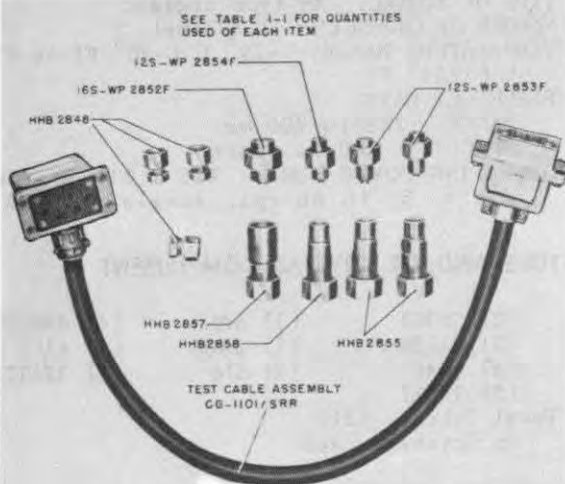


## RADIO RECEIVING SETS

AN/MRR-1,-2,-3



AN/MRR-1



AN/MRR-2 &amp; AN/MRR-3

Radio Receiving Sets AN/MRR-1,-2,-3

## FUNCTIONAL DESCRIPTION

The AN/MRR-1, -2 and -3 are designed for

mobile or transportable service, enclosed in watertight cases with carrying handles. These receivers are divided into three frequency types which cover all frequencies from 14 kilocycles to 32 megacycles. All operating controls, switches and meters are mounted on recessed front panels, and all shafts which extend from the chassis to the control knobs are sealed for waterproofing.

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

## RELATION TO OTHER EQUIPMENT

These Radio Receivers are similar to the AN/FRR-18,-22, and -23, except that the latter are designed for fixed station operation.

## EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Frequency Shift Converter, Audio type, CV-60/URR, (1) Frequency Shift Converter, IF type CV-57/URR or equivalent, (1) Headset NT-49507 or equivalent, (1) Loudspeaker Amplifier, AM-215/U or equivalent.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

OVERALL FREQUENCY RANGE: 14 kc to 32 mc.

MOBILE LOW FREQUENCY RECEIVER AN/MRR-1:  
14 to 600 kc, 5 bands.

MOBILE MEDIUM FREQUENCY RECEIVER AN/MRR-2:  
0.25 to 8 mc, 5 bands.

MOBILE HIGH FREQUENCY RECEIVER AN/MRR-3:  
2 to 32 mc, 5 bands.

## TYPES OF EMISSION RECEIVED

AN/MRR-1: A1, A2 and F1.

AN/MRR-2 and AN/MRR-3: A1, A2, A3, and F1.

RECEIVER OUTPUT: 6 mw across 600 ohms.

INPUT IMPEDANCE: 73 ohms, low impedance or 200 ohms, high impedance.

SENSITIVITY: Varies over frequency band from 3.5 to 8 uv.

## PRIMARY POWER REQUIREMENTS

AN/MRR-1: 105, 115 or 125 v, 50 to 60 or 400 cps, 0.85 amp, single ph.

AN/MRR-2, and -3: 105, 115, or 125 v, 50 to 60 or 400 cps, 0.85 amp, single ph, or 24 v DC.

April 1959

Radio-Receivers

## AN/MRR-1,-2,-3

## RADIO RECEIVING SETS

## MANUFACTURER'S OR CONTRACTOR'S DATA

No Crystals Utilized.

Radio Corporation of America, RCA Victor  
Division, Camden, N.J.  
Contract NObsr-52168, dated 30 January  
1951.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 92286: Technical Manual for Radio  
Receiving Sets AN/FRR-18, AN/FRR-19,  
AN/FRR-21, AN/FRR-22, AN/FRR-23, AN/MRR-1,  
AN/MRR-2 and AN/MRR-3.

## TUBE AND/OR CRYSTAL COMPLEMENT

## AN/MRR-1

(4) 5636	(1) 5644
(6) 5647	(4) 5718
(2) 5719	(2) 5840
(5) 5899	(1) 5902
(2) 6X4WA	

Total Tubes: (27)

## AN/MRR-2, -3

(3) 5636	(2) 5644
(6) 5647	(6) 5718
(2) 5719	(2) 5840
(5) 5899	(1) 5902
(2) 6X4WA	

Total Tubes: (29)

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

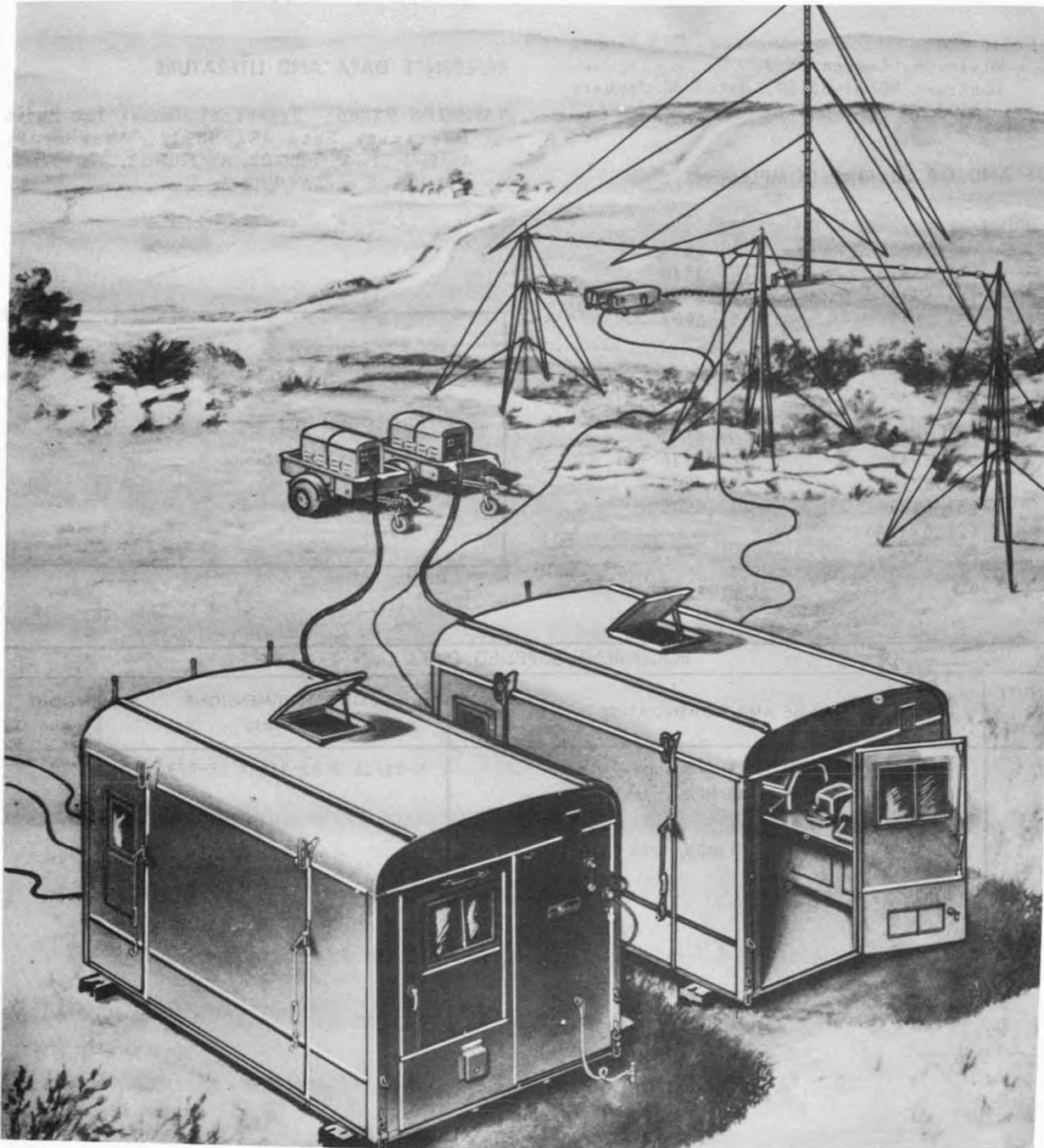
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set Including: Tubes in place, AN/MRR-1, AN/MRR-2, or AN/MRR-3	9-11/16 X 12-3/4 X 18-5/32	90
1	Set of Connectors, Clamps, and Cable		
1	Test Cable Assembly		
2	Instruction Books		

# RADIO RECEIVING SET

Radio-Receivers  
**AN/MRR-4  
and AN/MRR-4A**



*Radio Receiving Set AN/MRR-4A, Installed*

## FUNCTIONAL DESCRIPTION

The AN/MRR-4 and AN/MRR-4A are designed as fixed, transportable, voice, continuous

wave (cw) and radio teletypewriter receiving stations; for use of psychological warfare units.

The following facilities are provided in

Radio-Receivers

# AN/MRR-4 and AN/MRR-4A

## RADIO RECEIVING SET

the AN/MRR-4 and AN/MRR-4A: (1) Aural Monitoring of local or remote broadcast over a 100 kilocycle (kc) to 54 megacycle (mc) frequency range. (2) Tape recording of local or remote broadcasts, either picked up by the radio receivers, or transmitted over the land-line. (3) Receiving programs of remote origin for direct rebroadcasts through Radio Transmitting Set AN/MRT-5 or other transmitters. (4) Receiving program material or other information by radio teletypewriter circuits. (5) Sending and receiving information by a land-line teletypewriter system. (6) Miscellaneous push-button and patch board facilities that enable rapid connection of system components to the wire connecting Radio Receiving Set AN/MRR-4A to Radio Transmitting Set AN/MRT-5 or a similar installation.

The difference between AN/MRR-4 and the AN/MRR-4A is in the equipment supplied.

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

### RELATION TO OTHER EQUIPMENT

The AN/MRR-4 and AN/MRR-4A is designed to be used with but not part of the AN/MRT-5.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

#### RADIO RECEIVER R-274A/FRR.

TYPE OF ANTENNA: Whip fastened to shelter, or an erected doublet.

TYPE OF SIGNALS: CW, tone, voice.

TYPE OF RECEIVER: Superheterodyne.

INTERMEDIATE FREQUENCY: 455 kc.

FREQUENCY RANGE: 540 kc to 54 mc.

NUMBER OF BANDS: 6 bands.

#### PANORAMIC ADAPTER BC-1031A, B and C

INPUT SIGNAL: From mixer stage of radio receiver.

TYPE OF INDICATION: Visual by CRT.

FREQUENCY SPREAD: 200 kc.

POWER INPUT: 115 v, 60 cps, single ph.

#### MAGNECODER PT63-AHX TAPE RECORDING MECHANISM AND MAGNECODER PT63-JX RECORDING AMPLIFIER

TAPE SPEED: 7-1/2 or 15 ips (according to capstan selected).

TAPE TYPE: Plastic tape with red oxide coating.

FREQUENCY RANGE: 50 to 7500 cps  $\pm 3$  db with tape speed of 7-1/2 ips and 50 to 15,000 cps  $\pm 3$  db with tape speed of 15

ips.

POWER INPUT: 115 v, 60 cps, single ph.  
DUAL DIVERSITY CONVERTER CV-31C/TRA-7.

TYPE OF OUTPUT: Neutral or polar.

SIGNAL OUTPUT: DC mark and space signals to teleprinter or perforator transmitter.

SIGNAL INPUT: 455 kc if signals from receiver.

#### POWER INPUT

ALTERNATING CURRENT: 115 v, 60 cps, single ph.

DIRECT CURRENT: 60 ma.

#### TELETYPEWRITER TT-55/MGC

MAXIMUM SPEED: 60 words per minute.

SIGNAL OUTPUT: Printed page copy.

SIGNAL INPUT: DC mark and space signals that operate teleprinter.

#### POWER INPUT

ALTERNATING CURRENT: 115 v. 60 cps, single ph.

DIRECT CURRENT: 60 ma.

#### PERFORATOR TRANSMITTER TT-56/MGC

MAXIMUM SPEED: 60 words per minute.

SIGNAL OUTPUT: Printed and perforated tape.

SIGNAL INPUT: DC mark and space signals.

#### POWER INPUT

ALTERNATING CURRENT: 115 v, 60 cps, single ph.

DIRECT CURRENT: 60 ma.

#### RECTIFIER RA-87

POWER OUTPUT: Nominally 60 ma dc.

POWER INPUT: 115 v, 60 cps, approx 100 W, if AC receptacles are not used.

TYPE OF EMISSION: A1, A2, A3, A9 reception.

### MANUFACTURER'S OR CONTRACTOR'S DATA

Gates Radio Co., Quincy, Ill.

### TUBE AND/OR CRYSTAL COMPLEMENT

(9) 6BA6	(3) 6C4	(1) 5R4GY
(3) 6AL5	(2) 12AU7	(1) 6V6
(2) 6AC7	(3) 6SA7	(2) 6SQ7
(1) 6SG7	(1) 2X2	(1) 6X5GT
(1) OC3/VR-105	(3) 6SL7GT	(1) 3AP1
(4) 5879	(2) 12AX7	(2) 6AQ5
(1) 5Y3	(6) 6SJ7Y	(4) 6H6
(2) 6V6GT	(1) 6Y6G	

Total Tubes: (56)

No Crystals used.

April 1959

Radio-Receivers

## RADIO RECEIVING SET

AN/MRR-4  
and AN/MRR-4A

## REFERENCE DATA AND LITERATURE

Technical Manual TM11-646 for Radio Receiving  
Set AN/MRR-4 and AN/MRR-4A.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE TASSA  
PROCUREMENT COGNIZANCE  
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	Radio Teletypewriter Shelter (MO-4026) AN/MRR-4A		
1	Receiver Group OA-377/MRR-4		
1	Radio Receiver R-274A/FRR		
3	Panoramic Adapter BC-1031, A, B and C		
1	Line Unit BE-77-A		
1	Telephone EE-8		
1	Power Unit PE-95-G		
1	Dual Diversity Converter CV-31C/TRA-7		
1	Rectifier RA-87		
1	Teletypewriter TT-55/MGC		
1	Perforator Transmitter TT-56/MGC		
	Radio Receiving Shelter (MO-4027) AN/MRR-4		
1	Receiver Group OA-378/MRR-4		
3	Panoramic Adapter BC-1031A, B, C		
1	Radio Receiver R-274A/FRR		
1	Telephone EE-8		
1	Power Unit PE-95-G		

June 1961

AN/MSQ-38

## RADIO RECEIVING CENTRAL

## FUNCTIONAL DESCRIPTION

The Radio Receiving Central AN/MSQ-38 is designed as a mobile unit for specific use at shore-based installations. It receives various electronic emissions which are recorded, displayed, and analyzed.

No field changes in effect at time of preparation (11 April 1961).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Ground mobile.

TYPE OF FACILITIES PROVIDED: Radio Communication.

TYPE OF EMISSION: A0, A1, A2, A3, A4, and F0, F1, F2, F3.

OPERATING POWER RQMT: 110 vac, 60 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Naval Research Laboratory, Washington, D. C.

Dwg no. RA10J1797.

CNO Project Order NLR, no. 700-59, dated 23 June 1960.

## TUBE AND/OR CRYSTAL COMPLEMENT

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

## REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Receiving Central AN/MSQ-38.

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.)
	Radio Receiving Central AN/MSQ-38 consists of:		
1	Radio Receiver R-220/URR	10-1/2 x 14-7/8 x 19	
1	Radio Receiver R-300A/URR	10-15/32 x 16-19/32 x 19	
1	Receiving Set, Radio AN/FRR-21	8-23/32 x 18-7/16 x 19	
1	Receiver, Countermeasures R-467/ALR	5-1/8 x 6-5/8 x 13	
3	Camera KD-2		
4	Panoramic Adapters SA-3 (T-3000)		
1	Recorder, Ampex FR-1107		
3	Recorder-Reproducer Set, Sound AN/TNH-4		
1	Indicator, Azimuth Deviation IP-348/FLR-2		
1	Receiving System AN/SLR-2		
3	Analyzer, Pulse Group AN/SLA-2		
2	Control Indicator C-1609/SLR	12-1/32 x 13-1/4 x 21-7/8	
2	Amplifier Magnetic Control AM-1017/SLR	15-5/16 x 18-13/16 x 23-31/32	
1	Digital Counter Beckman/Berkley Model 7370		
1	Digital Recorder Beckman/Berkley Model 1452		
1	LEL traveling wave Tube Preamplifier		
1	Crystal Calibrator TS-R10/U	5-3/4 x 6-5/16 x 12-1/8	

June 1961

Radio-Receivers

AN/MSQ-38

## RADIO RECEIVING CENTRAL

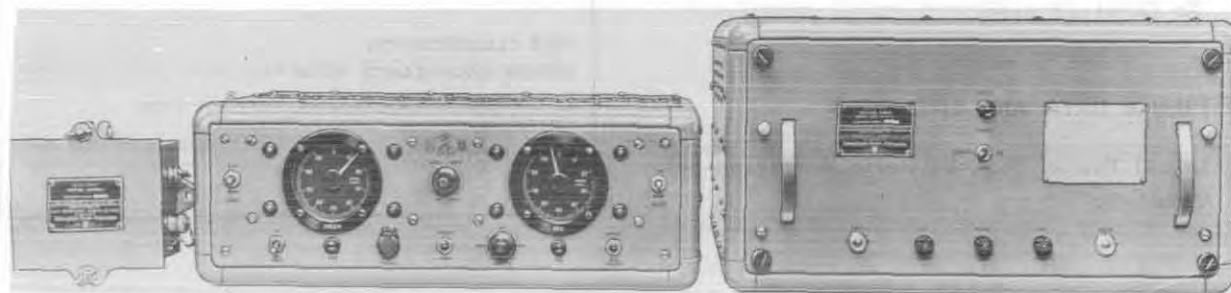
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Vacuum Tube Tuning Fork CAC-723C		
1	Vacuum Tube Voltmeter AN/USM-34	5-3/8 x 8-11/16 x 11-11/16	
1	Track M-292		



QUANTITY PER EQUIPT			

## RADIO RECEIVING SET



*Radio Receiving Set AN/SRN-7*

### FUNCTIONAL DESCRIPTION

The AN/SRN-7 is designed as a LORAC Type "A" NAVIGATIONAL SYSTEM. The LORAC type "A" system consists on one center station transmitter and two (2) end station transmitters. The radio-frequency energy radiated from these fixed station transmitters establishes a radio-wave interference pattern, hyperbolic in nature, from the vicinity of the stations outward, covering an area of thousands of square miles at the earth's surface.

The AN/SRN-7 will provide highly accurate position information in the form of dial (lane) readings which are related to the hyperbolic coordinate system, anywhere within the area. Fixing a position at the radio receiving set consists only in reading the two (2) position indicator dials and in locating these readings as map coordinates. Each indicator shows a lane number and the position within the lane. This locates the receiving set according to the intersecting of the red lanes with the green lanes.

No field changes in effect at time of preparation (6 November 1958).

### RELATION TO OTHER EQUIPMENT

The AN/SRN-7 is used with but not part of the AN/TRN-2X and AN/TRN-3X.

### EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna 5 feet 50 inch., (2) Coaxial Cable Type RG9B/U, (1) Cable Type TTRSA-16,

(1) Two Conductor Cable Type MHFF-2, (1) Audio Oscillator Type TS-382A/U, (1) R.F. Signal Generator Type AN/URM-25, (1) Tube Tester Type TV-3A/U, (1) Multimeter Type ME-25A/U, (1) Oscilloscope Type OS-8/U.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF RECEIVER: Superheterodyne.  
TYPE OF RECEPTION: C-W type A9.  
SELECTIVITY: Bandwidth 300 cycles at 6 db voltage points, 8000 cycles at 60 db voltage points.  
TYPE FREQUENCY CONTROL: Crystal type CR-18/U.  
TYPE OF PRESENTATION: Two dial type meters w/counters.  
CRYSTAL FREQUENCY RANGE: 2.155 to 2.955 mcs.  
OPERATING POWER REQUIREMENTS: 115 v AC  $\pm 10\%$ , 60 cps  $\pm 5\%$ , 3 amps, 0.95 inductive, 340 W power consumption.

### MANUFACTURER'S OR CONTRACTOR'S DATA

Seizmograph Service Corp., Tulsa, Okla.  
Contract NObsr-71572, dated 18 January 1957.

### TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6201	(1) 5R4WGB
(12) 5726	(8) 5749/6BA6W
(2) 5750/6BE6W	(5) 5751
(14) 5814A	(4) 6005
(1) 6336	(1) 6626/OA2WA
(1) 6627/OB2WA	(2) 12AT7

Total Tubes: (53)



April 1959

## AN/SRN-7

## RADIO RECEIVING SET

No Crystals used.

## REFERENCE DATA AND LITERATURE

Technical Manual for the Radio Receiving Set  
AN/SRN-7.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE SHIPS-R-2456  
STOCK NO.  
R.D.B. IDENT. NO.

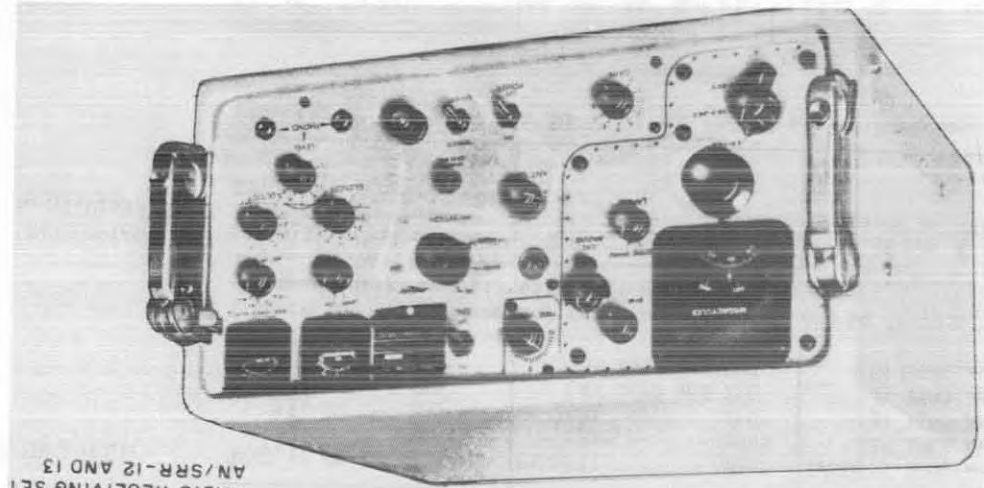
## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver R-837/SRN-7	6.26	14-5/8 X 24-5/8 X 30	180
1	Position Indicator ID-639/SRN-7	3.12	11-1/2 X 19 X 24-5/8	80
1	Antenna Coupler CU-611/SRN-7	0.66	9 X 11 X 12-1/2	8
1	Radio Receiving Set AN/SRN-7	10.04		268

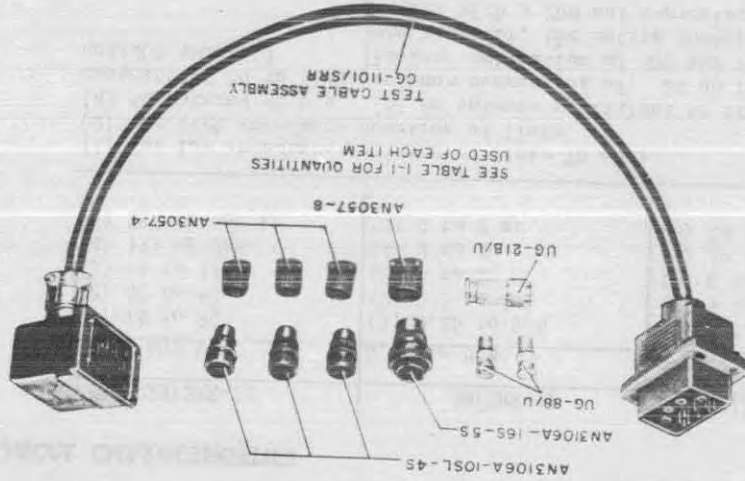
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-837/SRN-7	10-5/8 X 20-5/8 X 26	95
1	Position Indicator ID-639/SRN-7	7-1/2 X 15 X 20-5/8	45
1	Antenna Coupler CU-611/SRN-7	5 X 6-7/8 X 8-1/2	4

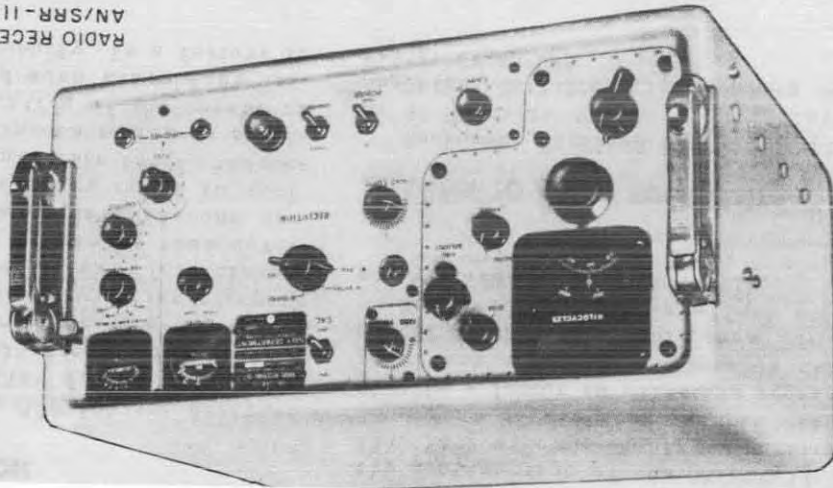
Radio Receiving Set AN/SRR-11, 12, 13, 13A



RADIO RECEIVING SET AN/SRR-12 AND 13



RADIO RECEIVING SET AN/SRR-11



RADIO RECEIVING SET

AN/SRR-11,12,13,13A

Radio-Receivers

## AN/SRR-11,12,13,13A

## RADIO RECEIVING SET

## FUNCTIONAL DESCRIPTION

The AN/SRR-11, 12, 13, 13A are designed for general application for all types of vessels. They cover all frequencies between 14kc and 32 mc. The receivers are designated as low medium and high-frequencies circuits are provided for the reception of four classes of emission in those receivers that cover frequencies on which these emissions are appropriate. The frequency range in each receiver is divided into five bands, through-out each of which continuous tuning is available. Compartmentalization of the receivers into assemblies, and such assemblies included within each assembly, is a feature in

the construction of the AN/SRR-11, 12, 13, 13A. Each major assembly is physically independent of the rest, and in cases where time is a factor in effecting repairs to the receivers a defective assembly can be replaced quickly by a spare one.

