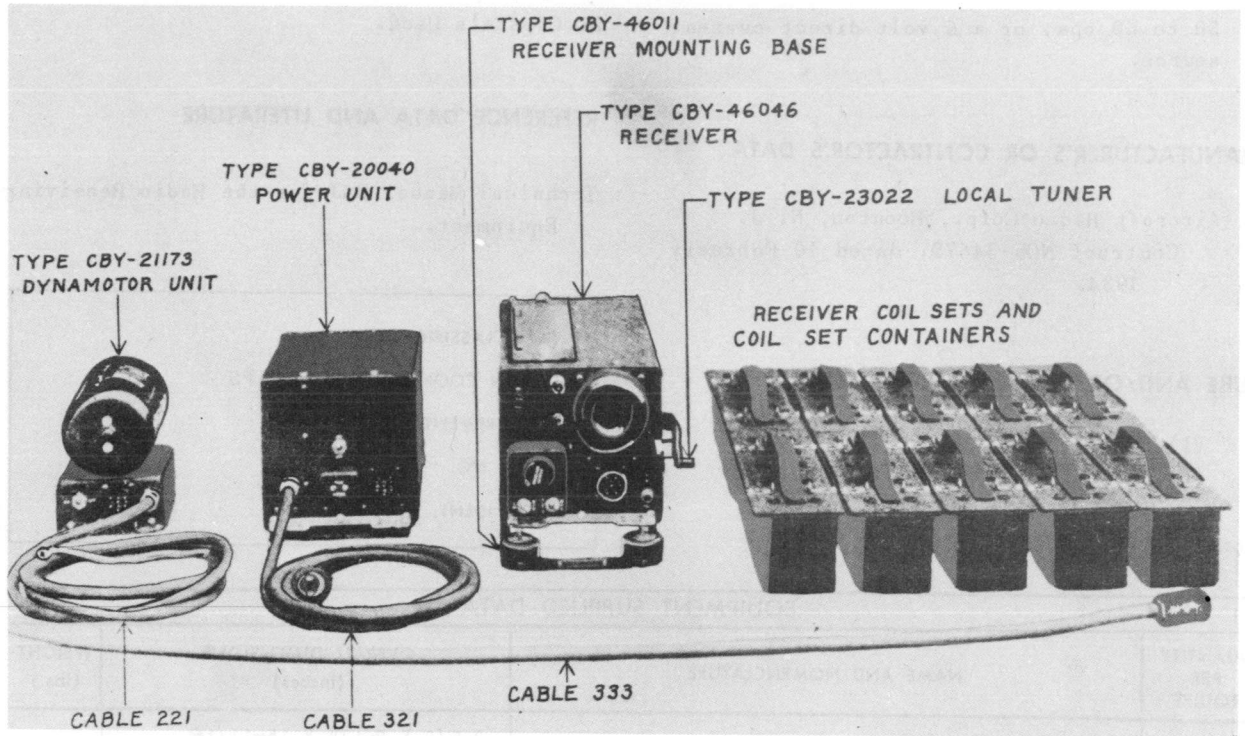


SEC 6 ACQ 1/11

UNCLASSIFIED  
April 1959

Radio-Receiver  
**RAJ**

### RADIO RECEIVING SET



*Model RAJ Equipment*

#### FUNCTIONAL DESCRIPTION

The Navy Model RAJ is designed as a complete radio receiving set for operation from either 115 volt, 60 cycle mains or from a 6 volt direct current source. It may be used to receive modulated, unmodulated and damped wave signals.

For alternating current operation the receiver is energized from the power mains through Power Unit NT-20040, which is designed to supply alternating current at 6 volts for the vacuum tube heaters and approximately 250 volts for plate and screen voltages.

For operation from a direct current source the power unit is not used and the set is energized by a 6 volt direct current source

through Dynamotor Unit, NT-21173.

No field changes in effect at time of preparation (19 August 1958).

#### RELATION TO OTHER EQUIPMENT

The RAJ is essentially the same in circuits and operates as the RU-3. The two receivers differ only in that the vacuum tube heaters in the RAJ are wired for alternating current supply.

#### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 224 to 13575 kc.

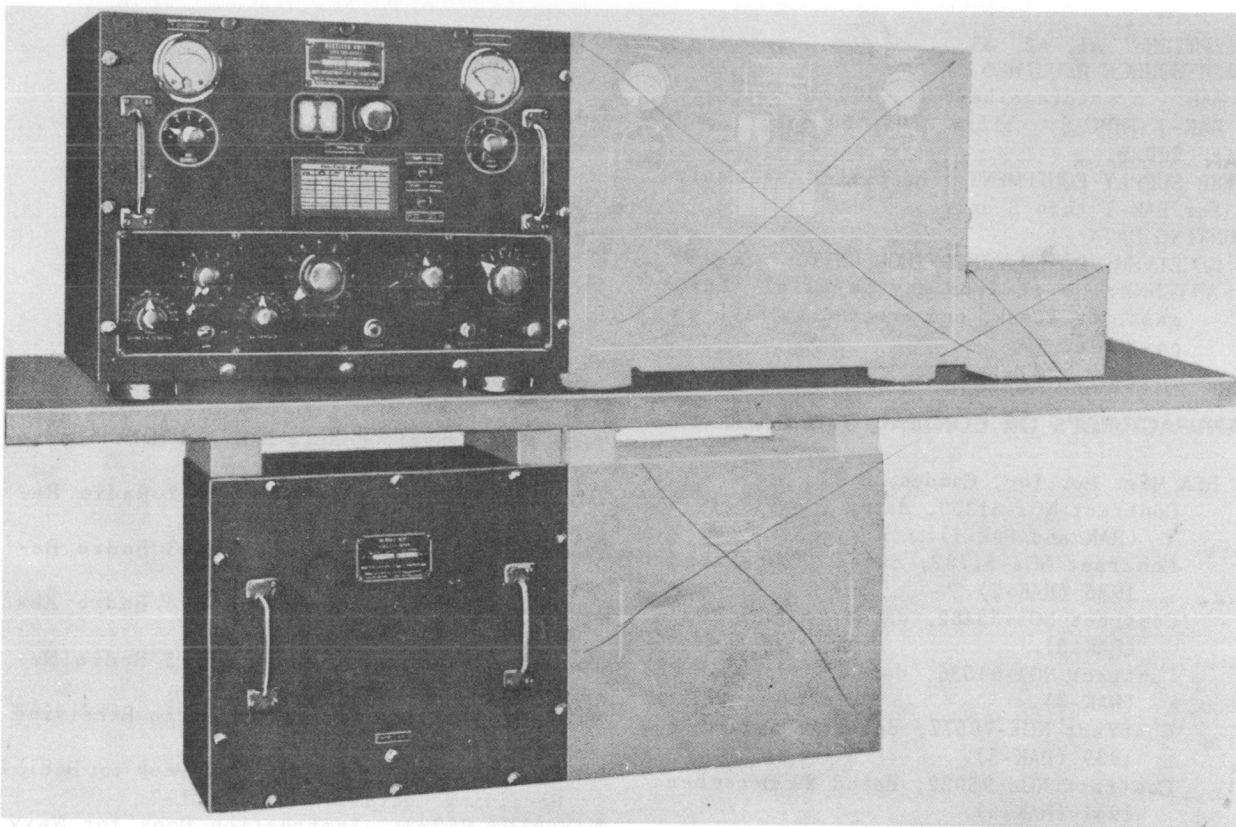
OPERATING POWER REQUIREMENTS: 110 or 115 v,

UNCLASSIFIED





## RADIO RECEIVING EQUIPMENT RAK, RAK-1 THRU -8



*Receiving Equipment RAK, RAK-1 thru -8*

### FUNCTIONAL DESCRIPTION

The RAK and RAK-1 thru 8 are broad range communication receivers for ship, submarine or shore use. These equipments may operate independently, but are generally used with one of the Radio Receiving Equipment RAL series to allow two-channel guarding by one operator. In an emergency, any RAL and RAK series equipment combination may use a common antenna.

A control unit may be used with any RAL, RAK series combination for combining the output of the two receiver, thus making available signals from either or both receivers through two headphone jacks. Use of this unit is optional and it is not part of any RAK or RAL series equipment, however, it is shipped with the RAK-1, -2, -3 and -4 equipments as an accessory, as is the hardware for securing any of these RAK series equipments to any

corresponding series equipment. The control unit and hardware are shipped with the RAL-5 when the RAK-5 RAL-5 combination is desired.

The RAK and RAK-1 thru 8 essentially identical, however, the RAK operates on batteries and thus requires no power unit. The RAK-6 thru 8 employ progressive changes which make possible elimination of radar interference.

Data on this sheet reflects the following field changes: No. 4 (RAK, RAK-1 thru RAK-6) No. 1, 2 and 3 (RAK, RAK-1 thru RAK-6) (14 April 1958).

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 15 to 600 kc.  
 POWER OUTPUT: 170 mw.  
 SENSITIVITY: 2 to 5 uv approx.  
 OUTPUT IMPEDANCE: 600 ohms.  
 CIRCUIT TYPE: TRF.

April 1958

Radio-Receivers

**RAK, RAK-1 THRU -8 RADIO RECEIVING EQUIPMENT**

RECEPTION: A1, A2, A3.

**POWER SOURCE REQUIRED**

RAK: 6 v storage battery, 180 v B battery.

RAK-1 THRU 8: 115 v  $\pm 10\%$ , 60 cps, 1 ph,  
200 W.**POWER SUPPLY EQUIPMENT:** Rectifier power unit  
for RAK-1 thru 5 only.**MOUNTING DATA**

RECEIVER, POWER AND CONTROL UNITS: Shelf.

ANTENNA: 6 ft from any parallel stay,  
mast, or stack, and erected as high as  
possible.

RAK-1, -2

(4) 6D6 (2) 41  
(1) 80 (1) 874

Total Tubes: (8)

RAK-3 thru -8

(4) 6D6 (1) 876  
(2) 41 (1) 80  
(1) 874

Total Tubes: (9)

No Crystals used.

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

RCA Mfg. Co, Inc, Camden, N.J.

Contract NOS-41370, dated 2 April 1935  
(RAK and RAK-1).Contract NOS-51782, dated 28 November  
1936 (RAK-2).Contract NOS-55482, dated 24 June 1937  
(RAK-3).Contract NOS-61536, dated 30 June 1938  
(RAK-4).Contract NOS-70577, dated 26 December  
1939 (RAK-5).Contract NOS-95022, dated 29 December  
1941 (RAK-6).Andrea Radio Corp for RCA Victor Div Radio  
Corp of America, Camden, N.J.

Contract NXss-19101 (RAK-7).

Contract NXsr-38089 (RAK-7).

Magnavox Co, Fort Wayne, Indiana.

Contract NXss-21827 dated 14 January  
1943 (RAK-8).Approximate Cost: \$1800.00 with equip-  
ment spares.**REFERENCE DATA AND LITERATURE**Technical Manual, Models RAK and RAK-1 Radio  
Receiving Equipment.Technical Manual, Models RAK-2 Radio Re-  
ceiving Equipment.Technical Manual, Models RAK-3 Radio Re-  
ceiving Equipment.Technical Manual, Models RAK-4 Radio Re-  
ceiving Equipment.Technical Manual, Models RAK-5 Radio Re-  
ceiving Equipment.NAVSHIPS 95231: Model RAK-6 Radio Receiving  
Equipment.NAVSHIPS 900,480: Instruction Book for Radio  
Receiving Equipment RAK-7/RAL-7.NAVSHIPS 95232: Instruction Book for Navy  
Model RAK-8 Radio Receiving Equipment.**TUBE AND/OR CRYSTAL COMPLEMENT**

RAK

(4) 6D6 (2) 41

Total Tubes: (6)

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 CND-46155*		21 X 28 X 25	156
1	Rectifier Power Unit CND-20131*		15 X 19 X 16	72
1	Accessories*		12 X 21 X 17	35
1	Spare Parts Box*		15 X 24 X 16	108

NOTE: \*RAK-7, only.

UNCLASSIFIED

April 1958

Radio-Receivers

RADIO RECEIVING EQUIPMENT RAK, RAK-1 THRU -8

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver Unit CRV-46044*	13-5/16 X 18 X 16-3/32	69
	Radio Receiver CRV or CND-46155**	13-5/16 X 18 X 16-3/4	74
	CMV-46155***	13-5/16 X 18 X 16-3/4	41
1	Rectifier Power Unit		
	CRV-20036#	12-1/4 X 14 X 8	41
	CRV-20036A##	12-1/4 X 14 X 8	41
	CRV or CND-20131**	12-1/4 X 14 X 8-5/8	41
	CMX-20131-A***	12-1/4 X 14 X 8-5/8	41
1	Control Unit CRV-23073 with Cables###	4-3/4 X 5-3/8 X 3-5/8	2
1	Set of Equipment Spares		
1	Set of Cables and Accessories		
1	Set of Interconnecting Hardware		

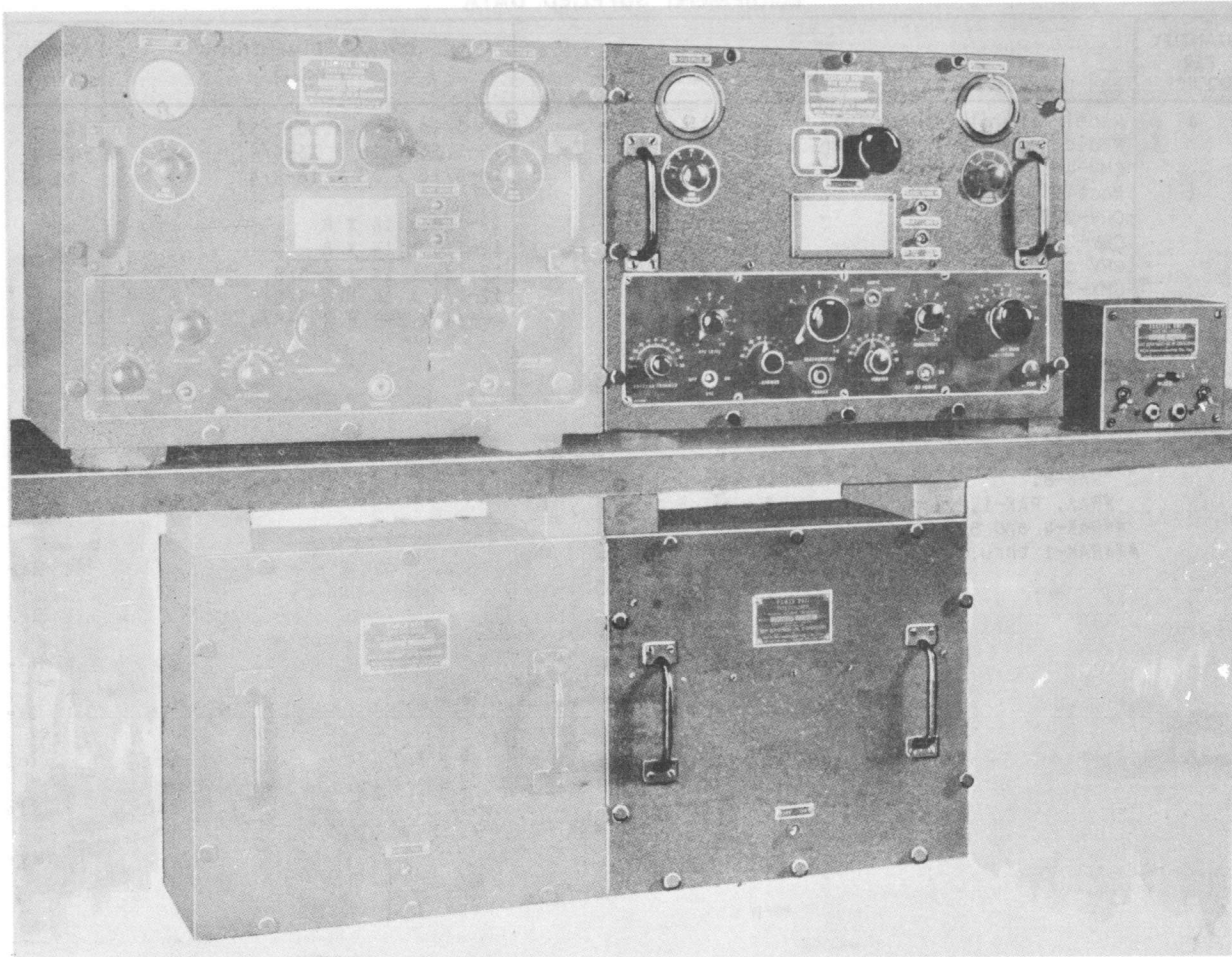
- NOTES:
- \*RAK, RAK-1 thru 5.
  - \*\*RAK-6, 7.
  - \*\*\*RAK-8.
  - #RAK, RAK-1, 2, 3.
  - ##RAK-4 and 5.
  - ###RAK-1 thru 4.

UNCLASSIFIED

April 1958

Radio Receivers

## RADIO RECEIVING EQUIPMENT

RAL, RAL-1,-2,-3,-4,  
-5,-6,-7,-8

*Radio Receiving Equipment Model RAL-2 Mounted with Model RAK-2*

### FUNCTIONAL DESCRIPTION

The Navy Model RAL Series equipments are broad range communication receivers designed for optimum performance for the reception of pure, modulated, or interrupted continuous-wave, damped radio telegraph signals, or voice modulated continuous-wave in the 0.3 to 23.0 megacycle frequency range. They are designed for independent operation with one pair of headphones, but are so designed with respect to size, shape, and mechanical arrangement that they can be installed adjacent to a Navy Model RAK Series equipment to form a two-channel equipment suitable for guarding two frequencies simultaneously by one operator.

A control unit may be used with any combination of an RAL and RAK series receiver for combining the output of the two receivers, thus making available signals from either, or both receivers through two headphone jacks. In an emergency, any RAL and RAK series equipment combination may use a common antenna.

The Navy Model RAL series equipments are essentially identical, however, the RAL operates on batteries and requires no power unit, and the RAL-6 thru -8 employ progressive changes which make possible the elimination of radar interference.

No field changes in effect at time of preparation (14 April 1958).

April 1958

Radio-Receivers

**RAL, RAL-1,-2,-3,-4, RADIO RECEIVING EQUIPMENT  
-5,-6,-7,-8****RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) Antenna, (1) Headphones, Control Unit as Required.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 0.3 to 23 mc.

POWER OUTPUT: 170 mw.

RECEPTION: A1, A2, A3.

SENSITIVITY: Approx 2 to 5 uv.

OUTPUT IMPEDANCE: 600 ohms.

**POWER REQUIREMENTS**

RAL: 6 v storage battery and 180 v B battery.

RAL-1 THRU -8: 115 v  $\pm$ 10%, 60 cps, single ph, 200 W.

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

Radio Corp of America, Camden, N. J.  
 Contract NOS-41370, dated 2 April 1935 (RAL, RAL-1).  
 Contract NOS-51782, dated 28 November 1936 (RAL-2).  
 Contract NOS-55482, dated 24 June 1937 (RAL-3).  
 Contract NOS-61436, dated 30 June 1938 (RAL-4).  
 Contract NOS-70577, dated 26 December 1939 (RAL-5).  
 Contract NOS-95022, dated 29 December 1941 (RAL-6).  
 Andrea Radio Corp, Camden, N. J.  
 Contract NXsr-38089, dated 20 September 1943 (RAL-7).  
 The Magnovox Company, Fort Wayne, Ind.  
 Contract NXss-21827, dated 14 January 1943 (RAL-8).  
 Approximate Cost: \$1800.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

RAL  
 (2) 41 (4) 6D6  
 Total Tubes: (6)

RAL-1, -2, -3  
 (2) 41 (4) 6D6  
 (1) 80 (1) 874  
 Total Tubes: (8)

RAL-4, -5, -6, -7, -8  
 (2) 41 (1) 5Z3  
 (4) 6D6 (1) 874  
 Total Tubes: (8)

No Crystals Used.

**REFERENCE DATA AND LITERATURE**

Technical Manual for Models RAL and RAL-1 Radio Receiving Equipment.  
 Technical Manual for Model RAL-2 Radio Receiving Equipment.  
 Technical Manual for Model RAL-3 Radio Receiving Equipment.  
 Technical Manual for Model RAL-4 Radio Receiving Equipment.  
 Technical Manual for Model RAL-5 Radio Receiving Equipment.  
 NAVSHIPS 95233: Technical Manual for Model RAL-6 Radio Receiving Equipment.  
 Technical Manual for Navy Model RAL-7 Radio Receiving Equipment.  
 NAVSHIPS 95234: Technical Manual for Navy Model RAL-8 Radio Receiving Equipment.

TYPE CLASSIFICATION  
 DESIGN COGNIZANCE BUSHIPS  
 PROCUREMENT COGNIZANCE  
 STOCK NO.

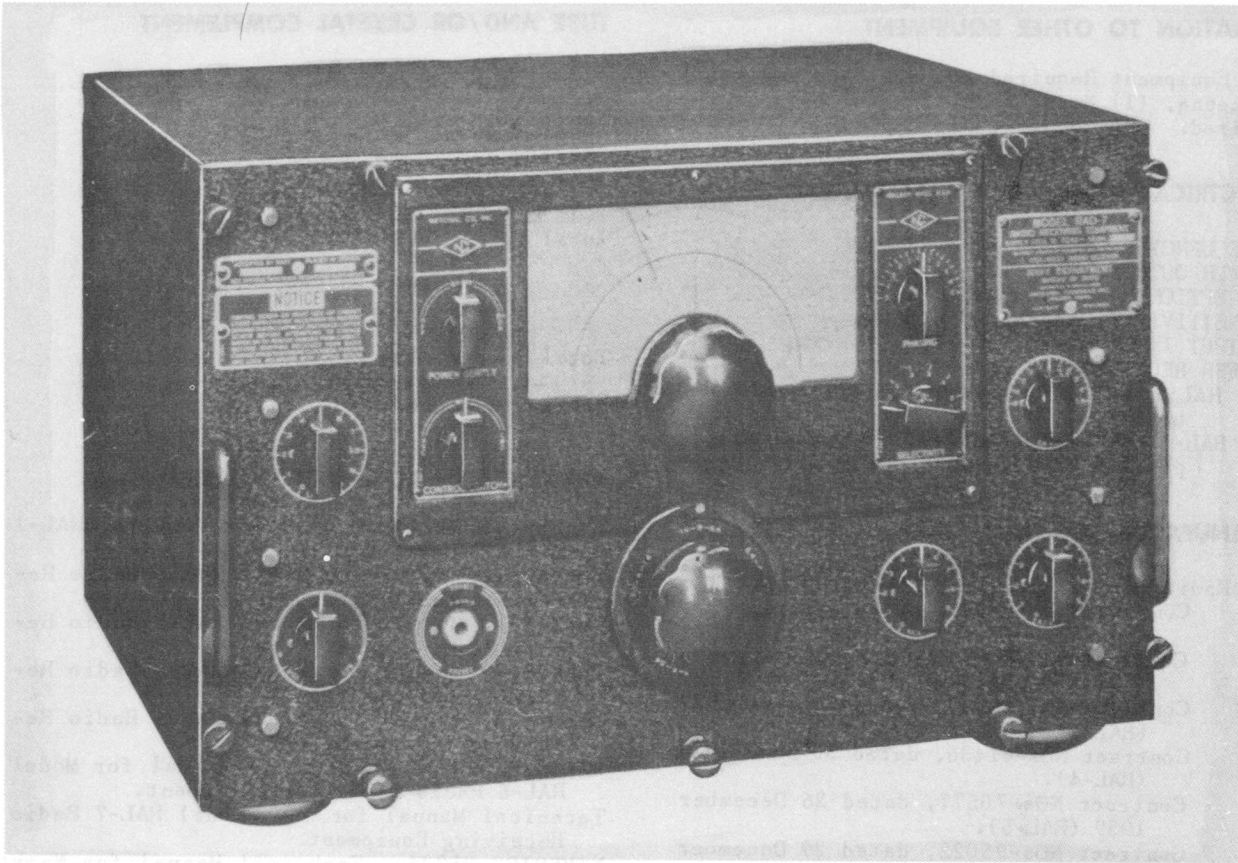
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver NT-46045 (RAL, RAL-1 thru -5) or NT-46156 (RAL-6, -7) or NT-46156-A (RAL-8)	13-5/16 X 16-3/32 X 18	69
1	Rectifier Power Unit NT-20036 (RAL, RAL-1), -2, -3) or NT-20036-A (RAL-4, -5) or NT-20131 (RAL-6, -7) or NT-20131-A (RAL-8)	8 X 12-1/4 X 14 8 X 12-1/4 X 14 8-5/8 X 12-1/4 X 14	41 41 42
1	Control Unit NT-23073 (RAL-5, -6, -7) or NT-23073-A (RAL-8)	3-5/8 X 4-3/4 X 5-3/8	2
1	Set of Cables and Accessories		
1	Set of Equipment Spares		



April 1958

## RADIO RECEIVING EQUIPMENT RAO THRU RAO-7,-9



Radio-Receiving Equipment RAO-2 thru -7

**FUNCTIONAL DESCRIPTION**

The RAO thru RAO-7 and RAO-9 are super-heterodyne receivers for general purpose radio telegraph and radio telephone reception aboard ship or at shore stations. In the RAO-2 thru RAO-7 and RAO-9 the radiation of RF power from the internal heterodyne oscillator has been reduced to less than 400 uuw at the antenna terminals.

The RAO-9 is better adapted, by circuit modifications, to countermeasures applications. It is used with a panoramic adapter to detect radio signals within its frequency range. It is relatively unaffected by nearby electrical noise.

The RAO and RAO-1 differ physically in the design of the front panel, the quantity and type of vacuum tubes and in components and component parts supplied.

Data on this sheet reflects the following Field Changes. FC No. 1-RAO-9, 23 October 1957.

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) antenna, (1) coaxial cable for 600 ohm headphones, and 600 ohm permanent magnet speaker.\* In addition RAO-9 requires Panoramic Radio Adaptor RCX-1 or REM.

NOTE: \*The 600 ohm speaker is supplied w/ RAO-4 and -5 only.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 0.54 to 30.0 mc.

NUMBER OF BANDS: 5.

RECEPTION: A1, A2 or A3.

**SENSITIVITY**

RAO-2 THRU RAO-7, -9: 15 uv for A3, 10 uv for A1.

IF: 456 mc.

**OUTPUT IMPEDANCE**

RAO: 20,000 ohms for loudspeaker, 500



Radio-Receivers

**RAO THRU RAO-7,-9 RADIO RECEIVING EQUIPMENT**

April 1958

ohms for headphone operation.  
 RAO-1: 5000 ohms for loudspeaker, 600 ohms for headphones.  
 RAO-2 THRU RAO-7, -9: 600 ohms.  
**POWER OUTPUT**  
 RAO-2, -3, -4, -6, -7, -9: 0.3 W into 600 ohm load.  
 RAO, RAO-5: 15 mw for headset, 2 W for loudspeaker.  
 RAO-1: 12 mw for headphones, 2 W for loudspeaker.  
**POWER SOURCE REQUIRED:** 115 v, 50 to 60 cps, single ph, 60 W.  
**ANTENNA:** Single wire type.

RAO-1  
 (1) 5Z3 (1) 6C8G  
 (1) 6F8G (3) 6J7  
 (1) 6K6GT (3) 6K7  
 (1) 6V6GT  
**Total Tubes:** (11)

RAO-5  
 (1) 5Z3 (1) 6C8G  
 (1) 6F8G (1) 6J5  
 (2) 6J7 (4) 6K7  
 (1) 6V6GT  
**Total Tubes:** (11)

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

General Electric Supply Corp, Washington, D.C.  
 Contract NOs-63228 dated 18 October 1938 for RAO.  
 Contract NOs-70248 dated 11 December 1939 for RAO-1.  
 National Co. Malden, Mass.  
 Contract NXs-4681, dated 30 April 1942 (RAO-2).  
 Contract NXsr-38306, dated 22 September 1943 (RAO-6).  
 Contract NXsr-55614, dated 5 April 1944 (RAO-7).  
 Contract NXsr-38306, dated 22 September 1943 (RAO-7, -9).  
 Contract NXsr-85045, dated 6 December 1944 (RAO-9).  
 Wells-Gardner and Co, Chicago, Illinois.  
 Contractor NXss-21446, dated 27 September 1944 (RAO-3, -4).  
 Contract NXsr-38492, dated 15 November 1944 (RAO-5).  
 Approximate Cost: \$1100.00 with equipment spares. (RAO, RAO-1)

RAO-2,-3,-4,-6,-7,-9  
 (1) 5Z3 (1) 6C8G  
 (1) 6F8G (1) 6J5  
 (2) 6J7 (1) 6K6GT  
 (4) 6K7  
**Total Tubes:** (11)

**REFERENCE DATA AND LITERATURE**

Technical Manual for Radio Receiving Equipment Model RAO.  
 Technical Manual for Radio Receiving Equipment Model RAO-1.  
 NAVSHIPS 900,351, Technical Manual for Radio Receiving Equipment Navy Models RAO-2 and RAO-6.  
 NAVSHIPS 900489-1B, Technical Manual for Radio Receiving Equipment Navy Model RAO-5.  
 NAVSHIPS 900359-1B, Technical Manual for Radio Receiving Equipment Navy Models RAO-3 and RAO-4.  
 NAVSHIPS 900356, Technical Manual for Navy Models RAO-7 and 9.

