
SECTION 9 OF 10

NAVSHIPS 94200.1

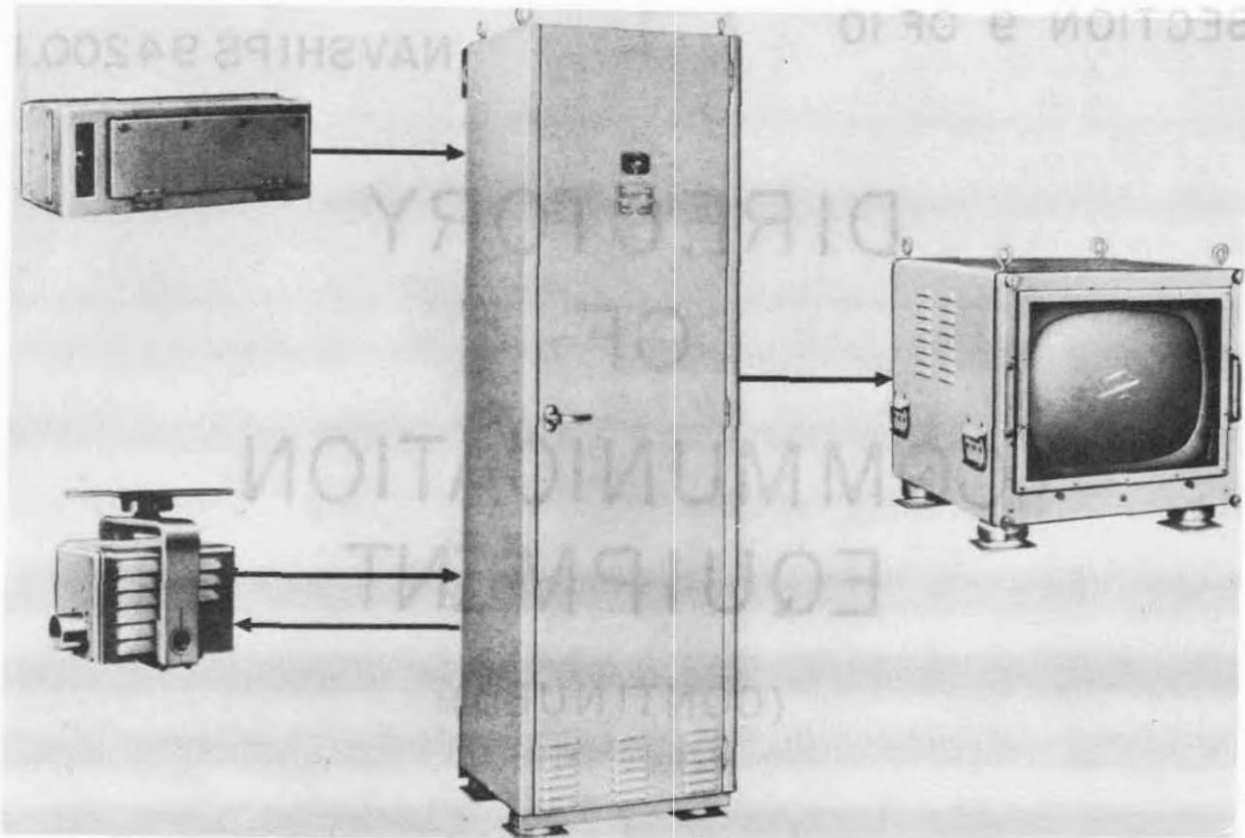
DIRECTORY
OF
COMMUNICATION
EQUIPMENT

(CONTINUED)

PREPARED BY
U.S. NAVY
ELECTRONICS SUPPLY OFFICE
GREAT LAKES, ILLINOIS

TELEVISION SYSTEM

AN/SXQ-2



Television System AN/SXQ-2

FUNCTIONAL DESCRIPTION

Television System AN/SXQ-2 makes it possible for cognizant shipboard personnel at a remote location to view the plotting board located in the Combat Information Center. Provision is made for distribution of the video signal to a maximum of eight remote viewers.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS**SCANNING RATES**

FIELD: 60 cps.
 FRAME RATE: 30 cps.
 LINE PER FRAME: 875.

LINE RATE: 26,250 cps.
 BANDWIDTH: 17 mc ± 1.5 db.
 ASPECT RATION: Variable between limits of 1:1 and 3:4 (height to width).
 RESOLUTION: (3:4 ASPECT RATIO)
 HORIZONTAL: 900 lines (center).
 VERTICAL: 600 lines.
 HORIZONTAL: 700 lines (corners).
 PULSE WIDTH
 HORIZONTAL BLANKING: 7.0 usec.
 HORIZONTAL DRIVE: 4.5 usec.
 VERTICAL BLANKING: 21 in. lines, adjustable.
 VERTICAL DRIVE: 575 usec.
 POWER SUPPLY: 115 v $\pm 10\%$, 60 cps, $\pm 5\%$, single ph.
 POWER DISSIPATION
 CAMERA: 50 W.
 EQUIPMENT CABINET: 2,000 W.

Radio-Transceivers

AN/SXQ-2

TELEVISION SYSTEM

VIEWER: 350 W.
AMBIENT TEMPERATURE: -54.5° C (130° F) max.

(17) 1N38A (3) 1N485 (1) T8G

Total Tubes: (164)

MANUFACTURER'S OR CONTRACTOR'S DATA

No Crystals used.

General Precision Laboratory Inc., Pleasantville, New York.
Contract NObsr-75369.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93315(B): Technical Manual for TELEVISION SYSTEM AN/SXQ-2(V).

TUBE AND/OR CRYSTAL COMPLEMENT

- (1) 0A2WA (8) 6SL7GT (2) 5726/6AL5W
- (2) OD3 (2) 6X2 (16) 6AK5W/5654
- (3) 6AU6WA (8) 6AU8 (1) 6BL7
- (6) 6CL6 (2) 6DQ6A (2) 6V3
- (7) 12AV7 (26) 12AT7WA (1) Z4619P4
- (1) 417A/5842 (5) 5651 (13) 5687
- (3) 5814/12AU7 (8) 6080 (1) 5725/6AS6W
- (1) 6146 (9) 6336A (8) 6688/E180F
- (1) C74008 (1) GV6A-900 (5) 6922/E88CC

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

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Electronic Equipment Cabinet CY-2543/SXQ-2	52.5	30 X 36 X 84	1040
1 or More	Television Viewer IP-487/UX (1 for each viewer)	18.75	30 X 30 X 36	375
1	Cathode Ray Tube for Viewer	6.97	17 X 21 X 34	40
1	Camera Television MT-2667/UX	16.3	28 X 28 X 36	175
	Television System Control C-2740/UX			
	Television Camera Mount MT-2088/SXQ-2			
	Cables			
	Connectors and Miscellaneous Hardware			
5	Repair Parts and Manuals	9.52	22 X 22 X 34	100

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Television System AN/SXQ-2(V) Consists of:		
1	Camera, Television MX-2667/UX	8-1/16 X 8-7/8 X 15-1/4	20
1	Cabinet, Electronic Equipment CY-2543/SXQ-2 consists of:	21-5/8 X 22-7/8 X 74-1/2	750
1	Trigger Pulse Amplifier AM-2097/UX	2 X 5-9/16 X 11-3/4	3
1	Interconnecting Box J-1017/UX	6-7/8 X 14-13/16 X 18-5/16	40

TELEVISION SYSTEM

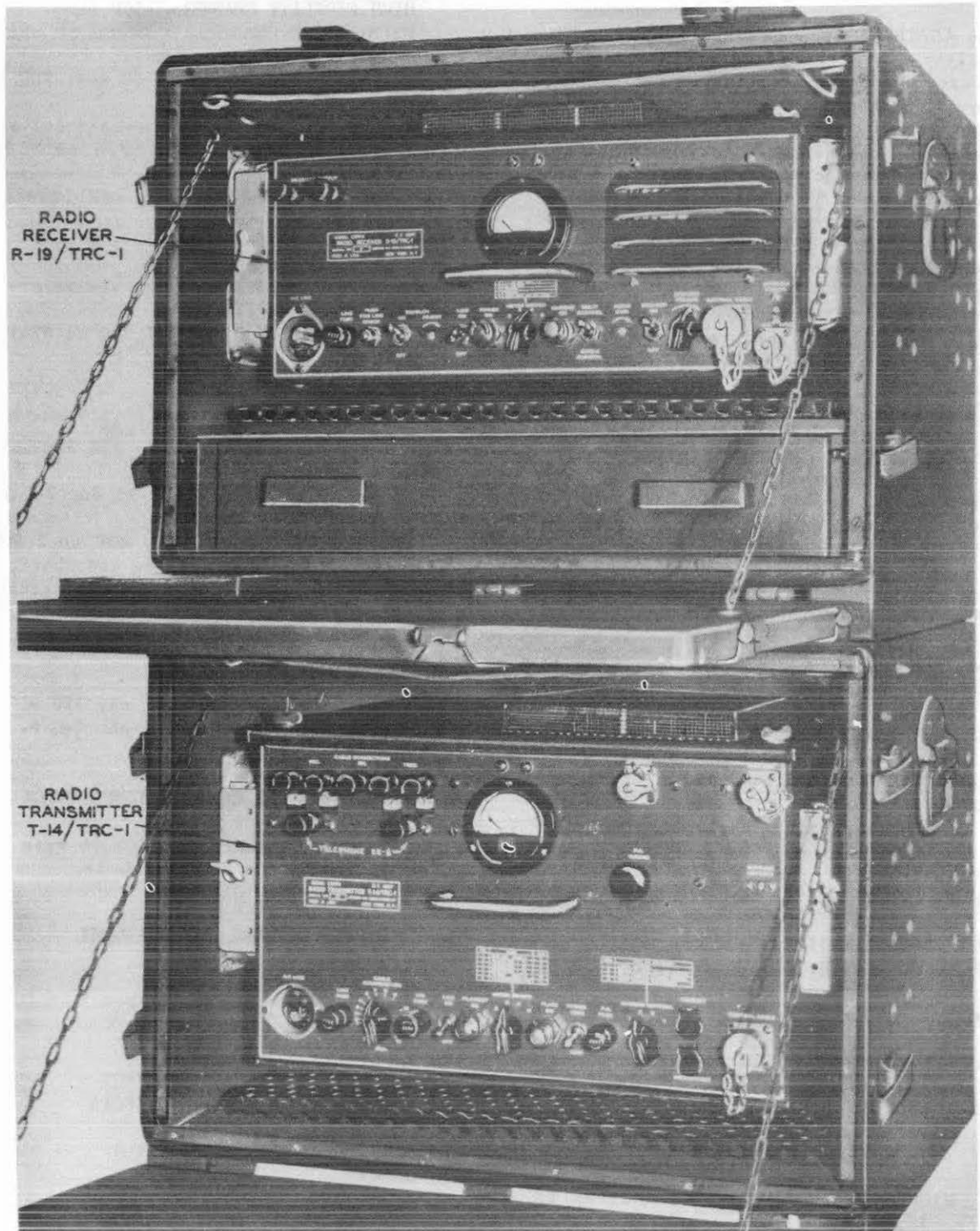
AN/SXQ-2

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Video Amplifier AM-2098/UX	2 X 5-9/16 X 11-3/4	3
1	Interconnecting Box J-1018/UX	6-7/8 X 14-13/16 X 18-5/16	33
1	Pulse Generator O-577/UX	8-3/4 X 15-23/32 X 17-1/8	14
1	Television Camera Control C-2739/UX	9-1/2 X 12-1/4 X 17-1/4	27
3	Power Supply PP-2205/UX	6-3/4 X 14-3/16 X 17	60
1	Blower Assembly	7 X 10 X 19	16
1	Television Viewer IP-487/UX	25-1/2 X 26 X 32	150
1	Television System Control C-2740/UX	5-1/16 X 6 X 18	15
1	Television Camera Mount MT-2088/SXQ-2		13
1	Set Connectors-Camera Cable		2-1/2
30	Coaxial Connectors UG-943A/U		30
2	Technical Manuals		

RADIO SET AND RADIO RELAY SET

**AN/TRC-1,
AN/TRC-4**



Radio Set AN/TRC-1

April 1958

Radio-Transceivers

**AN/TRC-1,
AN/TRC-4****RADIO SET AND RADIO RELAY SET****FUNCTIONAL DESCRIPTION**

The AN/TRC-1 is a ground transportable transmitting and receiving equipment which can be used for point-to-point communication, or for radio-relay application as a terminal or repeater. It provides single channel communication in both directions simultaneously, or single channel communication in one direction at a time. It may be used for multi-channel communication when continuous service is not required. This radio set is not intended for 24 hours service, but for intermittent use only.

The AN/TRC-4 is a ground relay station of a single or multi-channel radio-relay communication system designed for continuous operation.

The AN/TRC-1 and AN/TRC-4 have the same basic components, differing only in the amount of components, and maintenance equipment. They may generally be used for the same purpose.

No field changes in effect at time of preparation (31 March 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS**TRANSMITTER**

FREQUENCY RANGE: 70 to 99.9 mc (300 channels).

TYPE: Crystal controlled FM, multiplies 96 times.

SIGNAL TYPE: Broad band audio.

TRANSMISSION TYPE: A3, multichannel telephone, telegraph, facsimile, or a combination of these.

MODULATION: FM, phase modulator.

POWER OUTPUT: 50 W max; 10 W on low power.

FREQUENCY DEVIATION: ± 30 kc max.

OPERATING RANGE: Line of sight (150 mi max).

CRYSTAL FREQUENCY RANGE: 729.167 to 1040.625 kc.

OUTPUT IMPEDANCE: 50 to 100 ohms into coaxial cable.

AUDIO RESPONSE

HIGH FIDELITY CHANNEL: ± 1 db, 500 to 12,000 cps; +0 to -2 db, 250 to 500 cps.

MICROPHONE CHANNEL: ± 3 db, 250 to 12,000 cps.

AUDIO LEVEL INPU.. 0 to -12 db for 9 kc deviation.

AUDIO INPUT IMPEDANCE

HIGH FIDELITY CHANNEL: 500 ohms.

MICROPHONE CHANNEL: 30 to 50 ohms (single-button carbon).

POWER INPUT: 115 v, 50 to 60 cps, 250 W.
RECEIVER

TYPE: Double conversion superheterodyne.
FREQUENCY RANGE: 70 to 99.9 mc (300 channels).

TYPE MODULATION RECEIVED: FM (± 30 kc deviation).

FREQUENCY CONTROL: Crystal.

INTERMEDIATE FREQUENCY

1ST IF: 32.5 to 47.5 mc, variable.

2ND IF: 5 mc fixed.

CRYSTAL FREQUENCY RANGE: 7,300 to 8741.7 kc.

OUTPUT IMPEDANCE

HIGH FIDELITY: 500 ohms.

SPEAKER OR HEADSET: 6 ohms.

OUTPUT LEVEL: 0 dbm normal, +20 dbm max.

AUDIO RESPONSE

HIGH FIDELITY CHANNEL: ± 1 db, 200, to 12,000 cps.

SPEAKER OUTPUT: ± 1 db, 200 to 2,500 cps; -30 db, 3,000 cps and above.

ANTENNA: Horizontally polarized directional array consisting of 1/2 wave dipole, director, and reflector, spaced 1/4 wave length apart.

POWER REQUIREMENTS

AN/TRC-1: 115 v, 60 cps, 1 ph, 370 W.

AN/TRC-4: 115 v, 60 cps, 1 ph, 740 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: \$2,500.00 with equipment Spares (AN/TRC-1).

TUBE AND/OR CRYSTAL COMPLEMENT

AN/TRC-1	AN/TRC-4
(2) 5R4WGB	(12) 6AC7WA
(5) 6AC7WA	(6) 6H6
(2) 6H6	(21) 6SH7
(7) 6SH 7	(6) 6SL7WGT
(2) 6SL7WGT	(6) 6SN7WGTA
(2) 6SN7WGTA	(15) 6V6GTY
(5) 6V6GTY	(3) 6X5WGT
(2) 6X5WGT	(3) 829B
(1) 829B	(6) 816

Total Tubes: (28) Total Tubes: (78)
No Crystals Available.

April 1958

RADIO SET AND RADIO RELAY SET

AN/TRC-1,
AN/TRC-4

RELATION TO OTHER EQUIPMENT

TM-11-2601: Technical Manual for Radio Set AN/TRC-1, Series and Radio Relay Set AN/TRC-4, Series.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE SPEC NO. 271-3010
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/TRC-1			
1	3	Radio Receiver R-19/TRC-1	43
1	3	Radio Transmitter T-14/TRC-1	66
3	6	Antenna System AS-19/TRC-1	
1		Antenna Extension Kit MX-141/TRC-1	14
1	4	Power Unit PE-75	330
1		Crystal Kit	
2	1	Junction Box JB-110	7
1	3	Cord CD-318	.5
1	3	Cord CD-874	.5
2		Electric Lamp (115 v 50 w)	
1		Set of Maintenance Equipment MK-4/TRC-1	
	1	Control Box C-21/TRC-1	
	1	Test Oscillator TS-32/TRC-1	3
	2	Hand Set H-23/U, TS-13 or TS-15	
	3	Telephone EE-8	9.75
	3	Junction Box J-85/G	8
	1	Alignment Tool	.1
	3	Tube Puller	.2
	1	Maintenance Kit MK-6/TRC-4	
	1	Cord CD-711	10
	2	Cord CD-800	.7
	2	Cord CX-8/TRC-1 or CX-104/TRC-1	1.5
	1	Knife TL-29	
	1	Pliers TL-103	
	1	Solder Iron TL-117	
	1	Flashlight TL-123	
	1	Pliers TL-125	
	1	Pliers TL-126	

April 1959

Radio-Transceivers

RADIO SET**AN/TRC-13****FUNCTIONAL DESCRIPTION**

The AN/TRC-13 is a combination radiotransmitter and receiver with facilities for providing two-way voice channels between two points over an unobstructed line-of-sight radio transmission path. The AN/TRC-13 will be utilized as a connecting link in a wire communication network where the terrain features are such that the laying of wire facilities is not feasible. The over-all wire communications network may include such facilities as sections of wire lines or carrier telephone or telegraph systems.

No field changes in effect at time of preparation (18 July 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS**OPERATING FREQUENCY**

TRANSMITTER AND RECEIVER: 30 to 40 mc.
OPERATING POWER RQMT: 115 v AC, 60 cps, 470 W.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/TRC-13 for the Radio Set.

TYPE CLASSIFICATION
DESIGN COGNIZANCE OC SIG 0
PROCUREMENT COGNIZANCE
STOCK NO.

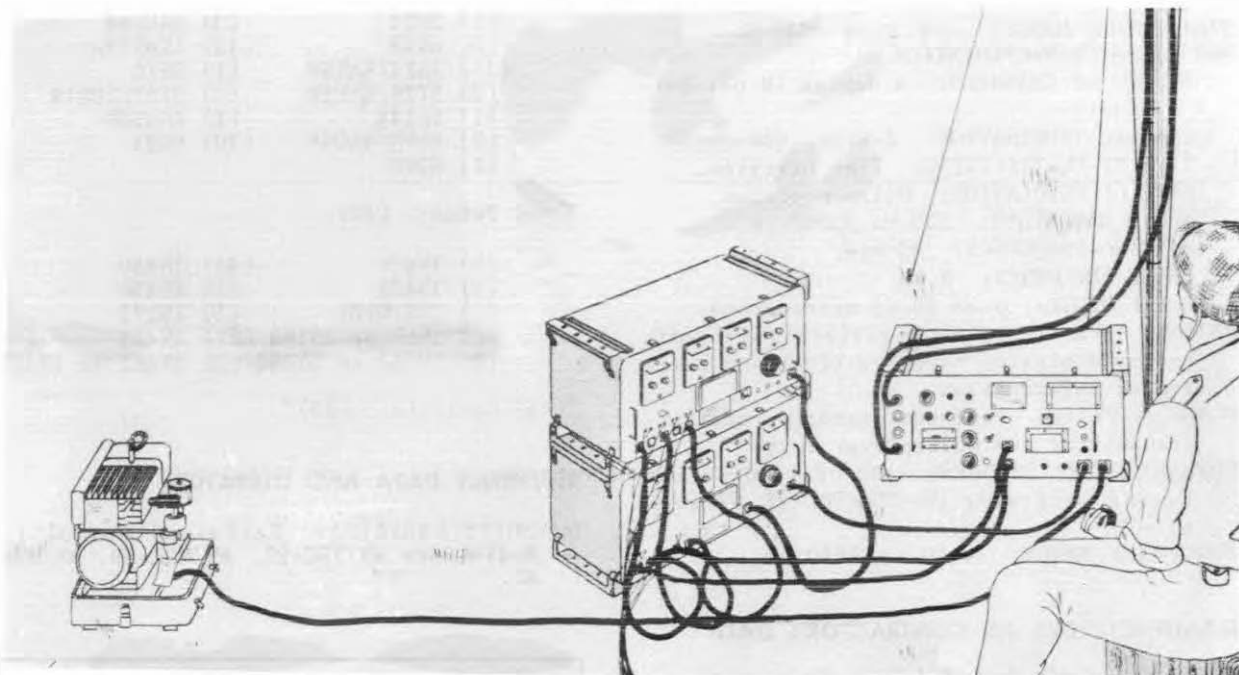
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter FMT-50-8W, PA-8029		
1	Receiver FMR-138, PA-8035		
1	Antenna P-8250		
1	Control Head P-8022		

April 1959

RADIO SET

AN/TRC-27



Radio Set AN/TRC-27

FUNCTIONAL DESCRIPTION

The AN/TRC-27 is designed as a small light-weight, portable radio communication system which provides one (1) to eight (8) duplex communication channels and is primarily for use in forward operation areas. Facilities are provided for net operations with Radio Set AN/GRC-27. It provides two-way microwave radio transmission for eight telephone channels.

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

RELATION TO OTHER EQUIPMENT

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

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(5) Packboard Standard Army FII-8465-262-5281, (1) Sledge Hammer (5 lb), (1) Telephone type EE-8 or equivalent, (1) Telephone Line (Three ft or suitable length), (1) Fuel Can, (1) Compass, (1) Protractor. Set of maps, of

installation area as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: P3f type of emission.

TYPE OF FREQUENCY CONTROL

TRANSMITTER: Variable frequency triode oscillator.

RECEIVER: Variable frequency klystron local oscillator.

TYPE OF RECEIVER: Superheterodyne, 60 mc IF.

RANGE DATA

ATTENUATION: Max allowable attenuation is 158 db.

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

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

Radio-Transceivers

AN/TRC-27

RADIO SET

TEMPERATURE RANGE: -54° C to +65° C.
 MULTIPLEX CHARACTERISTICS
 NUMBER OF CHANNELS: 4 duplex (8 per terminal).
 CHANNEL TERMINATION: 2-wire, 600-ohm.
 TYPE OF MULTIPLEXING: Time Division.
 TYPE OF MODULATION: Pulse-position.
 AUDIO BANDWIDTH: 300 to 3500 cps.
 RINGING FREQUENCY: 25 cps.
 FRAME FREQUENCY: 8 kc.
 PULSE WIDTH: 0.45 ±0.05 microsecond.
 ANTENNA TYPE: Paraboloid reflector with off-center diplexing horn, vertical and horizontal polarization.
 POWER SUPPLIES: Self contained in receiver-transmitter and multiplexer units.
 PRIMARY POWER SOURCES: 400 cycle Gasoline Engine Generator PU-278/TRC-27 (2-supplied)
 FREQUENCY RANGE: 4400 to 5000 mc.

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

Total Tubes: (67)

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

Total Crystals: (85)

REFERENCE DATA AND LITERATURE

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Raytheon Mfg Co., Waltham, Mass.
 Type No. LM103.
 Contract NObsr-71035, dated 28 September 1955.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE MIL-R-15378(SHIPS)
 STOCK NO.
 R.D.B. IDENT. NO.

TUBE AND/OR CRYSTAL COMPLEMENT

- (4) OA2WA (1) SV-9

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver-Transmitter RT-252/TRC-27	11-3/8 X 14-5/16 X 25-5/16	61
2	Multiplexer TD-101/TRC-27	9-7/8 X 14-5/16 X 25-5/16	55
1	Antenna Group OA-1378/GRC Including: 1-Antenna AS-682/TRC-27 1-Mast AB-357/TRC-27 1-Antenna Case CY-2123/GRC	9 X 17 X 27	58
2	Gasoline Engine Generator PU-278/TRC-27	12-5/8 X 13-1/4 X 17-5/16	51
2	22 ft Coaxial Antenna Cable (included with RT-252/TRC-27)		
5	5 ft Coaxial Cable (included with RT-252/TRC-27)		
2	5 ft Power Cable (included with TD-101/TRC-27)		
1	50 ft Power Cable (included with OA-1378/GRC)		

April 1959

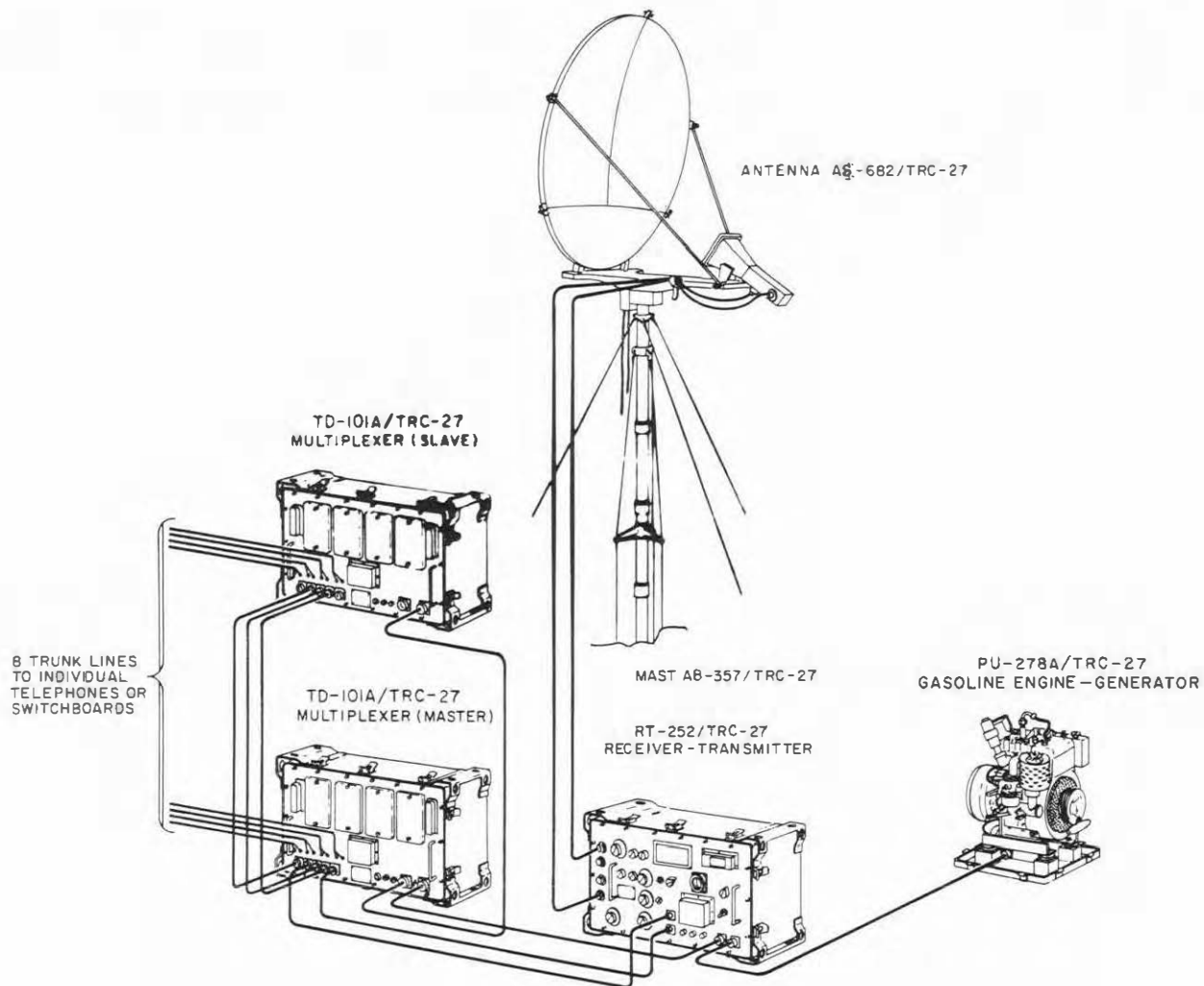
RADIO SET

AN/TRC-27

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Winterization Kit		
1	Set of Equipment Spares		
2	Technical Manual NAVSHIPS 93098(A)	1 X 9-1/4 X 11-1/2	

RADIO SET

*Radio Set AN TRC-27A***FUNCTIONAL DESCRIPTION**

Radio Set AN/TRC-27A provides two-way micro-wave radio transmission for eight telephone channels. Designed primarily for operation in a forward area, it will operate with a 28 db fade margin over a 10 mile line-of-sight path, or with a 12 db fade margin over a 60 mile line-of-sight path.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 4400 to 5000 mc (SHF).

TYPE OF FREQUENCY CONTROL

TRANSMITTER: Variable frequency triode oscillator.

RECEIVER: Variable frequency klystron local oscillator.

NORMAL CARRIER OUTPUT: 1.5 W, peak.

TYPE OF RECEIVER: Superheterodyne, 60 mc IF.

TEMPERATURE RANGE: -54° C to $+65^{\circ}$ C.

February 1960

Radio-Transceiver
AN/TRC-27A**RADIO SET****MULTIPLEXER**

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

CHANNEL TERMINATION: 2-wire, 600 ohm.

TYPE OF MULTIPLEXING: Time division.

TYPE OF MODULATION: Pulse-position.

AUDIO BANDWIDTH: 300 to 3500 cps.

RINGING FREQUENCY: 25 cps.

FRAME FREQUENCY: 8 kc.

PULSE WIDTH: 0.45 ±0.05 usec.

ANTENNA: 30 in. paraboloid reflector with off-center duplexing horn, vertical and horizontal polarization.

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

PRIMARY POWER SOURCE: 400 cycle Gasoline Engine Generator PU-278A/TRC-27.

