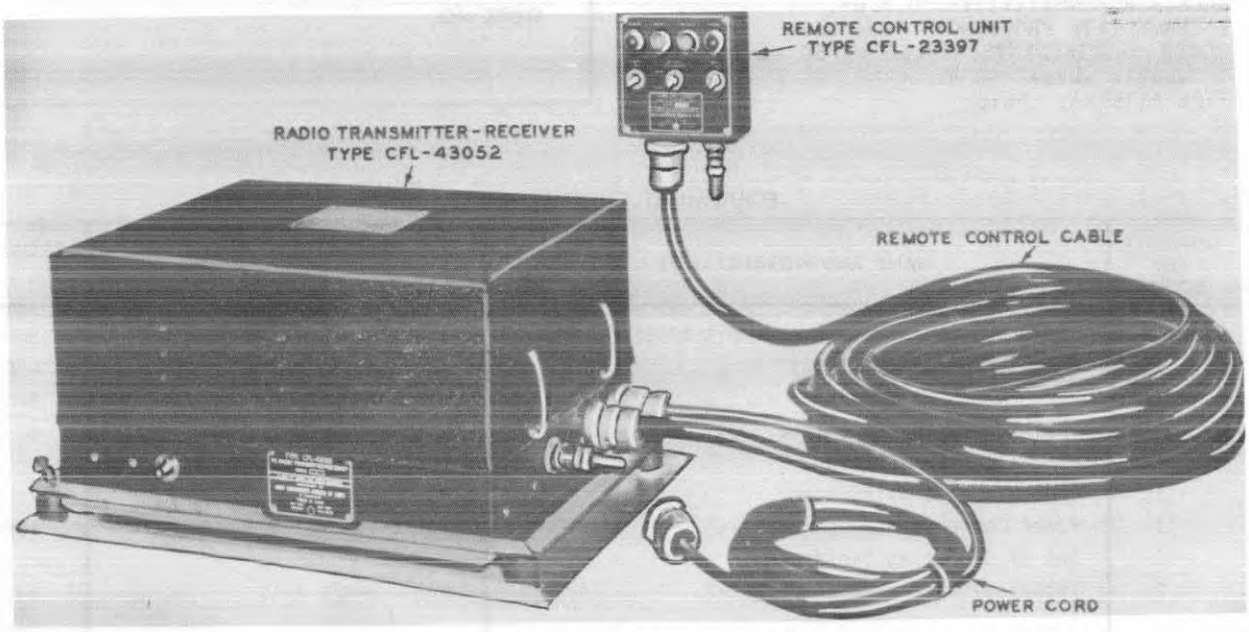
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter-Receiver NT-43045	1-13/16 X 3-19/32 X 6-3/8	1.25
1	Headset Assembly NT-49214		0.25
1	Microphone and Case Cover Assembly NT-51048		1
1	Antenna and Load Coil Assembly NT-66081	2 in. dia X 15-1/8 (Collapsed)	1
1	Plastic Case NT-10162	3 X 6-25/32 X 9	

RADIO TRANSMITTING AND RECEIVING EQUIPMENT



Test Meter Unit Type 1410



Radio Transmitter-Receiver 43052

Radio-Transceivers

June 1957

MAC — RADIO TRANSMITTING AND RECEIVING EQUIPMENT

FUNCTIONAL DESCRIPTION

The Model MAC is designed for operation on board naval vessels such as minesweepers to provide coordinated control of minesweeping equipment on cooperating boats. It has been designed for remote control and unattended operation.

A frequency-modulated short-range radio circuit is provided on which two tone signals may be impressed alternately to operate separate control relays at the receiving points. Means is provided to limit the effective range to as low as 1000 yards for security reasons.

No field changes in effect at time of preparation (14 November 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Test Equipment as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 42 mc.
TYPE EMISSION AND RECEPTION: FM ±15 kc.
FREQUENCY CONTROL: Crystal.
CONTROL CHANNEL FREQUENCIES: 235 and 1000 cps.
TRANSMITTER POWER OUTPUT: 0.01 to 2 W adjustable.
TRANSMITTER OUTPUT IMPEDANCE: 30 to 100 ohms into concentric transmission line.
TYPE RECEIVER: Superheterodyne.
RECEIVER SENSITIVITY: 0.5 uv.
INTERMEDIATE FREQUENCY: 456 kc.
POWER REQUIREMENTS: 115 v, 50 to 60 cps, single phase, 80 W.
TYPE ANTENNA: Whip.

MANUFACTURER'S OR CONTRACTOR'S DATA

Fred M. Link, New York, N.Y.
Contract NXss 32846, dated 24 June 1943.
Approximate Cost: $140.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6AC7WA
(2) 6H6
(2) 6K8
(1) 6SG7Y
(5) 6SL7WGT
(1) 6SJ7
(1) 6SN7WGTA
(3) 6V6GT
(1) 6X5WGT
Total Tubes: (19)

(3) FT-243
Total Crystals: (3)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95122: Technical Manual for Navy Model MAC Radio Transmitting and Receiving Equipment.

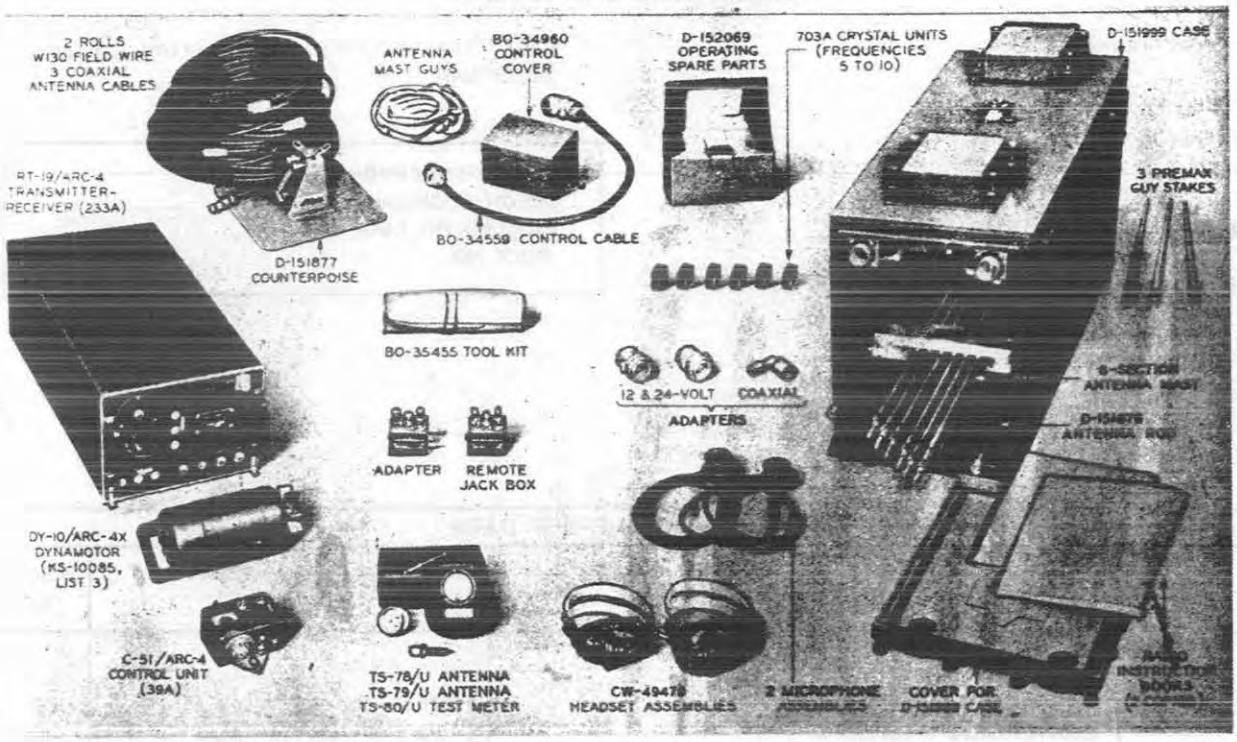
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter-Receiver Unit 43052	9 X 11-11/16 X 16	38
1	Remote Control Unit 23397	3-1/8 X 4-1/2 X 5	4.5
1	Antenna Assembly 66044	4 X 4 X 78	3.0
1	Test Meter Link Type 1410		5
1	Coaxial Antenna Cable	100 ft lg	11
1	Control Cable with Plugs	75 ft lg	18
1	Power Cable with Plugs	10 ft lg	1.5
1	Set of Operating Spares		21
2	Technical Manual NAVSHIPS 95122	3/8 X 8-3/4 X 11	1

RADIO TRANSMITTING AND RECEIVING EQUIPMENT

MAH



Radio Transmitting and Receiving Equipment MAH

FUNCTIONAL DESCRIPTION

The Model MAH is a complete portable radiotelephone station suitable for voice communication with other similarly equipped stations. It is enclosed in submersion proof cases and is designed to be used on land, on board ship and on motor vehicles.

It is capable of reception and transmission on any one of four channels, and reception on two channels simultaneously is possible when desired, one of these two channels being channel 1 in all cases.

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

RELATION TO OTHER EQUIPMENT

Transmitter-Receiver RT-19/ARC-4 is the Western Electric Company Model 233A.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CHANNELS: 4

FREQUENCY CONTROL: Crystal.

TYPE RECEIVER: Superheterodyne.

POWER REQUIREMENTS: 12 or 24 v DC, 115 v, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, Inc, New York, N. Y.

Contract NXsr-65292 dated 14 June 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6AC7	(2) 6V6GT/G	(1) 12SQ7/GT/G
(2) 6L6	(2) 12A6/GT	(1) 832
(4) 6N7	(3) 12SJ7	(2) 1614

MAH

RADIO TRANSMITTING AND RECEIVING EQUIPMENT

Total Tubes: (19)

(4) 703A

Total Crystals: (4)

Radio Transmitting and Receiving Equipment Model MAH.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900420-1B: Technical Manual for

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter-Receiver RT-19/ARC-4	7-3/4 X 10-7/16 X 21	33.3
1	Dynamotor DY-10/ARC-4X	3-5/8 X 5-1/4 X 8-1/2	8.2
1	Control Unit C-51/ARC-4	2-3/4 X 4-1/8 X 4-5/32	
1	Adapter NT-62122	2 X 3 X 3-7/8	0.6
1	Remote Jack Box NT-62123	2 X 3 X 4-1/8	0.5
1	Antenna Assembly NT-66102		
2	Headset Assembly NT-49479	2-5/8 X 5-7/8 X 7	
2	Microphone Assembly NT-51004C		
1	Test Meter TS-80/U		
1	Transmitter Phantom Assembly TS-78/U		
1	Receiver Phantom Assembly TS-79/U		
1	Set of Spare Parts		
1	Submersion Proof Case NT-10279	13-1/8 X 16-7/8 X 29-7/8	
1	Set of Installation Parts		
1	Gasoline Engine-Generator Assembly NT-73028		
1	Rectifier Power Unit NT-20263 including: Set of Operating Spare Parts		
1	Submersion Proof Case NT-10276		
1	Shipping Chest and Equipment Spares for NT-20263 and NT-10276		

RADIO TELEPHONE AND TELEGRAPH TRANSMITTING AND RECEIVING EQUIPMENT

MAK

Radio Telephone And Telegraph Transmitting and Receiving Equipment Navy Model MAK

FUNCTIONAL DESCRIPTION

The Navy Model MAK is a four channel mobile unit designed to provide a compact, two-way radio installation for use in Naval craft, combat vehicles and other applications where space is at a premium. It is crystal controlled and designed for operation in the 2 to 4 megacycle frequency range. It can be operated from a 6 or 12 volt direct-current power source by using the proper associated power assembly. The essential control circuits can be operated from a remote location with the exception of voice-continuous wave and channel selection circuits.

No field changes in effect at time of preparation (1 August 1958).

RELATION TO OTHER EQUIPMENT

The Navy Model MAK is similar to Navy Model MO-1, differing mainly in the frequency range coverage.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Cable as Required, Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2 to 4 mc.
POWER OUTPUT: 25 W.
EMISSION: A2, A3.

Radio-Transceivers

April 1959

MAK

RADIO TELEPHONE AND TELEGRAPH TRANSMITTING AND RECEIVING EQUIPMENT

FREQUENCY CONTROL: Crystal oscillator.
MODULATION DATA
CAPABILITY: 90%.
FREQUENCY: 600 cps.
RECEIVER DATA
TYPE: Superheterodyne.
IF: 455 kc.
OUTPUT IMPEDANCE: 600 ohms.
SENSITIVITY: Approx 2 uv for 50 mw output across a 600 ohm load.
POWER REQUIREMENTS: 6 v DC or 12 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Co, Inc., Coral Gables, Fla.
Contract NXs-5884, dated 3 June 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

6VDC	12VDC
(3) HY69	(3) HY1269
(1) 6K8	(2) 12A6
(2) 6SK7WA	(1) 12K8
(1) 6SQ7	(2) 12SK7
(2) 6V6Y	(1) 12SQ7
Total Tubes: (9)	Total Tubes: (9)
(8) Operating Crystal	(8) Operating Crystal
Total Crystal: (8)	Total Crystal: (8)

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Models MO-1 and MAK Radio Telephone and Telegraph Transmitting and Receiving Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