**TUBE AND/OR CRYSTAL COMPLEMENT**

RAO  
 (1) 6C5 (4) 6J7  
 (3) 6K7 (1) 6V6GT  
 (1) 80  
**Total Tubes:** (10)

TYPE CLASSIFICATION  
 DESIGN COGNIZANCE  
 PROCUREMENT COGNIZANCE  
 STOCK NO.

**SHIPPING DATA \*\*\***

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver, Mounting Base, Loudspeaker* equipment Spares (RAO-2,-3,-4,-5,-6)	8.6	18 X 21-3/4 X 38	215**
1	Radio Receiver, Mounting Base (RAO-7,-9)	4.7	16-1/2 X 22 X 22-3/4	153
1	Equipment Spares (RAO-7,-9)	3.5	15-1/2 X 18-1/4 X 21-1/4	100

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## RADIO RECEIVING EQUIPMENT RAO THRU RAO-7,-9

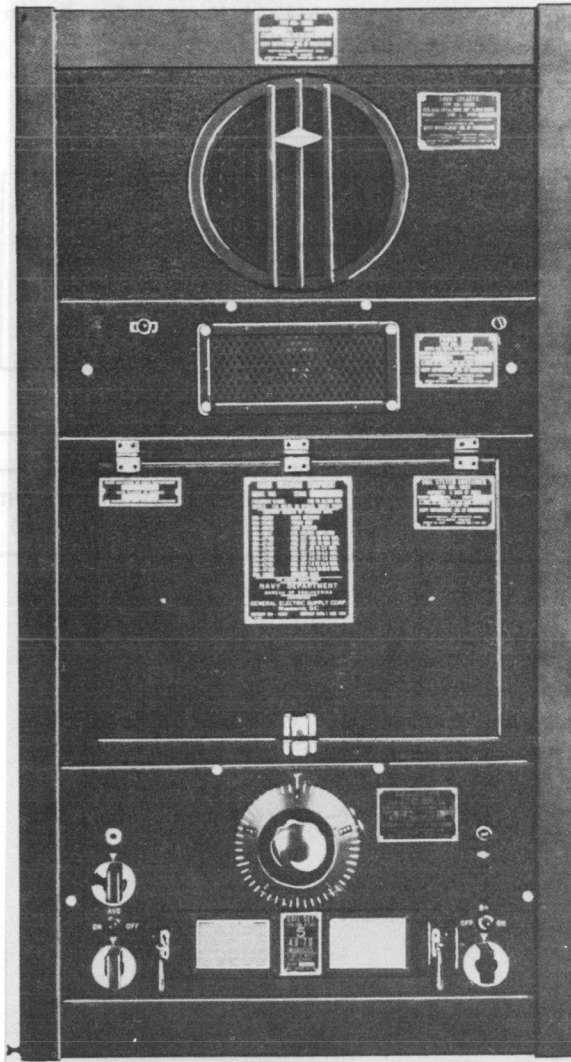
- NOTES: \*The 600 ohm speaker is supplied w/RAO-4 and -5 only.  
 \*\*Weight and dimensions are for RAO-5 only.  
 \*\*\*Shipping Data only for those models shown in parenthesis. Data for other models not available.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Frequency Tuner-46072†††† or		
1	Radio Receiver-46088 <sup>▲</sup> or	10-7/8 X 13-3/8 X 17-9/16	55.0
1	Radio Receiver-46187*** or	10-11/16 X 17-3/16 X 17-1/4	75.0
1	-46187A**** or	10-11/16 X 17-3/16 X 17-1/4	75.0
1	-46187B† or	10-11/16 X 17-3/16 X 17-1/4	75.0
1	-46187D†† or	10-11/16 X 17-3/16 X 17-1/4	75.0
1	-46229††† or	10-11/16 X 17-3/16 X 17-1/4	75.0
1	-46233†††† or	12-7/16 X 17-3/4 X 19	97.0
1	-46263†	12-7/16 X 17-3/4 X 19	97.0
1	Mounting Rack-10032†††† or		
1	Mounting Base-10125†† or	2-9/16 X 17-1/32 X 17-11/16	5.75
1	-10125A†††	2-11/16 X 16-1/16 X 16-1/16	5.75
1	Loud Speaker-49092†††† or		
	-49106 <sup>▲</sup> or	7-7/16 X 9-7/16 X 10-1/4	11.0
	-49493†††	4-3/4 X 8-1/4 X 8-1/4	
1	Headphone-49016†	3/4 X 1-3/4 dia	
1	Set of Spare Parts		

- NOTES: \*\*\*RAO-2  
 \*\*\*\*RAO-3  
 †RAO-4  
 ††RAO-6  
 †††RAO-5  
 ††††RAO-7  
 †RAO-9  
 ††RAO-2 and -6  
 †††RAO-3, -4 and -5  
 ††††RAO  
 ▲RAO-1

April 1958

**RADIO RECEIVING EQUIPMENT RAS, RAS-1 THRU -5**

Radio Receiving Equipment Navy Model RAS

**FUNCTIONAL DESCRIPTION**

The Navy Models RAS and RAS-1 thru -5 are rack-mounted superheterodyne communication receivers designed for shipboard or shore station reception of radio telephone, continuous-wave, or modulated continuous-wave in the 190 to 30,000 kilocycle frequency range. The frequency range is covered by seven plug-in coil sets, and they have provisions for the use of headphones in addition to the loudspeaker.

They have a Noise Peak Limiter NT-50142 which reduces the effects of pulse type noise picked up by the antenna system. Intermediate Frequency modification kits were assembled to convert the narrow IF pass band to a wide IF pass band, converting Receiver Unit NT-46080

to Receiver Unit NT-46080A.

The Navy Model RAS Series equipments are identical, except for the name plates and contract they were supplied under.

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

**RELATION TO OTHER EQUIPMENT**

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 190 to 30000 kc.

BANDS: 7 using plug-in coil sets.

RECEPTION: A1, A2, A3.

TYPE RECEIVER: Superheterodyne.

POWER OUTPUT: 10 mw into 600 ohm load, 2 W into 5000 ohm load.

OUTPUT IMPEDANCE

HEADPHONES: 600 ohms.

LOUDSPEAKER: 5000 ohms.

SENSITIVITY (6 MW OUTPUT)

A1: 12 uv.

A2: 7 uv.

POWER REQUIREMENTS: 110 to 120 v, 50 to 60 cps or 25 cps, 70 W or 180 vB battery and 6 v storage battery.

ANTENNA REQUIREMENTS

TYPE: Wire 50 to 200 ft lg.

INPUT IMPEDANCE: 500 ohms when using NT-47159 to NT-47162 coil sets; NT-47156 to NT-47158 coil sets have higher values but does not exceed 5000 ohms.

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

General Electric Supply Corp, Washington, D.C.

Contract NOs-66920, dated 7 June 1939 (RAS).

Contract NOs-70176, dated 7 December 1939 (RAS-1).

Contract NOs-79121, dated 22 November 1940 (RAS-2).

Contract NOs-94477, dated 20 November 1941 (RAS-3).

Contract NXs-455, dated 30 April 1942 (RAS-4).

National Company, Inc, Malden, Mass.

Contract NXss-20976, dated 7 January 1943 (RAS-5).

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 5Z3 (3) 6C6 (4) 6D6

(1) 6F8G (1) 6V6GT

Total Tubes: (10)

No Crystals used.

Radio-Receivers

# RAS, RAS-1 THRU -5 RADIO RECEIVING EQUIPMENT

## REFERENCE DATA AND LITERATURE

- Technical Manual for Radio Receiving Equipment Model RAS.
- Technical Manual for Radio Receiving Equipment Model RAS-1.
- NAVSHIPS 95236: Technical Manual for Radio Receiving Equipment Model RAS-2.
- NAVSHIPS 95237: Technical Manual for Radio Receiving Equipment Model RAS-3.
- NAVSHIPS 95238: Technical Manual for Radio Receiving Equipment Model RAS-4.

NAVSHIPS 95239: Technical Manual for Radio Receiving Equipment RAS-5.

<p>TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.</p>
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## EQUIPMENT SUPPLIED DATA

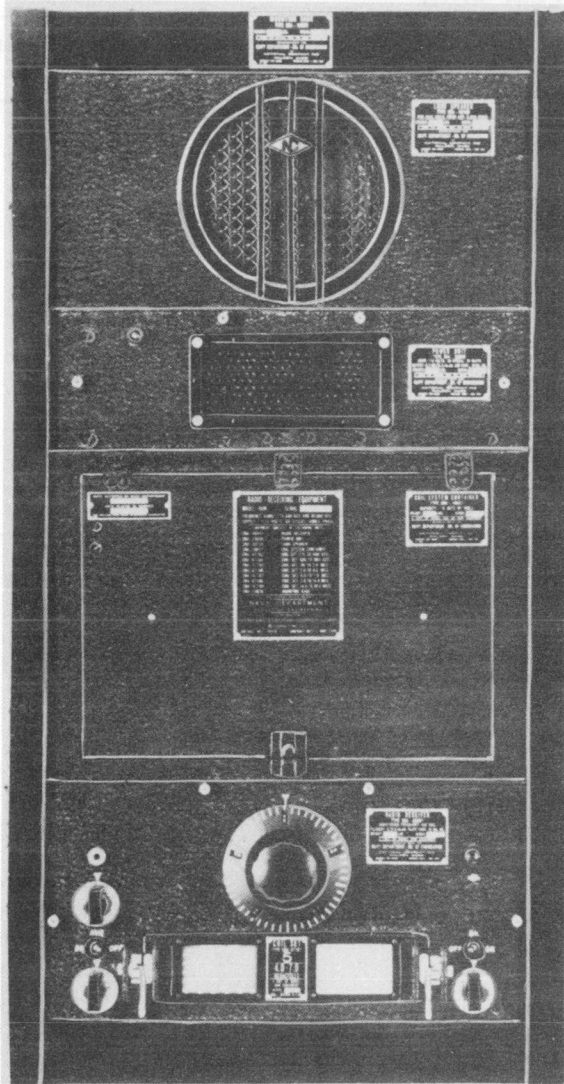
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46080 or NT-46080A	8-3/4 X 10-1/4 X 19	35
1	Power Unit NT-20090 (50-60 cps) or NT-20089 (25 cps)	5-1/4 X 9-3/4 X 19	22
1	Loudspeaker NT-49105 (Rack Mtd) or NT-49106 (Table Mtd)	5-1/4 X 9-3/4 X 19	27
1	Coil System Container NT-10037 including: (6) coil set	4-1/16 X 8-3/4 X 19	9
1	Mounting Rack NT-10036	7-1/4 X 9-3/8 X 10-1/4	11
1*	Set of Equipment Spares	5-7/8 X 12-1/4 X 19	26
1**	Set of Equipment Spares	12-3/8 X 20-1/2 X 39-1/2	27
2	Technical Manual	3/8 X 8-1/2 X 11	21
			26

NOTE: \*Supplied when Power Unit NT-20090 is used.  
\*\*Supplied when Power Unit NT-20089 is used.

April 1959

## RADIO RECEIVING EQUIPMENT

RAW



Model Raw

## FUNCTIONAL DESCRIPTION

The Navy Model RAW is designed for reception of radio telephone or telegraph signals in the frequency ranges of 175 to 400 kilocycles and 480 to 30,000 kilocycles. It has provisions for either headphones or loudspeaker and is suitable for operation from either a 25 or 60 cycle power source.

It is a self-supported rack mounted equipment with racks suitable for table mounting and is intended for use at shore stations or aboard Naval vessels.

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

## EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 175 to 400 kc and 480 to 30000 kc.

AUDIO OUTPUT

PHONES: 10 mw.

LOUDSPEAKER: 2 W.

TYPE RECEIVER: Superheterodyne.

RECEPTION: A1, A2, A3.

IF: 456 kc.

OUTPUT IMPEDANCE

PHONES: 600 ohms.

LOUDSPEAKER: 5000 ohms.

POWER REQUIREMENTS: 110 to 120 v, 50 to 60 cps or 25 cps, single ph, 0.65 amps at 115 v, 70 W or 180 v dry battery and 6 v storage battery.

ANTENNA REQUIRED: Single wire type.

## MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Supply Corp, Washington, D. C.

Contract NOs-66920, dated 7 June 1939.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Z3

(3) 6C6

(4) 6D6

(1) 6F8G

(1) 6V6GT

Total Tubes: (10)

No Crystals used.

## REFERENCE DATA AND LITERATURE

Technical Manual for Radio Receiving Equipment Model RAW.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

April 1959

Radio-Receivers

RAW

## RADIO RECEIVING EQUIPMENT

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46081	8-3/4 X 10-1/4 X 19	35
1	Power Unit NT-20090(60 CPS) or NT-20089(25 CPS)	5-1/4 X 9-3/4 X 14 5-1/4 X 9-3/4 X 19	22 27
1	Loudspeaker NT-49105(RACK MTD) or NT-49106(TABLE MTD)	4-1/16 X 8-3/4 X 19 7-1/4 X 9-3/8 X 10-1/4	9 11
1*	Coil System Container NT-10037	6-5/8 X 12-1/4 X 19	26
1	Mounting Rack NT-10036	12-3/8 X 20-1/2 X 39-1/2	27
1	Coil Set NT-47163(175 TO 400 KC)	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set NT-47164(480 TO 900 KC)	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set NT-47165(0.9 TO 2 MC)	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set NT-47166(2 TO 4 MC)	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set NT-47167(4 TO 7 MC)	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set NT-47168(7 TO 14 MC)	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set NT-47169(14 TO 30 MC)	2-7/16 X 5-3/8 X 10-3/8	
1**	Set of Equipment Spares		21
2	Technical Manual	3/16 X 8-1/2 X 11	

NOTE: \*-Indicates weight includes six coil sets.

\*\*-Indicates weight is for 60 cycle equipment  
weight for 25 cycle equipment is 26 pounds.



December 1956

## AIRCRAFT RADIO EQUIPMENT

RAX-1

## FUNCTIONAL DESCRIPTION

The RAX-1 is an aircraft radio receiving equipment designed for use in the 200 to 27000 kc frequency range and is battery powered.

The RAX-1 has three receiver units: unit one 200 to 1500 kc (4 bands), unit two 1500 to 9000 kc (4 bands), unit three 7000 to 27000 kc (5 bands).

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF RECEPTION: A1, A2, and A3.  
 FREQUENCY RANGE: 200 to 27000 kc.  
 POWER SOURCE REQUIRED: 24 v DC.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: \$220.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(3) 12A6 (13) 12SK7  
 (3) 12K8 (3) 12SR7

Total Tubes: (22)

## REFERENCE DATA AND LITERATURE

NAVAER 08-5Q-245: Technical Manual for Aircraft Radio Equipment for RAX-1.

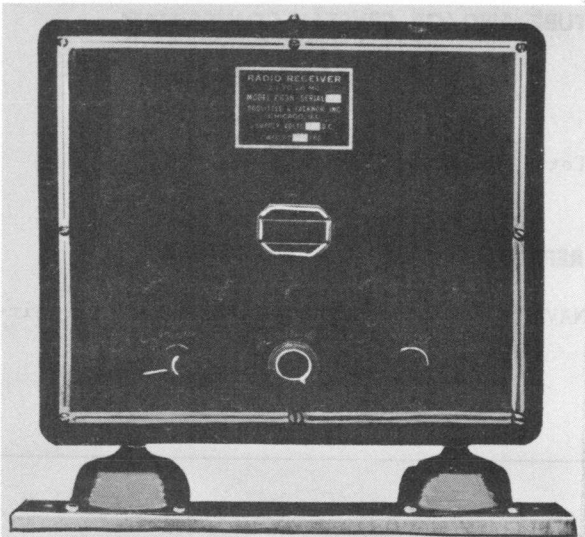
TYPE CLASSIFICATION  
 DESIGN COGNIZANCE BUAER  
 PROCUREMENT COGNIZANCE  
 STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver CG46115 (Unit 1)	7-1/2 X 7-1/2 X 17	21.6
1	Radio Receiver CG46116 (Unit 2)	7-1/2 X 7-1/2 X 17	22.2
1	Radio Receiver CG46117 (Unit 3)	7-1/2 X 7-1/2 X 17	22.5
3	Receiver Racks CG46128	3-3/8 X 7-1/2 X 16-5/8	2.8
1	Junction Box CG68028	2 X 4 X 5-7/16	1
1	Set Cables		
3	Slip Covers		
1	Set Accessories		

June 1957

Radio-Receivers

**RADIO RECEIVER****RAY***Radio Receiver Ray***FUNCTIONAL DESCRIPTION**

The Model RAY is a self contained crystal controlled superheterodyne receiver designed for use in high frequency communication. This receiver may be operated on any frequency within the range 23 to 28 mc by choosing the proper crystal, which has a frequency of one third the beat frequency which is the signal frequency 3000 kc.

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

RANGE: 23 to 28 mc.

SENSITIVITY: 3 uv or better with 0.5 W output.

SELECTIVITY: The IF selectivity is down at least ten times at 20 kc off resonance

and 1000 times down at 60 kc off resonance.

**AUTOMATIC VOLUME CONTROL:** The audio voltage developed across a 500 ohm load does not vary more than 25% from 100 uv to 1 v.

**POWER OUTPUT:** 2 W into 500 ohm load.

**FIDELITY:** 3 db variation max from 200 to 3000 cps into a 500 ohm load.

**POWER REQUIREMENTS:** 11 to 14 v DC.

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

Doolittle and Falknor, Inc., Chicago, Illinois.

Contract No. 69814, dated 20 November 1939.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(3) 6K7	(1) 6R7
(1) 6L7	(1) 6J7
(1) 6N7	(1) 6V6
(1) 6H6	(1) 84

Total Tubes: (10).

Crystals: As Required.

**REFERENCE DATA AND LITERATURE**

Technical Manual for Radio Receiver Navy Model RAY (Doolittle and Falknor Model PR-3N).

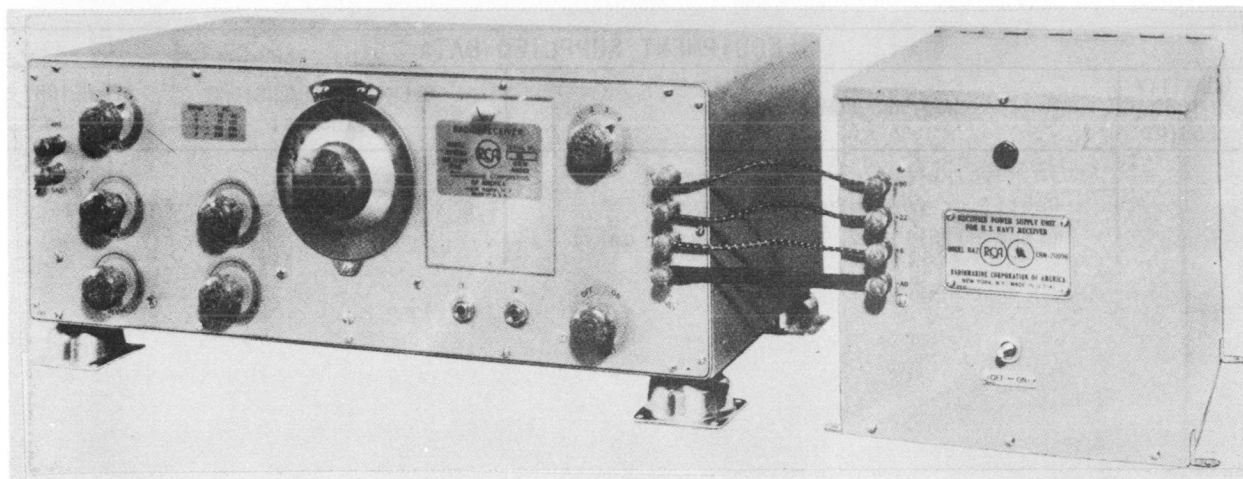
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver Model RAY	9-1/4 x 10 x 13-1/2	22

## RADIO RECEIVER

RAZ



Radio Receiver RAZ

**FUNCTIONAL DESCRIPTION**

The Model RAZ is a shipboard radio receiving equipment designed for medium and low frequency reception, covering a continuous frequency range of 15 to 600 kc, divided into four bands, with appropriate selector switches so that any frequency within the range may be quickly selected from the front of the panel.

For routine or emergency service the receiver may be operated from batteries. When the receiver is operated from a 110 volt, 60 cps source, a separate Rectifier Power Supply Unit is furnished.

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

RECEIVER TYPE: Tuned RF with one stage of preselection.

RECEPTION: CW, MCW and voice.

INPUT: Grounded.

INPUT IMPEDANCE: 20000 to 100000 ohms.

OUTPUT: For high impedance telephone receivers of approximately 2000 to 3000 ohms on DC; on low impedance headphones, a matching transformer is used.

OUTPUT POWER: For headphones only.

SENSITIVITY: 30 to 500 uv for 6 mw in headphones.

BANDS: 4 bands; 15 to 40, 40 to 100, 100 to 250 and 250 to 600.

**ANTENNA DATA**

TYPE: Grounded straight wire 75 to 250 ft.

POWER REQUIREMENTS: 115 v, single ph, 60 cps, 40 W or 6 v "A" battery and a 90 v "B" battery with a current drain of 2 amp and 8.6 milliamperes respectively.

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

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

Approximate Cost: \$300.00 including equipment spares.

**TUBE COMPLEMENT**

(3) 6K7                      (1) 6F6                      (1) 5W4

Total Tubes: (5)

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 95936: Technical Manual for Radio Receiver RAZ.

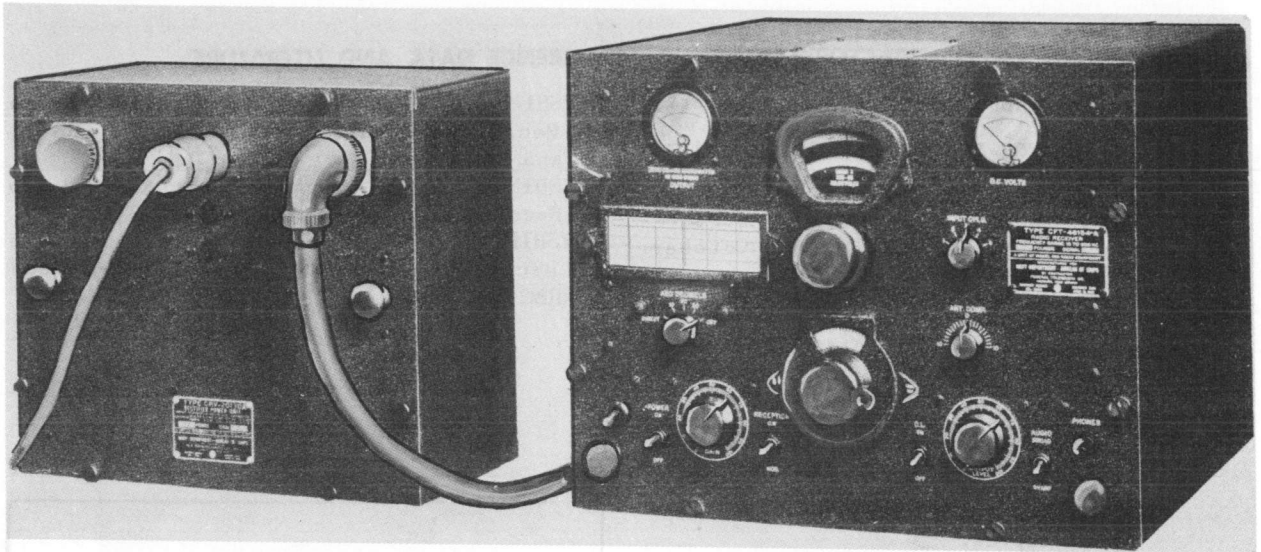
TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

## RADIO RECEIVER

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVER-ALL DIMENSIONS (inches)	WEIGHT (lbs)
1	Radio Receiver RAZ including:	8 X 12 X 20-1/8	29
1	Rectifier Power Supply Unit (used with 110 v, 60 cps source only)	8 X 8 X 10-5/8	16

December 1956

**RADIO RECEIVING EQUIPMENT RBA,RBA-1,2,3,5,5a,6**

Radio Receiving Equipment RBA-5

**FUNCTIONAL DESCRIPTION**

The RBA, RBA-1, 2, 3, 5, 5a and 6 are designed for use aboard vessels and for shore stations for the reception of pure, modulated, or interrupted continuous wave (cw) radio frequency signals in the frequency range of 14.5 to 600 kilocycles.

Provisions are included for operation of a number of receivers from a common antenna and transmission line, for simultaneous emergency operation of two receivers from a common power unit, and automatic regulation of receiver output signal voltage as a function of load resistance, so that from one to twenty 600 ohm headphones may be connected across the output circuit with less than 40 per cent change in output voltage.

Data on this sheet reflects the following field changes, FC-3, RBA thru RBA-7 (10 August 1956).

**RELATION TO OTHER EQUIPMENT**

The RBA Series is electrically and mechanically interchangeable. The RBA, RBA-1, 2, 3, 5 and 5a are designed for table mounting, and the RBA-6 is designed for rack mounting.

Equipment Required but not Supplied: (1) Headset, 600 ohm, with Plug NT-49434, (1) antenna, Receiving.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

**FREQUENCY RANGE:** 14.5 to 600 kc in 4 bands.

**BAND DATA**

**BAND 1 SUPPLEMENT:** 14.5 to 15 kc.

**BAND 1:** 15 to 38 kc.

**BAND 2:** 38 to 95 kc.

**BAND 3:** 95 to 235 kc.

**BAND 4:** 235 to 600 kc.

**RECEPTION:** A1, A2 on all bands. A3 is possible, but some distortion is present below 300 kc due to the high order of selectivity, and to the characteristics of filters employed in the audio frequency amplifier.

**IMPEDANCE DATA**

**OUTPUT:** 600 and 30 ohms.

**INPUT:** Adjustable over a wide range.

**POWER OUTPUT**

**600 OHM LOAD:** 50 mw.

**30 OHM LOAD:** 500 mw.

**SENSITIVITY:** 10 uv input for 6 mw output on A1 operation.

**FREQUENCY CALIBRATION DIAL ACCURACY:**  $\pm 1\%$ .

**POWER REQUIREMENTS**

RBA, RBA-1, 2, 3, 5, 6: 110, 115 or 120 v, 55 to 65 cps, single ph; 67 W, 95% pf for one receiver; 100 W, 97% pf for two receivers.

RBA-5a: 115 v, 400 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Newark, N. J.  
 Contract NOs-73055, dated 13 April 1940 (RBA)  
 Contract NOs-91165, dated 2 September 1941 (RBA-1)  
 Contract NXss-11780, dated 5 October 1942 (RBA-2)  
 Contract NXss-16498, dated 3 October 1942 (RBA-3)  
 Contract N5sr-17829, dated 22 February 1946 (RBA-5)  
 Contract NObsr-39341, dated 30 June 1947 (RBA-6).  
 Radio Corporation of America, Camden, N.J.  
 Contract NObsr-43335, dated 15 June 1949 (RBA-5a).  
 Approximate Cost: \$3000.00 with equipment spares.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900,473: Technical Manual for Radio Receiving Equipments RBA, RBA-1, RBA-2 and RBA-3.  
 NAVSHIPS 900,708: Technical Manual for Radio Receiving Equipment RBA-5 and RBA-6.  
 NAVSHIPS 91319: Technical Manual for Radio Receiving Equipment RBA-5a, RBB-2a and RBC-3a.

## TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SK7 (1) OC3/VR-105-30  
 (1) 6J5 (1) 6K6GT  
 (2) 6SJ7 (1) 5U4G

Total Tubes: (10)

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 and Rectifier Unit including Spare Parts and Accessories RBA, RBA-1, RBA-2, RBA-3, RBA-5, RBA-5a, or RBA-6	28	28 X 32 X 56	365

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
RBA <sub>1</sub> 1, 2, 3			
RBA- 5, 5a, 6			
1	Radio Receiver NT-46154		
1	Radio Receiver NT-46154A		
1	Radio Receiver NT-46154A (MOD)		



December 1956

RADIO RECEIVING EQUIPMENT RBA,RBA-1,2,3,5,5a,6

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
RBA, 1,2,3	RBA-5,5a,6			
	1	Radio Receiver NT-46300		
	1	Cabinet, Rack Mounting NT-10348A		
1		Rectifier Unit NT-20130		
	1	Rectifier Unit NT-20130-B		
	1	Rectifier Unit NT-20130-B (MOD)		
1	1	Cable, Power NT-49162		
	1	Cable, Power NT-49162 (MOD)		
1	1	Plug, Concentric NT-49121		
1	1	Plug, Output NT-49160		
1	1	Adapter NT-49152		
	1	Adapter NT-49509		
1	1	Plug, Power Input		
1	1	Set Mounting Hardware (Receiver)		
1	1	Set Mounting Hardware (Power Unit)		
1	1	Set Equipment Spare Parts		
2	2	Technical Manual		

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)

June 1961

Radio-Receivers

## RADIO RECEIVER

RBA-4

## FUNCTIONAL DESCRIPTION

The RBA-4 is designed for use aboard vessels of the United States Navy and at Naval Radio Shore Stations. It is designed for the reception of pure modulated or interrupted continuous-wave radio frequency signals in the range of 15 to 600 Kilocycles (KC). The receiver is of the tuned radio frequency type and employs three stages of radio frequency amplification, a triode detector, a heterodyne oscillator, and three audio-frequency amplifier stages.