(41) SG215 or 1N460	(1) SV-9
(8) SG216 or 1N458	(3) 1N21C(R)
(1) SG217 or 1N459	(1) 1N295
(8) 1N67 or 1N198	(17) 1N422
(2) 1N252 or 1N251	(1) 2K22
(3) 1N482 or 1N457	(2) 6AU6WA
(13) 5654/6AK5W	(2) 6X4W
(1) 5726/6AL5W	(10) 12AT7WA
(3) 5727/2D21W	(1) 5670
(2) 6005/6AQ5W	(1) 5814A
(20) 6021	(1) 5933WA
(1) 6280	

Total Tubes (148)

No Crystals used.

REFERENCE DATA AND LITERATURE

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Raytheon Mfg., Waltham, Mass.
Contract NObsr-75107, dated 15 January 1958.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPECS: MIL-R-21445 AND SHIPS-R-1947A
STOCK NO.
R.D.B. IDENT. NO.

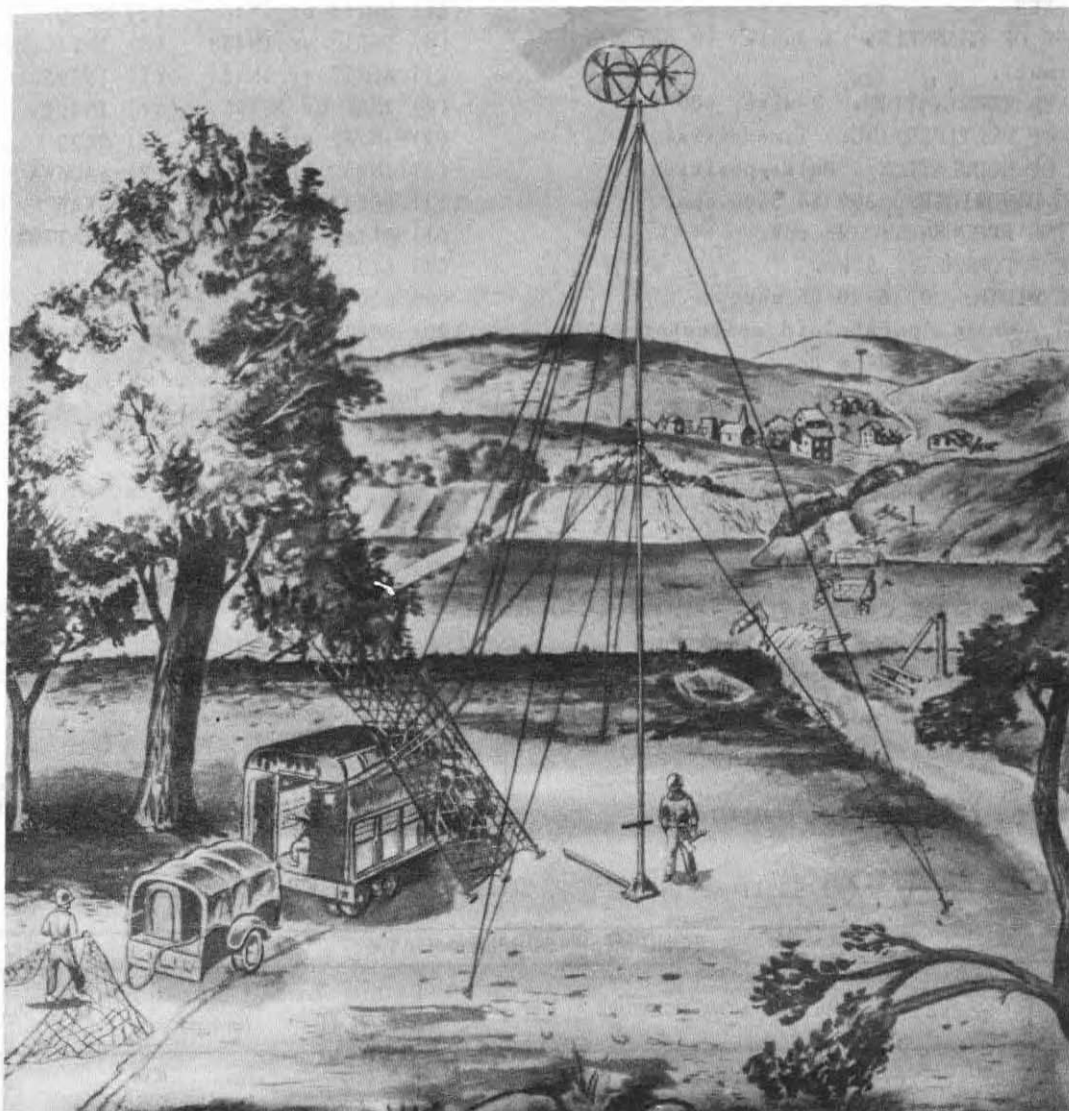
TUBE AND/OR CRYSTAL COMPLEMENT

(4) OA2WA (1) SG211 or 1N659

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/TRC-27A including:		
1	Receiver-Transmitter RT-252/TRC-27	11-3/8 X 14-5/16 X 25-5/16	61
2	Multiplexer TD-101A/TRC-27	9-7/8 X 14-5/16 X 25-5/16	54
1	Antenna Group OA-1378/GRC includes:	9 X 17 X 27	58
1	Antenna AS-682/TRC-27		
1	Mast AB-357/TRC-27		
1	Antenna Case CY-2123/GRC		
2	Gasoline Engine Generator PU-278A/TRC-27	12-5/8 X 13-1/4 X 17-5/16	51
2	Coaxial Antenna Cable (included w/R-252/TRC-27)	264 lg	
5	Coaxial Cable (included w/RT-252/TRC-27)	60 lg	
2	Power Cable (included w/TD-101A/TRC)	60 lg	
1	Power Cable (included w/OA-1378/GRC)	600 lg	
2	winterization kit (special issue only)		
1	Set Equipment Spare Parts		
2	Technical Manual NAVSHIPS 93098(A)		

RADIO SET



Radio Set AN/TRC-5(XC-3)

FUNCTIONAL DESCRIPTION

The AN/TRC-5(XC-3) is designed as combined radio transmitter and radio receiver with facilities for providing eight (8) two-way voice-frequency channels between two points over an unobstructed line-of sight transmission path. In general, the radio set will be utilized as a connecting link in a wire communications network where the terrain features are such that the laying of wire

facilities is not feasible.

No field changes in effect at time of preparation (9 April 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: Short pulses.

TYPE OF MODULATION: Pulse-time.

NUMBER OF MULTIPLEX V-F CHANNELS: Eight.

TYPE OF MULTIPLEXING: Time division.

April 1959

Radio-Transceivers

AN/TRC-5(XC-3)**RADIO SET**

TRANSMITTER POWER AVERAGE: 200 watts.
 TRANSMITTER POWER PEAK: 400 watts.
 TYPE OF ANTENNA: Dipole radiator, parabolic reflector.
 NET GAIN IN BEAM DIRECTION: 14 db.
 ANTENNA BEAM WIDTH: 15° at half power.
 AVERAGE RANGE OF SINGLE RADIO LINK: 25 to 50 miles.
 RECEIVER INTERMEDIATE FREQUENCY: 16 mc.
 CHANNEL PULSE LENGTH: 0.4 microseconds.
 SYNCHRONIZING PULSE LENGTH: 2.0 microseconds.
 REPETITION RATE: 10 kc.
 NET DUTY FACTOR: 5.2%.
 ANTENNA SUPPORT HEIGHT: 50 ft.
 VOICE FREQUENCY RANGE: 300 to 3,000 cycles.
 VOICE FREQUENCY INPUT IMPEDANCE: 600 ohms.
 VOICE FREQUENCY INPUT CONNECTIONS: 2-wire or 4-wire.
 RINGING INPUT: 20 or 60 cycles.
 RINGING OUTPUT: 20 cycles.
 POWER DRAIN: 1,500 watts.
 FREQUENCY RANGE: 1,350 to 1,500 mc.
 OPERATING POWER RQMT: 115 or 230 v, 50 to 60 cps.

TUBE AND/OR CRYSTAL COMPLEMENT

(16) 6AC7	(10) 6SL7GT	(5) 6SN7GT
(1) 6H6	(6) 6V6GT	(6) 5U4G
(3) 6Y6G	(3) VR/150-30	(1) 2J64
(2) 807	(2) 813	(4) 3B24
(1) 2C40	(1) 5Y3GT	(1) 2X2
(1) 3BP1		

Total Tubes: (63)

No Crystals Used.

REFERENCE DATA AND LITERATURE

TM11-626: Technical Manual for Radio Set AN/TRC-5(XC-3)

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

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Set AN/TRC-5(XC-3) Including:			
2	Chest CY-262/TRC-5(XC-3)	16.5	27-1/4 X 30-1/4 X 34-3/4	326
2	Chest CY-480/TRC-5(XC-3)	11-3/4	23-1/2 X 27-1/4 X 31-3/4	195
2	Chest CY-308/TRC-5(XC-3)	11-1/4	22-1/2 X 27-1/4 X 31-3/4	216
2	Chest CY-481/TRC-5(XC-3)	11-1/4	22-1/2 X 27-1/4 X 31-3/4	348
1	Chest CY-483/TRC-5(XC-3)	10-3/8	20-3/4 X 27-1/4 X 31-3/4	187
1	Chest CY-469/TRC-5(XC-3)	8-3/4	17-1/2 X 27-1/4 X 31-3/4	159
1	Chest CY-263/TRC-5(XC-3)	14-7/16	27-1/4 X 30-1/4 X 30-1/4	299
1	Chest CY-274/TRC-5(XC-3)	19-3/4	27-1/4 X 30-1/4 X 41-1/2	310
2	Chest CY-465/TRC-5(XC-3)	21-5/16	17-7/8 X 20-3/8 X 101	413
1	Chest CY-466/TRC-5(XC-3)	25-1/8	32-3/4 X 34-3/4 X 38-1/4	378
1	Chest CY-467/TRC-5(XC-3)	46-7/8	31-3/4 X 39-3/4 X 64-1/4	387
3	Chest CY-64	17	27-3/4 X 29-1/4 X 36-1/4	275
1	Chest CY-483/TRC-5(XC-3)	17	29-1/2 X 30-5/8 X 32-1/2	227
1	Chest (Telegraph Adapter)	8-1/4	22 X 23-1/8 X 28	155
1	Chest CY-468/TRC-5(XC-3)	19-3/8	27-1/2 X 30-1/8 X 41-1/4	300
1	Chest (Test Equipment)	11-1/2	22-1/4 X 26 X 34-1/2	199

April 1959

RADIO SET

Radio-Transceivers
AN/TRC-5(XC-3)

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Chest (Autotransformer)	11-1/8	23-1/2 X 24-1/2 X 33-1/4	235
1	Chest CY-484/TRC-5(XC-3)	15-1/4	21-1/2 X 34 X 36	251
1	Pioneer Tool Kit	3-5/16	9 X 15-1/4 X 43	48

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/TRC-5(XC-3) Including:		
2	Antenna Ass'y AS-213/TRC-5(XC-3)	7-1/2 X 7-1/2 X 16-1/2	3-1/4
1	Antenna Support AB-74/TRC-5(XC-3)		335
1	Autotransformer TF-101/TRC-5(XC-3)	15-3/4 X 16-3/4 X 24	160
2	Chest CY-262/TRC-5(XC-3) (Transmitter)	23-1/4 X 26-1/4 X 30-3/4	76
1	Chest CY-274/TRC-5(XC-3) (Multiplexer)	23-1/4 X 27-3/4 X 37-1/2	92
1	Distribution Box J-101/TRC-5(XC-3)	7 X 7-1/2 X 19-1/2	13
1	Junction Box J-100/TRC-5(XC-3)	2 X 4-3/4 X 12-1/2	6-1/2
1	Oscilloscope TS-282/TRC-5(XC-3)	9-1/4 X 14-1/4 X 18-1/4	34-1/2
2	Power Unit PE-197	22-1/4 X 30 X 44	770
2	Radio Receiver R-134/TRC-5(XC-3)	9-1/2 X 16 X 17-1/2	39
2	Radio Transmitter T-113/TRC-5(XC-3)	12-3/4 X 13 X 18-1/2	63
2	Rectifier Power Unit PP-138/TRC-5(XC-3)	10-3/4 X 16 X 16	94
2	Rectifier Power Unit PP-141/TRC-5(XC-3)	7-3/4 X 13 X 17-1/2	55
2	Rectifier Power Unit PP-142/TRC-5(XC-3)	9-1/2 X 12-1/2 X 16	65
1	Receiving Multiplex Common Unit MX-429/TRC-5(XC-3)	6 X 9 X 14-3/4	4
8	Receiving Multiplex Channel Unit MX-431/TRC-5(XC-3)	2 X 9 X 14-3/4	3-1/2
1	Telegraph Adapter TH-4/U	8-1/4 X 12-1/4 X 15-3/4	24
1	Tenninal Unit TA-11/TRC-5(XC-3)	15-1/2 X 16 X 17-1/4	78
1	Test Panel TS-286/TRC-5(XC-3)	4-1/4 X 7-1/4 X 16	23
1	Test Set I-56-K	10 X 14-1/2 X 20-1/2	48-1/2
1	Transmitting Multiplex Common Unit MX-432/TRC-5(XC-3)	6 X 9 X 14-3/4	4
8	Transmitting Multiplex Channel Unit MX-430/TRC-5(XC-3)	2 X 9 X 14-3/4	3-1/2
1	Tuning Meter TS-283/TRC-5(XC-3)	3-1/2 X 5 X 6-1/2	1-1/2

RADIO SET

AN/TRC-504

FUNCTIONAL DESCRIPTION

The AN/TRC-504 is a transportable Transmitting and Receiving Set designed for search and rescue operations.

No field changes in effect at time of preparation (8 May 1957).

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for AN/TRC-504, Radio Set dated 24 September 1957.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION AND RECEPTION: A1, A3.
POWER OUTPUT: 100 W and 5 to 8 W.
FREQUENCY RANGE: 200 to 500 kc, 2 to 18 mc,
1.5 to 18 mc, 115 to 152 mc.
POWER SOURCE REQUIRED: 28 v DC.

TYPE CLASSIFICATION
DESIGN COGNIZANCE USAF
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver BC-34B		
1	Transmitter AN/ART-13A		
1	Transceiver ICA-67		
1	Gasoline Electric Generator		

October 1957

Radio-Transceivers

RADIO SET**AN/TRC-61****FUNCTIONAL DESCRIPTION**

The AN/TRC-61 is an air transportable radio set that provides facilities for receiving and transmitting multichannel voice (12 voice plus 1 order wire) telegraph, teletype, and or facsimile in conjunction with multichannel sub-carrier telephone carrier equipment. The equipment is intended for use by Command Groups and Wing Command Squadrons.

No field changes in effect at time of preparation (7 June 1957).

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Set AN/TRC-61 dated 29 November 1956.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION AND RECEPTION: F9.

FREQUENCY RANGE: 100 to 400 mc.

NUMBER OF BANDS: 2.

NUMBER OF CHANNELS: 425.

MAX TRANSMITTER POWER OUTPUT: 100 w.

POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cps, single ph.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Electrical Equipment Shelter S-138/TR		
1	Radio Set AN/TRC-35		
1	Chair		
4	Telegraph-Telephone Signal Converter IA-182/U		
2	Doublet Antenna Kit		
1	Radio Set		
1	Multiplexer Set		
1	Antenna Coupler and Filter Unit		

31 July 1962

RADIO SET AN/TRC-68

Cog Service: BuWeps FSM:

Functional Class:

USA

USM

USAF

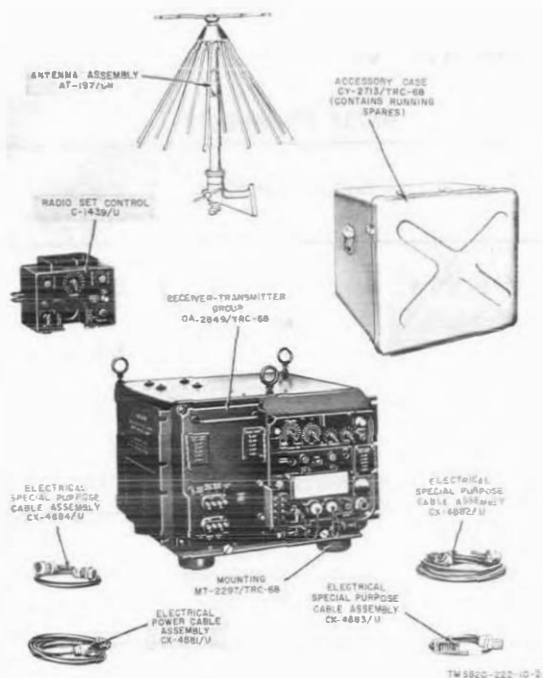
TYPE CLASS:

Used by

Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Co., (13499).



Radio Set AN/TRC-68

FUNCTIONAL DESCRIPTION:

The Radio Set AN/TRC-68 is designed as a Fixed Station Ultra-High-Frequency (UHF) ground-to-air radio communications. It provides for transmission and reception of Amplitude-Modulated (AM) radio-telephone signals for ground-to-air liaison. This set may also be used to transmit and receive encoded voice signals.

No field changes in effect at time of preparation (26 January 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Stationary (fixed-type).

TYPE OF MODULATION: AM.

TYPE OF TRANSMISSION: Voice.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1750 channels.

AN/TRC-68 RADIO SET

NUMBER OF PRESET CHANNELS: 19 preset channels.

OPERATING FREQUENCY RANGE: 225.0 to 399.9 mc.

OPERATING POWER RQMT: 115 or 230 v ac, 50 to 60 cps, single ph; 300 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/TRC-68 is similar to Radio Set AN/VRC-24 except that it is designed for fixed stationary installation and the equipment supplied differs; and the operating power-source is different also.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Receiver-Transmitter OA-2649/TRC-68		12 x 18-1/4 x 20	155-1/2
	Includes:			
1	Receiver-Transmitter RT-441/TRC-68		9-1/2 x 10 x 15-1/2	48-3/4
1	Centrifugal Fan HD-390/U		3-1/2 x 3-1/2 x 9-1/2	6
1	Receiver-Transmitter Case CY-2712/TRC-68		12-1/2 x 19-1/4 x 20	353
1	Power Supply PP-1494/U		7-1/8 x 12 x 18-3/4	57-1/2
1	Mounting MT-2297/TRC-68			
1	Radio Set Control C-1439/U		2-7/8 x 5-1/2 x 5-1/2	5
1	Accessory Case CY-2713/TRC-68		23 x 24 x 26-1/2	93-1/2
1	Electrical Power Cable Ass'y CX-4881/U		300 lg	2.3
1	Electrical Special Purpose Cable Ass'y CX-4882/U		240-1/2 lg	
1	Electrical Special Purpose Cable Ass'y		36 lg	
1	Electrical Special Purpose Cable Ass'y CX-4883/U		36 lg	
1	Electrical Special Purpose Cable Ass'y CX-4884/U		36 lg	
1	Connector Adapter UG-565A/U			
1	Antenna Ass'y AT-197/GR			
1	Control Group AN/GRA-6 including:			
1	Remote Control C-433/GRC		3-1/2 x 7-3/32 x 8-1/4	7
1	Local Control C-434/GRC		3-1/2 x 8-9/16 x 10-1/8	10-1/2
1	Handset H-33/PT			
1	Bag CW-189/GR			
1	Electrical Headset H-113/U			
1	Headset Cord CX-1334/U			
1	Dynamic Loudspeaker LS-166/U		3-1/2 x 5 x 5-1/2	
1	Microphone M-29A/U			
1	Spool DR-8-A & Wire WD-1/TT			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Set of Equipment Spares			
2	Technical Manual	TM11-5820-222-10	1-1/4 x 8 x 10-1/2	
2	Technical Manual	TM11-5820-222-20	1-1/4 x 8 x 10-1/2	

REFERENCE DATA AND LITERATURE:

TM11-5820-222-10 & TO 31R2-2TRC68-1: Technical Manual for Radio Sets AN/VRC-24 and AN/TRC-68

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (9) 5654/6AK5W (6) 5670 (1) 5763 (1) 4X150D (1) 6442 (5) 6J4WA (1) 7554

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N457 (2) 1N458

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

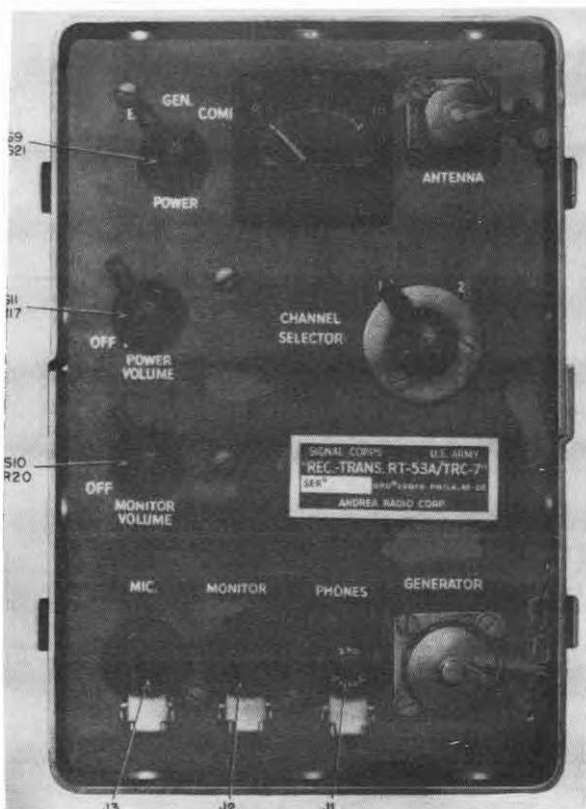
PROCURING SERVICE: BuWeps
SPEC &/OR DWG:

DESIGN COG: TASSA & USAF

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co. Pt no. 522-2275-00	Cedar Rapids, Iowa	14276-PC58-A1-51	

August 1957

Radio-Transceivers

RADIO SET**AN/TRC-7A**

Radio Set AN/TRC-7A

FUNCTIONAL DESCRIPTION

The AN/TRC-7A is a portable, low-power, receiver-transmitter, operated by battery, hand generator, or a combination of both. It is designed for AM communication over short distances in the VHF range and is intended primarily to provide communication between ground troops and aircraft.

No field changes in effect at time of preparation (5 February 1957).

RELATION TO OTHER EQUIPMENT

Similar to Radio Set AN/TRC-7.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.

POWER OUTPUT: 0.4 to 1.5 W.

EMISSION AND RECEPTION: A3.

FREQUENCY CONTROL: Crystal controlled oscillator.

TYPE RECEIVER: Superheterodyne.

POWER SOURCE: Battery BA-70, Generator G-3/TRC-7.

ANTENNA DATA

TYPE: Whip or ground plane conical.

POLARIZATION: Vertical.

IMPEDANCE: 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Andrea Radio Corp. Long Island City, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 1AB5 (3) 114 (1) 1S5 (1) 1A3
(1) 3Q4 (5) 3A5 (2) 3A4

Total Tubes: (16)

(4) CR-1/AR

Total Crystals: (4)

REFERENCE DATA AND LITERATURE

TM11-617: Technical Manual for Radio Set AN/TRC-7A.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	USAF
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-59/TRC-7	0.145 dia x 27-11/16	
1	Antenna Assy. AS-110A/TRC-7		
1	Antenna Base AB-37/TRC-7		
1	Battery BA-70	4-1/2 X 7-5/8 X 10	
2	Bag CW-47/TRC-7	8-5/8 X 14-1/5 X 16	
2	Bag CW-48/TRC-7	10 X 14 X 37	

AN/TRC-7A

RADIO SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Bag CW-49/TRC-7	6-5/8 X 12-5/8 X 14	
1	Case CY-275/TRC-7	2-5/8 X 4-1/4 X 12-1/2	
1	Control Unit RM-53	3-1/2 X 4-3/16 X 7-1/2	
2	Crank CG-7-()		
1	Generator G-3/TRC-7	6-3/4 X 7-1/4 X 7-3/4	
1	Headset HS-30-()		
1	Handset H-23 ()/U or Handset TS-15	2-3/4 X 3-15/16 X 9-1/16	
1	Microphone T-45		
1	Phantom Antenna TS-281/TRC-7		
1	Receiver-Transmitter RT-53A/TRC-7		
1	Remote Control Unit RM-52	2-13/16 X 4-7/16 X 5-11/16	
2	Rolls CW-50/TRC-7		
2	Tube Puller No. 11-16		
2	Tube Puller No. 1-125		
1	Cord CX-220/TRC-7	180 lg	
1	Cord CD-318/A		
1	Cord CD-604	0.270 dia X 72	
1	Cord CG-127/U	48 lg	
1	Cord CD-307-A	1/4 dia X 65	
1	Cord CX-240/U	48 lg	
1	Leg LG-2-B		
2	Leg LG-3-B		
3	Plug PL-57	7/8 dia X 1-1/16	
2	Roll CW-50/TRC-7	8 X 12 X 35	
1	Set of Tubes		

RADIO SET

AN/TRC-75

FUNCTIONAL DESCRIPTION

The AN/TRC-75 is designed as a transportable high frequency single-sideband transceiver mounted in a watertight case. It may be installed in jeeps, 1/4-ton and larger trucks, and naval vessels. The system is capable of transmission and reception on upper sideband suppressed carrier, lower sideband suppressed carrier. Amplitude Modulation (AM), twin sideband suppressed, carrier, Continuous Wave (CW) telegraphy and FSK telegraphy, Continuous voice in sideband operation, 50% in Amplitude Modulation (AM), continuous duty cycle in FSK. It contains module assemblies similar to those of the AN/URC-32, AN/MRC-83, and AN/ARC-58. In jeeps a 28-volt Direct Current (DC) to 400 cycles per second (CPS), 30 converter is used.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION.

RECEIVER AND TRANSMITTER: SSB, CW, AM and FSK.

NUMBER OF BANDS

RECEIVER AND TRANSMITTER: 4 bands.

NUMBER OF CHANNELS

RECEIVER AND TRANSMITTER: 28,000 channels.

FREQUENCY RANGE

RECEIVER AND TRANSMITTER: 2 to 29.999 mc.

POWER OUTPUT: 1 kw max.

OPERATING POWER RQMT: 115 v AC, 380 to 420 cps, 3 ph; 27.5 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Dwg No. 522 1778 005.
Contract NOM-71001.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal Data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form AN/TRC-75 for Radio Set.

Nomenclature Card AN/TRC-75 for Radio Set.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Converter Oscillator CV-786/TRC-75	2-3/8 X 7-13/16 X 19-3/4	
1	Amplifier Ass'y AM-2306/TRC-75	4-1/2 X 5 X 11	
1	Amplifier Audio Frequency AM-2290/TRC-75	2 X 3 X 3-5/8	
1	Power Supply PP-2437/URC	2 X 3-1/4 X 4-1/2	
1	Keyer KY-305/URC	2 X 3 X 3-1/4	
1	Converter Frequency Shift CV-865/URC	2 X 3-1/2 X 4-1/2	
1	Audio Frequency Oscillator O-655/URC	2 X 3-1/4 X 4-1/2	
1	Case Electronic Equipment CY-2695/MRC	14-1/2 X 33 X 35	
1	Radio Test Set TS-1325/TRC-75	8-3/4 X 12-5/8 X 14	
1	Coupler Control Test Set TS-1324/TRC-75	8-3/4 X 12-5/8 X 14	
1	Radio Set Test Harness AN/GRM-21		
1	Coil Relay Ass'y RF-111/TRC-75	7-3/4 X 9-1/4 X 16-5/16	

October 1957

RADIO RANGING SET**AN/TRQ-9****FUNCTIONAL DESCRIPTION**

The AN/TRQ-9 consists of one transmitter and two receivers and one power source and is used for giving accurate position locations of the AN/URQ-6 equipments. It operates as a type 11 - Reference Section.

No field changes in effect at time of preparation (16 April 1957).

RELATION TO OTHER EQUIPMENT

Used in conjunction with 3 or 4 Radio Ranging Sets AN/TRQ-8 and any number of Radio Ranging Sets AN/URQ-6.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION: A1.
 TRANSMITTER OUTPUT: 25 W.
 FREQUENCY RANGE: 1.8 to 3 mc.
 NUMBER OF BANDS: single.
 POWER SOURCE REQUIRED: 110 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Seismograph Service Corp., Tulsa, Oklahoma.

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Ranging Set AN/TRQ-9 amended 11 February 1952.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE MIL-E-15915 (SHIPS) STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Ranging Set AN/TRQ-9		

June 1961

Radio-Tranceivers

RADIO SET**AN/URC-10****FUNCTIONAL DESCRIPTION**

Radio Set AN/URC-10 is a transistorized air-sea rescue receiver-transmitter. The receiver is superheterodyne, using single conversion. Injection current at 240 to 260 mc is obtained from a transistor quadrupler driven by a crystal controlled 60 to 65 mc oscillator. A crystal diode mixer converts the incoming frequency to 475 kc, the intermediate frequency. After three stages of transformer coupled I-F amplification, the signal is detected. The transmitter output stages consist of two 2N537 transistors in parallel, driven by a 60 to 65 mc crystal controlled oscillator followed by two transistor doubler stages.

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

RELATION TO OTHER EQUIPMENT

This equipment is to replace Radio Set AN/URC-4.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: Self-contained battery

source.

FREQUENCY RANGE: 240 to 260 mc.

TYPE OF FREQUENCY CONTROL: Crystal.

TYPE OF EMISSION: A1, A3.

POWER OUTPUT: 75 to 100 mw.

ANTENNA: Telescoping whip.

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No electron tube or crystal data available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary data sheet for Radio Set AN/URC-10.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/URC-10 including:		
1	Transceiver	1-1/8 x 3-1/8 x 5-3/8	1-3/16
1	Battery	1-1/2 x 3-1/4 x 4-7/8	2-1/16

April 1959

Radio-Transceivers

RADIO SET**AN/URC-11****FUNCTIONAL DESCRIPTION**

The AN/URC-11 is designed as a small light-weight radio set intended as an emergency item used to facilitate search and rescue operations. The AN/URC-11 may be carried on the person of air crew members or stowed in lift rafts and survival kits. Power is delivered to the AN/URC-11 by means of a Special Purpose Cable Assembly (CX-1093A/U).

A battery supplies all the power necessary for operation of the radio transceiver. The AN/URC-11 has an approximate operating life of twenty-four (24) hours without battery replacement.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

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

NUMBER OF BANDS: 1 band.

POWER OUTPUT: 200 mw.

OPERATING FREQUENCY RANGE: 238 to 263 mc.

