
SECTION 7 OF 10

NAVSHIPS 94200.1

DIRECTORY
OF
COMMUNICATION
EQUIPMENT

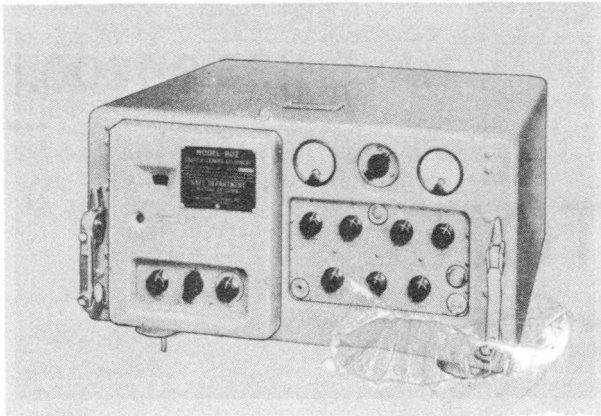
(CONTINUED)

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

RADIO RECEIVING EQUIPMENT

Radio-Receivers

RDZ-a



Radio Receiving Equipment RDZ-a

FUNCTIONAL DESCRIPTION

The RDZ-a is a complete Receiving Equipment suitable for MCW reception in the 200 to 400 magacycle frequency range and may be used for any type of Naval installation where a 115 volt, 400 cycle supply source is available.

It is a superheterodyne type receiver and may be operated locally or controlled remotely to tune any of ten pre-set crystal controlled channel frequencies within its tuning range. Several remote stations may be employed. Connections to and from the Receiver are filtered to limit possible interference to or from nearby electronic apparatus.

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

RELATION TO OTHER EQUIPMENT

RDZ-a is same as Models RDZ and RDZ-1 except the RDZ and RDZ-1 are designed to operate from a 50 to 60 cycle power source instead of 400 cycles.

Equipment Required but not Supplied: Crystals as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

RATED COVERAGE: 225 to 390 mc in 1 band.

TOTAL BAND: 200 to 400 mc except for hiatus from 222 to 232 mc.

FREQUENCY CONTROL: Pre-set crystal channel frequencies only.

RECEPTION: A2, A3

POWER OUTPUT

AUDIO CHANNEL (MAX): 6 v or 60 mw into 600 ohm load with 7% max distortion, 600 mw into 30 ohm load with 7% max distortion.

PHONE JACK (MAX): Approx 1.5 v or 4 mw

into 600 ohm load with 7% max distortion.

VIDEO CHANNEL (MAX): 1.5 v into 1000 ohm load with 7% max distortion (based on signal modulation 30% at 1000 cps).

SCANNING CHANNEL (MAX): Over 10000 uv across 50 ohm load.

TYPE RECEIVER: Superheterodyne.

INTERMEDIATE FREQUENCY: Center frequency 15.1 mc \pm 10 kc, variable bandwidth of 125 and 250 kc total bandwidth at 6 db down.

FREQUENCY STABILITY: 0.0015% max when employing CR-1 crystals or 0.007% max when employing crystals in the crystal oven for variations of 103.5 to 126.5 v, -15 to + 50 deg C, 30 to 95% humidity.

IMPEDANCE DATA

AUDIO CHANNEL: 600 ohms nom.

PHONE JACK: 600 ohms nom.

VIDEO CHANNEL OUTPUT: 1000 ohms.

SCANNING CHANNEL OUTPUT: 50 ohms nom.

POWER REQUIREMENTS: 110, 115, 120 v, 400 cps, single ph, 2.7 amps max, 300 W max.

ANTENNA DATA

TYPE: Half-wave, center-take-off, dipole, type.

IMPEDANCE: Approx 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

National Company, Inc., Malden, Mass.

Contract NObsr-43174, dated 11 January 1949.

Approximate Cost: \$5,500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6AC7	(2) 6AK5	(2) 6F4
(1) 956	(7) 6AB7	(1) 6H6
(1) 6SN7W	(1) 6V6GT/G	(1) 5U4G
(1) OD3/VR-150		

Total Tubes: (21)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91229: Technical Manual for Radio Receiving Equipment Navy Model RDZ-a.

NAVSHIPS 900617: Technical Manual for Radio Receiving Equipment Navy Model RDZ and RDZ-1.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

Radio-Receivers
RDZ-a

RADIO RECEIVING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver Assembly Model RDZ-a	8.5	16-3/8 X 29-7/8 X 30	215
1	Equipment Spare Parts	5.95	15-1/4 X 19 X 35-1/2	160
1	Equipment Spare Parts	2.33	11-5/8 X 15-1/4 X 22-3/4	53

EQUIPMENT SUPPLIES

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver Assembly Model RDZ-a consisting of:	13-1/8 X 22 X 22-5/32	150
	(1) Cabinet NT-10511	13-1/8 X 18-5/16 X 22	50
	(1) Front Panel Assembly NT-10512	10-1/2 X 19-11/16 X 22	10
	(1) Filter Cover NT-10513	2-3/32 X 5-21/32 X 20-1/4	1
	(1) Rectifier Power Unit NT-20407-A	5-1/2 X 8-9/32 X 18-1/2	38.5
	(1) Automatic Tuning Unit NT-23558	4-3/16 X 6-1/16 X 8-7/16	6
	(1) Preselector and Converter Unit NT-46273	8-1/2 X 8-1/2 X 14-3/16	20
	(1) IF/AF Unit NT-46274-A	8-23/32 X 11-5/16 X 13-1/8	17
	(1) RF Filter Unit NT-53280	2-7/8 X 6-15/32 X 20-9/16	10
1	Crystal Oven NT-40148	2-1/4 X 2-19/32 X 3-21/32	
1	Crystal Oven Extractor		
1	Broad Band Antenna NT-66147	4 X 4-1/2 X 25	3.5
1	Equipment Spare Parts	12 X 15 X 30	120
1	Equipment Spare Parts	9 X 12 X 18	30
2	Technical Manual NAVSHIPS 900617	1/2 X 9 X 11-1/2	
2	Technical Manual NAVSHIPS 91229	1/8 X 8-1/2 X 11	

RADIO RECEIVING EQUIPMENT



Radio Receiving Equipment Model REA

REA, REA-1

RADIO RECEIVING EQUIPMENT

FUNCTIONAL DESCRIPTION

The Navy Models REA and REA-1 are complete single-sideband receivers of the triple detection type designed for use at shore stations to provide high grade transoceanic telephony in the 4000 to 22,000 kilocycle frequency range in either one or both of two telephone channels arranged as a twin-channel system.

They are designed for use with Navy Model TEF Radio Transmitting Equipment, and when associated with the Model TEF and Model UP Two-Tone Carrier Control System, will provide operation of up to six sending and receiving carrier telegraph channels on one sideband.

They are electrically and mechanically interchangeable; however the Model REA-1 has an improved beat-frequency oscillator control unit, an improved tuning control unit, and other slight electrical changes.

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

RELATION TO OTHER EQUIPMENT

The Model REA is the Western Electric Model D-99945, the Model REA is an improved Western Electric Model D-99945, and the Model TEF is the Western Electric Model D-156000. The Models REA and TEF when used together is Radio Set AN/FRC-10.

Equipment Required but not Supplied: (1) Antenna, (1) Power Cable, Terminal Equipment as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 4000 to 22000 kc.
RECEPTION: A3.
FREQUENCY RESPONSE: Flat within 2 db from 100 to 6000 cps.

SENSITIVITY: 2 uv sideband amplitude for normal audio output at 20 db signal-to-noise ratio.

IMPEDANCE

INPUT: 72 ohms.
OUTPUT: 600 ohms to balanced lines.
AUDIO OUTPUT VOLUME: +5 vu for each channel.
POWER REQUIREMENTS: 110 to 120 v, 60 cps, single ph, 1000 W, 97% pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, Inc, New York, N.Y.
Contract NXsr-37594(REA).
Contract NXsr-60059(REA-1).

TUBE AND/OR CRYSTAL COMPLEMENT

(4) OC3W	(6) 300B
(3) OD3W	(7) 310A
(4) 262B	(19) 337A
(1) 272A	(4) 6L6WGB
(6) 274A	(2) 6L7
(1) 293A	(1) 802
Total Tubes: (58)	
(1) Quartz Crystal	
Total Crystals: (1)	

REFERENCE DATA AND LITERATURE

Technical Manual for Radio Receiving Equipment Model REA.
NAVSHIPS 95354: Technical Manual for Model REA-1 Radio Receiving Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Equipment Navy Model REA or REA-1 consisting of: (3) Cabinet (1) Terminal Panel NT-10338 (1) Terminal Panel NT-10380	18-1/4 x 65-1/8 x 84 15-1/4 x 21-1/2 x 84 2 x 3-1/2 x 19 2 x 3-1/2 x 19	1440

RADIO RECEIVING EQUIPMENT

REA, REA-1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	(1) Terminal Panel NT-10381	2 x 3-1/2 x 19	
	(1) Rectifier Power Unit NT-20203	15-1/4 w x 21-1/2 h	
	(3) Rectifier Power Unit NT-20316	15-1/4 w x 21-1/2 h	
	(1) Meter Panel NT-22436	5-1/12 w x 19 h	
	(2) Rectifier Power Unit NT-20304	15-1/4 w x 21-1/2 h	
	(1) Power Panel NT-23422	15-1/4 w x 21-1/2 h	
	(1) Monitor Panel NT-23433	15-1/4 w x 21-1/2 h	
	(1) Automatic Tuning Control Unit NT-23478	15-1/4 w x 21-1/2 h	
	(1) Beating Frequency Oscillator NT-35066	15 x 19 x 19	
	(1) Beating Frequency Oscillator NT-35052	11-31/64 x 15-1/4 x 19	
	(1) Carrier Oscillator NT-35053	7-15/16 x 15-1/4 x 19	
	(1) HF Amplifier and Detector NT-50184	15-1/4 x 18-1/4 x 21-1/2	
	(1) IF Amplifier and Detector NT-50185	14-7/32 x 15-1/4 x 21-1/2	
	(2) Channel Amplifier NT-50186	11-29/32 x 15-1/4 x 21-1/2	
	(1) Carrier Amplifier 50188	10-5/16 x 15-1/4 x 21-1/2	
	(1) Channel A Filter NT-53168		
	(1) Channel B Filter NT-5319		
	(1) Carrier Filter NT-53170		