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

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF CIRCUIT: Superheterodyne.

NUMBER OF BANDS: 4 bands.

POWER OUTPUT: 50 milliwatts, max undistorted into 600-ohm load; 500 milliwatts, max undistorted into 30-ohm load.

OPERATING FREQUENCY RANGE: 15 to 600 kc.

OPERATING POWER RQMT: 110, 115, 120 v AC, 55 to 65 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Newark, New Jersey.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) OC3W (1) 5U4GB (2) 65J7Y  
(1) 6J5 (1) 6K6GT (4) 6SK7WA

Total Tubes: (10)

No Crystals used.

## REFERENCE DATA AND LITERATURE

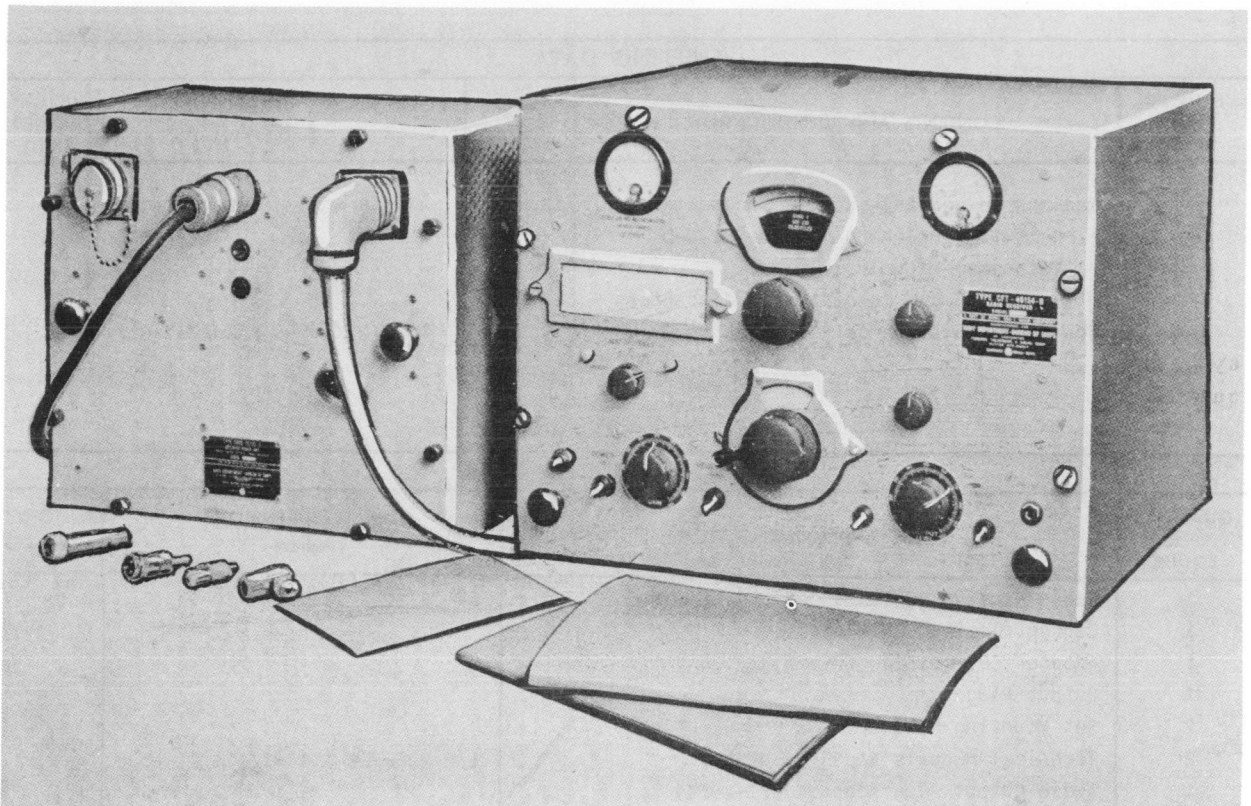
NAVSHIPS 900,123(B): Technical Manual for Naval Electronic Equipments.

TYPE CLASSIFICATION (NAVY)  
DESIGN COGNIZANCE 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	Radio Receiver RBA-4	13-31/32 X 17-19/64 X 18-1/8	95
1	Power Unit	9-3/4 X 13-1/2 X 15	52
1	Rack Mounting	8-29/32 X 14-9/32 X 19	53
1	Set of Mounting Hardware		
1	Set of Equipment Spares		

December 1956

**RADIO RECEIVER EQUIPMENT****RBA-7***Radio Receiver Equipment RBA-7***FUNCTIONAL DESCRIPTION**

The RBA-7 is a long-wave communications receiver designed for use aboard ship or land-based stations. The equipment covers the range of 14.5 to 600 kc.

Data on this sheet reflects the following field changes, FC-3 (6 August 1956).

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) headset, (1) headset plug, (1) antenna system.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

**TYPE OF RECEPTION:** A1, A2 and A3.  
**FREQUENCY RANGE:** 14.5 to 600 kc.  
**FREQUENCY BANDS:** Four, 15 to 38 kc, 38 to 95 kc, 95 to 235 kc, 235 to 600 kc.  
**RECEIVER OUTPUT:** 50 mw into 600 ohms or 500 mw into 30 ohm load.  
**POWER SOURCE REQUIRED:** 115 v AC, 55 to 65 cps, single ph.

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

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

Contract NObsr 52110, dated 26 May 1952.  
 Approximate Cost: \$2900.00 with equipment spares

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 5U4G	(1) 6J5WGT	(1) 6K6GT/G
(2) 6SJ7	(4) 6SK7W	(1) OC3W
Total Tubes: (10)		

**REFERENCE DATA AND LITERATURE**

NAVSHIPS: Technical Manual for Radio Receiver Equipment Model RBA-7.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

RBA-7

## RADIO RECEIVER EQUIPMENT

December 1956

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver CFT-46154-B including: Rectifier Power Unit CB00-20130-D Technical Manuals (2) Set of Plugs, Connectors and Adapters	13.4	22-5/8 X 25-3/8 X 40-1/4	270
1	Equipment Maintenance Parts	3.1	11-1/2 X 15-3/8 X 27-7/8	92

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver CFT-46154-B	14-23/32 X 18-1/2 X 20-9/16	98
1	Concentric Plug CFT-49121		
1	Adapter CFT-49152		
1	Output Plug		
2	Set Mounting Hardware		
2	Technical Mwnuals NAVSHIPS 91559	1/2 X 8-7/8 X 11-1/2	
1	Audio Output Plug Adapter CFT-49509		
1	Set Equip. Maintenance Parts	9-3/16 X 13-1/4 X 25-3/4	70
1	Rectifier Power Unit CB0G-20130-D	9-3/4 X 13-1/2 X 15	52
1	Interconnecting Power Cable (6 ft)		
1	Power Input Plug		

18 September 1962

RADIO RECEIVING EQUIPMENT RBB, RBB-1, 2, 2a, 3, 4, 5, 6

Cog Service:

FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: RCA Victor Div., Radio Corp of America.



Radio Receiving Equipment RBB, RBB-1, 2, 2a 3, 4, 5, 6

#### FUNCTIONAL DESCRIPTION:

The RBB, RBB-1, 2, 2a and RBB-3; 4, 5, 6 are primarily designed for operation aboard all types of Naval vessels and shore stations, and are capable of operating in the frequency range of 0.5 to 4 megacycles. They are designed for voice, MCW, and CW reception and more than one receiver can be operated on a single antenna system with little frequency separation when the antenna is adjacent to a transmitter antenna. They also have provisions for connecting a panoramic adapter or a frequency shift converter unit.

They may be used with Radio Receiving Equipment RBC series to provide continuous coverage in the 0.5 to 27 megacycle range.

No field changes in effect at time of preparation (30 August 1960).

#### TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 0.5 to 4 mc.

# RBB, RBB-1, 2, 2a, 3, 4, 5, 6 RADIO RECEIVING EQUIPMENT

## BAND DATA

BAND 1: 0.5 to 0.04 mc.

BAND 2: 0.84 to 1.41 mc.

BAND 3: 1.41 to 2.37 mc.

BAND 4: 2.37 to 4.00 mc.

TYPE OF RECEPTION: A1, A2, A3.

TYPE OF RECEIVER: Superheterodyne.

POWER OUTPUT: 15 mw.

INTERMEDIATE FREQUENCY: 400 kc.

OUTPUT IMPEDANCE: 600 ohms.

INPUT IMPEDANCE

TRANSMISSION LINE: 70 ohms.

ANTENNA: 300 ohms at lowest frequency of band 1, up to 1500 ohms at high frequency end of band 4.

POWER REQUIREMENTS

RBB, RBB-1, 2, 3, 4, 5, 6: 100 W (one receiver), 160 W (two receivers); 110 to 120 v, 55 to 60 cyc, single ph.

RBB-2A: 115 v 400 cyc, single ph.

## RELATION TO OTHER EQUIPMENT:

RBB, RBB-1, 2, 2a, 3, 4, 5, 6 are electrically and mechanically interchangeable with the exception of mountings and RBB-2a which is modified to operate on 400 cycles instead of 55 to 65 cycles. RBB-4 and RBB-6 are for rack mounting. RBB-5 and RBB-6 includes NT-10335 Kit for coupling to CV-57/URR Frequency Shift Converter or RBU/RBV Panoramic Adapter Unit.

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna; (1) Headset.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	RBB, RBB-1, 2, 3, 4			
1	Radio Receiver NT-46147		14-3/4 x 18-1/8 x 20-1/8	82
1	Rectifier Power Unit NT-20130		9-7/8 x 13-7/16 x 15	52
1	Set of Accessories			
1	Set of Equipment Spares			
	RBB-2a			
1	Radio Receiver NT-46147(mod)		14-3/4 x 18-1/8 x 20-1/8	82
1	Rectifier Power Unit NT-20130(Mod)		9-7/8 x 13-7/16 x 15	52
1	Set of Accessories			
1	Set of Equipment spares			



**RADIO RECEIVING EQUIPMENT RBB, RBB-1, 2, 2a, 3, 4, 5, 6**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	RBB-5			
1	Radio Receiver NT-46147-D		14-11/16 x 18-1/8 x 20-7/8	85
1	Rectifier Power Unit NT-20130-B		9-1/2 x 13-7/16 x 15	55
1	Set of Accessories			
1	Set of Equipment Spares			
	RBB-6			
1	Radio Receiver NT-46296-A		14-3/16 x 19 x 20-7/8	88
1	Rectifier Power Unit NT-20130-B		9-13/16 x 14 x 19	59
1	Set of Accessories			
1	Set of Equipment Spares			

**REFERENCE DATA AND LITERATURE:**

- NAVSHIPS 900,477: Technical Manual for Radio Receiving Equipments RBB/RBC, RBB-1/RBC-1 and RBB-2/RBC-2.
- NAVSHIPS 91101: Technical Manual for Radio Receiving Equipments RBB-3, RBB-4, RBC-3 and RBC-4.
- NAVSHIPS 91469: Technical Manual for Radio Receiving Equipments RB-5, RBB-6, RBC-5 and RBC-6.
- NAVSHIPS 91319: Technical Manual for Radio Receiving Equipments RBA-5a, RBB-2a and RBC-3a.

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

TUBES RBB, RBB-1, 2, 2a, 3, 4: (7) 6SK7 (4) 6AB7 (3) 6H6 (1) 6K6GT (1) 5U4 (1) OC3/VR105

TUBES RBB-5, 6: (7) 6SK7 (5) 6AB7 (3) 6H6 (1) 6K6GT (1) 5U4 (1) OC3/VR105

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	11.4	162
1	11.4	150
1	8.2	111
1	10.1	150
1	8.2	111
1	10.1	150
1	13	185
1	7.2	122

**RBB, RBB-1, 2, 2a, 3, 4, 5, 6 RADIO RECEIVING EQUIPMENT**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.3	124
1	12.7	175
1	10.4	134
1	2.3	125

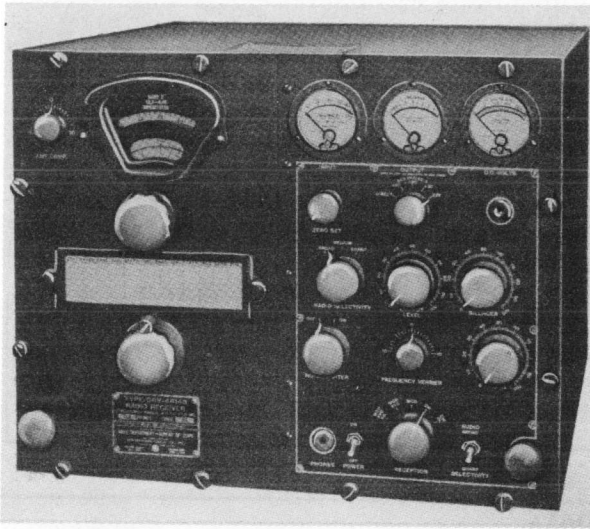
**PROCUREMENT DATA**

PROCURING SERVICE:  
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
RCA Victor Div., Radio Corp of America	Camden, N. J.	N0s-73056, 13 April 1940(RBB) N0s-91265, 2 September 1941(RBB-1) spares) NXss-17001, 17 June 1943(RBB-2) NXsr-39262, 3 November 1943(RBB-2) N0bsr-43335, 15 June 1949(RBB-2a) N0bsr-39340, 30 June 1947(RBB-4) N0bsr-52028, 25 September 1950 (RBB-5, RBB-6)	\$2700 (including equipment

## RADIO RECEIVING EQUIPMENT

RBC,RBC-1,  
2,3,3a,4,5,6

*Radio Receiving Equip  
RBC,RBC-1,2,3,3A,4,5,6*

**FUNCTIONAL DESCRIPTION**

The RBC, RBC-1, 2, 3, 3a, 4, 5 and 6 are primarily designed for operation aboard all type of Naval vessels and shore stations, and are capable of operating in the frequency range of 4 to 27 megacycles. They are designed for voice, MCW, and CW reception and more than one receiver can be operated on a single antenna system with little frequency separation when the antenna is adjacent to a transmitter antenna. They also have provisions for connecting a panoramic adapter or a frequency shift converter unit.

They may be used with Radio Receiving Equipment RBB series to provide continuous coverage in the 0.5 to 27 megacycle range.

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

**RELATION TO OTHER EQUIPMENT**

RBC series are electrically and mechanically interchangeable with the exception of mountings and RBC-3a which is modified to operate on 400 cycles instead of 55 to 65 cycles. RBC-4 and RBC-6 are for rack mounting. RBC-5 and RBC-6 includes NT-10335 Kit for coupling to CV-57/URR frequency Shift Converter or RBU/RBV Panoramic Adapter Unit.

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 4 to 27 mc.

**BAND DATA**

BAND 1: 4 to 6.45 mc.

BAND 2: 6.45 to 10.30 mc.

BAND 3: 10.30 to 16.50 mc.

BAND 4: 16.50 to 27 mc.

RECEPTION: A1, A2, A3.

TYPE RECEIVER: Superheterodyne.

POWER OUTPUT: 15 MW.

INTERMEDIATE FREQUENCY: 400 kc.

**IMPEDANCE DATA**

OUTPUT: 600 ohms.

**INPUT**

TRANSMISSION LINE: 70 ohms.

ANTENNA: 300 ohms

**POWER REQUIREMENTS**

RBC, RBC-1 thru 6: 110 to 120 v, 55 to 65 cps, single ph; 100 W, 96% pf for one receiver; 160 W, 97% pf for two receivers.

RBC-3a: 115 v, 400 cps, single ph.

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

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

Contract NOs-73056, dated 12 April 1940 (RBC).

Contract NOs-91265, dated 2 September 1941 (RBC-1).

Contract NXss-17001, dated 17 June 1943 (RBC-2).

Contract NXsr-39262, dated 3 November 1943 (RBC-2).

Contract NObsr-39151, dated 28 April 1947 (RBC-3).

Contract NObsr-43335, dated 15 June 1949 (RBC-3a).

Contract NObsr-39340, dated 30 June 1947 (RBC-4).

Contract NObsr-52028, dated 25 September 1950 (RBC-5, RBC-6).

Approximate Cost \$2400 including equipment spares

**RBC,RBC-1,  
2,3,3a,4,5,6**

## RADIO RECEIVING EQUIPMENT

UNCLASSIFIED

December 1956

### TUBE AND/OR CRYSTAL COMPLEMENT

RBC, RBC-1 thru 4	RBC-5,6
(7) 6SK7	(7) 6SK7
(4) 6AB7	(5) 6AB7
(1) 6K6GT	(1) 6K6GT
(1) 5U4	(1) 5U4
(1) OC3/VR105	(1) OC3/VR105
(3) 6H6	(3) 6H6
Total Tubes: (17)	Total Tubes: (18)

NAVSHIPS 91101: Technical Manual for Radio Receiving Equipment RBB-3, RBB-4, RBC-3 and RBC-4.

NAVSHIPS 91469: Technical Manual for Radio Receiving Equipments RBB-5, RBB-6, RBC-5 and RBC-6.

NAVSHIPS 91319: Technical Manual for Radio Receiving Equipments RBA-5a, RBB-2a and RBC-3a.

### REFERENCE DATA AND LITERATURE

NAVSHIPS 900,477: Technical Manual for Radio Receiving Equipments RBB/RBC, RBB-1/RBC-1 and RBB-2/RBC-2.

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	RBC,RBC-1,RBC-2(WOOD BOX) Radio Receiver NT-46148	11.4	23-3/4 X 26-3/4 X 31	155
1	Rectifier Power Unit NT-20130 including Spare Parts	11.4	23-3/4 X 26-3/4 X 31	150
1	RBC,RBC-1,2,3,4 (CORRUGATED CARTON) Radio Receiver NT-46148	8.2	21 X 24 X 28-1/4	111
1	Rectifier Power Unit NT-20130 including Spare Parts	10.1	21 X 26-3/4 X 31	150
1	RBC-3a(CORRUGATED CARTON) Radio Receiver NT-46148 (MOD)	8.2	21 X 24 X 28-1/4	111
1	Rectifier Power Unit NT-20130 (MOD) including Spare Parts	10.1	21 X 26-3/4 X 31	150
1	RBC-5 Radio Receiver NT-46148-D	13	23-3/4 X 29-1/2 X 32	185
1	Rectifier Power Unit NT-20130-B	7.2	21-1/2 X 23-1/2 X 25-1/2	122
1	Equipment Spare Parts	2	8-1/2 X 16-3/4 X 23	73
1	RBB-6 Radio Receiver NT-46297-A	12.7	22-3/4 X 29-1/2 X 31-3/4	175
1	Rectifier Power Unit NT-20130-B including mounting	10.4	22-1/2 X 27-1/2 X 29	134
1	Assembly NT-10348-A Equipment Spare Parts	2	8-1/2 X 16-3/4 X 23	73

### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	RBC Radio Receiver NT-46148	14-3/4 X 18-1/8 X 20-1/8	82
1	Rectifier Power Unit NT-20130	9-7/8 X 13-7/16 X 15	52

## RADIO RECEIVING EQUIPMENT

RBC,RBC-1,  
2,3,3a,4,5,6

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Set of Accessories		
1	Set of Equipment Spares RBC-1		
1	Radio Receiver NT-46148 or NT-46148-B	14-3/4 X 18-1/8 X 20-1/8	82
1	Rectifier Power Unit NT-20130	9-7/8 X 13-7/16 X 15	52
1	Set of Accessories		
1	Set of Equipment Spares RBC-2		
1	Radio Receiver NT-46148-B	14-3/4 X 18-1/8 X 20-1/8	82
1	Rectifier Power Unit NT-20130	9-7/8 X 13-7/16 X 15	52
1	Set of Accessories		
1	Set of Equipment Spares RBC-4		
1	Set of Equipment Spares RBC-3		
1	Radio Receiver NT-46148-C	14-3/4 X 18-1/8 X 20-1/8	82
1	Rectifier Power Unit NT-20130-B	9-1/2 X 13-7/16 X 15	48
1	Set of Accessories		
1	Set of Equipment Spares RBC-3a		
1	Radio Receiver NT-46148-C (MOD)	14-3/4 X 18-1/8 X 20-1/8	82
1	Rectifier Power Unit NT-20130-B(MOD)	9-1/2 X 13-7/16 X 15	48
1	Set of Accessories		
1	Set of Equipment Spares RBC-4		
1	Radio Receiver NT-46297	14-11/16 X 18-1/8 X 20-7/8	82
1	Rectifier Power Unit NT-20130-B	9-1/2 X 13-7/16 X 15	48
1	Set of Accessories		
1	Set of Equipment Spares RBC-5		
1	Radio Receiver NT-46148-D	14-11/16 X 18-1/8 X 20-7/8	82
1	Rectifier Power Unit NT-20130-B	9-1/2 X 13-7/16 X 15	48
1	Set of Accessories		
1	Set of equipment Spares RBC-6		
1	Radio Receiver NT-46297-A	14-3/16 X 19 X 20-7/8	82
1	Rectifier Power Unit NT-20130-B	9-1/2 X 13-7/16 X 15	48
1	Set of Accessories		
1	Set of equipment Spares		

## RADIO RECEIVING EQUIPMENT

RBE

## FUNCTIONAL DESCRIPTION

The Model RBE is a complete diversity radio receiving equipment suitable for use at Naval radio stations. It is suitable for diversity reception of CW or TCW radio telegraph signals by loudspeaker or headphones or by telegraph recorder. The equipment also permits the reception of MCW radio telephone signals, by headphone or loudspeaker methods, over separate channels without diversity combination of these separate channels. The components of the equipment are rack mounted to a cabinet type mounting rack. The major units are suitable for operation from a 115 v, 60 cps, AC power supply source and are each provided with self-contained power units to provide all necessary power for both plate and heater circuits.

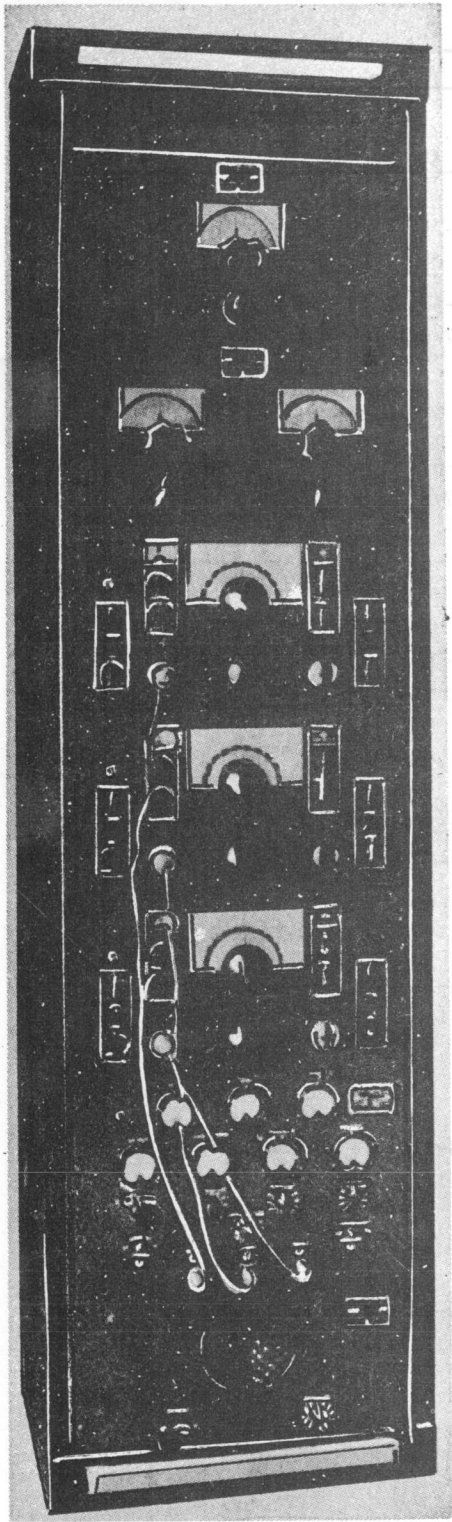
No field changes in effect at time of preparation (7 December 1956).

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied:  
Three Antennas.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 550 to 30,000 kc.  
 OUTPUT IMPEDANCE: 600 ohms.  
 INTERMEDIATE FREQUENCY: 456 kc.  
 INPUT CONNECTIONS: Single wire type antenna, balanced feed line or a low impedance concentric transmission line.  
 LOUDSPEAKER 49140  
 POWER OUTPUT: 1.75 W.  
 INPUT IMPEDANCE: 600 ohms.  
 POWER SOURCE REQUIRED: 115 v, 60 cps, single phase, 45 W.  
 SINGLE AND DUAL PRESELECTOR 50090 and 50091.  
 FREQUENCY RANGE: 550 to 32,000 kc.  
 INPUT IMPEDANCE: 80 to 125 ohms.  
 OUTPUT IMPEDANCE: 80 to 100 ohms.  
 POWER SOURCE REQUIRED: 115 v, 60 cps, single phase.  
 DIVERSITY COMBINING UNIT  
 TYPE OF RECEPTION: CW or ICW.  
 MAXIMUM SPEED: 500 words/minute.  
 CHANNELS: 3.  
 INPUT IMPEDANCE: 600 ohms.  
 POWER SOURCE REQUIRED: 115 v, 60 cps, single ph.



Radio Receiving Equipment RBE



June 1957

Radio-Receivers

RBE

## RADIO RECEIVING EQUIPMENT

## MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Supply Corp, Washington,  
D.C.

Contract NOs 70248, dated 11 December  
1939.

Contract N171S-59715, dated 25 July  
1940.

(6) 456KC

Total Tubes: (6)

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900261: Technical Manual for Model  
RBE Radio Receiving Equipment.

## TUBE AND/OR CRYSTAL COMPLEMENT

(2) VR-105/30	(15) 6K7
(9) 6J7	(3) 6F8G
(3) 6C8G	(8) 6V6GT/G
(3) 523	(2) 5U4G
(3) 80	(1) 6J5
(3) 6SC7	

Total Tubes: (52)

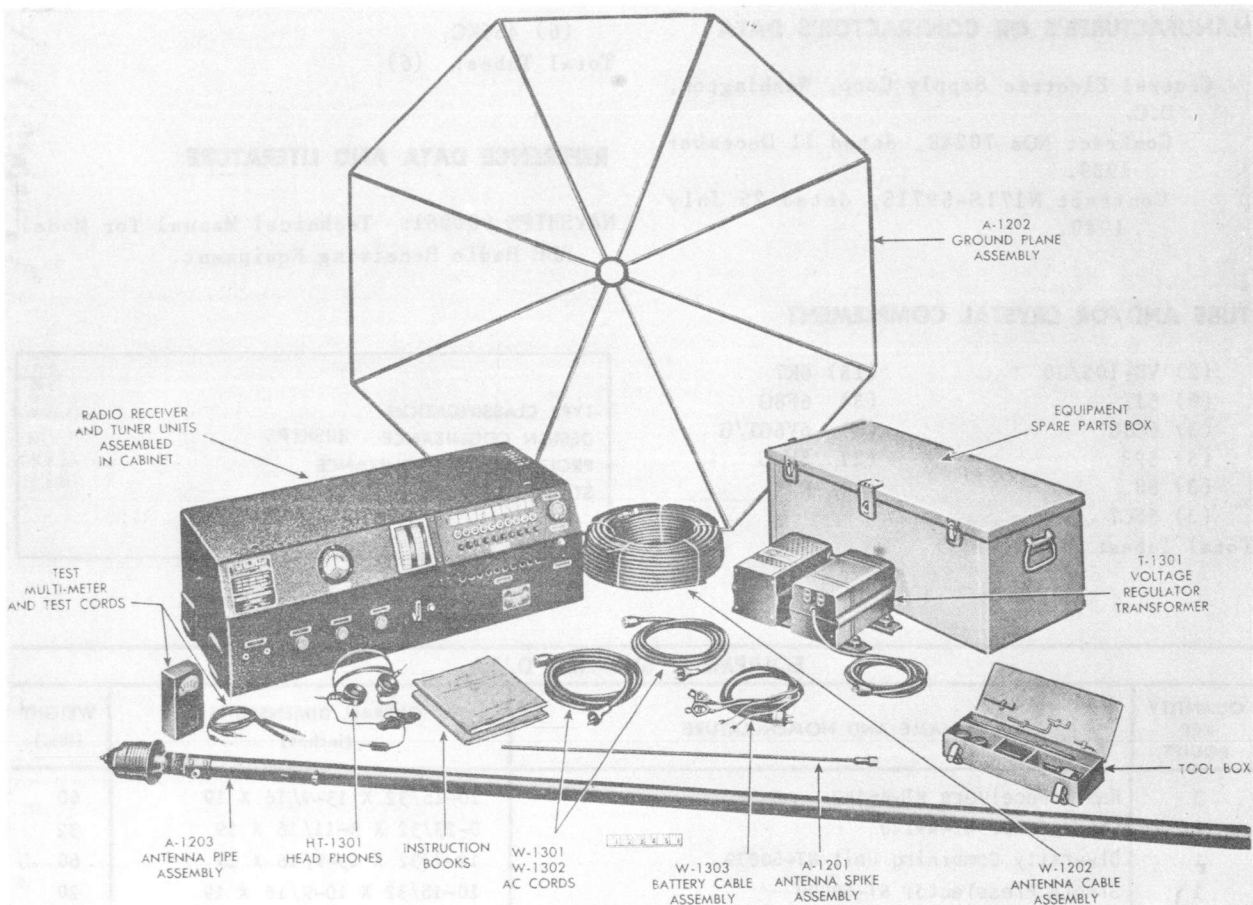
TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
3	Radio Receivers NT-46142	10-15/32 X 13-9/16 X 19	60
1	Loudspeaker NT-49140	8-23/32 X 8-11/16 X 19	32
1	Diversity Combining Unit NT-50079	12-7/32 X 13-9/16 X 19	60
1	Single Preselector NT-50090	10-15/32 X 10-9/16 X 19	20
1	Dual Preselector NT-50091	10-15/32 X 10-9/16 X 19	34
1	Mounting Rack (Cabinet Type)		
1	Blank Panel		
	Necessary Patch Cords		
1	Set of Equipment Spares		
	Instruction Books		

## RADIO RECEIVING EQUIPMENT

RBF-3



Radio Receiving Equipment RBF-3

## FUNCTIONAL DESCRIPTION

The RBF-3 is a shore-based equipment designed for reception of FM signals from sonar radio buoy transmitting equipments, and may automatically monitor up to ten signals at as many different frequencies in the 70 to 90 mc band. It is a superheterodyne unit which may be tuned either automatically, with the push buttons, or with the tuning knob. It is used with Radio Transmitting Equipment JM series.