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

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) or 2) Headsets 49507, (1 or 2) Loudspeaker Amplifier AM-215/U, (1) Frequency Shift Converter CV-60/URR.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

	AN/SRR-11	AN/SRR-12	AN/SRR-13, 13A
FREQUENCY RANGE:	14 to 600 kc	0.25 to 8 mc	2 to 32 mc
BAND RANGES:	(1) 14 to 30 (2) 30 to 63 (3) 63 to 133 (4) 133 to 283 (5) 283 to 600 kc	(1) 0.25 to 0.5 (2) 0.5 to 1 (3) 1 to 2 (4) 2 to 4 (5) 4 to 8 mc	(1) 2 to 4 (2) 4 to 8 (3) 8 to 16 (4) 16 to 24 (5) 24 to 32 mc
INPUT IMPEDANCE:	(1) For low impedance position of links 70 ohms. (2) For high impedance position of links (a) An antenna with a capacity of 30 to 5000 uuf(200 nominal) (b) An antenna equivalent to standard RMA dummy antenna consisting of: 20 uh in shunt with a series combination of 400 uuf capacitor and 400 ohm resistor, the entire combination being in series with a 200 uuf capacitor.		
INTERMEDIATE FREQ (KC):	BAND(1) 60 and 200 (2) 200* (3) 200* (4) 60 and 200 (5) 200*	BAND(1) 200* (2) 200* (3) 200* (4) 1600 and 200 (5) 1600 and 200	BAND(1) 1600 and 200 (2) 1600 and 200 (3) 1600 and 200 (4) 1600 and 200 (5) 1600 and 200
	* Where the first frequency conversion gives a 200 kc frequency, the second conversion circuit is by passed.		
SENSITIVITY (RECEPTION: Control Set to A1-Broad):	14 to 18 kc: 8 uv 18 to 100 kc: 5uv 100 to 600 kc: 3.5 uv	0.250 to 8 mc: 5 uv	2 to 16 mc: 6 uv 16 to 32 mc: 10 uv
POWER SUPPLY:	105, 115 or 125 volts AC: 50-60 or 400 cps, 1 phase, 0.85 amp at 90% power factor.		
TYPE OF RECEPTION:	A1, A2, and F1,	A1, A2, A3, and F1.	A1, A2, A3, and F1.

June 1957

AN/SRR-11,12,13,13A

## RADIO RECEIVING SET

## MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corporation of America, Camden,  
New Jersey.

Contract NObsr 52014, dated 31 August  
1950.

Contract NObsr 57134, dated 31 August  
1950.

AN/SRR-11  
(1) 1N69

Total Crystals: (1)

AN/SRR-12  
(1) 1N69

Total Crystals: (1)

AN/SRR-13 and 13A  
(1) 1N69

Total Crystals: (1)

## TUBE AND/OR CRYSTAL COMPLEMENT

AN/SRR-11

(4) 5636 (1) 5644  
(6) 5647 (4) 5718  
(2) 5719 (2) 5840  
(5) 5899 (1) 5902  
(2) 6X4

Total Tubes: (27)

AN/SRR-12

(3) 5636 (1) 5644  
(6) 5647 (6) 5718  
(2) 5719 (2) 5840  
(5) 5899 (1) 5902  
(2) 6X4

Total Tubes: (29)

AN/SRR-13 and 13A

(3) 5636 (1) 5644  
(6) 5647 (6) 5718  
(2) 5719 (2) 5840  
(5) 5899 (1) 5902  
(2) 6X4

Total Tubes: (29)

## REFERENCE DATA AND LITERATURE

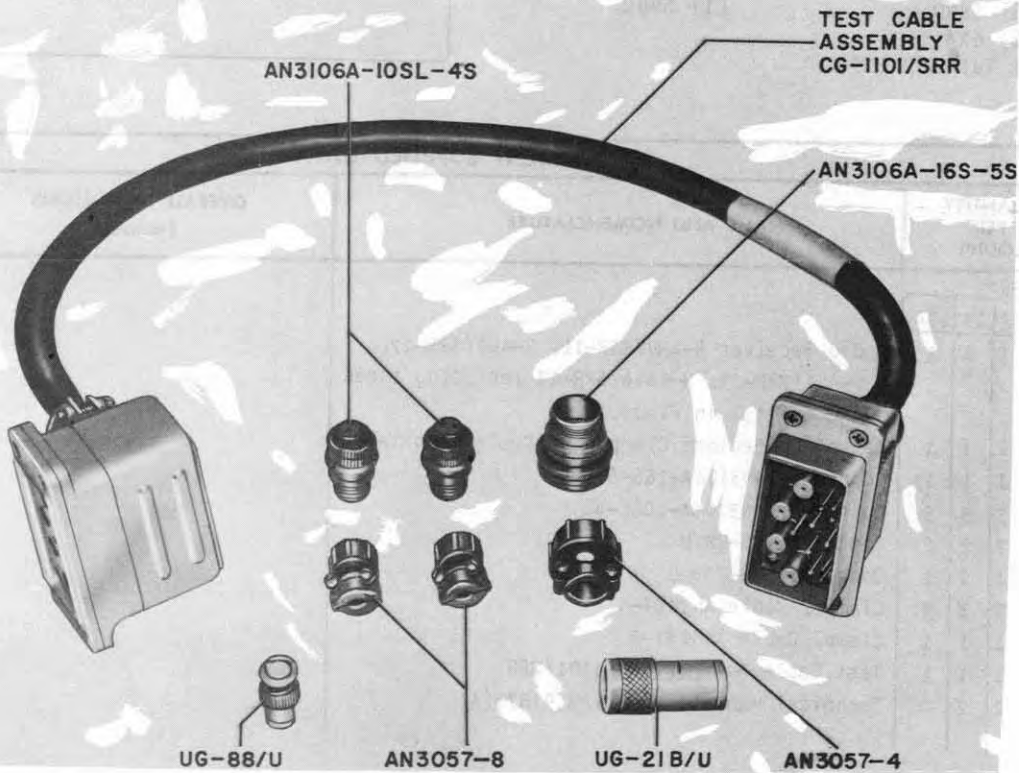
NAVSHIPS 91875(A): Technical Manual for  
Radio Receiving Sets AN/SRR-11, 12, 13  
and 13A.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT				NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/SRR-11	AN/SRR-12	AN/SRR-13	AN/SRR-13A			
1	1	1	1	Radio Receiver R-439/SRR-11, R-440/SRR-12, R-441/SRR-13, R-441A/SRR-13 including tubes and crystal in Place.		
1	1	1	1	Set of Connectors Clamps and Cable Comprising:		
1	1	1	1	Connector AN3106A-16S-5S		
2	3	3	3	Connector AN3106A-10SL-4S		
1	2	2	2	Connector UG-88/U		
1	1	1	1	Connector UG-21B/U		
2	3	3	3	Clamps, Cable AN3057-4		
1	1	1	1	Clamp, Cable AN3057-8		
1	1	1	1	Test Cable Assembly CG-1101/SRR		
2	2	2	2	Technical Manuals NAVSHIPS 91875(A)		

RADIO RECEIVING SET



Radio Receiving Set AN/SRR-11A

**AN/SRR-11A****RADIO RECEIVING SET****FUNCTIONAL DESCRIPTION**

Radio Receiving Set AN/SRR-11A is a ship-board low-frequency receiver which receives type A1 (unmodulated CW) signals, A2 (modulated CW) signals, and FSK (frequency shift keying) signals.

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

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1 or 2) Headset NT-49507, (1 or 2) Loud-speaker Amplifier AM-215/U, (1) Frequency Shift Converter CV-89A/URA-8A, (1) Antenna System.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS****FREQUENCY RANGE**

- BAND 1: 14 to 30 kc.
- BAND 2: 30 to 63 kc.
- BAND 3: 63 to 133 kc.
- BAND 4: 133 to 283 kc.
- BAND 5: 283 to 600 kc.

RECEPTION: A1, A2, F1.

RECEIVER OUTPUT: 600 ohm balanced line and 600 ohm headphone connection.

**RECEIVER INPUT**

- LOW IMPEDANCE: 70 ohms.
- HIGH IMPEDANCE: 200 uuf.

**SENSITIVITY**

- 14 to 18 KC: 8 uv or better.
- 18 to 100 KC: 5 uv or better.
- 100 to 600 KC: 3.5 uv or better.

**INTERMEDIATE FREQUENCY**

- BAND 1: 60 and 200 kc.
- BAND 2: 200 kc.
- BAND 3: 200 kc.
- BAND 4: 60 and 200 kc.
- BAND 5: 200 kc.

(NOTE: Where the first frequency conversion for bands 2, 3 and 5 produces a 200 kc frequency, only one conversion circuit is employed.)

**POWER REQUIREMENTS**

VOLTAGE: 105, 115, or 125 v AC.  
 FREQUENCY: 50 to 60 cyc or 400 cyc.  
 CURRENT: 0.85 amp.  
 POWER FACTOR: 0.9.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

The Magnavox Co., Fort Wayne, Indiana.  
 Part No. 708031-2(AN/SRR-11A).  
 Part No. 708011-2(R-439A/SRR-11).  
 Contract Nobsr-75929, dated 15 September 1959.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(4) 5636A	(1) 5644
(1) 5647	(4) 5718
(2) 5719	(2) 5840
(5) 5889	(1) 5902
(2) 6X4W	(1) 1N69A
	(5) 1N458

Total Tubes: (28)

No Crystals used.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93594: Technical Manual for RADIO RECEIVING SET AN/SRR-11A.  
 NAVSHIPS 93594.21: Operator's Instruction Sheet for RADIO RECEIVING SET AN/SRR-11A.  
 NAVSHIPS 93594.32: Performance Standards Sheet for RADIO RECEIVING SET AN/SRR-11A.  
 NAVSHIPS 93594.42: Maintenance Standards Book for RADIO RECEIVING SET AN/SRR-11A.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: MIL-R-15132B
STOCK NO.	(SHIPS)
R.D.B. IDENT. NO.	

June 1961

## RADIO RECEIVING SET

Radio-Receivers  
AN/SRR-11A

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/SRR-11A			

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/SRR-11A Includes:		
1	Radio Receiver R-439A/SRR-11	8-3/4 X 16-3/4 X 17-1/4	69.5
1	Set of Connectors, Clamps and Cable Comprising:		
1	Connector AN3106A-16S-5S		
2	Connector AN3106A-10SL-4S		
1	Connector UG-88/U		
1	Connector UG-21B/U		
2	Clamp and Cable AN3057-4		
1	Clamp and Cable AN3057-8		
1	Test Cable Assy CG-1101/SRR		
2	Technical Manual NAVSHIPS 93594	2 x 8-1/2 x 11	2.5
1	Maintenance Standards Book NAVSHIPS 93594.42	8-1/2 x 11	
1	Operators Instruction Sheet NAVSHIPS 93594.21	4 x 5	
1	Performance Standard Sheet NAVSHIPS 93594.32	8-1/2 x 11	

February 1960

Radio-Receivers

## RADIO RECEIVING SET

AN/SRR-15(XN-1)

## FUNCTIONAL DESCRIPTION

The AN/SRR-15(XN-1) is designed as a general purpose communications receiver for shipboard use, having extremely accurate tuning dial and frequency control.

No field changes in effect at time of preparation (21 July 1959).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3, A4, (A3b) types of emission.

TYPE OF INSTALLATION: Shipboard installation.

TYPE OF TUNING: Precision tuning with frequency accuracy determined by 100 kc frequency standard and frequency synthesizer.

OPERATING FREQUENCY RANGE: 2.0 to 32 mc range.

NUMBER OF BANDS: 4 bands.

OPERATING POWER RQMT: 105, 115, or 125 v, 50 to 60 cps, single ph, 6 mw.

## MANUFACTURER'S OR CONTRACTOR'S DATA

National Company Inc., Malden, Mass.

Contract NObsr-63391, dated 26 March 1953.

Approximate Cost: \$227,171.00 with equipment spares

## TUBE AND/OR CRYSTAL COMPLEMENT

(10) 5654-6AK5W (2) 5670 (3) 5725-6AS6W  
(1) 5726-6AL5W (5) 5750-6BE6W

Total Tubes: (21)

No Crystals used.

## REFERENCE DATA AND LITERATURE

Nomenclature Card AN/SRR-15(XN-1) for Radio Receiving Set.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE SHIPS-R-1018A  
STOCK NO.  
R.D.B. IDENT. NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/SRR-15(XN-1)		



# RADIO RECEIVING SET

## FUNCTIONAL DESCRIPTION

The AN/SRR-15 is a general purpose communication receiver for shipboard use having extremely accurate tuning dial and frequency control. A second version will have, in addition, circuits and facilities for reception of single side band suppressed carrier signals.

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2.0 to 32 mc, 4 bands.  
TYPE EMISSION: A1, A2, A3, A4, A3b.  
POWER OUTPUT: 60 mw.  
OPERATING POWER: 105, 115 or 125 v, 50 to 60 cps single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

National Co. Inc., Malden, Mass.  
Contract NObsr 63391.

## TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Receiving Set AN/SRR-15.

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 Receiving Set AN/SRR-15		

April 1958

## RADIO RECEIVER

AN/SRR-16

## FUNCTIONAL DESCRIPTION

The AN/SRR-16 is the AN/SRR-13 receiver modified for single side band capabilities which is accomplished by the use of Radio Receiver R-441A/SRR-13 modified for external frequency control.

No field changes in effect at time of preparation (15 May 1958).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2 to 32 mc.

IF: 1600 and 200 kc.

SENSITIVITY: 6 uv from 2 to 16 mc, 10 uv from 16 to 32 mc.

RECEPTION: A1, A2, A3, A3b.

QUANTITY OF BANDS: 5.

POWER SOURCE REQUIRED: 115 v, 60 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corp of America, Camden, N. J.  
Contract NObsr-71333, dated 15 June 1956.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 0A2WA	(7) 5687WA
(3) 5751	(3) 6AH6
(1) 6146	(2) 12AT7WA
(3) 5725/6AS6W	(1) 5763
(2) 6AN8	(2) 5651WA
(3) 5749/6BA6W	(2) 5814A
(9) 6AU6WA	(7) 5654/6AK5W
(1) 5750/6BE6W	(1) 6F4A
(2) 6C4WA	

Total Tubes: (50)

No Crystal Data Available.

## REFERENCE DATA AND LITERATURE

Tube Complement Summary 15 November 1957.  
Equipment to Tube Complement.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-441A/SRR-13		
1	Frequency Synthesizer		
1	Dual Sideband Unit		

April 1958

Radio-Receivers

**RADIO RECEIVING SET****AN/SRR-17(XN-1)****FUNCTIONAL DESCRIPTION**

The AN/SRR-17(XN-1) is designed for ship-board installation and is intended to receive frequency-shift keyed signals in the UHF range. It employs FM detection and a DC output.

No field changes in effect at time of preparation (15 May 1958).

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 225 to 400 mc.

RECEPTION: F1.

CHANNELS: 1750.

POWER REQUIREMENTS: 105, 115, 125 v, 60 cps,  
single ph.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Company, Inc, Malden, Mass.  
Contract NObsr-72741, dated 27 June  
1957.

**TUBE AND/OR CRYSTAL COMPLEMENT**

No Electron Tubes and Crystals Available.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 4457: Electronic Equipment-Preliminary Data for Radio Receiving Set AN/SRR-17(XN-1).

Nomenclature Card for Radio Receiving Set AN/SRR-17( ).

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE SHIPS-R-2769  
STOCK NO.

March 1957

## RADIO RECEIVING SET

Radio-Receivers

AN/SRR-3



Radio Receiving Set AN/SRR-3

## FUNCTIONAL DESCRIPTION

The AN/SRR-3 (Scott Model SLR-F) is a super-heterodyne receiver primarily intended for ship-board installation, but is also suitable for use at radio shore stations. It is adapted for the reception of radio telephone or radio telegraph signals (CW or MCW) by either headphones or loudspeaker.

The equipment is designed for AC operation, being equipped with a rectifier type power supply. It permits the use of one pair of head telephones (either 600-ohm or 20,000 ohm impedance) separately or in conjunction with the local loudspeaker of the permanent magnet type.

Radio Receiving Set AN/SRR-3 is contained in a steel cabinet designed for installation on top of an operating table or bench by means of a cradle type shock mounting. The chassis is constructed so that it may be mounted in a cabinet type standard relay rack.

No field changes in effect at time of

preparation (6 September 1956).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 0.08 to 24 mc in 5 bands.

## BAND COVERAGE

BAND 1: 80 to 220 KC (0.08 to 0.22 mc).

BAND 2: 210 to 560 KC (0.21 to 0.56 mc).

BAND 3: 1.9 to 5.1 mc.

BAND 4: 4.5 to 12 mc.

BAND 5: 8.8 to 24 mc.

ANTENNA: Balance feed line or single wire.

MODULATION: CW or MCW.

RANGE: Medium and long.

POWER SOURCE: 110 to 120 v, 60 cps at 85 W.  
(0.75 amp).

## MANUFACTURER'S OR CONTRACTOR'S DATA

E.H. Scott Radio Laboratory, Chicago, Ill.  
Model SLR-F.

## TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

## REFERENCE DATA AND LITERATURE

TM-11-487A: Technical Manual for Radio Receiving Set AN/SRR-3.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE TASSA  
PROCUREMENT COGNIZANCE  
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver Scott Model SLR-F	13-7/8 X 20-13/16 X 21	106
1	Inverter Scott Model 262	8 X 8-11/16 X 10-7/16	28
1	Speaker Scott Model SPM-8	5 X 9-3/16 X 10-1/2	6-1/2

3 July 1962

Cog Service: USN FSN: 6625-643-2824

RADIATION MONITOR AN/SRR-5

Functional Class:

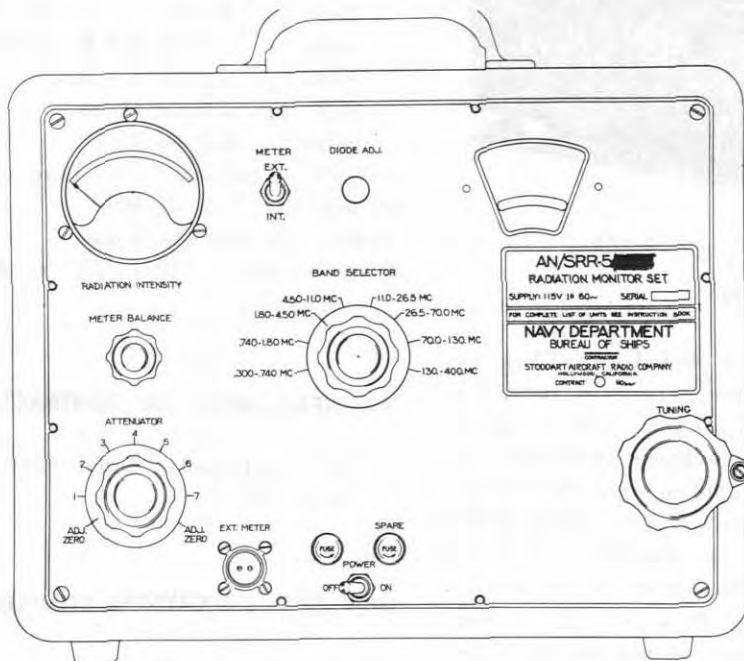
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Stoddart Aircraft Radio Co., (78591).



Radiation Monitor AN/SRR-5

#### FUNCTIONAL DESCRIPTION:

The Radiation Monitor AN/SRR-5 is designed to provide a means of visual indication of actual radiated Radio Frequency energy on the fundamental transmitter frequency.

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

#### TECHNICAL CHARACTERISTICS:

TYPE OF EQUIPMENT: Radio, shipborne.

TYPE OF RECEPTION: AM & CW type reception for motoring communications RF Frequency transmission.

EQUIPMENT PURPOSE: Monitor (receiving) (radiation).

#### CALIBRATION

METER SCALE: 1 to 100.

ATTENUATION STEPS: 1 to 7.

## AN/SRR-5 RADIATION MONITOR

NUMBER OF BANDS: 8 bands.  
FREQUENCY RANGE: 150 kc to 400 mc.  
OPERATING POWER RQMT: 115 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

### MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radiation Monitor Set AN/SRR-5		9-1/8 x 13-1/2 x 14-7/8	16-1/2
1	Power Cable Pt No. 9508			
2	Technical Manual		1/4 x 9 x 11-1/4	1/4

### REFERENCE DATA AND LITERATURE:

Stoddart Aircraft Radio Company Technical Manual for Radiation Monitor Set AN/SRR-5.

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

TUBES: (1) 0B2WA (1) 6X4WA (2) 12AU7 (2) 9005

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

### SHIPPING DATA

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

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

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stoddart Aircraft Radio Co.	Hollywood, California	N0bsr-39215, 14 January 1948	

October 1957

Radio-Receivers

**DIRECTION FINDER SET****AN/TRD-4****FUNCTIONAL DESCRIPTION**

The AN/TRD-4 is a transportable ground radio direction finder covering a frequency range of 0.55 to 30 megacycles. It consists essentially of an antenna system, radio receiver and an instantaneously indicating system of bearing presentation also includes aural null indication, permanently assembled shelter.

No field changes in effect at time of preparation (17 April 1957).

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 0.55 to 30 MC.

POWER SOURCE REQUIRED: 115 v, 60 cps.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Tubes and Crystals: Not Available.

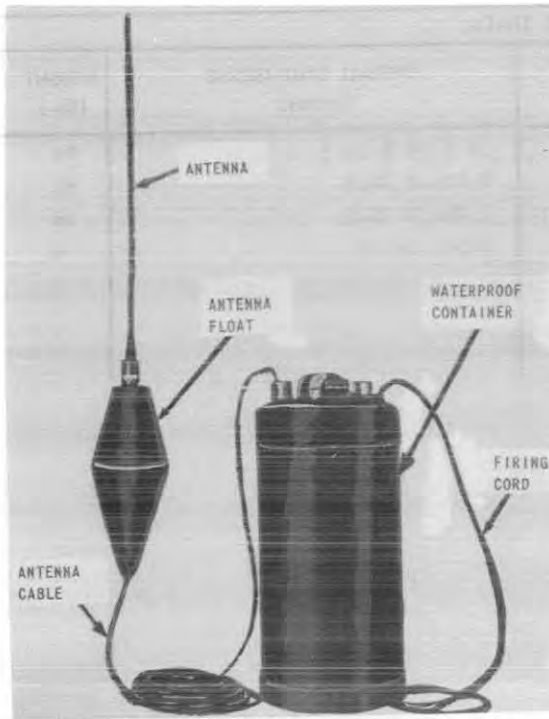
**REFERENCE DATA AND LITERATURE**

Nomenclature Card for Direction Finder Set AN/TRD-4 amended 21 Nov 1951.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Direction Finder Set AN/TRD-4		

**RADIO SET****AN/TRR-2****ELECTRICAL AND MECHANICAL CHARACTERISTICS***Radio Set AN/TRR-2*

TYPE OF RECEIVER: R.F. amplifier, super-regenerative detector, A.F. discriminator.  
 TYPE OF SIGNALS RECEIVED: Coded signal of a definite radio and audio frequency.  
 NUMBER OF CHANNELS: 25 channels.  
 CHANNEL SPACING: 0.5 mc apart.  
 ANTENNA TYPE: Vertical whip-type designed w/maximum flexibility.  
 FREQUENCY RANGE: 28 to 40 mc.  
 POWER INPUT (STAND-BY): 570 mw.  
 POWER SUPPLY: 8 batteries BA-2 (22.5 v each); 1 battery BA-34 (6 volts); 2 batteries BA-35 (15 volt each).

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Submarine Signal Co., Boston, Mass.

Contract Order 3102-PH-45-08.

Approximate Cost: \$1100.00 with equipment spares.

**FUNCTIONAL DESCRIPTION**

The AN/TRR-2 is designed as a waterproof radio receiver and decoding set to be installed in or near a mine. When the equipment is activated by the proper radio signals or series of signals emitted by Radio Set AN/TRT-1 (designed to be remotely installed) this item provides sufficient current to detonate the explosive. The equipment operates from self contained batteries (8 each Battery Type BA-2; 2 each Battery Type BA-35; 1 each Battery Type BA-34) which are included. The equipment is complete including antenna.

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

**RELATION TO OTHER EQUIPMENT**

The AN/TRR-2 is designed to be used with Radio Set AN/TRT-1.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(2) 1C21 (1) 957 (2) 1L4 (1) 959  
 Total Tubes: (6)  
 No Crystals Used.

**REFERENCE DATA AND LITERATURE**

TM11-269: Technical Manual for Radio Sets AN/TRT-1 and AN/TRR-2.

TYPE CLASSIFICATION  
 DESIGN COGNIZANCE TASSA  
 PROCUREMENT COGNIZANCE 471.2118  
 STOCK NO.  
 R.D.B. IDENT. NO.