10 January 1962

RADIO RECEIVING EQUIPMENT REA-2

Cog Service:

FSN:

Functional Class:

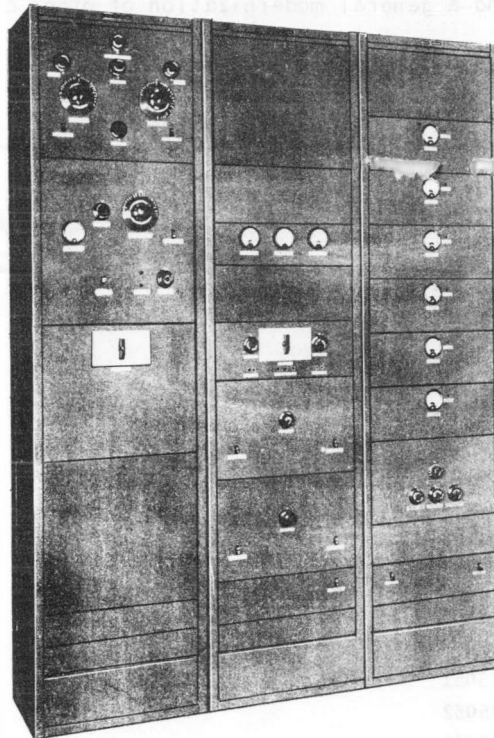
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Cooke Engineering Company.



Radio Receiving Equipment Model REA-2

FUNCTIONAL DESCRIPTION:

Radio Receiving Equipment REA-2 is a complete single-sideband, reduced-carrier, radio receiver of the triple detection type, for either one or both of two telephone channels arranged as a twin-channel system. It can be used in conjunction with multichannel carrier telegraph receiving equipment.

The equipment is enclosed in three rack type bays, and is complete, except for a receiving antenna system, a power cable, headsets, and terminal equipment.

No field changes in effect at time of preparation (7 June 1961).

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 4 to 22 mc.

TYPE MODULATION: AM (single or double sideband).

TYPE OF SIGNAL: Composite transmissions consisting of tone-radio teletype, voice facsimile,

REA-2 RADIO RECEIVING EQUIPMENT

or other audio frequencies in the range from 100 to 6,000 cps; also can receive standard double-sideband amplitude modulated voice.

POWER OUTPUT: P15 vw each channel into individual 600 ohm lines.

POWER REQUIREMENTS: 1000 W, 115 v, 50 to 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT:

This equipment is identical to the REA, except that it has improved the stability of the beat-frequency oscillator and a general modernization of other circuitry.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Receiving Equipment REA-2		18-1/4 x 65-1/8 x 84	1440
	includes:			
1	Terminal Panel NT-10338			
1	Terminal Panel NT-10380			
1	Terminal Panel NT-10381			
3	Power Supply NT-20316			
2	Power Supply NT-20304			
1	Power Supply NT-20303			
1	Meter Panel NT-22436			
1	Power Panel NT-23432			
1	Monitor Panel NT-23433			
1	Automatic Tuning Control NT-23434			
1	Oscillator, R.F. NT-35051			
1	Oscillator, R.F. NT-35052			
1	Oscillator, R.F. NT-35053			
1	HF Amplifier and Detector NT-50184			
1	IF Amplifier and Detector NT-50185			
1	Channel Amplifier NT-50186			
1	Carrier Amplifier NT-50188			
1	Channel "A" Filter NT-53168			
1	Channel "B" Filter NT-53169			
1	Carrier Filter NT-53170			
3	Cabinet		18-1/4 x 21-1/2 x 84	

REFERENCE DATA AND LITERATURE:

Technical Manual for Radio Receiving Equipment REA.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (4) 0C3W (3) 0D3W (4) 2628 (1) 272A (1) 293A (6) 3008 (7) 310A
(19) 337A (4) 6L6 (2) 6L7 (1) 802

RADIO RECEIVING EQUIPMENT REA-2

CRYSTALS: (1) 3,000 kc

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
		1900

PROCUREMENT DATA

PROCURING SERVICE:

DESIGN COG: USN, BuShips

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Cooke Engineering Co.	Alexandria, Virginia	N171-16240A	

ENTERTAINMENT RADIO RECEIVER

REH(46271)

No field changes in effect at time of preparation (12 February 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGES

BROADCAST: 540 to 1600 kc.

49 METER: 5.96 to 6.19 mc.

31 METER: 9.1 to 10.0 mc.

25 METER: 11.45 to 12.16 mc.

19 METER: 14.14 to 15.46 mc.

POWER REQUIREMENTS: 110 to 220 v, 50 to 60 cps single ph, 60 W.

ANTENNA TYPE: Whip and 50 ft wire.

MANUFACTURER'S OR CONTRACTOR'S DATA

Belmont Radio Corp, Chicago, Ill.
Contract NXsr 88879.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6SK7WA

(1) 5Y3WGTB

(1) 6SQ7

(1) 6ES

(1) 6V6GT

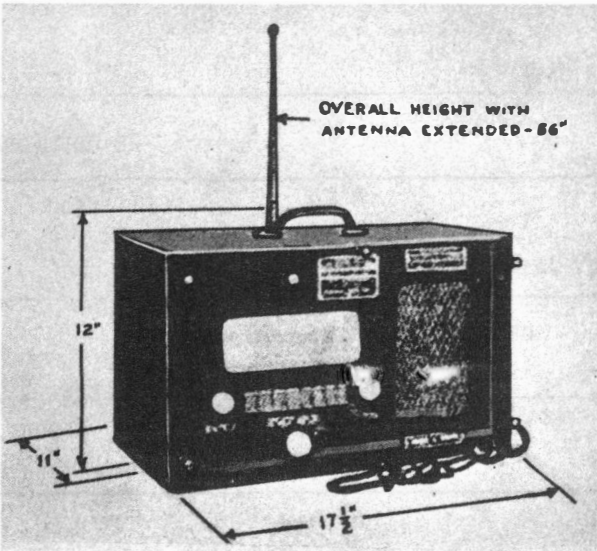
(1) 6SA7

Total Tubes: (7)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95639: Technical Manual for Navy Model REH Entertainment Radio Receiver (Type CDL-46271).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.



Entertainment Radio Receiver

FUNCTIONAL DESCRIPTION

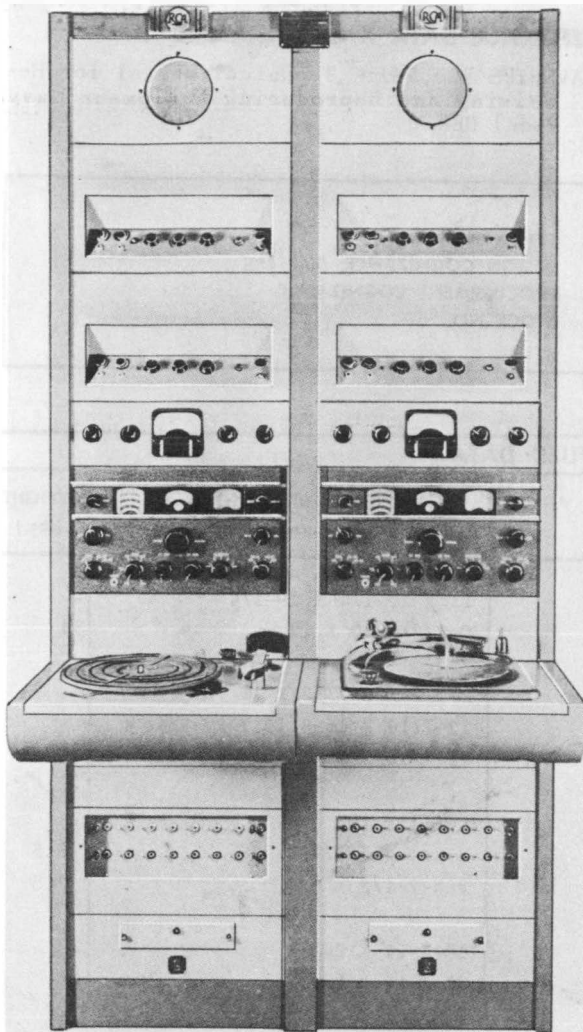
The Model REH (46271) is intended for providing radio broadcast news or entertainment programs to personnel. It is designed for good reproduction of voice and music and for ease of installation and operation. It incorporates automatic volume control and has a three-position tone control which selects bass, normal, or treble tone. It is provided with a switch and input receptacle for a phonograph attachment. It covers five bands ordinarily used in commercial broadcasting and communications, employing band-spread tuning to cover only those frequency ranges actually used, and tuning is thus no more critical on short wave bands than it is over the low frequency American broadcast band.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Entertainment Radio Receiver Model REH	11 x 12 x 17-1/2	

RADIO RECEIVING AND REPRODUCING EQUIPMENT

Radio-Receivers
REK



*Radio Receiving and Reproducing
Equipment Model REK*

FUNCTIONAL DESCRIPTION

The Navy Model REK is designed for hospital ship or shore use to amplify and distribute program material from recordings, from microphones or from either of two radio receivers. Programs are distributed to the various wards, where patients receive them by means of headphones plugged into conveniently located outlets. Four amplifiers provide four program channels which may be switched to one or more wards. The two radio receivers are identical and provide coverage of standard and short-wave broadcast or continuous-wave transmission. An adjustable speed turntable is provided for recording and an automatic recorder changer provides the means of reproduction. A microphone may be plugged into

each of the four amplifiers for announcements, and a comprehensive switching system allows selection of the desired input to each amplifier.

Data on this sheet reflects the following field changes: F/C1 for REK (17 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Outlets and cabling as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEIVING DATA

FREQUENCY RANGE: 535 to 32,000 kc in six bands.