No field changes in effect at time of preparation (16 April 1958).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

## RECEIVER

TYPE: Superheterodyne.

RECEPTION: FM.

FREQUENCY RANGE: 70 to 90 mc.

INPUT IMPEDANCE: 50 to 75 ohm concentric line connectors.

OUTPUT IMPEDANCE: 50 and 5000 ohms.

POWER SOURCE REQUIRED: 95-125 v, 50-60 cps, 1 ph, 215 W; or 8 v and 300 v battery.

## ANTENNA

TYPE: Spike with gnd plane.

FEED: 69-ohm coaxial line.

MOUNTING: 10 ft pipe for connection to 100 ft tower.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Wells-Gardner and Co, Chicago, Ill.

Contract NXss-19175, dated 5 Dec 1942.

Approximate Cost: \$3500.00 with equipment spares.

April 1958

Radio-Receivers

RBF-3

## RADIO RECEIVING EQUIPMENT

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5U4G	(3) 6SG7Y
(7) 6AC7WA	(1) 6SJ7
(2) 6H6	(1) 6V6GTY
(1) 6J5	

Total Tubes: (16)

No Crystals used.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900225-1B: Technical Manual for  
Navy Model RBF-3 Sono-Radio-Buoy Receiving  
Equipment.

<b>TYPE CLASSIFICATION</b> <b>DESIGN COGNIZANCE</b> BUSHIPS <b>PROCUREMENT COGNIZANCE</b> <b>STOCK NO.</b>
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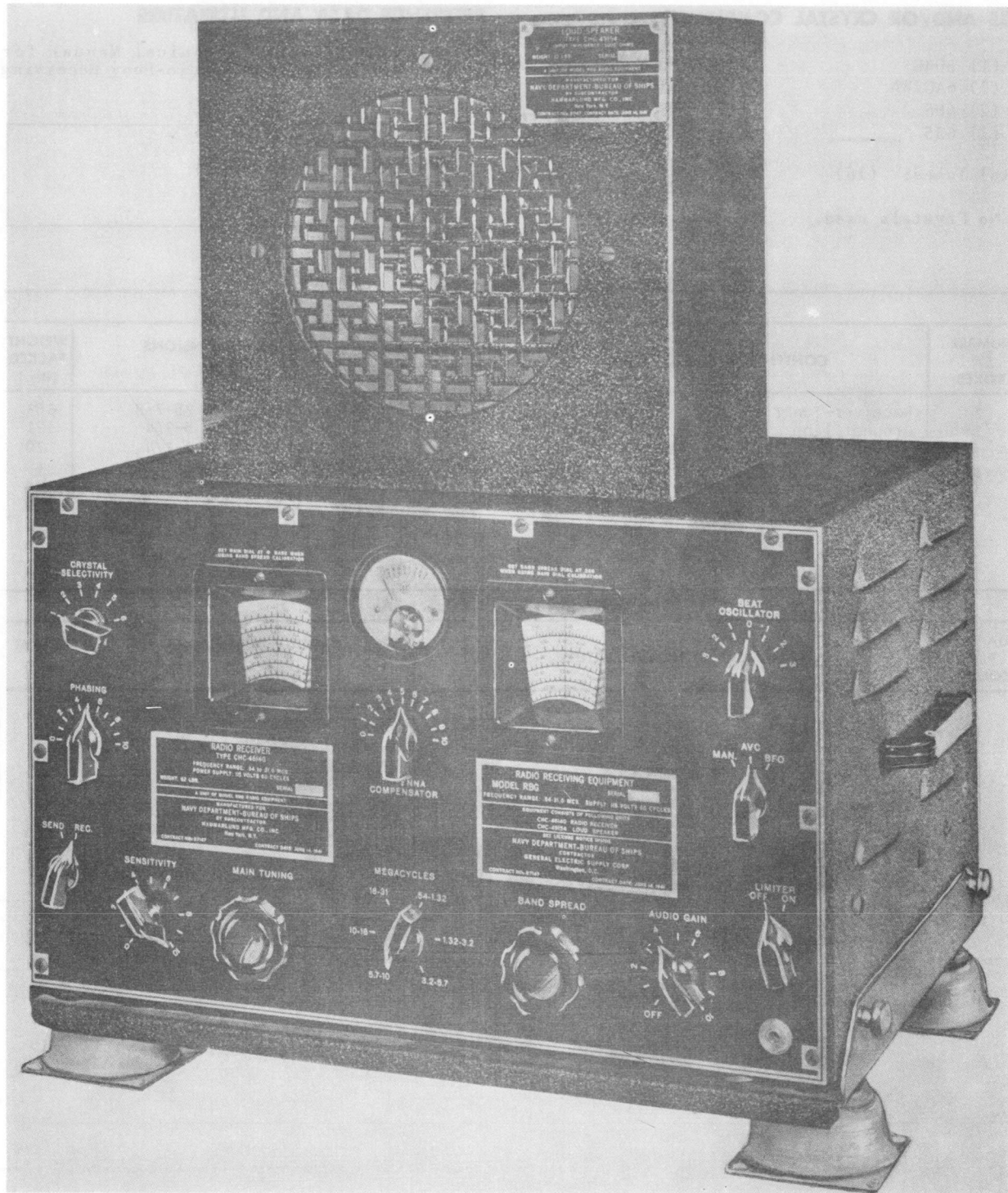
## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Receiver-Tuner	12.7	18-3/4 X 45-1/2 X 25-7/8	353
1	Ground Plane	15.1	68-1/4 X 66-1/2 X 5-3/4	121
1	Antenna Assembly	4.5	128-1/4 X 6-1/4 X 6-1/4	70
1	Antenna Cable	1.64	17-7/8 X 17-7/8 X 8-7/8	40
1	Constant Voltage Transformer	2.35	21-1/8 X 16-1/2 X 11-7/16	84
1	Equipment Spares and Accessories	7.2	20-3/4 X 35-1/2 X 17-1/8	212

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver-Tuner Consisting of: 1 Radio Receiver CWQ-46204 1 Radio Tuner CWQ-10177	12-7/16 X 39-1/8 X 18-3/16 12-5/16 X 39-5/8 X 19-1/4 7-1/2 X 17-1/2 X 14-3/4	235
1	Antenna Assembly CWQ-66084	152 X 72 dia	34
1	Ground Plane A-1202		10
1	Antenna Cable RG-8/U or RG-11/U	200 ft 1g 200 ft 1g	17
1	Constant Voltage Transformer 30B722		55
1	Set of Equipment Spares and Accessories		150

# RADIO RECEIVING EQUIPMENT RBG, RBG-1, RBG-2



*Radio Receiving Equipment RBG*



Radio-Receivers

**RBG, RBG-1, RBG-2 RADIO RECEIVING EQUIPMENT**

**FUNCTIONAL DESCRIPTION**

The RBG, RBG-1 and RBG-2 superheterodyne radio receivers are for general A1, A2 and A3 reception on shipboard or at Naval Shore Stations.

The RBG and RBG-2 are electrically and mechanically identical, differing only in contractual data. The RBG-1 differs from the other models only in that it is designed for either 25 or 60 cycle operation.

No field changes in effect at time of preparation (14 April 1958).

**RELATION TO OTHER EQUIPMENT**

The RBG and RBG-2 are identical with the Hammarlund Mfg Co Model HQ-120X.

Equipment Required but not Supplied: Receiving Antenna.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

RECEPTION: A1, A2 and A3.  
FREQUENCY 0.54 to 31.0 mc in 6 bands. In addition band spread is provided on four bands as follows:

4.00 to 4.60 mc.

8.00 to 9.60 mc.

12.00 to 13.60 mc.

15.00 to 18.00 mc.

POWER OUTPUT: 10 mw into a 600 ohm load; 2 W into a 5000 ohm load.

OUTPUT IMPEDANCE: 600 ohms for headphones; 5000 ohms for speaker.

AVERAGE INPUT IMPEDANCE 500 ohms.

SENSITIVITY: 8 uv input for 500 mw output into 500 ohm load.

POWER REQUIREMENTS

RBG AND RBG-2: 110 to 120 v, 50 to 60

cps, single phase, 95 W.  
RBG-1: 110 to 120 v, 25 or 60 cps, single phase, 95 W.

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

Contractor: General Electric Supply Corp., Washington, D.C.

MANUFACTURER: Hammarlund Mfg Co. Inc., New York, N.Y.

RBG: Contract NOs-87147, dated 14 June, 1941.

RBG-1, RBG-2: NXss-20831 dated 5 January 1943.

Approximate Cost: \$2000.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

- |            |          |
|------------|----------|
| (1) OC3W   | (1) 6SJ7 |
| (1) 5U4G   | (1) 6H6  |
| (1) 6K8    | (1) 6C5  |
| (4) 6SK7WA | (1) 6V6Y |

Total Tubes: (11)

(1) 455 KC

Total Crystals: (1)

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 900004: Technical Manual for Radio Receiving Equipment Navy Models RBG, RBG-1 and RBG-2.

<b>TYPE CLASSIFICATION</b>	
<b>DESIGN COGNIZANCE</b>	BUSHIPS
<b>PROCUREMENT COGNIZANCE</b>	RBG: SPEC EN28/1372-4 (NSA); S-500-2920
<b>STOCK NO.</b>	RBG-2: SPEC EN28/1527-43/SHIPS
<b>R.D.B. IDENT. NO.</b>	

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	RBG or RBG-2 Radio Receiving Equipment or			74
	RBG-1 Radio Receiving Equipment			79
1	Equipment Spares			8

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46140 (RBG or RBG-2) or Radio Receiver NT-46163 (RBG-1)		
1	Loudspeaker NT-49154	12-3/16 x 14-11/16 x 18-15/16 7-5/16 x 9-3/8 x 10-5/16	

April 1958

Radio-Receivers

## RADIO RECEIVING EQUIPMENT

## RBH, RBH-1, 2, 3



Radio Receiver Navy Model RBH-1

## FUNCTIONAL DESCRIPTION

The Navy Model RBH, RBH-1 thru 3 are radio receivers for use on Naval vessels or at shore stations for A1, A2 or A3 reception in the frequency range 300 to 1200 kc and 1.7 to 16 mc. They are designed for low radiation and are considered safe for use in combat areas. The RBH is equipped with loudspeaker but without mounting base and has a narrow IF bandwidth. The RBH-1, 2, 3 have shock mounting base, no loudspeaker, wide band IF amplifiers and an additional RF preselector stage. All receivers are designed for use under changing conditions such as variations in line voltage, ambient temperature and relative humidity within limited frequency and gain variations.

No field changes in effect at time of preparation (16 April 1958).

## RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Loudspeaker (except the RBH) or (1) Pair of Headphones, (1) Antenna.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEPTION: A1, A2, A3.

FREQUENCY RANGE

FIVE BANDS AS FOLLOWS:

300 to 600 kc.

600 to 1200 kc.

1.7 to 3.9 mc.  
3.9 to 8.0 mc.  
8.0 to 16.0 mc.

## OUTPUT POWER

RBH: 12 mw into 600 ohm load, 2 W into 5000 ohm load.  
RBH-1, 2, 3: 300 mw into 600 ohm load.

## OUTPUT IMPEDANCE

HEADPHONES: 600 ohms.  
LOUDSPEAKER: 5000 ohms for the RBH; 600 ohms for the RBH-1, 2, 3.  
RF INPUT IMPEDANCE: Approx 500 ohms.

## A1 SENSITIVITY

RBH: 8 uv input to produce a 20 db signal-to-noise ratio.  
RBH-1, 2, 3: 10 uv input to produce a 20 db signal-to-noise ratio.

## A2 SENSITIVITY

RBH: 6 uv input to produce a 20 db signal-to-noise ratio.  
RBH-1, 2, 3: 10 uv input to produce a 10 db signal-to-noise ratio.

POWER REQUIREMENTS: 115 v, 50 to 60 cps, single phase, 60 to 70 W.  
Alternate power requirements for RBH-1, 2, 3; 6.3 v and 180 v DC.

ANTENNA REQUIREMENTS: 70 ohms impedance min.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Contractor: General Electric Supply Corp., Washington, D.C.

Manufacturer: National Co. Inc., Malden, Mass.

RBH Contract NOS-87668 dated 28 June 1941.

Manufacturer: National Co. Inc., Malden, Mass.

RBH-1 Contract NXs-738 dated 30 April 1942.

RBH-2 Contract NXss-19881 dated 2 January 1943.

RBH-3 Contract NXsr-33381 dated 30 June 1943.

Approximate Cost: \$750.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

		RBH
(1) 5Z3		(3) 6SK7
(1) 6C8G		(1) 6J5
(1) 6F8G		(2) 6J7
(1) 6V6GT		
Total Tubes:	(10)	

		RBH-1, 2, 3
(1) 5Z3		(4) 6SK7
(1) 6C8G		(1) 6J5
(1) 6F8G		(2) 6J7
(1) 6V6GT		
Total Tubes:	(11)	



April 1958

Radio-Receivers

**RBH, RBH-1, 2, 3 RADIO RECEIVING EQUIPMENT**(1) 1560 kc  
Total Crystals: (1)**REFERENCE DATA AND LITERATURE**

NAVSHIPS 95242: Technical Manual for Radio Receiving Equipment RBH.

NAVSHIPS 900411: Technical Manual for Radio Receiving Equipment RBH-1, 2, 3.

**TYPE CLASSIFICATION**

DESIGN COGNIZANCE 6USHIPS

PROCUREMENT COGNIZANCE RBH

STOCK NO. S-500-2923 Lot 1A & 1B  
EN28/2408-43/SHIPS.  
RBH-1  
EN28/3811-42/SHIPS;  
EN28/3736-42/USA.  
RBH-2  
EN28/1877-43/USA.**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	RBH Radio Receiver with Loudspeaker and Equipment spares or RBH-1 or RBH-2 Radio Receiver with Mounting Base and Equipment Spares or RBH-3 Radio Receiver with Mounting base and Equipment Spares	6.6	17-3/4 X 21-1/2 X 30-1/4	156
		8.1	17-1/4 X 22-1/4 X 36-1/2	200

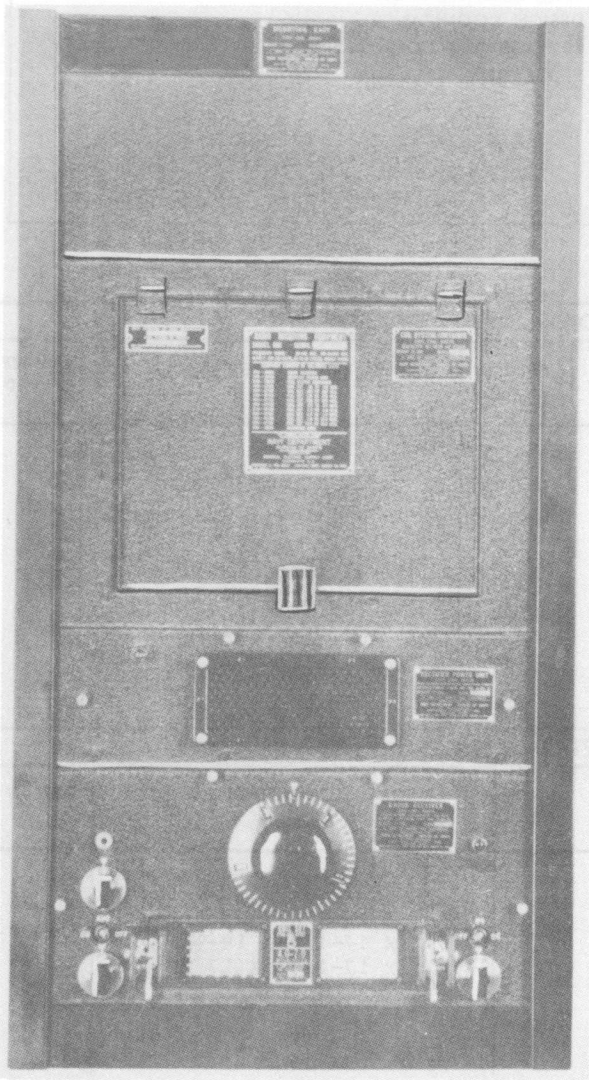
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46144*	11 X 13 X 17-1/2	55
1	Loudspeaker NT-49106*	7-3/8 X 9-1/2 X 10-1/4	11
1	Radio Receiver NT-46188**	10-3/4 X 17-1/4 X 17-1/4	74
1	Radio Receiver NT-46188***	10-3/4 X 17-1/4 X 18-3/4	74
1	Mounting Base NT-10125 for RBH-1, 2, 3	2-9/16 X 17-1/32 X 17-21/32	5.75
1	Equipment Spares		
	Box 1*		19
	Box 1**	6-1/2 X 10 X 19	20
	Box 1***	6-1/2 X 10 X 19	30

\*RBH Radio Receiving Equipment only.

\*\*RBH-1 and RBH-2 (Serial No. below 1401) Radio Receiving Equipment

\*\*\*RBH-2 (Serial No. 1401 and above) and RBH-3 Radio Receiving Equipment.

**RADIO RECEIVING EQUIPMENT****RBJ,RBJ-1,-2,-3,-4***Radio Receiving Equipment***FUNCTIONAL DESCRIPTION**

The Model RBJ, RBJ-1 through RBJ-4 are each complete radio receiving equipments suitable in all respects for use at Naval Radio shore stations or aboard Naval vessels. The equipments are suitable for the reception of radio telephone or telegraph signals (either CW or MCW) by either headphone or loudspeaker methods. The equipments are of the self-supported rack mounted type with racks suitable for table mounting.

The RBJ, RBJ-3 and RBJ-4 are suitable for

operation from 220 to 240 v, 50 to 60 cps, single phase source while the RBJ-1 and RBJ-2 operate from a 110 to 120 v, 50 to 60 cps, single phase source.

The 20090 power unit replaces the 20125 in the RBJ-1 and RBJ-2 equipment.

The RBJ-3 is supplied with 20146 Vibrator Power Unit and hence is suitable for operation from a 6.3 v DC source.

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

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: A loudspeaker or headphones and an antenna.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

RECEIVER TYPE: Superheterodyne.

FREQUENCY RANGE: 50 to 400 kc and 480 to 30,000 kc.

INTERMEDIATE FREQUENCY: 456 kc.

RECEPTION: CW or amplitude modulated MCW.

**OUTPUT POWER**

PHONES: 10 milliwatts.

LOUDSPEAKER: 2 W.

**OUTPUT IMPEDANCE**

PHONES: 600 ohms.

LOUDSPEAKER: 5000 ohms.

INPUT CIRCUIT: Single wire antenna or balanced feed-line.

BAND CHANGING METHOD: Frequency range is covered by means of nine plug in coil sets.

**POWER SOURCE REQUIRED**

RBJ AND RBJ-4: 220 to 240 v, 50 to 60 cps, single ph.

RBJ-3: 220 v to 240 v, 50 to 60 cps single ph or 180 v DC and 6 v DC or 6.3 v DC with NT-20146 Vibrator Power Supply.

RBJ-1 AND RBJ-2: 110 to 120 v, 50 to 60 cps single ph or 180 v DC and 6 v DC.

MOUNTING: Standard 19 in. relay rack mounting.

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

RBJ-4: National Company, Inc., Malden Massachusetts.

Contract NXs-11-8604, dated 1 October 1942.

RBJ-3: General Electric Supply Corp.

August 1957

## Radio-Receivers

RBJ,RBJ-1,-2,-3,-4

## RADIO RECEIVING EQUIPMENT

Washington, D.C.

Contract 11-N140s-98876, dated 6 March  
1942.

## REFERENCE DATA AND LITERATURE

Technical Manual for Model RBJ, RBJ-1 Radio  
Receiving Equipment.Technical Manual for Model RBJ-3 Radio Re-  
ceiving Equipment.Technical Manual for Model RBJ-4 Radio Re-  
ceiving Equipment.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Z3	(1) 6F8G
(3) 6C6	(1) 6V6GT
(4) 6D6	

Total Tubes: (10)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSH IPS
PROCUREMENT COGNIZANCE
STOCK NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver 46081	8-3/4 X 10-1/4 X 19	
1	Power Unit 20125* or	5-1/4 X 9-3/4 X 19	
1	Power Unit 20090**	5-1/4 X 9-3/4 X 19	
1	Vibrator Power Unit 20146***		
1	Coil System Container 10075	11-5/8 X 14 X 19	
1	Mounting Rack 10036	12-3/8 X 20-1/2 X 39-1/2	
1	Coil Set 47163	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47164	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47165	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47166	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47167	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47168	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47169	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47181	2-7/16 X 5-3/8 X 10-3/8	
1	Coil Set 47182	2-7/16 X 5-3/8 X 10-3/8	
1	7 in. Blank Panel		
1	Set of Equipment Spares		
	Instruction Books		

Note: \* - For RBJ, RBJ-3 and RBJ-4.

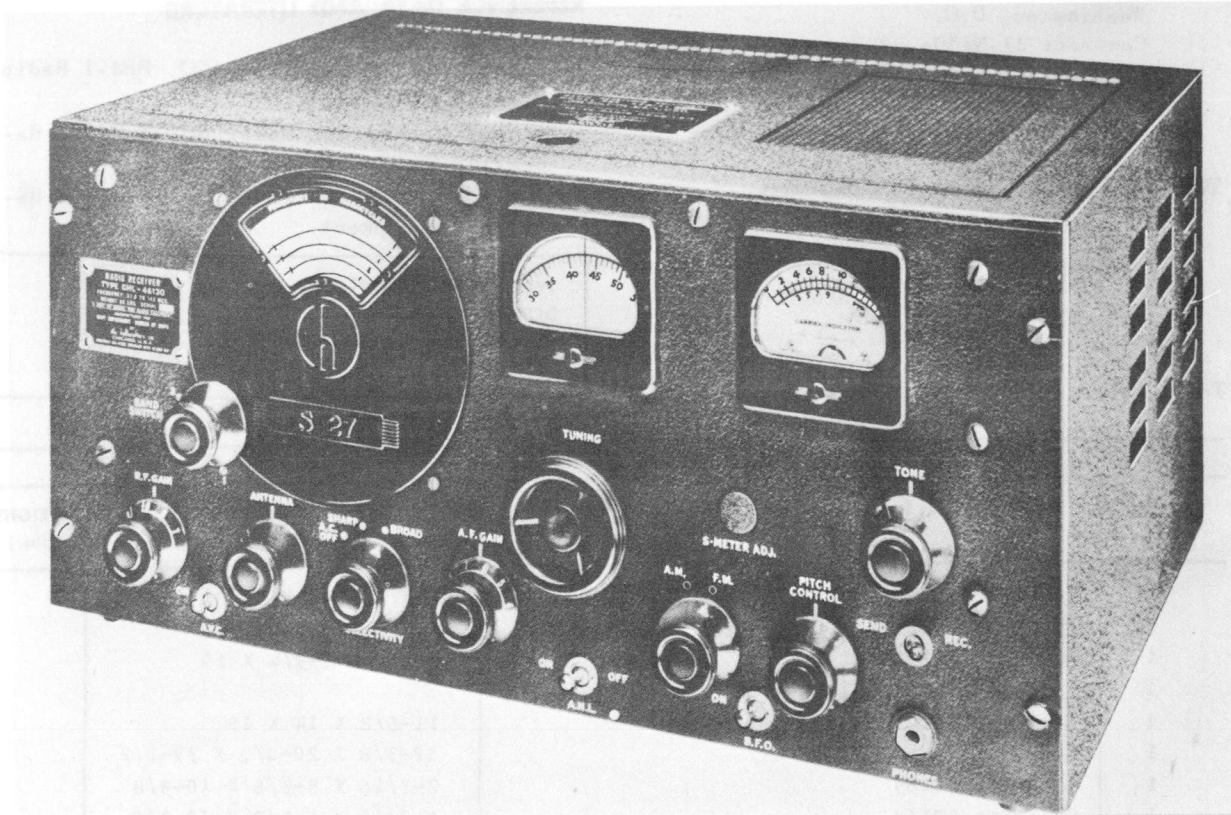
\*\* - For RBJ-1 and RBJ-2.

\*\*\* - For RBJ-3. One supplied for each two equipments.

April 1958

Radio-Receivers

# RADIO RECEIVING EQUIPMENT RBK, RBK-1, -2, -5, -7, -8, -9, -11 THRU -16



*Radio-Receiving Equipment RBK, RBK-1, -2, -5, -7, -8, -9, -11, Thru-16*

## FUNCTIONAL DESCRIPTION

The RBK Series as indicated above are superheterodyne high frequency communication receivers designed for the reception of signals within the frequency range from 27.8 to 143 megacycles. These equipments are intended primarily for use on ships and other stations of the U. S. Navy.

The equipments are conventional in design but incorporate two features not found in most receivers; an RF amplifier used as a radiation suppressor, and a receptacle for connecting a panoramic adapter.

An outside case (dust cover) is provided with each receiver so that it can be mounted on a desk or table.

They will receive AM, FM and CW signals over a frequency range of 27.8 to 143 megacycles, in three bands.

Receiver disabling is provided by means of a "Send-Receive" switch located on the front panel and a special socket for connect-

ion to the control circuit of the associated transmitter.

No field changes in effect at time of preparation (23 October 1957).

## RELATION TO OTHER EQUIPMENT

Similar to S-27, S-27D and S-36 (Halli-crafter) receivers.

Equipment Required but not Supplied: (1) Antenna, (1) 600 ohm headset or 500 ohm headset or 5000 ohm loudspeaker.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE: Superheterodyne.

FREQUENCY RANGE: 27.8 to 143.0 mc.

RECEPTION: A1, A2, A3, and F1, F2, F3.

AUDIO RESPONSE: w/in  $\pm 3$  db from 40 to 10000 cps.

## Radio-Receivers

**RBK, RBK-1, -2, -5, -7, -8, -9, RADIO RECEIVING EQUIPMENT  
-11 THRU -16**

April 1958

AUDIO OUTPUT: 3 W.  
 DISTORTION: Less than 5%.  
 OUTPUT IMPEDANCE: 500 ohms, 600 ohms balanced, 5000 ohms.  
 FEATURES: BFO, AVC.  
 ANTENNA: 50 to 100 ft, single wire; half wave double or multiple dipole.  
 MOUNTING DATA: The chassis and panel assembly is housed in a metal cabinet w/a hinged lid and rubber feet for table top use. If desired, the receiver may be installed in a standard relay rack.  
 POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cps, 115 W.

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

The Hallicrafter's Co., Chicago, Ill.  
 Contract NOS-87293, dated 16 June (RBK).  
 Contract NXs-3265, dated 20 April 1942 (RBK-1).  
 Contract NXs-9513 dated 9 July 1942 (RBK-5).  
 Contract NXss-21514 (RBK-7).  
 Contract NXss-28816 (RBK-8).  
 Contract NXss-32842 (RBK-9).  
 Contract NXsr-39265 dated 10 June 1944 (RBK-12).  
 Contract NXsr-56768, dated 2 February 1945 (RBK-13).  
 Contract NXsr-67988, dated 10 June 1944 (RBK-13).  
 Contract NXsr-39265, dated 30 June 1944 (RBK-14).  
 Contract NXsr-85032, dated 30 December 1944 (RBK-14).  
 Contract NXsr-47385 (RBK-11).  
 Contract NObs-52200, dated 6 January 1951 (RBK-16).