April 1959

## AN/TRR-2

## RADIO SET

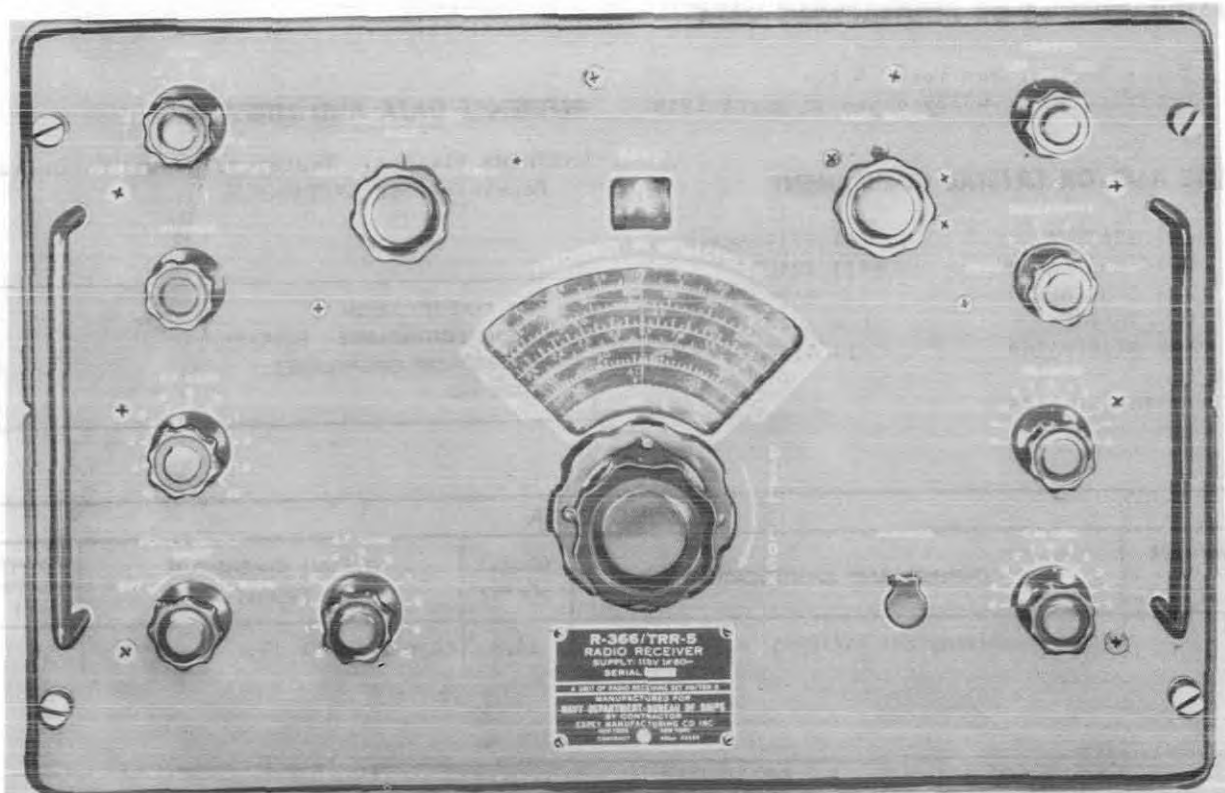
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter T-87/TRT-1	14 X 23 X 24.5	99
1	Radio Receiver AN/TRR-2	9 dia X 20.5	51
1	Transmitting Antenna AS-149/TRT-1	7 dia X 13.5	16
1	Control Box C-152/TRT-1	5.5 X 5.5 X 7	4
1	Dynamotor DM-35-D		
8	Battery Type BA-2		
2	Battery Type BA-35		
1	Battery Type BA-34		

April 1958

## RADIO RECEIVING SET

AN/TRR-5



Radio Receiving Set AN/TRR-5

**FUNCTIONAL DESCRIPTION**

The AN/TRR-5 is a general purpose receiving set designed for use as an entertainment unit or auxiliary communications receiver. It may be used at shore stations or on shipboard whenever a 60 cycle 115 volt AC current is available. It is a locally controlled, 16 tube superheterodyne with a frequency range of 540 to 30,000 kilocycles covered in five bands. It can be used on either CW, MCW or Voice signals. The receiver is capable of delivering 5 watts of audio power to the loudspeaker with less than 5 percent distortion. The equipment is ruggedly constructed for use under adverse conditions and is complete except for headphones and antenna.

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 0.54 to 30 mc.  
 QUANTITY OF BANDS: 5.

**BAND VS FREQUENCY RANGE DATA**

BAND A: 13 to 30 mc.  
 BAND B: 6 to 14 mc.  
 BAND C: 2.7 to 6.5 mc.  
 BAND D: 1.3 to 3 mc.  
 BAND E: 0.54 to 1.3 mc.

MAIN TUNING DIAL CALIBRATION ACCURACY:  $\pm 1\%$   
 IF: 455 kc.

IMAGE REJECTION: 5 to 80 db.

IF REJECTION: 65 db.

SIG TO NOISE RATIO

CW: 20 db.  
 MCW: 10 db.

SENSITIVITY

CW: 10 uv.  
 MCW: 15 uv.

SCANNING CHANNEL: 10 uv.

AUDIO OUTPUT: 6 mw into 600 ohms.

SCANNING CHANNEL OUTPUT: 100 uv into 70 ohms.

MODULATION FREQUENCY: 1000 cps.

BEAT NOTE FREQUENCY: 1000 cps.

MAX UNDISTORTED OUTPUT

LDSPKR: 5 W.  
 HEADPHONES: 6 mw.

POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 125 W.

UNCLASSIFIED

1.4 AN/TRR-5: 1

Radio-Receivers

## AN/TRR-5

## RADIO RECEIVING SET

April 1958

## MANUFACTURER'S OR CONTRACTOR'S DATA

No Crystals.

Espey Mfg Co, New York, N.Y.  
Contract NObsr-43229 dated 15 March 1949.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91454(A), Technical Manual for Radio  
Receiving Set AN/TRR-5.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AT7WA	(5) 5749/6BA6W
(2) 6005/6AQ5W	(1) 12AU7
(1) 5750/6BE6W	(1) 6626/OA2WA
(1) 5R4WGB	(1) 6C4WA
(2) 5726/6AL5W	(1) 6J6WA

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

Total Tubes: (16)

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/TRR-5	11.8	14 X 19-3/8 X 19-3/4	248

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Case CY-851/TRR-5 w/speaker Baffle	22-1/2 X 25 X 27-1/4	65.42
1	Radio Receiver R-366/TRR-5	14 X 19-3/8 X 19-3/8	83
1	Wire W-101	72 lg	0.734
1	Power Cable Assy W-102	120 lg	1.39
1	Ldspkr LS-171/U	4-11/16 X 10-3/16 dia	3.1
1	Adapter E-301	3/4 X 1-3/16 X 1-7/32	0.076
1	Connector J-301	13/16 dia X 2-15/16	0.207
	J-302	11-16 dia X 1-21/32	0.05
	J-303	1-1/8 dia X 1-7/16	0.056
1	Clamp H-301	15/16 dia X 1-5/64	0.029
1	Set of Repair Parts	3-1/2 X 6-3/4 X 15-1/4	2.2

27 August 1962

RADIO SET AN/TXR-1

Cog Service:

FSN:

Functional Class:

USA

USN

USAF

**TYPE CLASS:**

**MANUFACTURER'S NAME/CODE NUMBER:** Motorola Incorporated.

*(No Illustration Available)*

**FUNCTIONAL DESCRIPTION:**

The Radio Set AN/TXR-1 receives radar information from the data transmitter and relays it to the Plan Position Indicator (PPI). It provides two-way voice circuits.

No field changes in effect at time of preparation (17 April 1961).

**TECHNICAL CHARACTERISTICS:**

TYPE OF INSTALLATION: Transportable ground installation.

TYPE OF EMISSION: F9 type.

TYPE OF TUNING: Continuous tuning.

TYPE OF ANTENNA: Parabolic type.

NUMBER OF BANDS: 1 band.

OPERATING FREQUENCY RANGE: 4600 to 5000 mc.

POWER OUTPUT: 0.5 W.

OPERATING POWER RQMT: 115 v ac, 400 cps, single ph; 250 v dc, 180 v dc, M150 v dc, M800 v dc, M1200 v dc.

**RELATION TO OTHER EQUIPMENT:**

The AN/TXR-1 is designed as part of Radar Data Relay Set AN/TXQ-1.

The AN/TXR-1 is designed to be used with, but not part of, Radio Set AN/TXT-1.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Radio Set AN/TXR-1 consists of:			
1	Power Supply Group OA-1246/TXR-1		20-3/4 x 28-1/4 x 30-1/4	
1	Receiver-Transmitter Group OA-1247/TXR-1		20-3/4 x 28-1/4 x 30-1/4	
1	Mast AB-480/T		600 lg x 6 dia	
1	Antenna AS-831/TX			
1	Shelter, Electrical Equip- ment S-135/T		90 x 90 x 121-3/8	

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**AN/TXR-1 RADIO SET**

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**REFERENCE DATA AND LITERATURE:**

Nomenclature Card for Radio Set AN/TXR-1.  
NAVSHIPS 93400: Preliminary Data Form for Radio Set AN/TXR-1.

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

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

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**SHIPPING DATA**

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

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PROCURING SERVICE: DESIGN COG: USN, BuShips  
SPEC &/OR DWG: SHIPS-R-1496

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Motorola Incorporated	Chicago, Illinois	N0bsr-64571, 29 November 1954	

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October 1957

**RECEIVER GROUP****AN/UKA-3****FUNCTIONAL DESCRIPTION**

The AN/UKA-3 is a group of equipment used with telemetric receiving equipment to receive and demodulate a frequency modulated carrier frequency in the 2150 and 2350 megacycle band transmitted from an airborne or ground vehicle. This receiver group together with Transmitter Group AN/UKA-1 shall constitute a radio link which shall be compatible with and satisfactory substituted for existing radio links in the 215-235 megacycle band being used for telemetering purposes.

No field changes in effect at time of preparation (20 September 1957).

**RELATION TO OTHER EQUIPMENT**

Used with but not part of AN/UKR-2, AN/UKA-1 and other Telemetering Receiving Equipment.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 2150 to 2350 mc.

INPUT IMPEDANCE: 50 ohms.

POWER SOURCE REQUIRED: 115 v, 600 cps, 700 va.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Tubes and Crystals: Not Available.

**REFERENCE DATA AND LITERATURE**

Nomenclature Card for Receiver Group AN/UKA-3 dated 20 September 1956.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-791/UKA-3		
1	Power Supply PP-1649/UKA-3		
1	Set of Interconnecting plugs and adapters		

April 1959

Radio-Receivers

## TELEMETRIC DATA RECEIVING SET

AN/UKR-10

## FUNCTIONAL DESCRIPTION

The AN/UKR-10 is designed for the reception of frequency-modulated telemetering signals, analyzing and recording three data tracks and a fourth track for both timing signals and voice annotations. It is compatible with the AN/UKH-1(XN-1) Telemetric Data Recording Set which may be used for playback. The recording, when played back, permits the analysis and interpretation of the telemetric data.

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 215 to 235 mc.

INFORMATION CHANNELS: 10.

FREQUENCY DEVIATION

NOM: 125 kc.

MAX: 150 kc.

POWER REQUIREMENTS: 110 v, 60 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Tele-Dynamics, Inc., Philadelphia, Pa.

Contract NOrd-17730, dated 17 April 1957.

Approximate Cost: \$42060.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal data available.

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Telemetric Data Receiving Set AN/UKR-10.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUORD

PROCUREMENT COGNIZANCE MIL-R-19267(NORD)

STOCK NO.

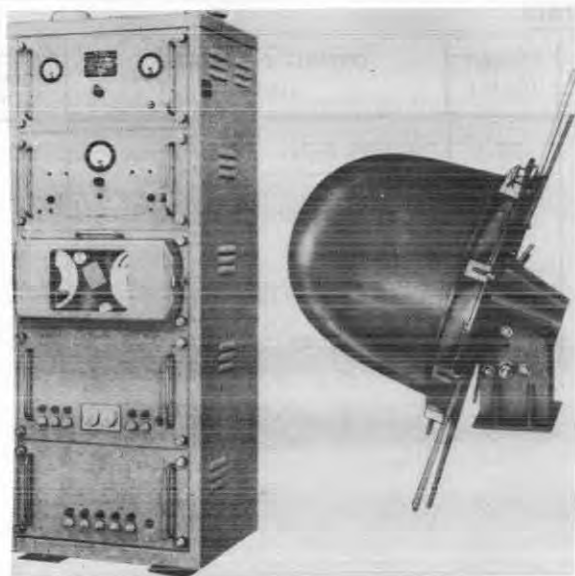
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-373/UKR-8		
3	Radio Receiver R-848/UKR-10		
3	Electronic Frequency Converter CV-635/UKR-10		
2	Electrical Equipment Rack MT-1956/UKR-10		
1	Electrical Equipment Rack MT-1957/UKR-10		
1	Electrical Synchronizer SN-200/UKR-10		
1	Power Transformer TF-259/U		
1	Control C-2309/UKR-10		
1	Filter Assembly F-382/U		
1	Voltage Regulator Assembly CN-467/UKR-10		
1	Power Supply PP-1864/UKR-10		

April 1959

## TELEMETRIC DATA RECEIVING SET

AN/UKR-8



Telemetric Data Receiving Set, AN/UKR-8

## FUNCTIONAL DESCRIPTION

The AN/UKR-8 is intended for use on surface vessels and is designed to receive a complex of frequency-modulated telemetric signals from an external source, and to record this information on magnetic tape in order that it may be used for analysis and study. The intelligence conveyed by the telemetric signal is contained in eight frequency-modulated sub-carrier signals. The frequency-modulated signal is demodulated in the receiver and the sub-carriers are recorded on one track of the magnetic tape. It generates a speed-control signal, certain event signals, and specific timing signals all of which are recorded on another track of the tape.

It does not have provisions for playback, erase, and rewind features. The magnetic tape with recorded data is compatible with the recorder unit of the AN/UKH-1(XN-2) Shorebased Telemetric Data Recording Set, which may be used for playback.

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT SIGNAL FREQUENCY: 215 to 230 mc  $\pm 0.025\%$   
of assigned frequency,

TYPE MODULATION: FM  $\pm 125$  kc deviation.  
TYPE RECEIVER: Double-conversion superheterodyne.  
CHANNELS: 6 pretuned channels.  
TUNING STABILITY:  $\pm 20$  kc.  
FREQUENCY RESPONSE  
RECEIVER OUTPUT: 300 cps to 80 kc  $\pm 3$  db.  
RECORDER: 400 cps to 30 kc  $\pm 3$  db.  
RECORDER DATA  
TYPE: 2 channel.  
TAPE SIZE: 0.5 in. wide.  
TAPE SPEED: 30 in. per sec.  
TAPE-DRIVE STABILIZING TIME: 10 sec.  
REEL SIZE: 7 in.  
SPEED CONTROL SIGNAL: 18.24 kc, 60 cps modulated  $\pm 200$  cps accuracy.  
TIMING SIGNALS: 1 and 10 per sec  $\pm 0.5\%$  max.  
POWER REQUIREMENTS: 115 v  $\pm 10\%$ , 60 cps  $\pm 5\%$ , single ph, 1 kw.  
ANTENNA DATA  
FREQUENCY BANDWIDTH: 400 kc.  
BEAM PATTERN: Unidirectional helical beam.  
POLARIZATION: Horizontal or vertical.  
BEAM WIDTH: 70 deg.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Aircraft Armaments, Inc., Baltimore, Md.

## TUBE AND/OR CRYSTAL COMPLEMENT

(2) 0A2WA	(2) 0B2WA
(13) 12AT7WA	(5) 5R4WGB
(1) 5651WA	(3) 5654/6AK5W
(1) 5687WA	(4) 5726/6AL5W
(1) 5749/6BA6W	(1) 5750/6BE6W
(2) 5814A	(4) 5933WA
(13) 6AU6WA	(4) 6C4WA
(1) 6J4WA	(1) 6J6WA
(1) 6X4WA	(1) 6005/6AQ5W
(1) 6080WA	

Total Tubes: (61)

(1) 1N457	(4) 1N69
(7) CR-23/U	(1) H-17C

Total Crystals: (13)

## REFERENCE DATA AND LITERATURE

NAVORD OD 9397: Technical Manual for Telemetric Data Receiving Set AN/UKR-8.

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



## AN/UKR-8

## TELEMETRIC DATA RECEIVING SET

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Cabinet CY-1767/UKR-8 including: Receiver R-654/UKR-8 Oscillator O-331/UKR-8 Recorder R0-21/UKR-8 Amplifier AM-2105/UKR-8 Power Supply PP-1289/UKR-8	37.0	30 X 30 X 72	600
1	Antenna AT-373(XN-2)/UKR including: Accessories	34.0	37 X 37 X 43	300

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Electrical Equipment Cabinet CY-1767/UKR-8	21.62 X 23.75 X 62.50	177.5
1	Radio Receiver R-654/UKR-8	10.50 X 19.62 X 21.38	36.5
1	RF Oscillator O-331/UKR-8	10.50 X 19.62 X 21.38	69.0
1	Frequency Time Recorder R0-21/UKR-8	10.50 X 19.62 X 21.38	43.0
1	Electronic Control Amplifier AM-2105/UKR-8	12.25 X 19.62 X 21.38	76.5
1	Power Supply PP-1289/UKR-8	10.50 X 13.00 X 19.62	58.0
1	Antenna AT-373(XN-2)/UKR	34.75 X 53.00 X 53.00	190.0
1	Impedance Matching Network CU-454/UKR-8	0.69 X 0.69 X 13.20	0.3

26 July 1962

Cog Service: USN FSN:

RADIO, RECEIVING SET AN/URN-17(XN-1)  
Functional Class:

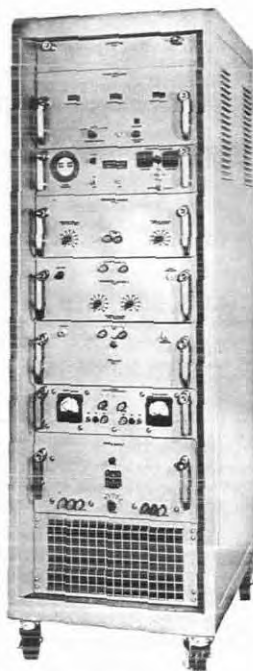
USA

USN

USAF

TYPE CLASS:           Used by                           Used by

MANUFACTURER'S NAME/CODE NUMBER: Motorola Inc., (94990).



*Radio, Receiving Set AN/URN-17(XN-1)*

#### FUNCTIONAL DESCRIPTION:

The Radio, Receiving Set AN/URN-17(XN-1) is designed to provide a means of comparing the phase of time-shared continuous wave (cw) signals from three (3) identical transmitting stations. The specific purpose of this equipment is to measure the change of the instantaneous phase difference between the three (3) received signals, to determine the propagational stability at the frequency of operation. The instantaneous phase difference obtained by comparing any two (2) of the three (3) transmitted signals is displayed on line of position (LOP) counters located on the phase indicator front panel.

In addition, provisions have been made so that a remote recorder can be connected to the monitoring equipment. By using appropriately calibrated graph paper in the recorder, the variation from the reference point on the LOP counters can be continuously tracked with respect to time.

No field changes in effect at time of preparation (7 February 1962).

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**AN/URN-17(XN-1) RADIO, RECEIVING SET**

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**TECHNICAL CHARACTERISTICS:**

TYPE OF INSTALLATION: Transportable.

TYPE OF EMISSION: P1 type.

TYPE OF RECEIVER: Superheterodyne.

**RECEIVER CHARACTERISTICS****LOCAL OSCILLATOR**

FREQUENCY RANGE: 17 to 27.9 kc.

NUMBER OF PRESET FREQUENCIES: 110 preset frequencies in 100 cps steps.

INTERMEDIATE FREQUENCY: 7 kc.

NUMBER OF CHANNELS: 100 channels.

OPERATING FREQUENCY RANGE: 10 to 20 kc.

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

**RELATION TO OTHER EQUIPMENT:** None.**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

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**MAJOR COMPONENTS**

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QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Unit #1 of AN/URN-17(XN-1)		3-1/2 x 5 x 7	Approx 2
1	Radio, Receiving Set Unit #2 of AN/URN-17(XN-1)		24 x 28 x 72	620
2	Technical Manual NAVSHIPS 93657		3/4 x 9-3/4 x 11-1/4	

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**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 93657: Technical Manual for Radio, Receiving Set AN/URN-17(XN-1).

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**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**TUBES: (4) 6AU6WA (12) 5750 (20) 5814A (59) 12AT7WA (5) 5751 (10) 6005 (1) 6AH6  
(2) 5651 (5) 6080WA (1) 0B2 (6) 6W6GT (2) 5U4.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

TRANSISTORS: (51) 2N43A (7) 2N338 (5) 2N333.

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**SHIPPING DATA**

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PKGS	VOLUME (Cu FT)	WEIGHT (LBS)
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1.4 AN/URN-17(XN-1): 2

## PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Motorola Inc. Pt no. 01-20413A	Phoenix, Arizona	N0bsr-77534, 16 February 1959	

**RADIO RECEIVING SET****AN/URN-17 (XN-2)****FUNCTIONAL DESCRIPTION**

The AN/URN-17(XN-2) (Dual Line of Position) is a general purpose Omega monitoring equipment. It is designed as a monitor receiver for use in Omega LF navigation system. The purpose of the equipment is to measure the change of the instantaneous phase difference between time-shared continuous wave (CW) signals from two identical transmitting stations. Provision is made for tracking the absolute phase of one station against the reference oscillator in the Omega monitoring equipment. Provision is also made for connecting a remote recorder to the monitoring equipment.

No field changes in effect at time of preparation (7 December 1960).

**RELATION TO OTHER EQUIPMENT**

The AN/URN-17(XN-2) is similar to the AN/URN-17(XN-1) except that the AN/URN-17(XN-2) is for Dual Line of Position and the AN/URN-17(XN-1) is for Single Line of Position. The IF also differ, the (XN-2) is 7.5 kc and the (XN-1) is 7 kc.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Remote Recorder type RO-91/SSN and NAVSHIPS 93264 Technical Manual; (1) Whip Antenna (Less than 50 ft lg).

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF RECEPTION: A1 type.

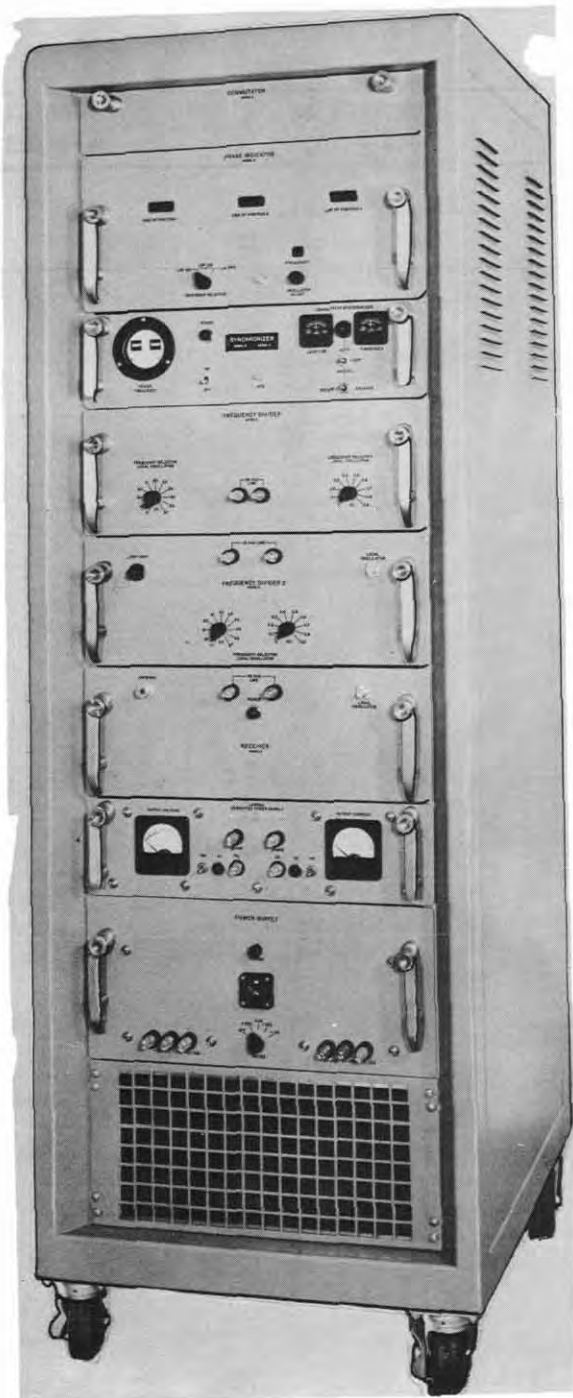
TYPE OF RECEIVER: Superheterodyne.

TYPE OF FREQUENCY CONTROL: Automatic Thermo-Oven.

LOCAL OSCILLATOR FREQUENCIES

RANGE: 17.0 to 27.9 kc.

NUMBER OF PRESET FREQUENCIES: 110 preset frequencies in 100 cps steps.



*Radio Receiving Set AN/URN-17(XN-2)*

Radio-Receivers

**AN/URN-17 (XN-2)**

**RADIO RECEIVING SET**

INTERMEDIATE FREQUENCY: 7.5 kc.  
 NUMBER OF CHANNELS: 100 channels.  
 FREQUENCY RANGE: 10 to 20 kc (in 100 cps steps).  
 OPERATING POWER RQMT: 115/230 v ac, 50 to 60 cps, single ph; or 230 v ac, 50 to 60 cps, single ph.

**TRANSISTORS**

(51) 2N43A (7) 2N338  
 (5) 2N333

Total Transistors: (63)

No Crystals used.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Motorola, Inc. (WMEC), Phoenix, Arizona.  
 Part No. 01-20413A.  
 Contract NObsr-77534, dated 16 February 1959.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93611: Technical Manual for Radio Receiving Set AN/URN-17(XN-1).  
 NAVSHIPS 93400: Preliminary Data Form for Radio Receiving Set AN/URN-17(XN-2).