MAXIMUM UNDISTORTED OUTPUT: 2.5 W approx.

OUTPUT IMPEDANCE: 2.5 ohms and 600 ohms.

SENSITIVITY: 0.5 uv for 4 v across diode load on all six bands.

TURNTABLE AND SHELF ASSEMBLY

TURNTABLE SPEED: 78 rpm and 33-1/3 rpm.

TURNTABLE DIAMETER: 12 in.

OUTPUT IMPEDANCE: 250 ohms.

AUTOMATIC RECORD CHANGER

TYPE: Single post, floating spindle type.

LOADING CAPACITY: Ten 12 in. records;

Twelve 10 in. records, or Twenty "V" disks.

MICROPHONE DATA

FREQUENCY RESPONSE: 60 to 10,000 cps.

EFFECTIVE OUTPUT: -57 db.

OUTPUT IMPEDANCE: 25 ohms (MI 6206, -E);
40,000 ohms (MI 6207, -E).

AMPLIFIER DATA

POWER OUTPUT: 25 W.

LOAD IMPEDANCE: 4, 7-1/2, 15, 60 or 250 ohms.

FREQUENCY RESPONSE: ± 30 db, 30 to 7,000 cps, (normal).

NOISE LEVEL: 0.002 W, 2 channels.

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cps, single ph, 610 W.

CAPACITY OF SYSTEM: Approx 800 outlets.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corp of America, RCA Victor Div,
Camden, N. J.

Contract NXsr-62358.

Contract NXsr-95123.

Contract N5sr-4661.

Radio-Receivers
REK

RADIO RECEIVING AND REPRODUCING EQUIPMENT

UNCLASSIFIED
April 1958

Approximate Cost: \$2,372.00 with e-
quipment spares.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,961: Technical Manual for Re-
ceiving and Reproducing Equipment Navy
Model REK.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 6C5	(12) 6J7
(8) 6L6	(10) 6SG7Y
(4) 5U4G	(2) 6SJ7
(2) 6SA7Y	(4) 6H6
(4) 6J5	(2) 0D3W
(2) 6K6GT	(2) 5Y3WGTB

Total Tubes: (60)
(2) 455KC
Total Crystals: (2)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Radio Receiver NT-46246	11 X 19-1/4 X 19-1/4	31
4	Amplifier Panel and Shelf Assembly	9-1/2 X 10 X 19	
2	Monitor Speaker Panel		
2	Volume Indicator and Control Panel	2-1/2 X 5-7/32 X 19	
1	Turntable and Pickup Shelf Assembly	12-7/16 X 16-3/16 X 20-3/16	
1	Record Changer and Shelf Assembly	12-7/16 X 16-3/16 X 20-3/16	
2	Distribution Transformer Panel		
2	Output Distribution Switch Panel	3-1/2 X 19	
2	Switch and Fuse Panel	2-3/4 X 5-7/32 X 19	
4	Aeropressure Microphone	2 X 2-1/2 X 6	
2	Relay Rack		8.5
3	Set of Equipment Spares	18 X 21 X 24	2.5
1	Set of Equipment Spares	12 X 12 X 18	

ENTERTAINMENT RADIO RECEIVER

REO

FUNCTIONAL DESCRIPTION

The Model REO is intended for providing radio broadcast news or entertainment programs to personnel. It is designed for good reproduction of voice and music, and for ease of installation and operation. It incorporates automatic volume control and has a three-position tone control which selects bass, normal, or treble tone. It is provided with a switch and input receptacle for a phonograph attachment.

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

cps, single ph; 115 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900, 123(B): Technical Manual for Naval Electronics Equipments.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

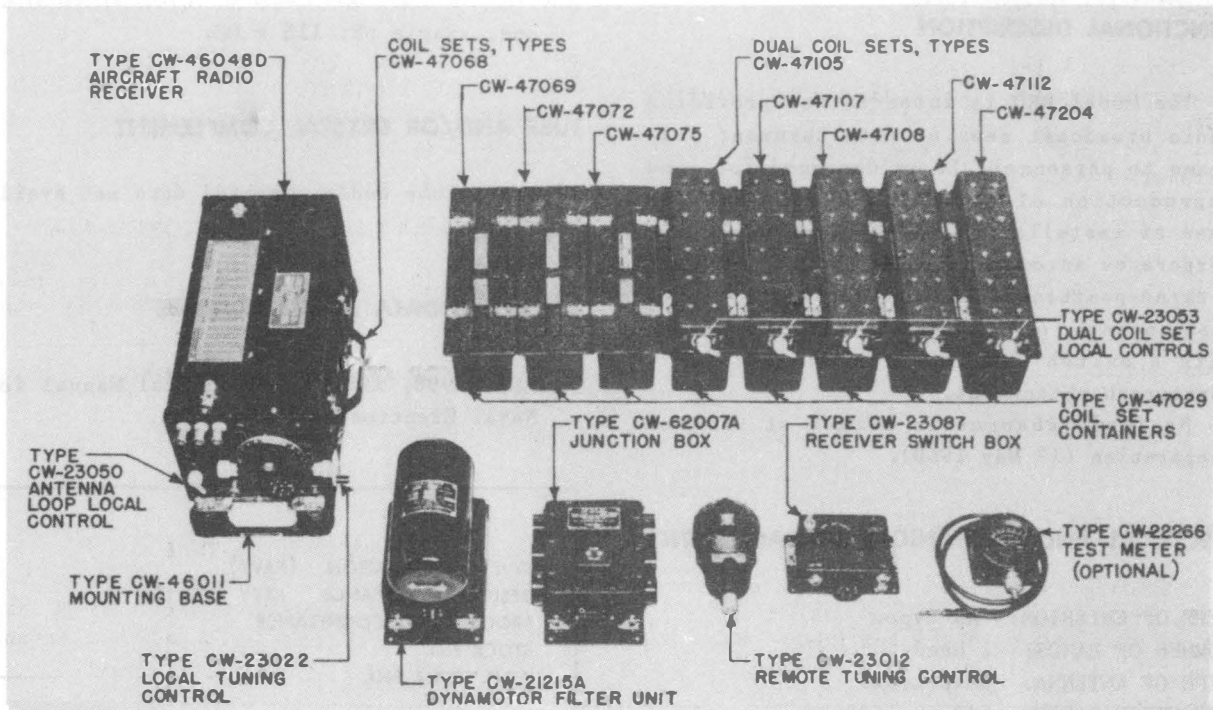
TYPE OF EMISSION: A3 type.
NUMBER OF BANDS: 1 band.
TYPE OF ANTENNA: Whip type.
FREQUENCY RANGE: 540 to 1600 kc.
OPERATING POWER RQMT: 115 v AC, 50 to 60

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

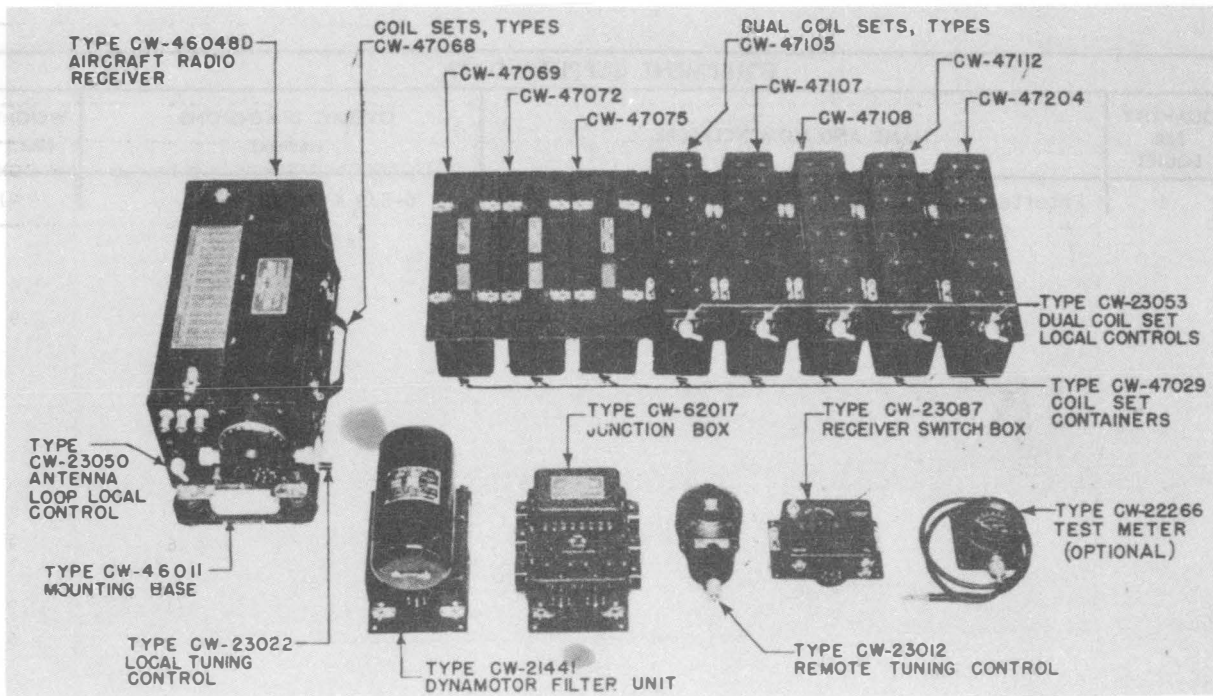
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Entertainment Radio Receiver REO	6-5/8 X 7-7/8 X 14	

AIRCRAFT RADIO EQUIPMENTS



RU-18 (12 Volt) Receiving Equipment



RU-19 (24 Volt) Receiving Equipment
Aircraft Radio Equipments

RU-18, 19

AIRCRAFT RADIO EQUIPMENTS

FUNCTIONAL DESCRIPTION

The RU-18 is a complete aircraft radio receiving equipment capable of reception of MCW or CW signals in the frequency range of 195 to 13,575 kc. It is designed for use on airplanes equipped with a 12 to 15 volt DC source. Model RU-19 equipment is similar to RU-18 except that it is designed for use on airplanes having a 24 to 30 volt DC source. The junction boxes and the dynamotor-filter units of the two equipments are the only corresponding items which are not interchangeable.