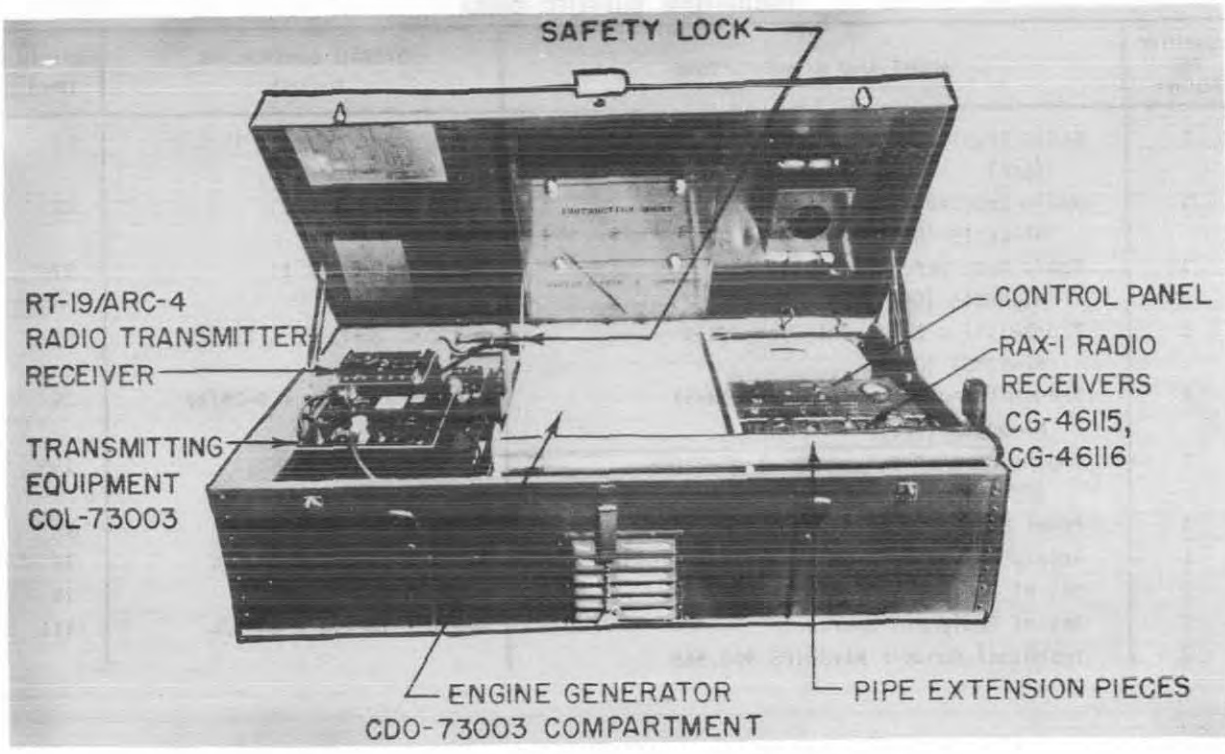
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
6V	12V			
1	1	Transmitter-Receiver Unit NT-43040	9-1/2 X 10-1/2 X 17	27.5
1		Vibrator Power Assembly NT-20190 or	10-1/8 X 11 X 17	36.5
	1	NT-20193		
1		Dynamotor NT-21983 or		11.5
	1	NT-21984		
1	1	Control Unit NT-23343	3 X 3-1/2 X 10	3.0
1	1	Handset		1.4
1	1	Speaker		0.9
1	1	Set of Equipment Spares		

December 1956

EMERGENCY MOBILE COMMUNICATION EQUIPMENT

MAM



Emergency Mobile Communication Equipment MAM

FUNCTIONAL DESCRIPTION

The MAM is a very high frequency communication unit designed for use in aircraft in the 140 to 144 mc band. The unit is intended for two-way communication by radio telephone between airplanes and from airplanes to ground stations. The equipment may be pretuned for operation on four crystal controlled frequencies in the 140 to 144 mc band.

No field changes in effect at time of preparation (6 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF RECEPTION AND TRANSMISSION: A2,A3.
FREQUENCY RANGE: 140 to 144 mc.
FREQUENCY CONTROL: Crystal and master oscillator.
POWER SOURCE REQUIRED: 115 v AC, 60 cps, single ph or 12 v DC (battery).

MANUFACTURER'S OR CONTRACTOR'S DATA

Air-Track Mfg Corp., College Park, Maryland

Contract NXsr 90766, dated 2 February 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(7) 12A6	(2) 12K8	(3) 12SJ7
(8) 12SK7	(2) 12SQ7	(2) 12SR7
(1) 5R4GY	(1) 5U4G	(2) 6AC7
(2) 6L6	(4) 6N7	(3) 6V6GT
(1) 832	(2) 1614	(4) 1625
(2) VR-150-30		

Total Tubes: (46)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,588: Technical Manual for Emergency Mobile Communication Equipment Navy Model MAM.

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

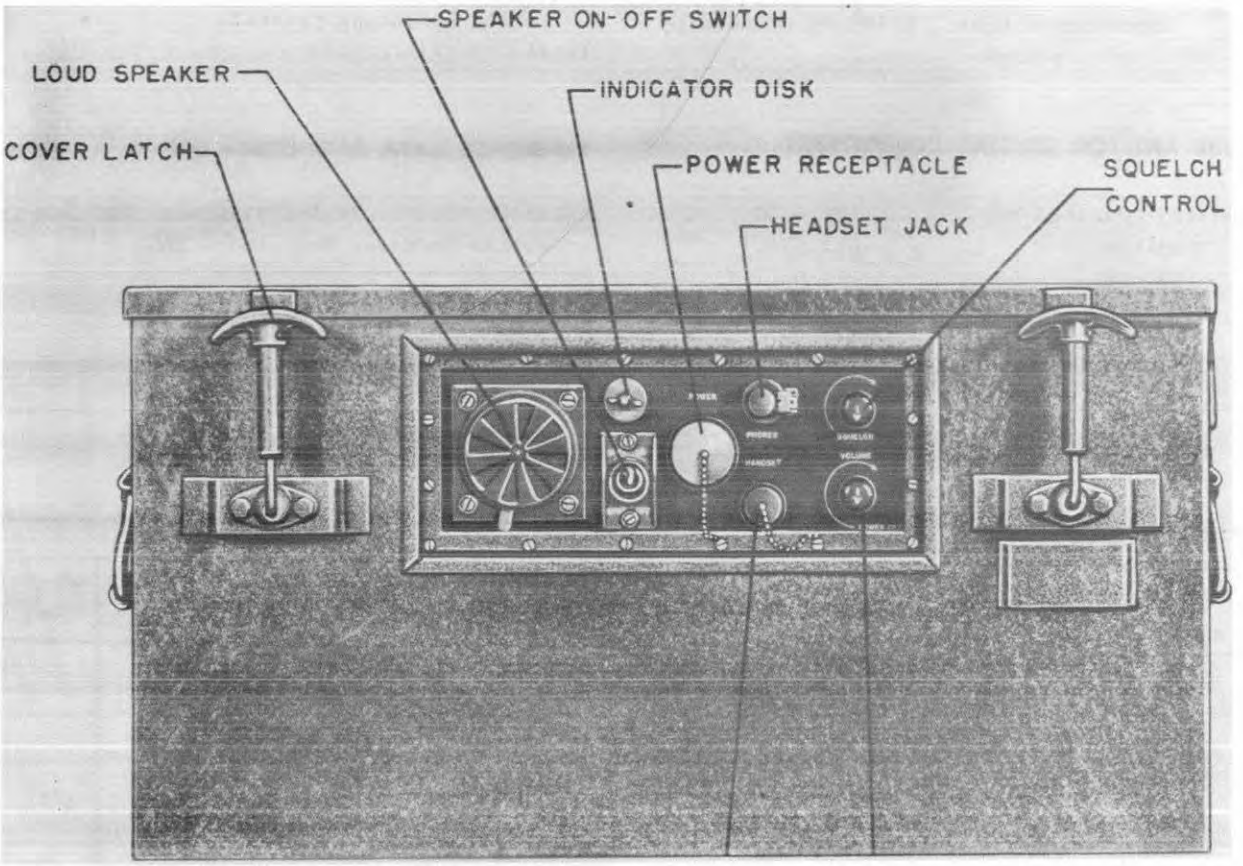
MAM EMERGENCY MOBILE COMMUNICATION EQUIPMENT

December 1956

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter-Receiver RT-19/ARC-4 (GFE)	7-11/16 X 10-7/16 X 19-1/2	35
1	Radio Receiver RAX-1 (Unit 1) NT-46115 (GFE)	7-1/2 X 7-1/2 X 17	22
1	Radio Receiver RAX-1 (Unit 2) NT-46116 (GFE)	7-1/2 X 7-1/2 X 17	22
1	Transmitting Equipment Type 560-1 NT-52357 (GFE)	9-1/2 X 11-13/16 X 13-3/4	41
1	Transmitting Power Supply (409M-3) NT-20338 (GFE)	7-1/2 X 8-13/16 X 9-25/32	29
1	Engine Generator Type 5LS-4 NT-73003 (GFE)	16 X 19 X 21-1/2	195
1	Power Supply RAX-1 NT-20339	8-1/4 X 9 X 10-15/16	35
1	Rotary Converter Type 12K 29/35NT-21485	8-1/4 X 11-1/8 X 16-3/4	76
1	Set of Equipment Spares	7-1/2 X 9-3/4 X 18	14
1	Set of Equipment Spares	9-3/4 X 16-1/4 X 24-3/4	111
2	Technical Manuals NAVSHIPS 900,588		

PORTABLE RADIO TRANSMITTING AND RECEIVING EQUIPMENT



Portable Radio Transmitting and Receiving Equipment MAN

FUNCTIONAL DESCRIPTION

The MAN is a portable, crystal-controlled transmitter and receiver for voice transmission and reception in any one of eleven channels in the 30 to 40 mc band. The equipment will provide reliable communication for approximately 10 miles. The Transmitter and Receiver are housed in one metal weatherproof case and the battery in another.

No field changes in effect at time of preparation (9 April 1958).

RELATION TO OTHER EQUIPMENT

The transmitter unit of the MAN equipment is Motorola Model FMT-24VW and the receiver unit is Motorola Model FMR-13V.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

GENERAL
- FREQUENCY RANGE: 30 to 40 mc in eleven channels.
- FREQUENCY CONTROL: Crystal.
- POWER REQUIREMENTS: 6 v DC.

REGEIVER
- RECEPTION: F3.
- OUTPUT IMPEDANCE: 600 ohms.

TRANSMITTER
- EMISSION: F3.
- POWER OUTPUT: 15 to 20 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg. Corp., Chicago, Illinois. Contract NXsr-48316, dated 22 January 1944.

Radio-Transceiver

MAN

PORTABLE RADIO TRANSMITTING AND RECEIVING EQUIPMENT

Approximate Cost: $1400.00 with equipment spares.

(22) Operating Crystals
Total Crystals: (22)

TUBE AND/OR CRYSTAL COMPLEMENT

(2) OZ4A1003
(2) 6H6
(1) 6K8
(2) 6X5WGT
(3) 7C7
(2) 807
(1) 6C8G
(1) 6K6GT
(7) 6SD7GT
(2) 7A8
(1) 80

Total Tubes: (24)

REFERENCE DATA AND LITERATURE

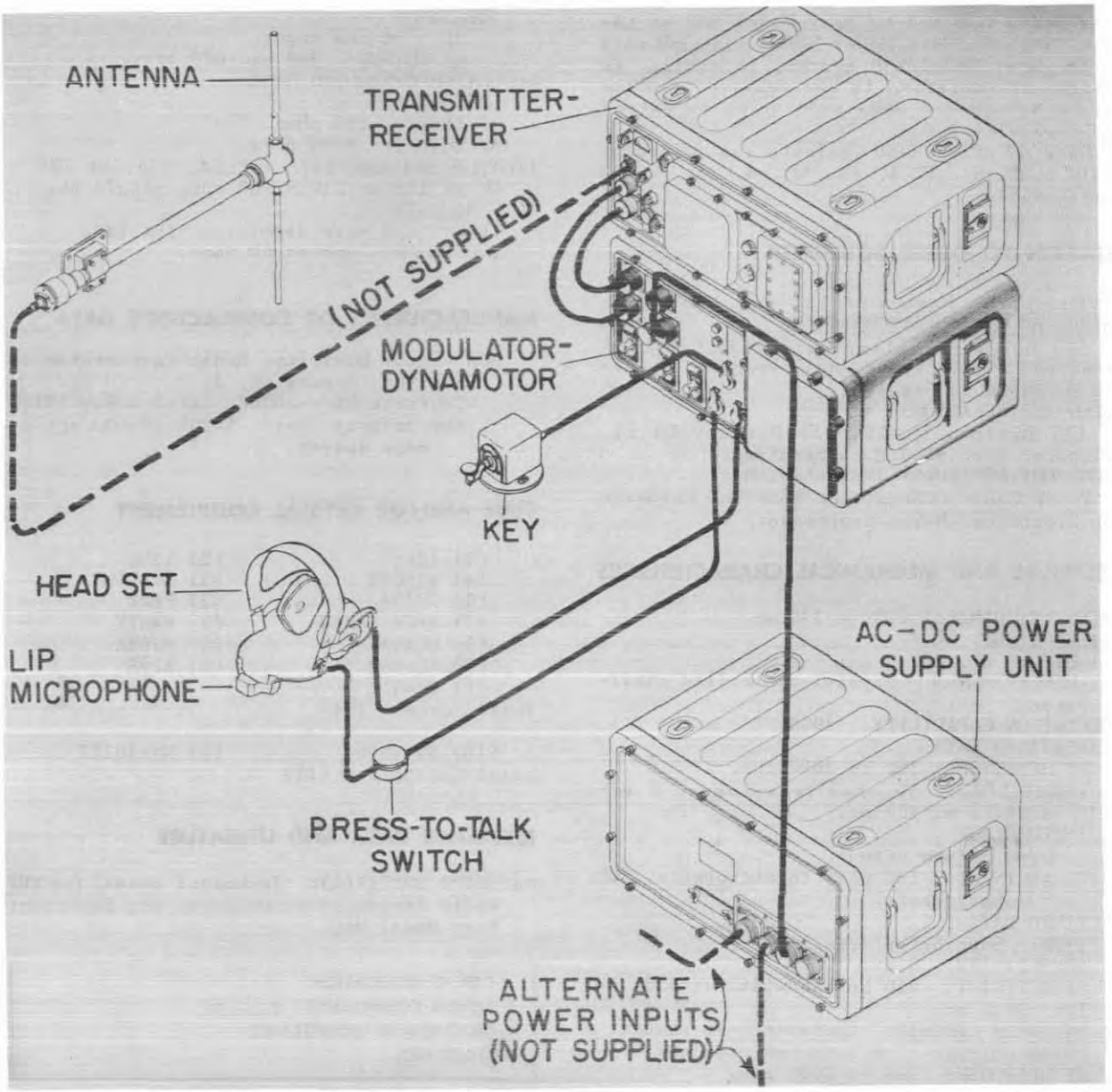
NAVSHIPS 95124: Technical Manual for Transmitter-Receiver Navy Model MAN.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE RE9407
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter-Receiver Unit NT-43057		
2	Battery NT-19051		
1	Headset NT-49015		
1	Handset Motorola Part No. P-2788		
1	Cable for Battery Charging	12 ft. lg	
1	Power Cable	6 ft. lg	
1	Set of Operating Spares and Accessories		
1	Set of Equipment Spares		
1	Telescoping Rod Antenna		
1	Technical Manual		

VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT



VHF Radio Transmitting and Receiving Equipment Navy Model MAR

FUNCTIONAL DESCRIPTION

The Navy Model MAR is a transportable two-way communication equipment designed for voice and modulated continuous-wave operation in the 225 to 390 megacycle frequency range. It has a motor-driven selector mechanism energized by rotation of a panel switch for selecting any one of ten pre-set, crystal-controlled channels and has provisions for connecting a remote control system.