**TUBE AND/OR CRYSTAL COMPLEMENT**

(4) 6AU6WA	(12) 5750
(17) 5814A	(57) 12AT7WA
(9) 5751	(8) 6005
(1) 6AH6	(3) 5651
(25) 5881	(2) OB2
(6) 6W6-6T	(2) 5U4-6B
(2) 5727	

Total Tubes: (148)

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

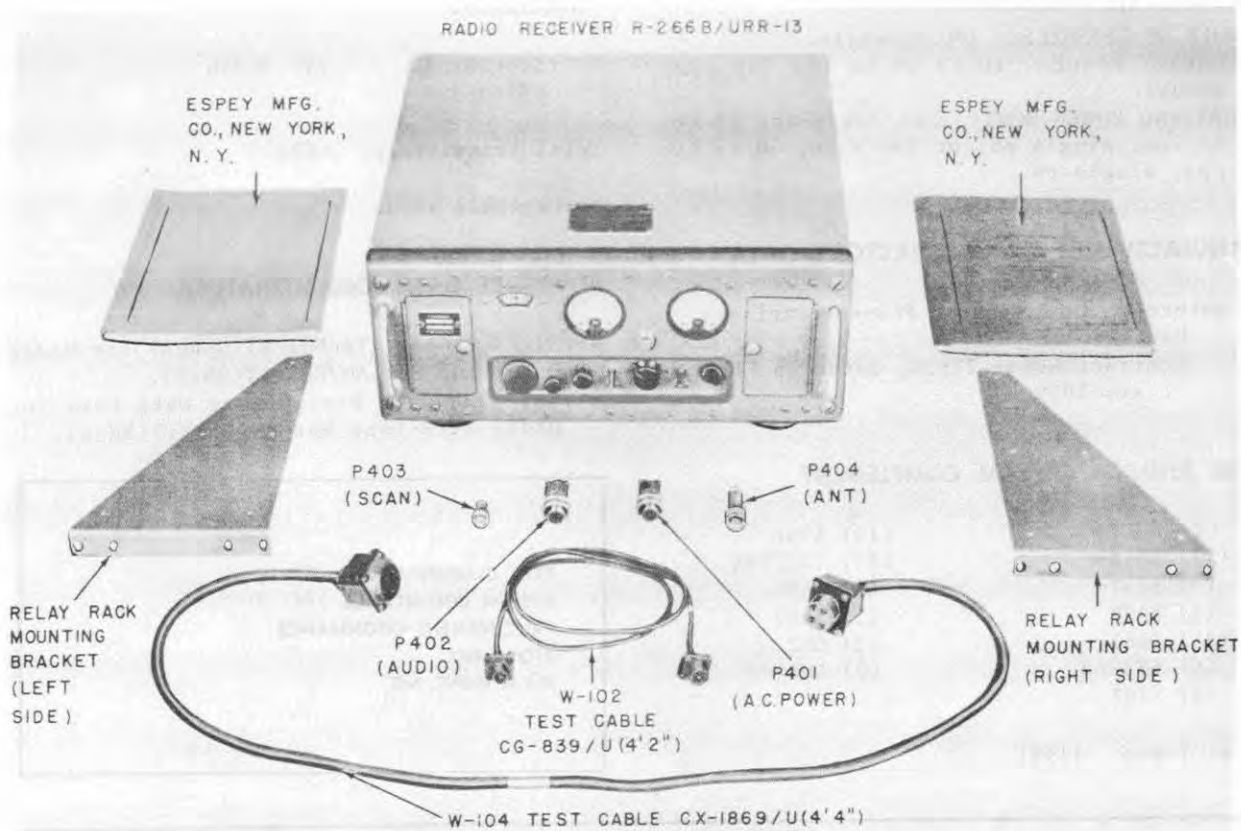
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URN-17(XN-2) consists of:	24 x 28 x 66	620
1	Antenna Coupler	3-1/2 x 5 x 7	2
1	Automatic Line Voltage Regulator (50 cps) 1570-ALQ-6	7 x 13 x 19	56-1/2
1	Cabinet Relay Rack	24 x 28 x 72	

# RADIO RECEIVING SET

## AN/URR-13, -13A, 13B

RADIO RECEIVER R-266B/URR-13



Radio Receiving Set AN/URR-13B

### FUNCTIONAL DESCRIPTION

The AN/URR-13, AN/URR-13A, and AN/URR-13B are designed to provide means for reception of amplitude modulated voice and modulated continuous wave transmission in the 225 to 400 megacycle frequency range. They are superheterodyne type receiving equipments, designed primarily for operation as pretuned, single-channel, crystal-controlled receivers, with provisions for continuously variable manual tuning. They also contain provisions for connecting a panoramic type radio receiver, to provide a visual picture of the received signal.

They may be used on Naval vessels, at Naval air and shore radio stations, or at other units of the military establishment. They are housed in a cabinet, but may be mounted in a standard 19-inch relay rack.

They are mechanically and electrically interchangeable, but have minor differences in components.

Data on this sheet reflects the following field changes: FC-1 for AN/URR-13, -13A, FC-2, -3, -4 for AN/URR-13, -13A, -13B.

### RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Antenna, (1) Antenna Transmission Line as Required, (1) Set of Crystals CR-24/U, (1) Headphones NT-49016, (1) Loudspeaker, Power Cable MCOS-2 as Required, Audio Output Cable TTHFWA-1 as Required, Scan Channel Output Cable RG-8/U as Required.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.

RECEPTION: A2, A3.

TYPE RECEIVER: Superheterodyne.

FREQUENCY CONTROL: Crystal-controlled oscillator.

IF: 18.6 mc (center frequency)  $\pm 2$  kc.

OUTPUT

AUDIO: 60 mw max into 600 ohm load with 7% max distortion, or 600 mw max into 60 ohm load with 7% max distortion.

PHONE JACK: Approx 60 mw max into 600 ohm load.

SCANNING: 10 uv min across 50 ohm load

Radio-Receivers

**AN/URR-13,  
-13A, 13B**

**RADIO RECEIVING SET**

for a signal input of 25 uv.

**SILENCER CIRCUIT DATA**

**EFFECTIVE SILENCING RANGE:** Up to min of 15000 uv input at 100% rotation of control.

**AUDIO OUTPUT REDUCTION:** Up to 40 db.

**TIME CONSTANT:** Less than 0.5 sec.

**IMPEDANCE**

**ANTENNA INPUT:** 51 ohms.

**AUDIO CHANNEL OUTPUT**

**NOMINAL:** 600 ohms.

**OUTPUT LOAD RANGE:** 600 to 60 ohms when output voltage variation is less than 3 db for constant input adequate to produce output to 1.9 v (6 mw) at 1000 cps across a 600 ohm output load.

**PHONE JACK:** 600 ohms nom.

**SCAN CHANNEL:** 51 ohms.

**POWER REQUIREMENTS:** 110 to 120 v, 60 cps, single ph, 1.04 amps max, 120 W max.

Contract NObsr-49274, dated 18 June 1950 (AN/URR-13B).

Approximate Cost: \$1000.00 with equipment spares (AN/URR-13).

Approximate Cost: \$1200.00 with equipment spares (AN/URR-13A).

Approximate Cost: \$765.00 with equipment spares (AN/URR-13B).

**TUBE AND/OR CRYSTAL COMPLEMENT**

AN/URR-13, -13A, -13B

(1) OA2WA	(1) OB2WA
(1) 5U4G	(5) 5654/6AK5W
(1) 5670	(2) 5726/6AL5W
(1) 5749/6BA6W	(1) 6AK6
(2) 6J6WA	(8) 9003

Total Tubes: (23)

(1) CR-24/U

Total Crystals: (1)

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Federal Telephone and Radio Corp, Clifton, N.J.

Contract NObsr-43176, dated 6 January 1949 (AN/URR-13).

Contract NObsr-52051, dated 24 October 1950 (AN/URR-13A).

Contract NObsr-52304, dated 12 March 1951 (AN/URR-13A).

Contract NObsr-57235, dated 12 March 1951 (AN/URR-13A).

Espey Manufacturing Co, Inc, New York, NY.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91270: Technical Manual for Radio Receiving Set AN/URR-13.

NAVSHIPS 91535: Technical Manual for Radio Receiving Set AN/URR-13A.

NAVSHIPS 91829: Technical Manual for Radio Receiving Set AN/URR-13B.

<b>TYPE CLASSIFICATION</b>	
<b>DESIGN COGNIZANCE</b>	BUSHIPS
<b>PROCUREMENT COGNIZANCE</b>	MIL-R-15131A(SHIPS)
<b>STOCK NO.</b>	SHIPS-R-31416R53(SHIPS)

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-13 or AN/URR-13A or AN/URR-13B	7.4	15-1/2 X 23-1/4 X 35-1/2	166.25



**RADIO RECEIVING SET**

**AN/URR-13,  
-13A, 13B**

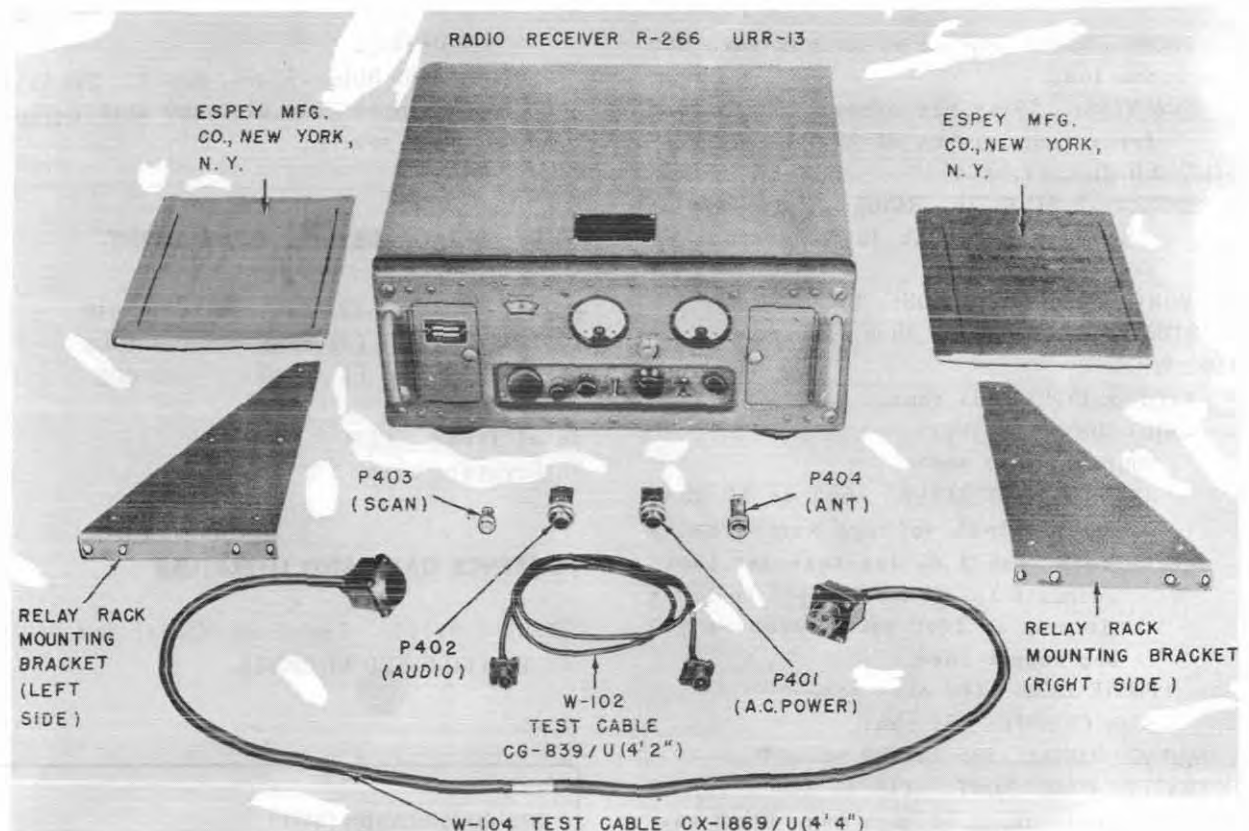
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/URR-13	13A	13B			
1			Radio Receiver R-266/URR-13	8-7/16 X 17-1/2 X 19-1/8	57
	1		Radio Receiver R-266A/URR-13	8-7/16 X 17-1/2 X 19-1/8	57
		1	Radio Receiver R-266B/URR-13	8-7/16 X 17-1/2 X 19-1/8	57
4	4	4	Connector, Plug		0.25
1	1	1	Pair of Relay Rack Mounting Brackets	1-1/8 X 7 X 12	1.3
1	1	1	Set of Equipment Spares	6-1/8 X 10 X 19	23
	1	1	Antenna Test Cable CG-839/U	1 X 1 X 50	0.25
	1	1	Power and Audio Test Cable CX-1869/U	1-1/2 X 1-3/4 X 52	0.8
2			Technical Manual NAVSHIPS 91270	3/4 X 8-1/2 X 11	3
	2		Technical Manual NAVSHIPS 91535	3/4 X 8-1/2 X 11	3
		2	Technical Manual NAVSHIPS 91829	3/4 X 8-1/2 X 11	3

June 1961

AN/URR-13C

## RADIO RECEIVING SET



Radio Receiving Set AN/URR-13C

**FUNCTIONAL DESCRIPTION**

The AN/URR-13C is designed to provide means for reception of amplitude modulated voice and modulated continuous wave transmission in the 225 to 400 megacycle frequency range. It is a superhetrodyne type receiving equipment designed primarily for operation as pretuned, single-channel, crystal-controlled receiver, with provisions for continuously variable manual tuning. It also contains provisions for connecting a panoramic type radio receiver, to provide a visual picture of the received signal.

The AN/URR-13C may be used on Naval vessels, at Naval air stations and shore radio stations, or at units of the military establishment. It is housed in a cabinet, but may be mounted in a standard 19 inch relay rack.

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

**RELATION TO OTHER EQUIPMENT**

The AN/URR-13C is electrically and mech-

anically interchangeable with the AN/URR-13, 13A, 13B, but have minor differences in components.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Antenna, (1) Antenna Transmission Line as required, (1) Set of Crystals CR-24/U, (1) Headphone NT-49016, (1) Loudspeaker, Power Cable MCOS-2 as required, Audio Output Cable TDMFWA-1 as required, Scan Channel Output Cable RG-8/U as required.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

RECEPTION: A2, A3.

TYPE RECEIVER: Superheterodyne.

TYPE FREQUENCY CONTROL: Crystal-controlled oscillator.

IF: 18.6 mc (center frequency) form 2 kc. OUTPUT

AUDIO: 60 mw max into 600 ohm load with 7% max distortion or 600 mw max into 60 ohm load with 7% max distortion.

June 1961

Radio-Receivers

**AN/URR-13C****RADIO RECEIVING SET**

PHONE JACK: Approx 60 mw max into 600 ohm load.

SCANNING: 10 uv min across 50 ohm load for a signal input of 25 uv.

**SILENCER CIRCUIT DATA**

EFFECTIVE SILENCING RANGE: Up to min of 15000 uv input at 100% rotation of control.

AUDIO OUTPUT REDUCTION: Up to 40 db.

TIME CONSTANT: Less than 0.5 sec.

**IMPEDANCE**

ANTENNA INPUT: 51 ohms.

AUDIO CHANNEL OUTPUT

NOMINAL: 600 ohms.

OUTPUT LOAD RANGE: 600 to 60 ohms when output voltage variation is less than 3 db for constant input adequate to produce output to 1.9 v (6 mw) at 1000 cps, across a 600 ohm output load.

PHONE JACK: 600 ohms nom.

SCAN CHANNEL: 51 ohms.

FREQUENCY RANGE: 225 to 400 mc.

OPERATING POWER RQMT: 110 to 120 v ac, 60 cps, single ph, 1.04 amps max, 120 W max.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Federal Telephone and Radio Corp., Clifton,

New Jersey.

Contract NObsr-52398, dated 21 May 1951.

Approximate cost \$1500.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(8) 8003 (2) 6J6 (1) 5670

(5) 6AK5 (1) 6BA6 (2) 6AL5

(1) 6AK6 (1) 5U4G (1) OB2

(1) OA2

Total Tubes: (23)

No Crystals used.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91270: Technical Manual for RADIO RECEIVING SET AN/URR-13.

<b>TYPE CLASSIFICATION</b> (NAVY)	
<b>DESIGN COGNIZANCE</b> NAVY BUSHIPS	
<b>PROCUREMENT COGNIZANCE</b> MIL-R-15131A	
<b>STOCK NO.</b> (SHIPS) 16R53 (RE)	
<b>R.D.B. IDENT. NO.</b> MIL-R-1513B (SHIPS)	

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-13C	7.4	15-1/2 x 23-1/4 x 35-1/2	167

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-13C	8-7/16 x 17-1/2 x 19-1/8	57

April 1959

Radio-Receivers

**RADIO RECEIVING SET****AN/URR-2****FUNCTIONAL DESCRIPTION**

28 v DC.

The AN/URR-2 is designed as a superheterodyne communication receiving equipment for reception of A1, A2, A3, A4 and FSK types of reception. It includes facilities for connections to FSK adapters, also has breaking facilities for transmitter monitoring. Its generally designed for small craft use.

No field changes in effect at time of preparation (3 June 1959).

**RELATION TO OTHER EQUIPMENT**

The AN/URR-2 is designed as part of AN/GRC-14.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF RECEIVER: Superheterodyne.  
 NUMBER OF BANDS: 14 Bands.  
 NUMBER OF CHANNELS: 4 channels.  
 TYPE OF RECEPTION: A1, A2, A3, A4 and FSK.  
 FREQUENCY RANGE: 14 kc to 32 mc.  
 OPERATING POWER RQMT: 115 v, 50 to 60 cps single ph; 115 v, 400 cps, single ph or

**MANUFACTURER'S OR CONTRACTOR'S DATA**

RCA Victor Division of Radio Corp. of America, Camden, New Jersey.  
 Contract NObsr-39419.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Electron Tube and Crystal Data not Available.

**REFERENCE DATA AND LITERATURE**

Nomenclature Card AN/URR-2 for Radio Receiving Set.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE CS-727 (NAVY) STOCK NO. R.D.B. IDENT. NO.
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**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-2	9-1/4 X 16-1/4 X 21-1/4	

October 1957

Radio-Receivers

## RADIO RECEIVING SET

AN/URR-21

## FUNCTIONAL DESCRIPTION

The AN/URR-21 is designed for the reception of amplitude modulated radio frequency signals in the communications range of from 115 to 156 megacycles over a single frequency band of 4 crystal controlled channels. The receiver incorporates a superheterodyne circuit, employs crystal controlled oscillators and a detent tuning mechanism for setting up crystal controlled spot frequency.

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

## RELATION TO OTHER EQUIPMENT

Similar to Navy Model RCK except uses miniature tubes.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 115 to 156 mc.  
 RECEPTION: AM.  
 NUMBER OF BANDS: 1.  
 NUMBER OF CHANNEL: 4.  
 FREQUENCY CONTROL: Crystal.  
 TYPE OF RECEIVER: Superheterodyne.  
 POWER SOURCE REQUIRED: 105, 115, 125 v, 50 to 60 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

White Tuning Corp, New York, N.Y.  
 Contract NObsr-43289.  
 Approximate Cost: \$1070.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 0D3W	(1) 6J5	(1) 956
(1) 5U4G	(2) 6H6	(3) 6AK5W
(8) 6AB7	(1) 6V6GT	
Total Tubes: (18)		

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Receiving Set AN/URR-21 dated 11 August 1949.  
 Electronics Supply Office Tube Complement Summary dated 15 May 1956.  
 NAVSHIPS 92563: Index to Bureau of Ships Controlled Electronics Equipment (F Cognizance) dated July 1955.

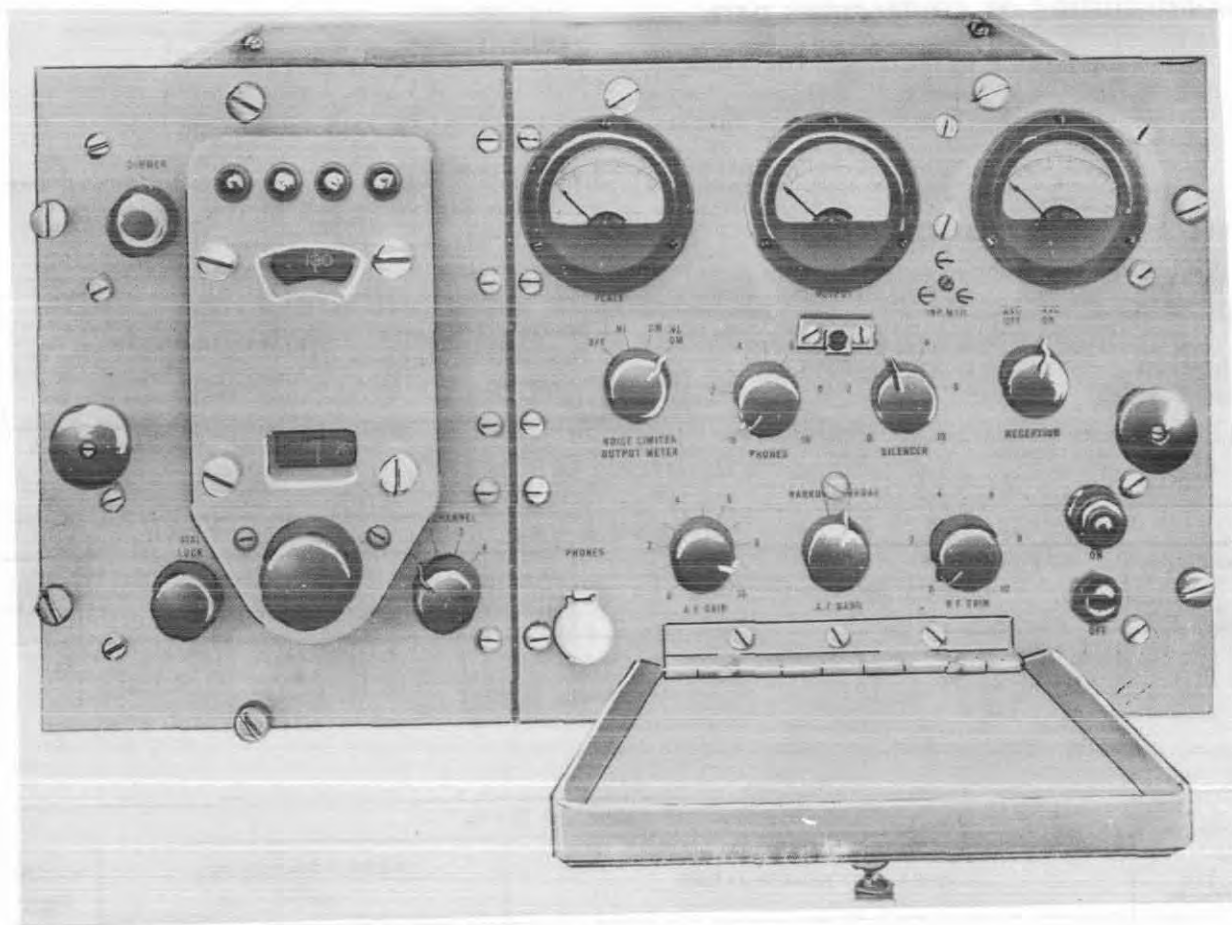
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	CS-1111 (Navy) dated
STOCK NO.	1 Oct 1948

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-21	11 x 18-1/2 x 23	

April 1958

## RADIO RECEIVING SET

Radio-Receivers  
AN/URR-21A

Radio Receiving Set AN/URR-21A

## FUNCTIONAL DESCRIPTION

The AN/URR-21A is a VHF receiver used in conjunction with Model TDQ Radio Transmitting Equipment on aircraft carriers and at shore stations for A3 (amplitude-modulated telephone) communication with aircraft.

It features a high degree of stability, freedom from cross modulation and radiation, and four quickly selectable preset crystal channels. In addition it employs a squelch circuit which operates when the input signal level drops below a predetermined value.

No field changes in effect at time of preparation (9 October 1957).

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (4) Crystal Units FT-243, (1) Loudspeaker or phones, (1) antenna.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE: Superheterodyne.

FREQUENCY RANGE: 115 to 156 mc.

NUMBER OF PRESET CHANNELS: 4.

FREQUENCY CONTROL: Crystal.

NUMBER OF TUNING BANDS: Single.

INTERMEDIATE FREQUENCY: 12 mc.

POWER OUTPUT: 65 mw into a 600 ohm load.

RECEPTION: A3 (telephone, double side-band, full carrier).

INPUT IMPEDANCE: 50 ohms.

FEATURES: Noise limiter, squelch circuits, automatic gain control (AGC), 10 W oscillator radiations.

POWER SOURCE REQUIRED: 110, 115 or 120 v, 50 to 65 cps, single ph.

MOUNTING DATA: Shock mounted for table or bench.

## AN/URR-21A

## RADIO RECEIVING SET

April 1958

## MANUFACTURER'S OR CONTRACTOR'S DATA

Air Associates Inc, Electronic Div, Orange,  
N.J.

Contract NObsr-52171, dated 5 January  
1951.

(4) FT-243

Total Crystals: (4)

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91642(A): Technical Manual for  
Radio Receiving Set AN/URR-21A.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3W (2) 6H6  
(1) 5U4G (1) 6J5  
(3) 5654/6AK5W (1) 6V6GTY  
(8) 6AB7 (1) 956  
Total Tubes: (18)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

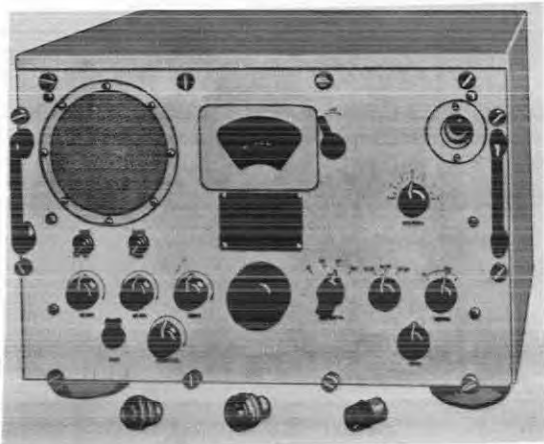
## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver R-432A/URR-21	8.3	20 x 25 x 27	140
1	Set of Repair Parts	1.42	12 x 12 x 17	47

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-432A/URR-21	11-21/64 x 17-1/2 x 18-1/8	117
1	Set of Equipment Spares		18-1/2

April 1958

**RADIO RECEIVING SET****AN/URR-22**

Radio Receiving Set AN/URR-22

**FUNCTIONAL DESCRIPTION**

The AN/URR-22 is a superheterodyne type radio receiving set designed for use aboard all types of U.S. surface vessels and at shore radio stations. It is capable of receiving voice or tone modulated signals or CW telegraphy signals throughout its frequency range.

It has been designed primarily for reception of voice signals on the standard broadcast and international short wave broadcast bands but will also function as an excellent emergency communication receiver within its specific frequency range.

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

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) Antenna, (as required) Antenna transmission line, (as required) Power Cable MCOS-2, (as required) Audio Output Cable, (1) Headphone w/cord and plug.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS****FREQUENCY RANGE**

BAND 1: 0.54 to 1.6 mc.  
 BAND 2: 1.6 to 3.45 mc.  
 BAND 3: 3.45 to 8.6 mc.  
 BAND 4: 8.6 to 18.6 mc.

TYPE FREQUENCY CONTROL: Manual tuned, self-excited oscillator.

TYPE RECEIVER: Superheterodyne (AM).

INTERMEDIATE FREQUENCY: 455 kc  $\pm$ 10%.

**AUDIO OUTPUT**

MONITOR SPEAKER: 100 mw min.

600-OHM LINE: 200 mw min.

60-OHM LINE: 2.5 W min.

HEADPHONE: 100 mw min.

TYPE RECEPTION: A1, A2, A3.

**IMPEDANCE**

ANTENNA INPUT: 70 ohms, unbalanced.

**AUDIO OUTPUT**

LINE OUTPUT: 600 to 60 ohms.

PHONES JACK: 600 ohms.

EXTERNAL AUDIO INPUT: High impedance.