OPERATING POWER RQMT: 2.5 W DC.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal data not available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/URC-11 Radio Set.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

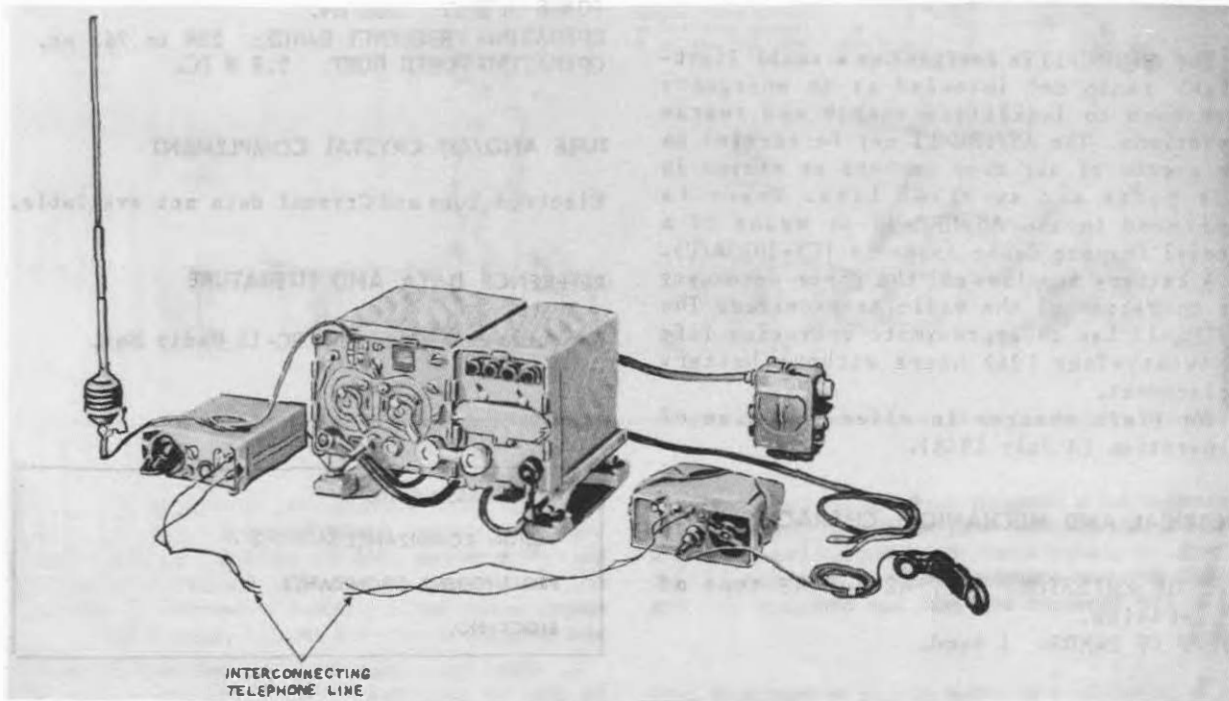
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/URC-11 including: (1) Receiver-Transmitter RT-285/URC-11 (2) Special Purpose Cable Assembly CX-1093A/U (-ft-in)		

June 1957

RADIO SET

Radio-Transceivers
**AN/URC-16,16X,16Y,
 17,17X,17Y,18,18X,18Y**



Radio Set AN/URC-16, 16X, 16Y, 17, 17X, 17Y, 18, 18X, 18Y.

FUNCTIONAL DESCRIPTION

The AN/URC-16, 16X, 16Y, 17, 17X, 17Y, 18, 18X, 18Y are portable radio sets designed for F3 type of emission within the frequency range of 20.0 to 54.9 mc.

Data on this sheet reflects the following field changes, F/C No.2 (17 September 1956).

RELATION TO OTHER EQUIPMENT

The AN/URC-16, 16X, 16Y, 17, 17X, 17Y, 18, 18X, 18Y are similar to the AN/SRC-10, 10X, 10Y, 11, 11Y, 116, 12, 12X, 12Y, 13, 13X, 13Y, 14, 14X, 14Y, 15, 15X, 15Y except for some of the components used.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF TRANSMISSION AND RECEPTION: Voice and 1600 cps FM signals.

FREQUENCY RANGE

AN/URC-16, 16X, 16Y: 20 to 27.9 mc.

AN/URC-17, 17X, 17Y: 27 to 38.9 mc.

AN/URC-18, 18X, 18Y: 38 to 54.9 mc.

TYPE OF TUNING: Choice of channels or continuous tuning.

RANGE: 10 to 15 mi.

TRANSMITTER POWER OUTPUT

AN/URC-16, 16X, 17, 17X, 18, 18X: 16 W on high and 2 W on low.

AN/URC-16Y, 17Y, 18Y: 13 W.

RECEIVER OUTPUT: Approx. 1 W at speaker and 50 mw at phones. A third output of approx. 30 mw at fixed-level output is not used.

MICROPHONE INPUT IMPEDANCE: 150 ohms.

AUDIO OUTPUT IMPEDANCE: 600 ohms at all audio output terminals.

RECEIVER SENSITIVITY: 30 dv signal-plus-noise to noise ratio with 0.5 uv input signal.

POWER REQUIREMENTS

AN/URC-16, 17, 18: 25.2 v DC.

AN/URC-16X, 17X, 18X: 12.6 v DC.

AN/URC-16Y, 17Y, 18Y: Handcranked generator and dry batteries (5) BA-403/U, (1) BA-419/U.

MANUFACTURER'S OR CONTRACTOR'S DATA

AN/URC-16, 16X, 16Y, 17, 17X, 17Y, 18, 18X, 18Y

Contract MIPR 800-29092, 29094, 29500.

AN/URC-16Y, 17Y, 18Y,

Contract MIPR-800-39406.

Approximate Cost: \$1500.00 with equipment spares each.

Radio-Transceivers
**AN/URC-16,16X,16Y,
 17,17X,17Y,18,18X,18Y**

RADIO SET

TUBE AND/OR CRYSTAL COMPLEMENT

AN/URC-16, 16X, 17, 17X, 18, 18X
 (2) 1A3 (2) 1AE4
 (2) 1L4 (4) 1R5
 (1) 1S5 (4) 1U4
 (1) 6626/OA2WA (1) 6627/OB2WA
 (1) 2E24 (1) 3A4
 (3) 3A5 (2) 3B4
 (4) 3Q4 (2) 1007
 (1) 5654/6AK5W
 Total Tubes: (31)

AN/URC-16Y, 17Y, 18Y
 (2) 1A3 (2) 1AE4
 (2) 1L4 (4) 1R5
 (1) 1S5 (4) 1U4
 (1) 2E24 (1) 3A4
 (3) 3A5 (2) 3B4
 (4) 3Q4 (1) 5654/6AK5W
 Total Tubes: (27)

AN/URC-16, 16X, 16Y, AN/URC-17, 17X, 17Y
 9 Crystals 13 Crystals
 Total Crystals: (9) Total Crystals: (13)

AN/URC-18, 18X AN/URC-18Y
 18 Crystals 16 Crystals
 Total Crystals: (18) Total Crystals: (16)

REFERENCE DATA AND LITERATURE

TM11-286: Technical Manual for Radio Sets.
 AN/URC-16, 16X, 16Y, 17, 17X, 17Y, 18,
 18X, 18Y (AN/VRC-8, -9, -10)
 BUSHIPS LTR S67/1-7 Ser 881E-1-3528, dated
 1 September 1955.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/URC-16 16X 16Y			
1	Receiver-Transmitter RT-66/GRC	9 X 11-1/4 X 13	35
1	Power Supply PP-112/GR (24VDC)	8 X 9 X 13	33
1	Power Supply PP-109/GR (12 VDC)	8 X 9 13	33
1	Mounting MT-299/GR	4 X 13 X 20	24
1	Mast Base AB-15/GR		
1	Mast Section MS-116A	39-1/2 in. lg	1.6
1	Mast Section MS-117A	39-1/2 in. lg	1.4
1	Mast Section MS-118A	39-1/2 in. lg	0.5
1	Control Box C-375/VRC	4 X 7 X 7	3.5
1	Modification Kit MX-898/GR		
1	Loudspeaker LS-166/U		
1	Bag CW-206/GR	3 X 5 X 40	3.5
2	Handset H-33()/PT	2-1/16 X 3 X 3	2
1	Coaxial Adapter UG-273/U		0.34
1	Coaxial Adapter UG-306/U		0.36
5	Dry Battery BA 403/U		
1	Antenna Cable CG-56B/U	50 in. lg	0.5
1	Dry Battery BA-419/U		
1	Cable Assembly CX-1211/U		0.4
2	Technical Manual TM11-286		
AN/URC-17 17X 17Y			
1	Receiver-Transmitter RT-67/GRC	9 X 11-1/4 X 13	35
1	Power Supply PP-112/GR (24VDC)	8 X 9 X 13	33
1	Power Supply PP-109/GR (12VDC)	8 X 9 X 13	33
1	Mounting MT-299/GR	4 X 13 X 20	24
1	Mast Base AB-15/GR		
1	Mast Section MS-116A	39-1/2 in. lg	1.6
1	Mast Section MS-117A	39-1/2 in. lg	1.4
1	Mast Section MS-118A	39-1/2 in. lg	0.5
1	Control Box C-375/VRC	4 X 7 X 7	3.5

June 1957

RADIO SET

Radio-Transceivers
AN/URC-16,16X,16Y,
17,17X,17Y,18,18X,18Y

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/URC-					
17	17X	17Y			
		1	Modification Kit MX-898/GR		
1	1	1	Loudspeaker LS-166/U		
1	1	1	Bag CW-206/GR	3 X 5 X 40	3.5
2	2		Handset H-33 ()/PT	2-1/16 X 3 X 3	2
1	1		Coaxial Adapter UG-273/U		0.34
1	1		Coaxial Adapter UG-306/U		0.36
1	1		Antenna Cable CG-530/U	50 in. lg	0.5
		5	Dry Battery BA-403/U		
		1	Dry Battery BA-419/U		
1	1		Cable Assembly CX-1211/U		0.4
2	2	2	Technical Manual TM11-286		
AN/URC-					
18	18X	18Y			
1	1	1	Receiver-Transmitter RT-68/GRC	9 X 11-1/4 X 13	35
1			Power Supply PP-112/GR (24 VDC)	8 X 9 X 13	33
	1		Power Supply PP-109/GR (12 VDC)	8 X 9 X 13	33
1	1		Mounting MT-299/GR	4 X 13 X 20	24
1	1		Mast Base AB-15/GR		
1	1		Mast Section MS-117A	39-1/2 in. lg	1.4
1	1		Mast Section AB-24/GR	23-1/2 in. lg	0.13
1	1		Control Box C-375/VRC	4 X 7 X 7	3.5
		1	Modification Kit MX-898/GR		
1	1	1	Loudspeaker LS-166/U		
1	1	1	Bag CW-206/GR	3 X 5 X 40	3.5
2	2		Handset H-33 () PT	2-1/16 X 3 X 3	2
1	1		Coaxial Adapter UG-273/U		0.34
1	1		Coaxial Adapter UG-306/U		0.36
1	1		Antenna Cable CG-530/U	50 in. lg	0.5
		5	Dry Battery BA-403/U		
		1	Dry Battery BA-419/U		
1	1		Cable Assembly CX-1211/U		0.4
2	2	2	Technical Manual TM11-286		

April 1959

RADIO SET**AN/URC-2****FUNCTIONAL DESCRIPTION**

The AN/URC-2 is designed as a Very High Frequency (VHF) transceiver which may be used wherever a lightweight portable transceiver is required. It is used essentially for emergency "Air-Sea" and "Air-Land" operations. Completely water-tight.

No field changes in effect at time of preparation (28 July 1958).

RELATION TO OTHER EQUIPMENT

The AN/URC-2 is used with but not part of Radio Set SCR-522A, Radio Set AN/ARC-3 and Homing Adapter AN/ARA-8.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF VOICE: AM, CW and MCW.

OUTPUT POWER: 30 mw.

FREQUENCY RANGE: 131.5 to 142 mc.

BATTERY INPUT

"B" BATTERY: +90 v, 1.44 W.

"A" BATTERY: +1.3 v, 624 W.

TOTAL POWER OUTPUT: 2.064 W.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal data available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/URC-2 for the Radio Set.

TYPE CLASSIFICATION

DESIGN COGNIZANCE USAF

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/URC-2 incl: (1) Receiver-Transmitter RT-148()URC-2 (1) Mast MT-609()/U (1) Special Purpose Cable Ass'y CX-1093/U (1) Maintenance Kit MK-55()/URC		

28 August 1962

RADIO SET AN/URC-20

Cog Service:

FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER:

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Radio Set AN/URC-20 is used as a general purpose, portable, ground installation and in Truck, 1/4 ton. Input power requirements are direct current (DC), furnished by Generator G-8/GRC. The AN/URC-20 combines Radio Set AN/VRC-8 and Modification Kit MX-898/GR.

No field changes in effect at time of preparation (25 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Portable, ground and vehicular.

TYPE OF EMISSION: F3 type.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 80 channels.

FREQUENCY RANGE: 20 to 27.9 mc.

POWER OUTPUT: 16 W.

POWER SUPPLY: DC Generator G-8/GRC.

RELATION TO OTHER EQUIPMENT:

The AN/URC-20 is similar to Radio Set AN/URC-16Y except it includes different mounting provisions.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Radio Set AN/URC-20 consists of:			
1	Receiver-Transmitter RT-66/GRC		9 x 11-3/16 x 12-13/16	
1	Mast Base AB-15/GRC			
1	Case CY-6B4/GR		3-1/8 x 4-1/2 x 9-7/8	
1	Power Supply PP-112/GR		7-5/16 x 9-1/4 x 12-7/8	
1	Control Box C-375/VRC		3-1/4 x 6-13/16 x 7	
1	Local Control C-434/GRC			
2	Mast Section MS-116-AG		0.393 dia x 39-1/2	
2	Mast Section MS-117-AG		0.373 dia x 39-1/2	
2	Mast Section MS-118-AG		0.246 dia x 39-1/2	
1	Mounting MT-299/GR		3-7/16 x 12-1/2 x 19-3/4	

AN/URC-20 RADIO SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Remote Control C-433/GRC		3-9/16 x 6-7/16 x 8-9/16	
1	Handset H-33/PT			
1	Generator G-8/GRC		6-1/2 x 8-7/8 x 10	
1	Case CY-590/GR		5-3/8 x 7-1/4 x 15-5/8	
1	Mast Section AB-22/GR		11/32 dia x 23-1/2	
3	Mast Section AB-23/GR		7/32 dia x 23-1/2	
1	Mast Section AB-24/GR		7/32 dia x 23-1/2	
1	Mounting MT-652/GR		3/8 dia x 5-5/16	

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Radio Set AN/URC-20.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
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28 August 1962
Cog Service:

FSN:

Functional Class:

RADIO SET AN/URC-21

USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER:

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The AN/URC-21 is used as a general purpose, portable, ground installation and in Truck, 1/4 ton. Input power requirements are direct current (DC), furnished by Generator G-8/GRC. Channel separation is one channel for every 10 kilocycles (KC) of tuning range. Radio Set AN/URC-21 combines Radio Set AN/VRC-9 and Modification Kit MX-898/GR.

No field changes in effect at time of preparation (24 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Portable, ground and vehicular.

TYPE OF EMISSION: F3 type.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 120 channels.

FREQUENCY RANGE: 27 to 38.9 mc.

POWER OUTPUT: 16 W.

POWER SUPPLY: DC Generator G-8/GRC.

RELATION TO OTHER EQUIPMENT:

The AN/URC-21 is similar to Radio Set AN/URC-17Y except it includes different mounting provisions.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Radio Set AN/URC-21 consists of:			
1	Receiver-Transmitter RT-67/GRC		9 x 11-3/16 x 12-13/16	
1	Mast Base AB-15/GR			
1	Case CY-684/GR		3-1/8 x 4-1/2 x 9-7/8	
1	Power Supply PP-112/GR		7-5/16 x 9-1/4 x 12-7/8	
1	Control Box C-375/VRC		3-1/4 x 6-13/16 x 7	
1	Local Control C-434/GRC			
2	Mast Section MS-116-AG		0.393 dia x 39-1/2	
2	Mast Section MS-117-AG		0.373 dia x 39-1/2	
2	Mast Section MS-118-AG		0.246 dia x 39-1/2	

AN/URC-21 RADIO SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Mounting MT-299/GR		3-7/16 x 12-1/2 x 19-3/4	
1	Remote Control C-433/GRC		3-9/16 x 6-7/16 x 8-9/16	
1	Handset H-33/PT			
1	Generator G-8/GRC		6-1/2 x 8-7/8 x 10	
1	Case CY-590/GR		5-3/8 x 7-1/4 x 15-5/8	
1	Mast Section AB-22/GR		11/32 dia x 23-1/2	
3	Mast Section AB-23/GR		7/32 dia x 23-1/2	
1	Mast Section AB-24/GR		7/32 dia x 23-1/2	
1	Mounting MT-652/GR		3/8 dia x 5-5/16	

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Radio Set AN/URC-21.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
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August 1957

Radio-Transceivers

RADIO SET**AN/URC-22****FUNCTIONAL DESCRIPTION**

The AN/URC-22 is designed for general purpose use, for vehicular and ground use.

No field changes in effect at time of preparation (17 December 1956).

OPERATING POWER: Supplied by Hand Generator
G-8/GRC

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

RELATION TO OTHER EQUIPMENT

Similar to Radio Set AN/URC-18Y except includes different mtg provisions.

REFERENCE DATA AND LITERATURE

Nomenclature card.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 38 to 54.9 mc, 1 band

TYPE EMISSION: F3.

FREQUENCY CHANNELS: 170 channels, one every
100 kc.

TYPE CLASSIFICATION DESIGN COGNIZANCE PROCUREMENT COGNIZANCE STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Mast Section AB-24/GR		
1	Cable, Special Purpose, Assy CX-1211/U		
1	Mounting MT-299/GR		
1	Remote Control C-433/GRC		
1	Connector and Bond Nut (Appleton no. 61007) and BL-50		
1	Handset H-33/PT		
1	Generator G-8/GRC		
1	Case CY-590/GR		
1	Mast Section AB-22/GR		
1	Mast Section AB-23/GR		
1	Mast Section AB-25/GR		
1	Power Cable Assy CX-1209/U		
1	Power Cable Assy CX-1210/U		
1	Receiver-Transmitter RT-68/GRC		
1	Mast Base AB-15/GR		
1	Case CX-684/GR		
1	RF Cable Assembly CG-530/U		
1	Adapter UG-306/U		
1	Power supply PP-112/GR		
1	Bag CW-206/GR		
1	Cable, Special Purpose UM-46/U		
1	Control Box C-374/VRC		
1	Bag CW-189/GR		
1	Adapter UG-273/U		
1	Local Control C-434/GRC		
2	Mast Section MS-117-A		
1	Mounting MT-652/GR		
1	Headset H-33/PT		
1	Bag CW-187/GR		
1	Bag CW-188/GR		

30 July 1962

RADIO SET AN/URC-24

Cog Service: USN

FSN:

Functional Class:

USA

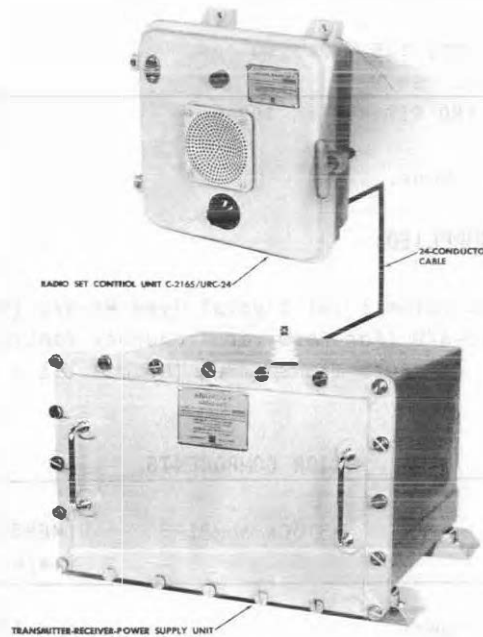
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Tekson, Inc., (88831).



Radio Set AN/URC-24

FUNCTIONAL DESCRIPTION:

The Radio Set AN/URC-24 is designed to provide two-way voice communications by means of high frequency radio on shipboard or shore stations, and it is adaptable to craft having any of several standard electrical power supply voltages available, as well as to stations having 115 volt, 60-cycle power.

Radio Set AN/URC-24 is a compact radio telephone transmitter-receiver system, which is capable of operating independently of any other electronic equipment.

No field changes in effect at time of preparation (22 January 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Shipboard or shore station.

TYPE OF EMISSION: A3 type.

TYPE OF RECEIVER: Superheterodyne.

AN/URC-24 RADIO SET

TYPE OF LOAD: Loudspeaker and handset.

EQUIPMENT PURPOSE: Two-way communications for ship to shore use.

TYPE OF FREQUENCY CONTROL: Piezo-electric crystal.

POWER OUTPUT: 10 W into 24-ohm antenna.

ANTENNA CHARACTERISTICS: Impedance between 5 & 25 ohms.

RECEIVER AUDIO OUTPUT: 3 W into 600 ohm load, less than 7% total harmonic distortion.

FREQUENCY RANGE

CHANNELS 1 THRU 4: 2.0 to 3.8 mc.

CHANNELS 5 and 6: 3.8 to 7.0 mc.

OPERATING POWER RQMT

VOLTAGES: 6, 12, or 24 v dc; 115 v ac, 60 cps.

POWER DRAIN, RECEIVER ONLY: 84 W.

POWER DRAIN, TRANSMITTER AND RECEIVER: 192 W.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Cable Type MFHA or equivalent; (6) Crystal Type HC-6/U (For Transmission frequency control); (6) Crystal Type HC-6/U (For Receiver frequency control); (1) Vibrator (Power Supply dc to ac conversion); (1) Auto-Transformer (Reduce 115 v ac power to power Supply input).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Transmitter, Receiver, Power Supply AN/URC-24		15 x 17-7/8 x 19-1/4	104
1	Remote Control Unit C-2165/URC-24		5-3/8 x 12-3/8 x 13-3/4	18
1	Set of Equipment Spares			

REFERENCE DATA AND LITERATURE:

CG-273-47: Technical Manual for Radio Set AN/URC-24.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5654 (1) 5750 (2) 5763 (1) 5814 (1) 6136 (1) 6146 (1) 6661
(4) 6662 (1) 6680 (1) 6A06 (1) 12BH7 (2) 2E26

CRYSTALS: (12) HC-6/U

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: U.S.C.G.
 SPEC &/OR DWG:

DESIGN COG: U.S.C.G.

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teksun, Inc. Model no. CG-1	Los Angeles, Calif.	TCG-39420	

RADIO SET

AN/URC-30

FUNCTIONAL DESCRIPTION

The AN/URC-30 is a single-sideband, two (2) way communication transmitter-receiver; designed for general purpose use. The circuitry is partially transistorized.

No field changes in effect at time of preparation (22 January 1959).

Approximate Cost: \$475,544.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 4457 (Rev. 11-56) for the Radio Set AN/URC-30.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF RECEIVER AND TRANSMITTER: Single-side band.

PEAK ENVELOPE POWER

RECEIVER AND TRANSMITTER: 200 w.

OPERATING FREQUENCY

RECEIVER AND TRANSMITTER: 2 to 30 mc.

OPERATING POWER REQUIREMENT

RECEIVER AND TRANSMITTER: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

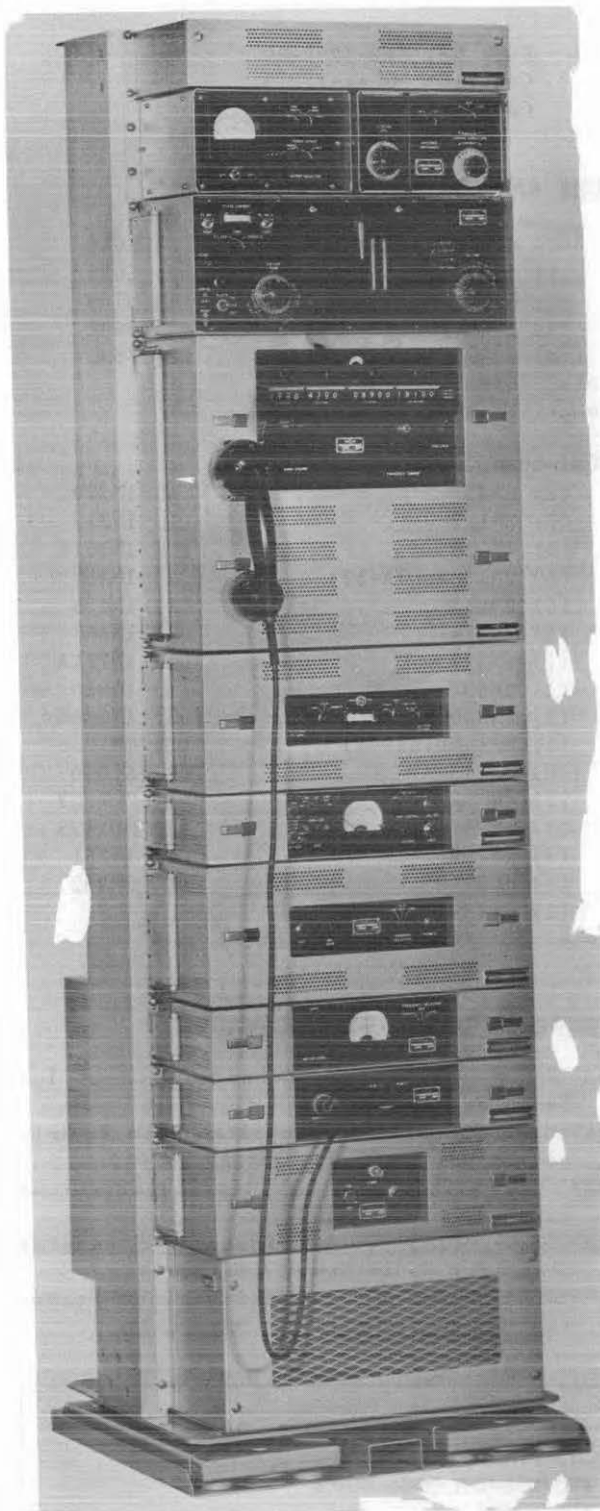
Radio Corporation of America, Camden, N.J.
Contract NObsr-72738, dated 26 June 1957.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-R-2673
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver-Transmitter		
1	Receiver Exciter		
1	Transmitter Power Supply		
1	Antenna, Tuner		

June 1961

RADIO SET**AN/URC-32**

Radio Set AN/URC-32

FUNCTIONAL DESCRIPTION

Radio Set AN/URC-32 is a manually operated radio communications transceiver for operation in the 2 to 30 mc high-frequency range with a transmit peak-envelope-power output of 500 W. The AN/URC-32 is primarily designed for single-sideband transmission and reception on upper sideband, lower sideband or two independent sidebands with separate audio and IF channels for each sideband. In addition to single-sideband operation, provisions are included for compatible AM (carrier reinserted), CW or FSK operation. The frequency range of 2 to 30 mc is covered in four bands, the desired operating frequency being set to one-kilocycle increments on a direct-reading frequency counter. Frequency accuracy and stability are controlled by a self-contained frequency standard. Provisions are provided for using on external frequency standard such as the AN/URQ-9.

Data on this sheet reflects the following field changes: F.C. #1.

RELATION TO OTHER EQUIPMENT

This equipment is a military version of the Collins KWT-6 Type 8 Transceiver.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

This equipment is a complete radio communications transceiver requiring only an antenna, an antenna feed system with a transmitter termination of 50 ohms unbalanced.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2.0 to 30.0 mc.

TYPE OF RECEPTION AND TRANSMISSION: CW telegraphy (A1); double sideband full carrier (A3) on receive; single sideband, reduced carrier (A3a); two independent sidebands, reduced carrier (A3b); composite trans-

June 1961

Radio-Transceivers

AN/URC-32**RADIO SET**

mission (A9); single sideband, full carrier (A9a) on transmit; frequency-shift telegraphy (F1).

TRANSMIT POWER OUTPUT: (A1) 500 W, (A3) 125 W carrier power, (A3a) 500 W PEP, (A3b) 500 W PEP total, (A9) 500 W PEP total, (A9a) 125 W carrier power, (F1) 500 W.

OUTPUT SIGNAL CHARACTERISTICS FOR AUDIO OUTPUTS

USB LINE: P14 to M34 dbm (adjustable) into 600 ohms balanced.

LSB LINE: P14 to M34 dbm (adjustable) into 600 ohms balanced.

PHONES: Standard 600 ohm headphones.

SPEAKER: 3 W max into 3-4 ohm or 600 ohm speaker.

FREQUENCY STABILITY: 1 part in 10^6 per month and 1 part in 10^8 per day under all ambient conditions, using the equipment's internal frequency standard.

POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cyc, single ph, 1700 W.

RECEIVER RF INPUT IMPEDANCE: 50 ohms unbalanced.

TRANSMITTER RF OUTPUT IMPEDANCE: 50 ohms unbalanced.

AUDIO INPUTS

USB LINE: P14 to M34 dbm into 600 ohms balanced.

LSB LINE: P14 to M34 dbm into 600 ohms balanced.

MICROPHONE: Standard high impedance dynamic microphone.

RECEIVER SENSITIVITY: 1 uv for 10 db signal plus noise-to-noise ratio.

RECEIVER SELECTIVITY: 3 kc bandwidth on either sideband, 6 kc bandwidth on AM.

RECEIVER AUDIO DISTORTION: Less than 5% DISTORTION ON TRANSMIT: 50 db below PEP output (3rd order distortion).

CARRIER SUPPRESSION: 45 db below PEP output.

UNDESIRED SIDEBAND SUPPRESSION: 35 db below PEP output.

HOW INSTALLED: Mounted on a std 19 in. rack which is bolted to floor.

FLOOR SPACE REQUIRED: 3.3 sq ft.

NUMBER OF OPERATORS REQUIRED: 1.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.

Part No. 522-1298-00.

Contract NObsr-75279.

Contract NObsr-81220.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 0B2	(1) 6BE6	(3) 6CL6
(1) 12AT7	(1) 12AU7	(9) 5636
(3) 5654	(1) 5670	(6) 5749
(1) 5750	(3) 5814A	(2) 5840
(14) 5899	(2) 6021	(2) 7580

Total Tubes: (50)

No Crystals used.