It may be adapted to widely-varying power supply inputs and operating environments, such as are encountered in motor vehicles, on board ship, or in the field, by use of associated kits and equipment.

Its power supply is designed to furnish power to Portable Radio Receiving Equipment

MAR

VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

Navy Model RDR and to Navy Model MAR at the same time. The Navy Model RDR, while not part of the Navy Model MAR system, is similar in design and operation to the receiver section of the Navy Model MAR, and serves to extend the receiving range.

Data on this sheet reflects the following field changes: FC-1, -2, -3, -4, -5, -6 (14 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied:
SHIPBOARD INSTALLATIONS
(1) Low-Pass Filter NT-53349, Cable as Required, (2) Bulkhead Angle Bracket, Mounting Hardware as Required.
FIELD INSTALLATIONS
(3) Battery BA-30, (1) Battery BA-51, Telephone Wire W110-B as Required.
ACCESSORY EQUIPMENT INSTALLATION
Power Cable as Required, Mounting Hardware for Electrical Noise Suppressor.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 390 mc.
POWER OUTPUT: 8 W.
EMISSION: A2, A3.
FREQUENCY CONTROL: Crystal-controlled oscillator.
MODULATION CAPABILITY: 100%.
TRANSMITTER DATA
AF RESPONSE: 300 to 3000 cps.
DUMMY LOAD: 50 ohms resistance, 0 reactance at 400 mc.
IMPEDANCE
RF: 50 ohm output.
AF INPUT: 100 ohms to microphone, 600 ohms remote.
RECEIVER DATA
TYPE: Superheterodyne.
SENSITIVITY: 8 uv.
SELECTIVITY: 220 kc bandwidth at 6 db.
IF: 30.2 mc.
SILENCER CIRCUIT: Operates 6 db change.
POWER OUTPUT: 1 W into 600 ohm load.
AF RESPONSE: 300 to 3000 cps.
IMPEDANCE
RF: 50 ohm input.
AF OUTPUT: 300 and 600 ohms.
MODULATOR-DYNAMOTOR DATA
IMPEDANCE
AF INPUT: 100 ohms.
AF OUTPUT: 8800 ohms.
POWER REQUIREMENTS: 13, 24, 115, or 230 v DC or 115 or 230 v, 60 cps, single ph.
ANTENNA DATA
TYPE: 1/2 wave dipole, center fed.
IMPEDANCE: Approx 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Division, Radio Corporation of America, Camden, N. J.
Contract NXsr-60008, dated 4 May 1944.
Approximate Cost: $7000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

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

Total Tubes: (23)

(10) NT-40163	(1) NT-40177

Total Crystals: (11)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900719(A): Technical Manual for VHF Radio Transmitting and Receiving Equipment Navy Model MAR.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	BASIC EQUIPMENT			
1	Transmitter-Receiver NT-43067 including: (1) Modulator-Dynamotor NT-50248 (1) Set of Accessories	7.7	20-1/2 X 24 X 27	177
1	Power Supply Unit NT-20379	4.2	14 X 20 X 26	133

VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Assembly NT-66147 including: (1) Set of Equipment Accessoires	3.1	9-1/2 X 19 X 30	62
1	Equipment Spares	11.0	21 X 22-1/4 X 41	229
1	Equipment Spares for Power Supply Unit	5.6	14-1/2 X 23 X 29	187
	SHIPBOARD INSTALLATION KIT			
1	Shockmount Assemblies (3)	5.0	18 X 20 X 24	144
1	Set of Equipment Accessories including: (2) Junction Box NT-62250 (1) Shockmount Assembly	3.7	14 X 18 X 25-1/2	94
1	Set of Equipment Spares	1.2	9 X 13 X 17	36
	FIELD APPLICATION KIT			
1	Gasoline Engine-Generator Set NT-73037 including: Chest Assembly NT-10620	7.1	20 X 21-7/8 X 28-1/4	218
1	Remote Control Unit NT-23485 or NT-23485-A including: Chest Assembly	9.9	16-1/2 X 25 X 41	157
1	Chest and Battery Assembly	11.8	24 X 25 X 34	232
1	Shipping Chest for Power Supply Unit	9.4	18 X 24-1/2 X 37	129
1	Set of Accessories	9.5	18 X 25 X 36-1/2	168
1	Antenna, Accessories, and Chest Assembly	14.7	17 X 35 X 43	208
1	Set of Equipment Spares	2.8	12 X 17 X 23-1/2	72
	ACCESSORY EQUIPMENT			
1	Electrical Noise Suppressor NT-53518	12.0	14 X 30 X 49-3/4	133

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	BASIC EQUIPMENT		
1	Transmitter-Receiver NT-43067	9-1/2 X 16-1/4 X 21-1/4	45
1	Modulator-Dynamotor NT-50248	9-1/2 X 16-1/4 X 21-1/4	45
1	AC-DC Power Supply Unit NT-20379	10-7/8 X 16-1/4 X 21-1/4	100
1	Antenna NT-66147	2-1/2 X 22 X 25	3.5
1	Electrical Noise Suppressor NT-53518	5-11/16 X 17-1/32 X 22	68
	SHIPBOARD INSTALLATION KIT		
1	Shockmount Assembly NT-10508	3-5/16 X 14-7/8 X 19-3/4	32
1	Shockmount Assembly NT-10507	3-5/16 X 14-7/8 X 19-3/4	32
1	Shockmount Assembly NT-10592	3-5/16 X 14-7/8 X 19-3/4	32
1	Shockmount Assembly NT-10629	3-5/16 X 14-7/8 X 19-3/4	32
2	Junction Box NT-62250	4-15/16 X 8 X 10-1/8	7
	FIELD APPLICATION KIT		
1	Shipping Chest NT-10402-A	14-3/4 X 16 X 23	108** 118***
1	Shipping Chest NT-10522	14-5/8 X 20-1/2 X 31-1/4	96** 106***
1	Shipping Chest NT-10523	14-5/8 X 20-1/2 X 31-1/4	61** 161***
1	Shipping Chest NT-10524	13-1/4 X 20-1/2 X 38-1/8	80** 135***
1	Shipping Chest NT-10525	13-1/4 X 30-3/4 X 37-1/4	106** 155***
1	Shipping Chest NT-10621	20 X 21-7/8 X 28-1/4	152***

VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Accessory Case NT-10485	9-1/2 X 16-1/4 X 21-1/4	6
1	Antenna Carrying Case	6-1/4 X 7-1/8 X 33-1/4	8
1	Gasoline Engine-Generator Set NT-73037 including: Carrying Case NT-10620	12 X 14-3/4 X 18-3/4	45
1	Remote Control Unit NT-23485 or	5-1/8 X 7-1/8 X 7-1/2	4
	NT-23485-A	5-1/4 X 7-1/8 X 7-1/2	4

NOTE: *-Accessory Equipment.
**-Includes chest and contents, exclusive of basic units.
***-Includes chest, contents, and basic units, ready for use in field.

PORTABLE VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

MAW,MAW-1

Portable VHF Radio Transmitting and Receiving Equipment MAW

FUNCTIONAL DESCRIPTION

The MAW and MAW-1 is designed to provide two-way communication for air or shore liaison parties, using MCW or voice transmission over any one of ten preset crystal controlled channels in the frequency range of 115 to 156 mc.

The equipment may be operated portable by means of a shoulderstrap or by a standard AN packboard. The equipment may also be set up and operated as a fixed station.

The receiver, transmitter, power supply and batteries are housed in a glass-fiber, submersion proof case.

No field changes in effect at time of preparation (6 Aug 1956).

RELATION TO OTHER EQUIPMENT

The MAW and MAW-1 are electrically and mechanically interchangeable.

Equipment Required but not Supplied: Electrolyte for batteries, (6) Crystals CR-5B/U or CR-18/U (for MAW-1 only).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 115 to 156 mc.
NUMBER OF PRESET FREQUENCIES: 10, each changeable to any frequency within the frequency range.
FREQUENCY CONTROL: Crystal controlled.

MAW,MAW-1 PORTABLE VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

December 1956

EMISSION: A2, A3.
UNMODULATED CARRIER OUTPUT: 0.5 W nominal.
MODULATED POWER OUTPUT: 0.7 W max.
RECEIVER TYPE: Superheterodyne.
INTERMEDIATE FREQUENCY: 12 mc.
RECEIVER OUTPUT: 25 mw into a 600 ohm load at 1000 cps (MAW); 15 mw into a 600 ohm load at 1000 cps (MAW-1).
TYPE OF RECEPTION: A2, A3.
ANTENNA DATA
TYPE: 1/4 wave ground plane type.
FULL LENGTH: 120 mc.
SECOND DETENT: 135 mc.
FIRST DETENT: 150 mc.
FULLY COLLAPSED: 168 mc.
IMPEDANCE: 52 ohms.
POWER SUPPLY: Synchronous vibrator type supplying 100 v DC for receiver, or 135 v DC for transmitter and 1.5 and 3 v DC filament voltage from a 4 v DC source.

MANUFACTURER'S OR CONTRACTOR'S DATA

Howard Radio Co., Chicago, Ill.
Contract NXsr-77870.
Hoffman Radio Corp., Los Angeles, Calif.
Contract NObsr 52170, dated 15 Dec 1950.
Approximate Cost: $1600 with Equipment spares (MAW).
Approximate Cost: $1750 with Equipment spares (MAW-1).

TUBE AND/OR CRYSTAL COMPLEMENT

MAW
(9) 1L5 (includes 1 spare)
(2) 1S5 (includes 1 spare)
(14) 3A4 (includes 3 spares)
(6) 3A5 (includes 3 spares)
Total Tubes (31)

MAW-1
(9) 1L5 (includes 1 spare)
(2) 1U5 (includes 1 spare)
(14) 3A4 (includes 3 spares)
(6) 3A5 (includes 3 spares)
Total Tubes: (31)

MAW
(26) CR-5B/U (includes 6 spares)
Total Crystals: (26)

MAW-1
(20) CR-5B/U or CR-18/U
Total Crystals: (20)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,734: Technical Manual for Portable Radio Transmitting and Receiving Equipment Navy model MAW.
NAVSHIPS 91529 (A): Technical Manual for Portable VHF Radio Transmitting and Receiving Equipment Navy model MAW-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	MAW			
1	Portable Radio Transmitting and Receiving Equipment MAW	6.54	16-3/4 X 21-3/4 X 31	137
	MAW-1			
1	Portable VHF Radio Transmitting and Receiving Equipment MAW-1	7.07	17-1/2 X 21-7/8 X 31-3/4	178

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	MAW		
1	Portable Radio Transmitting and Receiving Equipment MAW consisting of:	12-3/4 X 16-1/2 X 12-3/4	91

December 1956

PORTABLE VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

MAW,MAW-1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	MAW		
1	Radio Transmitter-Receiver NT-43069 including Battery Assembly	5-3/8 X 14-1/2 X 17-15/16	42
2	Antenna Assembly NT-66150	1-1/2 X 1-1/2 X 19	0.75
1	Headset NT-49507A		
1	Headset Cord NT-49534		
1	Microphone NT-51071		
1	Microphone Cord NT-49561		
1	Shipping Chest NT-10543	12-3/4 X 16-1/2 X 25	35.6
1	Alignment Meter Assembly NT-60155 including:	3-1/4 X 3-3/8 X 4-3/16	1
1	RF Alignment Tool	13/32 dia X 4-1/8	
1	IF Alignment Tool	13/32 dia X 2-1/2	
1	Spare Hex Tip	5/16 dia X 2-1/16	
1	Spare Screw Driver Tip	1/4 dia X 1-31/32	
1	Accessory Bay NT-10583 containing:	3-1/4 X 11-1/4 X 11-1/4	7.50
1	Tube Puller		
1	Antenna Extension Cable NT-62336		
1	Tree Clamp		
1	Extension Service Cable NT-62305	18 lg	
1	Battery Extension Cable NT-62306	18 lg	
1	Charger Cable NT-62300	60 lg	
2	Technical Manuals NAVSHIPS 900,743		
	MAW-1		
1	Portable VHF Radio Transmitting and Receiving Equipment MAW-1 consisting of:	13 X 17 X 25-3/8	91
1	Radio Receiver-Transmitter NT-43069A including Battery Assembly	5-3/8 X 14-1/2 X 18	42
2	Antenna Assembly NT-66150	1-1/2 X 1-1/2 X 19	0.75
1*	Headset-Microphone Assembly AN/URA-2		
1	Shipping Chest NT-10543	13 X 17 X 25-3/8	35.6
1	Test Meter NT-60155A including:	3-1/4 X 3-3/4 X 4-1/4	1
1	RF Alignment Tool	3/8 dia X 4	
1	IF Alignment Tool	3/8 dia X 2-7/8	
2	Spare Screw Driver Tips		
1	Accessory Bag NT-10583 containing:	3-1/4 X 11-1/4 X 11-1/4	7.5
1	Tube Puller	3/8 X 4 X 7-7/8	
1	Antenna Extension Cable	50 ft lg	
1	Tree Clamp	1-1/4 X 2-1/2 X 4-3/8	
1	Service Cable		
1	Battery Extension Cable	18 lg	
1	Charger Cable	63 lg	
2	Technical Manuals NAVSHIPS 91529(A)		

*The Headset-Microphone Assembly are supplied with variations. The microphone and face harness are not supplied with some shipments, these are to be government furnished in the field. The Gas Mask Adapter is not supplied, and the combined cord for both headset and microphone is replaced by two cords.

RADIO TRANSMITTING AND RECEIVING EQUIPMENT MAX

Radio Transmitter-Receiver RT-18/ARC-1 P/O Navy Model MAX

FUNCTIONAL DESCRIPTION

The Navy Model MAX is a portable equipment suitable for operation on mobile vehicles, while in motion or while stationary, and is designed to provide reliable, long range, two-way, amplitude-modulated radiotelephone communication between ground stations and aircraft as well as with other ground stations.

It operates in the 100 to 156 megacycle frequency range on any one of nine fixed, crystal-controlled channels and one crystal-controlled guard channel which is fixed and within a restricted band. It can be monitored on the guard channel while operating on one of the other channels and contains provisions for remote operation.

No field changes in effect at time of preparation (4 August 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.

POWER OUTPUT: 8 W nom.

EMISSION: A3.