No field changes in effect at time of preparation (20 December 1956).

RELATION TO OTHER EQUIPMENT

All major units of RU-18 are interchangeable with the corresponding major units of RU-4, RU-5, RU-6, RU-10 and RU-11. Receiver Coil Sets of RU-18 and RU-19 are interchangeable with corresponding ranges of RU-3, RU-3A, RU-4, RU-4A, RU-5, RU-5A, RU-6, RU-7, RU-10, RU-11, RU-12, RU-13, RU-14, RU-16 and RU-17.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 195 to 13,575 kc.
POWER SOURCE REQUIRED.
RU-18: 12 to 15 v DC.
RU-19: 24 to 30 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co. Inc., Chicago, Ill.
Contract No. NOs-84530 dated 21 April 1941.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 78 (2) 77 (1) NF38233
Total Tubes: (6)

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model RU-18 and Navy Model RU-19 Aircraft Radio Telegraph and Telephone Receiving Equipments.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Dynamotor Filter Unit NT-21215A* or NT-21441**	4-3/8 X 5-3/4 X 7-3/8	9
1	Test Meter NT-22266***		0.5
1	Receiver Remote Tuning Control NT-23012	2-1/2 X 3 X 6	0.9
1	Remote Tuning Control Mechanical Linkage (bulk) NT-23021		
2	Remote Switching Mechanical Linkage (bulk) NT-23052		
1****	Dual Coil Set Local Control NT-23053		
1	Dual Coil Set Remote Control NT-23054		
1	Receiver Switch Box NT-23087	2-3/8 X 3-11/16 X 5-1/16	0.9
1	Aircraft Radio Receiver NT-46048D w/Mounting Base NT-46011	7-13/16 X 8-1/8 X 15-3/4	13.9
① 1****	Receiver Coil Set Container NT-47029	3-1/2 X 4-3/4 X 11-7/8	0.6
②	Receiver Coil Set, Range C, 545 to 850 kc NT-47067		
1	Receiver Coil Set, Range D, 850 to 1330 kc NT-47068		

AIRCRAFT RADIO EQUIPMENTS

RU-18, 19

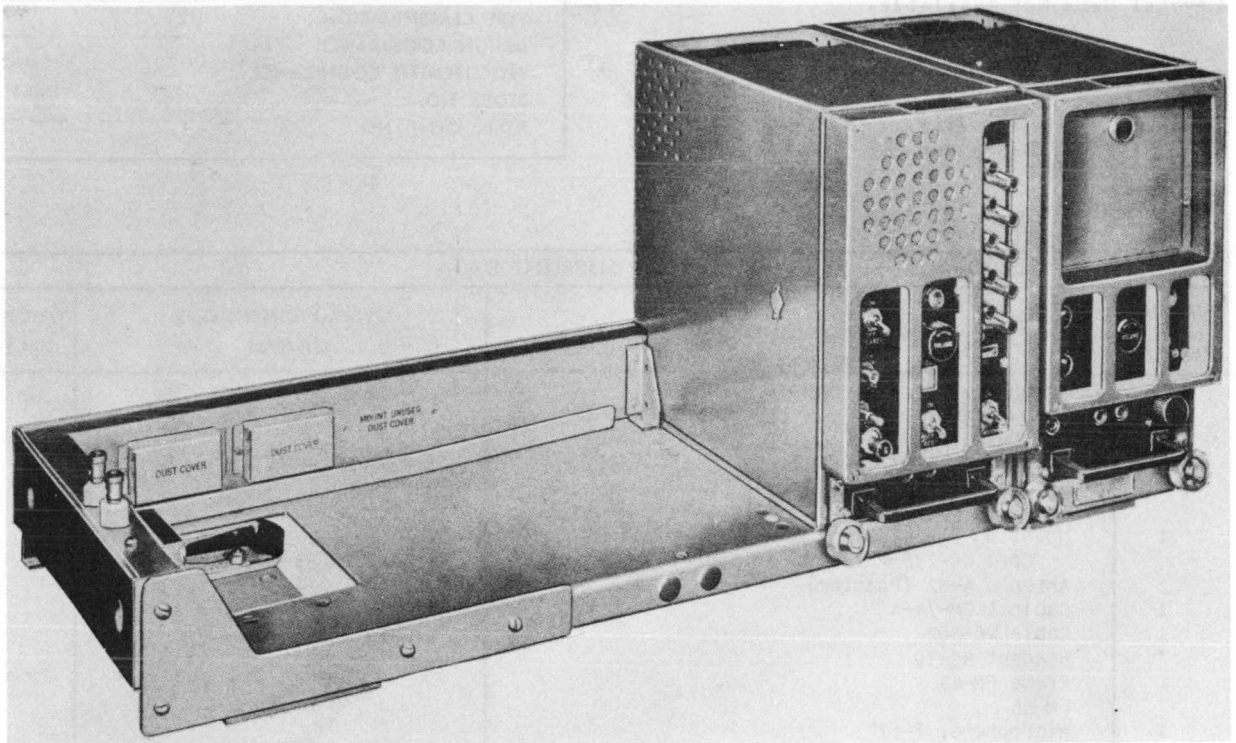
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver Coil Set, Range E, 1330 to 2040 kc NT-47069		
③ 1	Receiver Coil Set, Range F, 2040 to 3000 kc NT-47070		
②	Receiver Coil Set, Range G, 3000 to 4525 kc NT-47071		
1	Receiver Coil Set, Range H, 4000 to 6000 kc NT-47072		
1	Receiver Coil Set, Range K, 9050 to 13575 kc NT-47075		
②	Receiver Coil Set, Range N, 6000 to 9050 kc NT-47088		
②	Receiver Coil Set, Range M, 5200 to 7700 kc NT-47099		
1	Receiver Dual Coil Set, Range O, 095 to 290 kc and Range P, 290 to 435 KC NT-47105		
②	Receiver Coil Set, Range L, 400 to 600 KC NT-47106		
1	Receiver Dual Coil Set, Range Q, 540 to 830 kc and Range M, 5200 to 7700 kc NT-47108		
1	Receiver Dual Coil Set, Range L, 400 to 600 kc and Range N, 6000 to 9050 kc NT-47112		
②	Receiver Dual Coil Set, Range F, 2040 to 3000 kc and Range N, 6000 to 9050 kc NT-47202		
②	Receiver Dual Coil Set, Range F, 2040 to 3000 kc and Range G, 3000 to 4525 kc NT-47203		
1	Receiver Dual Coil Set, Range Q, 540 to 830 kc and Range F, 2040 to 3000 kc NT-47204		
1	Junction Box NT-62007A *	2-15/16 X 5-1/2 X 7-3/8	1.9
1	Junction Box NT-62017 **	4-1/16 X 5-1/2 X 7-3/8	2.4
1	Set of Bulk Parts for Cable Assemblies		
1	Receiver Slip Cover ***		
1	Set of Rubber Sleeves for Plugs ****		
1	Aligning Wrench		
1	Instruction Book		
1	Additional Receiver Tuning Chart		
1	Set of Equipment Spares		

NOTES:

- * RU-18 only
- ** RU-19 only
- *** Optional, not furnished with all lots of equipment.
- **** 1 per dual coil set
- ① Each receiver is shipped with one coil set in place.
One coil set container is provided for each additional coil set furnished.
- ② Not supplied by the Western Electric Co as part of the RU-18 or RU-19 equipment
- ③ Supplied with certain equipments when NT-47204 was not supplied.

RADIO SET



Radio Set SCR-538

FUNCTIONAL DESCRIPTION

The SCR-538 provides FM radiotelephone facilities for car, platoon, company, battalion and regimental commanders. It does not employ a transmitter, but an interphone amplifier is provided for communication between occupants of a vehicle having no transmitter. The set is installed and operated in combat vehicles such as tanks, scout cars, half-tracks, command cars, or any other authorized vehicle.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

GENERAL

MAXIMUM RELIABLE RANGE: 10 mi.
OPERATION: Local or remote.
FREQUENCY: 20 to 27.9 mc.
CHANNEL CONTROL: Local only.
PRESET CHANNELS: 10.
POSSIBLE CHANNELS: 80.
POWER SOURCE REQUIRED: 12 or 24 v vehicular batt.

RECEIVER

TYPE: Superheterodyne.
RECEPTION: F3.
IF: 2.65 mc.
BANDWIDTH: 80 kc.
POWER OUTPUT
SPEAKER: 2 W.
HEADSET: 0.2 W.
SENSITIVITY: 1 uv.
NOISE SUPPRESSION: Squelch circuit.
INTERPHONE AMPLIFIER
AF POWER OUTPUT: 2 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., New York, N. Y.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 12SG7Y	(1) 6J5
(2) 1619	(2) 6SL7WGT
(3) 6AC7WA	(1) 6V6GT
(1) 6H6	

Total Tubes: (12)

SCR-538

RADIO SET

Crystal Data Not Available.

REFERENCE DATA AND LITERATURE

TM11-600: Technical Manual for Radio Sets
SCR-508, SCR-528 and SCR-538.