SEMI-CONDUCTORS

(3) 2N45	(4) 1N270
(7) 2N117	(1) 1N315
(8) 2N128	(1) 1N361A
(5) 2N158A(DTA-17)	(22) 1N457
(6) 2N243	(2) 1N458
(1) 2N274	(2) 1N459
(1) 2N527	(1) 1N721A
(1) 2N537	(2) 1N816
(3) 2N540	(55) 1N1084
(5) 2N1150(TI904)	(2) 1N1086
(10) J-213	(1) 650C0
(3) 1N67A	(1) HC7022
(2) 1N91	(1) HD2123
(5) 1N198	(6) 1N251
(1) HD2160	(8) 1N252
(1) S1159	

Total Semi-Conductors: (171)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93285(A): Technical Manual for Radio Set AN/URC-32.

NAVSHIPS 93285(A)-1: Supplement to Technical Manual for Radio Set AN/URC-32.

NAVSHIPS 93285.21: Operating Instructions for Radio Set AN/URC-32.

NAVSHIPS 93285.32: Performance Standards Sheet for Radio Set AN/URC-32.

NAVSHIPS 93285.42(A): Maintenance Standards Book for Radio Set AN/URC-32.

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

June 1961

RADIO SET

AN/URC-32

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Set AN/URC-32	48.7	32 x 32 x 82	800

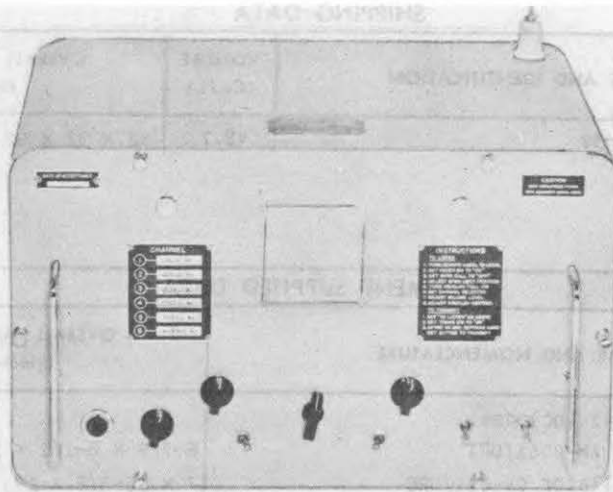
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/URC-32 includes:		470
1	R.F. Amplifier AM-2061/URT	6-7/8 x 8-1/2 x 19	21
1	Converter-Oscillator CV-731/URC	7 x 15-5/8 x 19	43.5
1	Amplifier-Converter-Modulator AM-2064/URC	6-7/8 x 7 x 19	14.5
1	Amplifier-Control AM-2062/URC	6-7/8 x 7 x 19	15.25
1	Power Supply PP-2153/U	8-1/2 x 15-5/8 x 19	93.0
1	Power Supply PP-2154/U	6-7/8 x 7 x 19	33.0
1	Cooler, Air, Electronic Equipment HD-347/U	8-7/8 x 11-1/4 x 19	22.0
1	Control-Power Supply C-2691/URC	3-1/2 x 7 x 19	12.0
1	Signal Comparator CM-126/UR	3-1/2 x 7 x 19	5.75
1	Converter-Monitor CV-730/URC	3-1/2 x 7 x 19	7.5
1	Rack, Electrical Equipment MT-2092/U	17-1/2 x 21-1/2 x 73	200
1	Interconnecting Box J-1007/U	3-1/2 x 7 x 19	*
1	Air Duct Kit		*
1	Cable Kit		*
2	2 Ampere Fuse		
2	Technical Manual NAVSHIPS 93285(A)		
1	Maintenance Standards Book		
1	Operator's Chart		
1	Handset H-169/U and Cord CX-1846()/U		

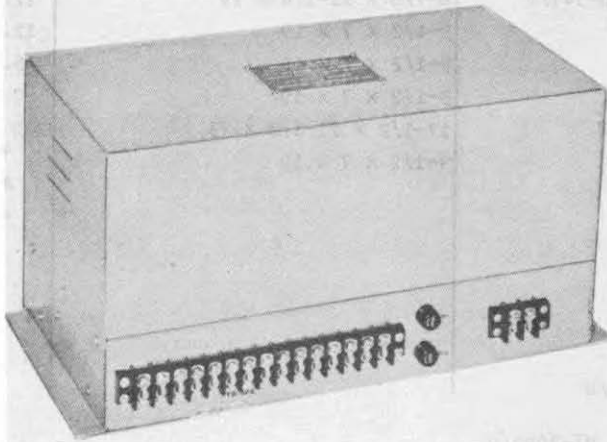
* Weight included with weight of Rack MT-2092/U

RADIO SET

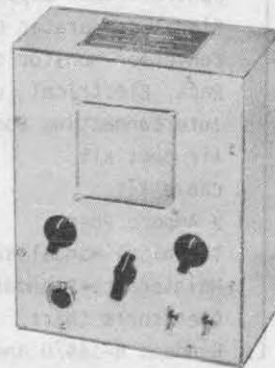
AN/URC-34, AN/URC-34X



RECEIVER-TRANSMITTER, RADIO
RT-452/URC



MODULATOR, POWER SUPPLY
MD-336/URC-34
MD-337/URC-34X



CONTROL, RADIO SET
C-2521/URC



Radio Set AN/URC-34, AN/URC-34X

February 1960

Radio-Transceivers

AN/URC-34, AN/URC-34X**RADIO SET****FUNCTIONAL DESCRIPTION**

Radio Set AN/URC-34 provides transmission and reception of telephone signals through the frequency range of 2.0 to 9.0 megacycles.

The radio set is suitable for two way voice communication for shipboard or shore station use. Automatic channel selection of six (6) pertuned frequency channels is provided.

The radio set includes a remote control unit which contains all necessary controls for operating all functions of the radio set.

Included in the remote control unit are the transmitting and receiving handset and a loudspeaker for the reception of incoming calls.

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

RELATION TO OTHER EQUIPMENT

Radio Set AN/URC-34 is a complete operating radio telephone system with the exception of the antenna. It is capable of operating independently of any other electronic equipment.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Radio Set AN/URC-34 is designed to operate into antenna systems having resistance of 10 to 30 ohms and a capacitance of 200 micro-microfarads.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF TRANSMISSION AND RECEPTION: A3 telephony, 6 kc band width.

FREQUENCY RANGE (BOTH TRANSMITTING AND RECEIVING).

ALL SIX CHANNELS: 2.0 to 9.0 megacycles.

ALTERNATE ARRANGEMENTS

TWO CHANNELS: 2-4 megacycle band.

FOUR CHANNELS: 4-7 megacycle band.

FOUR CHANNELS: 2-4 megacycle band.

TWO CHANNELS: 7-9 megacycle band.

TRANSMITTER POWER: 75 watts.

MODULATION: The transmitter is capable of providing at least 95% modulation.

RECEIVER POWER OUTPUT: 2 watts or more with less than 10% distortion.

RECEIVER SENSITIVITY: 3 microvolts - 30% modulation (6 db signal to noise ratio) for 100 mw audio output.

POWER REQUIREMENTS: 250 Watts Receiver; 500 Watts Receiver.

INSTALLATION: Holes are provided in cabinet for deck, table or bulkhead mounting.

REMOTE CONTROL (C-2521/URC-34): Equipped for bulkhead mounting.

POWER SUPPLY (MD-337/URC-34X): Input 115 vdc, contains modulator.

POWER SUPPLY (MD-336/URC-34): Input 115 vac, single phase, 60 cycles, contains modulator.

MANUFACTURER'S OR CONTRACTOR'S DATA

Munston Manufacturing & Service, Inc.,
Beech Street, Islip, N. Y.

Radio Set, AC, AN/URC-34, Munston Part No. MRT-135-MOD.

Radio Set, DC, AN/URC-34X, Munston Part No. MRT-135-MOD.

Receiver-transmitter, radio, RT-452/URC, Munston Part No. MRT-135-MOD.

Control, Radio Set, C-2521/URC, Munston Part No. 596-150.

Modulation, Power Supply, MD-336/URC-34, Munston Part No. 596-152.

Modulator, Power Supply, MD-337/URC-34X, Munston Part No. 596-151.

Contract, Tcg 40480 (CG-39,755-A), dated 29 April 1957.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 12AX7	(1) 6C4	(2) 6CL6
(3) 6146	(3) 6BA6	(1) 6BE6
(1) 6CB6	(3) 6AL5	(1) 12AQ5
(2) 6146	(2) OB2	(1) 5Y3
(2) 866	(2) OB2	

Total Tubes (26)

Type CR-18/U crystals are required for both the transmitter and receiver to cover the 2-9 megacycle frequency range. The crystals are not furnished with the equipment.

February 1960

Radio-Transceivers

RADIO SET

AN/URC-34, AN/URC-34X

REFERENCE DATA AND LITERATURE

NAVSHIPS 93349: Technical Manual for Radio Set AN/URC-34 and AN/URC-34X, Publication No. CG-273-46.
Schematic diagram for Radio Set AN/URC-34.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE U.S. COAST GUARD
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Receiver-Transmitter	3.1	15 X 22 X 16	35
1	Receiver Spares, Handsets, Remote Control, Books	1.1	20 X 10 X 8	18
1	Power Supply	1.2	10 X 19 X 11	75
1	Spares for Power Supply	1.1	10 X 15 X 11	45

Note: Submission of the manuscript shall not be withheld for lack of the shipping data.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver-Transmitter, RT-452/URC	14 X 15 X 21	34
1	Control, Radio Set, C-2521/URC	10 X 8 X 7-1/2	5
1*	Modulation-Power Supply, MD-336/URC-34	9 X 10 X 18	70
1*	Modulator-Power Supply, MD-337/URC-34X	9 X 10 X 18	43

* Note: Only one power supply will be supplied for each complete equipment, depending upon the power requirements.

28 August 1962

Cog Service: USN

FSN:

RADIO SET AN/URC-35
Functional Class:

USA

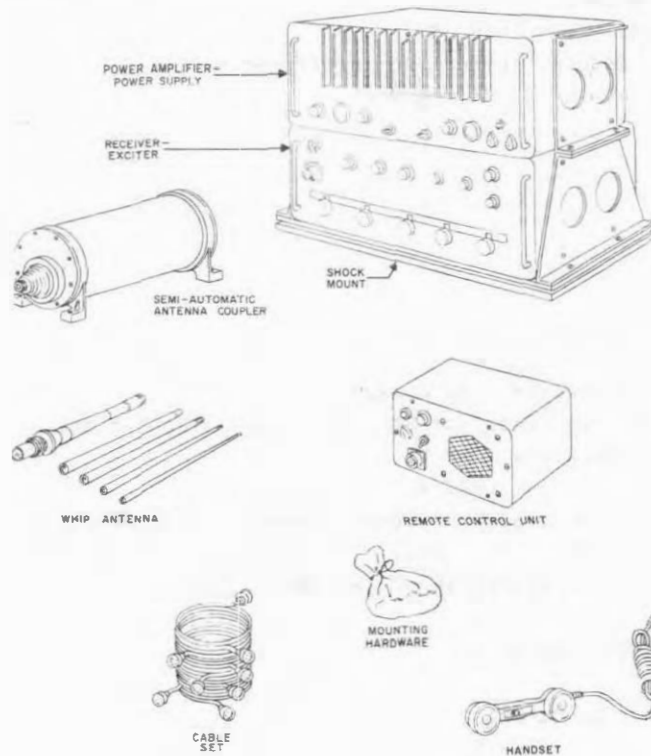
USN

USAF

TYPE CLASS: P1n/Std

P1n/Std

MANUFACTURER'S NAME/CODE NUMBER: Stromberg-Carlson Co., (58189).



Radio Set AN/URC-35

FUNCTIONAL DESCRIPTION:

The Radio Set AN/URC-35 is designed primarily for mobile operation. It consists of a single sideband receiver-exciter, a power amplifier-power supply, a semi-automatic antenna coupler, and a remote control unit. This equipment operates over a frequency range of 2 to 30 megacycles (MC) and provides three (3) modes of operation. Operating modes include: Upper Sideband (USB), Lower Sideband (LSB), and Amplitude Modulation (AM) compatible. For either sideband operation, the transmitter power output is 100 watts peak envelope power (PEP); for AM compatible operation, the available output power is 25 watts carrier power.

No field changes in effect at time of preparation (24 May 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF EMISSION: 4A3a, 4A3b, 4A9a, A1, F1.

FREQUENCY RANGE: 2 to 30 mc in 1 kc increments.

AN/URC-35 RADIO SET

FREQUENCY STABILITY: 1 part in 10^7 per week.

MODES OF OPERATION: Upper Sideband, Lower Sideband and AM (compatible).

RECEIVER IF REJECTION: M80 db.

RECEIVER IMAGE REJECTION: M80 db.

RECEIVER AUDIO OUTPUT

BALANCED LOAD: 60 mw into 600 ohm.

UNBALANCED LOAD: 15 mw into 600 ohm.

EXTERNAL SPEAKER: 3 W max.

RECEIVER AUDIO DISTORTION: Less than 1%.

RECEIVER NOISE BLANKER: Reduces pulse type interference.

RECEIVER SENSITIVITY: 1 uv for 10 db $\frac{S}{N}$.

RECEIVER BANDWIDTH

SSB: 3.2 kc.

AM-CW: 6 kc.

TRANSMITTER POWER OUTPUT

SSB: 100 W PEP.

AM: 25 W carrier.

CW: 50 W.

FSK: P50 W.

POWER AMPLIFIER OUTPUT TERMINATION: 52 ohms.

POWER INPUT: External 24 v dc; Internal 24 v dc silver zinc battery.

RECEIVER-EXCITER POWER CONSUMPTION: 43 W.

POWER AMPLIFIER POWER CONSUMPTION: 180 W.

SEMI-AUTOMATIC ANTENNA COUPLER SYSTEM, FREQUENCY RANGE: 2 to 30 mc.

SEMI-AUTOMATIC ANTENNA COUPLER SYSTEM VSWR: 1.5:1 max.

SEMI-AUTOMATIC ANTENNA COUPLER SYSTEM INPUT IMPEDANCE: 52 ohms.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

- (1) Interconnecting Cable (Designation W2); (1) Interconnecting Cable (Designation W5);
(1) 25 ft Center fed whip antenna (optional); (1) 35 ft Whip type antenna (optional).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Receiver-Exciter RT-618/URC		7 x 17-1/4 x 17-3/8	47
1	Power Amplifier AM-3008/URT		7 x 12-3/4 x 17-3/8	45
1	Remote Control Unit C-3597/URC		5-3/4 x 6 x 7-1/2	5-3/4
1	Shock Mount		1-3/4 x 16-5/8 x 19-3/4	10
1	Semi-Automatic Antenna Coupler Handset CU-937/UR		5-1/4 x 10 x 17-3/8	20
1	Set of Cables			
1	Bag of Hardware			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94254: Technical Manual for Radio Set AN/URC-35.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6CD6 (1) 7377 (1) 7733 (1) DX195

CRYSTALS: None used.

SEMI-CONDUCTORS: (4) 1N904 (1) 1N1202 (1) 1N1594 (4) 1N2357 (1) 1N3004B
 (1) 1N3020B (1) 1N3031B (2) 1N3070 (1) HD6730 (2) 1N198
 (2) 1N252 (30) 1N270 (2) 1N536 (7) 1N625 (1) 1N628 (2) 1N645
 (1) 1N646 (4) 1N648 (6) 1N649 (4) 1N714 (1) 1N718 (6) 1N816

TRANSISTORS: (1) 2N102 (1) 2N328A (1) 2N336 (5) 2N338 (3) 2N502A (2) 2N511B
 (4) 2N542 (2) 2N600 (12) 2N652 (1) 2N656 (2) 2N695 (42) 2N700
 (4) 2N705 (3) 2N1012 (1) 2N1132 (13) 2N1224 (2) 2N1225 (12) 2N1301
 (1) 3N45

SHIPPING DATA

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

PROCUREMENT DATA

PROCURING SERVICE: USN
 SPEC &/OR DWG: SHIPS-R-3304

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stromberg-Carlson Co.	Rochester, N. Y.	NObsr-7762B, 18 June 1959	

February 1960

Radio-Transceivers

RADIO SET**AN/URC-37****FUNCTIONAL DESCRIPTION**

Radio Set AN/URC-37 is an amplitude-modulated radio telephone equipment which operates with 10 watt radio-frequency output on 4 pretuned crystal controlled channels over a frequency of 2 to 6 mc.

No field changes in effect at time of preparation (4 November 1959).

Model 350-C

Contract Tcg-40795(CG-42, 773-A).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal Data Available.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 12 or 24 v DC.
 FREQUENCY RANGE: 2 to 6 mc, 4 channels.
 TYPE OF EMISSION: A3.
 TYPE OF FREQUENCY CONTROL: Crystal.
 POWER OUTPUT: 10 W.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Sheet for
 RADIO SET AN/URC-37.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Co., Inc., Coral Gables,
 Florida.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE U.S.C.G.
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/URC-37 consists of: Transmitter, Radio T-722/URC-37 Coupler, Antenna CU-734/URC-37 Control, Radio Set C-2798/URC-37 Control, Radio Set C-2797/URC-37 Radio Receiver R-933/URC-37 Power Supply PP-2285/URC-37 Cabinet, Electrical Equipment CY-2578/URC-37		

June 1961

RADIO SET

AN/URC-38

FUNCTIONAL DESCRIPTION

The AN/URC-38 is a semi-transistorized, single-sideband transceiver for special CNO communications requirements. It is for special purpose use, transportable, fixed, and semi-portable.

No field changes in effect at time of preparation (6 December 1960).

Type No. 3248-1.
Contract PR623A.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Transportable, fixed and semi-portable.

TYPE OF ANTENNA: Whip type antenna.

TYPE OF EMISSION: A3A Lower sideband.

TYPE OF FREQUENCY CONTROL: Crystal.

NUMBER OF CHANNELS: 4 channels.

OPERATING FREQUENCY RANGE: 2 to 15 mc.

OPERATING POWER RQMT: 115/230 v ac, 12 v dc and 28 v dc.

POWER OUTPUT: 100 W PEP.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Set AN/URC-38.

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

MANUFACTURER'S OR CONTRACTOR'S DATA

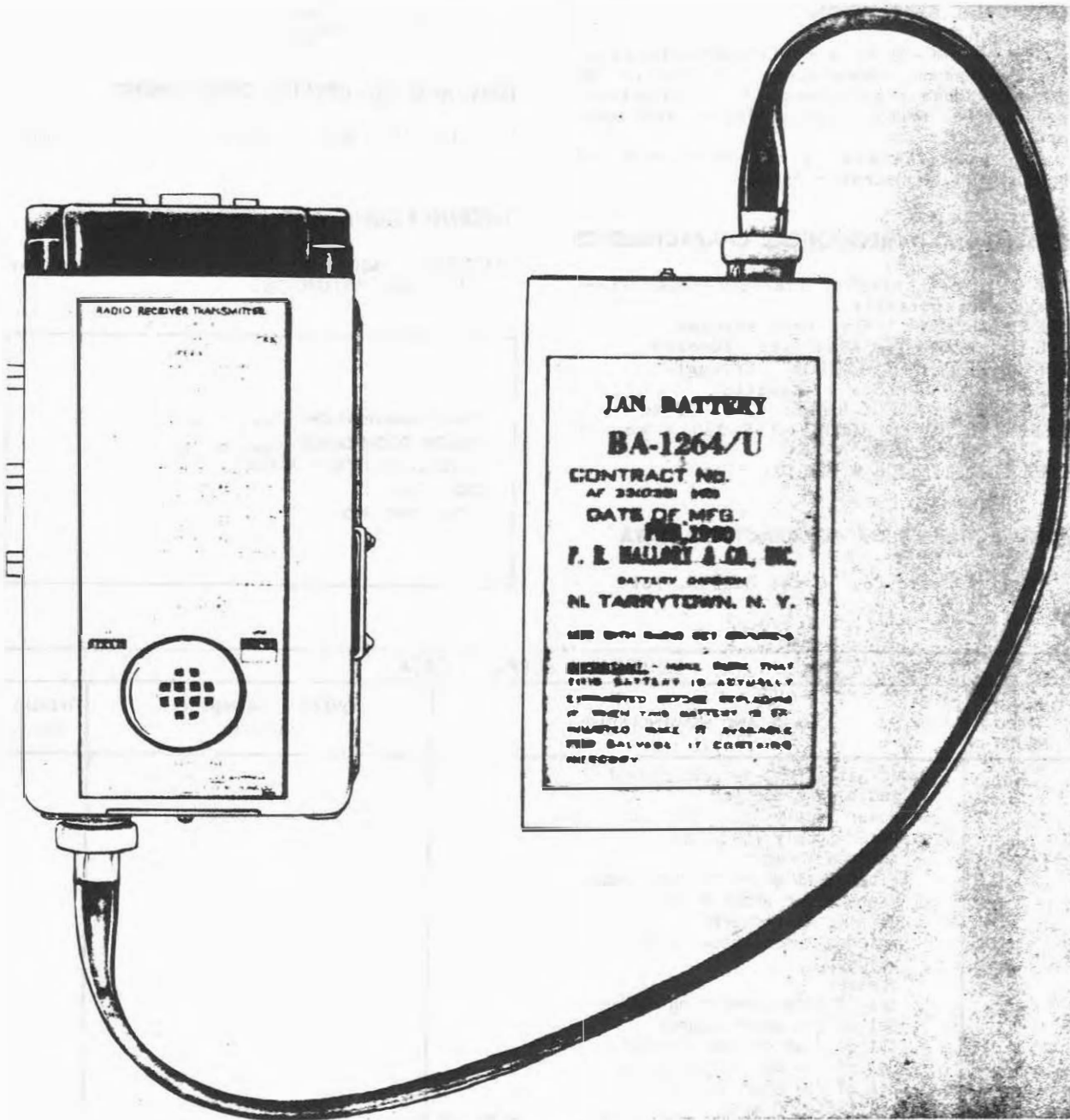
Collins Radio Co., Cedar Rapids, Iowa.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/URC-38 consists of:		
1	Radio, Transceiver		
1	Power Supply (115/230 v ac)		
1	Power Supply (28 v dc)		
1	Antenna Tuner		
1	Fiberglass Whip Antenna & Mount		
1	Transceiver Shock Mount		
1	Dynamic Microphone		
1	Antenna Tuner Shock Mount		
1	Headset		
1	Speaker		
1	Set of Interconnecting Cables		
1	Set of Equipment Spares		
1	Set of Four Channel Crystals		
1	Set of Unused Channel Coils		
1	Set of (2) High Stability Crystal Ovens		
1	Directional wattmeter		
1	Equipment Carrying Case		
1	Kit for Field Conversion to Upper Sideband use		

RADIO SET

AN/URC-4



Radio Set AN/URC-4

FUNCTIONAL DESCRIPTION

The Radio Set AN/URC-4 is a portable, hand operated unit designed to furnish two-way voice and Keyed tone communication between distressed personnel and searching aircraft. The transmitter is crystal controlled,

and depending upon the crystal in use, will transmit on any preset frequency within the VHF of 120 to 130 mc, or in the UHF band of 240 to 260 megacycles. The following variable components will be supplied when required for a particular application. A vest, Radio Carrier AN/URC-4 is supplied when the equip-

October 1957

Radio-Transceivers

AN/URC-4**RADIO SET**

ment is to be carried on the person of air-
men during flight missions; and Droppable
Kit AN/URC-4 when aerial delivery of the
radio equipment to survivors of aircraft
crashes and forced landings.

No field changes in effect at time of
preparation (7 February 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 120 to 130 mc and 240 to
260 mc.

POWER OUTPUT: 85 mw max.

EMISSION: A0, A2 and A9.

RECEIVER TYPE: Super-regenerative type.

POWER SOURCE REQUIRED: 125 v DC at 45 ma and
1.25 v DC at 520 ma.

MANUFACTURER'S OR CONTRACTOR'S DATA

Philharmonic Radio and Television Corp.,
New Brunswick, N.J.
Contract-AF33(600)21243.
Contract-AF33(600)16654.
Contract-AF33(600)24751, dated 23 May
1953.

Hoffman Laboratories, Inc., Los Angeles,
California.

Contract-AF33(038)5603.

Contract-AF33(038)10107.

Contract-AF33(038)17439.

Approximate Cost: \$90.00 with equip-
ment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 2E31

(1) 3Q4

(4) 6050

(2) 6397

Total Tubes: (8)

(1) CR-24/U

Total Crystals: (1)

REFERENCE DATA AND LITERATURE

TM11-510: Technical Manual for Radio Set
AN/URC-4.

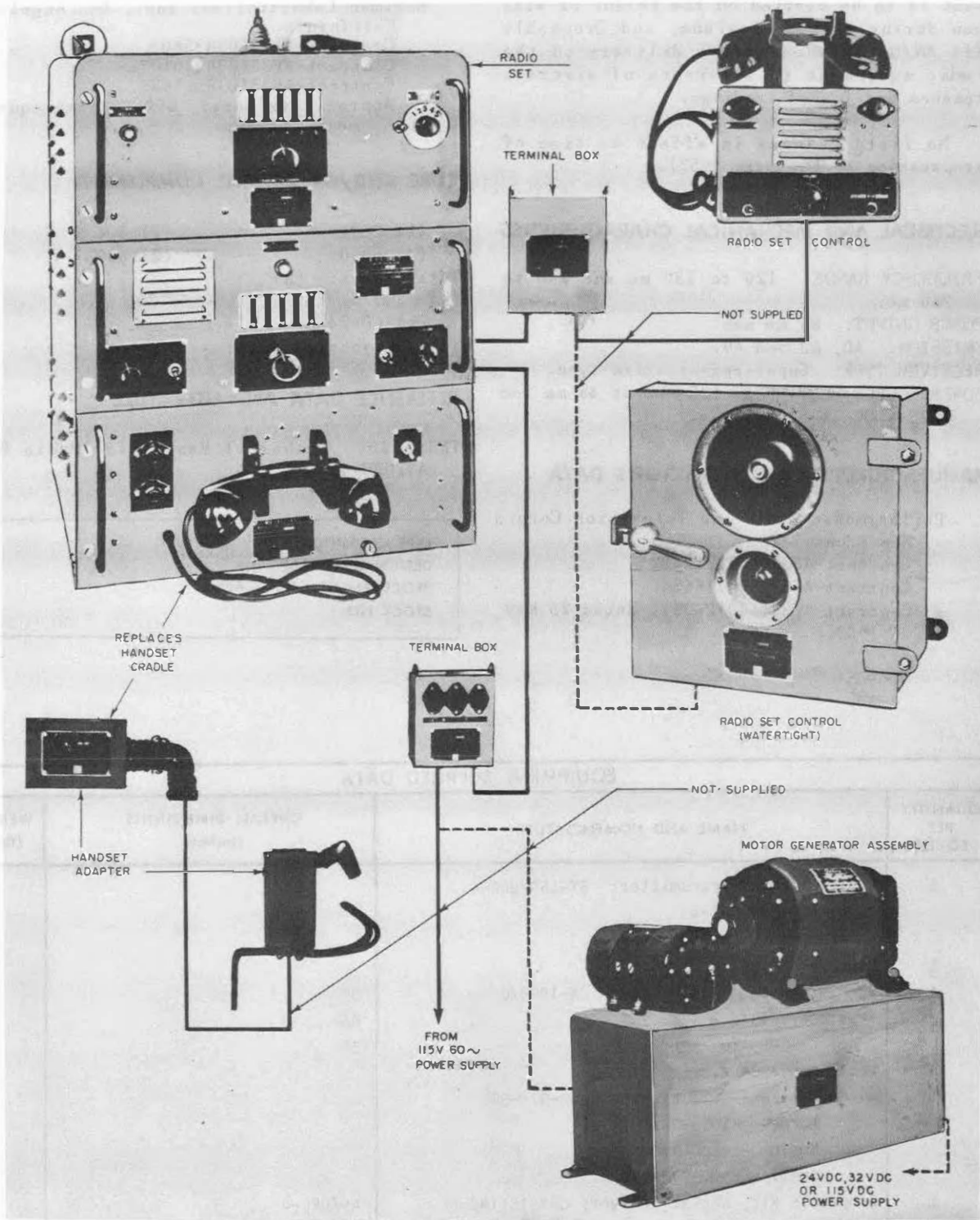
TYPE CLASSIFICATION	USAF
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver-Transmitter: RT-159/URC-4 or RT-159A/URC-4 or RT-159B/URC-4		
1	Battery BA-1264/U		
1	Special Purpose Cable Assy: CX-1093/U or CX-1093/U or CX-1093A/U	30 66 30	
1	Vest, Radio Carrier Four sizes - EX. Large - 8300-978-500 Large - 8300-978-510 Medium - 8300-978-520 Small - 8300-978-530		
1	Droppable Kit, Aerial Delivery CONSISTING OF Parachute, Cargo Container, Aerial Delivery	AN/URC-4 G-7 (modified) A-20	

RAD O SET

Radio-Transceivers AN/URC-7,-7X,-7Y,-7Z



Radio Set AN/URC-7

Radio-Transceivers

AN/URC-7,-7X,-7Y,-7Z**RADIO SET**

April 1958

FUNCTIONAL DESCRIPTION

The AN/URC-7 series is designed for medium and short distance voice communication and provides all facilities for both transmission and reception of voice modulated signals within its frequency range. They have six pretuned crystal controlled channels in the 2000 to 7000 kilocycle frequency range. As shipped from the factory, they have been set up to tune from 2000 to 3800 kilocycles, but by modifying some of the switch wafer connections and jumpers, channels five and six can be made to tune in the 3800 to 6000 kilocycle band or 6000 to 7000 kilocycle band. Equipment furnished under contract Tcg-38557 is shipped modified for high frequency.

They are intended for use and installation on Coast Guard vessels as well as for use at various type shore stations.

They are similar in function, differing only in components required for operation from different power sources. The AN/URC-7 is for operation from a 115 volt alternating-current power source, the AN/URC-7X from 24 volts direct-current, the AN/URC-7Y from 32 volts direct-current, and the AN/URC-7Z from 115 volts direct current.

Data on this sheet reflects the following field changes: FC-1 (9 May 1958).

Equipment Required but not Supplied: (1) Antenna, Cables and Leads as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 to 7000 kc.

BAND DATA

BAND 1: 2000 to 3800 kc.

BAND 2: 3800 to 6000 kc or 6000 to 7000 kc.