RECOMMENDED ANTENNA: Open-wire type, 50 ft lg, 70 ohms impedance.

POWER SOURCE REQUIRED: 105/115/125 v, 50 to 60 cps, single ph, 0.73 amp, 80 W.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Co Inc, Malden, Mass.

Contract: NObsr-43440, dated 23 June 1949.

Contract: NObsr-52329, dated 16 March 1951.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OB2	(2) 5686
(1) 5Y3W-GTA	(1) 5726
(1) 6BA7	(3) 5749
(1) 6E5	(1) 5814
(1) 5670	(3) 6135

Total Tubes: (15)

No Crystals.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 92161(A): Technical Manual for Radio Receiving Set AN/URR-22.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-15657 (SHIPS)
STOCK NO.



Radio-Receivers

AN/URR-22

## RADIO RECEIVING SET

April 1958

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver R-302/URR-22 Technical Manuals NAVSHIPS 92161 Connector Plugs Equipment Repair Parts	6.7	17-1/2 x 22 x 30	90

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-302/URR-22	12-3/8 x 17-3/8 x 18	70
2	Technical Manual NAVSHIPS 92161	1/2 x 8-7/8 x 11-1/2	1
1	Set Connector Plugs		
1	Set Equipment Repair Parts	6 x 15-1/4 x 19-1/2	11

April 1958

**RADIO RECEIVING SET****AN/URR-23, -23A**

Radio Receiving Set AN/URR-23, 23A

**FUNCTIONAL DESCRIPTION**

The AN/URR-23 and 23A are designed for long-range, ship or shore communications applications which require the highest order of stability and dial accuracy. They are suitable for use when it is desired to receive or set at a definite frequency within their range without search or frequent adjustment, as well as for normal AM and A1 reception. They tune with a normal setting error and drift of less than 1 Kilocycle at any frequency within the range. The fundamental or harmonic output of the frequency oscillator is crystal controlled.

The AN/URR-23A is the same as the AN/URR-23 except for the employment of an antenna trimmer control and chassis handles.

No field changes in effect at time of preparation (9 October 1957).

**RELATION TO OTHER EQUIPMENT**

The AN/URR-23 and AN/URR-23A are identical to Collins Model 51J-2 and 51J-3 respectively.

Equipment Required but not Supplied: (1) Single ended or whip antenna.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 0.5 to 30.5 mc in 30 bands  
1.0 mc wide.

RECEPTION: A1, A2 and A3.  
FREQUENCY STABILITY: Dial calibration within 300 cps if nearest 100 kc calibration point is used to adjust the fiducial point.  
POWER OUTPUT: 1.5 W at 1000 cps, less than 15% distortion.

**SENSITIVITY**

BAND 1: Less than 15 uv gives 1 with a 10 db signal to noise ratio.

BAND 2 to 30: Less than 5 uv gives 1 W with a 10 db signal to-noise-ratio.

**SELECTIVITY**

CRYSTAL FILTER IN: Total bandwidth is 0.2 kc at 6 db down and 12 kc at 60 db down.

CRYSTAL FILTER OUT: Total bandwidth is 5.5 to 6.5 kc at 6 db down and 17 to 20 kc at 60 db down.

AUTOMATIC VOLUME CONTROL: Less than 3.5 db increase in audio power output with an increase in r-f signal from 5 to 125,000 uv.

S-METER: Meter calibrated in 20, 40, 60, 80 and 100 db above AVC threshold and -10 to +6 db audio level with 6MW as reference.

NOISE LIMITER: Series type.

OUTPUT IMPEDANCE: 4.0 and 600 ohms.

POWER SOURCE REQUIRED: 115 or 230 v, 45 to 70 cps, single ph, 85 W.

ANTENNA: Single ended or whip type.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Collins Radio Co., Cedar Rapids, Iowa.

Contract NObsr-49134 dated 15 May 1950.

Contract NObsr-52527 dated 22 June 1951.

**TUBE AND/OR CRYSTAL COMPLEMENT****AN/URR-23**

(3) 12AX7 (6) 5749/6BA6W

(1) 5V4G (3) 5750/6BE6W

(1) 5654/6AK5W (1) 6005/6AQ5W

Total Tubes: (15)

**AN/URR-23A**

(1) 12AU7 (7) 5749/6BA6W

(2) 12AX7 (3) 5750/6BE6W

(1) 5V4G (1) 6005/6AQ5W

(2) 5654/6AK5W (1) 6626/OA2WA

Total Tubes: (18)

(10) CR-18/U

(1) J. Knights type H-9

(1) J. Knights type 1F-17W

Total Crystals: (12)

Radio-Receivers

AN/URR-23, -23A

## RADIO RECEIVING SET

April 1958

## REFERENCE DATA AND LITERATURE

NAVSHIPS, 91678: Technical Manual for Radio Receiving Set AN/URR-23A.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.
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## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-23 or AN/URR-23A c/o (1) Radio Receiver R-388/URR*** or R-381A/URR-23** (1) Cabinet CY-1235/URR*** (1) Speaker LS-175/U** or LS-199/U*** (2) Technical Manuals NAVSHIPS 91678	15.7	25 X 31 X 35	208

NOTE: \*\* AN/URR-23 only  
 \*\*\* AN/URR-23A only

## EQUIPMENT SUPPLIED DATA \*

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-388/URR*** or R-381A/URR-23**	10-1/2 X 13 X 19	35
1	Cabinet CY-1235/URR***	12-3/8 X 13-1/8 X 21-1/8	20
1	Speaker LS-175/U** or LS-199/U***	8-7/8 X 10-9/16 X 15	12.5
2	Technical Manuals NAVSHIPS 91678	1/2 X 8-1/2 X 11	

NOTE: \* AN/URR-23 supplied without spares. AN/URR-23A supplied with spares  
 \*\* AN/URR-23 only  
 \*\*\* AN/URR-23A only

April 1958

## RADIO RECEIVING SET

Radio-Receivers  
AN/URR-26(XN-1)

## FUNCTIONAL DESCRIPTION

The AN/URR-26(XN-1) Radio Receiving Set is designed to provide means for the reception of CW, MCW, amplitude modulated voice and frequency modulated voice transmissions over a frequency range of 27 to 225 mc. This receiver is a HF/VHF double superheterodyne type. The use of a suitable crystal will permit operation as a pretuned, single channel, crystal-controlled receiver at any frequency within the above range. It may also be manually tuned through six frequency bands.

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 27.0 to 225 mc.  
 RECEPTION: A1, A2, A3 and F3.  
 POWER OUTPUT: 6 mw.  
 INPUT IMPEDANCE: 50 ohms.  
 POWER SOURCE REQUIRED: 105/115/125 v, 50 to 60 cps, 1 ph, 138 W.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Designers for Industry, Inc; Cleveland, Ohio.  
 Contract NObsr-52492 dated 6 June 1951.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tubes and Crystal data not available.

## REFERENCE DATA AND LITERATURE

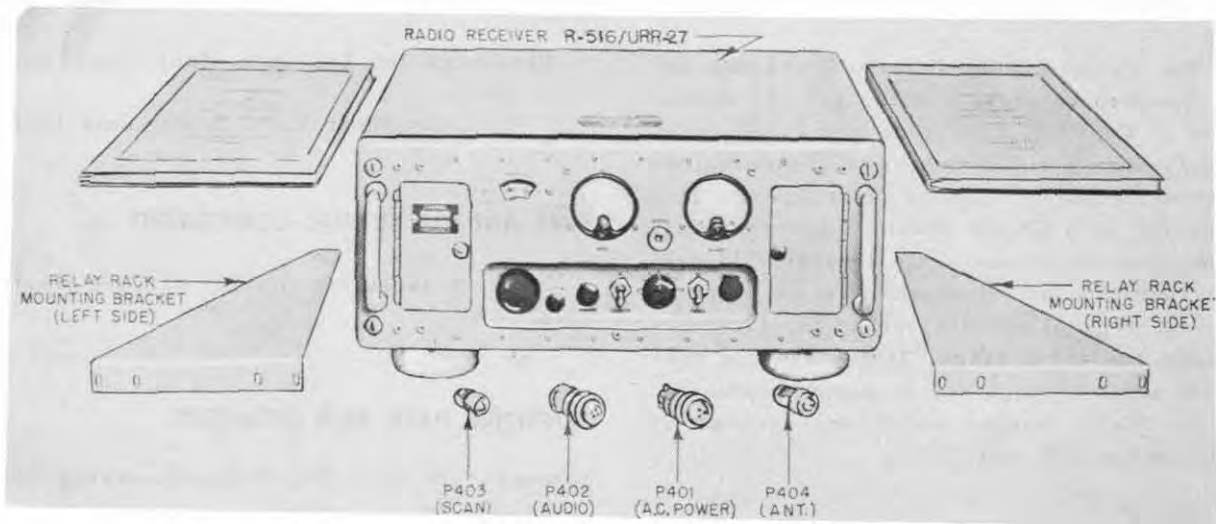
Nomenclature Card for Radio Receiving Set AN/URR-26( ).

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

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set, AN/URR-26(XN-1)	8 X 15 X 17-1/2	50

April 1958

**RADIO RECEIVING SET****AN/URR-27***Radio Receiving Set AN/URR-27***FUNCTIONAL DESCRIPTION**

The AN/URR-27 is a superheterodyne receiving equipment for reception of AM and MCW signals on vessels, at shore radio stations, or at other units of the military establishment. It is designed primarily for operation as a pretuned, single channel, crystal controlled receiver, and by employing a suitable crystal, any channel within the frequency range of 105 to 190 megacycles may be selected. Provisions are also made for continuously variable tuning. A single tuning control is employed for tuning to any frequency for either crystal-controlled or manual tuning operation.

Provisions are made for connecting a panoramic adapter to provide a visual picture of the received signal. The scanning channel has a bandwidth of 600 kc, flat to within 6 decibels.

Data on this sheet reflects the following field changes, #1,2,3 and 4; 18 December 1957.

**RELATION TO OTHER EQUIPMENT**

Similar to Radio Receiving Set AN/URR-13 in electrical design and mechanical construction, the major difference being the frequency coverage. The AN/URR-13 covers the range of 225 to 400 megacycles.

Equipment Required but not Supplied: (1) Quarterwave, 50 ohm ant, (1) ant transmission line, Crystal units type CR-24/U, power cable, audio output cable, headphones, loud-speaker, and scan channel output cable if panoramic tuning indicator is used.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQ RANGE: 105 to 190 mc.

TUNING BANDS: Complete coverage of range w/19 consecutive turns of the tuning control crank.

PRESET FREQ

MO: None.

XTAL: 1, determined by xtal unit installed.

FREQ CONTROL: Xtal.

RECVR TYPE: Superheterodyne.

IF: 18.6 mc  $\pm$  2 kc.

OUTPUT

AUDIO CHANNEL: 60 mw max into 600 ohm load or 600 mw into 60 ohm load (w/7% distortion).

PHONE JACK: 60 mw max into 600 ohm load.

SCANNING CHANNEL: 10 uv min across 50 ohm load for sig input voltage of 10 uv max.

RECEPTION: AM, MCW.

INPUT IMPEDANCE: 51 ohms.

Radio-Receivers

**AN/URR-27****RADIO RECEIVING SET**

April 1958

POWER SOURCE REQUIRED: 110, 115 or 120 v,  
60 cps, single ph, 112 W nom, 120 W max.  
MTG DATA: Shock mounted for bench or shelf,  
brackets supplied for standard relay-rack  
mounting.

No Crystals.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91771, Technical Manual for Radio  
Receiving Set AN/URR-27.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Co Inc, Malden, Mass.  
Contr NObsr-52669 dated 28 June 1951.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 0A2WA	(4) 9003
(1) 5670	(1) 5U4G
(1) 6J6WA	(1) 5749/6BA6W
(1) OB2WA	(9) 5654/6AK5W
(2) 5726/6AL5W	(1) 6AK6

Total Tubes: (22)

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

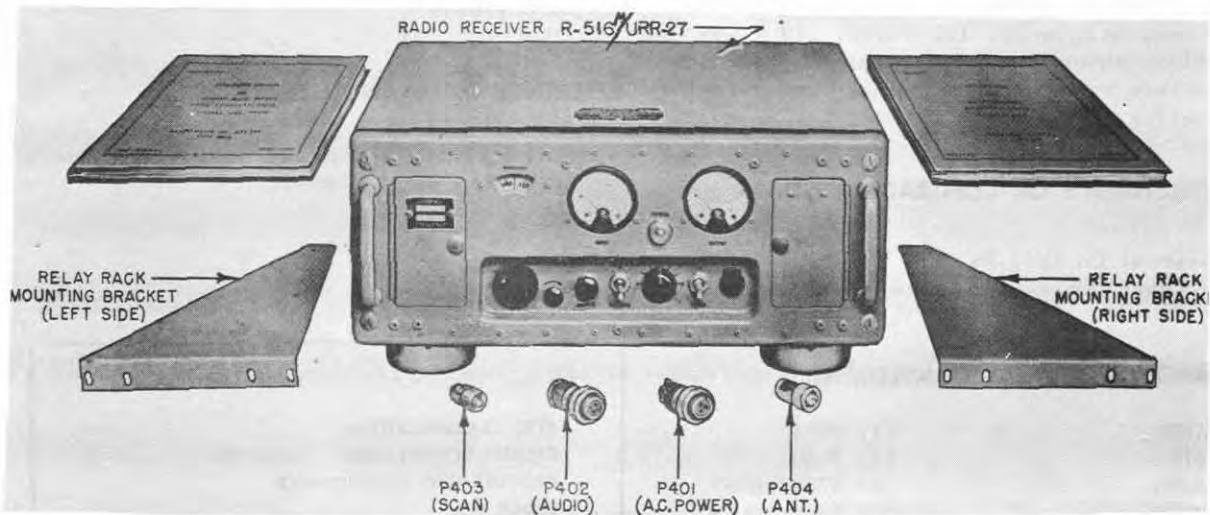
**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-27	7.4	15-1/2 x 23-1/4 x 35-1/2	166.25

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-516/URR-27	8-7/16 x 17-1/2 x 19-1/8	57
1	Set of Equip Spares	6-1/8 x 10 x 10	23
2	Technical Manuals NAVSHIPS 91771		

## RADIO RECEIVING SET



Radio Receiving Set AN/URR-27A

**FUNCTIONAL DESCRIPTION**

The AN/URR-27 is designed to provide means for reception of amplitude modulated (AM) voice and Modulated Continuous Wave (MCW) transmission in the 105 to 190 megacycle (MC) frequency range. The receiver may be used on Naval vessels, at Naval air and shore stations or at other units of the military establishment.

No field changes in effect at time of preparation (8 December 1960).

**RELATION TO OTHER EQUIPMENT**

The AN/URR-27A is one-way interchangeable with AN/URR-27.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Insulation Test Set type AN/PSM-2, (1) Multimeter type AN/PSM-4, (1) R.F. Signal Generator Set AN/URM-25(), (1) R.F. Signal Generator Set AN/URM-26, (1) Signal Generator AN/USM-30, (1) Multimeter AN/USM-34, \*(1) Crystal Calibrated Frequency Indicating Equipment.

\*Note: Required only if alignment crystals are not available having frequency of 21.4 - 22.5 mc and 33.1 - 33.9 mc.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF PRESENTATION: Audio type.  
 TYPE OF RECEPTION: A2, A3 type.  
 TYPE OF FREQUENCY CONTROL: Crystal.  
 NUMBER OF CHANNELS: 1 channel.  
 NUMBER OF BANDS: 1 band.  
 OPERATING FREQUENCY RANGE: 105 to 190 mc.  
 OPERATING POWER RQMT: 105/115/125 v ac, 50 to 60 cps.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Co., Inc., Malden, Mass.  
 Pt/Dwg no. BM570 (Mod).  
 Contract NObsr-75248, dated 9 December 1958.  
 Approximate unit cost \$743.00.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OA2WA (1) 5U4GB

June 1961

Radio-Receivers

## AN/URR-27A

## RADIO RECEIVING SET

(1) OB2WA (10) 5654-6AK5W  
 (1) 5670 (1) 5726-6AL5W  
 (1) 5749-6BA6W (1) 6AK6  
 (1) 6J6WA (4) 9003

Total Tubes: (22)

(1) CR-24/U

Total Crystals: (1)

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91771: Technical Manual for Radio  
 Receiving Set AN/URR-27 and AN/URR-27A.

TYPE CLASSIFICATION (NAVY)  
 DESIGN COGNIZANCE NAVY BUSHIPS  
 PROCUREMENT COGNIZANCE SHIPS-R-2898  
 STOCK NO. AMENDMENT 1  
 R.D.B. IDENT. NO.

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu. Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-27A	7.4	15-1/2 x 23-1/4 x 35-1/2	166-1/4

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-27A consists of:		
1	Radio Receiver R-516A/URR-27	8-7/16 x 17-1/2 x 19-1/2	57
1	Set of Equipment Spares	6-1/8 x 10 x 19	8
2	Technical Manual NAVSHIPS 91771	3/4 x 8-1/2 x 11	3



14 August 1962

RADIO, RECEIVING SET AN/URR-28(XN-1)

Cog Service: USN FSN: 5820-665-2245

Functional Class:

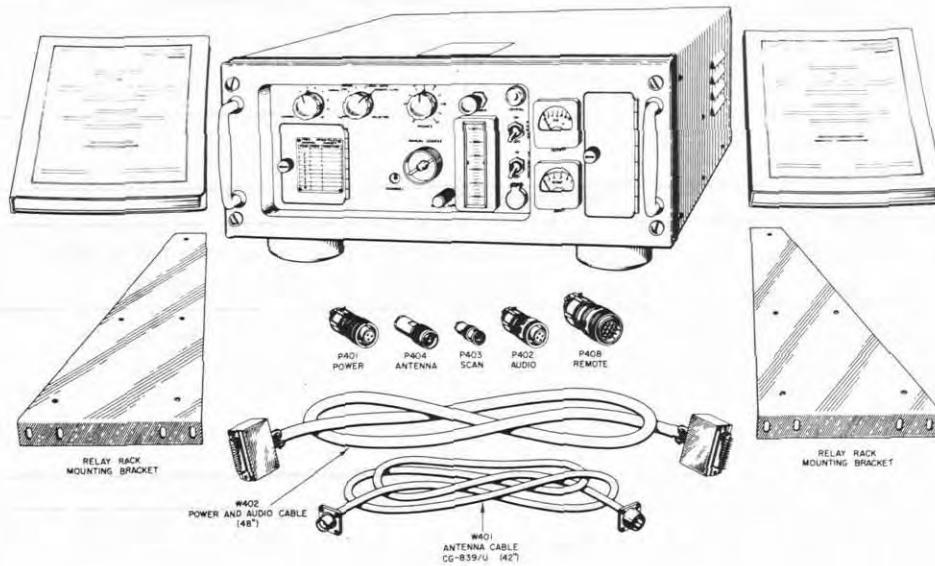
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: National Co., Inc., (42498).



*Radio, Receiving Set AN/URR-28(XN-1)*

#### FUNCTIONAL DESCRIPTION:

The Radio, Receiving Set AN/URR-28(XN-1) is designed to provide means for reception of amplitude-modulated voice and modulated continuous-wave transmission in the 225 to 400 megacycle frequency range. It may be automatically tuned to any of ten (10) preset crystal controlled channels, or may be manually tuned over its entire frequency range. All incoming and outgoing connections are filtered to limit possible radio frequency interference, and provisions are made for connecting a panoramic adapter to provide a visual picture of the received signals. It may be used on Naval vessels, at Naval air and shore radio stations, or at other units of the military establishment.

The AN/URR-28(XN-1) is a VHF/UHF, double superheterodyne type receiver for general purpose use. The receiver may be mounted on a bench or any other firm horizontal surface, or by attaching brackets in a standard 19 inch relay rack.

No field changes in effect at time of preparation (9 July 1962).

## AN/URR-28(XN-1) RADIO, RECEIVING SET

### TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225 to 400 mc.

FREQUENCY CONTROL: Crystal for preset channel, self-excited for manual tuning.

#### OUTPUT DATA

AUDIO CHANNEL: 60 mw max into 600 ohm load with 7% max distortion.

PHONE JACK: 60 mw max into 600 ohm load with 7% max distortion.

SCAN CHANNEL: 10 uv min across a 50 ohm load, for max signal input of 20 uv.

TYPE OF RECEPTION: A2, A3.

TYPE OF RECEIVER: Double superheterodyne.

INTERMEDIATE FREQUENCY: 18.6 and 1.775 mc.

SENSITIVITY: 8 uv, in series with 50 ohms, for 10 db signal to noise ratio (signal modulated 30% at 1000 cps).

SELECTIVITY: 70 to 85 kc down 6 db, less than 190 kc down 60 db.

#### FREQUENCY STABILITY

VOLTAGE VARIATION: crystal operation negligible, manual operation perm 0.02%.

TEMPERATURE VARIATION: crystal operation perm 0.008%, manual operation perm 0.1%.

#### SILENCER CIRCUIT DATA

EFFECTIVE SILENCING RANGE: Up to a max of 300 uv input.

AUDIO OUTPUT REDUCTION: Up to 40 db under std output conditions.

TIME CONSTANT: Less than 0.2 sec.

#### IMPEDANCE DATA

ANTENNA INPUT: 50 ohms nominal.

AUDIO CHANNEL OUTPUT: 600 ohms nominal.

PHONE JACK OUTPUT: 600 ohms nominal.

SCAN CHANNEL OUTPUT: 50 ohms nominal.

OPERATING POWER REQMT: 105/115/125 v ac, 50 to 60 cps, single ph, 1.88 amps max, 196.5 W max at 115 v, 60 cps.

### RELATION TO OTHER EQUIPMENT:

The AN/URR-28(XN-1) is a redesign of Radio, Receiving Set AN/URR-35A. It is similar to the AN/URR-35A except that: (1) 10 crystal controlled channels are provided in the AN/URR-28(XN-1) as compared with 1 in the AN/URR-35A; and (2) remote selection of any of the 10 crystal controlled channels is possible with the AN/URR-28(XN-1). No remote control is possible with the AN/URR-35A.

### EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna AT-150/SRC or AS-390/SRC; (As required) Antenna Transmission Line RG-18/U; (10) Crystal Unit CR-24/U; (As required) Power Cable MCOS-2; (As required) Audio Output Cable TTHFWA-1-1/2; (1) Headphone NT-49016; (As required) Cable RG-58/U; (As required) Cable MCAS-19; \*(1) Channel Selector Indicator Unit NT-23445; \*(1) Channel Indicator Unit NT-23496; \*(1) Selector Control Unit NT-23497.

\*NOTE: This equipment may be used but is not an absolute requirement.

RADIO, RECEIVING SET AN/URR-28(XN-1)

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio, Receiving Set AN/URR-28(XN-1) consists of:		12-3/4 x 26-1/2 x 29-1/2	132
1	Set of Connector Plugs			0.25
1	Radio Receiver		8-7/16 x 17-1/2 x 22-3/4	62
1	Pair Mounting Brackets		1-1/8 x 7 x 12	1.31
1	R. F. Cable Ass'y CG-839/U		1 x 1 x 50	0.25
1	Electrical Power Cable Ass'y		1-1/2 x 1-3/4 x 52	0.81
1	Maintenance Parts Kit		6-1/8 x 10 x 19	15
2	Technical Manual NAVSHIPS 92333		1/2 x 8-1/2 x 11	1.25

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92333: Technical Manual for Radio, Receiving Set AN/URR-28(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2 (1) 0B2 (1) 6AK6 (11) 5654/6AK5W (5) 5670 (2) 5726/6AL5W  
(1) 5R4WGY

CRYSTALS: (1) CR-23/U (10) CR-24/U

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.50	132
1	0.7	42

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG: MIL-R-16981

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
National Co., Inc.	Malden, Mass.	Nobsr-63369, 27 March 1953	\$10,000.00



Radio Receiving Set AN/URR-29

**FUNCTIONAL DESCRIPTION**

The AN/URR-29 is used for the reception and monitoring of AM, FM, MCW, and CW signals over a frequency range of 20 to 230 mc. The equipment can be used in fixed, semifixed or portable installations. It is moisture and fungus resistant and may be used under extreme climatic conditions, such as cold, heat, moisture, rain, and in desert areas.

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF RECEIVER: Triple conversion superheterodyne.  
 TYPE OF SIGNAL RECEIVED: AM, FM, CW, and MCW.  
 DEVIATION, FM:  $\pm 75$  kc.

**INTERMEDIATE FREQUENCIES:****FIRST (VARIABLE):**

Band 1: 6.0942 mc  
 Band 2: 8.6369 mc  
 Band 3: 12.1884 mc  
 Band 4: 17.2738 mc  
 Band 5: 24.3767 mc  
 Band 6: 34.5476 mc

**SECOND (FIXED): 1.75 mc****THIRD (FIXED): 455 kc**

SELECTIVITY: 10 kc, 50 kc and 200 kc bandwidths.

**FREQUENCY RANGE:**

Band 1: 19.74 to 28.5 mc  
 Band 2: 28.5 to 40.5 mc  
 Band 3: 40.5 to 57 mc  
 Band 4: 57 to 81 mc  
 Band 5: 81 to 114 mc  
 Band 6: 114 to 162 mc  
 Band 7: 162 to 237.97 mc

TYPE OF TUNING: Continuous on each band.

## AN/URR-29

## RADIO RECEIVING SET

December 1956

METHOD OF CALIBRATION: Built in, crystal-controlled oscillator.

CALIBRATION POINTS: 20 to 230 mc, in 5 mc steps.

## RECEIVER SENSITIVITY:

AM SIGNALS: 2 uv on bands 1 to 5  
4 uv on band 6

6.5 uv on band 7  
CW SIGNALS: 1.2 uv on bands 1 to 5  
1.7 uv on band 6  
2.2 uv on band 7

FM SIGNALS: 6.5 uv on bands 1 to 5  
7.5 uv on band 6  
16 uv on band 7

SQUELCH SENSITIVITY: 1 uv

## AUDIO RESPONSE:

SHARP, USING 800 CPS BAND PASS FILTER:  
-6 db at 600 cps and 1000 cps; -30 db  
at 400 cps and 1200 cps.

MEDIUM, USING 3500 CPS LOW PASS FILTER:  
200 to 3500 cps, flat,  $\pm 3$  db; -35 db  
at 4000 cps.

WIDE, USING NO FILTER: 300 to 3500 cps,  
flat,  $\pm 1$  db; 200 to 4000 cps, flat  $\pm$   
3 db.