TYPE CLASSIFICATION DESIGN COGNIZANCE TASSA PROCUREMENT COGNIZANCE STOCK NO. R.D.B. IDENT. NO.
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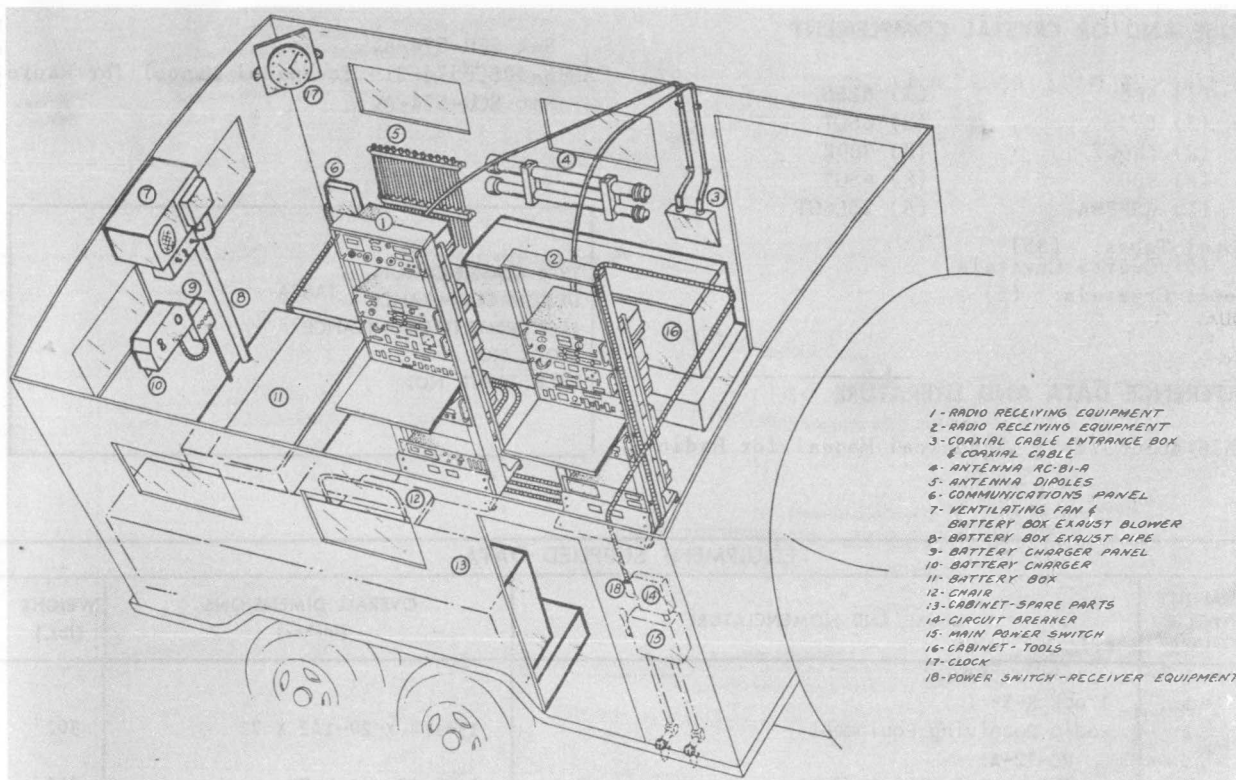
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver BC-603 with Dynamotor DM-34 (12 v) or DM-36 (24 v)	11-1/2 X 6-3/4 X 13-1/8	35
1	Interphone Amplifier BC-605 with Dynamotor DM-34 (12 v) DM-36 (24 v)	11-1/2 X 6-3/4 X 13-1/8	29
1	Mounting FT-237 with Cord CO-278-A for Power Supply	1-25/32 X 33-5/8 X 12-7/16	44
1	Antenna A-62 (Phantom)		
1	Cabinet CH-74-A		
1	Cable WC-562	100 lg	
*	Headset HS-30		
1	Frame FM-43 FM-55		
1	Microphone, T-17*		
1	Microphone, T-45*		
1	Set of Equipment Spares and Accessories		

*As authorized.

RADIO SET

SCR-574-A



Radio Set SCR-574-A

FUNCTIONAL DESCRIPTION

The SCR-574-A is a complete truck-mounted radio receiving station providing simultaneous reception on two channels in the VHF band. It consists of two receivers, a trailer-mounted power supply unit and all necessary equipment for either local or remote operation. When used as a forward relay receiving station with Control Set SCR-572-A it may be located 85 to 120 miles from the Control Set.

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

RELATION TO OTHER EQUIPMENT

The SCR-574-A is used with Radio Sets SCR-573-A and SCR-575-A and Control Set SCR-572-A. It is similar to SCR-644-A except that the later is not installed in a vehicle.

Equipment Required but not Supplied:
Crystals as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.
RECEPTION: A1, A2, A3.
OUTPUT IMPEDANCE: 200 to 20000 ohms.
PE-99-() POWER UNIT RATING: 110 v, 60 cps, three ph, 7.5 kva.
POWER REQUIREMENTS: 110 v, 60 cps, one or three ph, 1-1/2 kw (electric heaters if supplied require an additional 3 kw); 24 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bendix Radio Div. of Bendix Aviation Corp., Baltimore, Maryland.
Purchase Order 2406-SCL-42.

Radio-Receivers

SCR-574-A

RADIO SET

TUBE AND/OR CRYSTAL COMPLEMENT

- | | |
|------------|------------|
| (1) 6E5 | (1) 6L5G |
| (3) 5V4G | (2) 6SQ7 |
| (2) 6K6GT | (3) 9002 |
| (8) 9003 | (8) 6SG7 |
| (1) 6SK7WA | (6) 25L6GT |

Set SCR-574-A.
 AN08-40SCR574-2: Technical Manual for Radio
 Set SCR-574-A.

Total Tubes: (35)
 (5) Quartz Crystals
 Total Crystals: (5)

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

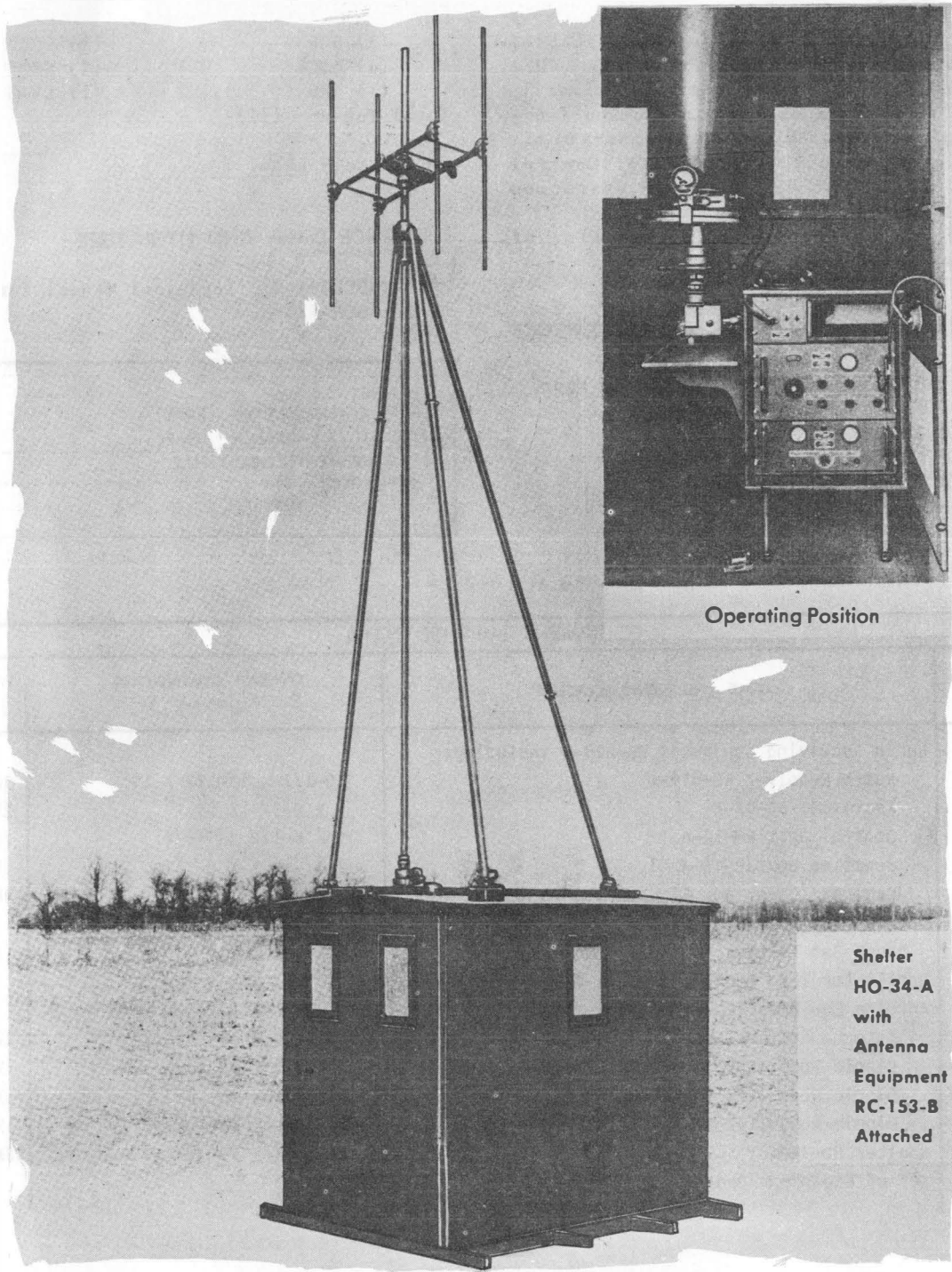
REFERENCE DATA AND LITERATURE

AN16-40SCR574-2: Technical Manual for Radio

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Truck K-53 ()		
1	Radio Receiving Equipment RC-72-A.	13-1/4 X 20-1/2 X 72	302
1	Radio Receiving Equipment RC-155-A.	11 X 20-1/2 X 72	258
1	Antenna AN-86-A	75 ft lg	
2	Antenna Equipment RC-81-A		
1	Trailer K-63-()		
1	Power Unit PE-99-()		1100
1	Battery Charger Assembly		
1	Operator's Chair		
2	Steel Folding Chairs		
2	Microphones T-43-A		
2	Handsets TS-14-()		
3	Headsets HS-23		
1	Telephone EE-8-()		
2	Telegraph Key J-44		
1	Maintenance Equipment ME-48-()		
1	Tool Equipment TE-95		
1	Tool Equipment TE-48		
1	Set of Accessories		
1	Set of Equipment Spares		
14	Technical Manuals		

RADIO SET



Operating Position

Shelter
HO-34-A
with
Antenna
Equipment
RC-153-B
Attached

Radio Set SCR-634-A

June 1961

Radio-Receivers

SCR-634-A**RADIO SET****FUNCTIONAL DESCRIPTION**

The SCR-634-A is an air-transportable, field-operated, Very High Frequency (VHF) direction finding station designed primarily for use as a fixer or homer direction finding station when used with other units of the Very High Frequency (VHF) Fighter Control System. It is not designed for operation during flight.