**TUBE AND/OR CRYSTAL COMPLEMENT**

RBK-15, -16

(1) OD3W	(1) 6SK7WA
(1) 5U4G	(1) 6SL7WGT
(1) 6AB7	(2) 6V6GTY
(2) 6AC7WA	(1) 954
(2) 6H6	(1) 955
(1) 6J5	(2) 956

Total Tubes: (16)

RBK-12, 13, 14, 9, 8, 7, 5

(1) OD3W	(1) 6SK7WA
(1) 5U4G	(2) 6V6GTY
(1) 6AB7	(1) 954
(2) 6AC7WA	(1) 955
(2) 6H6	(1) 956
(1) 6J5	(1) 6SL7WGT

Total Tubes: (15)

RBK, -1, -2, -11

(1) OD3W	(1) 6J5
(1) 5Z3	(1) 6SK7WA
(1) 6AB7	(2) 6V6GTY
(2) 6AC7WA	(1) 954
(1) 6C8G	(1) 955
(2) 6H6	(1) 956

Total Tubes: (15)

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 95244, Technical Manual for Model (S-270) RBK, Radio Receiving Equipment, RBK-1, RBK-3, RBK-4, RBK-5, RBK-6, RBK-11.  
 NAVSHIPS 95245, Technical Manual for Model RBK-9, Radio Receiving Equipment.  
 NAVSHIPS 900,235, Technical Manual for Model RBK-12, -13, -14, Radio Receiving Equipment.  
 NAVSHIPS 91616, Technical Manual for Radio Receiving Equipment Navy Model RBK-16.

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 -46130-D** or -46130-C*	6.7	15-1/2 X 22-3/4 X 32-1/2	228
	Set of Repair Parts or	6.7	15-1/2 X 22-3/4 X 32-1/2	228
1	Radio Receiver-46298-A	10.1	17-1/2 X 23-1/2 X 42-1/2	200

NOTES: \*RBK-12, -13

\*\*RBK-14



April 1958

**RADIO RECEIVING EQUIPMENT RBK,RBK-1,-2,-5,-7,-8,-9,-11 THRU -16**

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver -46130-A or -46130 or -46130-C or -46130-D or -46162 or -46241 or -46298 or -46298-A	9-5/16 X 15-13/16 X 19-1/8 9-1/2 X 15-15/16 X 19-1/8 9-3/8 X 14-3/16 X 19-1/8 9-5/16 X 15-13/16 X 19-1/8 9-5/16 X 15-13/16 X 19-1/8 9-5/16 X 15-3/4 X 19-1/8	63 63 63 63 63 78
1	Loudspeaker -49172	10-7/8 X 11 X 16	20
1	Set of Equipment Spares	12-3/4 X 15 X 20-1/2	88

REFERENCE DATA AND LITERATURE

1. The following information is for the equipment listed in this report. It is intended to provide a general description of the equipment and its characteristics. It is not intended to provide a detailed description of the equipment or its operation.

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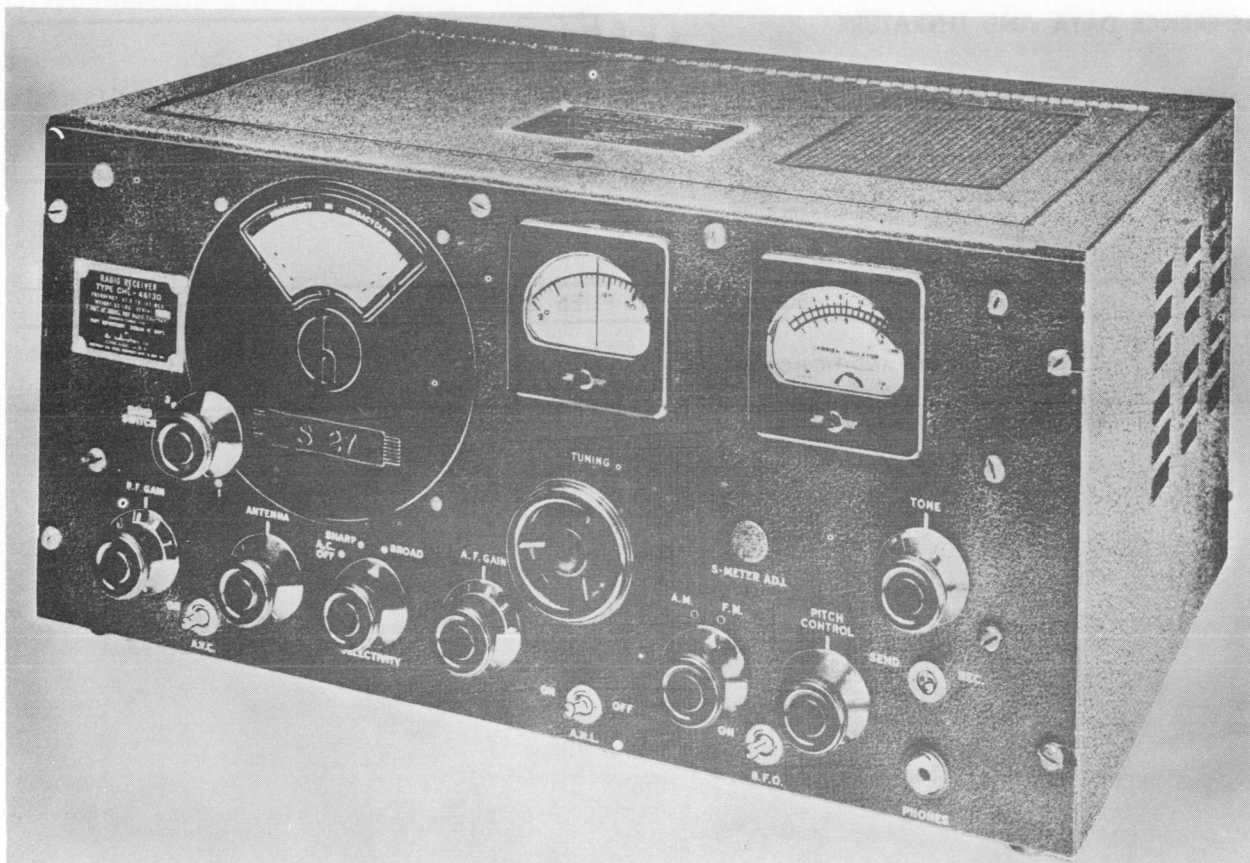
24-15-70 DATA

WEIGHT (lbs.)	NUMBER OF BOXES	CONTENTS & DESCRIPTION	WEIGHT (lbs.)	TYPE OF EQUIPMENT
218	1	RADIO RECEIVER -46130-A	218	RADIO RECEIVER
20	1	LOUDSPEAKER -49172	20	LOUDSPEAKER
88	1	SET OF EQUIPMENT SPARES	88	EQUIPMENT SPARES



# RADIO RECEIVER

# RBK-4



*Radio Receiver RBK-4*

## FUNCTIONAL DESCRIPTION

The RBK-4 is designed as an ultra-high frequency (UHF) radio receiver mounted in a cabinet. The receiver may be removed from its cabinet and mounted directly onto a standard rack without any mechanical alternations.

No field changes in effect at time of preparation (26 February 1960).

## RELATION TO OTHER EQUIPMENT

The RBK-4 is similar to the Models RBK, RBK-1, RBK-3, RBK-5, RBK-6, RBK-11, but differs by contract procurement.

The RBK-4 is the same as Hallicrafter commercial model S-27D.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3, F3 types of

emission.

OUTPUT IMPEDANCE: 500, 600, 5000 ohms.

NUMBER OF BANDS: 3 bands.

OPERATING FREQUENCY RANGE: 27.8 to 143 mc.

OPERATING POWER RQMT: 110 to 125 v AC, 50 to 60 cps, single ph.

## MANUFACTURER'S OR CONTRACTOR'S DATA

The Hallicrafters Co., Chicago, Illinois.  
Model No. S-27D.  
Contract NXs-7930.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Z3	(1) 6AB7	(2) 6AC7
(1) 6C8G	(2) 6H6	(1) 6SK7
(2) 6V6G	(1) 6J5	(1) VR150
(1) 954	(1) 955	(1) 956
Total Tubes: (15)		
No Crystals used.		

**RBK-4****RADIO RECEIVER****REFERENCE DATA AND LITERATURE**

NAVSHIPS 95244: Technical Manual for the Radio Receiver RBK, RBK-1, RBK-3, RBK-4, RBK-5, RBK-6 and RBK-11.

TYPE CLASSIFICATION (NAVY) DESIGN COGNIZANCE NAVY BUSHIPS PROCUREMENT COGNIZANCE MIL -R-15511A (SHIPS) 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 RBK-4	9-3/8 X 14-3/16 X 19-1/8	

## RADIO RECEIVING EQUIPMENT

RBL, RBL-1,  
-2,-3,-4,-5,-6



RBL Radio Receiver

### FUNCTIONAL DESCRIPTION

The Navy Model RBL, RBL-1 thru 6 are TRF receivers for A1, A2 or A3 reception operating in the frequency range of 15 to 600 kc for use on Naval vessels or at shore stations. They are designed for low radiation and are considered safe for use in combat areas.

The RBL Series are electrically and mechanically interchangeable with the exception of the power transformer used in the RBL-4 which is for 115 or 230 v AC input.

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

### RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Pair Headphones or (1) Loudspeaker, (1) Antenna.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

UNCLASSIFIED

A1 AND A2 RECEPTION: 15 to 600 kc in six bands.

A3 RECEPTION: 200 to 600 kc.

POWER OUTPUT: 300 mw into 600 ohm load.

OUTPUT IMPEDANCE: 600 ohms.

#### A1 SENSITIVITY

SHARP: 5 uv input for 6 mw.

BROAD: 10 uv input for 6 mw.

#### AUDIO FIDELITY

SHARP: 500 cps band-pass at 20 db down; peak response at 750 cps.

BROAD: 3500 cps band-pass at 20 db down; peak response 1100 cps.

#### POWER REQUIREMENTS

RBL, RBL-1, 2, 3, 5, 6: 115 v, 50 to 60 cps, single phase, 45 W. Emergency operation 6.3 v and 135 v DC.

RBL-4: 115 or 230 v, 50 to 60 cps, single phase, 45 W. Emergency operation 6.3 v and 135 v DC.

### MANUFACTURER'S OR CONTRACTOR'S DATA

Manufacturer: National Co Inc., Malden, Mass.

Radio-Receivers

**RBL, RBL-1,  
-2,-3,-4,-5,-6**

**RADIO RECEIVING EQUIPMENT**

RBL: Contract NOs-91471 dated 8 Sep-  
tember 1941.

RBL-1: Contract NXs-456 dated 10 March  
1942.

RBL-2: Contract NXs-4683 dated 30 April  
1942.

RBL-5/6: Contract NXsr-38306 dated 22  
September 1943.

RBL-6: Contract NXsr-55614 dated 5  
April 1944.

Manufacturer: Wells-Gardner and Co.,  
Chicago, Ill.

RBL-3: Contract NXss-21446 dated 11  
January 1943.

RBL-4: Contract NXsr-38492 dated 24  
September 1943.

Approximate Cost: \$700.00 with equip-  
ment spares.

RBL-5,6  
(3) 6SK7WA (1) 6SG7Y (1) 6K6GT  
(1) 6H6 (1) 5Y3W6TB  
Total Tubes: (7)  
No Crystals used.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 900353: Technical Manual for Navy  
Models RBL, RBL-1, 2.

NAVSHIPS 900292-IB: Technical Manual for Navy  
Models RBL-3, 4.

NAVSHIPS 900350: Technical Manual for Navy  
Models RBL-5, 6.

**TUBE AND/OR CRYSTAL COMPLEMENT**

RBL, RBL-1, 2, 3, 4  
(3) 6SK7WA (1) 6SG7Y (1) 6K6GT  
(1) 6H6 (1) 5U4G  
Total Tubes: (7)

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	RBL, RBL-1, 2 Radio Receiver NT-46161 and Mounting Base NT-10124 with Equipment Spares	9.7	17-1/2 X 22-1/2 X 42-1/2	225
	RBL-3 Radio Receiver NT-46161A and Mounting Base NT-10124A with Equipment Spares	6.8	17-1/2 X 21-1/2 X 28-1/2	172
	RBL-4 Radio Receiver NT-46230 and Mounting Base NT-10124A with Equipment Spares	7.6	17-1/4 X 21-3/4 X 35	201
	RBL-5 Radio Receiver NT-46161B and Mounting Base NT-10124 with Equipment Spares	9.7	17-1/2 X 22-1/2 X 42-1/2	237
	RBL-6 Radio Receiver NT-46235 with Equipment Spares	8.75	16 X 22-1/4 X 42	255

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46161*	10-31/32 X 16-5/8 X 17-3/16	75
1	Radio Receiver NT-46161A**	12-5/16 X 17-5/16 X 17-5/8	84

RADIO RECEIVING EQUIPMENT

RBL, RBL-1,  
 -2,-3,-4,-5,-6

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46230***	12-5/16 X 17-5/16 X 17-5/8	84
1	Radio Receiver NT-46161B****	10-21/32 X 16-5/8 X 17-3/16	80.5
1	Radio Receiver NT-46235†	12-7/16 X 15-1/2 X 17-7/8	104
1	Mounting Base NT-10124††	2-9/16 X 16-5/16 X 17-17/32	5.5
1	Mounting Base NT-10124A†††	2-5/8 X 16-5/16 X 17-5/8	5.5
1	Set of Equipment Spares		
	RBL, RBL-1, 2 Box 1	6-1/2 X 10 X 19	25
	RBL-3, 4 Box 1		
	RBL-5, 6 Box 1	12-1/2 X 16 X 19	65

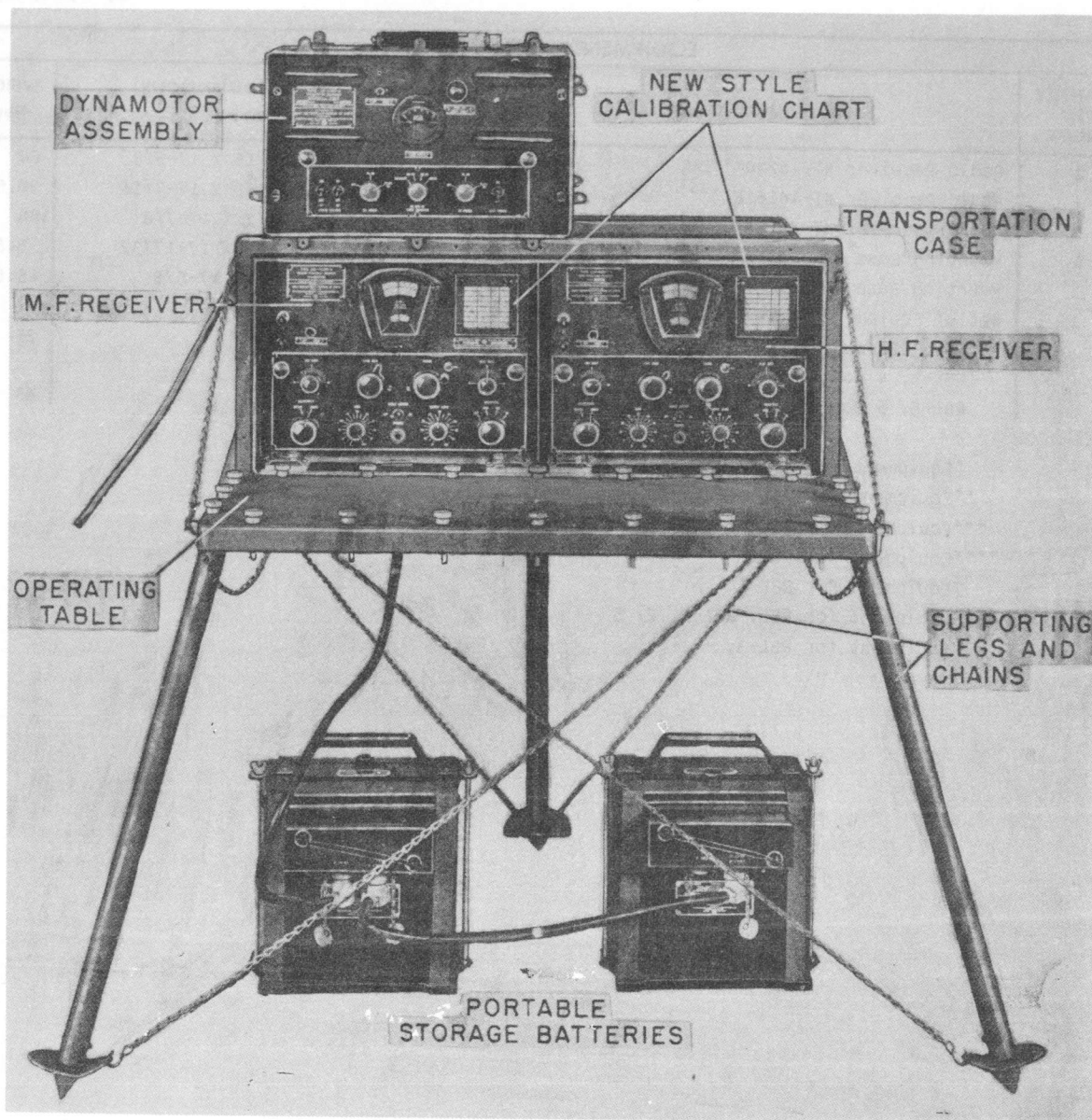
- \*Equipment for RBL, RBL-1, -2
- \*\*Equipment for RBL-3
- \*\*\*Equipment for RBL-4
- \*\*\*\*Equipment for RBL-5
- †Equipment For RBL-6
- ††Equipment for RBL, RBL-1, 2, 5
- †††Equipment for RBL-3, -4



April 1958

Radio-Receivers

## RADIO RECEIVING EQUIPMENT RBM, RBM-1,-2,-3,-4,-5



*Semi-Portable Radio Receiving Unit Model RBM*

### FUNCTIONAL DESCRIPTION

The Navy Model RBM, RBM-1 thru 5 are semi-portable radio receivers in a watertight transportation case intended for field service with the TBW Series of portable transmitting equipments. They consist of two receivers which may be operated separately or together, permitting simultaneous reception in the medium and HF ranges. Rectifier Power Units are included to permit use of the component

Receivers at Naval Shore stations or on shipboard.

Data on this sheet reflects the following field changes: FC-1 (18 April 1958).

### RELATION TO OTHER EQUIPMENT

The RBM, RBM-1 thru 5 are designed for use with the portable Radio Transmitting Equipment TBW Series.



Radio-Receiver

**RBM, RBM-1,-2,-3,-4,-5 RADIO RECEIVING EQUIPMENT**

Equipment Required but not Supplied: (2) Headsets NT-49015 Frequency Measuring Equipment. (2) Antenna.

Manufacturer: Westinghouse Electric and Mfg Co., Baltimore, Md.  
Contract NXsr-38081 dated 28 September 1943. (RBM-5)  
Contract NXsr-51520 dated 13 March 1944 (RBM-5).  
Approximate Cost: \$1200.00 with equipment spares.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

RECEPTION: A1, A2, A3.  
FREQUENCY RANGE: 200 to 2000 kc and 2 to 20 mc.  
OUTPUT IMPEDANCE: 600 ohms.  
SENSITIVITY: 15 uv at 16 mw output.  
POWER REQUIREMENTS: 12 v DC battery, field operation; 115 v, 25 or 60 cps, single phase base operation.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Medium Frequency Receiver  
(2) 12SK7 (3) 12SJ7 (3) 12SG7  
(2) 12H6 (1) 12A6  
Total Tubes: (11)

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

Designer: Westinghouse Electric and Mfg Co., Baltimore, Md.  
Manufacturer: Stromberg Carlson Co., Rochester, N.Y.  
Contract NOs-65690 dated 16 March 1939 (RBM).  
Contract NOs-72056 dated 26 February 1940 (RBM-1).  
Contract NOs-95095 dated 8 December 1941 (RBM-2).  
Contract NXs-4744 dated 2 June 1942 (RBM-3).  
Contractor: Westinghouse Electric and Mfg Co., Baltimore, Md.  
Manufacturer: Stromberg Carlson Co., Rochester, N.Y.  
Contract NXs-19329 dated 21 December 1942. (RBM-4)

HF Receiver  
(1) 12SK7 (4) 12SG7 (3) 12SJ7  
(2) 12H6 (1) 12A6  
Total Tubes: (11)

No Crystals used.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 900385: Technical Manual for Navy Model RBM, RBM-1 thru 5 Semi-Portable Radio Receiving Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	RBM, RBM-1 RE13A610B RBM-2,-3 RE13A610
STOCK NO.	RBM-4 EN28/1500/43/ SHIPS

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver Assy with Equipment Spares	30.98	34 X 35 X 45	506
1	Acid for Storage Batteries	1.57	8 X 13 X 26	84

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	RBM, RBM-2, RBM-3 Radio Receiver Assy NT-46078 consisting of: Medium Frequency Receiver NT-46076 High Frequency Receiver NT-46077	12-7/16 X 19-7/16 X 29-1/16	95
1	Dynamotor Assy NT-21387	10-7/16 X 12 X 16	30
1	Portable Storage Battery NT-19017	8-3/4 X 11-3/4 X 12-1/2	41
2	Rectifier Power Unit NT-20085 (25 cps) or	7-7/8 X 9-11/16 X 14-3/16	25
2	NT-20086 (60 cps)	7-7/8 X 9-11/16 X 14-3/16	31
1	Control Unit NT-23277 (25 cps) or NT-23278 (60 cps)	7 X 8 X 8-13/16	8

**RADIO RECEIVING EQUIPMENT RBM, RBM-1,-2,-3,-4,-5**

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Mobile Spare Parts Box NT-10095	11-5/8 X 12-3/4 X 22-3/8	
1	Acid for Batteries (2 gal) RBM-1, RBM-4		21
1	Radio Receiver Assy NT-46078 consisting of: Medium Frequency Receiver NT-46076 High Frequency Receiver NT-46077	12-7/16 X 19-7/16 X 29-1/16	95
1	Dynamotor Assy NT-21387	10-7/16 X 12 X 16	30
2	Portable Storage Batteries NT-19017	8-3/4 X 11-3/4 X 12-1/2	41
2	Rectifier Power Unit NT-20086 (60 cps)	7-7/8 X 9-11/16 X 14-3/16	31
1	Control Unit NT-23278 (60 cps)	7 X 8 X 8-13/16	8
1	Mobile Spare Parts Box NT-10095	11-5/8 X 12-3/4 X 22-3/8	
1	Acid for Batteries (2 gal) RBM-5		21
1	Radio Receiver Assy NT-46078A consisting of: Medium Frequency Receiver NT-46076A High Frequency Receiver NT-46077A	12-7/16 X 19-7/16 X 29-1/16	95
1	Dynamotor Assy NT-21387A	10-7/16 X 12 X 16	30
2	Portable Storage Batteries NT-19017	8-3/4 X 11-3/4 X 12-1/2	41
2	Rectifier Power Unit NT-20086A (60 cps)	7-7/8 X 9-11/16 X 14-3/16	31
1	Control Unit NT-23278A (60 cps)	7 X 8 X 8-13/16	11
1	Mobile Spare Parts Box NT-10095	11-5/8 X 12-3/4 X 22-3/8	
1	Acid for Batteries (2 gal)		21

## RADIO RECEIVING EQUIPMENT

Radio-Receivers  
**RBO, RBO-1, -2,  
-2a, -3, -4**



Radio Receiving Equipment RBO, RBO-1, -2, -2a, -3, -4

### FUNCTIONAL DESCRIPTION

The RBO, RBO-1, RBO-2, RBO-2a, RBO-3 and RBO-4 are superheterodyne receivers for entertainment use aboard ships of all types and for shore installations. The RBO series is specifically designed to provide optimum performance and high quality reception of voice or tone modulated signals on all frequency bands covered. Provision is made for head telephone or loudspeaker reception. The equipment is designed to minimize radiation from the high frequency oscillator and is considered safe for use in combat areas.

The RBO, RBO-1, RBO-2, RBO-3 and RBO-4 are identical except for minor component differences, the addition of a noise limiter in the RBO-1 and RBO-2 and other minor circuit modifications. The RBO-2a is the RBO-2 modified for the purpose of causing it to operate from a 115 v, 60 cps source instead of a 115 v, 400 cps source. To accomplish this certain leads were shielded, a crystal rectifier was substituted for a vacuum tube diode rectifier and a cathode by-pass capacitor was added.

No field changes in effect at time of preparation (30 November 1956).

### RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: 600 ohm headphones or loudspeaker with coupling transformer to match 600 or 5000 ohms, power cord, and antenna.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

**FREQUENCY RANGE:** Three bands; 0.53 to 1.60, 5.55 to 9.55 mc and 9.2 to 15.6 mc.

**RECEPTION:** A2 and A3.

**POWER OUTPUT:** 30 mw into 600 ohm load; 2 w max undistorted power into 600 ohm or 5000

ohm load.

**INPUT IMPEDANCE:** Antenna input circuit includes a 2-position switch for operation of the receiver with a long or short, single wire antenna.

#### OUTPUT IMPEDANCE

RBO: 600 and 5000 ohms.

RBO-1, 2, 2a, 3: 600 and 60, 600 or 5000 ohms (late RBO-3's have balanced output).

RBO-4: 600 to 30 ohms (variable), and 600 ohms balanced or unbalanced.

**SENSITIVITY:** 12 uv.

**SIGNAL TO NOISE RATIO:** 20 db.

**POWER SOURCE REQUIRED:** 115 v, 600 cps, single ph, 85w for RBO, RBO-1, RBO-2, RBO-3 and RBO-4; 115 v 400 cps, single ph, 85w for RBO-2a.

#### ANTENNA

**INPUT:** Concentric antenna jack 49120 mounted at rear of receiver for RF connection.

**MOUNTING:** Rack or shock mounting to table or bench at shore installations; shock mounting aboard ship.

### MANUFACTURER'S OR CONTRACTOR'S DATA

E.H. Scott Radio Labs, Inc, Chicago, Ill.;  
Contract NOs 99260, dated 18 March 1952  
(RBO).

Contract NXss 20313 (RBO-1).

Contract NXsr 38078 (RBO-2 and 3).

Contract NXsr 95080 (RBO-4).

Maryland and Electronics Mfg Corp, College Park, Maryland.

Contract NObsr 43407 (RBO-2a).

Approximate Cost: \$800.00 ea. with equipment spares.

### TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6X5GT*	(1) 6V6GT
(1) 6SJ7	(1) 6SA7
(2) 5Y3GT**	(1) 6V6GT***
(-2) S6K7	(1) 6H6
(1) 6E5	(1) 6K7
(2) 6J5	

Total Tubes: (15)

(1) 1N34\*\*\*\*

Total Crystals: (1)

August 1957

Radio-Receivers  
**RBO, RBO-1, -2,  
 -2a, -3, -4**

## RADIO RECEIVING EQUIPMENT

### REFERENCE DATA AND LITERATURE

NAVSHIPS 95249(A): Technical Manual for Radio Receiving Equipment Model RBO-2 and RBO-3.

NAVSHIPS 95247: Technical Manual for Model RBO Receiving Equipment.

NAVSHIPS 95248: Technical Manual for Radio Receiving Equipment RBO-2.

NAVSHIPS 95249: Technical Manual for Radio Receiving Equipment RBO-2.

NAVSHIPS 91290: Technical Manual of Complementary Instruction Radio Receiving Equipment Navy Model RBO-2a.