AUDIO OUTPUT (RECEIVER): 400 mw into 300 or 4000 ohm resistive load.

POWER REQUIREMENTS: 24 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3W	(1) 1B3GT
(1) 5CP1	(1) 5T4
(4) 5654/6AK5W	(2) 5726/6AL5W
(1) 5727/2D21W	(1) 5749/6BA6W
(6) 6AG5	(2) 6C4WA
(2) 6N7	(2) 6SL7GT
(1) 6SN7WGTA	(1) 9002
(2) 9003	

Total Tubes: (28)

(3) CR-1A/AR	(9) CR-1B/AR

Total Tubes: (12)

Radio-Transceivers

MAX RADIO TRANSMITTING AND RECEIVING EQUIPMENT

REFERENCE DATA AND LITERATURE

AN08-30ARC1-2: Technical Manual for Model AN/ARC-1 Aircraft Radio Equipment.
NAVSHIPS 900939(A): Technical Manual for Radio Set Navy Model AN/MRD-8.

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-Receiver RT-18/ARC-1	9-1/32 X 10-5/8 X 24-3/16	47.0
1	Mounting Base MT-100/ARC-1		4.5
1	Antenna AS-359/MRD-8		10.0
1	Technical Manual AN08-30ARC1-3	5/8 X 8-1/2 X 11	2.0
1	Jack Box NT-62123	1-3/4 X 2-3/4 X 3-1/2	0.5
2	Roll of Field Wire	1/8 dia X 1200	0.5
2	Microphone NT-51071	1 X 1-3/4 X 3	0.17
2	Headset Assembly NT-49507	4 X 6 X 7	0.5
2	Microphone Cord NT-49561	5/8 dia X 63	0.4
2	Headset Extension Cord NT-49534	5/8 dia X 69	0.3
1	Test Meter TS-80/U	2-1/4 X 2-3/4 X 4-1/8	0.9
1	Transmitter Phantom Antenna TS-78/U	1-3/4 dia X 2-1/4	0.25
1	Receiver Phantom Antenna TS-79/U	5/8 X 1 X 2-7/8	0.03
1	Tool Kit	3 dia X 10	1.06
1	Case CY-568/MRD-8	18 X 20 X 30	55.0
1	Case CY-570/MRD-8	7-3/4 X 19 X 19-1/2	25.0

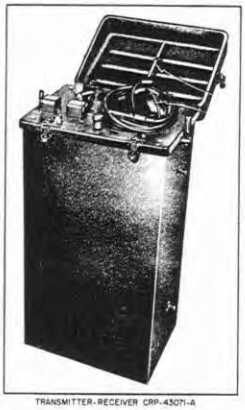
Cog Service: FSN: 5820-352-0065 Functional Class:

USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Raytheon Mfg. Co.

DISCONE ANTENNA AS-408/U



TRANSMITTER-RECEIVER CRP-43071-A

AUXILIARY BATTERY PACK CRP-19062

Portable Radio Transmitting and Receiving Equipment MAY-1

FUNCTIONAL DESCRIPTION:

The Portable Radio Transmitting and Receiving Equipment MAY-1, is a two-way battery-operated field set, designed for packboard carry. This set provides voice or Modulated Continuous Wave (MCW) communication on any one of four (4) preset channels in the frequency range of 225 to 390 megacycles (MC).

The electrical design of the equipment is such that it complies with blackout requirements under all conditions of normal operation, while receiver radiation is attenuated more than 40 db below the normal transmitting power level.

The mechanical design of this equipment is such that it will maintain adjustment and provide normal operation during long periods of tropical service. The equipment is submerged proof, buoyant in fresh water, and presents a low silhouette, when carried by a man lying prone.

Data on this sheet reflects the following field changes: F.C. #2.

MAY-1 PORTABLE RADIO TRANSMITTING AND RECEIVING EQUIPMENT

TECHNICAL CHARACTERISTICS:

TYPE OF FREQUENCY CONTROL
TRANSMITTER: Crystal-controlled, 4 preset frequencies.
RECEIVER: Crystal-controlled, 4 preset frequencies.
TYPE OF EMISSION: A3 (voice) AM 90% modulation capability; A2 (MCW), 850-1000 cycles, 90% modulation capability.
TRANSMITTER DATA
FREQUENCY RANGE: 225 to 390 mc.
TYPE OF FREQUENCY CONTROL: Crystal, 4 preset frequencies.
OUTPUT IMPEDANCE: 50 ohm, noninductive.
POWER OUTPUT: 1 W.
RECEIVER DATA
TYPE OF RECEIVER: Superheterodyne.
AUDIO OUTPUT: 25 mw into 300 ohms (phones).
INPUT IMPEDANCE: 50 ohms (antenna).
TYPE OF RECEPTION: A3 (voice) and A2 (MCW).
INTERMEDIATE FREQUENCY: 100 kc.
ANTENNA DATA
TYPE: Broad-band collapsible, gnd plane type, Telescopic Arm Antenna.
INPUT IMPEDANCE: 50 ohms.
SWR (VOLTAGE): Less than 1.5-to-1 over the entire 225 to 390 mc.
POLARIZATION: Vertical.
TYPE OF CRYSTALS USED: CR-9/U.
POWER SUPPLY: Self-contained vibrator power supply.
PRIMARY POWER SOURCE: Self-contained 6-volt lead-acid battery.

RELATION TO OTHER EQUIPMENT:

The MAY-1 is capable of communication with VHF Radio Transmitting & Receiving Equipment MAR, VHF Radio Receiving Equipment RDZ, Radio Receiving Set AN/URR-13, Radio Sets AN/ARC-27, AN/ARC-34 and similar equipments in the same frequency.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(2) Plywood Packboards w/attachments; (1) Battery Charger; (1) Metal Crystal box containing 186 CR-9/U crystals.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Transmitter-Receiver N.T. CRP-43071-A consists of:		10 x 13-1/8 x 23-13/16	44
1	Headset Ass'y N.T. 49507			
1	Microphone Ass'y N.T. 51071			
1	Headset Extension Cord N.T. 49534(A)			
1	Microphone Extension Cord and			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Push-To-Talk Switch N.T. 49561			
	10 Ft. Coaxial Antenna Cable CG-1211/U			
1	Auxiliary Battery Pack N.T. CRP-19062		5-1/2 x 11-7/8 x 20-5/8	42
2	Discone Antenna AS-408/U		2-5/16 x 2-5/16 x 20-9/16	2-3/4
1	Carrying Case N.T. CRP-10551		14-3/4 x 20-1/2 x 30-1/4	160
1	Set of Equipment Spares		9 x 12 x 18	37
2	Technical Manual NAVSHIPS 91792		1/2 x 8-5/8 x 11-1/4	
1	60 Ft Antenna Cable CG-1210/U			
1	Canvas Bag N.T. 10583			
1	Tool Kit			
1	Coil Box			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91792: Technical Manual for Portable Radio Transmitting and Receiving Equipment Navy Model MAY-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 1007 (1) 2E41 (5) 5656 (1) 5744 (5) 6AK5

CRYSTALS: (9) CR-9/U

SEMI-CONDUCTORS: (1) 1N43

SHIPPING DATA

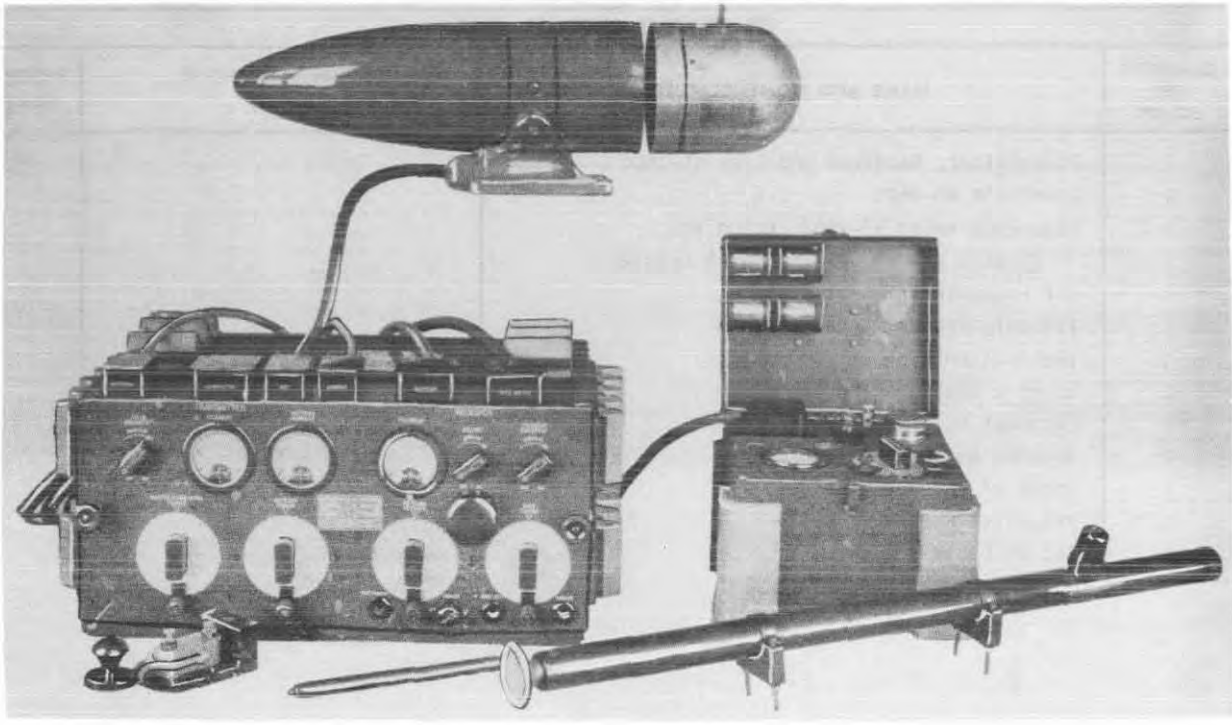
PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	11.9	195
1		
1		

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Raytheon Mfg. Co.	Waltham, Mass.	NObsr-43097, 30 December 1948	

AIRCRAFT RADIO TRANSMITTER-RECEIVER MB



Aircraft Radio Transmitter-Receiver MB

FUNCTIONAL DESCRIPTION

The Model MB is designed for use on aircraft and is intended for fire control spotting work. The transmitter and receiver are enclosed in one case which is connected by detachable cables to the frequency meter, wind driven generator, battery, key, antenna, and counterpoise. Break in operation is obtained by means of a relay which connects the antenna to the transmitter when the key is closed but leaves the antenna connected to the receiver at all other times. Transmission is continuous wave with complete keying. The receiver is one of the non-radiating type and arranged for undamped and damped wave reception.

No field changes in effect at time of preparation (25 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 550 to 1000 kc.
BANDS: 19 band of approximately 25 kc ea.

POWER REQUIREMENTS
TYPE: Wind driven Generator NT-2501 with Air Propeller NT-3851.
OUTPUT: 200 W on 50% of efficiency.
SPEED: 4500 rpm at wind velocities between 60 and 125 mph.
ANTENNA TYPE: Reel NT-2506.

TUBE AND/OR CRYSTAL COMPLEMENT

(6) 1344 (3) 2010/2566
Total Tubes: (9)
(1) Crystal
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

Technical Manual for Aircraft Radio Transmitter and Receiver Navy Model MB.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	BUAER
STOCK NO.	

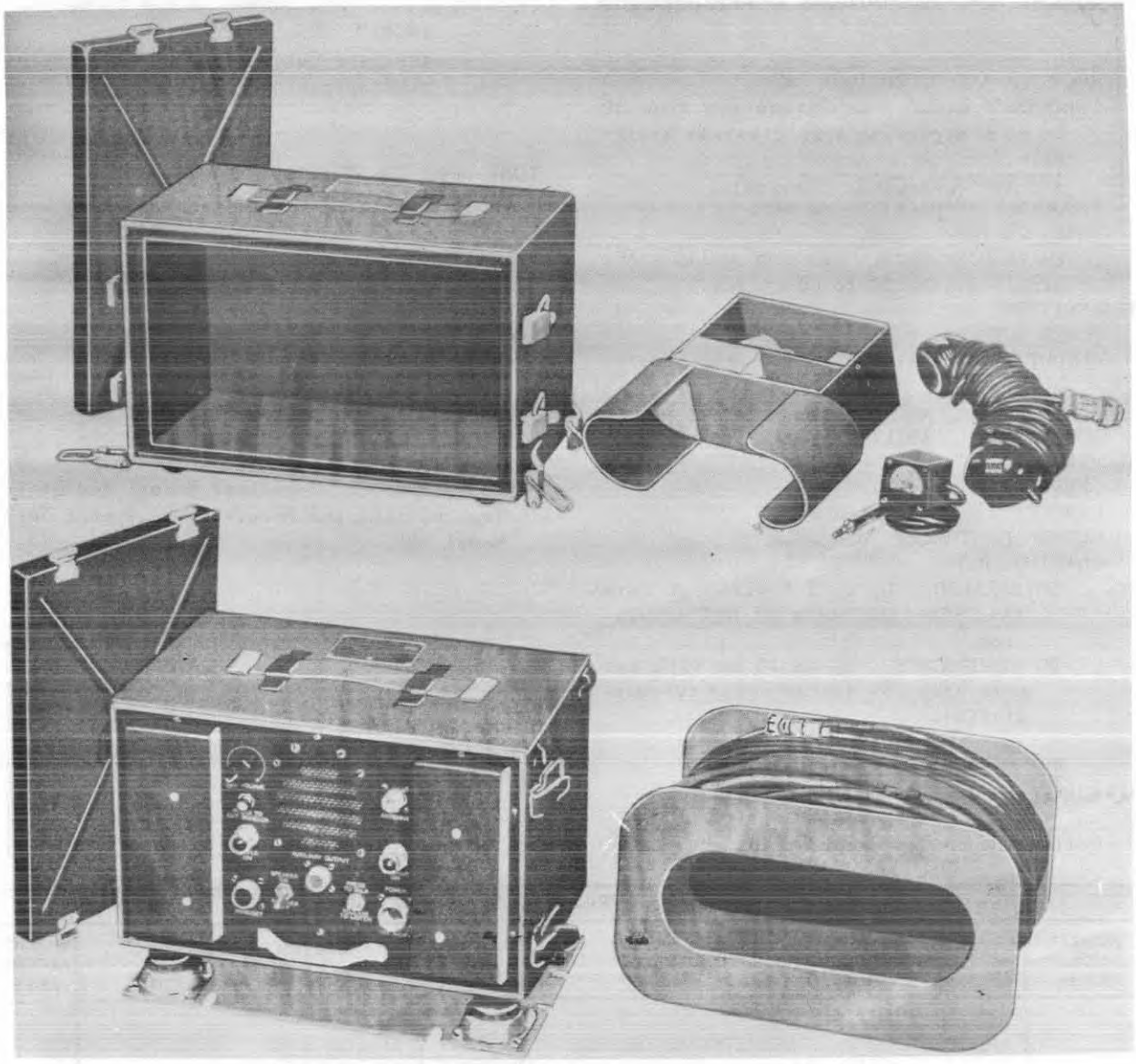
MB AIRCRAFT RADIO TRANSMITTER-RECEIVER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter, Receiver and Case NT-2500		
1	Generator NT-2501		
1	Frequency Meter NT-2502 including:		
2	Crystal Holders NT-2505 with crystals		
1	Air Propeller NT-3851		
1	Transmitting Key Type SE-1443A		
1	Instruction Book		
1	Antenna Reel NT-2506		
1	Lead-out Insulator NT-2508		
2	Antenna Weights NT-2508		
1	Spool of Antenna Wire (300 ft)		
1	Propeller Wrench		
1	Set of Cables		

PORTABLE RADIO TRANSMITTING AND RECEIVING EQUIPMENT

MBF



Radio Transmitting and Receiving Equipment MBF

FUNCTIONAL DESCRIPTION

The MBF is a portable transmitting and receiving equipment housed in two water-proof cases, used for ship-to-ship telephone communication within line of sight distances.