No field changes in effect at time of preparation (13 April 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION RECEIVED: A1 and A2 type.

TYPE OF PRESENTATION: Audio type.

NUMBER OF BANDS: 1 band.

NUMBER OF CHANNELS: 1 channel.

FREQUENCY RANGE: 100 to 156 mc.

OPERATING POWER RQMT: 110 v AC, 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 9003

(1) 9002

(4) 6SG7

(1) 6SQ7

(1) 6K6

(1) 5V4G

Total Tubes: (11)

No Crystals used.

REFERENCE DATA AND LITERATURE

AN16-40SCR634-2: Technical Manual for Radio Set SCR-634-A.

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

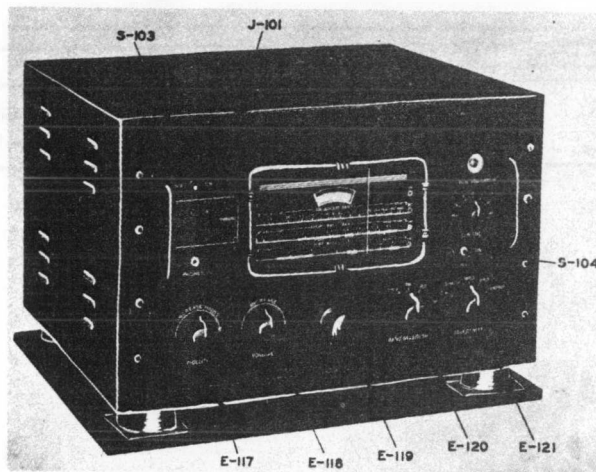
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Equipment RC-229-A Including:		
1	Radio Receiver BC-639-A	10-1/2 X 13-1/2 X 19	38.5
1	Rectifier RA-42-A	7 X 8-3/4 X 19	25.5
1	Control Unit RM-38-A	6 X 6-1/2 X 7-3/4	5.5
1	Junction Box JB-45-A	3-1/4 X 5 X 6-3/4	3.0
1	Cabinet (Chest No. 3)	21 X 25 X 31	35.0
1	Head Set w/Cord CD-605		
1	Hand Set TS-14-A	3 X 3-1/2 X 9	1.5
1	Oscillator Test Equipment RC-93-A		
1	Antenna Equipment RC-153-B Including:		
1	Antenna H-Frame Ass'y	17 X 34 X 46	19.0
10	Dipole Rods (100 to 124 mc)	1/2 dia X 28 lg	3.5
10	Dipole Rods (122 to 146 mc)	1/2 dia X 23	3.2
10	Dipole Rods (132 to 156 mc)	1/2 dia X 21	3.0
1	Shelter HO-34-A	64 X 84 X 90	525.0
1	Set of Equipment Spares		

March 1957

RADIO RECEIVING EQUIPMENT

SLR-H



Radio Receiving Equipment SLR-H

HF OSCILLATOR RADIATION: 400 uw at any frequency.

UNDISTORTED OUTPUT(MAX): Approx 19 W with 3% distortion measured at 400 cps across 600 ohms load impedance.

LOUDSPEAKER DATA: Permanent magnet type with 600 ohm matching transformer.

ANTENNA DATA

TYPE: 50 to 200 ft single wire or balanced feed-line.

POWER REQUIREMENTS: 110 to 125 v, 58 to 62 cps, single ph, 0.82 amps at 115 v, 95 W at 115 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

E. H. Scott Radio Laboratories, Inc;
Chicago, Illinois.

FUNCTIONAL DESCRIPTION

The SLR-H(Scott Radio Laboratories) is suitable and is primarily intended for use aboard marine vessels of all types, but is equally suitable for use at radio shore stations.

It is specifically designed to provide optimum performance and high quality reception of voice or tone modulated and continuous wave radio frequency signals, in the frequency ranges of 0.53 to 1.60 and 5.55 to 1506 megacycles, by head telephone or loudspeaker methods.

It is primarily designed for top of table or bench mounting.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

BROADCAST BAND: 0.53 to 1.60 mc.

SHORT WAVE: 5.55 to 15.6 mc in 2 bands.

RECEPTION: Voice or tone modulated and CW.

TYPE RECEIVER: Superheterodyne.

POWER OUTPUT: 30 mw at phone jack.

INTERMEDIATE FREQUENCY: 455 ±1 kc,

IF REJECTION: 75.0 db min.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6K7	(1) 6J5
(1) 6SA7GT	(2) 6SK7GT
(1) 6SH7GT	(2) 6SN7GT
(2) 6V6GT	(1) 6E5
(1) 574G	

Total Tubes: (12)

REFERENCE DATA AND LITERATURE

E.H. Scott Radio Laboratories, Inc. Technical Manual for Radio Receiving Equipment Model SLR-H.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

UNCLASSIFIED

SLR-H

RADIO RECEIVING EQUIPMENT

March 1957

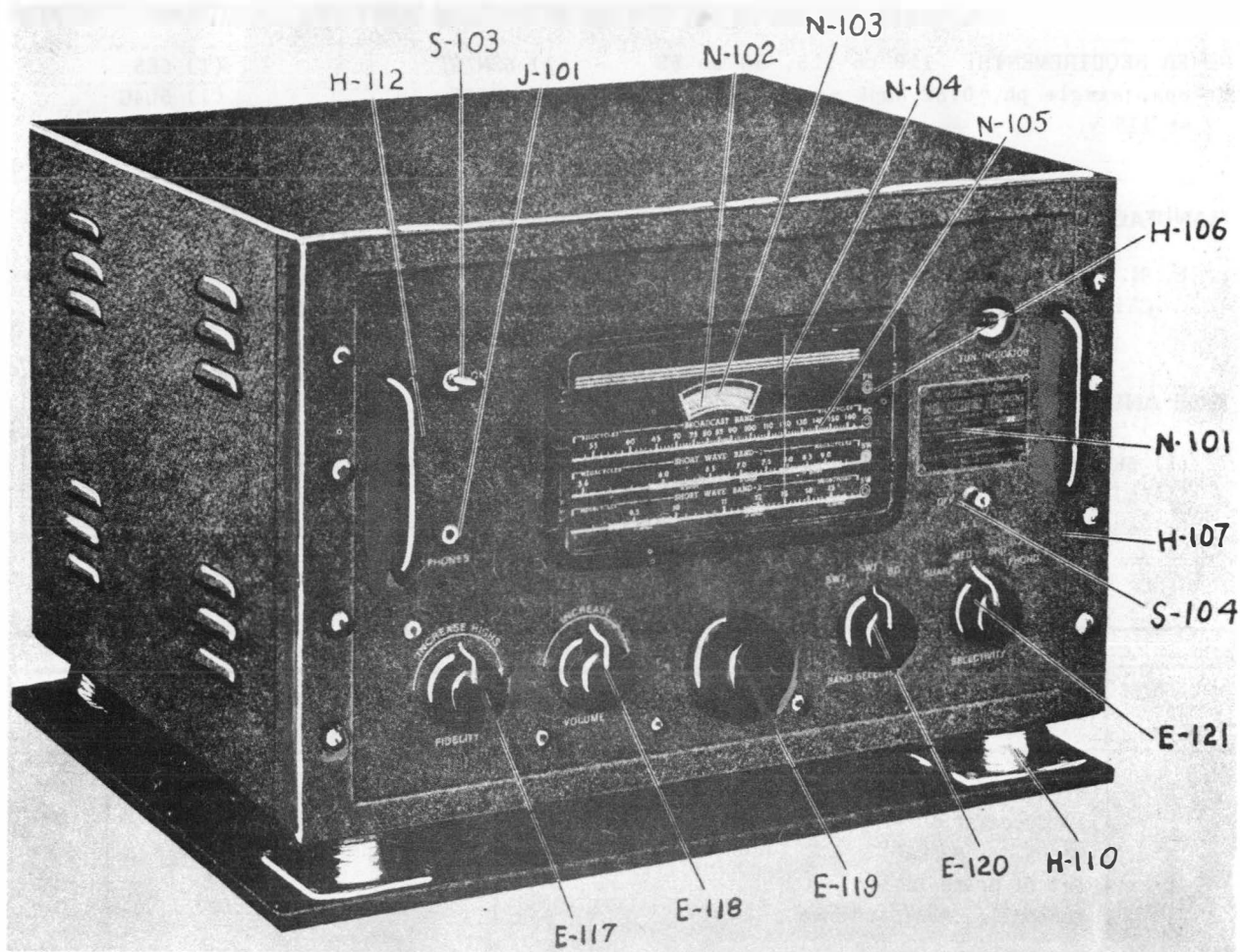
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver SLR-H	13-3/4 X 18-1/2 X 20-1/2	104
2	Technical Manuals		
1	Set Spare Tubes		

March 1957

RADIO RECEIVING EQUIPMENT

SLR-12B



Radio Receiving Equipment SLR-12B

FUNCTIONAL DESCRIPTION

The SLR-12B (Scott Radio Laboratories) is suitable and is primarily intended for use aboard marine vessels of all types, but is equally suitable for use at radio shore stations.

It is specifically designed to provide optimum performance and high quality reception of voice or tone modulated radio frequency signals, in the frequency ranges of 0.53 to 1.60 and 5.55 to 15.6 megacycles, by head telephone or loudspeaker methods.

It is primarily designed for top of table or bench mounting.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

BROADCAST BAND: 0.53 to 1.60 mc.

SHORT WAVE BAND: 5.55 to 15.6 mc in 2 bands.

RECEPTION: Voice or tone modulated.

POWER OUTPUT: 30 mw at phone jack.

INTERMEDIATE FREQUENCY: 455 \pm 1 kc.