<b>TYPE CLASSIFICATION</b> <b>DESIGN COGNIZANCE BUSHIPS</b> <b>PROCUREMENT COGNIZANCE</b> <b>STOCK NO.</b>
---

### SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver NT-46139 * or NT-46224 * or NT-46225 ** or NT-46225-A *** or NT-46279 **** with equipment spares			115

NOTES: \* RBO only.  
 \*\* RBO-2 and 2a only.  
 \*\*\* RBO-3 only.  
 \*\*\*\* RBO-4 only

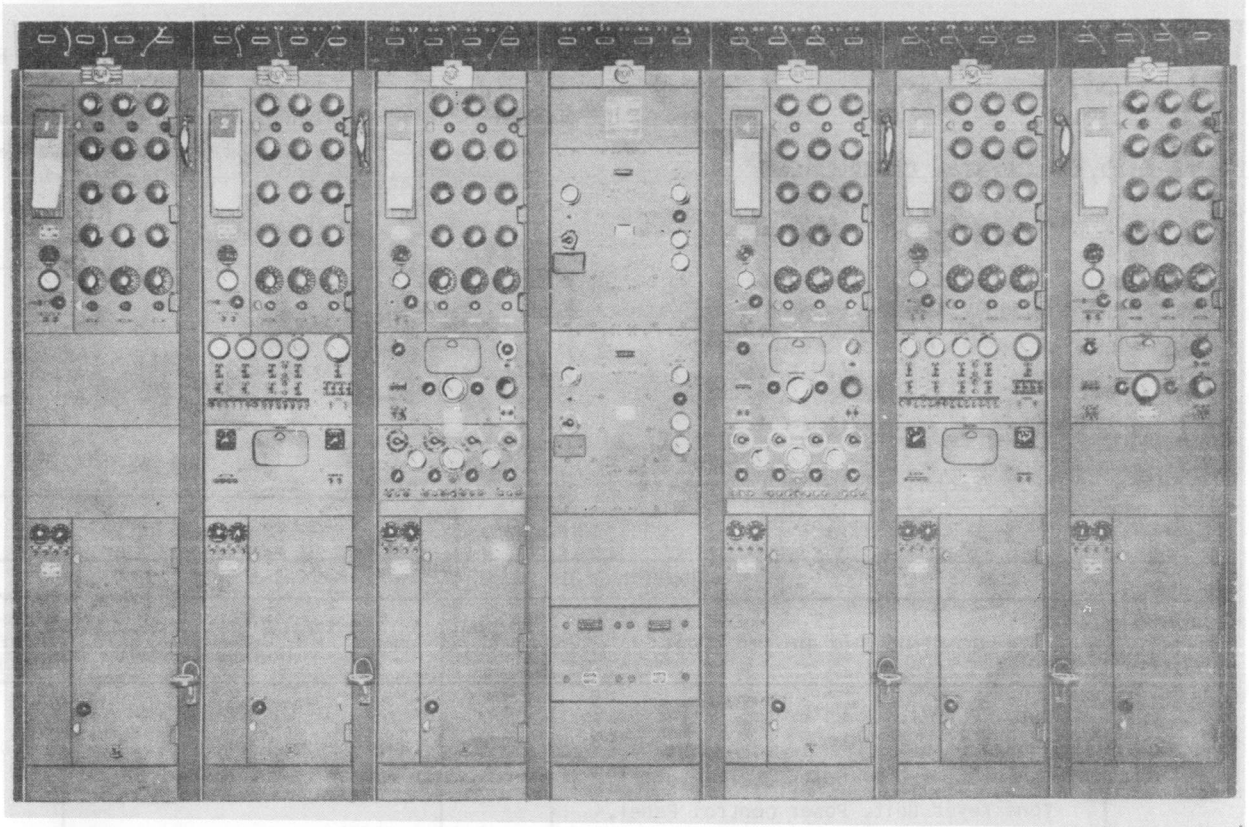
### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46139 * or NT-46224 * or NT-46225 ** or NT-46225-A *** or NT-46279 ****	13-3/4 X 18-1/2 X 20-1/2 13-3/4 X 18-1/2 X 20-1/2 13-3/4 X 18-1/2 X 20-1/2 13-3/4 X 18-1/2 X 20-1/2 13-3/4 X 18-1/2 X 20-1/2	103 103 104 104 104
1	Set of Equipment Spares		

NOTES: \* RBO-1 only.  
 \*\* RBO-2 and 2a only.  
 \*\*\* RBO-3 only.  
 \*\*\*\* RBO-4 only.

## DIVERSITY RADIO RECEIVING EQUIPMENT

RBP, RBP-1



Diversity Radio Receiving Equipment Model RBP

### FUNCTIONAL DESCRIPTION

The RBP and RBP-1 are identical space diversity reception systems consisting of six identical superheterodyne receivers with signal control panels for switching, combining and monitoring signals. They can be operated to receive two three-set diversity signals, three two-set diversity signals, or six straight-set signals.

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

### RELATION TO OTHER EQUIPMENT

One group of the three radio receivers with the associated power supply equipment may be supplied as Radio Receiving Equipment RCP and is complete for operation by itself.

Equipment Required but not Supplied: (6) Antennas.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF RECEPTION: A1, A2, A3, A4.

FREQUENCY RANGE: 3.0 to 24.0 mc in three bands.

#### POWER OUTPUT

TELEPHONE: 60 mw into 600 ohm load.

TELEGRAPH: 6 db above 1.5 to 12.0 mw with attenuator pad out.

OUTPUT IMPEDANCE: 600 ohms.

SENSITIVITY: Over-all RF gain (midband min) 3000; conversion gain 1.0 to 2.0; over-all average IF gain 25000.

ANTENNA MATCHING IMPEDANCE: 125 ohms.

KEYING SPEED: Up to 500 dots per second.

SENSITIVITY (KEYER): Less than 0.15 ma change for full keying.

POWER INPUT: 980 va, 0.83 pf,  $\pm 3\%$  voltage regulation.

POWER REQUIREMENTS: 98 to 125 v, 60 cps, single ph; 45 v DC.

### MANUFACTURER'S OR CONTRACTOR'S DATA

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

Contract NXs-12858 dated 8 September 1942 (RBP).

Contract NXss-27145 dated 12 April 1943 (RBP-1).



April 1958

Radio-Receivers

RBP, RBP-1

## DIVERSITY RADIO RECEIVING EQUIPMENT

Approximate Cost: \$90390.00 with equipment spares.

Model RBP Diversity Radio Receiving Equipment.

NAVSHIPS 900478: Technical Manual for Navy Model RBP-1 and RCP Diversity Radio Receiving Equipment.

## TUBE AND/OR CRYSTAL COMPLEMENT

(2) 4B27	(96) 78
(2) 89Y	(59) 37
(2) 83	(62) 36

Total Tubes: (223)  
No Crystals used.

## TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE RBP:EN28/1513/SHIPS

RBP-1:EN28/3229-43/SHIPS

STOCK NO.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 95250: Technical Manual for Navy

## SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Cabinet, RF Unit, IF Unit, Tone Keyer Unit, Blank Panel	51.7	26-1/2 X 29-3/4 X 93	840
1	(2) Cabinets, (2) RF Units, (2) IF Units, Tone Keyer Unit, Power Control Panel, Signal Control Panel, AF Amplifier Unit	83.9	26-1/2 X 50 X 93	1234
1	Cabinet, (2) Rectifier Power Units; (2) Voltage Regulating Transformers (4) Blank Panels	51.7	26-1/2 X 29-3/4 X 93	1028
1	(2) Cabinets, (2) RF Units, (2) IF Units, Tone Keyer, Power Control Panel, Signal Control Panel, AF Amplifier Unit	83.9	26-1/2 X 50 X 93	1234
1	Cabinet, RF Unit, IF Unit, (2) Blank Panels	51.7	26-1/2 X 29-3/4 X 93	815
1	Set of Trim Strips	4.7	6 X 13 X 85	113
1	(6) RF Units, (6) Card Holder Assy.	3.9	11 X 15 X 31	63
1	(7) Antenna Panels, (5) Batteries and Installation Hardware	5	16 X 18 X 25-1/2	121

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
7	Antenna Panel NT-23276	5-3/4 X 8-7/8 X 19	3.2
6	RF Amplifier Unit NT-50096	8-1/4 X 19 X 27-31/32	83
6	IF Amplifier Unit NT-50097	9-1/4 X 19 X 27-31/32	85
1	Signal Control Panel NT-50099	5-7/8 X 10-15/32 X 19	17

**DIVERSITY RADIO RECEIVING EQUIPMENT**

**RBP, RBP-1**

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Signal Control Panel NT-50120	5-7/8 X 10-15/32 X 19	17
3	Tone Keyer Unit NT-35007	10-15/32 X 10-3/4 X 19	37
2	AF Amplifier Unit NT-50098	10-1/4 X 10-15/32 X 19	32
2	Power Control Panel NT-23275	4-7/8 X 10-15/32 X 19	9.5
2	Rectifier Power Unit NT-20136	9-5/8 X 19 X 21	123
2	Transformer-Voltage Regulating NT-30815	5-5/8 X 6-15/16 X 15-9/16	52
7	Cabinet Rack	19-15/16 X 20-5/16 X 88-5/8	
4	Rack Steps		
4	Rack Handles		
5	Blank Panel	10-1/2 in. high	
2	Blank Panel	7 in. high	
6	Shielded Leads		
5	Battery NT-19004	4-3/8 X 7-15/16 X 8-1/8	
1	Set of Trim Strips	82-7/8 in. lg	
1	Set of Adjustment Tools		
2	Set of Vacuum Tubes		
2	Set of Fuses*		
1	Set of Equipment Spares		

\*For RBP only.



WEIGHT (lbs.)	OVERALL DIMENSIONS (inches)	NAME AND NOMENCLATURE	QUANTITY

WEIGHT (lbs.)	OVERALL DIMENSIONS (inches)	NAME AND NOMENCLATURE	QUANTITY

June 1961

Radio-Receivers

## DIVERSITY RADIO RECEIVING EQUIPMENT

RBP-2

## FUNCTIONAL DESCRIPTION

The RBP-2 is designed as high frequency (HF) radio receiver. It consists of two (2) group of three (3) radio receivers, together with the associated power supply equipment. It operates in the frequency range from 3,000 to 24,000 kilocycles. (kc).

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

## RELATION TO OTHER EQUIPMENT

The RBP-2 is the same as the RBP-1 except that Navy type numbers have been added to Parts List.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

NUMBER OF BANDS: 3 bands.

BAND COVERAGE: 3 to 6 mc, 6 to 12 mc and 12 to 24 mc.

ANTENNA MATCHING IMPEDANCE: 125 ohms balanced.

OVERALL R.F. GAIN (Midband minimum): 3000.

CONVERSION GAIN: 1.0 to 2.0.

OVERALL I.F. GAIN (Average): 25,000.

BAND PASS FILTERS AVAILABLE: 5 bands; 1, 2, 4, 6 and 10 kc.

BAND PASS FILTERS SUPPLIED: 3 bandwidths; 1, 2 and 4 kc.

NOISE EQUIVALENT (With 4 kc bandwidth): Less than 0.8 microvolt.

IMAGE TO SIGNAL RATIO (Up to 20 mc): Not less than 10,000.

AGC TIME CONSTANT (In second).

TELEGRAPH: 1.0 slow; 0.1 medium; 0.01 fast.

TELEGRAPH: 0.2 medium; 0.02 fast.

MAXIMUM AMBIENT TEMPERATURE: 45° C (113° F).

TELEGRAPH OPERATION

KEYING SPEED: Up to 500 dots per second.

SENSITIVITY (KEYER): Less than 0.15 ma change for full keying.

OUTPUT LEVEL (Referred to 6 mw in 600 ohms)

PAD OUT: 6 db above 1.5 to 12.0 mw.

PAD IN: 6 db above 1.5 to 12.0 mw.

OUTPUT IMPEDANCE: 600 ohms.

TONE FREQUENCY PERMISSIBLE: Up to 5,000 cycles.

FREQUENCY RANGE OF INTERNAL OSCILLATOR: 400 to 5,000 cycles.

EXTERNAL TONE FREQUENCY INPUT (Minimum): Approx 0.7 v rms.

TELEPHONE OPERATION

OUTPUT (Maximum undistorted): 60 mw.

OUTPUT IMPEDANCE: 600 ohms.

HUM LEVEL: 50 db below 100% modulation.

HARMONIC CONTENT (Total at full output 50, to 5,000 cycles): Less than 3%.

TUNING RANGE: 3 to 24 megacycles.

POWER SUPPLY

LINE RATING: 98 to 125 v, 60 cycles, 1 ph.

POWER INPUT (Per diversity group): 490 volt amperes.

POWER FACTOR (INPUT): Approx 83% PF.

VOLTAGE REGULATION (98 to 125 volt): ±3%.

## MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Division of Radio Corporation of America, Camden, New Jersey.

## TUBE AND/OR CRYSTAL COMPLEMENT

(30) 36RCA (31) 37RCA (1) 4B27  
(48) 78RCA (1) 83RCA (1) 89YRCA  
Total Tubes: (114)  
No Crystals used.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900,478: Technical Manual for Diversity Radio Receiving Equipment Models RBP-1, RBP-1B, RBP-2 and RCP.

TYPE CLASSIFICATION (NAVY)
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	Diversity Radio Receiving Equipment RBP-2			

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Diversity Radio Receiving Equipment RBP-2		

December 1956

## RADIO RECEIVING EQUIPMENT

RBQ

## FUNCTIONAL DESCRIPTION

The RBQ is a radio receiving equipment used in ultrahigh frequency radio link. The equipment is suitable for reception of single channel voice, multichannel voice carrier telegraph, or multichannel voice carrier telegraph and two channel voice carrier telephone signals.

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

Contract NXs-149, dated 9 September 1942.

Approximate Cost: \$2050 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5U4G	(1) 6J5	(4) 6N7
(3) 6SK7WA	(2) 6SL7WGT	(1) 6SQ7
(1) 6X5WGT	(1) 383A	(2) 385A
(3) 717A		

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF RECEPTION: A2, A3.  
 FREQUENCY RANGE: 132 to 156 mc.  
 FREQUENCY CONTROL: Crystal.  
 POWER SOURCE REQUIRED: 115 v AC, 60 cps, single phase.

Total Tubes: (19)

## REFERENCE DATA AND LITERATURE

NAVSHIPS: Technical Manual for Radio Receiving Equipment for Model RBQ.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, New York, N. Y.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.
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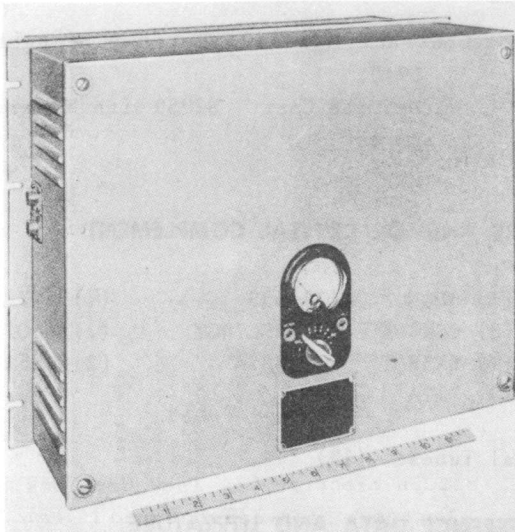
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46168	9-3/4 X 14 X 19	
*1	Radio-Frequency Panel D-151285		
*1	Radio-Frequency Panel D-150966		
1	Test Set Oscillator NT-60037		
1	Spare Parts Panel D-150639	3-15/32 X 9-1/2 X 19	
1	Antenna D-150427		
1	Antenna D-150423		
1	Antenna Outfit D-150426		
1	Cable Outfit D-150418		
1	Outdoor Cabinet D-150426	18 X 32 X 64-1/2	
1	Indoor Cabinet X-63603BA List 1	17 X 26-1/2 X 84	

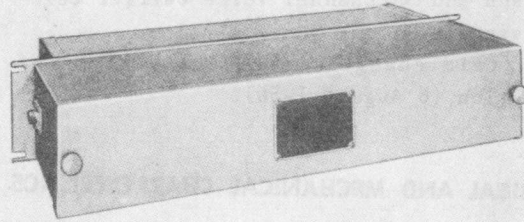
\*Only one is used in a receiver.

# HIGH FREQUENCY RADIO RECEIVING EQUIPMENT

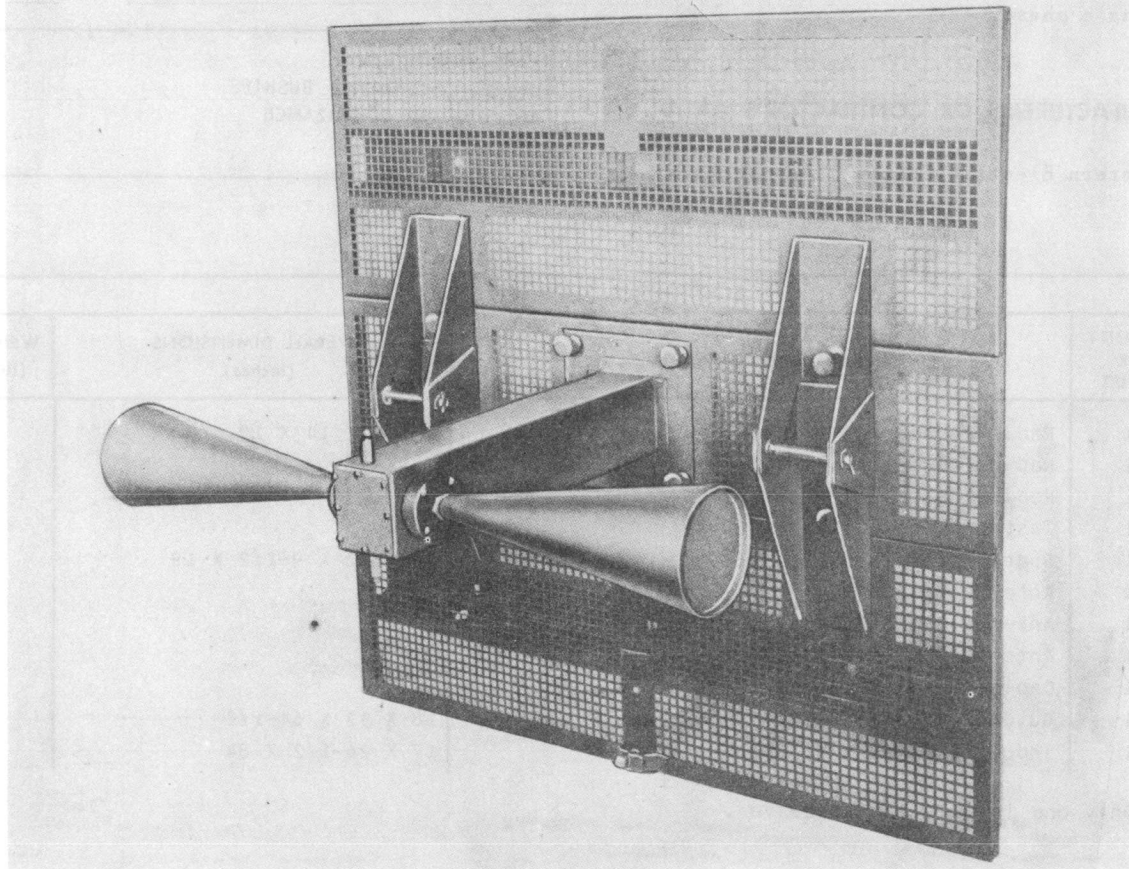
**RBQ-1**



*CW-46288 Radio Receiver*



*CW-60156 Test Oscillator*



*Portable Antenna CW-66157*



April 1958

Radio-Receivers

**RBQ-1****HIGH FREQUENCY RADIO RECEIVING  
EQUIPMENT****FUNCTIONAL DESCRIPTION**

The RBQ-1 makes up the receiving terminal of a continuously operated point to point, ultra-high frequency radio link. The major units are rack mounted for either indoor or outdoor installations. The equipment is suitable for reception of single channel voice, multichannel voice carrier telegraph, or multichannel voice carrier telegraph and two channel voice carrier telephone signals. Output facilities at voice frequencies are arranged for connecting to conventional wire line circuits for either local or remote operation.

No field changes in effect at time of preparation (16 April 1958).

**RELATION TO OTHER EQUIPMENT**

The RBQ-1 is designed primarily for use with High Frequency Radio Telephone Transmitting Equipment TDG-1. The RBQ-1 is electrically and mechanically interchangeable with the RBQ, and is identical except for minor modifications.

Equipment Required but not Supplied: Coaxial cable and fittings to connect receiver and antenna.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 132-156 mc.

FREQUENCY CONTROL: Crystal.

RECEPTION: A2, A3.

SENSITIVITY: 2 mv.

POWER OUTPUT: 30 mw at an output impedance of 600 ohms.

AUDIO RESPONSE: Flat within 3 db from 150 to 10,000 cps.

INPUT IMPEDANCE: To match a 70 ohm transmission line.

POWER SOURCE REQUIRED: 110 or 120 v, 1 ph, 60 cps, power consumption exclusive of heater is approximately 100 W. Outdoor cabinet heater requires 325 W, but is not normally operated at the same time as the receiver.

MOUNTING: Rack mounted in either indoor or outdoor cabinet.

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

Western Electric Co, Inc, New York, N.Y.  
Contract NXsr-83392, dated 15 Feb 1945.  
Approximate Cost: \$2284.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 5R4WGB	(1) 6SQ7	(2) 6N7
(2) 6SL7WGT	(3) 717A	(1) 6X5WGT
(1) 6J5	(3) 6SK7WA	
Total Tubes: (14)		
(2) Quartz 5M		
Total Crystals: (2)		

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 900621: Technical Manual for Radio Receiving Equipment Navy Model RBQ-1.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver			

April 1958

## HIGH FREQUENCY RADIO RECEIVING EQUIPMENT

RBQ-1

### SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Test Oscillator			
1	Broadband Portable Antenna			
1	Accessory Equipment			

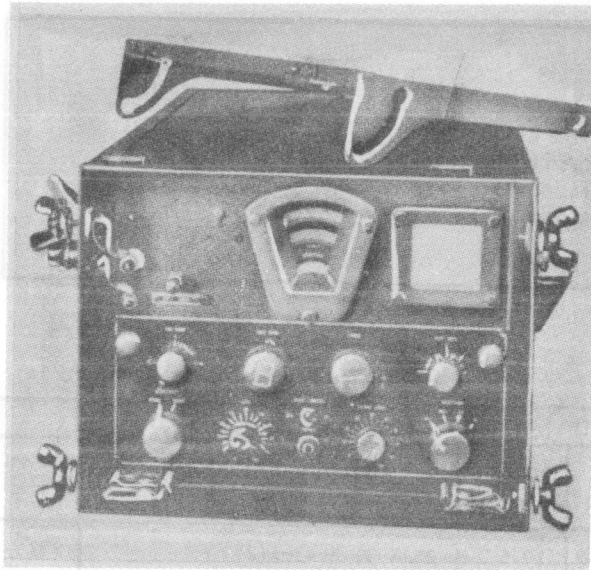
### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver CW-46288	14 x 19 x 9-5/8	
1	Test Oscillator Unit CW-60156	3-1/2 x 19 x 9-3/4	
1	Portable Antenna CW-66157	40 x 40 x 25	65
1	Spare Part Panel CW-10569	3-15/32 x 19	
1*	3-db Antenna D-150427		
1*	9-db Antenna D-150428		
1*	Antenna Outfit D-150429		
1	Cable Outfit D-150418	67-7/8 x 32-1/2 x 18-3/4	
1	Outdoor Cabinet CW-10589	84 x 26-1/4 x 17	
1	Cabinet CW-10604		
1	Set of Equipment Spares		

\*Not necessary when A1-66157,  
6-db Antenna is furnished

August 1957

## RADIO RECEIVING EQUIPMENT

Radio-Receivers  
RBS,RBS-1,-2,-2a

Radio Receiving Equipment

## FUNCTIONAL DESCRIPTION

The RBS Series except for RBS-2a is designed for general use aboard all types of vessels or at shore stations. The RBS-2a is designed for use aboard special types of U.S. Navy vessels or at Naval radio shore stations. The equipment is ruggedly constructed for use under adverse conditions. The model RBS-2 is similar to the RBS and RBS-1 except the bulkhead mounting frame is eliminated and the RBS-2 has an antenna connector adapter assembly added. The RBS-2a is the RBS-2 modified for operation from a 11v, 400 cps power source. To accomplish this certain leads were shielded, two crystal rectifiers were substituted for a vacuum tube dual diode rectifier, several chassis grounds were relocated and the capacitor across the filter choke was disconnected.

No field changes in effect at time of preparation (30 November 1956).

## RELATION TO OTHER EQUIPMENT

The electrical design of the model RBS Series is basically the same as the Portable Radio Receiving Equipment Model RBM Series, however, the RBM equipment cover the 200 kc to 2 mc frequency range as well as the frequency covered by the RBS Series.

UNCLASSIFIED

Equipment Required but not Supplied: 600 ohms headphones 49015 or equal; standard Navy loudspeaker; cable for speaker; MCOS-2 power cable; receiving antenna.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2 to 20 mc in four bands.

RECEPTION: A1, A2, A3,

OUTPUT POWER: 150 mw w/1.7% distortion at phonejack of receiver; 8 w w/1.7% distortion at speaker receptacle on the rectifier power-amplifier unit.

OUTPUT IMPEDANCE: 600 ohms.

## POWER SOURCE REQUIRED

RBS, RBS-1, RBS-2: 115 v, 50 to 60 cps, single ph, 120 W.

RBS-2a: 115 v, 400 cps, single ph, 120 W.

ANTENNA REQUIREMENTS: Capacitance, 80 to 500 uuf.

SENSITIVITY: With a signal to noise ration of 20 db on A1 or 10 db on A2 the sensitivity is below 8 uv on all bands.

## MOUNTING DATA

RBS, RBS-1: Shock mounted, bulkhead or table.

RBS-2, RBS-2a: Shock mounted, table only.

## MANUFACTURER'S OR CONTRACTOR'S DATA

Stromberg-Carlson Co, Rochester, N.Y.; Contract NXs 12481, dated 27 August 1942 (RBS).

Contract NXsr 33641, dated 30 June 1943 (RBS-1, RBS-2).

Contract NObsr 49085, dated 3 April 1950.

Contract NObsr 52687, dated 26 June 1951.

Maryland Electronic Mfg. Corp, College Park, Md (RBS-2a).

Approximate Cost: \$1000.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(2) 12H6 (1) 12A6 (4) 12SG7  
(3) 12SJ7 (1) 12SK7 (2) 6V6GT/G

(1) 5U4G

Total Tubes: (14)

(2) 1N34

Total Crystals: (2)

Radio-Receivers  
RBS,RBS-1,-2,-2a

RADIO RECEIVING EQUIPMENT

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,324: Technical Manual for Radio Receiving Equipment Navy Models RBS, RBS-1 and RBS-2.  
NAVSHIPS 91353: Technical Manual of Complementary Instructions for Radio Receiving Equipment Navy Model RBS-2a.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

SHIPPING DATA

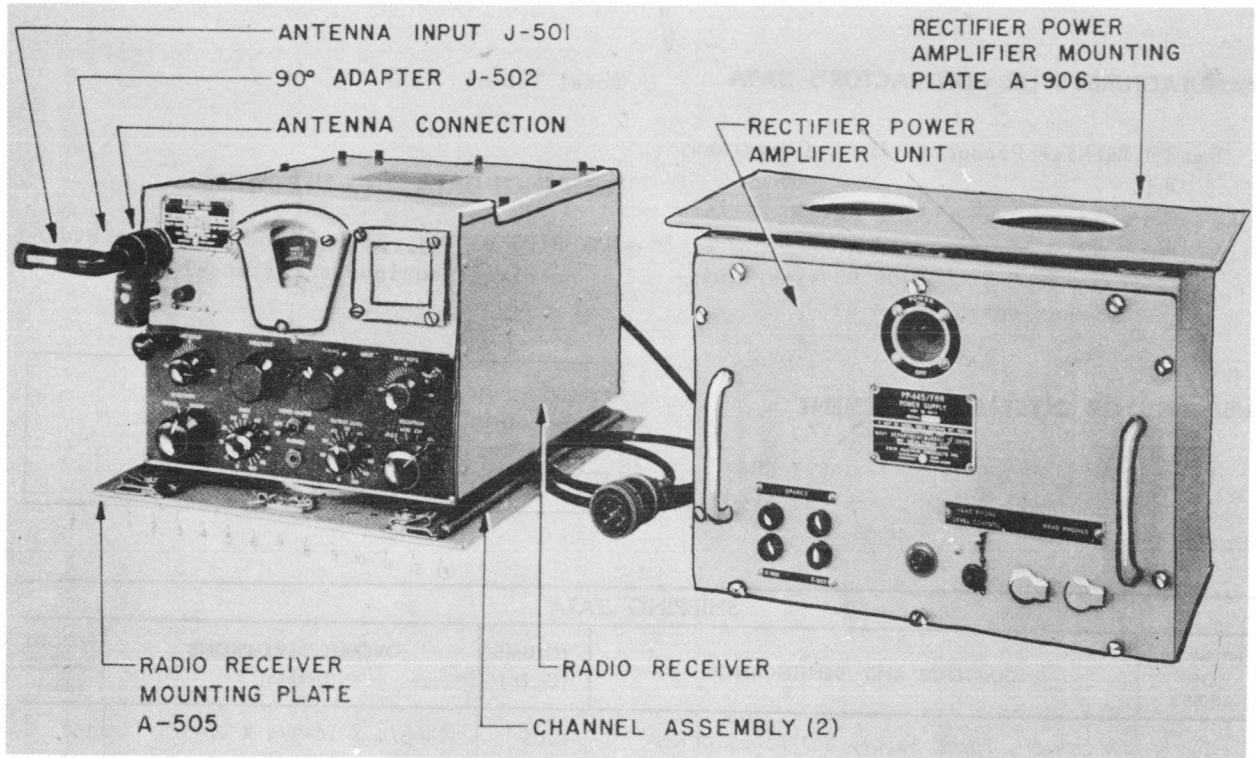
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Equipment RBS w/spares* or	19.5	25 X 31 X 43-1/2	333
1	Radio Receiving Equipment RBS-1 w/spares**	19.5	25 X 31 X 43-1/2	360
1	Radio Receiver w/mounting plate ***	4.5	16-1/2 X 18-1/2 X 25-1/2	92
1	Rectifier Power-Amplifier w/Mounting Plate ***	3.2	14-1/2 X 18-3/4 X 21	97
1	Set of Equipment Spares ***	3.5	12-3/4 X 19-1/2 X 24	112

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46217**** or	9-3/4 X 12-1/2 X 17	32
1	Radio Receiver NT-46217A ++	10 X 14-1/2 X 17	43
1	Mounting Rack Assembly NT-10227*****	11-3/4 X 17-3/4 X 19	
1	Splash Proof Cabinet*****	11-1/2 X 16-7/8 X 20-1/2	
1	Rectifier Power-Amplifier Unit NT-20235 + or	10-3/4 X 11 X 14	
1	Rectifier Power-Amplifier Unit NT-20234-A ++ or	10-3/4 X 11 X 14	
1	Rectifier Unit NT-20235-B ++	10-3/4 X 11-1/4 X 16	56
1	Accessories Kit	3-1/2 X 5-1/2 X 7-1/2	
1	Antenna Adapter Assembly ++		
1	Set of Equipment Spares	9-3/8 X 16-1/4 X 19-1/8	

NOTES:  
\*Model RBS Radio Receiving Equipment  
\*\*Model RBS-1 Radio Receiving Equipment  
\*\*\*Model RBS-2, -2a Radio Receiving Equipment  
\*\*\*\*RBS, RBS-1 only  
+Supplied w/all RBS and RBS-1 equipments w/serial no. 1 to 1156 inclusive  
++Supplied w/all RBS and RBS-1 equipments w/serial no. 1157 and above  
+++RBS-2 and 2a only

December 1956

**RADIO RECEIVING EQUIPMENT****RBS-3***Radio Receiving Equipment RBS-3***FUNCTIONAL DESCRIPTION**

The RBS-3 is a ruggedly constructed table mounted radio receiver with a separate power supply.