ANTENNA INPUT: 95 ohms.

## POWER REQUIREMENTS:

TUBE HEATERS: 26 AC or DC at 2.1 amp and  
6.3 v AC, or DC at 3 amp.

B + CIRCUIT: 175 v DC, 170 ma.

OSCILLATOR HEATER ELEMENT: 115 v AC,  
0.78 amp, or 26 v.

POWER SUPPLY INPUT: 115 v, AC, 22 amp, 48 to  
62 cps, or 230 v AC, 1.1 amp 58 to 62 cps.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Incorporation, Chicago, Illinois  
Contract DA 36-039 SC-36511 dated 29  
April 1952.

Approximate Cost: 4,080.00 with equip-  
ment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(2) 1N127	(2) 6AK6
(1) 6627/OP2WA	(11) 6AU6WA
(1) 5R4WGB	(1) 12AT7WA
(4) 5718	(8) 5749/6BA6W
(6) 5726/6AL5W	(7) 5840

Total Tubes: (43)

(5) CR-18/U	(4) CR-23/U
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Total Crystals: (9)

## REFERENCE DATA AND LITERATURE

TM11-882 Technical Manual for RADIO RECEIVING  
SET AN/URR-29.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver R-220/URR and Receiver Case CY-956/URR	5.7	19 X 22 X 28	175
1	Headset Assembly CCN-49507B Headset Extension Cord CCN-49534A, Power Cable Assembly CX-2639/U, Running Spare Kit, and Manuals.	1.8	12 X 15 X 15	22
1	Antenna Assembly AS-574/URR dipoles and mast sections.	3.2	8 X 10 X 20	85
1	Antenna Assembly AS-574/URR transmission lines, guy ropes, brackets, tools and hardware.	1.8	12 X 14 X 18	52

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-220/URR	10-1/2 X 14-3/4 X 19	96
1	Power Supply PP-660/URR	5-3/4 X 6-1/4 X 11-1/2	30

December 1956

## RADIO RECEIVING SET

Radio Receiver

AN/URR-29

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver Case CY-956/URR	13-1/4 X 17-1/8 X 22	38
1	Antenna Assembly AS-574/URR dipoles and mast sections.	7 X 9-3/8 X 67-3/4	
1	Antenna Assembly AS-574/URR trans- mission lines and connectors, guy ropes, brackets, tools, and hardware.	10 X 12-9/16 X 15-1/4	
1	Headset Assembly NT-CCN-49507B		3/4
1	Kit, running spares	4-1/2 X 9-1/2 X 13-1/4	
1	Headset Extension Cord CCN-49534A	67	
1	Power Cable Assembly CX-2639/U	96	
2	Technical Manuals for Radio Receiving Set AN/URR-29	2 X 8-1/2 X 11	3
2	Technical Mannuals for Antenna Assembly AS-574/URR	1/2 X 8-1/2 X 11	

27 July 1962

Cog Service: TASSA FSM:

RADIO, RECEIVING SET AN/URR-29X  
Functional Class:

USA

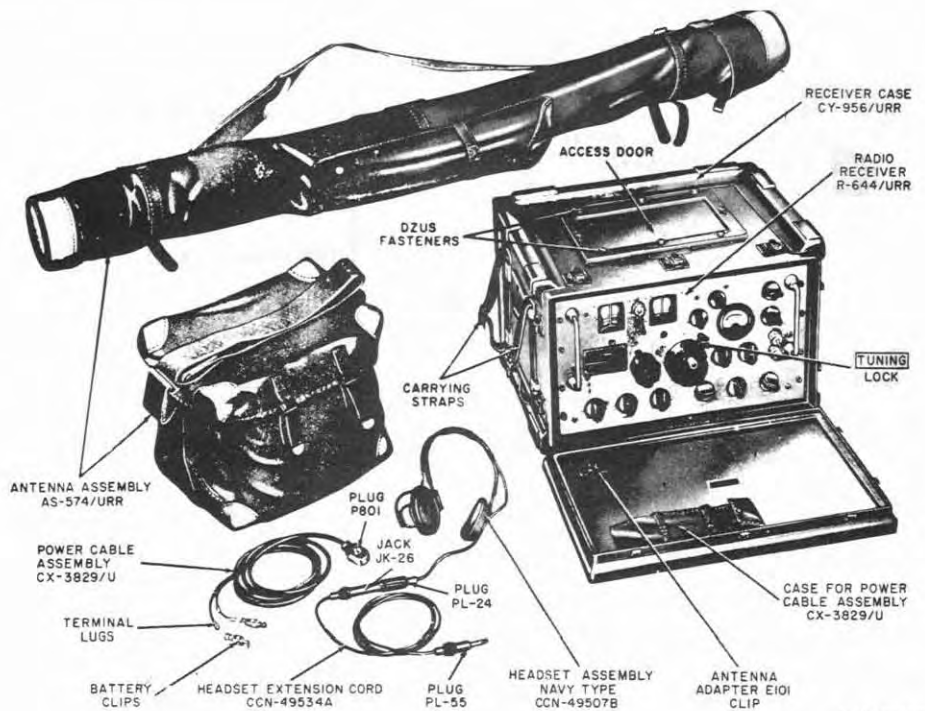
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Motorola Incorporated, (80211).



*Radio, Receiving Set AN/URR-29X*

#### FUNCTIONAL DESCRIPTION:

The Radio, Receiving Set AN/URR-29X is designed for communication, intercept and direction finding. The receiver is transportable and is capable of receiving and monitoring A9 and F9 signals. It has provisions made for output connections to standard equipments as required for diversity reception, direction finding, carrier-shift radio teletype, facsimile, signal analysis and sideband reception.

No field changes in effect at time of preparation (10 January 1962).

#### TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Transportable.

TYPE OF RECEPTION: A9 & F9 (AM, FM, CW, & MCW).

TYPE OF RECEIVER: Triple-conversion superheterodyne.

FM DEVIATION: Porm 75 kc max.

## AN/URR-29X RADIO, RECEIVING SET

IF SELECTIVITY: 10 kc, 50 kc, and 200 KC band widths.

TYPE OF PRESENTATION: Electric meter type.

OPERATING FREQUENCY RANGE: 19.74 to 237.97 mc in 7 bands.

BAND ONE: 19.74 to 28.5 mc.

BAND TWO: 28.5 to 40.5 mc.

BAND THREE: 40.5 to 57 mc.

BAND FOUR: 57 to 81 mc.

BAND FIVE: 81 to 114 mc.

BAND SIX: 114 to 162 mc.

BAND SEVEN: 162 to 237.97 mc.

OPERATING POWER RQMT: 22 to 32 v dc.

POWER SUPPLY PP-660/U22

INPUT: 115 v ac at 22 amps, 48 to 62 cps, or 230 v ac at 1.1 amp, 48 to 62 cps.

### RELATION TO OTHER EQUIPMENT:

The AN/URR-29X is similar to and interchangeable with the AN/URR-29 except that Radio Receiver R-644/URR and Power Cable Ass'y CX-3829/U replaces Receiver R-220/URR & Power Cable Ass'y CX-2639/U.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

### MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Receiver R-644/URR	*	10-1/2 x 14-3/4 x 19	96
1	Power Supply PP-660/URR		5-3/4 x 6-1/4 x 11-1/2	30
1	Receiver CY-956/URR		13-1/4 x 17-1/8 x 13-1/4	38
1	Antenna Ass'y AS-574/URR		7 x 9-3/8 x 67-3/4	
1	Headset Ass'y N. T. CCN-49507B			3/4
1	Set of Equipment Spares		4-1/2 x 9-1/2 x 13-1/4	
1	Headset Extension Cord CCN-49534A		67 lg	
1	Power Cable ASS'y CX-3829/U		96 lg	
2	Technical Manuals for Radio Receiver AN/URR-29		2 x 8-1/2 x 11	3
2	Technical Manuals for Antenna Ass'y AS-574/U22		1/2 x 8-1/2 x 11	

### REFERENCE DATA AND LITERATURE:

TM11-882; T031R2-2URR-161: Technical Manual for Radio Receiving Sets AN/URR-29 and AN/URR-29X.

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

TUBES: (1) 0B2WA (1) 12AT7WB (1) 5R4WGB (4) 5718 (6) 5726-6AL5W (8) 5749-6BA6W  
(7) 5840 (2) 6AK6 (11) 6AU6WB



CRYSTALS: (5)CR-18/U (4)CR-23/U

SEMI-CONDUCTORS: (2)1N464

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SHIPPING DATA

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

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PROCURING SERVICE: TASSA

DESIGN COG: TASSA

SPEC &/OR DWG: MIL-R-10584(Sig C)

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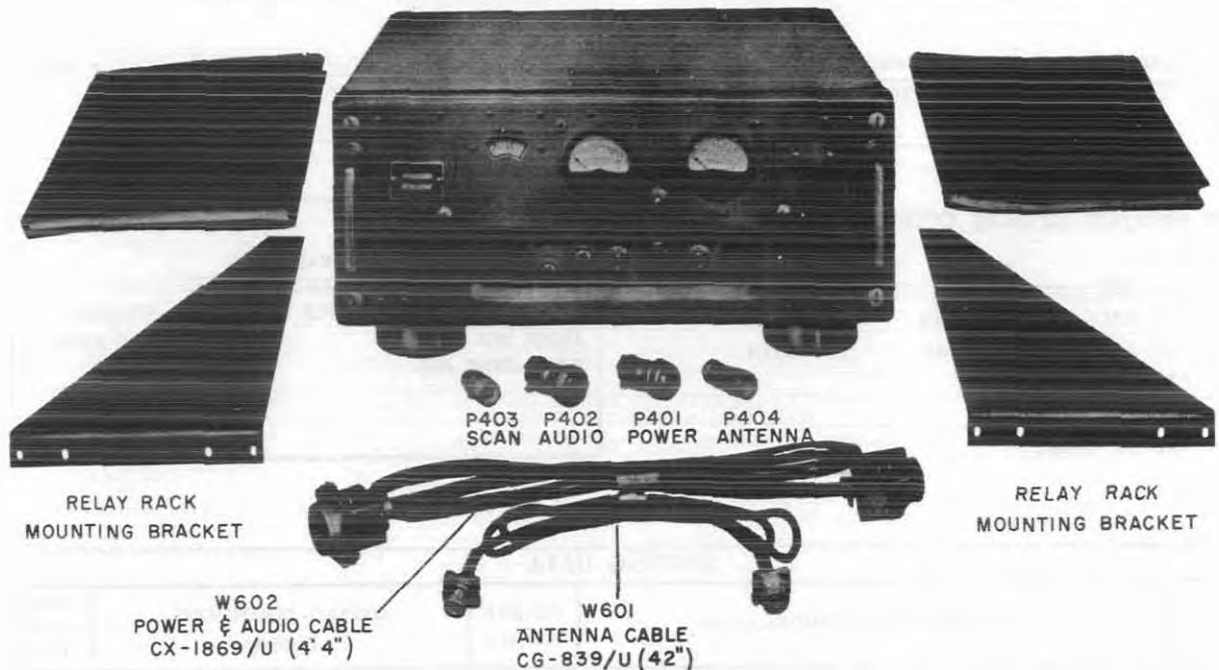
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Motorola Inc. Pt no. 201V4466	Chicago, Illinois	08714-Phila-55-93	

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June 1961

Radio-Receivers  
AN/URR-30 (XN-1)

## RADIO RECEIVING SET



Radio Receiving Set, AN/URR-30 (XN-1)

**FUNCTIONAL DESCRIPTION**

Radio Receiving Set AN/URR-30 (XN-1) is designed to provide means for reception of amplitude modulated (AM) voice and mcw transmission in the 60 to 115 mc frequency range. The receiver may be used on Naval vessels, at Naval air and shore radio stations or at other units of the military establishment.

No field changes in effect at time of preparation (2 February 1961).

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Antenna NT-66015; (as required) Antenna Transmission Line RG-12/U; (1 ea channel) Crystal Units CR-24/U; (1) Headphone NT-49016; (as required) Cables.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 60 to 115 mc.

FREQUENCY CONTROL: Crystal controlled oscillator.

RECEPTION: A2, A3.

TYPE OF RECEIVER: Superheterodyne.

INTERMEDIATE FREQUENCY: 18.6 mc porm 2.0 kc.

OVER-ALL STABILITY (FREQUENCY CHANGE)

VOLTAGE VARIATION: Negligible.

TEMPERATURE VARIATION

CRYSTAL CONTROLLED: Porm 0.009%.

FREE-RUNNING: Porm 0.15%.

HUMIDITY VARIATION: Porm 0.009% for crystal controlled.

SILENCER CIRCUIT CHARACTERISTICS

EFFECTIVE SILENCING RANGE: Up to min of 15,000 uv RF input, 100% rotation of control.

AUDIO OUTPUT REDUCTION: Up to 40 db under standard output.

TIME CONSTANT: Less than 0.5 usec.

IMPEDANCE

ANTENNA INPUT: 51 ohms.

AUDIO CHANNEL OUTPUT

NOMINAL: 600 ohms.

PHONE JACK: 600 ohms (nominal).

SCAN CHANNEL OUTPUT: 51 ohms.

POWER REQUIREMENTS: 105, 115, 125 v, 60 cyc, single ph, 0.97 amps, 112 W.

Radio-Receivers

**AN/URR-30 (XN-1)**

**RADIO RECEIVING SET**

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Co., Inc., Malden, Massachusetts.  
Contract NObsr-57305, dated 4 June  
1952.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91947: Technical Manual for Radio  
Receiving Set AN/URR-30(XN-1).

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OA2      (1) OB2      (1) 5U4G  
(1) 6AK6    (10) 5654    (1) 5670  
(2) 5726    (1) 5749    (1) 5814  
(4) 9003

Total Tubes: (23)

No Crystals used.

**TYPE CLASSIFICATION** (NAVY)  
**DESIGN COGNIZANCE** USN, BUSHIPS  
**PROCUREMENT COGNIZANCE SPEC:** MIL-R-16508  
**STOCK NO.** (SHIPS) AND AMEND 3  
**R.D.B. IDENT. NO.**

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu. Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-30(XN-1)	7.4	15-1/2 x 23-1/4 x 35-1/2	166.25

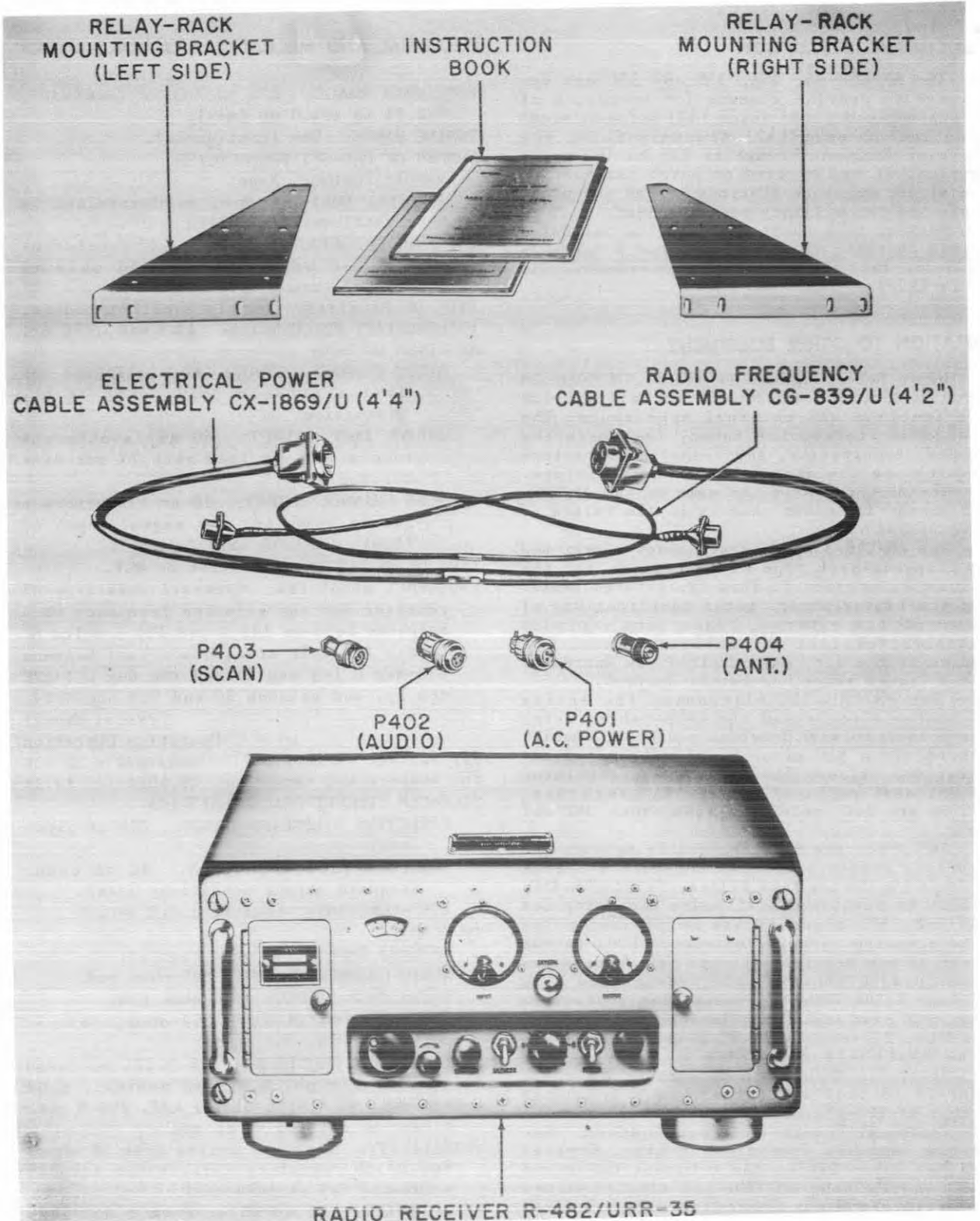
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-30(XN-1) includes:		
1	Radio Receiver R-571(XN-1)/URR-30	8-7/16 x 17-1/2 x 19-1/8	57.0
1	Set of Plugs		0.25
2	Relay Rack Mounting Brackets	1 x 6-31/32 x 11-7/8	11 oz
1	Antenna Test Cable Assembly CG-839/U	50 lg	4 oz
1	Power and Audio Test Cable Assembly CX-1869/U	52 lg	13 oz
2	Technical Manual NAVSHIPS 91947	3/4 x 8-1/2 x 11	3
1	Set of Equipment Spares	6-1/8 x 10 x 19	23

December 1956

# RADIO RECEIVING SET

# AN/URR-35,35A,B,C



Radio Receiver R-482/URR-35, 35A, 35B, 35C

## AN/URR-35,35A,B,C

## RADIO RECEIVING SET

December 1956

## FUNCTIONAL DESCRIPTION

The AN/URR-35, 35A, 35B and 35C are designed to provide a means for reception of amplitude-modulated voice (A3) and modulated-continuous-wave (A2) transmissions. The carrier frequency range is 225 to 400 megacycles. It may be used on Naval vessels, at Naval Air and shore stations, or at any other units of the military establishment.

Data on this sheet reflects the following field changes: F.C. No. 1, 2 and 3 for AN/URR-35, 35A; F.C. No. 1 for AN/URR-35C. (16 July 1956).

## RELATION TO OTHER EQUIPMENT

Radio Receiving Sets AN/URR-35, AN/URR-35A AN/URR-35B, and AN/URR-35C are all similar in function and external appearance. The range of frequencies tuned, the operating modes, sensitivity, and response characteristics are the same for the entire series.

The AN/URR-35A is the same as the AN/URR-35 except for minor changes in the values of two resistors.

The AN/URR-35B contained a new blower and a plug-and-jack type of connection for the blower motor circuit. This facilitated repair of the blower motor. Later modifications of some of the external connectors replaced earlier versions on previous models. The value of the I.F. GAIN control was increased to a higher value for better control.

The AN/URR-35C eliminates the entire scanning circuit and the test cables which were included with previous equipment. Again, there are a few minor modifications of resistance values. The two voltage regulator tubes were replaced by the "WA" versions, which are late models of tube types OA2 and OB2.

All parts are interchangeable between the various models of the AN/URR-35 ( ) series except for the Low Pass Filter, F-304/URR-35C, which is furnished with Radio Receiving Set AN/URR-35C. Since it has no provision for the scanning circuit, connector P201 on the rear of the receiver chassis (all models except R-482C/URR-35) will prevent Low Pass Filter F-304/URR-35C from making contact in the other two connectors between the receiver and the filter. It is also very similar to the AN/URR-13 differing by some design changes. The AN/URR-35A differs from the AN/URR-27 in that the latter has a frequency range of 105-190 megacycles.

Equipment Required but not Supplied: Antenna, Antenna Transmission Line, Crystal Units, Power Cable, Audio Output Cable and Headphones; the AN/URR-35B also requires a Radio Frequency Cable Assembly CG-839/U and a Electrical Power Cable 5X-1869/U.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc (nominal), 222.75 to 404.0 mc (max).

TUNING BANDS: One (continuous).

NUMBER OF PRE-SET FREQUENCIES.

MANUAL TUNING: None

CRYSTAL TUNING: One, as determined by crystal unit installed.

TYPE OF FREQUENCY CONTROL: Crystal-controlled oscillator, used only in crystal tuning operation.

TYPE OF RECEIVER: Double superheterodyne.

INTERMEDIATE FREQUENCIES: 18.6 and 1.775 mc.

RECEIVER OUTPUTS

AUDIO CHANNEL OUTPUT: 60 milliwatts max into a 600-ohm load, with 7% max distortion.

PHONE JACK OUTPUT: 60 milliwatts max into a 600-phm load with 7% max distortion.

SCAN CHANNEL OUTPUT: 10 uv min across a 50-ohm load, for max signal input of 75 uv. (AN/URR-35,35A only).

TYPE OF RECEPTION: AM voice or MCW.

FREQUENCY STABILITY: Over-all stability of receiver for any selected frequency when operated between 103.5 and 126.5 volts AC (using 115-volt transformer tap) between -20 deg C (-4 deg F) and +50 deg C (+122 deg F), and between 30 and 90% humidity.

	Crystal Manual
	Operation Operation
for voltage variation	negligible $\pm 0.02\%$
for temperature variation	$\pm 0.008\%$ $\pm 0.1\%$

SILENCER CIRCUIT CHARACTERISTICS

EFFECTIVE SILENCING RANGE: 300 uv input (max).

AUDIO OUTPUT REDUCTION: 40 db under standard output conditions (max).

TIME-CONSTANT: Less than 0.2 sec.

IMPEDANCES

ANTENNA INPUT: 50 ohms coaxial.

AUDIO CHANNEL OUTPUT: 600 ohms nom.

PHONE JACK OUTPUT: 600 ohms nom.

SCAN CHANNEL OUTPUT: 50 ohms, coaxial (AN/URR-35, 35A only).

POWER SOURCE REQUIRED: 105  $\pm$  1.25 v, 50-60 cps, single ph, 0.97 amp nominal, 1.04 amp max, 98 W with blower off, 108 W with blower on (at 115 v, 60 cps).

SENSITIVITY: 8 uv, in series with 50 ohms, for 10 db signal-to-noise ratio (signal modulated 30% at 1000 cps).

SELECTIVITY: 70 to 85 kc down 6 db; less than 190 kc down 60 db.

December 1956

## RADIO RECEIVING SET

AN/URR-35,35A,B,C

## MANUFACTURER'S OR CONTRACTOR'S DATA

AN/URR-35, 35B

Federal Telephone and Radio Corp., Clifton  
N.J.Contract: NObsr-57142, dated 14 Jan-  
uary 1952.

AN/URR-35A

National Co. Inc., Malden, Mass.

Contract: NObsr-57143, dated 14 Jan-  
uary 1952.

AN/URR-35C

Rauland-Borg Corp., Chicago, Illinois

Contract: NObsr-64647, dated 28 Feb-  
ruary 1955.Approximate Cost: \$1000.00 with equip-  
ment spares.

(2) 5726/6AL5W

(1) 5931

Total Tubes: (22) (AN/URR-35, 35A)

Total Tubes: (21) (AN/URR-35B, 35C)

AN/URR-35, 35A, 35B, 35C

(1) CR-23/U

(1) CR-24/U

Total Crystals: (2)

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91906: Technical Manual for Radio  
Receiving Set AN/URR-35, 35B.NAVSHIPS 92022: Technical Manual for Radio  
Receiving Set AN/URR-35ANAVSHIPS 92676: Technical Manual for Radio  
Receiving Set AN/URR-35C.

## TUBE AND/OR CRYSTAL COMPLEMENT

AN/URR-35, 35A, 35B, 35C

(1) 6626/OA2WA

(1) 6AK6

(1) 6627/OB2WA

(11) 5654/6AK5W (AN/URR-35, 35A)

(10) 5654/6AK5W (AN/URR-35B, 35C)

(5) 5670

## TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE MIL-R-16620 (EACH)

STOCK NO.