IF REJECTION: 75.0 db min.

HF OSCILLATOR RADIATION: 400 uw at any frequency.

UNDISTORTED OUTPUT(MAX): Approx 10 w with 3% distortion measured at 400 cps across 600 ohm load impedance.

LOUDSPEAKER DATA: Permanent magnet type with 600 ohm matching transformer.

ANTENNA DATA

TYPE: 50 to 200 ft single wire or balanced feed-line.

March 1957

SLR-12B

RADIO RECEIVING EQUIPMENT

POWER REQUIREMENTS: 110 to 125, 58 to 62
cps, single ph, 0.82 amps at 115 v, 95 W
at 115 v.

(1) 6SN7GT (1) 6E5
(2) 6V6GT (1) 5U4G
Total Tubes: (12)

MANUFACTURER'S OR CONTRACTOR'S DATA

E. H. Scott Radio Laboratories, Inc.,
Chicago, Illinois.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95274: Technical Manual for Radio
Receiving Equipment Model SLR-12B.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6K7 (2) 6K7GT
(1) 6J5 (1) 6H6GT
(1) 6SA7GT (1) 6J5GT

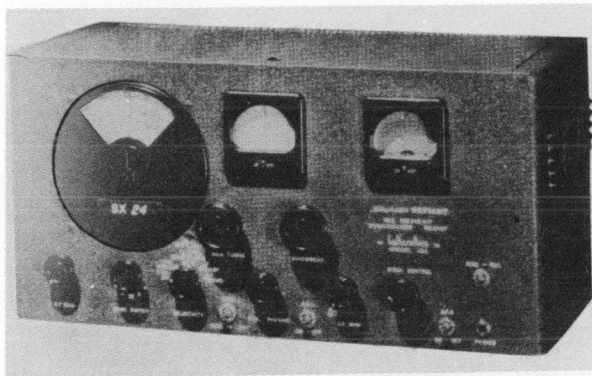
TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver SLR-12B	13-3/4 X 18-1/2 X 20-1/2	104
1	Loudspeaker SPM-12	9-3/4 X 14-3/8 X 14-3/8	28
2	Technical Manual		
1	Set of Spare Tubes		
1	Connecting Plug, Antenna		

RECEIVER

SX-24



Radio-Receiver SX-24

FUNCTIONAL DESCRIPTION

The Hallicrafters' model SX-24 is a general purpose broadcast and amateur band superheterodyne receiver covering the frequency range from 540 kc to 43.5 megacycles in 4 bands. It is designed for use by fixed installations for the reception of A1, A2 and A3 signals. The receiver is equipped with a "Send-Receive" switch which momentarily removes plate voltage from the tubes in the receiver so that the set can be made inoperative during stand-by periods and an "EXT-SWITCH" terminal strip for external switch provisions should the receiver be controlled by a remote switch or relay.

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: A doublet or marconi (inverted "L") Antenna; a set of high impedance headphones either crystal or magnetic type.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 540 kc to 43.5 mc.

BAND COVERAGE

Band 1: 540 kc to 1730 kc.

Band 2: 1.7 mc to 5.1 mc, 80 meter.

Band 3: 5.0 mc to 15.7 mc, 20 meter.

Band 4: 15.2 mc to 43.5 mc, 10 meter.

Band 3B: 40 meter handsread application.

I.F. FREQUENCY: 455 kc.

POWER CONSUMPTION: 70 W.

POWER SOURCE: 115 v, 60 cycles, single ph.

RECEPTION: A1, A2, A3.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Hallicrafters Co. Chicago, Ill.

Model SX-24

Approximate Cost: \$100.00.

TUBE COMPLEMENT

(1) 6K8 (3) 6SK7

(1) 6SQ7 (1) 6K6

(1) 76 (1) 80

(1) 6H6

Total Tubes: 9

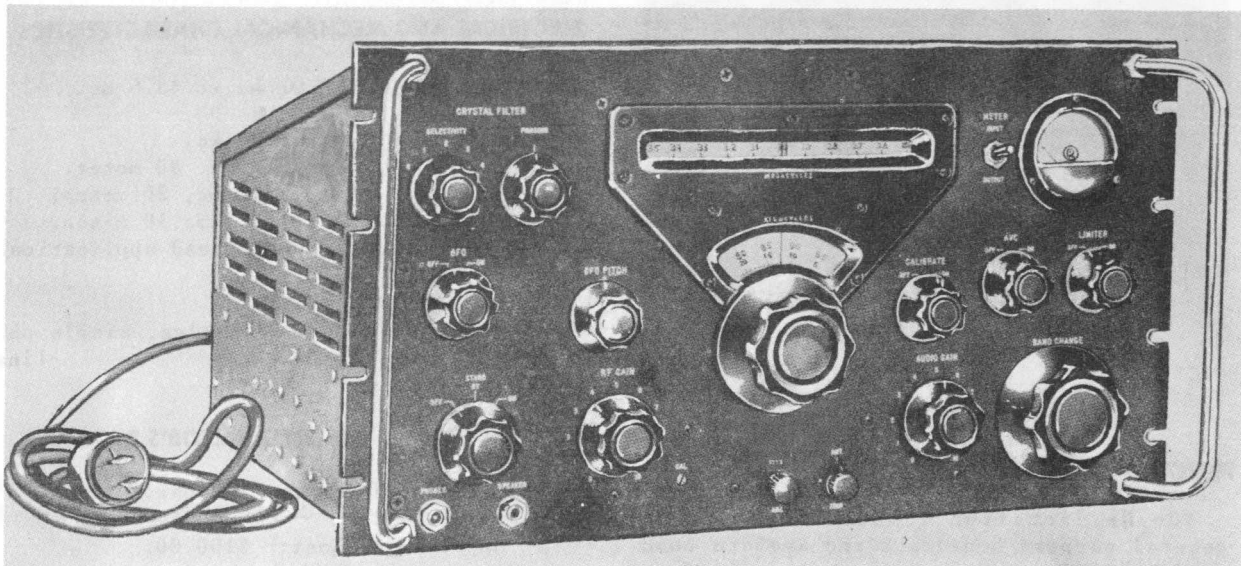
REFERENCE DATA AND LITERATURE

06063924

Operating and Servicing Instructions for Skyrider Defiant Model SX-24.

<p>TYPE CLASSIFICATION DESIGN COGNIZANCE COMMERCIAL PROCUREMENT COGNIZANCE STOCK NO.</p>

RECEIVER



Receiver 51J-4

FUNCTIONAL DESCRIPTION

The 51J-4 (Collins Radio) is designed for amplitude-modulated and continuous wave reception in the frequency range of 540 kilocycles to 30.5 megacycles. When advantageous, it uses single, double, or triple conversion in tuning the entire frequency spectrum of 540 kilocycles to 30.5 megacycles.

It is furnished in a non-magnetic cabinet made of aluminum suitable for the table mounting.

No field changes in effect at time of preparation (10 December 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied:
Test Equipment as Required, (1) Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 540 kc to 30.5 mc.

RECEPTION: AM, CW, MCW.

TYPE RECEIVER: Superheterodyne.

CALIBRATION: Direct reading in mc and kc.

TUNING: Linear with uniform bandspread.

AUDIO POWER OUTPUT: 1.5 W at 1000 cps with less than 15% distortion.

FREQUENCY STABILITY: Dial calibration at room temperature is within 300 cps if nearest 100 kc calibration point is used to adjust the fiducial.

SENSITIVITY

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

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

FREQUENCY RESPONSE

SPURIOUS: Down at least 40 db.

AUDIO(OVERALL): 3 db max at 200 cps and 7 db max at 2500 cps when 6 kc filter is used.

AUTOMATIC VOLUME CONTROL: Less than 3.5 db increase in audio power output with an increase in RF signal from 5 to 125000 uv.

NOISE LIMITER: Series type ahead of first audistages.

IMPEDANCE DATA

June 1957

Radio-Receivers

51J-4**RECEIVER**

AUDIO OUTPUT: 4 and 600 ohms.
 IF OUTPUT: 50 ohms.
 RF OUTPUT: Designed to operate into high impedance whip or single-ended antenna.
 S METER: Calibrated in 20, 40, 60, 80, 100 db above AVC threshold and -10 to +6 db audio level with 6 mw as reference.
 TEMPERATURE RANGE: -20 to +60 deg C.
 POWER REQUIREMENTS: 115 or 230 v, 45 to 70 cps, 85 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Company, Cedar Rapids, Ia.
 Contract NObsr 71045, dated 26 September 1955.

Approximate Cost: \$1307.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6AK5	(3) 6BE6	(6) 6BA6
(2) 12AX7	(1) 12AU7	(1) 6AQ5
(1) 5V4G	(1) OA2	

Total Tubes: (17)

(10) CR-18/U	(1) CR-7	(1) 100KC
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 Total Crystals: (12)
REFERENCE DATA AND LITERATURE

NAVSHIPS 92324: Technical Manual for Collins 51J-4 Communications Receiver.