This equipment is designed for use aboard ship or at shore stations. It will receive a continuous range of frequencies from 2 to 20 mc in four calibrated tuning bands.

A beat frequency oscillator is incorporated to permit satisfactory reception of cw signals

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

**RELATION TO OTHER EQUIPMENT**

The RBS-3 is similar to the RBS, RBS-1, and RBS-2, with the exception of minor differences in components and mounting facilities.

Equipment Required but not Supplied:

Headphones NT-49016, Loudspeaker, Speaker cable NT-DHFA-3, Power Cable NT-MCOS-2, and an Antenna.

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

BAND 1: 2 to 3.6 mc.

BAND 2: 3.6 to 6.5 mc.

BAND 3: 6.5 to 11.4 mc.

BAND 4: 11.4 to 20 mc.

RECEPTION: A1, A2 and A3.

SENSITIVITY: Below 8 uv on all bands, with a signal to noise ratio of 10 to 1 on cw and 3.2 to 1 on mcw.

OUTPUT IMPEDANCE: 600 ohms.

**POWER OUTPUT**

PHONE JACK: 150 mw.

SPEAKER RECEPTACLE: 8 W.

ANTENNA REQUIREMENTS: Any antenna having a capacitance of 80 to 500 uuf.

POWER SOURCE REQUIRED: 115 v, AC, 50 to 60 cps, single ph, 120 W.



RBS-3

## RADIO RECEIVING EQUIPMENT

December 1956

## MANUFACTURER'S OR CONTRACTOR'S DATA

Total Tubes: (14)

Z and W Machine Products, Inc., Cleveland,  
Ohio

Contract NObsr-43286, dated 16 July  
1953

Approximate Cost: \$400.00 with equip-  
ment spares

## REFERENCE DATA AND LITERATURE

NAVSHIPS 91944: Technical Manual for Radio  
Receiving Equipment for model RBS-3.

## TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SG7      (3) 6SJ7      (2) 6H6  
(1) 6SK7      (1) 5U5G      (3) 6V6GT/G

Total Tubes: (14)

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	Receiver, Power Supply and Accessories	6.06	14-3/4 X 16-3/4 X 42-1/4	160
1	Spare Parts Box	2.27	11-1/8 X 14-7/8 X 23-3/4	75

## EQUIPMENT SUPPLIED DATA

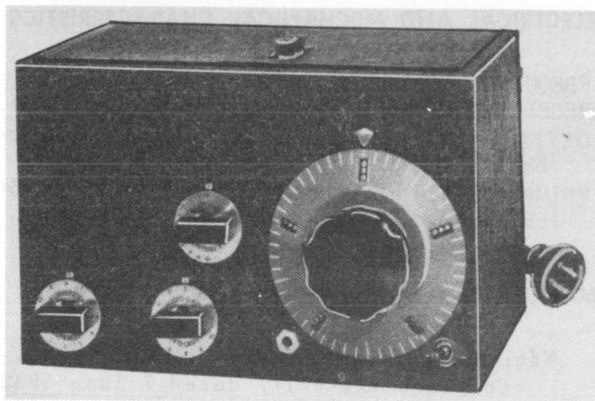
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver R-303/FRR including:		
1	Mounting Plate A-505		
1	Antenna Connection Adapter Assembly E-521 or NT-49120		
1	Rectifier Power Amplifier Unit including:		
1	Mounting Plate A-901		
1	Accessories Kit		
1	Equipment Spare Parts Box (Type M) consisting of:		
1	Set Spare Parts		
2	Technical Manuals		

April 1959

Radio-Receiver

## RADIO RECEIVING SET

RBT



Radio Receiving Set RBT  
National Co Type 1-10

## FUNCTIONAL DESCRIPTION

The Navy Model RBT Radio Receiver hereafter referred to as National type 1-10 is designed as a Ultra High Frequency Receiver (UHF) for experimental work. It employs a four (4) tube circuit, consisting of one (1) stage of tuned Radio Frequency (RF), a self-quenching superregenerative detector, transformer coupled to a first stage of audio which, in turn, is resistance coupled to a power output stage.

The National Type 1-10 receiver is designed for operation from the National Type No. 5886 AB power unit, all voltage dividers, etc., being built so that but one B-voltage lead is necessary. This power supply furnishes six (6) volts at 1.6 amperes to the heater circuit and one hundred eighty (180) volts at thirty-five (35) millamperes to the plate and screen circuits. If desired, the heaters may be supplied from a six (6)-volt battery and the B-circuits from B-batteries. Voltages in excess of one hundred eighty (180) volts are not recommended and receiver performance will be satisfactory on the "A" range at voltages below one hundred sixty-seven (167). If lower voltages must be used, as in portable operation, the 20000 ohm resistor connected between the B<sup>+</sup> lead and the regeneration control and the 35000 ohm screen dropping resistor of the Radio Frequency (RF) stage, may both be shorted out. This will

allow the receiver to function normally with a maximum voltage of 90, but will reduce audio output. A 3 volt C-battery is used to supply bias to the Radio Frequency (RF) tube. Two (2) Eveready Type 915 cells, or equivalent are also needed.

No field changes in effect at time of preparation (13 August 1958).

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

NUMBER OF BANDS: 1 band.  
OPERATING FREQUENCY RANGE: 27 to 280 mc.  
OPERATING POWER REQUIREMENT: 115 to 125 v,  
50 to 60 cps, 1 ph, or 6 v B-battery.

## MANUFACTURER'S OR CONTRACTOR'S DATA

National Co., Inc., Malden, Mass.  
Contract NXs-450, dated 9 March 1942.  
Contract NXs-4717, dated 7 June 1942.  
Contract NXs-20899, dated 7 January 1943.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 954 (1) 955  
(1) 6C5 (1) 6F6  
Total Tubes: (4)

No Crystals Used.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900,229-1.B: Technical Manual for  
Navy Model RBT Radio Receiving Set.

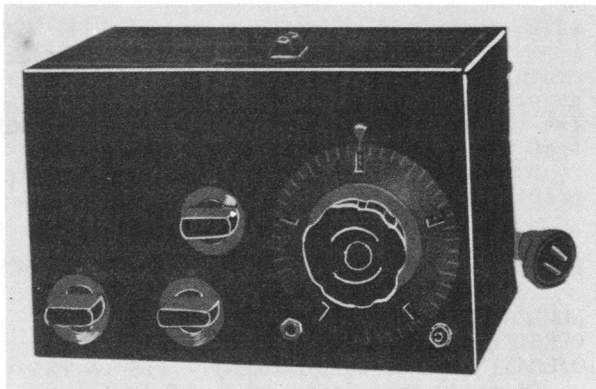
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiving Set RBT National Co Type 1-10		

**RADIO RECEIVING EQUIPMENT**

**RBT-1,-2**



*Radio Receiving Set RBT-1,-2  
 National Co Type 1-10*

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 27 to 280 mc.  
 RECEIVER TYPE: Tuned Radio Frequency (TRF).  
 DETECTOR TYPE: Self-quenching, super-regenerative.  
 PRIMARY POWER REQUIREMENTS: 115 to 125 v, 50 to 60 cps single ph.

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

National Co. Inc., Malden, Mass.  
 Contract NXs-4717, dated 7 June 1942 (RBT-1).  
 Contract NXs-20899, dated 7 January 1943 (RBT-2).

**FUNCTIONAL DESCRIPTION**

The Navy Models RBT-1 and RBT-2 Radio Receivers are super-regenerative receivers, designed for maximum sensitivity and a wide frequency range. The Navy Models RBT-1 and RBT-2 are identical in design and operating; they are both the Commercial Model, National 1-10 Receiver purchased under different contracts. It is well suited to general ultra high frequency (uhf) use, its main features being simplicity, compactness, sensitivity and ease of operation.

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

**RELATION TO OTHER EQUIPMENT**

Identical to Navy Model RBT.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

(1) Antenna System.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 954	(1) 955
(1) 6C5	(1) 6F6
(1) 80	
Total Tubes: (5)	
No crystals Utilized.	

**REFERENCE DATA AND LITERATURE**

Technical Manual for Navy Model RBT, RBT-1 and RBT-2, NAVSHIPS 900,229-I.B.

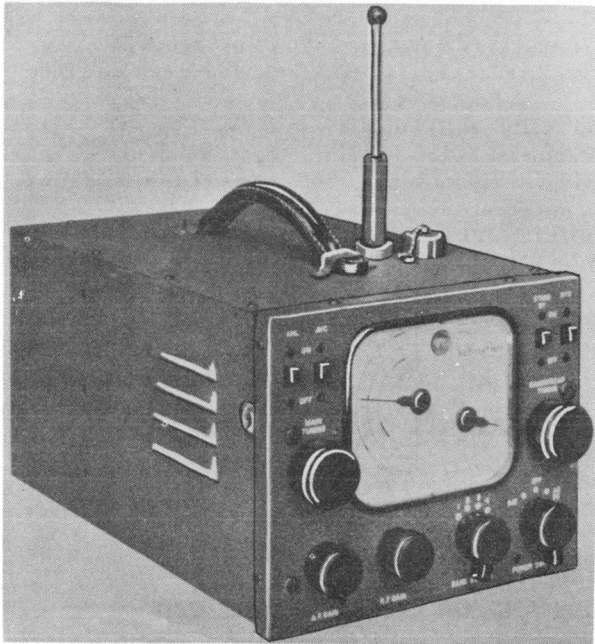
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver, RBT-1 or RBT-2		

June 1957

## PORTABLE RADIO RECEIVING EQUIPMENT

 Radio-Receivers  
**RCB-1**


RCB-1

S-39 "Sky Ranger" radio receiving equipment.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: .55 to 30 mc in 4 bands.

INTERMEDIATE FREQUENCY: 455 kc.

TONE FREQUENCY: 1000 cps.

ANTENNA: Built-in telescoping ships, external long wire (50 to 100 ft), or external half-wave doublet resonate at particular frequency desired.

POWER SOURCE REQUIRED: 6 v and 90 v DC or 110 to 117 v, 60 cps, single ph or 110 to 117 v DC.

### MANUFACTURER'S OR CONTRACTOR'S DATA

The Hallicrafters Company, Chicago, Ill.  
Contract NXsr 39204.

### FUNCTIONAL DESCRIPTION

The RCB-1 radio receiving equipment consists of a completely self contained 9-tube superheterodyne communications receiver mounted in a steel cabinet suitable for table operation or portable use. It provides continuous coverage of the broadcast and short-wave bands accepting either CW telegraph or amplitude modulated telephone signals. A self-contained telescoping antenna, speaker and batteries are provided. The receiver may be operated from either AC or DC commercial power sources. An external antenna may be used to increase the over-all performance.

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

### RELATION TO OTHER EQUIPMENT

Identical to the Hallicrafter's Model

### TUBE AND/OR CRYSTAL COMPLEMENT

(1) 1T4      (2) 1P5GT      (2) 35Z5GT

(1) 1R5      (2) 1H5GT      (1) 3Q5GT

Total Tubes: (9)

### REFERENCE DATA AND LITERATURE

Technical Manual for Model RCB-1 Portable Radio Receiving Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Portable Radio Receiving Equipment Model RCB-1	9 x 9 x 15	28

August 1957

Radio-Receivers

**RADIO RECEIVING EQUIPMENT****RCE-2****FUNCTIONAL DESCRIPTION**

The RCE-2 is a single frequency super-heterodyne communication receiver for service in the 2 to 30 megacycle frequency range. It permits the reception of amplitude modulated phone, MCW or unmodulated continuous wave radio frequency signals. Frontpanel controls provide selection of crystal Filter operation and automatic volume control. An S meter serves to indicate the strength of a received signal. Four Plug-in coil assemblies each assembly consisting of three RF and one oscillator coil are provided to cover the frequency range.

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

**RELATION TO OTHER EQUIPMENT**

Identical to National Co's type HRO Communications Receiver w/the addition of Rectifier Power Unit 20180.

Equipment Required but not Supplied: Doublet or Single Wire type antenna a speaker or Set of headphones.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 2 to 30 mc, in 4 bands, by means of 4 coil sets.

BAND DATA: 2 to 4 mc, 4 to 7 mc, 7 to 14 mc and 14 to 30 mc.

SENSITIVITY: luv to deliver 2 watts output w/a 7000 ohm load.

**SELECTIVITY**

CRYSTAL FILTER OFF: Ratio 2, bandwidth 3 kc, ratio 10, bandwidth 7.5 kc, ration 100, bandwidth 14 kc, ration 1000 bandwidth 21.5 kc.

CRYSTAL FILTER IN: 200 cps bandwidth max selectivity, 2.5 kc bandwidth minimum selectivity.

CW. NOISE EQUIVALENT: 0.2 uv.

SIGNAL-TO-NOISE RATIO: 16 db at 5 uv.

INPUT IMPEDANCE: 500 ohms (average) at antenna terminals.

UNDISTORTED POWER OUTPUT: 1.5 W max.

AVC CHARACTERISTIC: Flat within  $\pm 10$  db between 1.0 and 100,000 uv.

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

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

National Co Inc, Malden, Mass.

Contract N40's-13791A, dated 29 December 1942.

**TUBE AND/OR CRYSTAL COMPLEMENT**

Radio Receiver

(4) 6D6

(3) 6C6

(1) 6B7

(1) 42

Total Tubes: 9

Tube Complement for Rectifier Power Unit

NT-20180 not available.

**REFERENCE DATA AND LITERATURE**

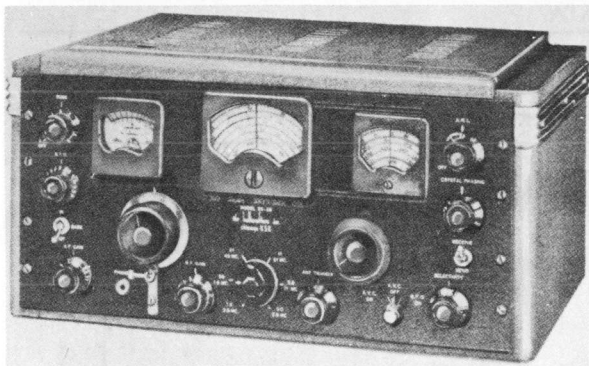
NAVSHIPS 95255: Technical Manual for Model RCE-2 Radio Receiving Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Unit NT-20180		
1	Radio Receiver NT-46198		
1	Coil Set 2 to 4 mc NT-47166-S		
1	Coil Set 4 to 7 mc NT-47167-S		
1	Coil Set 7 to 14 mc NT-47168-S		
1	Coil Set 14 to 30 mc NT-47169-S		



**RADIO RECEIVING EQUIPMENT****RCF, RCF-1**

Radio Receiver RCF, RCF-1

**FUNCTIONAL DESCRIPTION**

The RCF and RCF-1 are superheterodyne receivers for general shore station reception of A1, A2, and A3 radio signals in the MF and HF ranges.

The RCF-1 incorporates the same receiver as the RCF but does not include a loudspeaker or vibrator power unit.

The receiver comes equipped with a cabinet for table mounting, but the chassis panel may also be mounted in a standard relay rack.

No field changes in effect at time of preparation (16 April 1958).

**RELATION TO OTHER EQUIPMENT**

The RCF-1 is electrically and mechanically interchangeable with AN/GRR-2 (Hallicrafter's SX-28-A.) The RCF, RCF-1 are the Hallicrafter's SX-28 Super Skyriders Receivers.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 550 kc to 43 mc in six bands.

RECEPTION: A1, A2, A3.

POWER OUTPUT: 8 W undistorted.

**SENSITIVITY**

BANDS 1 TO 5: 2 uv for 0.05 W output.

BAND 6: 4 uv for 0.5 W output.

FREQUENCY RESPONSE: 70 to 3000 cps  $\pm 1\frac{1}{2}$  db (audio filter out-broad IF-tone control high).

OUTPUT IMPEDANCE: 5000 and 500 ohms to speaker.

INTERMEDIATE FREQUENCY: 455 kc.

AVERAGE INPUT IMPEDANCE: 400 ohms.

ANTENNA DATA: A conventional inverted L Marconi type 75 to 100 ft lg, including lead-in; a doublet antenna of a half-wave antenna may be used with good results.

**POWER REQUIREMENTS**

AC: 110 to 120 v, 50 to 60 cps, single ph, 138 W.

DC: 6 v, 18 amps, 108 W. (RFC only).

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

The Hallicrafters Co., Chicago, Ill.

Contract NXss-19001, dated 16 December 1942 (RCF).

Contract NXss-28816 (RCF-1).

Approximate Cost: \$400.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(2) 6V6GT	(1) 5Z3
(2) 6SK7WA	(2) 6B8
(1) 6SC7	(1) 6H6
(2) 6SA7Y	(1) 6J5
(2) 6AB7	(1) 6L7

Total Tubes: (15)

(1) 455 KC

Total Crystals: (1)

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 95284: Preliminary Technical Manual for Model SX-28 Super Skyriders Receiver (Navy Model RCF and RCF-1).

**TYPE CLASSIFICATION**

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE RCF-EN28/1517-43 SHIPS  
RCF-1 EN28/4274-43  
SHIPS; RE9556A;  
RE9404A

STOCK NO.

## RCF, RCF-1

## RADIO RECEIVING EQUIPMENT

## SHIPPING DATA

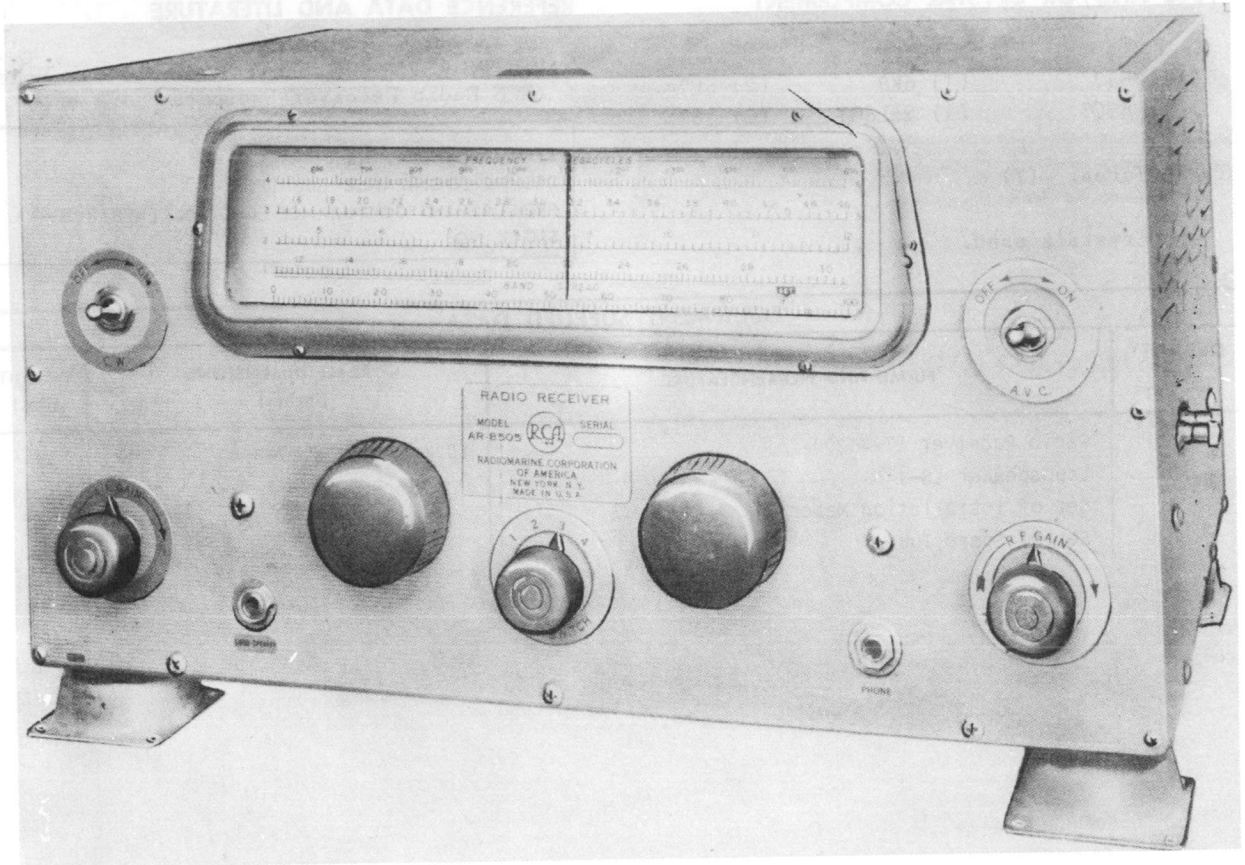
NUMBER OF BOXES		CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
RCF	RCF-1				
1		Radio Receiver NT-46202 Vibrator Power Unit NT-20164 Loudspeaker NT-49172 Re-radiation Suppressor NT-50174-A Equipment Spares	9.1		213
	1	Radio Receiver NT-46202 Equipment Spares			

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
RCF	RCF-1			
1	1	Radio Receiver NT-46202	10 x 14-3/4 x 20-1/2	75
1	1	Re-radiation Suppressor NT-50174A		
1		Vibrator Power Unit NT-20164		
1		Loudspeaker NT-49172		
1	1	Set of Equipment Spares		

## RADIO RECEIVING EQUIPMENT

RCG



*Radio Receiver RCG*

### FUNCTIONAL DESCRIPTION

The Navy Model RCG is a superheterodyne receiver designed for advanced base or ship-board use. It provides continuous variable reception of A1, A2, and A3 signals in the medium and high frequency ranges.

No field changes in effect at time of preparation (16 April 1958).

### RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: 325 ohm, 75 W resistor for operation from 230 v AC or DC; 2000 to 3000 ohm headphones; line cord with plug; receiving antenna.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 540 kc to 30 mc in four bands.

RECEPTION: A1, A2, A3.

OUTPUT IMPEDANCE

HEADPHONES: 2000 to 3000 ohms.

LOUDSPEAKER: 4 ohms.

SENSITIVITY

A1: 1 to 2 uv input for a readable headphone signal.

A2 AND A3: 2 to 10 uv input for a readable headphone signal.

INTERMEDIATE FREQUENCY: 456 kc.

POWER REQUIREMENTS: 110 v, 60 cps single ph, 40.7 W; 110 v dc; or 230 v ac/dc (using external resistor of 325 ohms, 75 W).

ANTENNA TYPE: 80 ft doublet antenna required.

### MANUFACTURER'S OR CONTRACTOR'S DATA

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

Contract NXss-20700, dated 4 January 1943.

RCG

## RADIO RECEIVING EQUIPMENT

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6J7            (1) 6K8            (2) 6L7  
 (1) 6SQ7        (1) 25L6GT        (1) 25Z5

Total Tubes: (7)

No Crystals used.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 95256: Technical Manual for Model  
 RCG Radio Receiver Equipment

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE Spec No. EN28/8158-43 STOCK NO. SHIPS
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## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46200	10 X 12-1/4 X 17-3/4	33
1	Loudspeaker LS-1		
1	Set of Installation Material		
1	Set of Spare Tubes		

## RADIO RECEIVING EQUIPMENT

RCH



Radio Receiving Equipment Model RCH

## FUNCTIONAL DESCRIPTION

The Navy Model RCH is designed for use on ships or at shore stations to provide reception of radio telephone, continuous-wave, or modulated continuous-wave signals in the 80 to 560 kilocycles and 1.9 to 24 megacycle frequency ranges. It is designed to permit the use of one pair of head telephones separately or in conjunction with a suitable local loudspeaker, and incorporates special circuits and features to preclude its oscillator feeding voltages into the antenna circuit and radiating interferences which could be detected by sensitive radio receiving or radio direction finding equipments.

No field changes in effect at time of preparation (16 April 1958).

## RELATION TO OTHER EQUIPMENT

The Navy Model RCH will be replaced by Radio Receiving Sets AN-SRR-11 and AN-SRR-13.  
Equipment Required but not Supplied: (1) Antenna, (1) Loudspeaker as Required.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 80 to 560 kc and 1.9 to 24 mc.

BANDS: 5..

RECEPTION: A1, A2, A3.

TYPE RECEIVER: Superheterodyne.

IF: 585 kc.

POWER OUTPUT

SPEAKER: 2 W at 400 cps across 600 ohm load.

HEADPHONES: 1 to 100 mw, adjustable.

SENSITIVITY (A1, A2)

BANDS 1, 2: 20 uv or better.

BANDS 3, 4, 5: 40 uv or better.

IMPEDANCE

OUTPUT: 600 or 20000 ohms.

INPUT

BAND 1: 5000 ohms.

BAND 2: 3000 ohms.

BAND 3, 4, 5: 700 ohms.

HIGH FREQUENCY RADIATION OSCILLATION: 400 uuw at any frequency.

POWER REQUIREMENTS: 110 to 125 v, 58 to 62 cps, single ph, 85 W at 115 v.

ANTENNA REQUIREMENTS: Balanced feed-line or single wire type.

## MANUFACTURER'S OR CONTRACTOR'S DATA

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

Contract NXss-24276.

Contract NXsr-45471.

Approximate Cost: \$750.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3WGTB	(1) 6K7	(1) 6SJ7
(2) 6H6GT	(1) 6SA7Y	(1) 6SQ7GT
(1) 6J5GT	(2) 6SK7GTY	(1) 6V6GTY

Total Tubes: (11)

No Crystals used.

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900339: Technical Manual for Radio Receiving Equipment Model RCH.

## TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE EN28/2984-43(SHIPS)

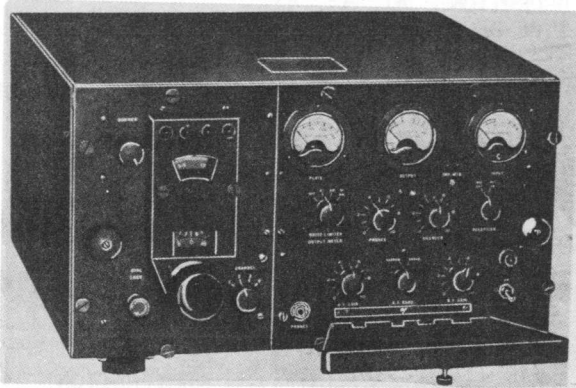
STOCK NO.

R.D.B. IDENT. NO.

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46209	13-7/8 x 20-13/16 x 21	106
2	Head Telephone		
1	Set of Equipment Spares		
2	Technical Manual NAVSHIPS 900339	1/4 x 8-1/2 x 11	



**RADIO RECEIVING EQUIPMENT****RCK***Radio Receiving Equipment Model RCK*

FREQUENCY CONTROL: Crystal oscillator.  
 RECEPTION: A2, A3.  
 TYPE RECEIVER: Superheterodyne.  
 POWER OUTPUT: 65 mw into 600 ohm load.  
 IF: 12 mc.  
 SENSITIVITY: 6 uv at any frequency.  
 OUTPUT IMPEDANCE: 600 ohms.  
 HIGH FREQUENCY OSCILLATION RADIATION: Less than 400 uuw.  
 POWER REQUIREMENTS: 110, 115, or 120 v, 55 to 65 cps, single ph, 0.92 amps at 115 v, 106 W at 115 v.

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

E. H. Scott Radio Laboratories, Inc, Chicago, Ill.  
 Contract NXss-26192, dated 23 March 1943.  
 Approximate Cost: \$1500.00 with equipment spares.

**FUNCTIONAL DESCRIPTION**

The Navy Model RCK is designed for use on ships or at shore stations to provide reception of voice communication on any one of four quickly selected, crystal-controlled channels in the 115 to 156 megacycle frequency range. It is suitable for the reception of signals by means of radio telephones or through remote control stations provided a suitable power amplifier is provided between the receiver and the remote point. It is designed to preclude its oscillator from feeding voltages into the antenna system and radiating interfering signals that could be detected by sensitive radio receiving or radio direction finding equipment.

No field changes in effect at time of preparation (16 April 1958).

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OD3W	(1) 5U4G
(8) 6AB7	(2) 6H6
(1) 6J5	(1) 6V6GT
(3) 717A	(1) 956
Total Tubes: (18)	
(4) NT-40125C	
Total Crystals: (4)	

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 900228: Technical Manual for Radio Receiving Equipment Model RCK.

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

**RELATION TO OTHER EQUIPMENT**

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

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 115 to 156 mc.