## SHIPPING DATA

NUMBER OF BOXES				CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
AN/URR-							
35	35A	35B	35C				
1				Radio Receiver R-482/URR-35 and Accessories	5.786	15-3/4 x 22-7/8 x 27-3/4	125
	1			Radio Receiver R-482A/URR-35 and Accessories	5.786	15-3/4 x 22-7/8 x 27-3/4	125
		1		Radio Receiver R-482B/URR-35 and Accessories	5.786	15-3/4 x 22-7/8 x 27-3/4	125
			1	Radio Receiver R-482C/URR-35 and Accessories	4.9	14 x 20-1/2 x 29-1/4	86
1	1	1	1	Maintenance Parts kit			

## AN/URR-35,35A,B,C

## RADIO RECEIVING SET

December 1956

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT				NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/URR-						
35	35A	35B	35C			
1				Radio Receiver R-482/URR-35	8-7/16 x 17-1/2 x 19-1/8	57
	1			Radio Receiver R-482A/URR-35	8-7/16 x 17-1/2 x 19-1/8	57
		1		Radio Receiver R-482B/URR-35	8-7/16 x 17-1/2 x 19-1/8	57
			1	Radio Receiver R-482C/URR-35	8-7/16 x 17-1/2 x 19-1/8	55
1	1	1	1	Set Connector Plugs		
1	1	1	1	Pair Relay Rack Mounting Brackets	1-1/8 x 7 x 12	1.31
1	1			R.F. Cable Assembly CG-839/U	1 x 1 x 50	0.25
1	1			Electrical Power Cable Assembly CX-1869/U	1-1/2 x 1-3/4 x 52	0.81
2		2		Technical Manual NAVSHIPS 91906		
	2			Technical Manuals NAVSHIPS 92022		
			2	Technical Manuals NAVSHIPS 92676		
1	1	1	1	Maintenance Parts Kit		

30 July 1962

5820-642-7844

RADIO RECEIVING SET AN/URR-35B

Cog Service: USN FSN: 5820-347-9875 W/S

Functional Class:

USA

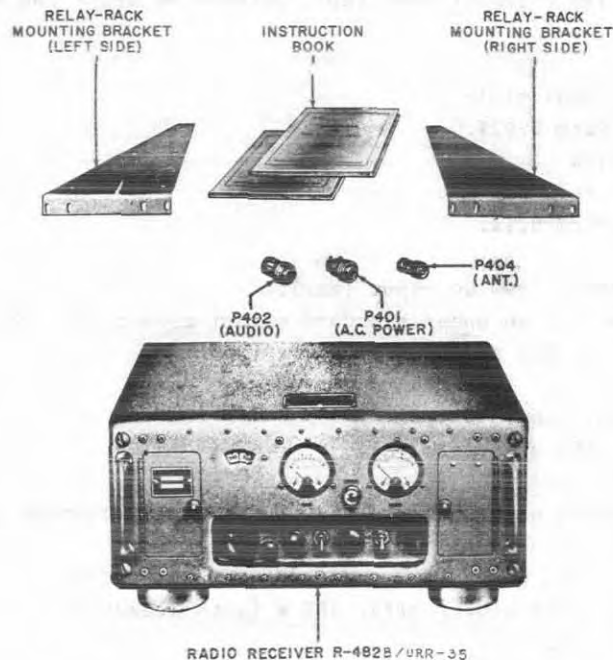
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone and Radio Corp.



*Radio Receiving Set AN/URR-35B*

#### FUNCTIONAL DESCRIPTION:

Radio Receiving Set AN/URR-35B is a general purpose very-high-frequency and ultra-high-frequency unit used on naval vessels, at naval air and shore stations, or at other military establishments. It provides amplitude-modulated point-to-point communications.

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

#### TECHNICAL CHARACTERISTICS:

##### FREQUENCY RANGE

NOMINAL: 225 to 400 mc.

MAXIMUM: 222.75 to 404.0 mc.

TUNING BANDS: 1 (continuous).

NUMBER OF PRESET FREQUENCIES

MANUAL TUNING: None.



# AN/URR-35B RADIO RECEIVING SET

CRYSTAL TUNING: 1, as determined by crystal unit installed.  
TYPE OF FREQUENCY CONTROL: Crystal-controlled oscillator.  
TYPE RECEIVER: Double superheterodyne.  
INTERMEDIATE FREQUENCIES: 18.6 mc; 1.775 mc.  
TYPE MODULATION: AM.  
TYPE RECEPTION: A1, A3 (voice, mc, mcw).  
OUTPUTS  
AUDIO CHANNEL OUTPUT: 60 mw max into 600 ohm load; 7% max distortion.  
PHONE JACK OUTPUT: 60 mw max into 600 ohm load; 7% max distortion.  
FREQUENCY STABILITY: Overall stability for any selected frequency, operating between 103.5 and 126.5 v ac (using 115 v transformer tap), between M4 deg F and P122 deg F and between 30% and 90% humidity.  
FOR VOLTAGE VARIATION  
CRYSTAL OPERATION: Negligible.  
MANUAL OPERATION: Porm 0.02%.  
FOR TEMPERATURE VARIATION  
CRYSTAL OPERATION: Porm 0.008%.  
MANUAL OPERATION: Porm 0.1%.  
SILENCER CIRCUIT  
EFFECTIVE SILENCING RANGE: 300 uv input (max).  
AUDIO OUTPUT REDUCTION: 40 db under standard output conditions (max).  
TIME-CONSTANT: Less than 0.2 sec.  
IMPEDANCE  
ANTENNA INPUT: 50 ohms, coaxial.  
AUDIO CHANNEL OUTPUT: 600 ohms, nominal.  
PHONE JACK OUTPUT: 600 ohms, nominal.  
SENSITIVITY: 8 uv, in series with 50 ohms, for 10 db signal-to-noise ratio (signal modulated 30% at 1,000 cps).  
SELECTIVITY: 70 to 85 kc down 6 db; less than 190 kc down 60 db.  
POWER REQUIREMENTS: 98 W (with blower off), 108 W (with blower on); 0.97 amps, 105 to 125 v, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT: None.

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna AT-150/SRC or AS-390/SRC; (As required) Antenna Transmission Line RG-10/U; (1 ea channel) Crystal Unit CR-24/U; (As required) Power Cable MCOS-2; (As required) Audio Output Cable TTHFWA-1; (1) Headphone NT-49016; (1) Radio Frequency Cable Ass'y CG-839/U (4 ft 2 in.); (1) Electrical Power Cable Ass'y CX-1869/U (4 ft 4 in.).

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Receiving Set AN/URR-35B includes:			
1	Radio Receiver R-482B/URR-35		8-7/16 x 17-1/2 x 19-1/8	57

**RADIO RECEIVING SET AN/URR-35B**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Set Connector Plugs			0.25
1	Pair Relay-Rack Mounting Brackets		1-1/8 x 7 x 12	1.31
2	Technical Manual NAVSHIPS 91906		1/2 x 8-1/2 x 11	1.25
1	Maintenance Parts Kit			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 91906: Technical Manual for Radio Receiving Set AN/URR-35, -35B.  
 NAVSHIPS 91906.21: Operating Instructions for Radio Receiving Set AN/URR-35B.

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

TUBES: (1) 0A2 (1) 0B2 (1) 6AK6 (10) 5654/6AK5W (5) 5670 (2) 5726/6ALSW  
 (1) 5931

CRYSTALS: (1) CR-23/U (1) CR-24/U

SEMI-CONDUCTORS: None used.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	5.786	125
1	1.153	42

**PROCUREMENT DATA**

PROCURING SERVICE: USN DESIGN COG: USN, BuShips  
 SPEC &/OR DWG: MIL-R-16620A(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone and Radio Corp.	Clifton, New Jersey	N0bsr-64573	\$894.00

## RADIO RECEIVING SET

AN/URR-35C



Radio Receiving Set AN/URR-35C

**FUNCTIONAL DESCRIPTION**

Radio Receiving Set AN/URR-35C provides a means for reception of amplitude modulated (AM) voice and MCW transmission in the 225 to 4000 mc frequency range. The receiver may be used on Naval vessels, at Naval air and shore radio stations or at other units of the military establishments.

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

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Antenna AT-150/SRC or AS-390/SRC; (as required) Antenna Transmission Line RG-10/U; (1 ea. channel) Crystal CR-24/U; (as required) Power Cable MCOS-2; (as required) Audio Output Cable TTHFWA-1-1/2; (1) Headphone w/cord and plug NT-49985-A.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 225 to 400 mc.

TUNING BANDS: 1 (continuous).

NUMBER OF PRESET FREQUENCIES

MANUAL TUNING: None.

CRYSTAL TUNING: 1; as determined by crystal unit installed.

TYPE OF FREQUENCY CONTROL: Crystal-controlled oscillator.

TYPE RECEIVER: Double superhetrodyne.

INTERMEDIATE FREQUENCIES: 18.6 mc; 1.775 mc.

TYPE RECEPTION: AM voice; MCW.

**OUTPUTS**

AUDIO CHANNEL OUTPUT: 60 mw into 600-ohm load; 7% max distortion.

PHONE JACK OUTPUT: 60 mw into 600-ohm load; 7% max distortion.

FREQUENCY STABILITY: Over-all stability for any selected frequency, operating between 103.5 and 126.5 v ac (using 115 v transformer tap), between M4 deg F and P122 deg F and between 30% and 90% humidity.

**FOR VOLTAGE VARIATION**

CRYSTAL OPERATION: Negligible.

MANUAL OPERATION: Porm 0.02%.

**FOR TEMPERATURE VARIATION**

CRYSTAL OPERATION: Porm 0.008%.

MANUAL OPERATION: Porm 0.1%.

**SILENCER CIRCUIT**

EFFECTIVE; SILENCING RANGE: 300-uv input (max).

AUDIO OUTPUT REDUCTION: 40 db under standard output conditions (max).

TIME-CONSTANT: Less than 0.2 sec.

**IMPEDANCE**

ANTENNA INPUT: 50 ohms, coaxial.

AUDIO CHANNEL OUTPUT: 600 ohms, nominal.

PHONE JACK OUTPUT: 600 ohms, nominal.

June 1961

Radio-Receivers

**AN/URR-35C****RADIO RECEIVING SET**

**SENSITIVITY:** 8 uv, across 50 ohms, for 10 db signal-to-noise ratio (signal modulated 30% at 1,000 cps).

**SELECTIVITY:** 70 to 85 kc down 6 db; less than 190 kc down 60 db.

**POWER REQUIREMENTS:** 98 W (with blower off), 108 W (with blower on); 0.97 amps, 105 to 125 v, 50 to 60 cyc, single ph.

(1) 6AK6WA

(10) 5654/6AK5W

(5) 5670

(2) 5726/6AL5W

(1) 5931

Total Tubes: (21)

(1) CR-23/U

Total Crystals: (1)

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Rauland-Borg Corp., Chicago, Illinois.

Part No. VM-0450.

Contract NObsr-64647, dated 28 February 1955.

Approximate unit cost \$499.24.

Contract NObsr-71753, dated 27 March 1957.

Approximate unit cost \$499.00.

Contract NObsr-75725, dated 10 June 1959.

Approximate unit cost \$639.82.

Contract NObsr-81450, dated 1 June 1960.

Approximate unit cost \$627.57.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 92676: Technical Manual for RADIO RECEIVING SET AN/URR-35C.

TM11-527-15: Technical Manual for RADIO RECEIVING SET AN/URR-35C.

**TYPE CLASSIFICATION** (NAVY)  
**DESIGN COGNIZANCE** USN, BUSHIPS  
**PROCUREMENT COGNIZANCE** SPEC: MIL-R-16620A  
**STOCK NO.** (SHIPS) and AMEND 4  
**R.D.B. IDENT. NO.**

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 0A2WA

(1) 0B2WA

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver R-482C/URR-35 and Accessories	4.1	14 x 20-1/2 x 29-1/4	86
1	Maintenance Parts Kit	0.3	4 x 8-3/4 x 13	12-1/2

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-35C includes:		
1	Radio Receiver R-482C/URR	8-7/16 x 17-1/2 x 19-1/8	55
1	Set Connector Plugs		3 oz
1	Pair Relay-Rack Mounting Brackets	1-1/8 x 7 x 12	1
2	Technical Manuals	1/2 x 8-1/2 x 11	1-1/2
1	Maintenance Spare Parts	4 x 8-3/4 x 13	12-1/2

30 July 1962

Cog Service: USN

FSN:

RADIO RECEIVING SET AN/URR-35D  
Functional Class:

USA

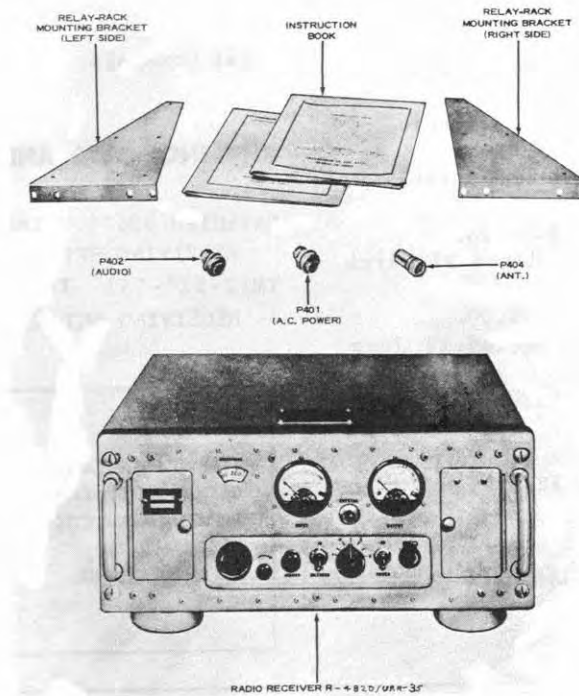
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Rauland-Borg Co., (92058).



*Radio Receiving Set AN/URR-35D*

#### FUNCTIONAL DESCRIPTION:

The Radio Receiving Set AN/URR-35D is a VHF/UHF, double superheterodyne type of receiving equipment. It is designed primarily for operation as a pretuned, single-channel, crystal controlled receiver.

The AN/URR-35D provides a means for reception of amplitude-modulated voice (A3) and modulated-continuous wave (A2) transmissions. The carrier frequency is 225 to 400 megacycles (MC). This receiver is adaptable for use on Naval vessels, at Naval air and shore radio stations, or at any other units of the military establishment.

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

#### TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Fixed.

TYPE OF PRESENTATION: Audio.

## AN/URR-35D RADIO RECEIVING SET

TYPE OF CONTROL: Crystal controlled oscillator.

TYPE OF TUNING: Manual.

TYPE OF RECEPTION: A2, A3 types.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1 channel.

OPERATING FREQUENCY RANGE: 225 to 400 mc.

OPERATING POWER RQMT: 105/115/125 v ac, 50 to 60 cps, single ph.

### RELATION TO OTHER EQUIPMENT:

The AN/URR-35D is similar to & interchangeable with AN/URR-35C, the difference being the carrier relay circuit can be adjusted to operate over a range of 2 to 20 microvolts input signal and a pilot light is added to the panel to indicate the operation of the carrier relay.

### EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna AT-150/SRC or AS-390/SRC; (As required) Antenna Transmission Line RG-10/U; (As required) Power Cable MCOS-2; (As required) Audio Output Cable TTHFWA-1-1/2; (1) Set of Headphones w/Cord & Plug N.T.49985-A.

### MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Receiver R-482D/URR-35		8-7/16 x 17-1/2 x 19-1/8	55
1	Pair of Relay Mounting Brackets		1-1/8 x 7 x 12	
1	Low Pass, Filter F-304A/URR-35C			
1	Set of Equipment Spares		4 x 8-3/4 x 13	12-1/2
2	Technical Manuals NAVSHIPS 92676		1/2 x 8-1/2 x 11	1-1/2

### REFERENCE DATA AND LITERATURE:

NAVSHIPS 92676: Technical Manual for Radio Receiving Set AN/URR-35D.

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

TUBES: (1) 0A2 (1) 0B2 (1) 6AK6 (10) 5654/6AK5W (5) 5670 (2) 5726/6AL5W (1) 5931

CRYSTALS: (1) CR-23/U(16.8250 MC) (1) CR-24/U(20.3000 to 34.8833 MC)

SEMI-CONDUCTORS: None used.

### SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.9	86
2	0.1	12-1/2

1.4 AN/URR-35D: 2

PROCUREMENT DATA

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PROCURING SERVICE: USN  
SPEC &/OR DWG: MIL-R-16620A(SHIPS)

DESIGN COG: USN, BuShips

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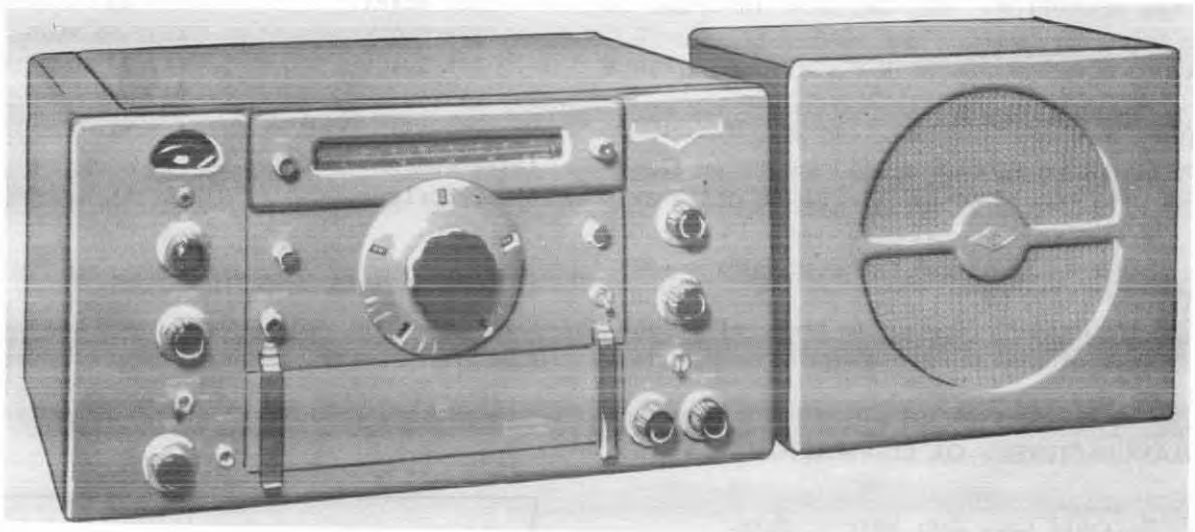
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Rauland-Borg Co. Pt. No. KC-0450	Chicago, Illinois	AF18(600)-572	

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April 1958

**RADIO RECEIVING SET**

Radio-Receivers

**AN/URR-36***Radio Receiving Set AN/URR-36***FUNCTIONAL DESCRIPTION**

The AN/URR-36 is a superheterodyne receiver for reception of CW and MCW signals throughout its frequency range of 50 to 430 and 480 to 35,000 kilocycles. This frequency coverage is accomplished by use of twelve coil sets. It has a self-contained power supply adequately isolated from the FR circuits, a calibrated illuminated slide-rule dial which provides direct reading in megacycles for each of the general coverage coil sets as well as a bandspread scale for the coil sets incorporating this feature, this being a micrometer type dial. Temperature compensation and voltage regulation of the high frequency oscillator as well as utilization of ceramic insulation in the coil sets and associated connecting brush blocks provide stable operation and freedom from drift.

Provisions are made to use an FM adapter and a crystal calibrator unit. These accessories may be permanently installed and switched on and off by means of a single front panel switch which selects any one of the CW, MCW, FM or phono operations. Provision is also made to utilize a vibrator power supply for operation from a storage battery.

No field changes in effect at time of preparation (19 December 1957).

**RELATION TO OTHER EQUIPMENT**

Same as the National Co. Model HRO-50-1.  
Equipment Required but not Supplied:  
Single wire ant and balanced feed line or unbalanced concentric transmission cable.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQ RANGE: 50 to 430 and 480 to 35000 in 12 bands as follows:

COIL SET	GENERAL COVERAGE	BAND SPREAD
A	14.0 to 30.0 mc	27.0 to 30.0 mc
B	7.0 to 14.4 mc	14.0 to 14.4 mc
C	3.5 to 7.3 mc	7.0 to 7.3 mc
D	1.7 to 4.0 mc	3.5 to 4.0 mc
E	900 to 2050 kc	
F	480 to 960 kc	
G	180 to 430 kc	
H	100 to 200 kc	
J	50 to 100 kc	
AA		27.5 to 30.0 mc
AB	25 to 35 mc	
AC		21.0 to 21.5 mc



Radio-Receivers

**AN/URR-36****RADIO RECEIVING SET**

April 1958

TYPE RECEPTION: AM, CW, MCW; FM w/use of accessory unit.

AUDIO OUTPUT: Approx 8 W undistorted; 10 W max.

INPUT IMPEDANCE: 300 to 600 ohms.

POWER SOURCE REQUIRED: 110 to 120 or 220 to 240 v, 50 tp 60 cps single ph, 115 W or 6 v DC from storage battery by use of National Type 650S Vibrator Power Supply.

ANT DATA: 50 to 100 ft single wire or other, employing transmission lines of 70 ohms or more. 300 to 600 ohm line is recommended.

(1) 6C4WA

(2) 6SG7Y

(1) 5V4G

(2) 6H6

(1) 6SJ7

(1) 6J7

(1) 6SN7WGTA

(1) 57SO/6BE6W

(1) 6K7

(2) 6V6GTY

Total Tubes: (16)

No Crystals.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91648: Technical Manual for the National Model HRO-50-1 Radio Receiving Equipment.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Co., Inc, Malden, Mass.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OB2WA

(2) 5749/6BA6W

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver HRO-50-1		
1	Loudspeaker HRO-50-TS* or HRO-50-RS**		
1	Coil Set A		
1	Coil Set B		
1	Coil Set C		
1	Coil Set D		
	Notes: *Supplied for table mtg. **Supplied for relay rack mtg.		

# RADIO RECEIVING SET

Radio-Receivers  
AN/URR-36A

## FUNCTIONAL DESCRIPTION

The AN/URR-36A is a double conversion superheterodyne Communications receiving set for reception of continuous wave, amplitude modulated continuous wave and voice signals over a frequency range of 50 to 430 kc and 480 to 35,000 kc in 10 bands with single channel operation. It is suitable for DC or AC operation. Visual indication of tuning is accomplished by a frequency calibrated slide rule dial and a micrometer dial with 0° to 360° rotation arbitrarily calibrated from 0 to 500. 10 plug-in coil sets are provided as well as an eight section coil container and 8 inch permanent magnet loudspeaker which makes up a combination unit.

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 50 to 430 kc; 480 to 35,000 kc.

RECEPTION: A1, A2, A3.

NUMBER OF BANDS: 10.

NUMBER OF CHANNELS: Single.

NUMBER OF PLUG-IN COIL SETS: 10.

TYPE OF RECEIVER: Double conversion superheterodyne.

TYPE OF MOUNTING: Rack mounting.

LOUDSPEAKER: 8 in. permanent magnet.

POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cps, single phase; 6 v and 180 v DC.

## MANUFACTURER'S OR CONTRACTOR'S DATA

National Co. Inc, Malden, Mass.

Contract NObsr-71193.

Approximate Cost: \$1160.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

Not Available.

Total Tubes: (18)

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Receiving Set Radio AN/URR-36A, amended 16 March 1956).

NAVSHIPS 92563: Index to Bureau of Ships Controlled Electronics Equipment (F Cognizance) dated July 1955.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	880F-1(831-138)7115-A
STOCK NO.	7/11/55

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-5234/URR-36A	12-5/8 x 20-1/2 x 29	
1	Crystal Calibrator		
1	Combination Unit		
1	Mounting Rack		
10	Coil Sets		

August 1957

Radio-Receivers  
AN/URR-39

## RECEIVING SET, RADIO

## FUNCTIONAL DESCRIPTION

The AN/URR-39 is a superheterodyne, table mounted communications receiver designed for the reception of continuous wave, amplitude modulated continuous wave and voice radio frequency signals over a frequency range of 50 to 150 kc and 0.54 to 31 mc in 5 bands. It incorporates a built-in crystal filter, beat frequency oscillator and accessory socket.

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

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) OB2WA	(1) 5U4G	(1) 6AH6
(1) 6J5	(2) 6SJ7Y	(2) 6V6GT
(2) 6AL5W	(5) 6BA6W	(2) 6BE6W
Total Tubes: (17)		

## REFERENCE DATA AND LITERATURE

Nomenclature Card for Receiving Set, Radio AN/URR-39 dated 7 October 1954.

Electronic Supply Office Tube Complement Summary dated 15 May 1956.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 50 to 150 kc and 0.54 to 31 mc.

NUMBER OF BANDS: 5.

MOUNTING: Table mounted.

NUMBER OF PLUG IN COILS: None

POWER SOURCE REQUIRED: 110 to 120 v or 220 to 240 v, 50 to 60 cps, single ph.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

## MANUFACTURER'S OR CONTRACTOR'S DATA

National Co Inc. Malden, Mass.  
Contract NObsr-64281

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-39 consists of: (1) Radio Receiver R-651/URR-39 (1) Permanent Magnet Loudspeaker LS-228/U (1) Electrical Equipment Rack MT-1529/U	14-3/4 X 20-1/2 X 27-1/4	

June 1961

**RADIO RECEIVING SET****AN/URR-42 (XN-1)****FUNCTIONAL DESCRIPTION**

The AN/URR-42(XN-1) is a communication receiver intended for reception of A2 and A3 transmissions in the Very High Frequency (VHF) and Ultra High Frequency (UHF) in the frequency range of 225 to 400 megacycle (MC). It is capable of being quick shifted to any of ten (10) preset channels within the frequency range of the equipment.

The AN/URR-42(XN-1) is a slave unit to the frequency synthesizer (unit 2). The preset channels may be selected locally-automatically by a switch on the front panel of the synthesizer, or remotely by means of Navy types 23496 and 23497 selector control and indicator units.

No field changes in effect at time of preparation (9 December 1960).

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF RECEIVER: Superheterodyne.  
 TYPE OF FREQUENCY CONTROL: Synthesizer.  
 TYPE OF PRESENTATION: Audio.  
 TYPE OF RECEPTION: A2, A3.  
 NUMBER OF CHANNELS: 10 preset channels.  
 OPERATING FREQUENCY RANGE: 225 to 400 mc.

OPERATING POWER RQMT: 115 v ac, 50 to 60 cps, single ph.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Manson Laboratories Inc., Stamford, Conn.  
 Contract NObsr-72561, dated 11 June 1956.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Electron Tube and/or Crystal data not available.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93400: Preliminary Data Form for Radio Receiving Set AN/URR-42(XN-1).

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	NAVY BUSHIPS
PROCUREMENT COGNIZANCE	SHIPS-R-2197
STOCK NO.	
R.D.B. IDENT. NO.	

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-42(XN-1) consists of:		130
1	Receiver	16-31/32 x 17-1/2 x 22-3/4	
1	Synthesizer	13-5/32 x 17-1/2 x 22-3/4	
1	Frequency Control Adapter		

June 1961

Radio-Receivers

**RADIO RECEIVING SET****AN/URR-42 (XN-2)****FUNCTIONAL DESCRIPTION**

The AN/URR-42(XN-2) is a communication receiver intended for reception of A2 and A3 transmissions in the Very High Frequency (VHF) and Ultra High Frequency (UHF) in the frequency range of 225 to 400 megacycle (MC). It is capable of being quick shifted to any of ten (10) preset channels within the frequency range of the equipment.

The AN/URR-42(XN-2) is a slave unit to the frequency synthesizer (unit 2). The preset channels may be selected locally-automatically by a switch on the front panel of the synthesizer, or remotely by means of Navy types 23496 and 23497 selector control and indicator units.

No field changes in effect at time of preparation (9 December 1960).

**RELATION TO OTHER EQUIPMENT**

The essential difference between AN/URR-42(XN-2) and AN/URR-42(XN-1) is the improved preselector in the AN/URR-42(XN-2). The primary purpose of the improved preselector was to attempt closer channel spacing (R.F. channels) in the VHF/UHF frequency range.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF RECEIVER: Superheterodyne.