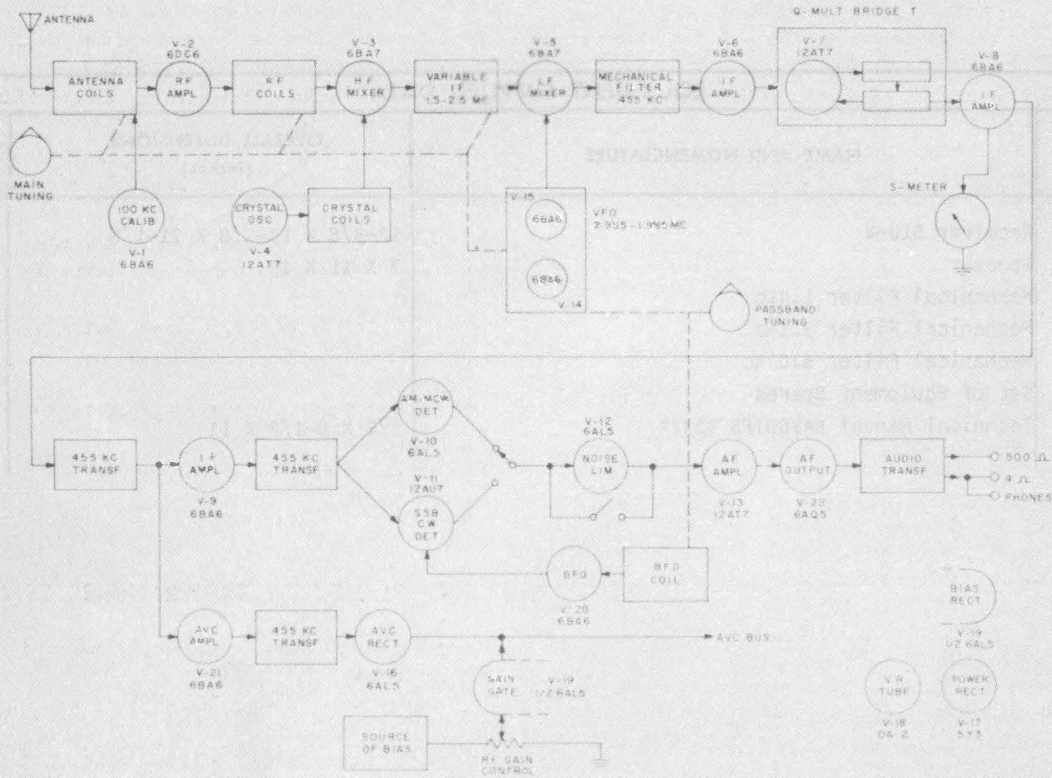
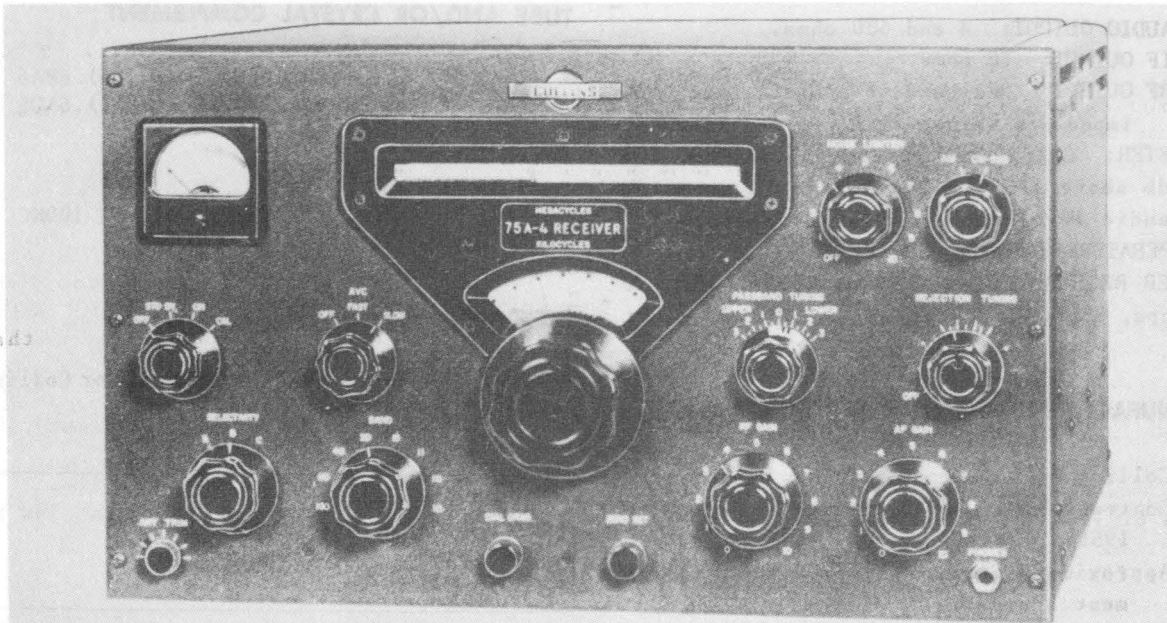
TYPE CLASSIFICATION DESIGN COGNIZANCE COMMERCIAL PROCUREMENT COGNIZANCE STOCK NO.
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EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver 51J-4	12-3/8 X 13-1/8 X 21-1/8	43
1	Speaker	7 X 11 X 13	
1	Mechanical Filter 1.4kc		
1	Mechanical Filter 3.1kc		
1	Mechanical Filter 6.0 Kc		
1	Set of Equipment Spares		
2	Technical Manual NAVSHIPS 92324	3/8 X 8-1/2 X 11	

AMATEUR-BAND RECEIVER

75A-4,75A-4 (MOD)



Amateur Band Receiver 75A-4, 75A-4 (MOD)

75A-4, 75A-4 (MOD) AMATEUR-BAND RECEIVER

FUNCTIONAL DESCRIPTION

The 75A-4 and 75A-4 modified (Collins Radio) are designed primarily for amateur reception on the seven high-frequency amateur bands. They are dual conversion receivers on all bands except 160 meters where single conversion is employed. They are designed especially for single sideband reception and features separate detectors for double or signal sideband signals, a fast attach, slow release AVC system fast enough to respond to the first few cycles of a sideband transmission and does not require the presence of a carrier for operation, a passband tuning system where the receiver BFO is mechanically ganged and tracked with the main tuning dial, a "Q" multiplier which results in much less loss of intelligibility while still doing a superior job of eliminating heterodynes, space for three mechanical filters allows the operator to tailor his set to his requirement, a noise limiter designed to clip both the positive and negative peaks of the detected signal and a crystal calibrator circuit which presents calibration signals every 100 kilocycles. They are designed for table mounting, but a rack mounting bracket assembly is available so they can be adapted for standard relay rack mounting.

The 75A-4 and 75A-4 (MOD) differ only in that the 75A-4 (MOD) frequency bands are different and includes slight mechanical changes.

No field changes in effect at time of preparation (16 November 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1.5 to 30.0 mc.

FREQUENCY BAND DATA

75A-4

- BAND 1: 1.5 to 2.5 mc.
- BAND 2: 3.2 to 4.2 mc.
- BAND 3: 6.8 to 7.8 mc.
- BAND 4: 14.0 to 15.0 mc.
- BAND 5: 20.8 to 21.8 mc.
- BAND 6: 26.5 to 27.5 mc.
- BAND 7: 28.0 to 29.0 mc.
- BAND 8: 29.0 to 30.0 mc.

75A-4 (MOD): 1.5 to 2.5, 3.2 to 6.2, 6.8 to 7.8, 13.0 to 15.0 and 29.0 to 30.0 in various bands.

TYPE RECEPTION: AM, CW, SSB, MCW.

SENSITIVITY: 1.0 uv for 6 db signal-to-noise ratio with 3 kc bandwidth.

SELECTIVITY: Determined by choice of mechanical filter.

ANTENNA INPUT: 50 to 150 ohms terminal impedance.

AVC DATA

AUDIO RISE: Less than 3 db for 5 to 200,000 uv inputs.

TIME CONSTANTS

RISE TIME: 0.01 sec fast, 0.01 sec slow.

RELEASE TIME: 0.1 sec fast, 1.0 sec slow.

IF AND IMAGE REJECTION: All greater than 50 db down.

AUDIO DATA

OUTPUT: 0.75 W with a 3.0 uv signal, 30% modulated.

OUTPUT IMPEDANCE: 500 ohms, 4 ohms.

AUDIO CIRCUIT RESPONSE: ± 3 db at 100 to 5000 cps.

DISTORTION: Less than 10%.

NOISE LIMITER

AM: Adjustable clip point, automatic carrier reference.

CW-SSB: Adjustable clip point, Clip reference controlled by flat AVC.

FREQUENCY STABILITY (AT 14.5 MC)

TEMPERATURE: Not more than 1200 cps drift from 0 to 60 deg C.

WARMUP: Drift does not exceed 100 cps during any 10 min period, after 30 min warmup.

VOLTAGE: Frequency does not change more than 100 cps for line voltage changes of $\pm 10\%$.

HUMIDITY: Frequency does not change more than 50 cps for humidity changes of from 0 to 90%.

DIAL ACCURACY (AFTER CALIBRATION)

ALL BANDS: ± 300 cps.

POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cps, 85 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Company, Cedar Rapids, Iowa.

Contract NObsr 71287, dated 27 April 1956 (75A-4)

Contract NObsr 71289, dated 27 April 1956 (75A-4 MOD)

Approximate Cost: \$1126.00 with equipment spares.

June 1957

Radio-Receivers

AMATEUR-BAND RECEIVER

75A-4,75A-4(MOD)

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 0A2
 (4) 6AL5
 (8) 6BA6
 (1) 6DC6
 (1) 12AU7
 (1) 5Y3GT
 (1) 6AQ5
 (2) 6BA7
 (3) 12AT7
 (1) 12AX7

Total Tubes: (23)

(1) 100KC
 (1) 9.3MC
 (1) 23.3MC
 (1) 30.5MC
 (1) 5.7MC
 (1) 16.5MC
 (1) 29MC
 (1) 31.5MC

Total Crystals: (8)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92788: Technical Manual for Collins
 75A-4 Amateur Receiver.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE COMMERCIAL
 PROCUREMENT COGNIZANCE
 STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver Collins Type 75A-4	10-1/2 X 15-1/2 X 17-1/4	35
1	Mechanical Filter 0.8 KC		
1	Mechanical Filter 3.1 kc		
1	Mechanical Filter 6.0 kc		
1	Speaker Collins Type 270G-3	9-1/8 X 11-1/8 X 15	
2	Technical Manual		
1	Connector UG-218/11		
1	Set of Equipment Maintenance Parts 75A-4 (MOD)		35
1	Receiver Collins Type 75A-4 Modified	10-1/2 X 15-1/2 X 17-1/4	
1	Mechanical Filter 0.8 kc		
1	Mechanical Filter 3.1 kc		
1	Mechanical Filter 6.0 kc		
2	Technical Manual		
1	Set of Equipment Maintenance Parts		