No field changes in effect at time of preparation (9 April 1958).

RELATION TO OTHER EQUIPMENT

The MBF replaces the MS Radio Transmitting and Receiving Equipment and can work in conjunction with VHF Radio Transmitting and Receiving Equipment TBS.

Equipment Required but not Supplied: Power Source 115 v DC or 115 v AC, 50 to 60 cycles.

MBF PORTABLE RADIO TRANSMITTING AND RECEIVING EQUIPMENT

ELECTRICAL AND MECHANICAL CHARACTERISTICS

GENERAL
- EMISSION AND RECEPTION: A3.
- FREQUENCY RANGE: Any frequency from 60 to 80 mc depending upon crystals available.
- FREQUENCY CONTROL: Crystals.
- FREQUENCY STABILITY: ±0.03%.
- POWER FACTOR: 0.89.
- POWER REQUIREMENTS: 115 v DC or 115 v AC, single phase, 50 to 60 cycles.

TRANSMITTER
- POWER OUTPUT: 3.0 W.
- OUTPUT IMPEDANCE: 30 to 120 ohms at zero ph angle or 40 to 230 ohms at ±45 deg ph angle.
- MODULATION CAPABILITY: 80%.

RECEIVER
- SENSITIVITY: 2 uv.
- CIRCUIT: Superheterodyne.
- OUTPUT IMPEDANCE: 600 ohms.
- POWER OUTPUT
  - TO SPEAKER: Up to 1 W with not more than 15% distortion at 60% modulation.
  - TO HEADPHONES: Up to 10 mw with not more than 15% distortion at 60% modulation.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co, Cedar Rapids, Iowa.

Contract NXsr-80000. dated 21 October 1944.

Approximate Cost: $950.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 6AK5	(2) 25Z6
(3) 6AQ6	(3) 28D7
	(10) 6C4

Total Tubes: (23)
(8) Operating Crystals
Total Crystals: (8)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900508: Technical Manual for Radio Transmitting and Receiving Equipment Navy Model MBF.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

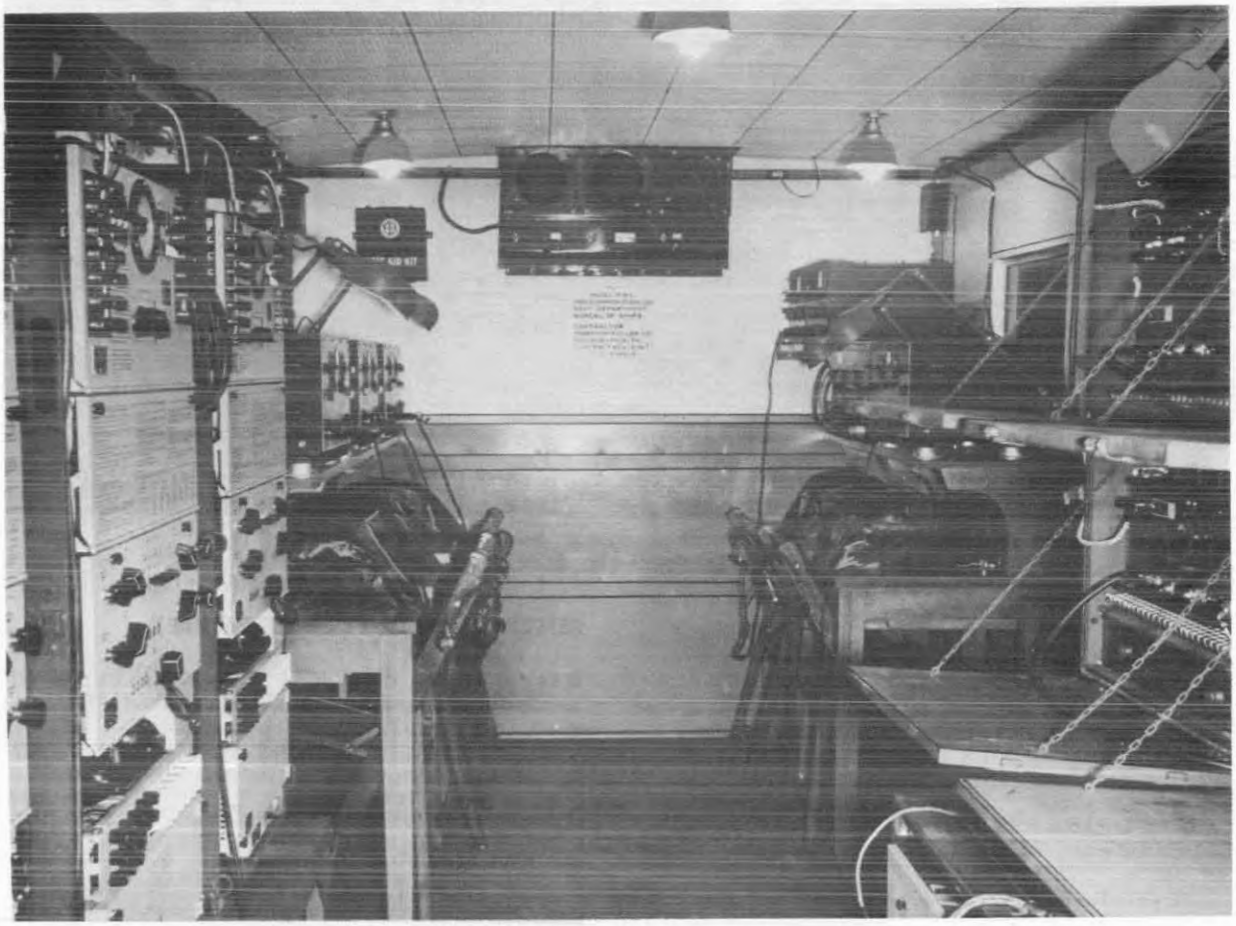
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	MBF Radio Transmitting and Receiving Equipment with Accessories	6.6	16 x 24 x 30	104
1	Set of Equipment spares	5.14	16 x 16 x 35	114

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter-Receiver NT-43065	9-1/2 x 10-1/16 x 15-13/16	26
1	Shockmount Base NT-10479	1-1/4 x 8-1/4 x 14	2
1	Accessory Case NT-10406 and contents	9-3/8 x 9-7/16 x 15-1/16	27
1	Set of Equipment Spares	12-1/4 x 12-1/4 x 31	74

MOBILE COMMUNICATION UNIT

MBL



Interior, Model MBL Mobile Communication Unit

FUNCTIONAL DESCRIPTION

The Navy Model MBL Mobile Unit design and construction does not afford mobile operation in the common sense of the word. The unit is primarily a package on wheels containing all the components of a receiving station with the additional features of a very high frequency (vhf) radio link multi-audio tone system, voice recording, and a sound-proofed program studio for rebroadcasting.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

RECEPTION
AM SIGNALS: 200 kc to 31 mc.
FM SIGNALS: 70 to 100 mc.
TRANSMISSION: 70 to 100 mc.
EMISSION RECEIVED: A1, A2, A3.
PRIMARY POWER REQUIREMENT: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

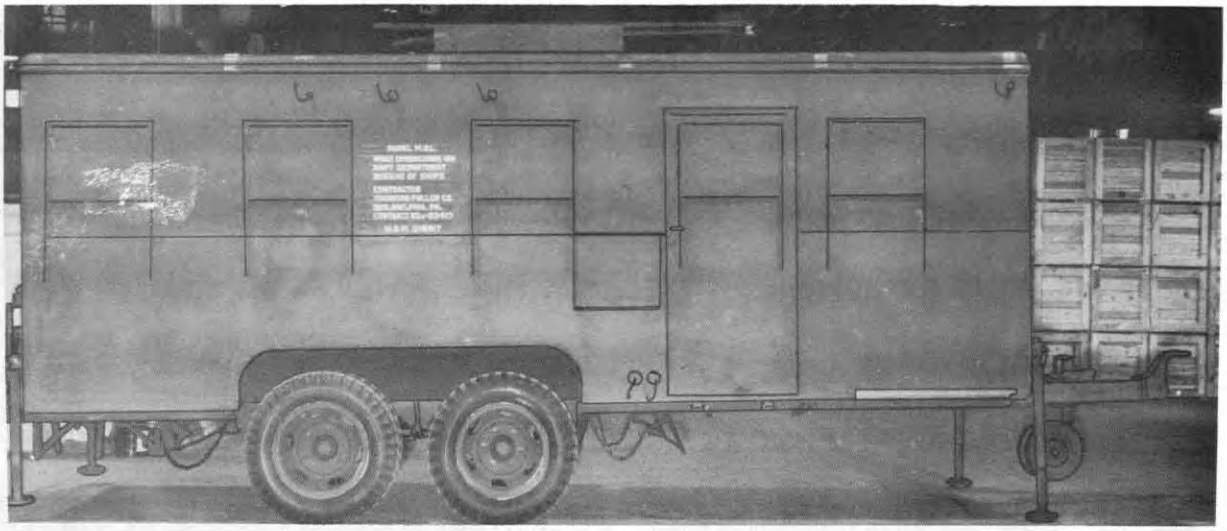
Thornton-Fuller Co., Philadelphia, Pa.
Contract NXsa-83417 dated 9 November 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(6) OC3 (6) 5U4G

MBL

MOBILE COMMUNICATION UNIT



Mobile Communication Unit

(6) 6K8
(8) 6H6
(11) 6V6GT/G
(5) 6AC7
(2) 6SN7GT
(2) 6X5GT/G
(2) 12A6
(7) 12SG7
(3) 12SK7
(54) 6SJ7
(6) 6C5
(24) 6SK7
(2) 6SL7GT
(7) 6SH7
(1) 829B
(4) 12H6
(6) 12SJ7
(8) 394A

Total Tubes: (170)

Crystals unavailable.

REFERENCE DATA AND LITERATURE

Descriptive Material for Navy Model MBL Mobile Communication Unit NAVSHIPS 95133.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

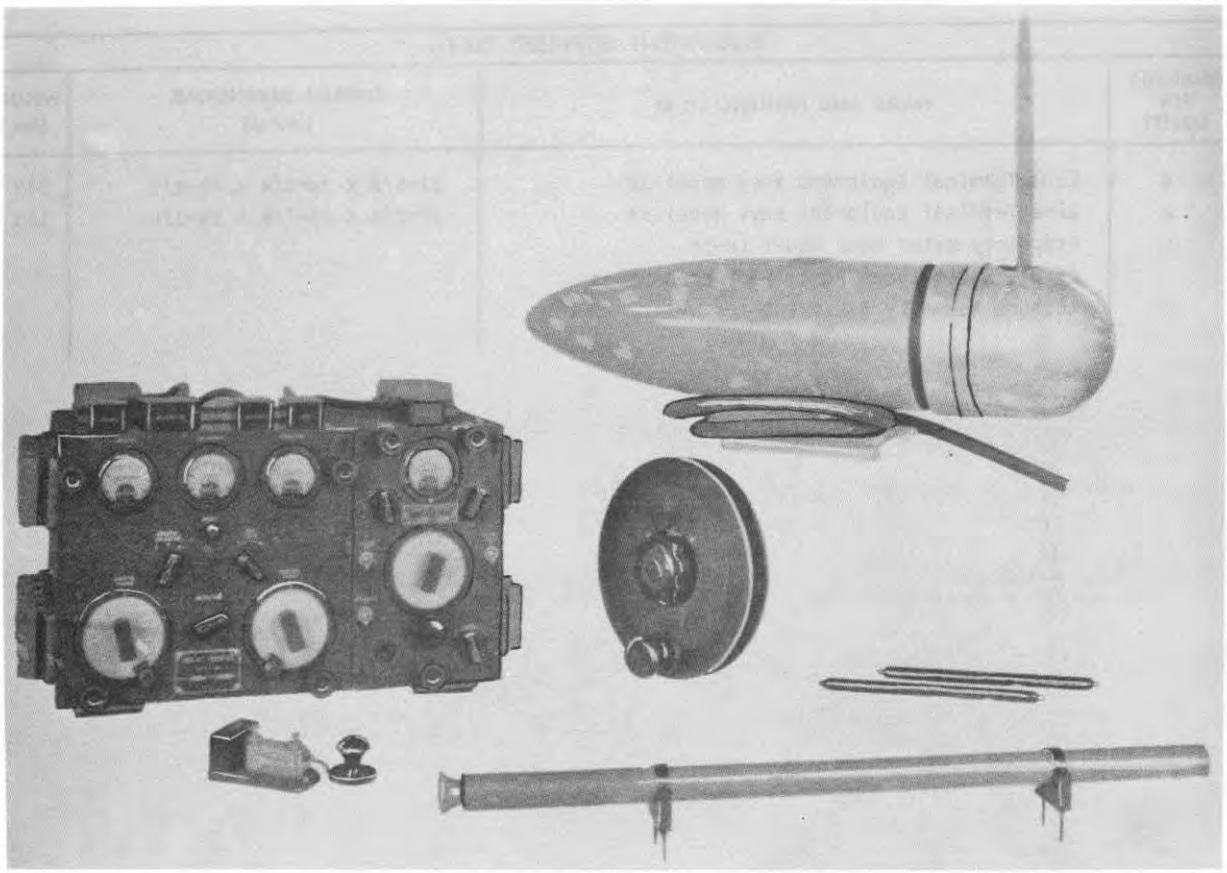
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Trailer, Signal Corps K-35	106 X 123-1/2 X 314-1/2	15000
2	Line Amplifier		
1	Control Switchboard		
1	Voice Recording Equipment NT-PE-1		
1	Radio Receiver Assembly Navy Model RBM C/O:		
	Medium Frequency Receiver NT-46076	9-3/4 X 12-7/16 X 17-7/16	31
	High Frequency Receiver NT-46077	9-3/4 X 12-7/16 X 17-7/16	31
6	Radio Receiver Navy Model RBG including:	12-3/16 X 14-1/16 X 18-15/16	62
6	Loudspeaker NT-49152	7-5/16 X 9-3/8 X 10-3/16	12
5	Telegraphic Typewriter		
5	Hand Telegraph Key		
3	Feld Telephone Type EE-8	5-1/2 X 11-1/4 X 14-1/2	
3	Radio Transmitter NT-T-14/TRC-1	10-3/4 X 12-3/4 X 19-1/8	66
1	Radio Receiver NT-R-19/TRC-1	8 X 12-3/4 X 19-1/8	43
6	Headset, High Impedance		
3	Headset, Low Impedance		