TYPE OF FREQUENCY CONTROL: Synthesizer.  
 TYPE OF PRESENTATION: Audio.  
 TYPE OF RECEPTION: A2, A3.  
 NUMBER OF CHANNELS: 10 preset channels.  
 OPERATING FREQUENCY RANGE: 225 to 400 mc.  
 OPERATING POWER RQMT: 115 v ac, 50 to 60 cps, single ph.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Manson Laboratories Inc., Stamford, Conn.  
 Contract NObsr-72561, dated 11 June 1956.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Electron Tube and/or Crystal data not available.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93400: Preliminary Data Form for Radio Receiving Set AN/URR-42(XN-2).

TYPE CLASSIFICATION (NAVY)  
 DESIGN COGNIZANCE SHIPS-R-2197  
 PROCUREMENT COGNIZANCE NAVY BUSHIPS  
 STOCK NO.  
 R.D.B. IDENT. NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-42(XN-2) consists of:		130
1	Receiver	16-31/32 x 17-1/2 x 22-3/4	
1	Synthesizer	13-5/32 x 17-1/2 x 22-3/4	
1	Frequency Control Adapter		

## RADIO RECEIVING SET

### FUNCTIONAL DESCRIPTION

Radio Receiving Set AN/URR-44 is a superheterodyne type radio receiving set designed for use aboard all types of U.S. Naval surface vessels, and at Naval shore radio stations. The receiver is designed for voice modulated signal reception on standard broadcast bands.

No field changes in effect at time of preparation (7 August 1959).

### EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna, (as req) Antenna Transmission Line, (as req) Power Cable MCOS-2, (as req) Audio Power Cable TTHFWA-1-1/2, (1) Headphones w/cord and plug.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 0.54 to 18.6 mc.  
 TYPE OF FREQUENCY CONTROL: Manually tuned, self-excited oscillator.  
 INTERMEDIATE FREQUENCY: 455 kc  $\pm$ 10%.  
 TYPE OF RECEIVER: Superheterodyne (A.M.).  
 TYPE OF RECEPTION: A3-Telephone; double sideband, full carrier.  
 AUDIO OUTPUT  
 MONITOR SPEAKER: 100 mw (min).  
 600 OHM LINE: 200 mw (min).  
 60 OHM LINE: 2.5 W (min).  
 HEADPHONE: 100 mw (min).

### IMPEDANCE

ANTENNA INPUT: 70 ohms, unbalanced.  
 AUDIO OUTPUT: 600 to 60 ohms (line); 600 ohms (phone jack).  
 EXTERNAL AUDIO INPUT: High impedance.  
 RECOMMENDED ANTENNA: Open-wire type, approx 50 ft lg, 70 ohms.  
 POWER SUPPLY CHARACTERISTICS  
 TYPE: Self-contained, full-wave rectifier.  
 INPUT: 105/115/125 v, 50/60 cps, single phase.  
 CURRENT DRAIN: 0.73 amp.  
 POWER CONSUMPTION: 80 W.

### MANUFACTURER'S OR CONTRACTOR'S DATA

General Instrument Corp, Brooklyn, N. Y.  
 Contract NObsr-71742.

### TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal data available.

#### TYPE CLASSIFICATION

DESIGN COGNIZANCE USN, BUSHIPS  
 PROCUREMENT COGNIZANCE SPEC MIL-R-15657D,  
 STOCK NO. MOD 4  
 R.D.B. IDENT. NO.

### SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Set AN/URR-44			

### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-44 including:		
1	Radio Receiver R-892/URR-44	12-3/8 X 17-3/8 X 18	62
2	Technical Manuals	1/2 X 8-1/2 X 11	
1	Connector, Antenna UG-21D/U		
1	Connector, A. C. input AN3106B-14S-7S		
1	Connector, Audio AN3106B-14S-2S		

June 1961

**RADIO RECEIVING SET**Radio-Receivers  
**AN/URR-45 ( )****FUNCTIONAL DESCRIPTION**

The AN/URR-45( ) is a general purpose receiver designed for use in Naval Ship and Shore Communications service. It is completely transistorized and of modular construction with audio presentation. It has high stability and is for DSB reception only.

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF EMISSION: A1, A2, A3, F1 and F4.

TYPE OF PRESENTATION: Audio.

TYPE OF CONSTRUCTION: Modular.

TYPE OF RECEPTION: DSB only.

RECEIVER FUNCTION: Naval Ship & Shore communications service.

NUMBER OF BANDS: 6 bands.

OPERATING FREQUENCY RANGE: 10 to 640 kc.

OPERATING POWER RQMT: 115 v ac, to cps, single ph.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

No Manufacturer's data available.  
Contract P. R. No. 687C-96063.

**TUBE AND/OR CRYSTAL COMPLEMENT**

No. Electron Tubes and/or Crystals used.

Transistorized data not available.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93400: Preliminary Data Form for  
Radio Receiving Set AN/URR-45( ).

<b>TYPE CLASSIFICATION</b> (NAVY) <b>DESIGN COGNIZANCE</b> NAVY BUSHIPS <b>PROCUREMENT COGNIZANCE</b> SHIPS-R-3227A <b>STOCK NO.</b>
---

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiving Set, Radio AN/URR-45( ).		

June 1961

**RADIO RECEIVING SET**Radio-Receivers  
**AN/URR-46 ( )****FUNCTIONAL DESCRIPTION**

The AN/URR-46( ) is a general purpose receiver designed for use in Naval Ship and Shore communications service. It is completely transistorized and of modular construction with audio type presentation. It has high stability and is for DSB reception only.

No field changes in effect at time of preparation (4 January 1961).

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF EMISSION: A1, A2, A3, A4, F1 and F4.

TYPE OF PRESENTATION: Audio.

TYPE OF CONSTRUCTION: Modular.

TYPE OF RECEPTION: DSB only.

RECEIVER FUNCTION: Naval Ship & Shore communications service.

NUMBER OF BANDS: 4 bands.

OPERATING FREQUENCY RANGE: 2 to 32 mc.

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

**MANUFACTURER'S OR CONTRACTOR'S DATA**

No Manufacturer's Data available.

Contract P. R. No. 687C-96063.

**TUBE AND/OR CRYSTAL COMPLEMENT**

No Electron Tubes and/or Crystals used.  
Transistor data not available.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93400: Preliminary Data Form for Radio Receiving Set AN/URR-46( ).

TYPE CLASSIFICATION (NAVY)  
DESIGN COGNIZANCE NAVY BUSHJPS  
PROCUREMENT COGNIZANCE SHIPS-R-3227A.  
STOCK NO.  
R.D.B. IDENT. NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-46( )		



June 1961

**RADIO RECEIVING SET**Radio-Receivers  
**AN/URR-47 ( )****FUNCTIONAL DESCRIPTION**

The AN/URR-47() is a general purpose receiver for use in Naval Ship and Shore communications service. It is completely transistorized, and is designed for Single Side Band (SSB) reception only, and of high stability.

No field changes in effect at time of preparation (4 January 1961).

**RELATION TO OTHER EQUIPMENT**

The AN/URR-47() is similar to the Radio Receiving Set AN/URR-46() except the AN/URR-47() is for Single Side Band (SSB) and the AN/URR-46() is for Double Side Band (DSB) reception.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF EMISSION: A-3a, A-3b and A9.  
 TYPE OF PRESENTATION: Audio.  
 TYPE OF CONSTRUCTION: Modular.  
 TYPE OF RECEPTION: SSB only.  
 RECEIVER FUNCTION: Naval Ship & Shore communications service.  
 NUMBER OF BANDS: 4 bands.  
 OPERATING FREQUENCY RANGE: 2 to 32 mc.  
 OPERATING POWER RQMT: 115 v ac, 60 cps,

single ph.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

No Manufacturer's data available.  
 Contract P. R. No. 687C-96063.

**TUBE AND/OR CRYSTAL COMPLEMENT**

No Electron Tubes and/or Crystals used.  
 Transistor data not available.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 93400: Preliminary Data Form for  
 Radio Receiving Set AN/URR-47().

<b>TYPE CLASSIFICATION</b> (NAVY) <b>DESIGN COGNIZANCE</b> NAVY BUSHIPS <b>PROCUREMENT COGNIZANCE</b> SHIPS-R-3227A <b>STOCK NO.</b>
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**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-47()		

June 1961

AN/URR-49

## RADIO RECEIVING SET

## FUNCTIONAL DESCRIPTION

The AN/URR-49 is designed as a general-purpose dual-diversity receiver, converter-comparator for the reception of frequency-shift teletype signals. Presentation is audio.

No field changes in effect at time of preparation (9 December 1960).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3, A9 and F1 type.

TYPE OF PRESENTATION: Audio.

NUMBER OF CHANNELS: 1 channel.

NUMBER OF BANDS: 6 bands.

OUTPUT IMPEDANCE: 600 ohms.

OPERATING FREQUENCY RANGE: 500 kc to 32 mc.

OPERATING POWER RQMT: 117 v ac, 60 cps,  
single ph.

## TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for  
Radio Receiving Set AN/URR-49.

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

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set AN/URR-49 consists of:		
2	Radio Receiver R-390A/URR	10-15/32 x 16-19/32 x 19	
1	Converter-Comparator Group AN/URA-8B	17-31/32 x 19-9/16 x 21-5/32	

April 1958

**RADIO RECEIVING SET****AN/URR-9***Radio Receiving Set AN/URR-9***ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 225 to 400 mc.

RECEPTION: A3.

OUTPUT IMPEDANCE

AUDIO CHANNEL: 600 ohms.

PHONE JACK: 600 ohms.

VIDEO CHANNEL: 1000 ohms.

SCAN CHANNEL: 50 ohms.

INPUT IMPEDANCE: 50 ohms.

SENSITIVITY: 225 to 240 mc, 10 uv from 240 to 400 mc.

INTERMEDIATE FREQUENCY: 3.85 mc and 18.6 mc.

POWER SOURCE REQUIRED: 110/115/120 v, 50 to 60 cps single ph.

ANTENNA CHARACTERISTICS: Half-wave, center-take-off dipole type of approximately 50 ohms impedance.

MOUNTING DATA: Deck or shelf.

**FUNCTIONAL DESCRIPTION**

The AN/URR-9 is designed for voice reception in either shipboard or shore installations. It is provided with automatic tuning to any of ten preset crystal controlled channels for either local or remote operation. The receiver also may be tuned manually over the entire range in local operation only. The superheterodyne receiver provides double conversion for variable bandwidths to increase selectivity. Connections to and from the receiver are filtered to eliminate possible interference. Terminals are provided for a scan output to be connected to a panoramic viewer, and for a Video output.

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

**RELATION TO OTHER EQUIPMENT**

The AN/URR-9 is similar to VHF Radio Receiving Equipment RDZ except that continuous manual tuning, double conversion and other improvements have been added. It is intended for use with Radio Transmitting Equipment TDZ. It will also net with Radio Transmitters AN/URT-9 and TED and with Radio Sets AN/GRC-27, AN/GRC-32, AN/ARC-27 and MAR.

Equipment Required but not Supplied: (1) Remote Channel Selector\*-23492, (1) Channel Selector Indicator Unit\*-23445, (1) Control Indicator Unit\*-23496, (1) Selector Control Unit\*-23497, (1) Broad Band Antenna-66147, or AT-150/SRC, or AS-390/SRC and Crystals CR-24/U.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

National Co., Inc., Malden, Mass.

Contract NObsr-39298 dated 16 June 1949.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OD3W	(1) 12AU7
(2) 2C51	(1) 5U4G
(3) 5654/6AK5W	(1) 5726/6AL5W
(9) 5749/6BA6W	(1) 5750/6BE6W
(1) 6J4WA	(1) 6J6WA
(1) 6005/6AQ5W	(1) 6626/OA2WA
(1) 6627/OB2WA	

Total Tubes: (24)

(1) CR-18/U (1) CR-23/U (1) CR-24/U

Total Crystals: (3)

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91201: Technical Manual for Radio Receiving Set AN/URR-9.

TYPE CLASSIFICATION	BUSHIPS
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	

Radio-Receivers

AN/URR-9

## RADIO RECEIVING SET

April 1958

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver R-289/URR-9 and 2 Technical Manuals	8.7	16-1/2 X 29 X 31-1/2	215
1	Equipment Spares	6.0	15 X 18-3/4 X 35-1/4	160

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-289/URR-9	13-1/8 X 22 X 23	150
2	Technical Manuals NAVSHIPS 91201		
1	Set of Repair Parts		

10 September 1962

Cog Service: USN

FSN: 5820-775-9082

RADIO, RECEIVING SET AN/WRR-2

Functional Class:

USA

USN

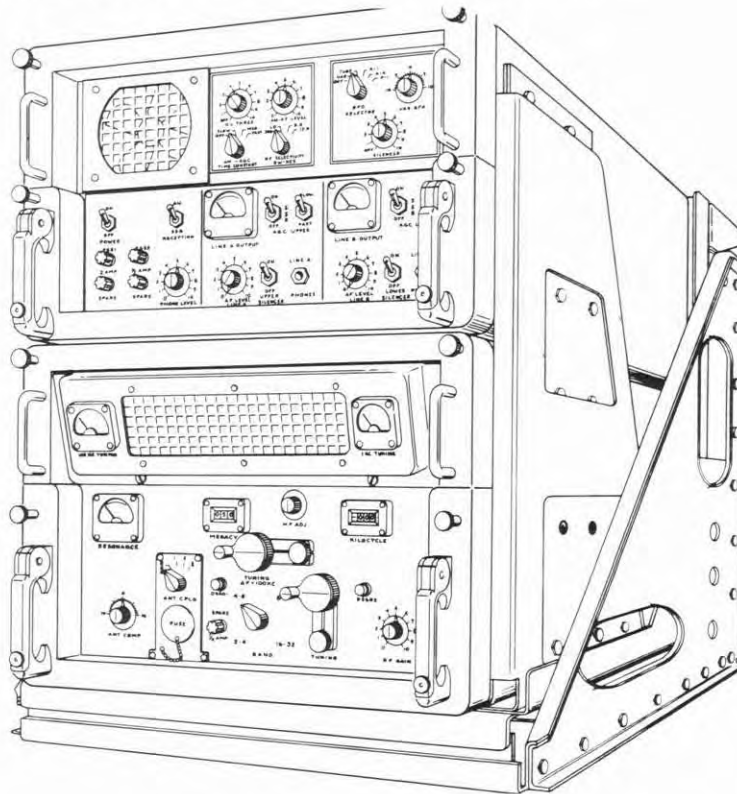
USAF

TYPE CLASS:

Std

Std

MANUFACTURER'S NAME/CODE NUMBER: National Company, Inc., (42498).



*Radio, Receiving Set AN/WRR-2*

#### FUNCTIONAL DESCRIPTION:

The Radio, Receiving Set AN/WRR-2 is a triple-conversion superheterodyne receiver designed to operate in the frequency range of 2 to 32 mc (megacycles). It is intended for use in all classes and types of ships employed in the United States Navy in communications between ships between ship and shore, and with aircraft.

The receiver is intended primarily for the reception of single-sideband (SSB) transmissions with full carrier suppression. It will also receive conventional amplitude-modulated (AM) signals of various types, including continuous wave (CW), modulated continuous wave (MCW), voice, facsimile, and frequency-shift teletype.

No field changes in effect at time of preparation (18 July 1962).

#### TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE

## AN/WRR-2 RADIO, RECEIVING SET

NOMINAL: 2 to 32 mc, inclusive.  
FREQUENCY OVERLAP: Min 1.9 mc to 32.1 mc, inclusive.  
TUNING BANDS AND BAND RANGES  
NUMBER OF BANDS: 4 bands.  
FREQUENCY RANGES: 2 to 4 mc; 4 to 8 mc; 8 to 16 mc; 16 to 32 mc.  
TYPE OF FREQUENCY CONTROL: Incremental tuning in 1 kc increments controlled by a crystal standard.  
TYPES OF RECEPTION: A1, A2, A3, A9, F1 and F4.  
MAXIMUM RECEIVER OUTPUT  
AF LINE TERMINALS: Min 60 mw into 600 ohm non-inductive-resistive load.  
PHONE JACKS: Max 15 mw into 600 ohm non-inductive-resistive load.  
FREQUENCY-CONTROL CRYSTAL DATA  
OSCILLATION FREQUENCY: 1 mc.  
CRYSTAL TEMPERATURE COEFFICIENT: One part per million per degree C from P80 deg C (P176 deg F) to P90 deg C (P194 deg F).  
CRYSTAL OPERATING TEMPERATURE: 85 deg C (185 deg F) porm 1 deg C.  
FREQUENCY ACCURACY OVER THE OPERATING RANGE: Porm 0.0005% of the nominal frequency at 85 deg C (185 deg F) at porm 5 cps at 1 mc.  
FREQUENCY STABILITY AND ACCURACY DATA  
INCREMENTAL TUNING (FULL DRIFT CANCELLATION): 1 part in  $10^7$  per day.  
CONTINUOUS TUNING: 1 part in  $10^7$  porm 150 cycles per day.  
TYPE OF PRESENTATION: Audio & meter type.  
TYPE OF INSTALLATION: Surface vessel and submarine.  
HETERODYNE FREQUENCY RANGE  
HIGH-FREQUENCY OSCILLATOR: 3.725 to 33.725 mc.  
INTERPOLATION OSCILLATOR: 680 to 980 kc.  
IF FREQUENCIES DEVELOPED  
FIRST CONVERSION: 1625 to 1725 kc (100 kc band).  
SECOND CONVERSION: 220 kc.  
THIRD (FINAL) CONVERSION: 80 kc.  
OPERATING POWER RQMT: 105/115/125 v ac, 50 to 60 cps, single ph, 2.17 amps; 250 W at 115 v ac, 60 cps.

### RELATION TO OTHER EQUIPMENT:

The AN/WRR-2 is designed as a replacement for CXRU; it was previously AN/SRR-15(XN-2).  
The AN/WRR-2 is similar to but not mechanically interchangeable with AN/FRR-59.

### EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Headset NT-49985-A or equivalent; (1) Antenna; (as required) Coaxial, Cable type RG-10A/U; (as required) Cable, Power type THFA or equivalent; (as required) Cable, Power DHFA or equivalent.

### MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio, Receiving Set AN/WRR-2			

1.4 AN/WRR-2: 2

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**RADIO, RECEIVING SET AN/WRR-2**

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QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	consists of:			
1	Electronic Frequency Converter CV-920/WRR-2		12.2 x 19.8 x 22.5	135
1	AF Amplifier AM-2477/WRR-2		10.5 x 19.8 x 22.5	100
1	Mounting Unit MT-2293/WRR-2		22 x 24 x 25.8	50
2	Cabinet Braces		1/4 x 17 x 22	15

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**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 93440: Technical Manual for Radio, Receiving Set AN/WRR-2 & AN/FRR-59.

NAVSHIPS 93550.42: Maintenance Standards Book for Radio, Receiving Set AN/WRR-2 & AN/FRR-59.

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

TUBES: (32) 5654 (5) 5670 (1) 5725 (7) 5749 (6) 5750 (3) 5751 (2) 5814A  
(4) 6005 (3) 0B2WA (1) 12AT7WA

CRYSTALS: (1) CR-36/U

SEMI-CONDUCTORS: (4) 1N198 (10) 1N458 (2) 1N457 (8) 1N547

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**SHIPPING DATA**

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PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	15.5	348
1	6.5	78

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**PROCUREMENT DATA**

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PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: SHIPS-R-3174 Amend #3

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
National Company, Inc. Pt/dwg no. J-19882	Malden, Mass.	NObsr-75698, 26 February 1959	

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20 August 1962

Cog Service: USN FSN:

RADIO, RECEIVING SET AN/WRR-3(XN-1)

Functional Class:

USA

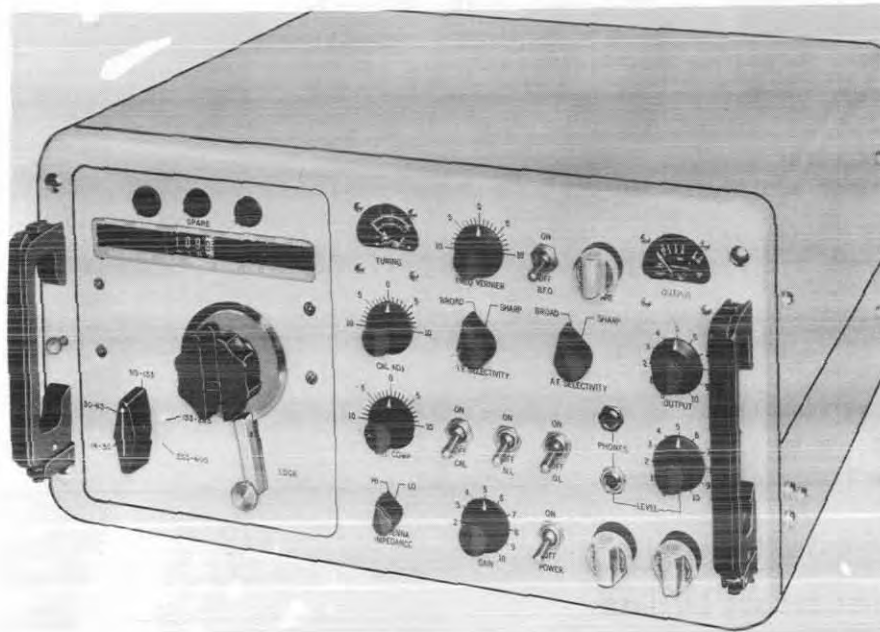
USN

USAF

TYPE CLASS: Pln/Std

Pln/Std

MANUFACTURER'S NAME/CODE NUMBER: The Magnavox Co., (37695).



*Radio, Receiving Set AN/WRR-3(XN-1)*

#### FUNCTIONAL DESCRIPTION:

The Radio, Receiving Set AN/WRR-3(XN-1) is a dual conversion superheterodyne receiver for surface craft and submarine installations. It receives A1 (CW), A2 (modulated CW) and F1 (FSK) signals. The receiver covers the frequency range of 14 to 600 kilocycles (KC) in five (5) bands. The frequency to which the receiver is tuned is read directly on digital drum type dials. An internal calibration circuit provides calibration points at each 10 kc tuning point within the 14 to 600 kc tuning range of the receiver. Either a high or low impedance antenna input may be selected with a switch on the front panel.

No field changes in effect at time of preperation (1 June 1962).



# AN/WRR-3(XN-1) RADIO, RECEIVING SET

## TECHNICAL CHARACTERISTICS:

TYPE OF RECEPTION: A1, A2, F1.

FREQUENCY RANGE: 14 to 600 kc.

BAND ONE: 14 to 30 kc.

BAND TWO: 30 to 63 kc.

BAND THREE: 63 to 133 kc.

BAND FOUR: 133 to 283 kc.

BAND FIVE: 283 to 600 kc.

TYPE OF RECEIVER: Dual conversion superheterodyne on bands one and four; and single conversion superheterodyne on bands two, three, and five.

### RECEIVER INPUT

LOW IMPEDANCE: 50 ohm nominal impedance.

HIGH IMPEDANCE: 200µuf nominal capacitance.

RECEIVER OUTPUT: 600 ohms balanced.

### INTERMEDIATE FREQUENCY:

BANDS-TWO, THREE AND FIVE: 200 kc.

BAND-ONE: 60 kc.

BAND-FOUR: 200 kc.

### OPERATING POWER RQMT

VOLTAGE: 105, 115 or 125 v ac.

FREQUENCY: 50 to 60 or 400 cps.

PHASE: Single.

CURRENT: 0.58 amps (115 v ac input).

POWER FACTOR: 0.98.

POWER: 65 W (115 v ac, 60 cps).

RELATION TO OTHER EQUIPMENT: None

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1 or 2 as required) Headset N.T. 49507 or equivalent; (1 or 5 as required) A.F. Amplifier AM-215/U or equivalent or FSK Converter AN/URA-17 or equivalent.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio, Receiving Set AN/WRR-3(XN-1) consists of:		8-3/4 x 16-3/4 x 17-3/4	69-1/2
1	Connector AN3106A-16S-5S			
2	Connector AN3106A-10SL-4S			
1	Connector UG-88/U			
2	Connector UG-21B/U			
2	Clamps AN3057-4			
1	Clamp AN3057-8			
1	Test Cable Ass'y CG-1101/SRR		3/4 x 8-3/4 x 11-1/2	
2	Technical Manual NAVSHIPS 94112			

1.4 AN/WRR-3(XN-1): 2

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94112: Technical Manual for Radio, Receiving Set AN/WRR-3(XN-1).

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

TUBES: (1) 6AN5W (1) 6AU6WA (4) 6C4WA (1) 12AT7WA (3) 5725/6AS6W (5) 5749/6BA6W  
(1) 5751

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N458 (2) 1N459 (2) 1N547 (1) 1N3004B (2) 1N2042-2

**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-3427

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The Magnavox Co.	Fort Wayne, Ind.	NObsr-81131, 24 February 1960	

June 1961

Radio-Receivers

**RADIO RECEIVING SET****AN/WRR-4****FUNCTIONAL DESCRIPTION**

The AN/WRR-4 is a Very Low Frequency (VLF) radio receiver, designed to receive transmitted signals from shore station VLF Transmitter and reduces it to printed page copy.

No field changes in effect at time of preparation (23 January 1961).

**RELATION TO OTHER EQUIPMENT**

The AN/WRR-4 is designed as part of the AN/WRC-2( ).

The AN/WRR-4 is designed to be used with but not part of 1 to 4 Teletypewriter Page Printers.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

TYPE OF EMISSION: F3 type.

TYPE OF INSTALLATION: Seaborne.

NUMBER OF CHANNELS: 4, 2 or 1 communications channel.

OPERATING FREQUENCY RANGE: 14 to 30 kc, in steps of 100 cycles.

OPERATING POWER RQMT: 115 vac, 60 cps, single ph.

**MANUFACTURER'S OR CONTRACTOR'S DATA**

Collins Radio Company, Cedar Rapids, Iowa.

Contract NObsr-72760, dated 20 March 1958.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Electron Tube and/or Crystal data not available.

**REFERENCE DATA AND LITERATURE**

Nomenclature Card for Receiving Set, Radio AN/WRR-4.

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

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiving Set, Radio AN/WRR-4 including:		
1	Receiver, Radio		
1	Demultiplexer		