CHANNELS: 6 in 2000 to 3800 kc band. 2 may be modified for 3800 to 6000 kc or 6000 to 7000 kc.

POWER OUTPUT: 25 W nom.

EMISSION: A3.

FREQUENCY CONTROL: Crystal oscillator.

MODULATION DATA

TYPE: Amplitude.

CAPABILITY: 95%.

RECEIVER DATA

TYPE: Superheterodyne.

RECEPTION: A3.

OUTPUT: 2 W to speaker.

IF: 455 kc.

SQUELCH: Opens with input signal of 3 uv.

AMBIENT TEMPERATURE RANGE: -10 to +50 deg C.

POWER REQUIREMENTS: 115 v, 60 cps, single ph or 24 v DC or 32 v DC or 115 v DC.

HEAT DISSIPATION

AN/URC-7: 343 W.

PU-222/URC-7: 244 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corp of America, New York, New York.

Contract Tcg-37988, dated 26 October 1949 (AN/URC-7).

Contract Tcg-38301, dated 8 December 1950 (AN/URC-7).

Contract Tcg-38557, dated 26 June 1951 (AN/URC-7).

Contract Tcg-38807, dated 20 February 1952 (AN/URC-7).

Contract Tcg-39362 (AN/URC-7X, -7Y, -7Z).

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 1624	(2) 6005/6A(J5W
(2) 5R4WGB	(1) 6X4WA
(4) 5749/6BA6W	(2) 6AV6
(1) 5750/6BE6W	
Total Tubes: (17)	
(2) 1N54	(12) HC-6/U
Total Crystals: (14)	

REFERENCE DATA AND LITERATURE

NAVSHIPS 91931: Technical Manual for Radio Set AN/URC-7.

Nomenclature Cards for Radio Set AN/URC-7X, AN/URC-7Y, AN/URC-7Z.

TYPE CLASSIFICATION
DESIGN COGNIZANCE USCG
PROCUREMENT COGNIZANCE RTRS-35C-A
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME [Cu.Ft.]	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Set including: Radio Set Control	31.2	34 x 37 x 43	350
1	Terminal Boxes (2) including Set of Equipment Spares	12.0	24 x 24 x 36	180

April 1958

RADIO SET

Radio-Transceivers
AN/URC-7,-7X,-7Y,-7Z

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AN/URC-7 Cabinet CY-1027/URC-7 including: Radio Transmitter T-298/URC-7 Radio Receiver R-413/URC-7 Modulator-Power Supply MD-145/URC-7	20-1/2 x 23-25/32 x 27-3/8	165
1	Radio Set Control C-878/URC-7	4-1/16 x 9 x 10-1/4	7.75
1	Terminal Box J-401/URC-7	3-3/4 x 4-11/16 x 5-7/8	2.5
1	Terminal Box J-442/URC-7	3-1/8 x 4-11/16 x 5-7/8	2
1	Handset NT-51032		
1	AN/URC-7X Cabinet CY-1027/URC-7 including: Radio Transmitter T-298/URC-7 Radio Receiver R-413/URC-7 Modulator-Power Supply MD-221/URC-7X	20-1/2 x 23-25/32 x 27-3/8	165
1	Radio Set Control C-878/URC-7	4-1/16 x 9 x 10-1/4	7.75
1	Terminal Box J-612/URC-7	4-1/12 x 4-11/12 x 5-7/8	2.5
1	Terminal Box J-442/URC-7	3-1/8 x 4-11/16 x 5-7/8	2
1	Handset NT-51032		
1	AN/URC-7Y Cabinet CY-1027/URC-7 including: Radio Transmitter T-298/URC-7 Radio Receiver R-413/URC-7 Modulator-Power Supply MD-222/URC-7Y	20-1/2 x 23-25/32 x 27-3/8	165
1	Radio Set Control C-878/URC-7	4-1/16 x 9 x 10-1/4	7.75
1	Terminal Box J-612/URC-7	4-1/12 x 4-11/12 x 5-7/8	2.5
1	Terminal Box J-442/URC-7	3-1/8 x 4-11/16 x 5-7/8	2
1	Handset NT-51032		
1	AN/URC-7Z Cabinet CY-1027/URC-7 including: Radio Transmitter T-298/URC-7 Radio Receiver R-413/URC-7 Modulator-Power Supply MD-223/URC-7Z	20-1/2 x 23-25/32 x 27-3/8	165
1	Radio Set Control C-878/URC-7	4-1/16 x 9 x 10-1/4	7.75
1	Terminal Box J-612/URC-7	4-1/12 x 4-11/12 x 5-7/8	2.5
1	Terminal Box J-442/URC-7	3-1/8 x 4-11/16 x 5-7/8	2
1	Handset NT-51032		

27 July 1962

Cog Service: USN FSN: 5820-302-9532

RADIO SET AN/URC-8(XN-1)

Functional Class:

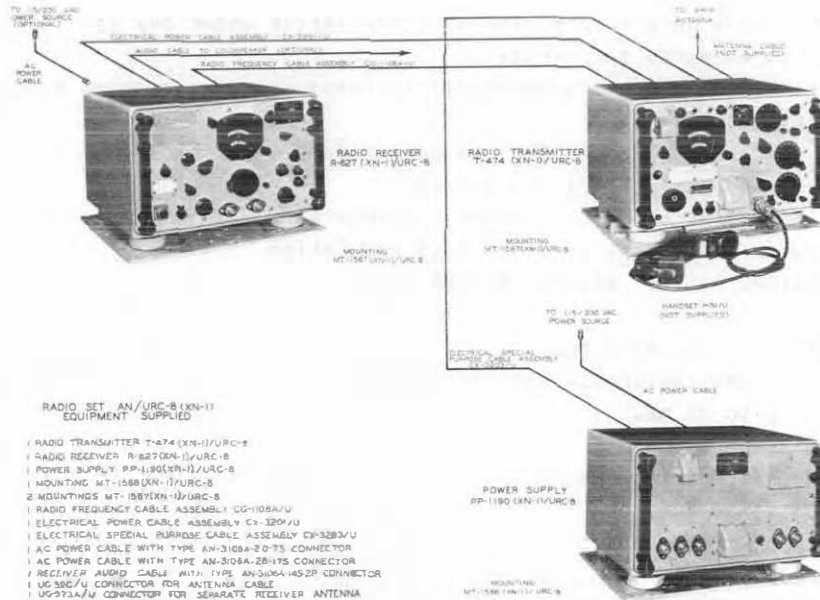
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Co., (13499).



Radio Set AN/URC-8(XN-1)

FUNCTIONAL DESCRIPTION:

The Radio Set AN/URC-8(XN-1) is designed for radio-telegraph (A1) and radio telephone (A3) communications in the 2 to 30 megacycle (MC) range. The radio set is especially suitable for shipboard, mobile and fixed station operation where a rugged, easily operated and easily maintained installation is required.

No field changes in effect at time of preparation (22 January 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Shipboard mobile and fixed-station.

TRANSMITTER DATA

TYPE OF EMISSION: A1 & A3 type.

FREQUENCY RANGE: 2 to 30 mc.

NUMBER OF BANDS: 4 bands.

AN/URC-8(XN-1) RADIO SET

BAND ONE FREQUENCY: 2 to 4 mc.

BAND TWO FREQUENCY: 4 to 8 mc.

BAND THREE FREQUENCY: 8 to 16 mc.

BAND FOUR FREQUENCY: 16 to 30 mc.

NUMBER OF PRESET FREQUENCIES: 16.

TYPE OF FREQUENCY CONTROL: Choice of permeability-tuned oscillator for continuous tuning or crystal oscillator (four crystals) for preset frequencies.

POWER OUTPUT

NOMINAL: 42 W.

MINIMUM: 32 W.

DUTY CYCLE: Continuous duty w/100% sine-wave modulation under any conditions.

KEYING RATE: Up to 40 words per minute.

FREQUENCY STABILITY: Porm 0.03% w/permeability-tuned oscillator; porm 0.015% using nearest 100 kc check point.

AUDIO FREQUENCY RESPONSE: 300 to 3500 cps porm 2 db.

DISTORTION: Less than 7% with 90% modulation.

SPURIOUS OUTPUT: Greater than 50 db below fundamental.

HUM AND NOISE: Greater than 40 db below 100% modulation.

OPERATING TEMPERATURE RANGE: M30 deg to P65 deg C.

RECEIVER DATA

TYPE OF EMISSION: A1, A2, A3 type.

TYPE OF RECEIVER: Dual-conversion superheterodyne.

FREQUENCY RANGE: 2 to 30 mc.

NUMBER OF BANDS: 4 bands.

BAND ONE FREQUENCY: 2 to 4 mc.

BAND TWO FREQUENCY: 4 to 8 mc.

BAND THREE FREQUENCY: 8 to 16 mc.

BAND FOUR FREQUENCY: 16 to 30 mc.

NUMBER OF PRESET FREQUENCIES: 16.

TYPE OF FREQUENCY CONTROL: Choice of permeability-tuned master oscillator for continuous tuning or crystal oscillator (four crystals) for preset frequencies.

RECEIVE OUTPUT: 1-1/2 w into 600 ohm load.

INTERMEDIATE FREQUENCY: 455 kc.

FREQUENCY STABILITY: Porm 0.040% or 2 kc using master oscillator; porm 0.009% or 1 kc using crystal oscillator.

IMAGE AND IF REJECTION: Greater than 60 db.

AUDIO FREQUENCY RESPONSE: 300 to 3500 cps porm 2 db.

AUDIO DISTORTION: Less than 5% at 1 kc with 1-1/2 watts into 600 ohm load.

SELECTIVITY

NARROW BAND: At least 2 kc at 6 db down and less than 5.4 kc at 60 db down.

BROAD BAND: At least 8.4 kc at 6 db down and less than 20 kc at 60 db.

OPERATING POWER RQMT: 115/230 v ac, 50 to 60 or 400 cps, single ph, 650 W.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Frequency Cable Type RG-10/U; (1) Antenna (Emission & Reception); (4) Crystal Unit CR-18/U (for Transmitter Frequency Control); (4) Crystal Unit CR-18/U (for Receiver

Frequency Control); (1) Handset Type H-51/U; (1) Telegraph Key; (1) Headphone (600 ohm impedance); (1) to (4) Radio Phone Unit Type 23500; (1) Loudspeaker (600 ohm impedance); (1) Motor-Generator PU-340(XN-1)/U; (1) Motor-Generator PU-341(XN-1)/U; (1) Motor-Generator PU-342(XN-1)/U; (1) Electrical Power Cable Ass'y CX-3202/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitter w/cover T-474(XN-1)/URC-8		10-15/32 x 17-1/4 x 17-7/8	86
1	Radio Receiver R-627(XN-1)/URC-8		10-15/32 x 17-1/4 x 18-5/16	91
1	Power Supply w/cover PP-1190(XN-1)/URC-8		10-15/32 x 17-1/4 x 17-25/32	122
1	Mounting MT-1566(XN-1)/URC-8		1-7/8 x 15 x 18	16
2	Mounting MT-1567(XN-1)/URC-8		1-7/8 x 15 x 18	16 ea
1	R. F. Cable Ass'y CG-1108A/U		96 lg	
1	Electrical Power Cable Ass'y CX-3201/U		96 lg	
1	Electrical Special Power Cable Ass'y CX-3203/U		96 lg	
1	AC Power Cable W/AN-3106A-20-7S Connector		96 lg	
1	AC Power Cable W/AN-3106A-28-17S Connector		120 lg	
1	Audio Cable		96 lg	
1	Connector for Antenna Cable Transmitter UG-59A/U			
1	Connector for Antenna Cable, Receiver UG-573A/U			
2	Technical Manual NAVSHIPS 92831		3/4 x 8-1/2 x 11	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92831: Technical Manual for Radio Set AN/URC-8(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0A2WA (2) 3B2B (2) 5R4WGB (3) 6AU6WA (1) 5686 (2) 5726 (10) 5749
(1) 5751 (9) 5814A (4) 5933 (2) 6005.

CRYSTALS: (8) CR-18/U.

AN/URC-8(XN-1) RADIO SET

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-R-17165

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	N0bsr-63161. 23 December 1952	

April 1959

Radio-Transceivers
AN/URC-9(XN-1)

RADIO SET

FUNCTIONAL DESCRIPTION

The AN/URC-9(XN-1) is designed to provide two-way UHF communication facilities for mobile, amphibious craft, and fixed installations. It may be mounted on the floor of a vehicle or rack mounted and it provides 1750 crystal-controlled channels in the 225 to 399.9 megacycle frequency range for the reception and transmission of amplitude modulated radiotelephone signals. Any 20 of the frequency channels are available at one time.

No field changes in effect at time of preparation (10 June 1958).

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Contract NObsr-63366, dated 27 March 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

(10) 5654/6AK5W	(1) 4X150D
(6) 5670	(4) 5763
(6) 6J4WA	(1) 6442/Z1911

Total Tubes: (28)
No Crystal Data Available.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 399.9 mc.
CHANNELS: 1750.
POWER OUTPUT: 20 W.
EMISSION: A3.
FREQUENCY SEPARATION: 100 kc between channels.
FREQUENCY CONTROL: Crystal.
IMPEDANCE: 52 ohms.
POWER REQUIREMENTS: 105, 115, or 125 v, 50 to 60 cps, single ph or 28 v DC.

REFERENCE DATA AND LITERATURE

NAVSHIPS 4457: Electronic Equipment-Preliminary Data for Radio Set AN/URC-9(XN-1).
Nomenclature Card for Radio Set AN/URC-9(XN-1).

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-R-980B
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter-Receiver Unit 1	9-1/2 X 9-29/32 X 16-3/4	47
1	Power Supply Unit 2	7-5/32 X 12 X 19-7/16	56
1	Radio Set Group Case Unit 3	12-7/32 X 18 X 18-1/4	47
1	Radio Set Control Unit 4	4-5/16 X 5 X 8-1/4	4
1	Radio Set Control Unit 5	4-11/32 X 5 X 8-1/4	5
1	Mounting Accessory Kit Unit 6	1-11/16 X 15-11/16 X 16-1/4	
1	AC Blower for Case	4-1/22 X 6-1/4 X 7	5
1	AC Power Cable Assembly Unit 7	120 lg	
1	DC Power Cable Assembly Unit 8	120 lg	

June 1961

Radio-Transceivers

RADIO SET**AN/URC-9X****FUNCTIONAL DESCRIPTION**

The AN/URC-9X is a self-contained transmitting and receiving set capable of A3 transmission and reception on any one of 1750 channels. It provides Ultra High Frequency (UHF) communication facilities for mobile, amphibious craft, and fixed installations. The 1750 crystal-controlled channels in the frequency range of 225.0 to 399.9 megacycle (MC) are provided for the reception and transmission of amplitude modulated (AM) radio-telephone signals.

No field changes in effect at time of preparation (12 December 1960).

RELATION TO OTHER EQUIPMENT

The AN/URC-9X is similar to the AN/URC-9 except for power supply.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A3 type.

TYPE OF FREQUENCY CONTROL: Crystal controlled (synthesizer).

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1750 channels.

OPERATING FREQUENCY RANGE: 225.0 to 399.9 mc.

IMPEDANCE: 52 ohms.

POWER OUTPUT: Approx 15 W.

OPERATING POWER RQMT: 115 or 230 v ac, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Company, Cedar Rapids, Iowa.
Outline Dwg Nos. 2625-4, 5, 6.
Contract NObsr-63366, dated 27 March 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 4X150D	(10) 5654-6AK5W
(6) 5670	(4) 5673
(6) 6J4WA	(1) 6442-Z1911

Total Tubes: (28)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Set AN/URC-9X.

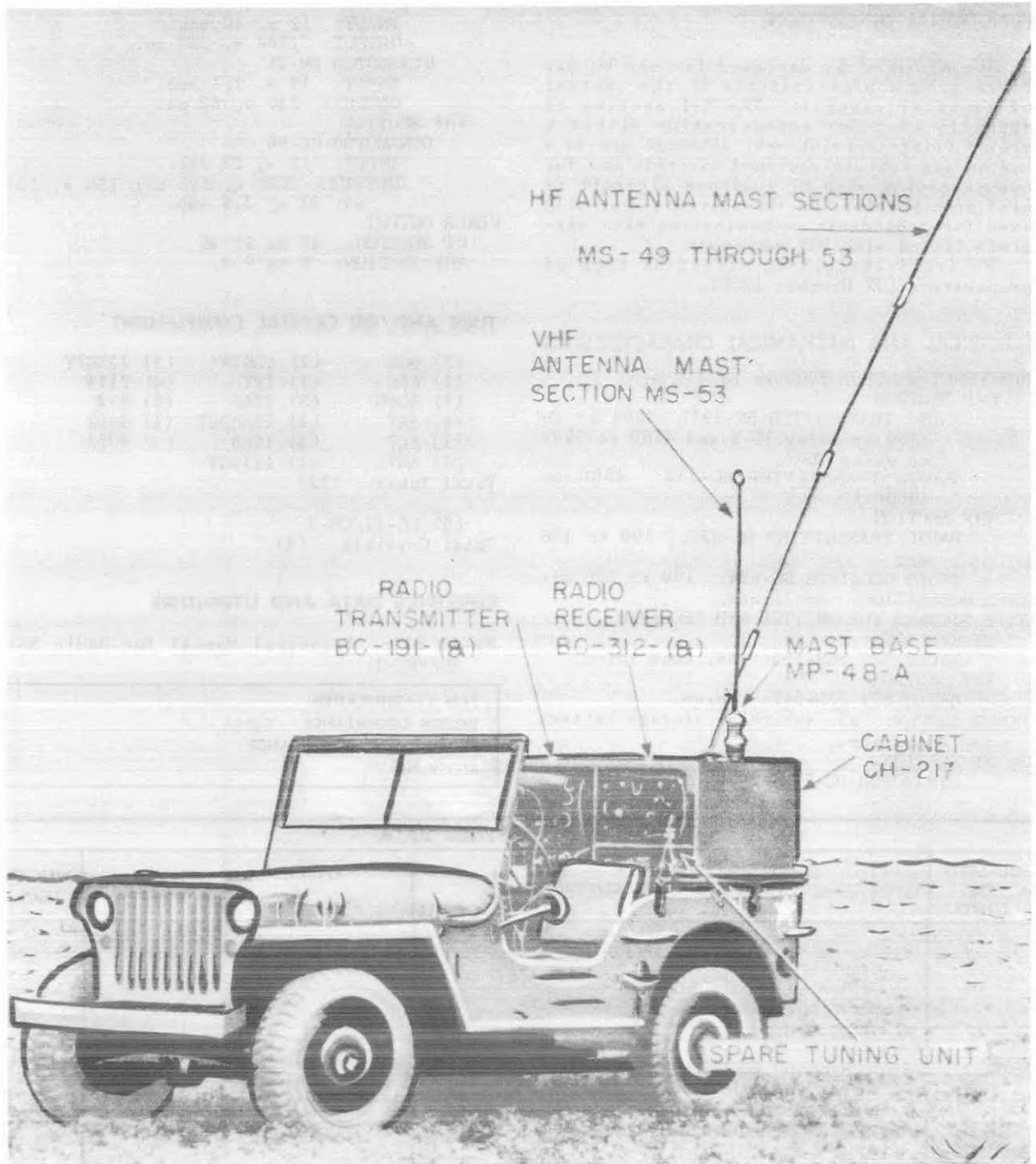
TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AN/URC-9X Receiver-Transmitter	13-13/16 x 17-1/2 x 19-1/2	157
1	Unit 4 of AN/URC-9 Control, Radio Set	4-5/16 x 5 x 8-1/4	4
1	Unit 5 of AN/URC-9 Control, Radio Set	4-11/32 x 5 x 8-1/4	5
1	Unit 6 of AN/URC-9 Accessory Kit Mounting	1-11/16 x 15-11/16 x 16-1/4	
1	Unit 7 of AN/URC-9 AC Power Cable Ass'y	120 lg	
1	Unit 8 of AN/URC-9 DC Power Cable Ass'y	120 lg	
1	AC Blower for Case	4-1/22 x 6-1/4 x 7	5

RADIO SET

AN/VRC-1



Radio Set AN/VRC-1

June 1957

Radio-Transceivers

AN/VRC-1

RADIO SET

FUNCTIONAL DESCRIPTION

The AN/VRC-1 is designed for use by Air Force ground organizations in the control of tactical aircraft. The H-F section is normally used for communication within a ground point-to-point net, although use as a beacon for compass-equipped aircraft and for communication with HF equipped aircraft is also practicable. The VHF section is normally used for ground-air communication with aircraft fitted with VHF equipment.

No field changes in effect at time of preparation (22 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 3000 kc to 156 mc.

H-F SECTION

RADIO TRANSMITTER BC-191: 3000 kc to 4500 kc using TU-6 and 4500 to 6200 kc using TU-7.

RADIO TRANSMITTER BC-312: 1500 to 18000 kc.

VHF SECTION

RADIO TRANSMITTER BC-625: 100 to 156 mc.

RADIO RECEIVER BC-624: 100 to 156 mc.

TYPE MODULATION: Amplitude.

TYPE SIGNALS TRANSMITTED AND RECEIVED

HF SECTION

RADIO SET SCR-193: CW, tone voice.

VHF SECTION

RADIO SET SCR-542: Voice.

POWER SUPPLY: 12 v vehicular storage battery and dynamotors.

HF SECTION

DYNAMOTOR BD-77

INPUT: 12 v, 40 amp.

OUTPUT: 1000 v, 350 ma.

DYNAMOTOR DM-21

INPUT: 12 v, 2.7 amp.

OUTPUT: 230 v, 82 ma.

VHF SECTION

DYNAMOTOR PE-98

INPUT: 12 v, 23 amp.

OUTPUT: 300 v, 260 mc; 150 v, 10 ma; 13 v, 3.9 amp.

POWER OUTPUT

HF SECTION: 40 to 75 W.

VHF SECTION: 8 to 9 W.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6C5	(2) 6SK7WA	(3) 12SG7Y
(1) 6F6	(1) 10Y	(4) 211W
(1) 6G6G	(3) 12A6	(2) 832
(4) 6K7	(1) 12AH7GT	(1) 9002
(1) 6L7	(1) 12C8	(3) 9003
(1) 6R7	(1) 12J5GT	

Total Tubes: (32)

(8) DC-11/CR-1

Total Crystals: (8)

REFERENCE DATA AND LITERATURE

TM-11 277: Technical Manual for Radio Set AN/VRC-1.

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-191 consists of:		
1	Mounting FT-151-B.		
2	Technical Manuals TM11-800		
4	Set Screw wrench		
1	Mounting FT-172		
1	Mounting FT-178		
1	Radio Receiver BC-312		
1	Technical Manual TM11-850		
1	Dynamotor BD-77		
1	Antenna AN-24-A		
1	Antenna A-27		
1	Box BX-8		
1	Box BX-9		
1	Box BX-21		
1	Case CS-48		
1	Mast Base MP-57		
1	Mast Bracket MP-63		
2	Mast Section MS-49		

RADIO SET

AN/VRC-1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Mast Section MS-50		
2	Mast Section MS-51		
2	Mast Section MS-52		
2	Mast Section MS-53		
1	Roll BG-56-A		
1	Terminal Block TM-183		
1	Terminal Box		
2	Clamp MC-421		
2	Clamp MC-422		
2	Clamp MC-423		
2	Clamp MC-424		
1	Cord CD-237		
1	Cord CD-358		
1	Cord CD-411		
1	Cord CD-424		
1	Cord CD-165-A		
1	Cover BG-67-A		
1	Cover BG-57-A		
1	Cover BG-78-A		
1	Cover BG-79-A		
3	Insulator IN-86		
5	Insulator IN-104		
4	Insulator IN-121		
1	Radio Transmitter BC-625		
2	Crystals Units DC-11 or CR-1		
1	Radio Receiver BC-624		
2	Crystal Unit DC-11 or CR-1		
1	Dynamotor Unit PE-98		
1	Radio Control Box BC-602		
1	Interphone Control Box BC-606		
1	Junction Box J-33/VRC-1		
1	Mast Base MP-48-A		
2	Mast Section MS-53		
1	Coaxial Cable WC-543 or WC-549	24 1g	
1	Case CS-80		
1	Cord CD-689		
1	Cord CX-58/VRC-1		
1	Cord CX-59/VRC-1		
1	Cord CX-60/VRC-1		
1	Cord CX-61/VRC-1		
1	Cord CX-63/VRC-1		
1	Cordage CO-213	78 1g	
1	Cover BG-108		
1	Microphone Adapter M-299		
1	Mounting Bracket FT-475		
1	Plug PL-173		
1	Rack FT-244		
2	Tentative TM11-509		
3	Headset HS-30		
2	Microphone T-45		
1	Microphone T-17		
2	Microphone Cover M-367		
3	Cord CD-307-A		
3	Cord CD-604		
1	Cord CD-260		
2	Cord CD-318-A		
1	Cabinet CH-217		
1	Rope RP-5	600 1g	
1	Test Equipment TE-36		
1	Test Set I-139-A		

April 1958

RADIO SET**AN/VRC-12****FUNCTIONAL DESCRIPTION**

The Signal Corps revised the equipment characteristics. The AN/VRC-12 is being revised to include the range of 20 to 70 mc and circuitry is to be transistorized where possible. The AN/VRC-12 has a broadband coverage vehicular radio 20 to 70 mc.

No field changes in effect at time of preparation (11 June 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

NUMBER OF CHANNELS: 10 preset.

TYPE OF EMISSION: F3 type of emission.

OPERATING FREQUENCY RANGE: 20 to 70 mc.

MILEAGE RANGE: 3 to 30 miles.

OPERATING POWER REQMT: 115 v, 60 cps, 1 ph,
24 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Signal Corps.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 4457 (Rev. 11-56) Preliminary Data
Form for AN/VRC-12 Radio Set.

Nomenclature Card for AN/VRC-12 for Radio
Set.

TYPE CLASSIFICATION

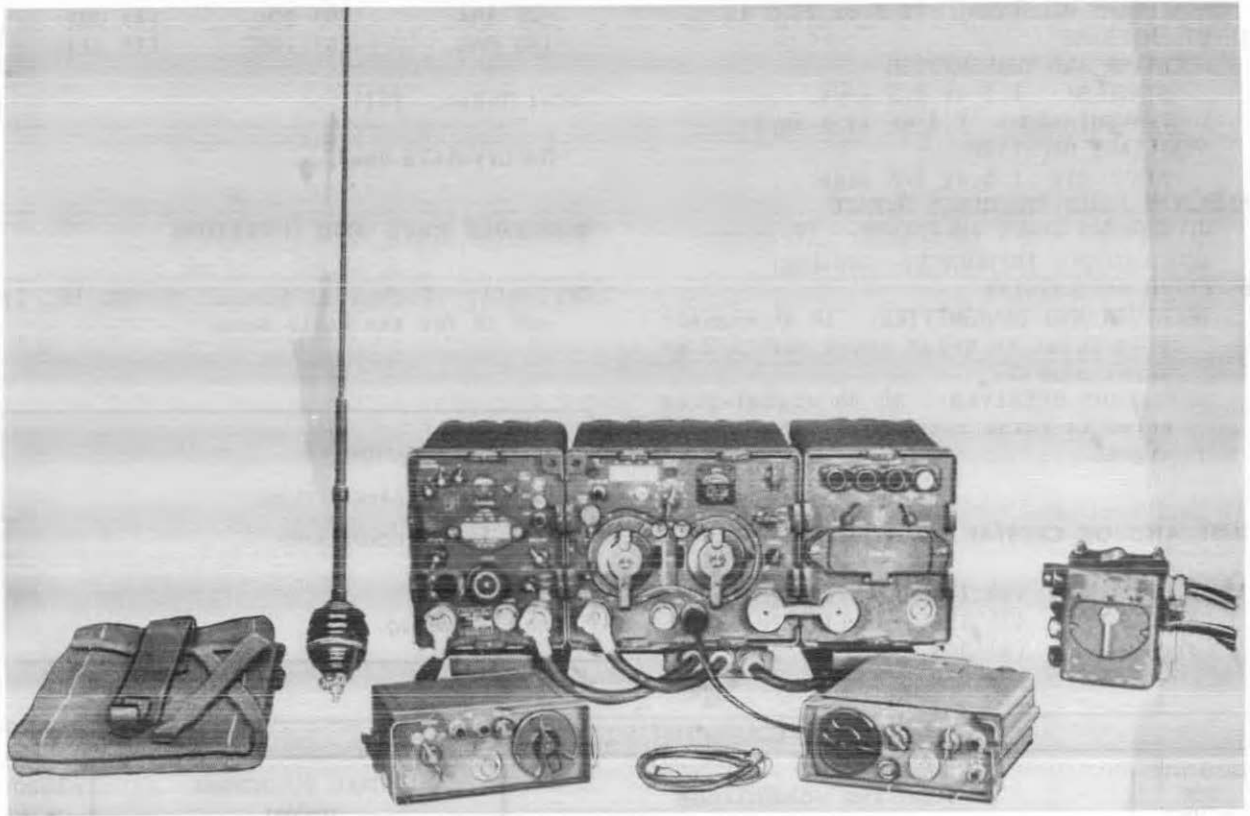
DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

RADIO SET

AN/VRC-16,17 AND -18



Radio Set AN/VRC-16

FUNCTIONAL DESCRIPTION

The AN/VRC-16, 17 and 18 are designed to provide frequency-modulated (FM) radiotelephone facilities within the frequency range of 20 to 54 megacycles (mc). The frequency coverage of each radio set is that of its respective receiver-transmitter and is duplicated by the auxiliary receiver, Radio Receiver R-108/GRC, R-109/GRC, or R-110/GRC respectively.

The radio sets can be installed and operated in trucks, personnel carriers, armored utility vehicles, weapons carriers, and other authorized vehicles. The sets are designed primarily for short-range operation (10 to 15 miles) within and between armored, artillery, and infantry units. Specifically, Radio Sets AN/VRC-16, 17, and 18 are intended for use by armored, artillery, and infantry units, respectively. A 900 kilocycle (kc) overlap in frequency coverage between AN/VRC-16, and 17 provides for liaison between armored and artillery units; a similar 900

kilocycle overlap between AN/VRC-17 and 18 provides for liaison between artillery and infantry units.

The AN/VRC-16, 17 and 18 are identical except that the AN/VRC-16 has a frequency range of 20 to 27.9 mc and uses Receiver-Transmitter RT-66/GRC.

The AN/VRC-17 has a frequency range of 27 to 38.9 mc and uses Receiver-Transmitter RT-67/GRC.