MOBILE COMMUNICATION UNIT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
4	Line Terminal Equipment Navy Model UG	17-1/8 X 24-1/4 X 49-1/2	373
2	Line Terminal Equipment Navy Model UH	17-1/8 X 23-7/8 X 24-1/4	163
1	Frequency Meter Navy Model LM-15		
	Complete Set Spare Parts and Accessories		
2	Antenna Assembly AS-19/TRC-1		

AIRCRAFT RADIO TRANSMITTER-RECEIVER ME



Aircraft Radio Transmitter-Receiver ME

FUNCTIONAL DESCRIPTION

The Model ME is designed for use with aircraft of the observation and reconnisance types. Its purpose is for communications with both ships and other planes. The transmitter and receiver are enclosed in one case and connected by detachable cables to the wind driven generator, battery, key, antenna and frame of the plane.

Break in operation is obtained by means of a relay which connects the antenna to the transmitter when the key is closed but leaves the antenna connected to the receiver at all other times. Transmission is continuous wave, crystal controlled, at a predetermined constant frequency. The receiver is of the non-radiating type arranged for damped or undamped wave reception.

No field changes in effect at time of preparation (25 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 3000 to 4000 kc.
CONTROL: Crystal.
POWER REQUIREMENTS
TYPE: Wind Driven Generator SE-3063 with Air Propeller.
OUTPUT: 500 W on 50% efficiency.
SPEED: 4000 rpm at wind velocities between 50 and 125 mph.
ANTENNA TYPE: 1/4 wave reel type.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 2566 (1) 1984 (4) 1344
Total Tubes: (6)
(3) Crystals
Total Crystals: (3)

ME AIRCRAFT RADIO TRANSMITTER-RECEIVER

REFERENCE DATA AND LITERATURE

Technical Manual for Aircraft Transmitter-Receiver Navy Model ME.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

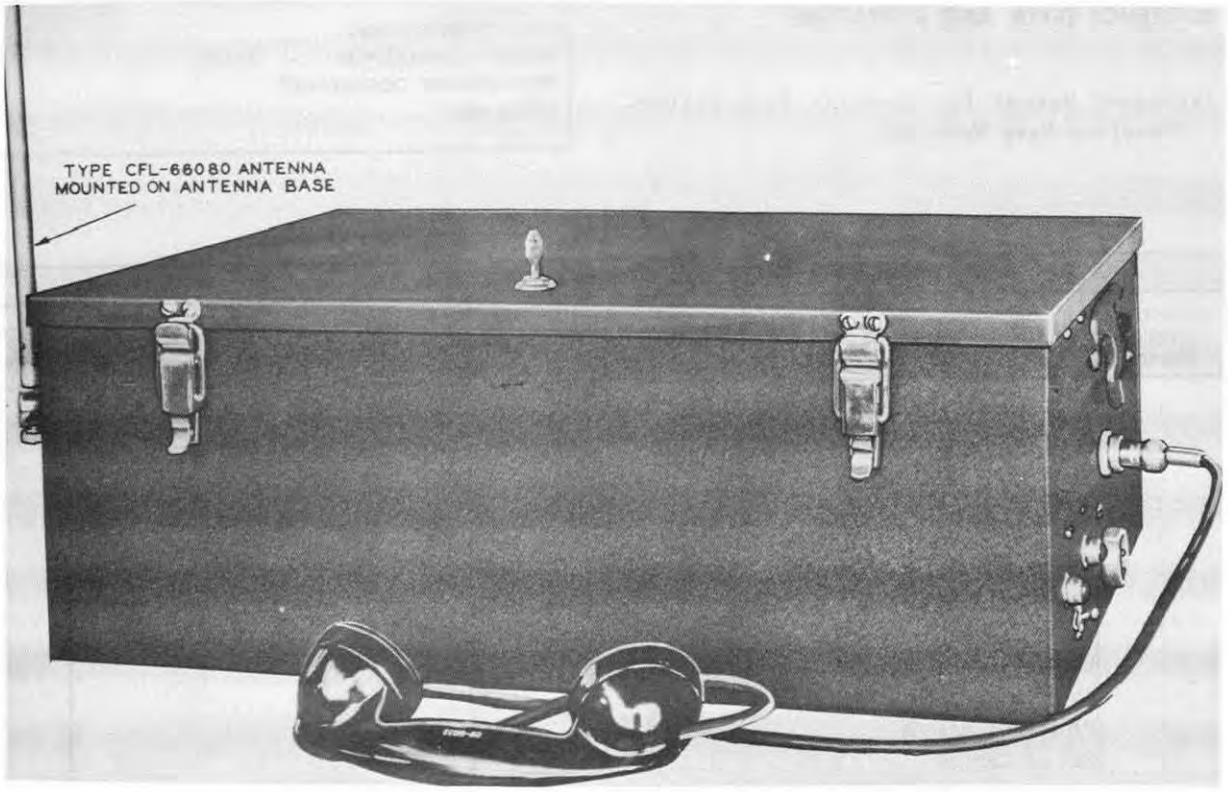
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter SE-3061, Receiver SE-3062 and Case SE-3060		
1	Generator SE-3063		
1	Air Propeller		
3	Crystal Holders SE-2980 with crystals		
1	Transmitting Key SE-1443-A		
1	Instruction Book		
1	Antenna Reel		
1	Lead-out Insulator		
2	Antenna Weights NT-2508		
1	Propeller Wrench		
1	Set of Cables		

April 1958

RADIO TRANSMITTING AND RECEIVING EQUIPMENT

Radio-Transceivers

MN, MN-1 THRU -5



Radio Transmitting and Receiving Equipment Model MN-1

FUNCTIONAL DESCRIPTION

The Navy Model MN series equipments are mobile two-way radiotelephone communication sets intended to provide reliable, short-range communication on Navy vessels, aircraft, cars, trucks, or at shore stations. They are designed to provide frequency-modulated transmission in the 30 to 42 megacycle frequency range, and operate on either storage battery or alternating current power sources.

They are similar in operation but are not interchangeable due to modifications in components used, cabinets and mountings. The Model MN is particularly designed for shipboard use and may be powered from a 32 or 110 volt direct current source or an 115 or 440 volt alternating current source. The Models MN-1,-2,-3 are basically like the Model MN except for the addition of a built-in 6 volt direct current power supply and are always supplied in weather-proof cabinets for portable and semi-fixed use. The Model MN-4 is the same as the Model MN except that it is designed for use in small aircraft and operates only from 13.5 volts direct current. The Model MN-5 is designed for use from a 115 volt alternating current or 13.5 or 27.0 volts direct current source and is built in a standard ATR aircraft rack, size B-1, for universal use. It has provisions for two-frequency operation on adjacent channels.

No field changes in effect at time of preparation (25 April 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 42 mc.
POWER OUTPUT: 0 to 2 W, adjustable.
FREQUENCY CONTROL: Crystal.
EMISSION: F3.
EMISSION DEVIATION: ±15 kc.
RECEIVER DATA
  TYPE: Superheterodyne.
  AUDIO RESPONSE: ±1.5 db at 300 to 2750 cps, −30 db at 3500 cps and above.
  SENSITIVITY: 0.5 uv or better.
  OUTPUT POWER: 1 W max.
OUTPUT IMPEDANCE
  TRANSMITTER
    MN: 70 ohms.
    MN-1,-2,-3,-4: 30 to 100 ohms.
    MN-5: 50 to 100 ohms.
  RECEIVER

Radio-Transceivers

MN, MN-1 THRU -5

RADIO TRANSMITTING AND RECEIVING EQUIPMENT

MN, MN-1,-2,-3: 8 ohms.
MN-4: 500 ohms.
MN-5: 6 ohms to loudspeaker, 200 to 2000 ohms to headset.

POWER REQUIREMENTS
MN: 115 v, 50 to 60 cps, single ph, 0.9 amps, 90 W.
MN-1,-2,-3: 115 v, 50 to 60 cps, single ph, 90 W or 6 v DC, 11 amps.
MN-4: 12 to 15 v DC, 6 amps.
MN-5: 115 v, 50 to 400 cps, single ph, 80 W or 13.5 v DC, 6 amps or 27 v DC, 3 amps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Fred M. Link, New York, N.Y.
Contract NXs-3834, dated 20 April 1942 (MN).
Contract NXss-14291, dated 5 October 1942 (MN-1).
Contract NXss-20219, dated 26 December 1942 (MN-2).
Contract NXss-30781, dated 1 June 1943 (MN-3).
Contract NXso-32191, dated 24 June 1943 (MN-4).
Contract NXsr-41011, dated 6 November 1943 (MN-5).
Contract NXsr-48343, dated 5 February 1944 (MN-5).
Approximate Cost: $800.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

MN,MN-1,-2,-3	MN-4	MN-5
(3) 6AC7WA	(3) 6AC7WA	(1) 12A6
(2) 6H6	(2) 6H6	(2) 12H6
(2) 6K8	(2) 6K8	(1) 12SA7Y
(1) 6SG7Y	(1) 6SG7Y	(2) 12SH7
(1) 6SJ7	(1) 6SJ7	(1) 12SJ7
(2) 6SL7WGT	(2) 6SL7WGT	(2) 12SL7GT
(4) 6V6GTY	(4) 6V6GTY	(4) 6AC7WA
(1) 6X5WGT		(2) 6V6GTY
		(1) 6X5WGT
Total Tubes: (16)	(15), (16)	
MN,MN-1,-2,-3,-4		MN-5
(2) RCVR Crystals		(3) RCVR Crystals
(1) XTMR Crystal		(2) XTMR Crystals
Total Crystals: (3)		Total Crystals: (5)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95138: Technical Manual for Navy Model MN Radio Transmitting and Receiving Equipment.
NAVSHIPS 95139: Technical Manual for Navy Model MN-1 Radio Transmitting and Receiving Equipment.
NAVSHIPS 95140: Technical Manual for Navy Model MN-2 Radio Transmitting and Receiving Equipment.
NAVSHIPS 95141: Technical Manual for Navy Model MN-3 Radio Transmitting and Receiving Equipment.
NAVSHIPS 95142: Technical Manual for Navy Model MN-4 Radio Transmitting and Receiving Equipment.
NAVSHIPS 95143: Technical Manual for Radio Transmitting and Receiving Equipment Model MN-5.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

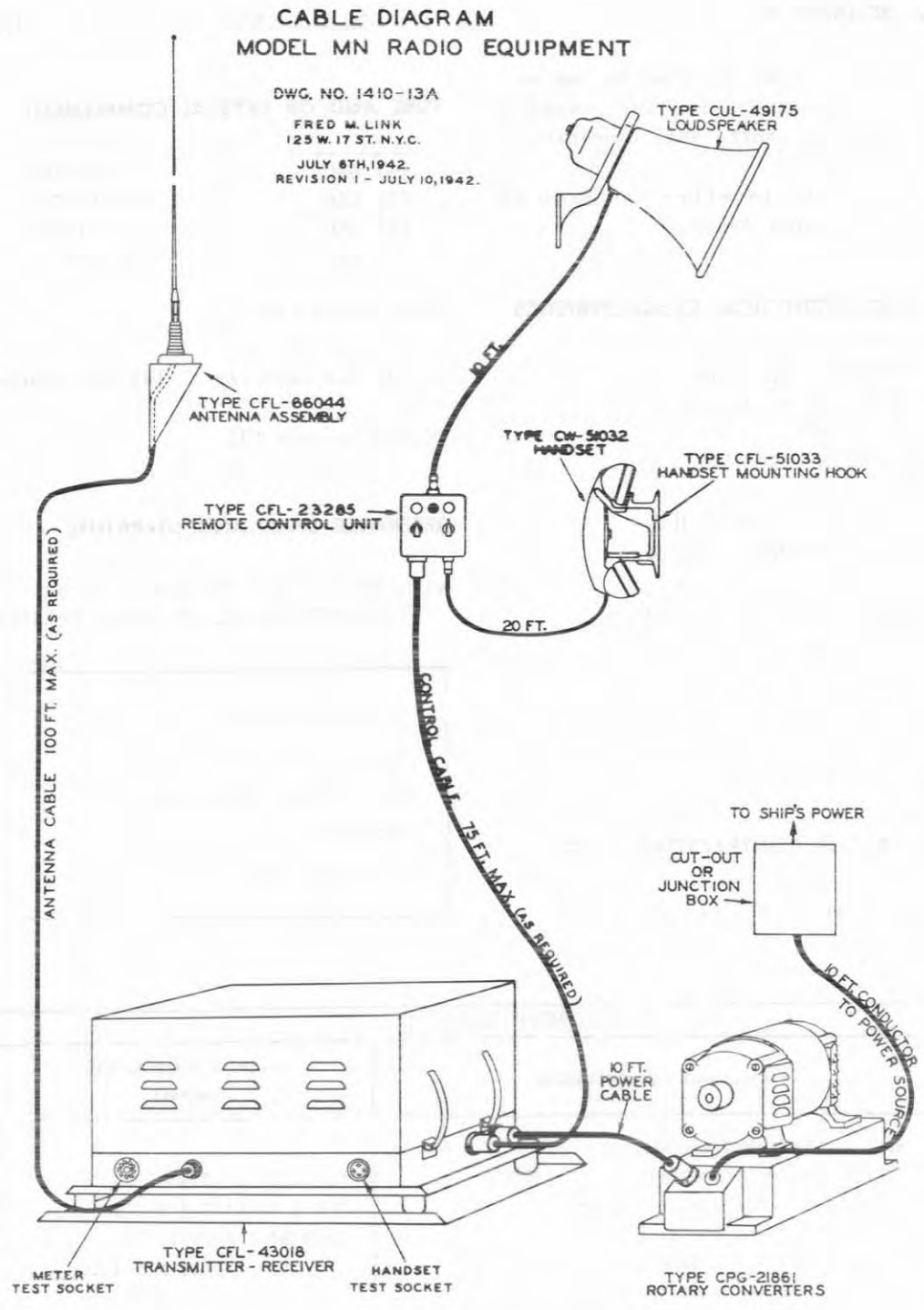
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	MN,MN-1,-2,-3,-4 SHIPPING DATA NOT AVAILABLE			
	MN-5			
1	Radio Transmitter-Receiver NT-43059	3.4	13-1/2 X 16 X 27	70
1	Remote Control Unit NT-23285A including: (1) Loudspeaker NT-49629 (1) Handset NT-51032 (1) Handset Mounting Hook NT-51033A (1) Antenna Mounting Base (5) Cable	4.4	15-1/2 X 21 X 23-1/2	93
1	Antenna Whip			
1	Set of Equipment Spares	2.9	14-1/2 X 15-1/2 X 22-1/2	105