The AN/VRC-18 has a frequency range of 38 to 54.9 mc and uses Receiver-Transmitter RT-68/GRC.

No field changes in effect at time of preparation (22 July 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF TRANSMISSION AND RECEPTION: Voice and 1,600 cycle FM signals.

TOTAL POWER DRAIN: 30 to 215 w.

INPUT VOLTAGE

RECEIVER AND TRANSMITTER: 12.6 or 25.2 v.

April 1959

Radio-Transceivers

AN/VRC-16,17 AND -18**RADIO SET**

AUXILIARY RECEIVER: 12.6 or 25.2 v.
INPUT AMPERAGE

(2) 3B4 (9) 3Q4 (4) OB2
(4) OA2 (2) 1007 (1) 114

RECEIVER AND TRANSMITTER

STAND-BY: 1.5 or 2.3 amps.

TRANSMISSION: 7.3 or 11.0 amps.

Total Tubes: (61)

AUXILIARY RECEIVER

STAND-BY: 1.5 or 2.3 amps.

No Crystals used.

RECEIVER AUDIO FREQUENCY OUTPUT

MICROPHONE INPUT IMPEDANCE: 150 ohms.

AUDIO OUTPUT IMPEDANCE: 600 ohms.

RECEIVER SENSITIVITY

RECEIVER AND TRANSMITTER: 30 db signal-
plus noise to noise ratio with 1/2 uv
input signal.

AUXILIARY RECEIVER: 30 db signal-plus
noise to noise ratio with 1/2 uv input
signal.

REFERENCE DATA AND LITERATURE

TM11-611: Technical Manual AN/VRC-16, 17
and 18 for the Radio Sets.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 1A3 (2) 1AE4 (2) 1L4
(4) 1R5 (3) 1S5 (12) 1U4
(3) 2E24 (1) 3A4 (9) 3A5

TYPE CLASSIFICATION

DESIGN COGNIZANCE TASSA

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/VRC- 16 17 18			
1	Receiver Transmitter RT-66/GRC	9 X 11-1/4 X 13	35
1	Receiver Transmitter RT-67/GRC	9 X 11-1/4 X 13	35
1	Receiver Transmitter RT-68/GRC	9 X 11-1/4 X 13	35
1 1	1 Power Supply PP-109/GR or PP-112/GR	8 X 9 X 13	33
1	Radio Receiver R-108/GRC	7-1/4 X 9 X 13	35
1	Radio Receiver R-109/GRC	7-1/4 X 9 X 13	35
1	Radio Receiver R-110/GRC	7-1/4 X 9 X 13	35
1 1	1 Power Supply PP-281/GRC or PP-282/GRC	3 X 4-1/2 X 6	6
1 1	1 Control Box C-375/VRC	4 X 7 X 7	3.5
1 1	1 Mounting MT-327/GRC	4 X 13 X 20	28
	Control Group AN/GRA-6 including:		
1 1	1 (1) Local Control C-434/GRC	3-1/2 X 8-3/4 X 10-1/2	8
1 1	1 (1) Remote Control C-433/GRC	3-1/2 X 7 X 9-3/8	5
1 1	1 (1) Handset H-33/PT	2-1/16 X 3 X 3	2
1 1	1 (1) Bag CW-189/GR	7-3/4 X 10-5/8 X 11	1
2 2	Mast Section MS-116-A	39.5 lg	1.6
2 2	Mast Section MS-117-A	39.5 lg	1.4
2 2	Mast Section MS-118-A	39.5 lg	0.5
	2 Mast Section AB-24/GR	23.5 lg	0.13
1 1	1 Special Purpose Cable Ass'y CX-1211/U		0.4

April 1959

RADIO SET

AN/VRC-16,17 AND -18

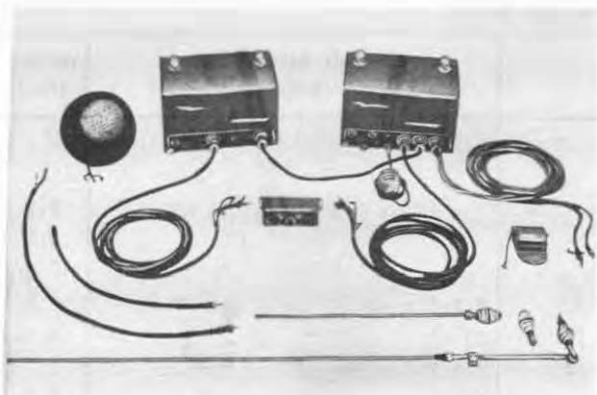
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN 16	VRC- 17	18			
1			R.F. Cable Ass'y CG-568/U		0.5
	1	1	R.F. Cable Ass'y CG-530/U		0.5
1	1	1	Adapter UG-306/U		0.36
1	1	1	Bag CW-206/GR	3 X 5 X 40	3.5
1	1	1	Wire W-142	12 lg	0.043
2	2	2	Technical Manual TM11-611	1/4 X 8 X 10	1
1	1	1	Special Purpose Cable WM-46/U	120 lg	9
1	1	1	Connector and Bondnut Nos. 61007 and BL-50		0.5
1	1	1	Adapter UG-273/U		0.34
1	1	1	Case CY-684/GR		3
1	1	1	Mast Base AB-15/GR		

April 1958

RADIO SET

Radio-Transceivers

AN/VRC-2, -2X*Radio Set AN/VRC-2, 2X***FUNCTIONAL DESCRIPTION**

The AN/VRC-2 and AN/VRC-2X are complete radio sets, less primary power source, designed for vehicular operation. It provides two-way voice communication with similar fixed or mobile equipment operating at the same frequency. The radio sets are preset for a single output frequency (crystal controlled) in the range between 30 and 40 megacycles. Frequency modulation (FM) is used. Reliable communications up to a distance of 15 miles may be obtained in open terrain.

The communication circuit is of single-frequency (receiver and transmitter tuned to same frequency), push-to-talk type. The receiver and transmitter are crystal-controlled, and other crystals must be substituted in order to change frequency. The transmitter must be retuned before signals at another frequency can be received or transmitted. Operation of a push-to-talk button disables the receiver and turns on the transmitter. Conversation can proceed in one direction at a time. A single antenna is used for transmitting and receiving and it is switched by an antenna relay located in the transmitter. Control of the relay and of the power to the transmitter and receiver is accomplished at the control head which is located at the operators position.

The complete radio set consists of a receiver, a transmitter, a control head, and associated operating and installation components.

The completion of Field Change No. 1 changes the frequency range from 30 to 40 mc to 32 to 42 mc and the type designation from AN/VRC-2 and AN/VRC-2X to AN/VRC-26 and AN/VRC-26X respectively.

The AN/VRC-2 operate on a power source of 6 volts while the AN/VRC-2X needs 24 volts otherwise the equipments are identical.

Data on this sheet reflects the following field changes: F.C. No. 1 dated June 1955.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 40 mc.

FREQUENCY CONTROL: Crystal.

TYPE OF SIGNAL: F-M voice.

TYPE OF RECEIVER: Double conversion super-heterodyne.

TRANSMITTER POWER OUTPUT

AN/VRC-2: 25 W.

AN/VRC-2X: 30 W.

POWER SOURCE REQUIRED

AN/VRC-2: 6 v DC.

AN/VRC-2X: 24 v DC.

ANTENNA TYPE: Whip.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: \$820.00, with equipment spares (AN/VRC-2X).

TUBE AND/OR CRYSTAL COMPLEMENT**AN/VRC-2**

(4) 6SD7GT	(3) 7C7
(2) 6H6GT	(1) 807
(1) 6K8GT	(2) 7A8
(1) 6K6GT	(2) OZ4A/1003
(1) 6C8G	(1) 6V6GT
(2) 6X5WGT	

Total Tubes: (20)

AN/VRC-2X

(1) 6C8G	(3) 7C7
(2) 6H6GT	(2) 7A8
(1) 6K8GT	(1) 6V6GT
(8) 6SG7Y	(1) 807
(2) 6X5WGT	(1) 6K6GT

Total Tubes: (22)

(3) 4755KC

Total Crystals: (3)

Radio-Transceivers

AN/VRC-2, -2X**RADIO SET**

April 1958

REFERENCE DATA AND LITERATURE

TM11-607, TO16-30VRC2-5, Technical Manual for
Radio Sets AN/VRC-2, -2A, -2B, -2C and AN/
VRC-2X.

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 Set AN/VRC-2 or AN/VRC-2X w/all components and accessories or	12.3		205
1	Transmitter, Receiver and accessories	7		156
1	Antenna	1		12

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter T-193/VRC-2 or T-322/VRC-2X	10 X 11-1/2 X 15	41.0
1	Radio Set Control C-493/VRC-2 or C-1060/VRC-2X	2-1/4 X 3-1/4 X 7-1/4	1.5
1	Microphone M-38/U	3-1/2 X 3-3/4 X 5	1.25
1	Cable Group	5 X 11 X 11	13.0
1	Set of Transmitter Plate Coils (set of 3)	1-1/2 X 2-1/4 X 4	1.0
1	Box of installation components	3 X 4 X 4-1/2	1.75
1	Radio Receiver R-237/VR or R-435/VRC-2X	10 X 11-1/2 X 15	35.0
1	Dynamic Loudspeaker LS-158/U	4-1/4 X 9-1/2 dia	5.0
1	Fuse Box J-498/VRC-2X	2-3/16 X 2-1/2 X 6-1/8	0.5
2	Switch Guards MX-1368/VRC-2X	3-3/4 X 4-1/4 X 14-7/8	0.5
1	Set of Repair Parts	5 X 6 X 8	10.0
2	Technical Manuals TM 11-607	1/2 X 8 X 10-1/2	0.5
1	Antenna AT-129/VR	1-1/2 X 1-1/2 X 78	3.25

28 August 1962

5820-669-7014 W/O

RADIO SET AN/VRC-2C

Cog Service:

FSM: 5820-665-3876 W/S

Functional Class:

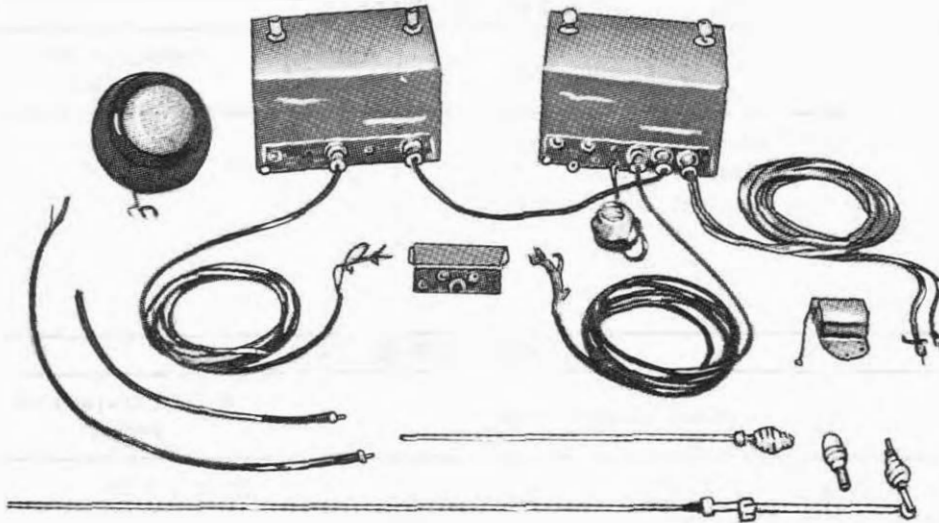
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Capehart-Farnsworth Corporation.



Radio Set AN/VRC-2C

FUNCTIONAL DESCRIPTION:

The AN/VRC-2C is a complete radio set, less primary power source, designed for vehicular operation. It provides two-way voice communication with similar fixed or mobile equipment operating at the same frequency. The radio set is preset for a single output frequency (crystal controlled) in the range between 30 and 40 megacycles (MC). Frequency modulation (FM) is used. Communication is reliable up to a distance of fifteen (15) miles, obtained in open terrain.

No field changes in effect at time of preparation (20 January 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: vehicular.

TYPE OF RECEIVER: Dual conversion superheterodyne with two crystal oscillator circuits.

TYPE OF CONTROL: Crystal.

AN/VRC-2C RADIO SET

TYPE OF ANTENNA: 1/4-wave telescopic whip.
TYPE OF EMISSION: F3 type.
TYPE OF MODULATION: FM resulting from phase modulation.
FREQUENCY DEVIATION: Porm 15 kc for full modulation.
NUMBER OF BANDS: 1 band.
OPERATING FREQUENCY RANGE: 30 to 40 mc.
POWER OUTPUT: 30 watts.
OPERATING POWER RQMT: 6.3 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/VRC-2C is interchangeable with AN/VRC-2, AN/VRC-2A, and AN/VRC-2B, but differs in components.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitter T-193C/VRC-2		10 x 11-1/2 x 15	41
1	Radio Set Control C-1060/VRC-2C		2-1/4 x 3-1/4 x 7-1/4	1-1/2
1	Microphone M-38/U		3-1/2 x 3-3/4 x 5	1-1/4
1	Cable Croup		5 x 11 x 11	13
1	Transmitter Plate Coils (Set of 3)		1-1/2 x 2-1/4 x 4	1
1	Installation Components (box)		3 x 4 x 4-1/2	1-3/4
1	Radio Receiver R-435/VRC-2C		10 x 11-1/2 x 15	35
1	Dynamic Loudspeaker LS-158/U		4-1/4 x 9-1/2 dia	5
1	Fuse Box J-498/VRC-2C		2-3/16 x 2-1/2 x 6-1/8	1/2
2	Switch Guard MX-1368/VRC-2X		3-3/4 x 4-1/4 x 14-7/8	1/2
1	Set of Equipment Spares		5 x 6 x 8	10
2	Technical Manual		1/2 x 8 x 10-1/2	1/2
1	Antenna		1-1/2 x 1-1/2 x 78	3-1/4

REFERENCE DATA AND LITERATURE:

TM11-607 TO 16-30VRC2-5: Technical Manual for Radio Sets AN/VRC-2, -2A, -2B, -2C And AN/VRC-2X.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6C8G (2) 6H6GT (1) 6K6GT (1) 6K8 (8) 6SG7Y (1) 6V6GTY (2) 6X5WGT
(2) 7AB (3) 7C7 (1) 807

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE:	DESIGN COG: TASSA
SPEC &/OR DWG: MIL-R-11782	

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Capehart-Farnsworth Corporation	Ft. Wayne, Indiana	3349-Phila-52-06(51)	

30 July 1962

RADIO SET AN/VRC-24

Cog Service: BuWeps FSM:

Functional Class:

USA

USM

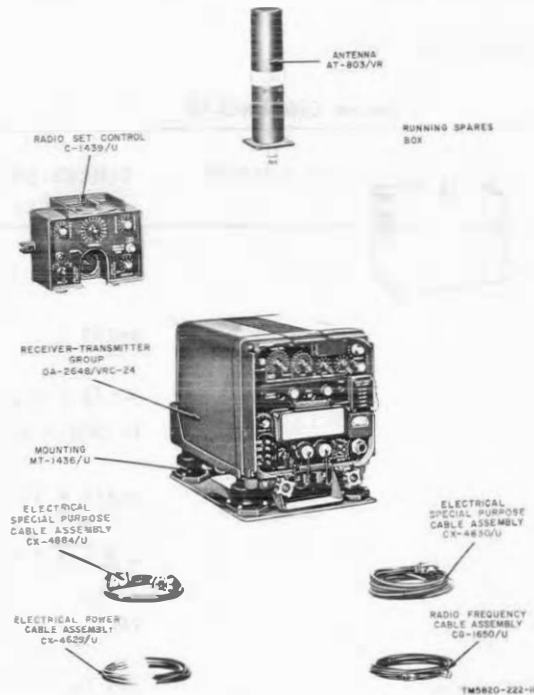
USAF

TYPE CLASS: Used by

Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Co., (13499).



Radio Set AN/VRC-24

FUNCTIONAL DESCRIPTION:

The Radio Set AN/VRC-24 is designed as a vehicular dc powered Ultra-High-Frequency (UHF) ground-to-air radio communications set. It provides for transmission and reception of Amplitude-Modulated (AM) radio-telephone signals for ground-to-air liaison. This set may also be used to transmit and receive encoded voice signals.

No field changes in effect at time of preparation (25 January 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Vehicular.

TYPE OF MODULATION: AM.

TYPE OF TRANSMISSION: Voice.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1750 channels.

AN/VRC-24 RADIO SET

NUMBER OF PRESET CHANNELS: 19 preset channels.
OPERATING FREQUENCY RANGE: 225.0 to 399.9 mc.
OPERATING POWER RQMT: 26.4 v dc (Battery).

RELATION TO OTHER EQUIPMENT:

The AN/VRC-24 is designed to be used with, but not part of C-1439/U, AT-803/VR, CX-4630/U and Radio Sets AN/GRC-3 thru AN/GRC-8.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Receiver-Transmitter Group		10 x 12 x 15	62
	0A-2548/VRC-24 Includes:			
1	Receiver-Transmitter		9-1/2 x 10 x 15-1/2	48
	RT-323/VRC-24			
1	Dynamotor DY-151/U		3-1/2 x 3-1/2 x 10	6-1/2
1	Receiver-Transmitter Case		10-5/8 x 12 x 16-1/2	8
	CY-2557/VRC-24			
1	Mounting MT-1436/U		5-3/4 x 10-1/2 x 18	20
1	Radio Set Control C-1439/U		2-7/8 x 6-1/2 x 6-1/2	5
1	Antenna AT-803/VR		2-3/4 x 3 x 11	
1	R.F. Cable Ass'y CG-1650/U		72 lg	
1	Electrical Power Cable Ass'y		96 lg	
	CX-4629/U			
1	Electrical Special Purpose Cable		120 lg	
	Ass'y CX-4630			
1	Electrical Special Purpose Cable		36 lg	
	Ass'y CX-4884/U			
1	Dynamic Loudspeaker LS-166/U		3-1/2 x 5 x 5-1/2	1
1	Microphone M-29A/U			
1	Set of Equipment Spares			
2	Technical Manual TM11-5820-222-10		1-1/4 x 8 x 10-1/2	
2	Technical Manual TM11-5820-222-20		1-1/4 x 8 x 10-1/2	

REFERENCE DATA AND LITERATURE:

TM11-5820-222-10 & TO 31R2-2TRC68-1: Technical Manual For Radio Sets AN/VRC-24 and AN/TRC-68.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 4X150D (9) 5654/6AK5W (6) 5670 (1) 5763 (5) 6J4WA (1) 6442 (1) 7554

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N457 (2) 1N458

1.7 AN/VRC-24: 2

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: Buweps
 SPEC &/OR DWG:

DESIGN COG: TASSA & USAF

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co. Pt no. 522-2232-00	Cedar Rapids, Iowa	19275-PC-60-A1	

April 1959

Radio-Transceivers

RADIO SET**AN/VRC-26****FUNCTIONAL DESCRIPTION**

The AN/VRC-26 is designed as a complete radio set, less primary power source, designed for vehicular operation. It provides two-way voice communication with similar fixed or mobile equipment operating at the same frequency. The radio set is preset for a single output frequency range between 32 and 42 megacycles (mc); frequency modulation (fm) is used. The AN/VRC-26 has reliable communications facilities up to 15 miles in open terrain.

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

RELATION TO OTHER EQUIPMENT

The AN/VRC-26 is the same as the AN/VRC-2 except for frequency change.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY CONTROL: Crystal.

TYPE OF SIGNAL: F3.

TYPE OF RECEIVER: Double superheterodyne.

RECEIVER INTERMEDIATE FREQUENCY: 4.3 mc.

POWER OUTPUT: 25 W.

TYPE OF ANTENNA: 1/4 wave telescopic whip.

FREQUENCY RANGE: 32 to 42 mc.

POWER SOURCE REQUIRED.

RECEIVER: 6.3 v, 14.5 amps; 250 v, 80 ma
(6 v DC vehicular battery and self-contained vibrator).

TRANSMITTER: 6.3 v, 25 amps; 540 v, 150 ma.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg Co., Chicago, Illinois.
Contract BuAer 40746-54.

TUBE AND/OR CRYSTAL COMPLEMENT

..(8) 6SD7GT	(2) 6H6GT
(1) 6K8GT	(1) 6K6GT
(1) 6C8G	(2) 6X5GT
(3) 7C7	(1) 807
(2) 7A8	(2) OZ4A/1003
(1) 6V6	

Total Tubes: (24)

(3) Operating Crystals

Total Crystals: (3)

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/VRC-26 for the Radio Set.

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

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter Receiver and Operating Accessories	7.0		156
1	Antenna	1.0		12.0

April 1959

Radio-Transceivers

AN/VRC-26

RADIO SET

EQUIPMENT SUPPLIED DATA			
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter T-193(**)/VRC-2	10 X 11-1/2 X 15	41
1	Radio Receiver R-237(**)/VR	10 X 11-1/2 X 15	35
1	Radio Set Control C-493(**)/VRC-2	2-1/2 X 3-1/4 X 7-1/4	1.5
1	Antenna AT-129(**)/VRC-2	78 lg	3.25
1	Microphone	3-1/2 X 3-3/4 X 5	1.25
1	Cable Kit	5 X 11 X 11	13.0
1	Generator Filter	2-1/4 X 5 X 6	1.13
1	Antenna Loading Coil	1-1/2 X 2-1/4 X 4	
1	Box of Installation Components	3 X 4 X 4-1/2	1.75
1	Speaker	9-1/2 dia X 4-1/4 W	5.0
1	Set of Equipment Spares		

RADIO SET

AN/VRC-26X

FUNCTIONAL DESCRIPTION

The AN/VRC-26X is designed as a complete radio set, less primary power source. It is designed for vehicular operation. It provides two-way voice communication with similar fixed or mobile equipment operating at the same frequency. The Radio Set is preset for a single output frequency (crystal controlled) in the range of 32 to 42 megacycles (MC). Frequency Modulation (FM) is used. The Radio Set maintains reliable communications up to a distance of 15 miles may be obtained in open terrain.

No field changes in effect at time of preparation (11 March 1960).

RELATION TO OTHER EQUIPMENT

The AN/VRC-26X is the same as the AN/VRC-2X except it differs in the frequency range and equipment supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION

TRANSMITTER AND RECEIVER: F3 type of emission.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1 channel.

TYPE OF SIGNAL RECEIVED: FM voice.

TYPE OF CONTROL: Crystal controlled FM.

POWER OUTPUT: 30 watts.

TYPE OF INSTALLATION: Vehicular.

FREQUENCY RANGE: 32 to 42 mc.

OPERATING POWER RQMT: 24 v dc, 3 amp receiver; 10 amp transmitter.

MANUFACTURER'S OR CONTRACTOR'S DATA

Utility Electronics Corp., Newark, N. J.
Sig Corps Order 16816-P-51-01.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6C8G	(2) 6H6GT	(1) 6K6GT
(1) 6K8GT	(8) 6SG7Y	(1) 6V6GTY
(2) 6X5WGT	(2) 7A8	(3) 7C7
(1) 807	(4) 12AT7WA	(1) 6AB4
(2) 5654-6AK5W	(1) 5726-6A15W	(1) 6CB6
(2) 6AK6	(5) 6BH6	(1) 6BJ6
(2) 6005-6AQ5W	(2) 6C4WA	(1) 6146
Total Tubes: (44)		
Crystal Data not available.		

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/VRC-26X for Radio Set.

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

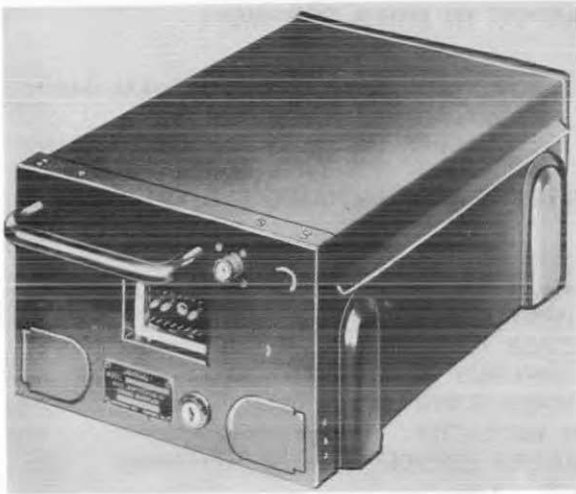
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter T-540/VRC-26X	10 X 11-1/2 X 15	
1	Radio Receiver R-435/VRC-2X	9-1/4 X 12-1/2 X 14-3/4	
1	Control C-1060/VRC-2X	2-1/4 X 3-1/4 X 7-3/8	
1	Microphone M-38/U	2 X 2-1/2 X 4	
1	Speaker LS-158/U		
1	Fuse Box J-498/VRC-2X	2-3/16 X 2-1/2 X 6-1/8	
2	Modulator Subassembly MX-1386/VRC-2X	24 X 24 X 28	
1	Antenna AT-129/VR		
1	Set of Equipment Spares		

December 1956

RADIO SET

AN/VRC-27



Transmitter-Receiver AN/VRC-27

The AN/VRC-27 is a FM two-way radio equipment consisting essentially of a transmitter, a receiver and a power supply chassis assembled in a drawer-type mobile radio housing. The transmitter and receiver operate on fixed, crystal-controlled frequencies. The power supply furnishes all the voltages required for operation of both the transmitter and the receiver. When installed with the appropriate cable kit the radio set will operate from either 6 v DC or 12 v DC. The equipment is designed for installation in the trunk of a passenger vehicle.

When properly installed and operated this equipment will provide dependable two-way radio communication with any land and/or mobile station within range and on the same specific frequencies.

No field changes in effect at time of preparation (28 June 1956).

RELATION TO OTHER EQUIPMENT

Equipment required but not supplied: (1)

Control Head and Microphone TU124, (1) Speaker TU125, (1) Cable Kit TK280, (1) Antenna P-7253-A, (1) Installation Kit K-9055.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 42 mc.
 TRANSMITTER OUTPUT: 25 to 30 W.
 TRANSMITTER MODULATION: ± 15 kc for 100% at 1000 cps.
 RECEIVER SENSITIVITY: Less than 0.35 uv for 20 db, quieting.
 RECEIVER SELECTIVITY: -100 db at ± 30 kc.
 RECEIVER MODULATION ACCEPTANCE: ± 15 kc or more at -6.
 POWER INPUT
 STANDBY: 10.0 amp at 6.3 v DC.
 TRANSMIT: 25.0 amp at 6.3 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Communications and Electronics
 Div., Chicago, Ill.
 Contract: NObsr-64259

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6AK5	(1) 6AL5	(2) 6C4
(4) 12AT7	(1) 6146	(2) 6AQ5
(1) 6AB4	(5) 6BH6	(2) 6AK6
(1) 6BJ6	(1) 6CB6	
Total Tubes: (22)		
(1) D34	(1) B34	(1) B28
(1) D35	(2) G04	(1) D28
Total Crystals: (7)		

REFERENCE DATA AND LITERATURE

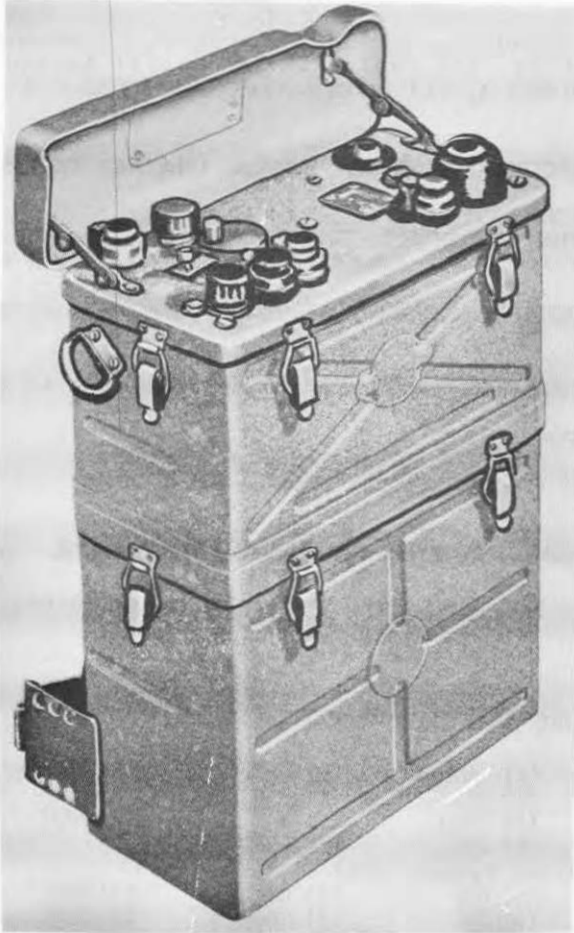
Technical Manual for RADIO SET AN/VRC-27.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/VRC-27 consists of:		
1	Transmitter TA-179	6 x 9-5/8 x 18	50
1	Receiver TA-180	2-3/8 x 5-1/4 x 15	3-3/4
1	Power Supply TU-117	3-1/4 x 5-1/4 x 15	5.4
1	Chassis Mtg. Plate Kit TK-163	3 x 5-1/4 x 15	9-1/2
1	Front Panel Kit K-9029-A		
1	Mobile Housing K-9045		

RADIO SET



Radio Set AN/VRC-3

FUNCTIONAL DESCRIPTION

The AN/VRC-3 is designed for FM, two-way communication over short distances. It is primarily intended for installation in light and medium tanks to provide communication between tank and supporting infantry, this set is now used in vehicles only.

No field changes in effect at time of preparation (22 October 1956).

RELATION TO OTHER EQUIPMENT

Similar to Radio Set SCR-300, with addition of special mounting brackets.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TRANSMITTER

FREQUENCY RANGE: 40 to 48 mc.

POWER OUTPUT: 0.3 (rf).

RECEIVER

FREQUENCY RANGE: 40 to 48 mc.

POWER OUTPUT: 2 mw (AF).

TYPE MODULATION: Frequency.

FREQUENCY CONTROL: Master Oscillator.

RANGE: 3 mi.

OPERATING POWER: Power Supply PP-114/VRC-3,
BA-7 on loaded Battery Case CS-139.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1A3 (5) 1L4

(1) 1R5 (3) 1S5

(6) 1T4 (2) 3A4

Total Tubes: (18).

Total Crystals: (2).

REFERENCE DATA AND LITERATURE

TM 11-487A: Technical Manual for Radio Communication Equipment.

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	5-5/8 X 7-1/8 X 11-5/16	13
1	Mast Section MS-117		
1	Mast Section MS-118		
1	Mast Base AB-15/GR		

September 1956

RADIO SET

AN/VRC-32

FUNCTIONAL DESCRIPTION

The AN/VRC-32 is a compact ruggedly constructed equipment designed for vehicular application to provide dependable two-way radio communication with land-mobile equipment operating on fixed frequencies within the 30 to 42 megacycle range.

No field changes in effect at time of preparation (21 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TRANSMITTER

FREQUENCY RANGE: 30 to 42 mc.

POWER OUTPUT: 30 W (nominal)

MODULATION: ± 5 kc (narrow band) or ± 15 kc (wide band) swing with instantaneous modulation limiting.

CRYSTAL MULTIPLICATION: 12 times.

AMBIENT TEMPERATURE: -30°C to $+60^{\circ}\text{C}$.

FREQUENCY STABILITY

UNHEATED CRYSTAL: $\pm 0.002\%$.

HEATED CRYSTAL: $\pm 0.0005\%$.

AUDIO FREQUENCY: Between ± 1 to -3 db of a 6 db/octave pre-emphasis from 300 to 3000 cps (1000 cps reference).

SPURIOUS AND HARMONIC RADIATION: At least 80 db below rated power output at any frequency.

HUM AND NOISE LEVEL: -40 db (below ± 10 kc swing).

CHANNEL SEPARATION (MAX): 0.4% of operating frequency (160 kc approx.) for 2, 3 or 4 channel operation.

CONTROL: Crystal

OUTPUT: F3 phase modulation.

RECEIVER

TYPE: Wide band, double conversion super-heterodyne.

FREQUENCY RANGE: 30 to 54 mc.

AUDIO OUTPUT: 1.5 W (less than 10% distortion).

SENSITIVITY: 0.4 uv (20 db quieting method).

SQUELCH: Adjustable, will open at less than 0.15 uv at critical setting.

SELECTIVITY: 100 db ± 30 kc (20 db quieting method).

BAND WIDTH: ± 15 kc at the 6 db points (swing method of measurement).

SPURIOUS RESPONSE: At least 100 db down.

AMBIENT TEMPERATURE: -30°C to $+60^{\circ}\text{C}$ (outside of cabinet that houses chassis).

FREQUENCY STABILITY

UNHEATED CRYSTAL: $\pm 0.002\%$.

HEATED CRYSTAL: $\pm 0.0005\%$.

AUDIO FREQUENCY: Within ± 2 to -8 db of a 6 db/octave de-emphasis curve from 300 to 3000 cps (1000 cps reference).

CHANNEL SEPARATION (MAX): 0.4% operating frequency (160 kc approx).

CONTROL: Crystal.

INTERMEDIATE FREQUENCIES: 3.2 mc and 290 kc.

OUTPUT: F3 phase modulation

POWER REQUIREMENTS: 6, 12, or 24 v DC, battery operated.

ANTENNA DATA

TYPE: Vertical whip.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric, Electronics Park,
Syracuse, New York.

Contract NObsr 64749, dated 6 June 1955.

Approximate Cost \$372.00 with Equipment spares

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 6BH6	(1) 6U8	(1) 6CL6
(1) 6L46	(2) 12AU7	(2) 12AT7
(2) 6AL5	(1) 12AX7	(1) 6AQ5

Total Tubes: (19)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92652: Technical Manual for Radio Set AN/VRC-32.

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

AN/VRC-32

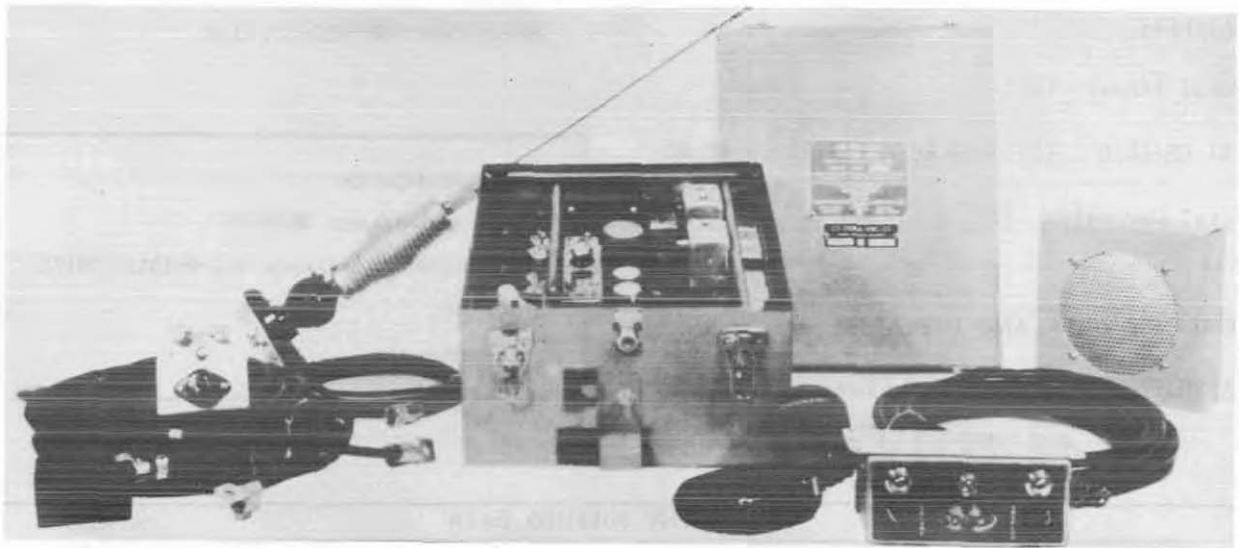
RADIO SET

September 1956

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Cabinet CY-1908/VRC-32		
1	Receiver-Transmitter-Power Supply RT-367/VRC-32		
1	Control Unit C-1847/VRC-32		
1	Loudspeaker LS-255/U		
1	Antenna AT-671/VRC-32		
1	Fuse Box Assembly J-735/VRC-32		
1	Power Cable CX-3658/U		
1	Control Cable CX-3659/U		

RADIO SET



Radio Set AN/VRC-33

FUNCTIONAL DESCRIPTION

The AN/VRC-33 is designed as a universal 6, 12 or 24 volt mobile unit especially for Police (Public Safety), Industrial Radio Services and Land Transportation radio services such as highway trucks, railroads and taxi-cabs. The unit is interchangeable between vehicles having a 6, 12 or 24 volt system without making any modifications. The transmitter has an output of 25 to 35 watts in the 30 to 42 megacycle (MC) range.

No field changes in effect at time of preparation (17 July 1959).

RELATION TO OTHER EQUIPMENT

The AN/VRC-33 is similar to the AN/VRC-33A except that it differs in equipment supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: F3 type.

NUMBER OF CHANNELS FOR TRANSMITTER AND RECEIVER: 1 channel.

SELECTIVITY

BROADBAND: 2X down (-6 db) ± 15 kc;
100,000X down (-100 db) ± 26 kc.

NARROWBAND: 2X down (-6 db) ± 6 kc;
100,000X down (-100 db) ± 14 kc.

FREQUENCY STABILITY: 0.002%.

AMBIENT TEMPERATURE RANGE: -30°C to $+60^{\circ}\text{C}$.

SENSITIVITY: 0.4 microvolt for 20 db noise quieting.

SQUELCH SENSITIVITY: 0.2 microvolt or less.

SPURIOUS RESPONSE: -100 db or better.

AUDIO OUTPUT: 1.5 W with less than 10% distortion.

AUDIO FREQUENCY RESPONSE: Within ± 1 db to -3 db of a 6 db per octave de-emphasis curve over the range of 300 to 3000 cycles (1000 cps reference). This response can be altered for special requirements.

INPUT IMPEDANCE ANTENNA: 52 ohms.

AUDIO OUTPUT IMPEDANCE: 4 and 500 ohms.

OPERATING FREQUENCY RANGE: 30 to 42 mc.

OPERATING POWER RQMT: 6, 12 or 24 v, 25 to 35 watts.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communication Company Inc., Coral Gables, Florida.
Model 400-AB-6/12/24-2.
Contract NObsr-71359, dated 26 June 1956.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6AL5	(1) 6AQ5	(11) 6DH6
(2) 12AT7	(2) 12AX7	(1) 5763

AN/VRC-33**RADIO SET**

(1) 6146

Radio Sets AN/VRC-33, 33A.

Total Tubes: (21)

(1) CR-18/U (1) 3450 KC (1) 30 to 40 MC

Total Crystals: (3)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-19116(SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92922(A): Technical Manual for

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/VRC-33 Including:	5-1/2 X 11 X 13	38
1	Receiver Transmitter RT-408/VRC-33		
1	Cabinet Electrical Equipment CY-2108/VRC-33	5-1/2 X 11 X 13	
1	Control Radio Set C-2110/VRC-33	2-1/2 X 3-3/4 X 4-1/2	
1	Loudspeaker Dynamic LS-425/U	3-1/4 X 6 X 6	
1	Voltage Selector Plug and Battery Cable Commerical Model 624-2H-201X (Rev. A)		
1	Fuse, Holder Bracket Commerical Model 624-3H-201X (Rev. A)		
1	Antenna Assembly		
1	Microphone Commerical Model CB12Z		

RADIO SET**AN/VRC-33A***Radio Set AN/VRC-33A***FUNCTIONAL DESCRIPTION**

The AN/VRC-33A is designed as a universal 6, 12 or 24 volt mobile unit especially for Police (Public Safety), Industrial Radio Services and Land Transportation radio services such as highway trucks, railroads and taxi-cabs. The unit is interchangeable between vehicles having a 6, 12 or 24 volt system without making any modifications. The transmitter has an output of 25 to 35 watts in the 30 to 42 megacycle (MC) range.

No field changes in effect at time of preparation (17 July 1959).

RELATION TO OTHER EQUIPMENT

The AN/VRC-33A is similar to the AN/VRC-33 except that it differs in the equipment supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: F3 type.
NUMBER OF CHANNELS FOR TRANSMITTER AND RECEIVER: 1 channel.

SELECTIVITY

BROADBAND: 2X down (-6 db) ± 15 kc;
100,000X down (-100 db) ± 26 kc.
NARROWBAND: 2X down (-6 db) ± 6 kc;

100,000X down (-100 db) ± 14 kc.
FREQUENCY STABILITY: 0.002%.
AMBIENT TEMPERATURE RANGE: -30° C to $\pm 60^{\circ}$ C.
SENSITIVITY: 0.4 microvolt for 20 db noise quieting.
SQUELCH SENSITIVITY: 0.2 microvolt or less.
SPURIOUS RESPONSE: -100 db or better.
AUDIO OUTPUT: 1.5 W with less than 10% distortion.
AUDIO FREQUENCY RESPONSE: Within ± 1 db to -3 db of a 6 db per octave de-emphasis curve over the range of 300 to 3000 cycles (1000 cps reference). This response can be altered for special requirements.
INPUT IMPEDANCE ANTENNA: 52 ohms.
OPERATING FREQUENCY RANGE: 30 to 42 mc.
OPERATING POWER RQMT: 6, 12 or 24 v, 25 to 35 watts.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communication Company Inc., Coral Gables, Florida.
Model 400-AB-6/12/24-2 (Modified).
Contract NObsr-75322, dated 12 June 1958.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6AL5 (1) 6AQ5 (11) 6BH6

Radio-Transceivers

AN/VRC-33A

RADIO SET

(2) 12AT7 (2) 12AX7 (1) 5763
(1) 6146

Radio Sets AN/VRC-33, 33A.

Total Tubes: (21)

(1) CR-18/U (1) 3450KC (1) 30 to 40 MC

Total Crystals: (3)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92922(A): Technical Manual for

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-19116 (SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/VRC-33A Including:	5-1/2 X 11 X 13	38
1	Receiver-Transmitter RT-408A/VRC-33A		
1	Cabinet Electrical Equipment CY-2108A/VRC-33A	5-1/2 X 11 X 13	
1	Control Radio Set C-2110/VRC-33	2-1/2 X 3-3/4 X 4-1/2	
1	Loudspeaker Dynamic LS-425/U	3-1/4 X 6 X 6	
1	Voltage Selector Plug Battery Cable Commercial Model 624-2H-201X (Rev. B)		
1	Fuse Holder Bracket Commercial Model 624-3H-201X (Rev. A)		
1	Antenna Ass'y		
1	Microphone Commercial Model CR4W		

31 July 1962

RADIO SET AN/VRC-36

Cog Service: USN FSN: 5820-615-9848

Functional Class:

USA

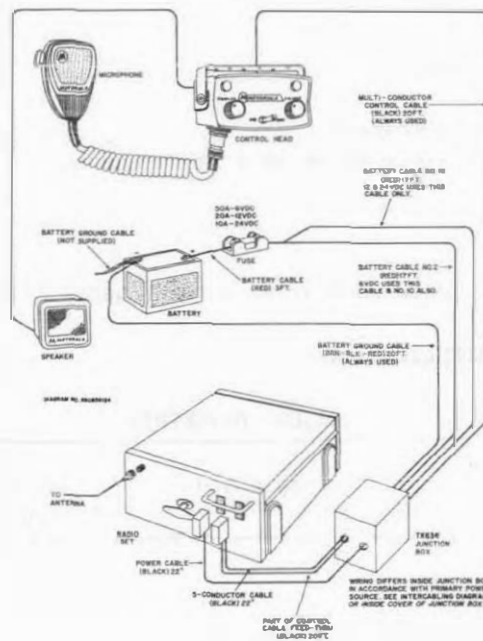
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Motorola Inc., (81223).



Radio Set AN/VRC-36

FUNCTIONAL DESCRIPTION:

The Radio Set AN/VRC-36 is designed as a mobile two-way communications radio set. It operates in the frequency range of 30 to 42 megacycle (MC) band and is capable of 25 watts Radio Frequency (RF) power output.

The AN/VRC-36 is specifically designed for vehicular trunk mounting; and operates from a primary source of 6, 12, or 24 volt dc.

No field changes in effect at time of preparation (29 January 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Vehicular.

TYPE OF MOUNTING: Trunk mounted.

TYPE OF EMISSION: F3 type.

POWER OUTPUT: 25 W.

AN/VRC-36 RADIO SET

TRANSMITTER MODULATION

40F3: Porm 15 kc for 100% at 1000 cps.

16F3: Porm 5 kc for 100% at 1000 cps.

RECEIVER SENSITIVITY: Less than 0.3 microvolt for 20 db quieting; 50 ohms rf input impedance.

RECEIVER SELECTIVITY

20 KC CHANNEL SPACING: M100 db at porm 18 kc.

40 KC CHANNEL SPACING: M100 db at porm 32 kc.

RECEIVER MODULATION ACCEPTANCE

20 KC CHANNEL SPACING: Porm 5 kc.

40 KC CHANNEL SPACING: Porm 15 kc.

FREQUENCY RANGE

RECEIVER AND TRANSMITTER: 30 to 42 mc.

TYPE OF FREQUENCY CONTROL: Crystal.

NUMBER OF CHANNELS

RECEIVER AND TRANSMITTER: 1 channel.

OPERATING POWER RQMT: 6 v dc, 12 v dc or 24 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/VRC-36 is designed to be used with, but not part of C-2405/VRC.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Adapter Motorola Pt no. TK206			
1	Cabinet Electrical Equipment Motorola Pt no. TK424-N			
1	Panel Blank Motorola Pt no. TK124			
1	Panel Blank Motorola Pt no. TK-365N			
1	Accessory Group Motorola NAV-1			
1	Receiver-Transmitter RT-439/VRC-36 consists of:		6-1/16 x 15 x 17-11/16	
1	Power Supply Motorola Pt no. TU581-H			
1	Radio-Transmitter TA104-N		2-3/8 x 5-1/4 x 15	3-3/4
1	Radio, Receiver TA111CW-N		Approx 4-1/2 x 5-1/4 x 15	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93197: Technical Manual for Radio Set AN/VRC-36.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 6AK6 (1) 6AK5 (1) 6AB4 (4) 6BH6 (3) 12AT7 (4) 6CB6 (1) 6BJ6
 (2) 6AL5 (1) 6C4 (1) 6AQ5 (1) 6146

CRYSTALS: (1) 24.5-36.5 mc (1) 5955 kc

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN

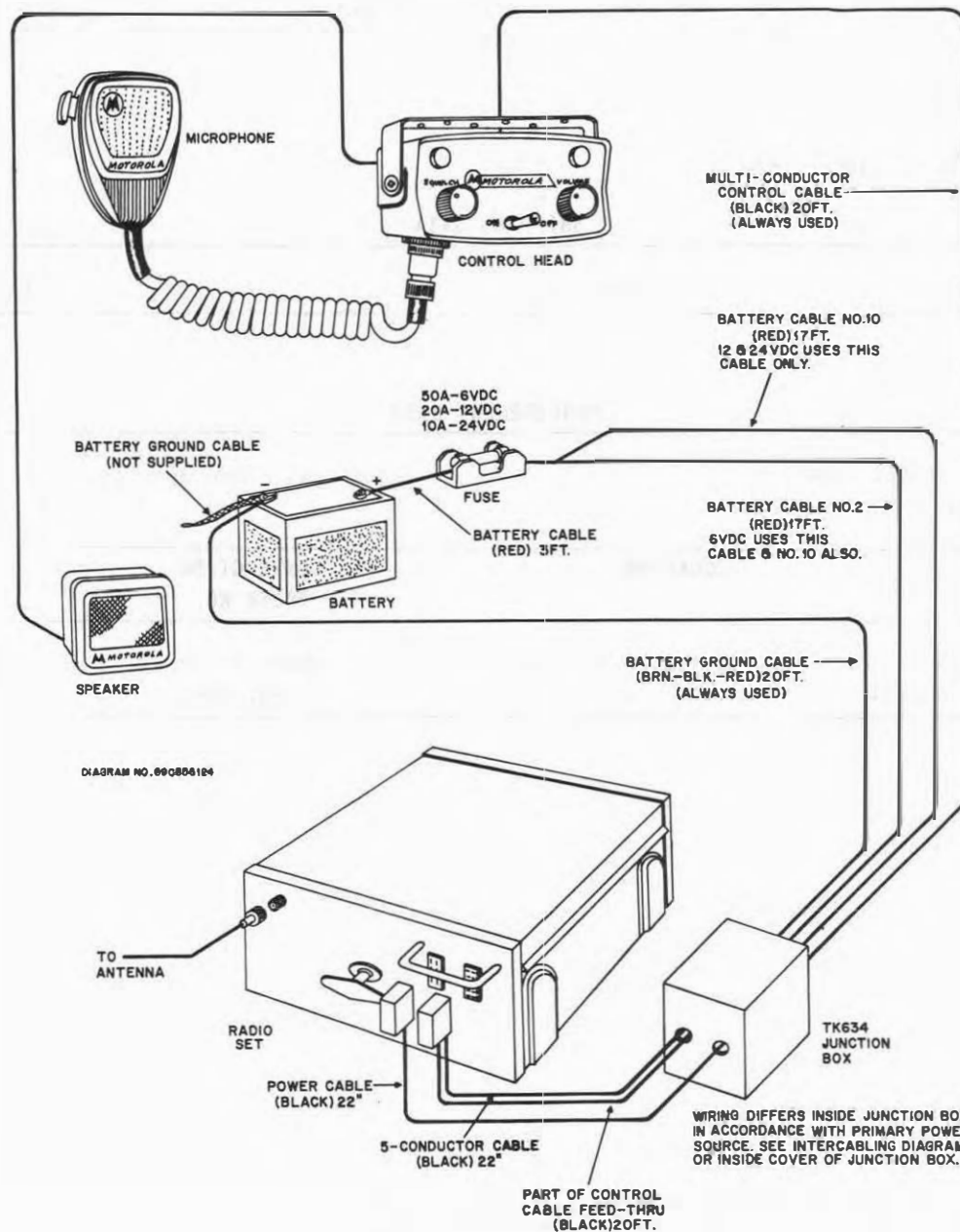
DESIGN COG: USN, BuShips

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Motorola Inc. Pt no. X41GGV-4	Chicago, Illinois	N0bsr-71897, 20 May 1957	\$313.77

RADIO SET

AN/VRC-37



Radio Set AN/VRC-37

FUNCTIONAL DESCRIPTION

The AN/VRC-37 is a mobile radio set designed to provide Frequency Modulation (FM) two-way communications on a fixed crystal-

controlled frequency in the 132 to 152 megacycle (MC) range.

No field changes in effect at time of preparation (3 February 1961).

June 1961

Radio-Transceivers

AN/VRC-37

RADIO SET

RELATION TO OTHER EQUIPMENT

The AN/VRC-37 is designed to be used with but not part of C-2405/VRC.

(2) 5726-6ALSW (1) 6AB4
 (1) 6AK6 (4) 6BH6
 (1) 6BJ6 (6) 6CB6
 (1) 6C4WA (1) 6005-6AQ5W
 (1) 6146

Total Tubes: (24)

No Crystals used..

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Mobile-transportable.

SPECIFIC FUNCTION: FM two-way communication.

TYPE OF EMISSION: F3 type.

OPERATING FREQUENCY

TRANSMITTER AND RECEIVER FREQUENCY: 132

to 152 mc.

OPERATING POWER RQMT: 6.3 v, 12.6 v, 24 v dc.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93302: Technical Manual for Radio Set AN/VRC-37.

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago, Ill.

Model No. X43GGV-3.

Contract NObsr-71897, dated 20 May 1957.

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

TUBE AND/OR CRYSTAL COMPLEMENT

(1) R52 (3) 12AT7WA
 (1) 2E26 (1) 5654-6AK5W

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Adapter Motorola No. TK206		
1	Cabinet, Electrical Equipment Motorola No. TK424-N		
1	Panel Blank Motorola No. TK-124		
1	Panel Blank Motorola No. TK-365-N		
1	Radio Receiver Motorola No. TA140BW-N		
1	Power Supply Motorola No. TU5B1		
1	Radio Transmitter Motorola No. TA-139A-N		
1	Accessory Group Motorola No. MAV-2		

RADIO SET

AN/VRC-39

FUNCTIONAL DESCRIPTION

The AN/VRC-39 is a Vehicular System for voice and teletype communications. It is used for point-to-point, two-way-communications in the frequency range of 2 to 30 megacycle (MC).

No field changes in effect at time of preparation (6 January 1961).

RELATION TO OTHER EQUIPMENT

The AN/VRC-39 is the vehicular version of Radio Set AN/ARC-58.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Mounted in Jeep M38A1 (1/4 ton, 4 x 4).

TYPE OF SYSTEM: Vehicular for voice & teletype communication.

TRANSMITTER DATA

TYPE OF RECEPTION: AM, SSB and DSB.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 28,000 channels.

FREQUENCY RANGE: 2 to 30 mc.

POWER OUTPUT: 1 kw.

RECEIVER DATA

TYPE OF RECEPTION: AM, SSB, DSB and CW.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 28,000 channels.
FREQUENCY RANGE: 2 to 30 mc.
OPERATING POWER REQMT: 115 v ac, 380 to 420 cps, 3 ph (line to neutral).

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Contract NOM-70500, dated 19 May 1958.

TUBE AND/OR CRYSTAL COMPLIMENT

Electron Tube and/or Crystal data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Set AN/VRC-39.

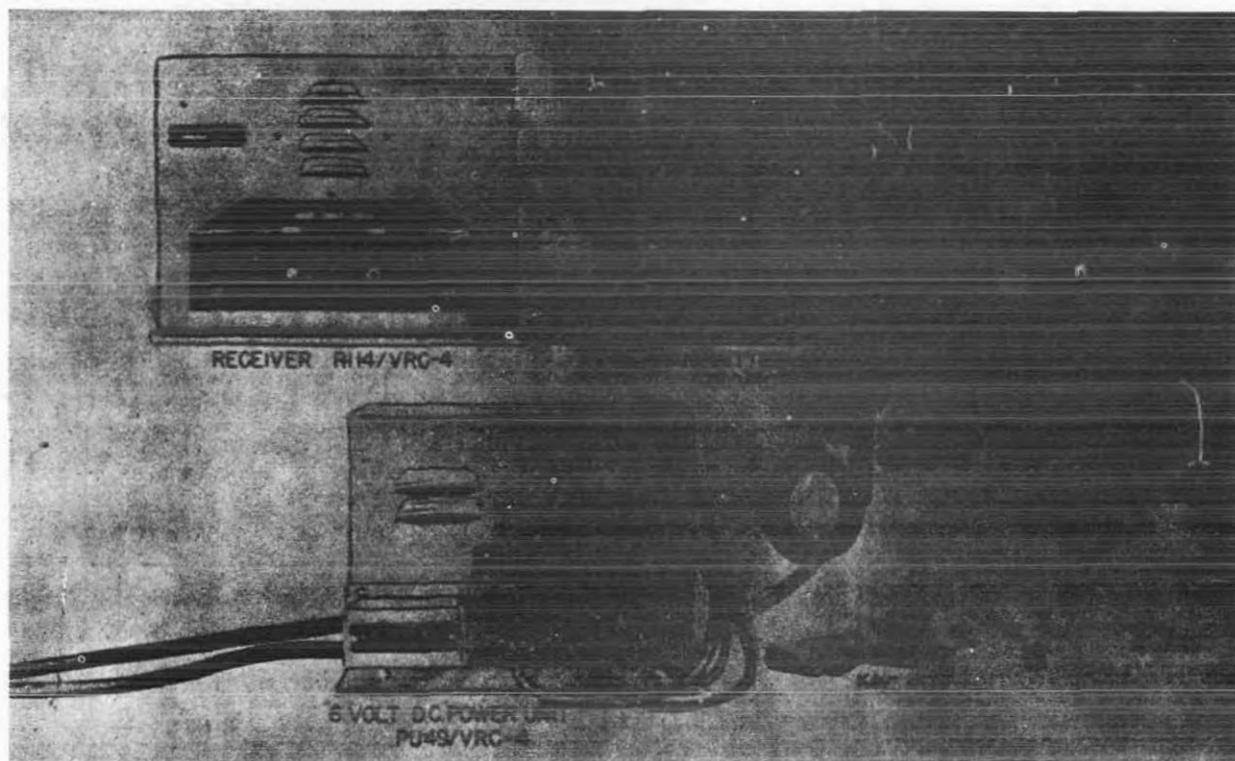
TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/VRC-39 consists of:		
1	Radio Receiver		
1	Radio Transmitter		
1	Radio Control		
1	Antenna Adapter		
1	Radio Teletype		
4	Mountings		
1	Inverter-Converter		

RADIO SET

AN/VRC-4



Radio Set AN/VRC-4

FUNCTIONAL DESCRIPTION

The AN/VRC-4 is a 25-watt vehicular radio station providing two-way voice and continuous wave (cw) communication from fixed or mobile positions with other stations using the same or similar equipment.

Addenda of April 7-1945.

No field changes in effect at time of preparation (6 Feb 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TRANSMITTER T-91/VRC-4.

FREQUENCY RANGE: 1.7 mc to 8.7 mc; 4 pre-set channels, crystal controlled (channels 1, 2, 3 and 4); 4 mc to 8 mc in one tunable channel (channel no. 5)

TYPE: Master oscillator-power amplifier.

EMISSION: CW and Voice.

MODULATION: Amplitude.

POWER INPUT.

6-Volt Input.

RECEIVER ONLY: 6-1/2 amp.

STAND-BY RECEIVE AND TRANSMIT: 10 amp.

TRANSMIT: 42 amp., 110 v, 50 to 60 cps.

RECEIVER AND TRANSMITTER ON (STAND-BY): 148 w.

RECEIVER AND TRANSMITTER ON (TRANSMIT): 340 w.

POWER OUTPUT.

CW OPERATION: 25 w.

VOICE OPERATION: 25 w.

ANTENNA: Whip and 35 ft single wire.

RECEIVER R-114/VRC-4

FREQUENCY RANGE.

BANDS 1, 2, 3 and 4 (Crystal): 1.7 mc to 8.7 mc.

BAND 5 (Tunable): 190 to 510 kc.

TYPE: Superheterodyne

RECEPTION. CW, Tone and Voice.

I.F.: 625 kc.

CALIBRATION: Crystal controlled.

October 1957

AN/VRC-4

RADIO SET

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SK7GT/G (1) 6V6GT/G (1) 5Y3G
 (1) 6K8GT/G (2) 6L6 (1) 0Z4
 (2) 6SQ7GT/G (1) 6X5GT/G (1) 807
 (1) 6K6GT/G (2) 5U4G

REFERENCE DATA AND LITERATURE

TM11-829: Technical Manual for Radio Set
 AN/VRC-4 and Transmitter Type TS25-E and
 Receiver Types - RS25-3 and RS25-4.

Total Tubes: (17)

(8) Type Not Available.