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	MN		
1	Radio Transmitter-Receiver NT-43018	9 X 12 X 19-3/4	38
1	Remote Control Unit NT-23285	3-1/8 X 4-1/2 X 4-1/2	
1	Handset NT-51032	2-23/32 w X 8-15/16 lg	2
1	Handset Mounting Hook NT-51033	2-9/16 X 4-5/16 X 5-9/16	
1	Antenna Assembly NT-66044	4 X 4-1/16 X 81-25/32	
1	Loudspeaker NT-49175	8-3/8 dia X 10-1/4	
1	Rotary Converter NT-21861 (120 v DC/115 v AC) or	6-3/4 X 9-1/4 X 12-3/4	41
	Rotary Converter NT-21860 (32 v DC/115 v AC) or	6-3/4 X 9-1/4 X 12-3/4	41
	Transformer NT-30881 (450 v AC/115 v AC)	5 X 5-1/4 X 5-7/16	9
1	Test Meter Unit Type 1410		
1	Set of Equipment Spares		
2	Technical Manual NAVSHIPS 95138	1/4 X 8-1/2 X 11	
	MN-1,-2,-3		
1	Radio Transmitter-Receiver NT-43034	9 X 12 X 19-3/4	38
1	Handset NT-51032	2-23/32 w X 8-15/16 lg	2
1	Antenna NT-66080	83 lg	0.5
1	Weatherproof Equipment Case	8-1/8 X 14-1/2 X 24-1/2	29
1	AC Power Cord	96 lg	
1	DC Power Cord	96 lg	
1	Test Meter Unit Type 1410		
1	Set of Equipment Spares		
2	Technical Manual	1/4 X 8-1/2 X 11	
	MN-4		
1	Radio Transmitter-Receiver NT-43048	9 X 12-1/8 X 19-3/4	36.2
1	Remote Control Unit NT-23378	2-3/16 X 4 X 5-1/4	1.3
1	Headset NT-51056		1.25
1	Antenna Assembly		2.1
1	Remote Control Cable	120 lg	2.0
1	Power Cord	120 lg	1.0
1	Test Meter Unit Type 1410		
1	Set of Equipment Spares		
2	Technical Manual NAVSHIPS 95142	1/4 X 8-1/2 X 11	
	MN-5		
1	Radio Transmitter-Receiver NT-43059	9-3/16 X 10-7/16 X 22-3/8	39.0
1	Remote Control Unit NT-23285A	3-1/8 X 4-1/2 X 7-13/16	2.1
1	Antenna Assembly NT-66119 or	3-1/4 X 3-1/2 X 75-1/4	3.0
	NT-66120	5 X 5 X 78	3.3
1	Handset NT-51032	2-5/8 X 3-1/4 X 9-1/4	1.6
1	Handset Mounting Hook NT-51033A	3-1/16 X 3-3/16 X 8	0.25
1	Loudspeaker NT-49629	8-3/8 X 9 X 10-1/4	5.5
1	Control Cable	120 lg	2.9
3	Power Cable	120 lg	5.7
1	Antenna Cable	1200 lg	10.5
1	Set of Equipment Spares	12-1/4 X 13-3/8 X 19	80.0
2	Technical Manual NAVSHIPS 95143	1/4 X 8-1/2 X 11	

RADIO SET MN.120DC



Model MN Radio Set

Radio-Transceivers

February 1960

MN.120DC RADIO SET

FUNCTIONAL DESCRIPTION

Radio Set MN 120 v DC is a mobile two-way radio-telephone communication set intended to provide reliable, short-range communication on Navy vessels.

No field changes in effect at time of preparation (13 October 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 120 v DC.
FREQUENCY RANGE: 30 to 42 mc.
TYPE OF EMISSION: FM.
FREQUENCY DEVIATION: ±15 kc.
AUDIO RESPONSE
300 to 2750 CYCLES: ±1.5 db.
3500 CYCLES AND ABOVE: −30 db.
POWER OUTPUT
TRANSMITTER: 0 to 2 W adjustable.
RECEIVER: 1 W max.
SENSITIVITY: 1/2 uv.
OUTPUT IMPEDANCE
TRANSMITTER: 70 ohms.
RECEIVER: 8 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Fred M. Link, New York, New York.

Contract NXs-3834, dated 20 April 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6AC7	(2) 6SL7GT
(2) 6H6	(4) 6V6GT
(1) 6SG7	(1) 6X5GT
(1) 6SJ7	(2) 6K8

Total Tubes (16).

(2) for receiver (1) for Transmitter

Total Crystals (3)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95138: Technical Manual for RADIO TRANSMITTING and RECEIVING EQUIPMENT MN.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, 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 MN 120DC including:		
1	Radio Transmitter-Receiver NT-43018	9 X 12 X 19-3/4	38
1	Remote Control UNIT NT-23285	3-1/8 X 4-1/2 X 4-1/2	
1	Handset w/cord and plug NT-51032	2-23/32 X 8-15/16 lg	2
1	Handset Mounting Hook NT-51033	2-9/16 X 4-5/16 X 5-9/16	
1	Antenna Assembly NT-66044	4 X 4-1/16 X 81-25/32	
1	Loudspeaker w/cord and plug NT-49175	8-3/8 dia X 10-1/4	
1	Set Cables		
1	Test Meter Unit type 141D (Link)		
1	Rotary Converter NT-21861	6-3/4 X 9-1/4 X 12-3/4	

April 1958

RADIO TELEPHONE AND TELEGRAPH TRANSMITTING AND RECEIVING EQUIPMENT

Radio Telephone and Telegraph Transmitting and Receiving Equipment MO-1

FUNCTIONAL DESCRIPTION

The Model MO-1 is a four channel mobile unit designed to provide a compact, two-way radio installation for use in Naval Craft, Combat Vehicles and other applications where space is at a premium. Both transmitter and receiver are crystal controlled and may be controlled from a remote location with the exception of the channel switching and emission selection circuits. It is designed to be used in conjunction with an interphone system, and provides audio sidetone to the headphones.

It may be operated from either a 6-volt or 12-volt direct current power source by use of the proper associated power equipment.

No field changes in effect at time of preparation (25 October 1957).

RELATION TO OTHER EQUIPMENT

The Navy Model MO-1 and Navy Model MAK are similar differing mainly in the frequency range.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 3 to 8 mc.
POWER OUTPUT: 25 W.
EMISSION: A2, A3.
FREQUENCY CONTROL: Crystal.
RECEIVING DATA
TYPE: Superheterodyne.
SENSITIVITY: 2.0 uv for 50 mw output across a 600 ohm load.
IF: 455 kc.
OUTPUT IMPEDANCE: 600 ohms.
POWER REQUIREMENTS: 6 or 12 v DC battery.

Radio-Transceivers

MO-1

RADIO TELEPHONE AND TELEGRAPH TRANSMITTING AND RECEIVING EQUIPMENT

April 1958

MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Company, Inc., Coral Gables, Fla.
Contract NXs-5884, dated 3 June 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

6 Volt

(3) HY-69
(2) 6SK7WA
(2) 6V6Y
(1) 6K8
(1) 6SQ7
Total Tubes: (9)
(8) Quartz Crystal
Total Crystal: (8)

12 Volt

(3) HY-1269
(1) 12K8
(1) 12SQ7
(2) 12A6
(2) 12SK7
Total Tubes: (9)

(8) Quartz Crystal
Total Crystal: (8)

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Models MO-1 and MAK Radio Telephone and Telegraph Transmitting and Receiving Equipment.

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 Transmitter-Receiver NT-43042	9-1/2 X 10-1/2 X 17	27.5
1	Control Unit NT-23343	3 X 3-1/2 X 10	3.0
1	Power Assembly (6 Volt) consisting of: Vibrator Power Assembly NT-20190 Dynamotor NT-21983	10-1/8 X 11 X 17	48.0
	or		
	Power Assembly (12 Volt) consisting of: Vibrator Power Assembly NT-20193 Dynamotor NT-21984	10-1/8 X 11 X 17	48.0
1	Handset		1.4
1	Speaker		1.0
1	Set of Equipment Spares		

TRANSMITTING-RECEIVING RADIO TELEPHONE EQUIPMENT

MQ

FUNCTIONAL DESCRIPTION

The MQ is designed as a two-way communication from shore-to-ship or point-to-point. It is designed for radio telegraph or frequency shift operation in the 2000 to 3500 Kilocycles (KC) range with provisions for the use of a maximum of four (4) crystal-controlled pretuned frequencies within the bands.

No field changes in effect at time of preparation (4 March 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal oscillator.
TYPE OF EMISSION: A3.
MODULATION CAPABILITY: 100%.
FIDELITY
  TRANSMITTER: ±2 db from 200 to 3500 cps measures at 400 cps reference.
  RECEIVER: Flat within ±2 db between 100 and 1500 cps.
RECEIVER DATA
  TYPE: Superheterodyne.
  AUDIO OUTPUT: 50 mw into 5 ohm load.
  MODULATION: 30% at 400 cps.
  SENSITIVITY: 15 uv.
  SIGNAL-TO-NOISE RATIO: 4 to 1.
ANTENNA RQMT'S
  TYPE: T, L, or vertical wire.
  VERTICAL TYPE LENGTH: 23 ft. min.
  CAPACITY: Transmitter circuit will resonate 100 uf capacity and 5 ohm resistance min.
POWER OUTPUT: 5 W nom.
OPERATING FREQUENCY RANGE: 2000 to 3500 mc.
OPERATING POWER RQMT: 6 or 12 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6A8GT (1) 6G6G (1) 6K7GT
(1) 6L6WGB (3) 6V6GTY
Total Tubes: (7)
Crystal data not available.

REFERENCE DATA AND LITERATURE

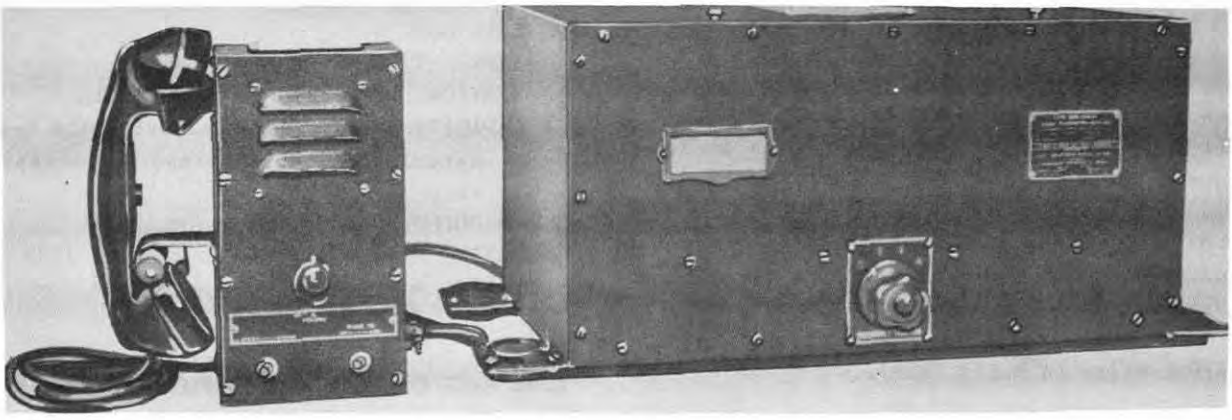
NAVSHIPS 95144: Technical Manual for Transmitting Radio Telephone Equipment MQ-1.

TYPE CLASSIFICATION	(NAVY)
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 Transmitter	9-1/2 X 10-1/2 X 17	27.5
1	Control Unit CRM-23327	3 X 3-1/2 X 10	3
1	Power Ass'y (6-V) Consisting Of:	10-1/8 X 11 X 17	48
	Vibrator Power Ass'y		
	Dynamotor		
	Power Ass'y Consisting Of:	10-1/8 X 11 X 17	48
	Vibrator Power Ass'y		
	Dynamotor		
1	Handset		
1	Speaker		
1	Set of Equipment Spares		

RADIOTELEPHONE EQUIPMENT MQ-1,-2



Model MQ-1 Radiotelephone Transmitting & Receiving Equipment

FUNCTIONAL DESCRIPTION

The Navy Models MQ-1 and MQ-2 are compact, low power radiotelephone two-way communication equipments designed primarily for mobile marine applications. They are designed to cover the 2000 to 3500 kilocycle frequency range with provisions for the use of a maximum of four crystal-controlled pretuned frequencies within the band.

They are similar in frequency range, output, and emission, but have major electrical and mechanical differences. The Navy Model MQ-1 is designed to operate from a 6 or 12 volt direct current power source, while the Navy Model MQ-2 is designed to operate from a 6 volt direct current or 115 volt alternating current power source. The Navy Model MQ-1 is designed so that a suitable type of selective ringer may be installed to ring a bell on the ship where the MQ-1 is installed, and has remote control facilities except for frequency change.