Total Crystals: (8)

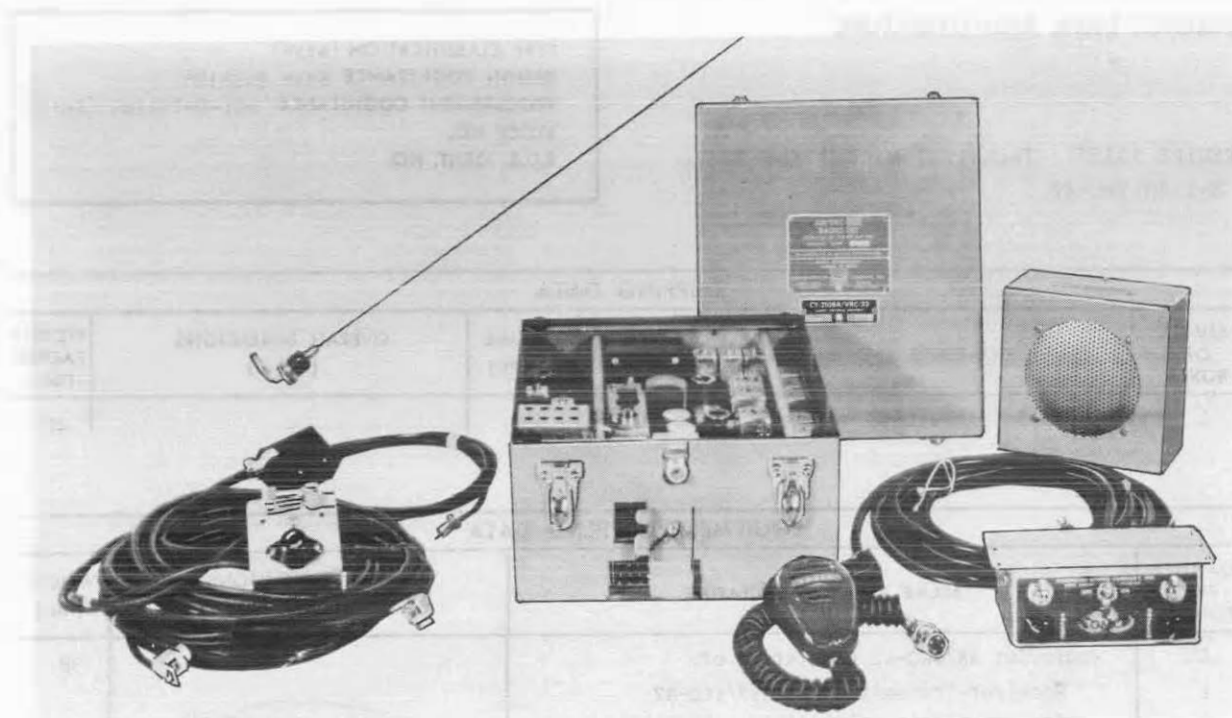
TYPE CLASSIFICATION
 DESIGN COGNIZANCE TASSA
 PROCUREMENT COGNIZANCE
 STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
*1	Antenna Assy. - AS170/VRC-4	192	10.75
1	Cord BKN-2		0.125
1	Cord PC-1		4.75
1	Cord PRS-6		0.56
1	Cord PST-8		0.53
1	Cord RA-1		0.047
1	Cord TA-1		0.3
1	Cord TFS-2		0.47
1	Power Unit PU-49/VRC-4	9-13/16 x 10-5/8 x 13-7/8	32.0
*1	Power Unit (110-VAC for Receiver)	6-13/16 x 9-3/4 x 11-11/16	15.0
*1	Power Unit (110-Vac for Transmitter)	9-3/4 x 10-11/16 x 15-7/8	47.5
1	Receiver R-114/VRC-4	12-1/8 x 15-7/8 x 16-5/8	34.5
1	Transmitter T-91/VRC-4	12-1/2 x 15-7/8 x 16-5/8	39

*Notes: When Specified

October 1960

AN/VRC-42**RADIO SET***Radio Set AN/VRC-42***FUNCTIONAL DESCRIPTION**

The AN/VRC-42 is designed as a vehicular Radio Transmitter and receiver. It is a fixed tuned, crystal controlled unit, of a preset, single channel Very High Frequency (VHF) type designed for reception and transmission of FB (Frequency Modulated (FM)) emission.

No field changes in effect at time of preparation (5 May 1960).

TRANSMITTER AND RECEIVER: 132 to 152 mc.
OPERATING POWER RQMT: 6, 12 or 24 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Company Inc., Coral Gables, Florida.

Model No. A3F7A6.

Contract NObsr-75322.

RELATION TO OTHER EQUIPMENT

The AN/VRC-42 is Communications Company Incorporated's Model A3F7A6.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AX7	(1) 6AL5
(2) 6AK6	(3) 6BH6
(1) 6CL6	(1) 6146

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: F3 type.
NUMBER OF CHANNELS: 1 channel.
FREQUENCY DATA

Total Tubes: (9)

(1) CR-18/U

Total Crystals: (1)

October 1960

AN/VRC-42

RADIO SET

REFERENCE DATA AND LITERATURE

NAVSHIPS 93557: Technical Manual for Radio
Set AN/VRC-42.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-19116B (SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Set AN/VRC-42			48

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/VRC-42 Consisting of:		38
1	Receiver-Transmitter RT-537/VRC-42		
1	Cabinet Electrical Equipment CY-2108A/VRC-33	5-5/8 X 11 X 13-1/2	
1	Radio Control Set C-2110/VRC-33	2-3/4 X 3 X 6-3/4	
1	Loudspeaker Dynamic LS-425-U	3-1/4 X 6 X 6	
1	Voltage Selector Plug & Battery Cable Part No. 624-2H-201X (Rev B)		
1	Fuse Holder, Bracket and Spare Fuse Part No. 624-3H-201X		
1	Antenna Ass'y		
1	Microphone Model CR4W		

June 1961

RADIO SET**AN/VRC-50****FUNCTIONAL DESCRIPTION**

The AN/VRC-50 is designed for general purpose use as an FM transceiver. It performs the function of transmission and reception of radio frequency electromagnetic waves through space.

No field changes in effect at time of preparation (20 December 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: F3 type.

TYPE OF ANTENNA: Whip type.

TYPE OF FREQUENCY CONTROL: Crystal.

TRANSMITTER DATA

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1 channel.

FREQUENCY RANGE: 132 to 152 mc.

RECEIVER DATA

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1 channel.

FREQUENCY RANGE: 132 to 152 mc.

IMPEDANCE: 50 ohms.

POWER OUTPUT: 25 W max.

OPERATING POWER RQMT: 6 v dc, 12 v dc and
24 v dc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Industrial Radio Corp., Chicago, Ill.

Model No. TM25H.

Contract NObsr-75942.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for
Radio Set AN/VRC-50.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-19116B
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Set AN/VRC-50 consists of:		
1	Radio Receiver R-986/GR	4-1/2 x 7 x 13	
1	Radio Transmitter T-776/VRC-50	4-1/2 x 7 x 13	
1	Power Supply PP-2614/VRC-50	4-1/2 x 7 x 13	
1	Radio Control Set C-3256/VRC-50	4 x 4 x 7	
1	Magnetic Microphone M-107/U	1-49/64 x 2-5/8 x 3-11/16	
1	Antenna AT-963/VRC		
1	Bracket-Cable Ass'y MX-3028/VRC-50	210 lg	
1	Fuse Block Ass'y		
1	Cabinet, Electrical Equipment CY-2874/VRC-50	7 x 14-19/32 x 16-3/8	

16 August 1962

Cog Service: USN FSN: 5820-893-0050

RADIO SET AN/VRC-51

Functional Class:

USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Communications Co., Inc., (13848).



Radio Set AN/VRC-51

FUNCTIONAL DESCRIPTION:

The Radio Set AN/VRC-51 is designed as a fixed tuned, crystal controlled unit of the single channel type; for Frequency Modulated (FM) type emission.

The AN/VRC-51 is a mobile radio-telephone unit designed especially for Government Service, Police (Public Safety) Industrial Radio Service and Land Transportation Radio Services. It operates in the frequency range of 132 to 152 megacycles (MC) with an R.F. Power output of 25 watts.

No field changes in effect at time of preparation (20 July 1960).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Vehicular.

TYPE OF MODULATION: F3 (FM) type emission.

AN/VRC-51 RADIO SET

TYPE OF FREQUENCY CONTROL: Crystal.
NUMBER OF CHANNELS: One (1).
FREQUENCY RANGE: 132 to 152 mc.
AMBIENT TEMPERATURE RANGE: M30 deg C to P60 deg C (M22 deg F to P140 deg F).
OPERATING POWER RQMT

VOLTAGE: 13.6 v dc.
STAND-BY DRAIN: 6.20 amps.
TOTAL DRAIN WHILE TRANSMITTING: 12.31 amps.
VOLTAGE: 26.4 v dc.
STAND-BY DRAIN: 3.10 amps.
TOTAL DRAIN WHILE TRANSMITTING: 7.19 amps.

RELATION TO OTHER EQUIPMENT:

The AN/VRC-51 is the same as Communication Co. Inc.'s commercial Model no. AB32F7A6.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/VRC-51 consists of:			
1	Receiver-Transmitter RT-616/VRC-51		5-1/2 x 9-1/4 x 12-1/2	14-3/4
1	Control-Power Supply C-3691/VRC-51		3 x 5 x 6	9-1/2
1	Antenna		1 x 1-1/2 x 22-1/2	1/2
1	Microphone		2-3/8 x 4-7/8 x 10-1/4	1-1/4

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94121: Technical Manual for Radio Set AN/VRC-51.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6AK5 (3) 12AT7 (6) 68H6 (2) 6AL5 (1) 12AX7 (1) 6AQ5A (1) 6X4
(2) 6AK6 (1) 6146

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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1.7 AN/VRC-51: 2

PROCUREMENT DATA

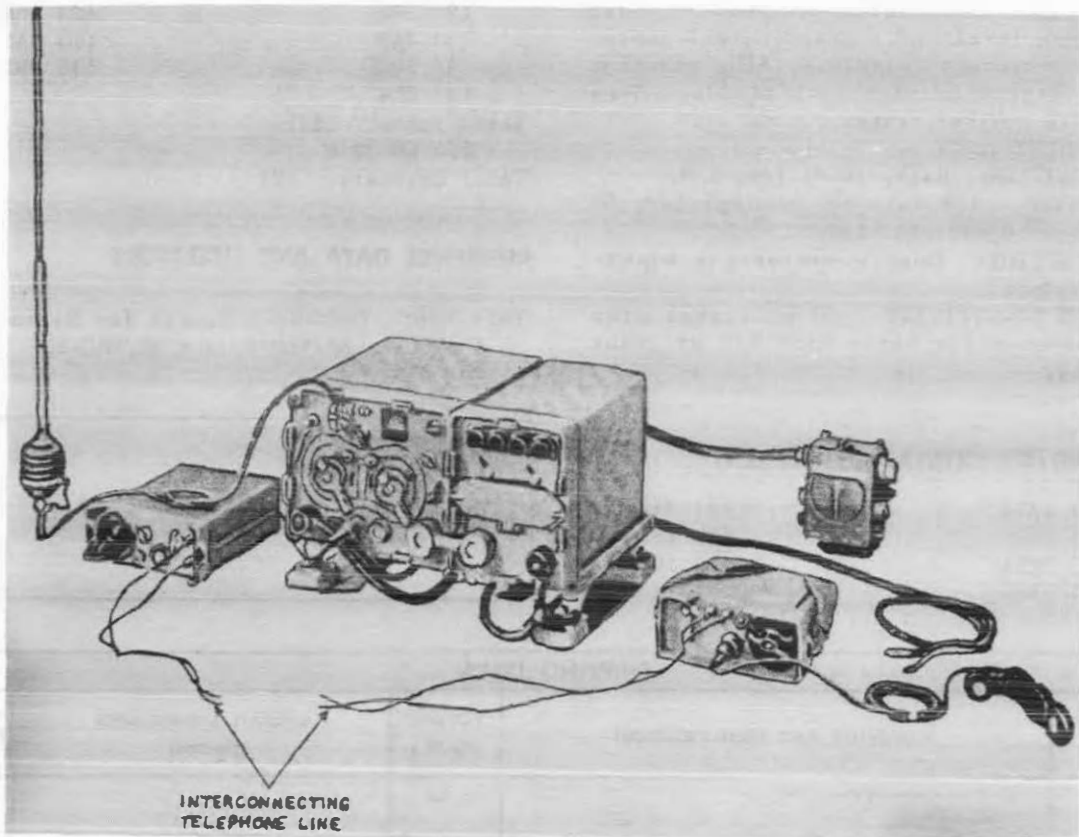
PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-R-3603

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Communications Co. Inc. Model no. AB32F7A6	Coral Gables, Fla.	N0bsr-81600, 13 June 1961	

April 1958

RADIO SET

Radio-Transceivers
AN/VRC-8, -9, -10

Radio Set AN/VRC-8, -9, -10

FUNCTIONAL DESCRIPTION

The AN/VRC-8, -9, and -10 are frequency modulated radio telephone transmitter-receivers for installation and operation in trucks, personnel carriers, armored utility vehicles, weapons carriers, and other authorized vehicles. The sets are designed for short-range operation within and between armored, artillery and infantry units.

These equipments may be interconnected with the standard Navy 12-wire control system upon completion of Field Change No. 1 dated October 1954.

These sets are identical except for different operating frequencies.

NOTES: *FSN represent equipment designed for 24 volt power sources. The AN/VRC-10 is furnished w/spares; the others w/out spares.

Data on this sheet reflects the following field changes: 1 and 2

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Control Group AN/GRA-6 requires (4) 1-1/2 v Batteries BA-30, (1) 45 v Battery BA-414/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DISTANCE RANGE: 10 to 15 mi.

FREQUENCY RANGE

AN/VRC-8: 20.0 to 27.9 mc.

AN/VRC-9: 27.0 to 38.9 mc.

AN/VRC-10: 38.0 to 54.9 mc.

EMISSION AND RECEPTION: F3.

TUNING: Continuous, or channel selection.

NUMBER OF AVAILABLE CHANNELS FOR PRESETTING:

AN/VRC-8: 80.

AN/VRC-9: 120.

AN/VRC-10: 170.

NUMBER OF PRESET CHANNELS: 2, all models.

FACILITIES: Monitoring; push-to-talk operation from local or remote control

Radio-Transceivers

AN/VRC-8, -9, -10

RADIO SET

April 1958

stations; full duplex telephone circuit between local and remote control units; ringer circuit; sidetone; AFC, adaption for interconnection with standard Navy 12-wire control system.

POWER OUTPUT

TRANSMITTER: High, 16 W; low, 2 W.

RECEIVER: 1 W into 600 ohm-speaker; 50 mw into 600 ohm phone.

RECEIVER TYPE: Double conversion super-heterodyne.

RECEIVER SENSITIVITY: 30 db signal plus noise-to-noise ratio with 1/2 uv input signal.

(2) 3B4

(3) 3A5

(4) 3Q4

(4) 1U4

Total Tubes: (31)

(2) CR-18/U

Total Crystals: (2)

(2) 1007

(1) 0A2

(1) 0B2

REFERENCE DATA AND LITERATURE

TM11-286: Technical Manual for Radio Sets AN/VRC-8, AN/VRC-9, and AN/VRC-10.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 1AE4

(4) 1R5

(1) 2E24

(1) 6AK5

(1) 3A4

(1) 1S5

(2) 1L4

(2) 1A3

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	(1) Receiver-Transmitter RT-66/GRC, RT-67/GRC or RT-68/GRC	2.10		93
1	(1) Power Supply PP-109/GR or PP-112/GR C/O (1) Mast Base AB-15/GR (2) Mast Section MS-116/A** (2) Mast Section MS-117/A (2) Mast Section MS-118/A** (2) Mast Section AB-24/GR*** (1) Control Group AN/GRA-6 (1) Adapter UG-273/U (1) Adapter UG-306/U (1) Cable Assembly CX-1211/U (1) Bag CW-206/GR (1) Case CY-684/GR (2) Technical Manuals TM-11-286	2.72		125
1	C/O Cable WM-46/U (1) Control Box C-375/VRC (1) Mounting MT-299/GR (1) Cable Assembly CG-568/U† (1) Cable Assembly CG-530/U†† (1) Connector and Bondnut	1.23	10 ft 1g	49
1†††	Control Adapter MX-1583/SRC			
1†††	Set of Repair Parts for MX-1583/SRC			

NOTES: **Not supplied with Radio Set AN/VRC-10
***Supplied with Radio Set AN/VRC-10
†Supplied only with Radio Set AN/VRC-8
††Not supplied with Radio Set AN/VRC-8
†††Supplied with Field Change No. 1

April 1958

RADIO SET

AN/VRC-8, -9, -10

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver-Transmitter RT-66/GRC** or	9 X 11-1/4 X 13	35
1	Receiver-Transmitter RT-67/GRC*** or	9 X 11-1/4 X 13	35
1	Receiver-Transmitter RT-68/GRC	9 X 11-1/4 X 13	35
1	Power Supply PP-112/GR†† or PP-109/GR†	8 X 9 X 13	33
1	Control Box C-375/VRC	4 X 7 X 7	3.5
1	Mounting MT-299/GR	4 X 13 X 20	24
1	Control Group AN/GRA-6 incl		
	(1) Local Control C-434/GRC	3-1/2 X 8-3/4 X 10-1/2	8
	(1) Remote Control C-433/GRC	3-1/2 X 7 X 9-3/8	5
	(1) Handset H-33/PT	2-1/16 X 3 X 3	2
	(2) Mast Section MS-116-A†††	39 lg	1.6
	(2) Mast Section MS-117-A	39 lg	1.4
	(2) Mast Section MS-118-A†††	39 lg	0.5
	(2) Mast Section AB-24/GR****	23.5 lg	0.13
	(1) Special Purpose Cable Assembly CX-1211/U		0.4
	(1) RF Cable Assembly CG-568/U**	50 lg	0.5
	(1) RF Cable Assembly CG-530/U††††	50 lg	0.5
	(1) Adapter UG-306/U		0.36
	(1) Bag CW-206/GR	3 X 5 X 40	3.5
2	Technical Manual TM 11-286		
1	Special Purpose Cable WM-46/U	120 lg	9.0
1	Adapter UG-273/U		0.34
1	Case CY-684/GR		3.0
1	Mast Base AB-15/GR		
1	Control Adapter MX-1583/SRC‡		

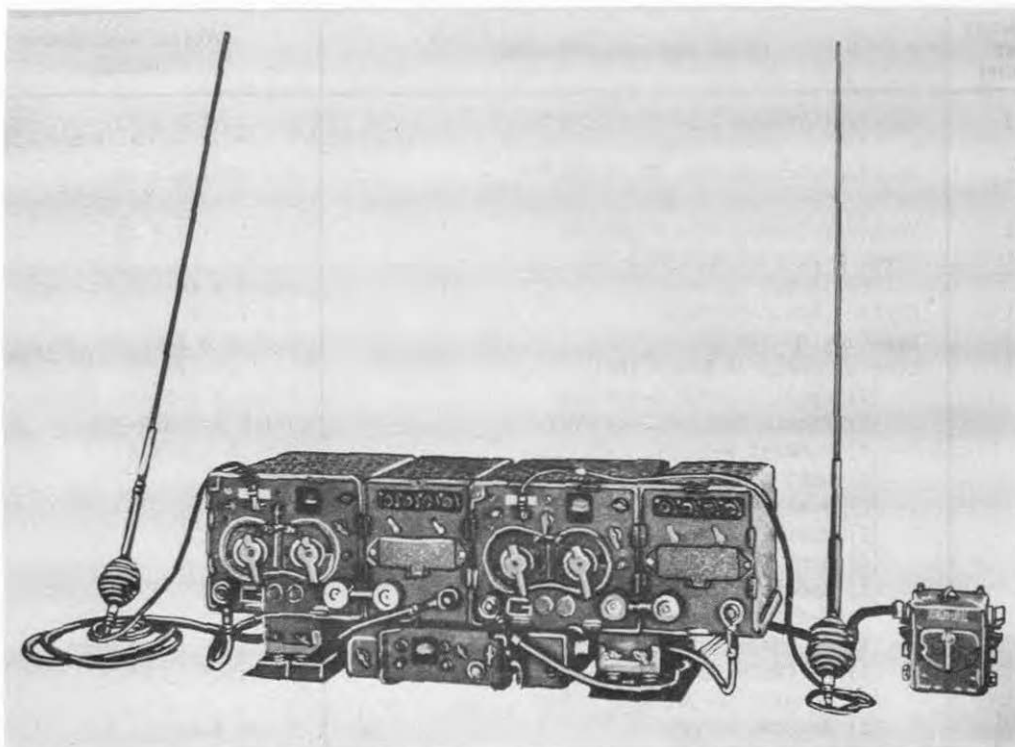
NOTES: *For the basic equipment which in itself does not constitute an operating system. A separate installation unit must be supplied also for each vehicular installation.

AN/VRC-8, *AN/VRC-9, ****AN/VRC-10, †12 v batt, ††24 v batt, †††AN/VRC-8 and 9 only, ††††AN/VRC-9 and 10 only ‡Supplied with Field Change No. 1.

April 1958

RADIO SET

Radio-Transceivers

AN/VRQ-3*Radio Set AN/VRQ-3***FUNCTIONAL DESCRIPTION**

The AN/VRQ-3 provides frequency-modulated radiotelephone facilities within the frequency range of 38.0 to 54.9 mc. It can be installed and operated in trucks, personnel carriers, armored utility vehicles, weapon carriers, and other authorized vehicles. It is designed primarily for short range operation (10 to 15 miles).

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

RELATION TO OTHER EQUIPMENT

The use of different Receiver-Transmitters to cover particular frequency ranges constitutes the major difference among the Radio Sets AN/VRQ-1, AN/VRQ-2, and AN/VRQ-3.

Equipment Required but not Supplied: (1) Installation Unit as required, (4) 1.5 v Battery B4-30, (1) 45 v Battery BA-414/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF TRANSMISSION AND RECEPTION: Voice and 1600-cycle FM signals.

FREQUENCY RANGE: 38.0 to 54.9 mc.

TYPE OF TUNING: (SET ONE OR SET TWO) 170 channels, detuned at every 100 kc of the tuning range. Provisions are also made for presenting any two of the detuned channels, and for continuous tuning.

OPERATIONAL FACILITIES**MONITORING:**

Push-to-talk operation from Local or Remote Control Station. Automatic Retransmission of received signals.

Full Duplex Radio Operation.

Full Duplex Telephone Circuit between Local and Remote Control Units.

Remote (as well as local) control of power.

COMMUNICATION RANGE: 10 mi. for vehicles in motion and 15 mi. for stationary vehicles.

TOTAL POWER CONSUMPTION: 30 to 215 W, Depending on mode of operation.

POWER OUTPUT

TRANSMITTER RF: (Set one or Set 2) 16 W

Radio-Transceivers

AN/VRQ-3**RADIO SET**

April 1958

on HIGH, 2 W or LOW.

RECEIVER AF: (Set one or Set 2) 1 W and 50 mw at speaker and phone output terminals; 30 mw at fixed level output terminals.

MICROPHONE INPUT IMPEDANCE: 150 ohms.

AUDIO OUTPUT IMPEDANCE: 600 ohms at all audio output terminals.

RECEIVER SENSITIVITY (Set 1 or Set 2): 30 db signal plus noise to noise ratio with 0.5 uv input signals.

POWER SOURCE REQUIRED: 12 v DC or 24 v DC depending on type of vehicle.

(1) 1N34A/1N43

(17) 6091.666 and 8887.500

Total Crystals: (18)

REFERENCE DATA AND LITERATURE

TM11-287: Technical Manual for Radio Sets AN/VRQ-1, AN/VRQ-2, and AN/VRQ-3.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 1A64	(2) 1L4	(2) 1A3
(4) 1R5	(1) 1S5	(4) 1U4
(2) 1007	(1) 2E24	(1) 3A4
(3) 3A5	(2) 3B4	(5) 3Q4
(1) 6AK5		

Total Tubes: (30)

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Receiver-Transmitter RT-68/GRC Power Supply PP-109/GR or PP-112/GR	4.20		230
1	Mast Base AB-15/GR Mast Section MS-117-A Mast Section AB-24/GR Control Group AN/GRA-6 Adapter UG-273/U Adapter UG-306/U Cable Assy CY-1211/U Bag CW-206/GR Case CY-684/GR Technical Manuals	3		110
1	Special Purpose Cable WM-46/U Control Box C-375/VRC Control C-435/GRC Mounting MT-298/GR Cable Assy CG-530/U Connector and bond nut	1.2		87

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Receiver-Transmitter RT-68/GRC	9 x 11-1/4 x 13	35
2	Power Supply PP-109/GR or PP-112/GR	8 x 9 x 13	33
1	Control Box C-375/VRC	4 x 7 x 7	3.5
1	Mounting MT-298/GR	5 x 13 x 40	24
1	Control Group AN/GRA-6 consists of:		

April 1958

RADIO SET

AN/VRQ-3

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Local Control C-434/GRC	3-1/2 x 8-3/4 x 10-1/2	8
1	Remote Control C-433/GRC	3-1/2 x 7 x 9-3/8	5
1	Headset H-33/PT	2-1/16 x 3 x 3	2
1	Bag CW-189/GR	7-3/4 x 10-5/8 x 11	1
1	Control C-435/GRC	3-1/2 x 8-3/4 x 10-1/2	12
2	Case CY-684/GR		3
2	Mast Base AB-15/GR		
4	Mast Section MS-117-A	39.5 lg	1.4
4	Mast Section AB-24/GR	23.5 lg	0.13
2	Special Purpose Cable Assy CX-1211/U		0.4
2	R.F. Cable Assy CG-530/U	50 lg	0.5
2	Adapter UG-306/U		0.36
1	Bag CW-206/GR	3 x 5 x 40	3.5
2	Adapter UG-273/U		0.36
2	Technical Manual TM11-287	1/4 x 8 x 10	1
1	Special Purpose Cable WM-46/U	6 dia x 120	9

10 August 1962

RADIO SET AN/WRC-1

Cog Service:

FSN:

Functional Class:

USA

USN

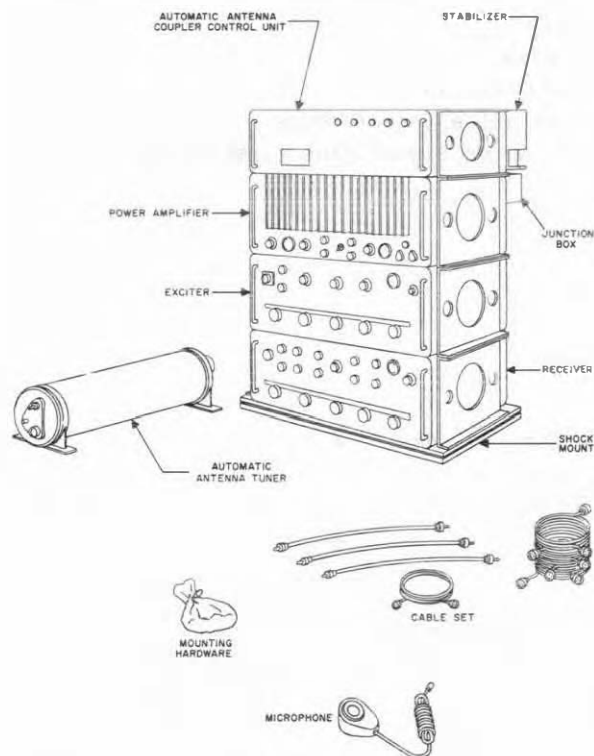
USAF

TYPE CLASS:

Std

Std

MANUFACTURER'S NAME/CODE NUMBER: General Dynamics Electronics, (95403).



Radio Set AN/WRC-1

FUNCTIONAL DESCRIPTION:

The Radio Set AN/WRC-1 is designed as a communication transmitting and receiving system, requiring an automatic antenna tuning system for proper operation. The system consists of a receiver, a single sideband exciter, a junction box, and a power amplifier. The system covers the frequency range of 2 to 30 megacycles (MC), and is capable of producing an output of 100 watts peak envelope power (PEP). Transmission and reception on upper sideband (USB), lower sideband (LSB), continuous wave (CW), amplitude modulation (AM) and independent sideband (ISB) are provided. ISB allows the transmission and reception of different information on USB and LSB simultaneously. Frequency shift keying (FSK) operation is obtained using suitable auxiliary equipment (not supplied).

No field changes in effect at time of preparation (31 May 1962).

AN/WRC-1 RADIO SET

TECHNICAL CHARACTERISTICS:

MODES OF OPERATION: AM, CW, FSK, USB, LSB & ISB.
FREQUENCY RANGE: 2 to 30 mc in 1 kc increments.
FREQUENCY STABILITY: 1 part in 10^7 per week.
RECEIVER IF REJECTION: M80 db.
RECEIVER IMAGE REJECTION: M80 db.
RECEIVER AUDIO OUTPUT
600-OHM BALANCE LOAD: 60 mw.
600-OHM UNBALANCED LOAD: 15 mw.
RECEIVER AUDIO DISTORTION: Less than 1%.
RECEIVER NOISE BLANKER: Reduces pulse interference.
RECEIVER SENSITIVITY: 1 av for 10 db signal plus noise/noise.
RECEIVER BANDWIDTH
SSB: 3.2 kc.
AM, CW: 6 kc.
TRANSMITTER POWER OUTPUT
SSB: 100 W PEP.
AM: 25 W carrier.
CW: 50 W.
FSK: 50 W.
POWER AMPLIFIER OUTPUT IMPEDANCE: 52 ohms.
RECEIVER POWER CONSUMPTION: 43 W.
EXCITER POWER CONSUMPTION: 40 W.
POWER AMPLIFIER CONSUMPTION
SSB: 130 W.
AM, FSK: 150 W.
OPERATING POWER RQMT: 115 v ac, 48 to 1,000 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/WRC-1 is designed to be used with, but not part of AN/URA-38, CU-937/UR and AT-1047/U.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(2) Interconnecting Cables (for use between Junction Box and Antenna Tuner).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/WRC-1 consists of:			
1	Receiver R-1051/URR		7 x 17-3/8 x 18-1/8	25
1	Exciter T-827/URT		7 x 17-3/8 x 18-1/8	25
1	Power Amplifier AM-3007/URT		7 x 15-3/4 x 17-3/8	35
1	Automatic Antenna Coupler Control CU-3698/URA-38		5-1/4 x 14-13/16 x 17-3/8	50

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Automatic Antenna Tuner CU-938/URA-39		8-5/32 x 33-1/4 dia	33
1	Junction Box J-1265/U		2-5/16 x 4 x 17-3/8	3
1	Shock Mount		1-3/4 x 16-5/8 x 19-3/4	10
1	Stabilizer		6-5/8 x 8 x 17-1/2	12
1	Microphone			1
1	Set of Cables			
1	Bag of Hardware			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94255: Technical Manual for Radio Set AN/WRC-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 6CD6 (1) 7377 (1) 7733 (1) DX195 (6) RV2337 (1) SV1035 (2) Z210

CRYSTALS: None used.

SEMI-CONDUCTORS: (4) 1N251 (4) 1N252 (61) 1N270 (18) 1N538 (4) 1N540 (16) 1N615
 (14) 1N625 (2) 1N628 (9) 1N645 (4) 1N646 (1) 1N662 (6) 1N714
 (4) 1N755B (2) 1N758A (16) 1N816 (8) 1N904 (2) 1N967B (4) 1N2357
 (4) 1N2361 (4) HD6730

TRANSISTORS: (1) 2N327A (2) 2N332 (2) 2N333 (2) 2N336 (12) 2N338 (2) 2N542
 (11) 2N652 (1) 2N656 (4) 2N695 (74) 2N700 (8) 2N706 (3) 2N1012
 (2) 2N1183A (23) 2N1224 (16) 2N1225 (23) 2N1301 (8) 2N1602 (4) 2N6524
 (2) 2N1117A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
 SPEC &/OR DWG: SHIPS-R-3304

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
General Dynamics Electronics Model no. SC-910	Rochester, N. Y.	N0bsr-7762B, 16 June 1959	