No field changes in effect at time of preparation (8 April 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 to 3500 mc.
FREQUENCY CONTROL: Crystal oscillator.
POWER OUTPUT: 5 W nom.
EMISSION: A3.
MODULATION CAPABILITY: 100%.
FIDELITY
  TRANSMITTER: ±2 db from 200 to 3500 cps measured from 400 cps reference.
  RECEIVER: Flat within ±2 db between 100 and 1500 cps.
RECEIVER DATA
  TYPE: Superheterodyne.
  AUDIO OUTPUT: 50 mw into 5 ohm load.
  MODULATION: 30% at 400 cps.
  SENSITIVITY: 15 uv.
  SIGNAL-TO-NOISE RATIO: 4 to 1.
POWER REQUIREMENTS
  MQ-1: 6 or 12 v DC.
  MQ-2: 6 v DC or 115 v, 60 cps, single ph.
ANTENNA REQUIREMENTS
  TYPE: T,L, or vertical wire.
  VERTICAL TYPE LENGTH: 23 ft min.
  CAPACITY: Transmitter circuit will resonate 100 uf capacity and 5 ohms resistance min.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corporation of America, New York, N.Y.
Contract NXs-12088, dated 9 September 1942 (MQ-1).
Contract NXss-LL-23979 (MQ-2).
Approximate Cost: $500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

MQ-1

(1) 6G6G	(2) 6SS7
(1) 6K8	(1) 6ST7
(1) 6L6WGB	(3) 6V6GTY

Total Tubes: (9)

Radio-Transceivers

MQ-1,-2 RADIOTELEPHONE EQUIPMENT

MQ-2

(1) 5U4G
(1) 6G6G
(1) 6L6WGB
(1) 6SA7Y
(2) 6SK7WA
(1) 6SR7
(3) 6Y6GTY

Total Tubes: (10)

MQ-1

(8) R-1/R-2

Total Crystals: (8)

MQ-2

(8) R-1/R-2

Total Crystals: (8)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95144: Technical Manual for Model MQ-1 Transmitting-Receiving Radiotelephone Equipment.

NAVSHIPS 95145: Technical Manual for Model MQ-2 Transmitting-Receiving Radiotelephone Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	MQ-1		
1	Radio Transmitter-Receiver (6 v DC) NT-43023 or (12 v DC) NT-43024	10-3/8 x 13-7/8 x 23-5/8	40
1	Remote Control Unit NT-23327	4 x 8-1/2 x 10-5/8	7
1	Set of Crystals		
1	Plug		
3	Calibration Card		
1	Set of Equipment Spares	6-1/2 x 7 x 12-3/8	14
2	Technical Manual NavShips 95144	1/4 x 8-1/2 x 11	
	MQ-2		
1	Radio Transmitter-Receiver NT-43046	12-1/8 x 18-1/8 x 23-5/8	71
1	Set of Crystals		
1	Cable	120 lg	
3	Calibration Card		
1	Set of Equipment Spares	6 x 6 x 12	14
2	Technical Manual NavShips 95145	1/4 x 8-1/2 x 11	

RADIO SET MZ-1

FUNCTIONAL DESCRIPTION

The MZ-1 is designed as a mobile type transmitting and receiving set. It provides two way communication with a similar fixed or mobile equipment operating on the same frequency. A single antenna is used which receives or transmits in accordance with the operation of an antenna relay in the transmitter. This equipment employs a dynamotor power supply operated from the 12 volt storage battery.

No field changes in effect at time of preparation (21 March 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TRANSMITTER DATA
TYPE OF EMISSION: A1 type, 40 W max; A3 type, 30 W max.
NUMBER OF BANDS: 3 bands.
FREQUENCY RANGE: 1500 to 12,000 kc.
RECEIVER DATA
TYPE OF EMISSION: A1, A3 types.
NUMBER OF BANDS: 3 bands.
FREQUENCY RANGE: 1500 to 12,000 kc.

OPERATING POWER RQMT: 12 v DC, internal battery.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal Data not available.

REFERENCE DATA AND LITERATURE

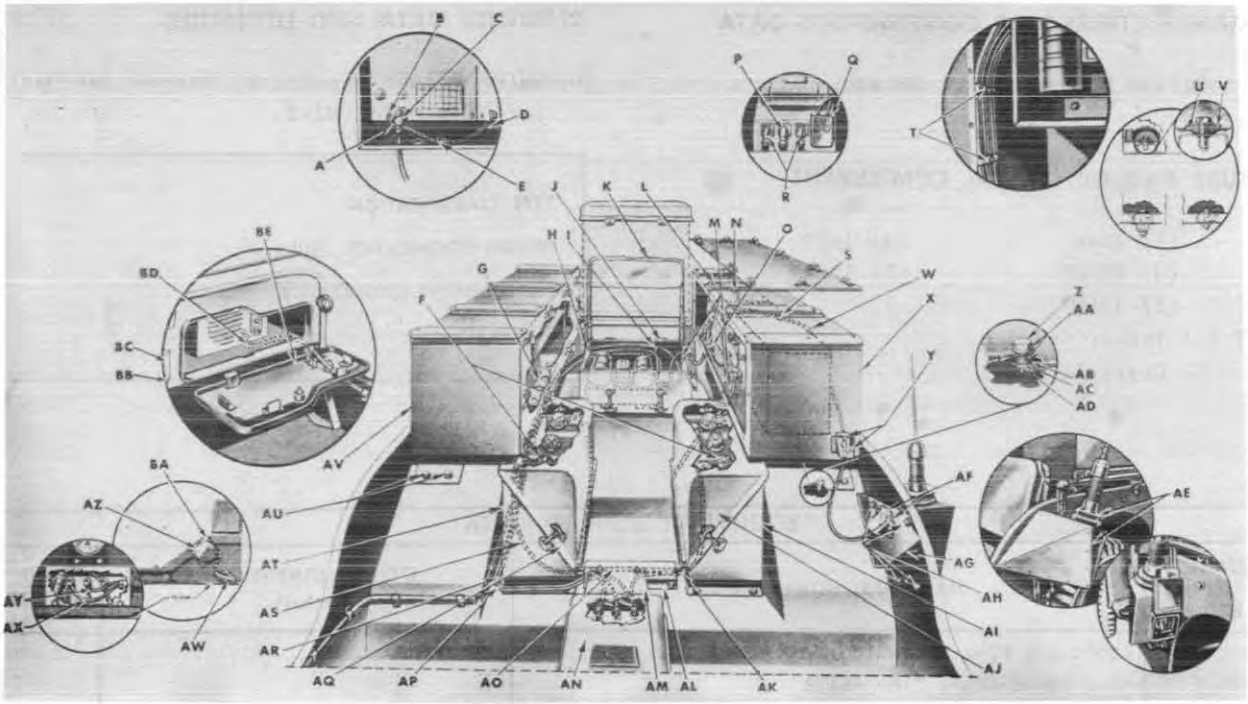
NAVSHIPS 95147: Technical Manual for Radio Set MZ-1.
Nomenclature Card MZ-1 for Radio Set.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Dynamotor Assy NT No. 21881	7 X 7-5/8 X 12-7/8	
1	Headset Nt No. 49507	3/8d X 2-1/32 dia	
1	Radio Receiver NT No. 46159	11 X 11-3/4 X 11-13/16	
1	Radio Transmitter NT No. 52245	11-3/16 X 11-11/16 X 13-3/4	

RADIO SET MZ-2



Radio Set MZ-2

FUNCTIONAL DESCRIPTION

The Navy Model MZ-2 is designed as a complete radio transmitting and receiving set. It is designed for use in portable and mobile services. It was designed to be installed in a Willys Model MB 1/4 Ton 4 X 4 Truck. However, it may be used in other services where severe vibration and shock may be encountered.

No field changes in effect at time of preparation (20 February 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TRANSMITTER CHARACTERISTICS

TYPE OF SIGNALS EMITTED: CW or voice modulated.

NUMBER OF BANDS: 3 bands.

FREQUENCY RESPONSE: It is uniform ±3 db from 300 cps to 3000 cps.

AUDIO FREQUENCY DISTORTION: Less then 10% r.m.s. measured with 90% modulation at 400 cps.

RESIDUAL NOISE LEVEL: On the carrier is more than 40 db below the 100% modulation level.

POWER OUTPUT

VOICE: 20 watts.

CONTINUOUS WAVE: 40 watts.

RECEIVER CHARACTERISTICS

NUMBER OF BANDS: 3 bands.

TYPE OF CONTROL: Crystal controlled.

FREQUENCY RESPONSE: Within 5 db from 300 cps to 3000 cps.

BANDWIDTH: 6 kc at 6 db down, 11 kc at 20 db down and 19 kc at 40 db down.

AUDIO FREQUENCY DISTORTION: Less than 5.0% at 1.5 W; and 10% at 2.4 watts.

OPERATING POWER REQUIREMENTS: 12 v DC, 24 v DC, 32 v DC, 115 v DC, 115 v AC, 60 cps; and 230 v DC.

NOTE: Receiver requires 12 v AC or DC at 1.4 amps for the filaments and 225 v DC at 95 ma for the plates of the tubes.

Radio-Transceivers

MZ-2 RADIO SET

MANUFACTURER'S OR CONTRACTOR'S DATA

Willys Motors, Inc., Toledo, Ohio.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95147: Technical Manual for Radio Set Navy Model MZ-2.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 12A6
(3) 12SK7
(1) 12SQ7
(4) 1625
(1) 12SA7

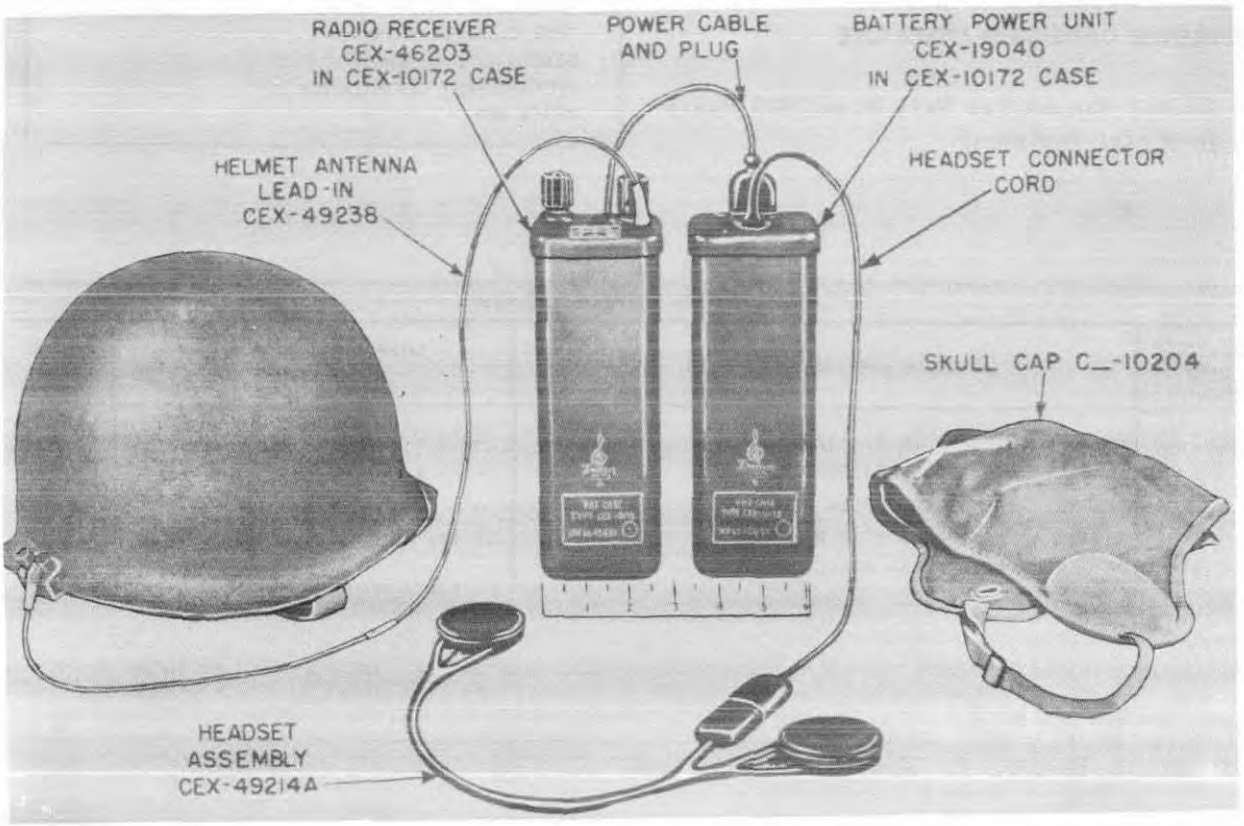
Total Tubes: (14)

No Crystals used.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set MZ-2 Including:		
1	Antenna Ass'y Type 66118		
1	Reconnaissance Car Type 10182-B		
1	Radio Transmitting and Receiving Set Model TCS		

RADIO RECEIVING EQUIPMENT RBZ



Radio Receiving Equipment RBZ

FUNCTIONAL DESCRIPTION

The RBZ is designed to serve as a portable radio receiver intended to be carried primarily in a special canvas vest carrying holder. The equipment is light and compact and derives all operating power from self-contained dry batteries which are carried in one of the two identical and interchangeable water-tight plastic cases.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2 to 5.8 mc.
INTERMEDIATE FREQUENCY: 455 kc.
OUTPUT IMPEDANCE: Approx 600 ohms.
LOW VOLTAGE BATTERY LIFE EXPECTANCY: 8 to 10 hrs continuous operation.
HIGH VOLTAGE BATTERY LIFE EXPECTANCY: 40 to 50 hrs depending on sensitivity which can be tolerated.
IMAGE REJECTION RATIO: 100 to 1.
POWER SOURCE REQUIRED: 1.5 v at 250 ma DC and 12.5 v DC at 5.5 ma.

MANUFACTURER'S OR CONTRACTOR'S DATA

Emerson Radio and Phonograph Corp, New York, N.Y.
Contract NXss 15891.
Approximate Cost: $70.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 1T4	(1) 1R5
(1) 1S5	(1) 1L4

Total Tubes: (5)

RBZ RADIO RECEIVING EQUIPMENT

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model RBZ Radio Receiving Equipment.

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 Receiver Unit NT-46203	1-7/8 X 2-7/8 X 8	1.875
1	Battery Power Unit NT-19040	1-7/8 X 2-7/8 X 8	1.812
1	Headset Assembly NT-49214		.5
1	Helmet Antenna Lead - In NT-49238	27 in. lg	0.94
1	Canvas Carrying Case NT-10203		1.0