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiving Equipment Navy Model RCK	7.0	15 X 24 X 34	182

April 1958

Radio-Receivers

RCK

## RADIO RECEIVING EQUIPMENT

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46223	10-1/2 X 18-1/8 X 22-7/8	115
1	Set of Equipment Spares	9 X 12 X 18	62
2	Technical Manual NAVSHIPS 900228	3/8 X 8-1/2 X 11	

## RADIO RECEIVING EQUIPMENT

RCO



Radio Receiving Equipment Model RCO

**FUNCTIONAL DESCRIPTION**

The Navy Model RCO is a crystal-controlled, fixed-frequency, single-channel communication receiver designed to withstand constant duty such as that required for aeronautical ground-station, airport traffic control, or for point-to-point service. It is also well suited for either local or remote operation, monitoring, or other service requiring a reliable, crystal-controlled, fixed-frequency receiver. It is designed for rack mounting and in many cases, individual receivers are mounted in a relay rack, with each receiver used to monitor a given station or frequency.

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

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) Headphones or Loudspeaker.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 100 to 156 mc.

FREQUENCY CONTROL: Crystal oscillator.

RECEPTION: A2, A3.

POWER OUTPUT: 0.5 W into 600 ohm load.

TYPE RECEIVER: Superheterodyne.

IF: 6480 kc.

SENSITIVITY: 7.5 uv for 6 mw output.

IMPEDANCE

OUTPUT: 600 ohms.

INPUT: 50 ohms.

POWER REQUIREMENTS: 110 to 120 v, 50 to 60 cps, single ph, 75 W.

TYPE ANTENNA: 1/4 wavelength tubular telescoping type adjustable over frequency range of the Model RCO.

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

Communications Company, Inc, Coral Gables, Fla.

Contract NXss-31381, dated 8 June 1943.

Approximate Cost: \$550.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 5Y3WGTB

(1) 6H6

(1) 6SL7WGT

(6) 6AC7WA

(2) 6SJ7

(1) 6V6GT

April 1958

Radio-Receivers

**RCO****RADIO RECEIVING EQUIPMENT**

Total Tubes: (12)  
 (1) Quartz Crystal  
 Total Crystals: (1)

TYPE CLASSIFICATION  
 DESIGN COGNIZANCE BUSHIPS  
 PROCUREMENT COGNIZANCE EN28/4750-43 (SHIPS)  
 STOCK NO.  
 R.D.B. IDENT. NO.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 900255: Technical Manual for Navy  
 Model RCO Radio Receiving Equipment.

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver NT-46220 including: (1) Antenna Assembly NT-66091 (1) Transmission Line CASSF-50-1	5.6	17 X 19 X 30	110
1	Set of Equipment Spares	0.9	8-1/2 X 11-1/4 X 16-1/2	40

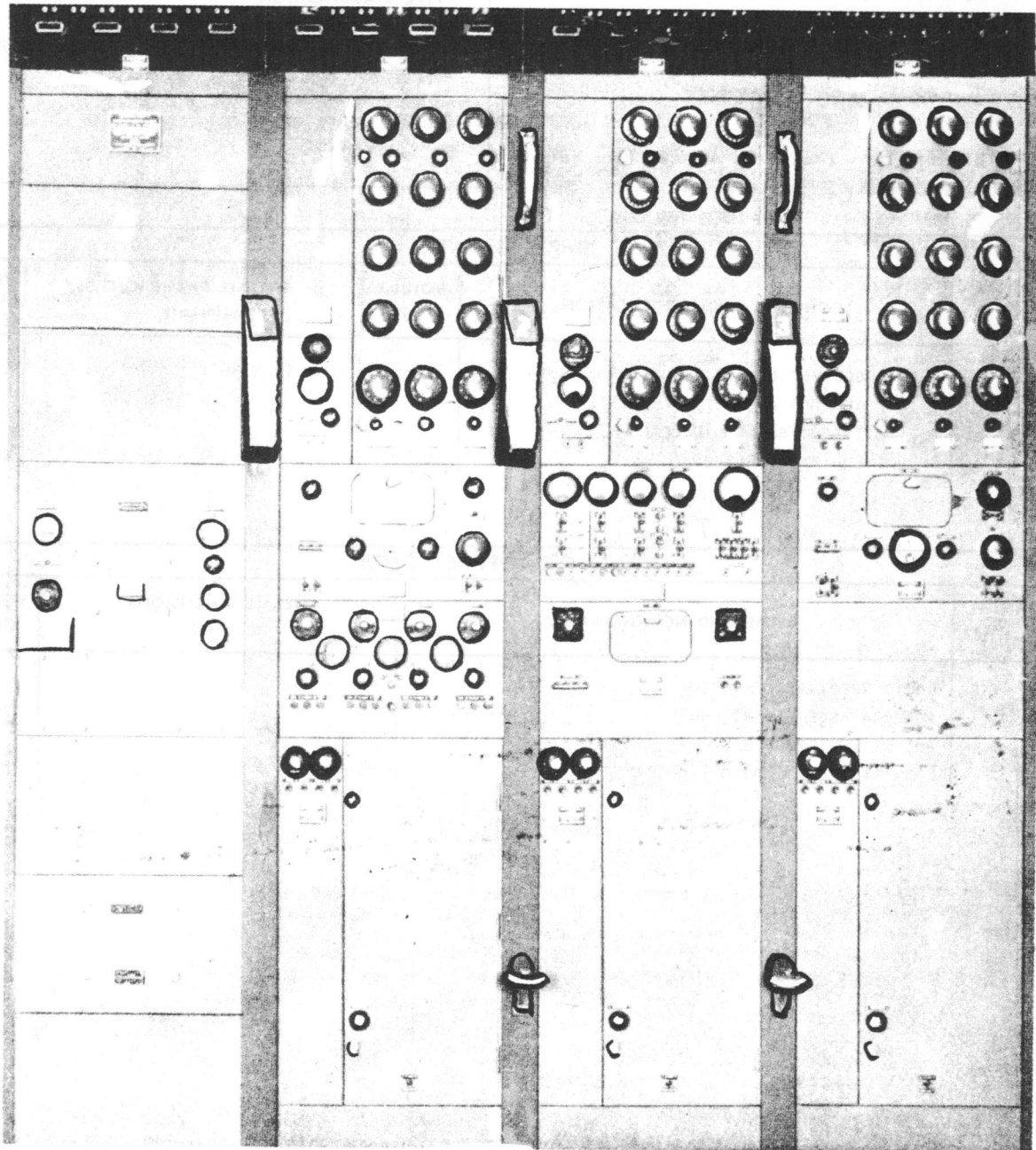
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46220	5-1/4 X 14 X 19	28
1	Antenna Assembly NT-66091		6.5
1	Set of Equipment Spares	6 X 9 X 12	
1	Coaxial Transmission Line CASSF-50-1	1200 lg	11.5

March 1957

# DIVERSITY RADIO RECEIVING EQUIPMENT

RCP



*Model RCP Diversity  
Radio Receiving Equipment*



# DIVERSITY RADIO RECEIVING EQUIPMENT

## FUNCTIONAL DESCRIPTION

The RCP is designed to receive 1-three set diversity signal, 1-two set diversity signal and one straight signal, or three straight-set signals. Each of the three identical superheterodyne receivers consists of an RF tuning unit covering a frequency range of 3 to 24 mega cycles, an IF unit employing amplification at 450 KC and 50 KC. The Signal Control Panel is employed for switching, combining and monitoring signals, the Tone Keyer is used for telegraph service and the audio frequency amplifier is used for telephone service.

No field changes in effect at time of preparation (4 September 1956).

## RELATION TO OTHER EQUIPMENT

Functionally, the RDP consists of 1/2 of a Model RDF-1.

Equipment Required but not Supplied: A complete diversity antenna system.

## ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 3 to 24 mc in 3 bands.

BAND 1: 3 to 6 mc.

BAND 2: 6 to 12 mc.

BAND 3: 12 to 24 mc.

RECEPTION: A1, A2, A3 w/provision for special keying or line equipment.

POWER OUTPUT

TELEPHONE: 60 milliwatts into a 600 ohm load.

TELEGRAPH: 6 db above 1.5 to 12 milliwatts w/attenuator pad out.

OUTPUT IMPEDANCE: 600 ohms.

SENSITIVITY: Overall RF gain (midband min), 3000 voltage gain, 1-2 conversion gain. Over-all IF average gain, 25,000 voltage gain.

ANTENNA: Fishbone, rhombic or open "V" w/ open 4-wire transmission line of 200 ohm impedance. 3 antennas are required.

ANTENNA MATCHING IMPEDANCE: 125 ohms.

KEYING SPEED: Up to 500 dots per sec.

## MANUFACTURER'S OR CONTRACTOR'S DATA

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

Contract NXss 27145, dated 12 April 1943.

Approximate Cost: \$12800.00 with equipment spares.

## TUBE AND/OR CRYSTAL COMPLEMENT

(32) 36	(31) 37	(48) 78
(1) 16x897	(1) 83	(1) 89
Total Tubes: (114)		

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900,478: I.B. 38244 Technical Manual for Diversity Radio Receiving Equipment, Models RBP-1 and RCP.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

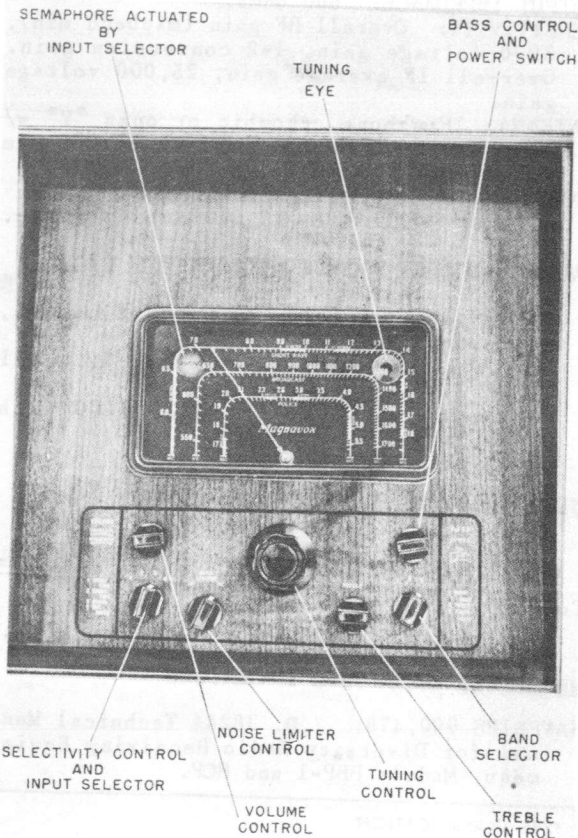
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
4	Antenna Panel NT-23276	5-3/4 X 19	3.2
3	Radio-Frequency Amplifier Unit-NT-50096	8-1/4 X 19 X 27-31/32	83
3	I.F. Amplifier Unit NT-50097	9-1/4 X 19 X 27-31/32	85
1	Signal Control Panel NT-50157	5-7/8 X 10-15/32 X 19	17
2	Tone Keyer Unit NT-35007	10-15/32 X 10-3/4 X 19	37
1	A.F. Frequency Amplifier Unit-NT-50098	10-1/4 X 10-15/32 X 19	32
1	Power Control Panel NT-23275	4-7/8 X 10-15/32 X 19	9.5
1	Rectifier Power Unit NT-20136	9-5/8 X 19 X 21	123
1	Transformer-Voltage Regulating NT-30815	5-5/8 X 6-15/16 X 15-9/16	52
3	Cabinet Rack MI-16013A	19-15/16 X 20-5/16 X 88-5/8	
2	Rack Steps MI-16008A		
2	Rack Handles MI-16009A		
5	Blank Panel MI-16016A	10-1/2	
2	Blank Panel MI-16015A		
3	Shielded Leads MI-16010A		
3	Battery (45 volts) K-870747-1		
1	Set Trim Strips MI-16014-B		
1	Set Spare Parts MI-16017-A		
1	Set Adjustment Tools MI-8410-A		
2	Sets Vacuum Tubes MI-16018-A		

April 1958

## COMBINATION RADIO RECEIVER AND RECORD PLAYER

Radio-Receivers  
RCT,RCU,RCU-1



Combination Radio Receiver & Record Player  
RCT,RCU,RCU-1

### FUNCTIONAL DESCRIPTION

The RCT, RCU, and RCU-1 are combination radio receiver and record player units, installed in a console cabinet which houses dual speakers. Auxiliary cabinet is also supplied which accommodates 200 ten or twelve inch records in four compartments. These equipments are identical in all respects except for the type of record player supplied. The RCT is equipped with a manual player with a 33-1/3 (33-1/3 rpm for transcription only), 78 rpm turntable and plays records up to 12 inch diameter. The RCU and RCU-1 incorporate an automatic record changer that will accommodate 10 and 12 inch records, but the sizes cannot be intermixed.

No field changes in effect at time of preparation (22 October 1957).

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

#### RADIO

#### FREQUENCY RANGE

BROADCAST: 535 to 1720 kc.

POLICE: 1667 to 5680 kc.

SHORT WAVE: 5.6 to 18.4 mc.

#### PHONOGRAPH

RCT: Manual record player; Radio Phonograph Combination -46226 incl ant Kit.

RCU: Automatic record player; Radio Phonograph Combination -46227 incl ant Kit.

RCU-1: Automatic record player; Radio Phonograph Combination -46228 incl ant Kit.

POWER SOURCE REQUIRED: 110 or 220 v, 50 to 60 cps, 180 W, switch located in rear of cabinet provides selection 110 or 220 v power source operation.

### MANUFACTURER'S OR CONTRACTOR'S DATA

The Magnavox Co, Fort Wayne, Ind.

Contract NXss-31869 dated 18 June 1943.

Contract NXss-8655.

### TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6L6G	(2) 6SG7
(1) 6SA7	(1) 6SK7
(1) 5U4G	(1) 6SN7
(1) 6E5	(1) 6H6
(1) 6J5	

Total Tubes: (11)

### REFERENCE DATA AND LITERATURE

Technical Manual for Models RCT, RCU, RCU-1  
Radio Phonograph.

TYPE CLASSIFICATION  
DESIGN COGNIZANCE BUSHIPS  
PROCUREMENT COGNIZANCE  
STOCK NO.

Radio-Receivers  
**RCT,RCU,RCU-1**

**COMBINATION RADIO RECEIVER  
 AND RECORD PLAYER**

Apr 11 1958

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Record Cabinet-10280	13-7/8 X 14 X 24-7/8	
1	Radio Phonographic Combination incl Antenna Kit-46226* or -46227** or -46228***	19-1/2 X 36-1/4 X 36-1/4	
1	Set of Repair Parts		

NOTES:      \*Supplied w/RCT  
              \*\*Supplied w/RCU  
              \*\*\*Supplied w/RCU-1

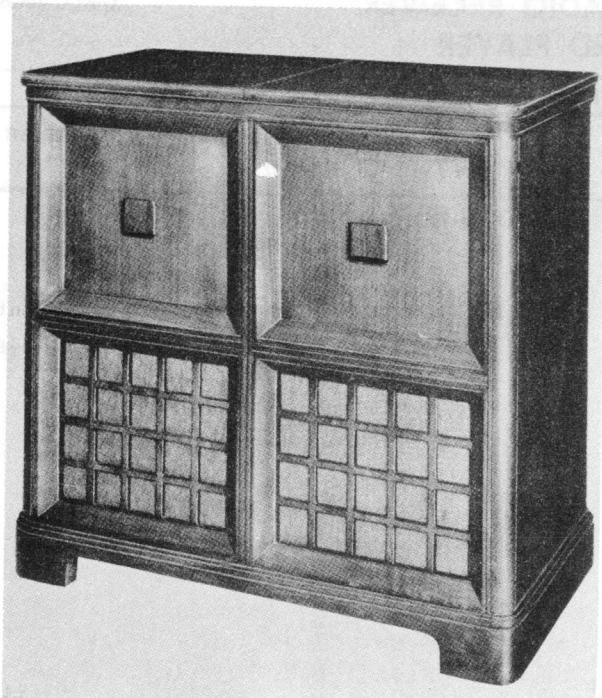
TYPE CLASSIFICATION  
 SECURITY CLASSIFICATION  
 PROVISIONAL CONTROLS  
 PROC. NO.

EQUIPMENT SUPPLIED DATA

WEIGHT (lbs.)	OVERALL DIMENSIONS (inches)	NAME AND NOMENCLATURE	QUANTITY PER EQUIPT
		Radio Phonographic Combination	1
		Record Cabinet	1
		Set of Repair Parts	1

**RADIO PHONOGRAPH**

**RCU-2**



*Radio Phonograph RCU-2*

**FUNCTIONAL DESCRIPTION**

The RCU-2 is a combination radio receiver and record player installed in a console cabinet which also houses dual speakers. The record player is capable of accommodating 10 inch, 12 inch or 12 inch "V" disc records and turn off its power after the last record has been played. The radio receiver covers the Broadcast, Police and Short Wave bands.

No field changes in effect at time of preparation (9 August 1956):

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

**RADIO**

FREQUENCY RANGE: 535 kc to 18.4 mc.  
 BROADCAST BAND: 535 to 1720 kc.

POLICE BAND: 1667 to 5680 kc.  
 PHONOGRAPH

QUANTITY RECORDS ACCOMMODATED

10 INCH: 12

12 INCH: 10

V DISCS: 20

POWER REQUIREMENT: 110 or 220 v, 50 or 60 cps, 180 W.

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

The Magnavox Company, Fort Wayne, Indiana  
 Contract NXsr 83380, dated 9 November 1944.

Contract N5sr-9608, dated 29 June 1945.  
 Approximate Cost: \$400.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

- |          |          |          |
|----------|----------|----------|
| (2) 6SG7 | (1) 6J5  | (1) 6SA7 |
| (1) 6SL7 | (2) 6L6G | (1) 6H6  |
| (1) 6SK7 | (1) 5U4G |          |

Total Tubes: (10)

**REFERENCE DATA AND LITERATURE**

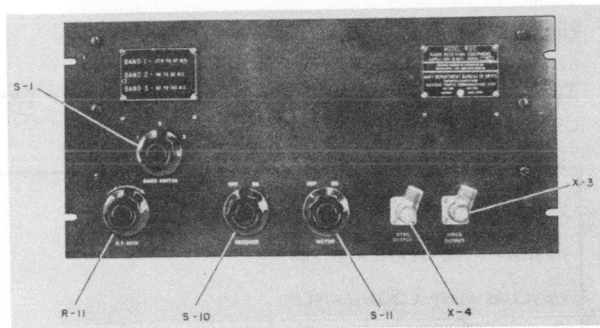
Technical Manual for Radio Phonograph for Model RCU-2.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.
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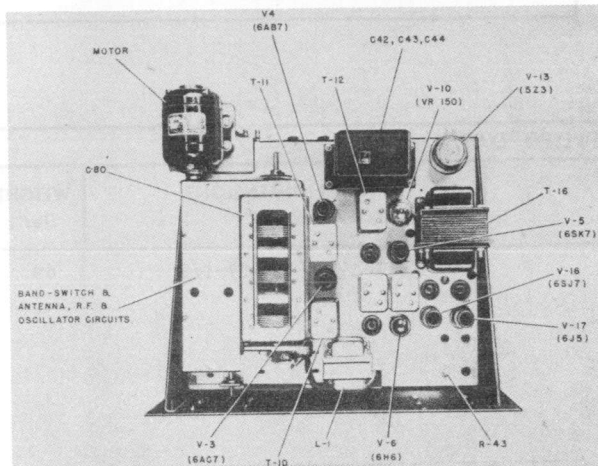
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Phonograph Combination RCU-2		
1	Antenna		
1	Set Spare Parts		

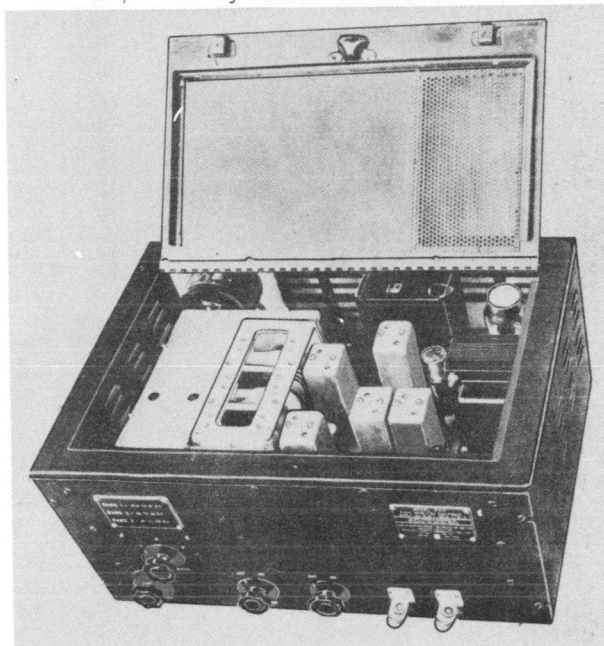
## RADIO RECEIVING EQUIPMENT



RDC Radio Receiver



Top View of Receiver Chassis RDC



Front-Top View of Receiver in Cabinet

### FUNCTIONAL DESCRIPTION

The RDC receiving is capable of receiving amplitude-modulated or non-modulated signals by panoramic frequency-scanning technique. The receiver operates in three frequency bands: (1) 28.5 to 47 mc, (2) 46.5 to 79 mc, (3) 75 to 140 mc, the design of the equipment being such that it is capable of receiving all of the signals appearing in the selected band, which is rapidly swept with respect to frequency by motor-driven rotating variable condensers in such a manner that the separate signals occurring in a given band appear successively at the output of the receiver. Consequently, if the RDC receiver is used in conjunction with a cathode-ray oscilloscope using an internal horizontal sweep, and the video output of the receiver is applied to the vertical deflection plates of the oscilloscope, a visual image of the selected frequency spectrum may be obtained. A synchronizing switch, which is operated by the motor employed to drive the rotating variable condenser, is incorporated in the receiver in order to synchronize the rotation of the variable condenser and the internal sweep of the oscilloscope.

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

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF CIRCUIT: Superheterodyne.  
NUMBER OF BANDS: 3 bands.  
OPERATING FREQUENCY OF THE RECEIVER  
BAND NUMBER ONE: 28.5 to 47 mc.  
BAND NUMBER TWO: 46.5 to 79 mc.  
BAND NUMBER THREE: 75 to 140 mc.  
OPERATING POWER REQUIREMENTS: 110 to 125 v  
AC, 50 to 60 cps, 1 ph, 180 W max.

### MANUFACTURER'S OR CONTRACTOR'S DATA

Halstead Traffic Communications Corp.,  
New York, N.Y.



April 1959

Radio-Receivers

**RDC****RADIO RECEIVING EQUIPMENT**

Contract NXsr-37243, dated September  
16, 1943.

**REFERENCE DATA AND LITERATURE**

Technical Manual Model RDC for the Radio Re-  
ceiving Equipment.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 955	(1) 954	(1) 956
(1) 6AC7	(1) 6AB7	(1) 6SK7
(1) 6H6	(1) VR150	(1) 5Z3
(1) 6SJ7	(1) 6J5	

Total Tubes: (11)  
No Crystals used.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver RDC	9-3/8 X 17-3/4 X 19-1/8	69

April 1958

## RADIO RECEIVING EQUIPMENT

Radio-Receivers

RDE, RDE-1



Radio Receiving Equipment RDE, RDE-1

**FUNCTIONAL DESCRIPTION**

The RDE and RDE-1 are fixed-tuned, crystal-controlled, radio-telephone receiver for operation on any frequency within the range of 2 to 8 megacycles. It is especially designed for airport control operation, and for aeronautical ground stations. It is also well suited for police service, monitoring or other services requiring a reliable, fixed-tuned receiver.

Stable drift-free operation is obtained by using a crystal-controlled, high-frequency oscillator. Three plug-in radio-frequency transformers are used in the circuits prior to the mixer tube, four sets of transformers being required to cover the frequency range specified. Change of frequency is accomplished by changing the oscillator crystal and retuning or changing and retuning as required, the three radio-frequency transformers.

These equipments can be used for either local, or unattended remote operation. Provision is made for remotely controlling the sensitivity of the receiver over a metallic telephone line by means of simplexing. Muting, or "disabling", may also be controlled remotely from the transmitter press-to-talk circuit.

No field changes in effect at time of preparation (22 October 1957).

**RELATION TO OTHER EQUIPMENT**

These equipments are being replaced by Radio Receiving Set AN/FRR-26.

Equipment Required but not Supplied: (1) Antenna, (1) 600 ohm headphones or loud-speaker, (1) power cable w/plug.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 2.0 to 8.0 mc.

IF: 455 kc.

OUTPUT IMPEDANCE: 600 ohms.

NUMBER OF BANDS: 4.

METHOD OF BANDCHANGING: By means of plug-in coils and xtals in the osc circuit.

RECEPTION: A3.

INPUT IMPEDANCE: 100 and 400 ohms.

POWER OUTPUT: 0.5 W.

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

**ANTENNA DATA**

HIGH IMPEDANCE TYPE: Ant of 50 uuf or more capacity.

LOW IMPEDANCE TYPE: 100 or 400 ohm line.

MOUNTING DATA: Installed in a standard relay rack.

## RDE,RDE-1

## RADAR RECEIVING EQUIPMENT

April 1958

## MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Co, Inc, Coral Gables,  
Florida.

Contract NXsr-38501 dated 11 October  
1943.

Contract NXsr-41033 dated 17 November  
1943 for RDE.

Contract NSsr-4606 dated 15 May 1945  
for RDE-1.

Approximate Cost: \$575.00 with equip-  
ment spares. (RDE).

## REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model RDE Receiver  
and Technical Manual for Navy Model RDE-1  
Receiver.

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3WGTB

(2) 6SJ7

(1) 6A8

(2) 6SN7WGTA

(2) 6K7

Total Tubes: (8)

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 RDE or RDE-1	1.4		35.0
1	Set of Repair Parts			

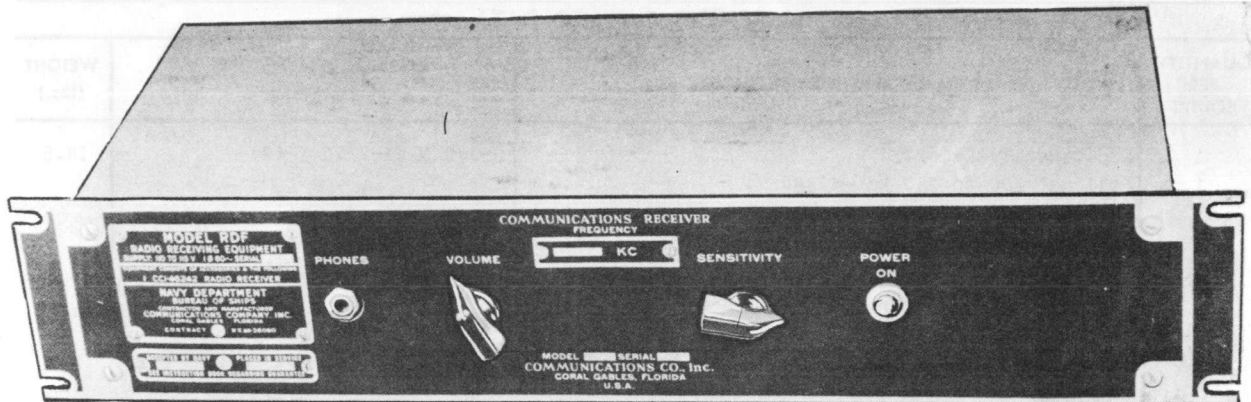
## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver -46219	3-1/2 x 13 x 19	31
1	Coil Set 2.0 to 2.8 mc -47363		
1	Coil Set 2.8 to 4.0 mc -47364		
1	Coil Set 4.0 to 5.5 mc -47365		
1	Coil Set 5.5 to 8.0 mc - 47366		
1	Set of Repair Parts		

April 1958

## RADIO RECEIVING EQUIPMENT

RDF



Radio Receiving Equipment RDF

**FUNCTIONAL DESCRIPTION**

The Navy Model RDF is a fixed-tuned, low-frequency tuned-radio-frequency receiver. The unit is designed especially for use in airport traffic-control towers, aeronautical ground stations, for monitoring the CAA range transmissions and receiving weather broadcasts.

No field changes in effect at time of preparation (16 April 1958).

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) 500 or 600 ohm permanent magnet speaker, (1) Set of 500 or 600 ohm headphones, AC power cable w/plugs and (1) Receiving Antenna.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

**FREQUENCY RANGE:** 200 to 550 kc in four bands using plug-in coil sets and fixed tuning.

**RECEPTION:** A2 and A3.

**OUTPUT IMPEDANCE:** 500 or 600 ohms.

**SENSITIVITY:** 7 uv input for 9 db output.

**OUTPUT POWER:** 2W.

**POWER SOURCE REQUIRED:** 105 to 115 v, single ph, 50 to 60 cps.

**MOUNTING DATA:** The equipment is mounted in a standard relay rack.

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

Communications Co, Inc, Coral Gables, Florida.

Contract NXsr-38090, dated 28 September 1943.

Approximate Cost: \$575.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 5Y3WGTB (1) 6SJ7  
(2) 6SK7WA (1) 6V6Y

Total Tubes: (5)

No Crystals used.

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 95258: Technical Manual for Navy Model RDF Radio Receiving Equipment.

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

April 1958

RDF

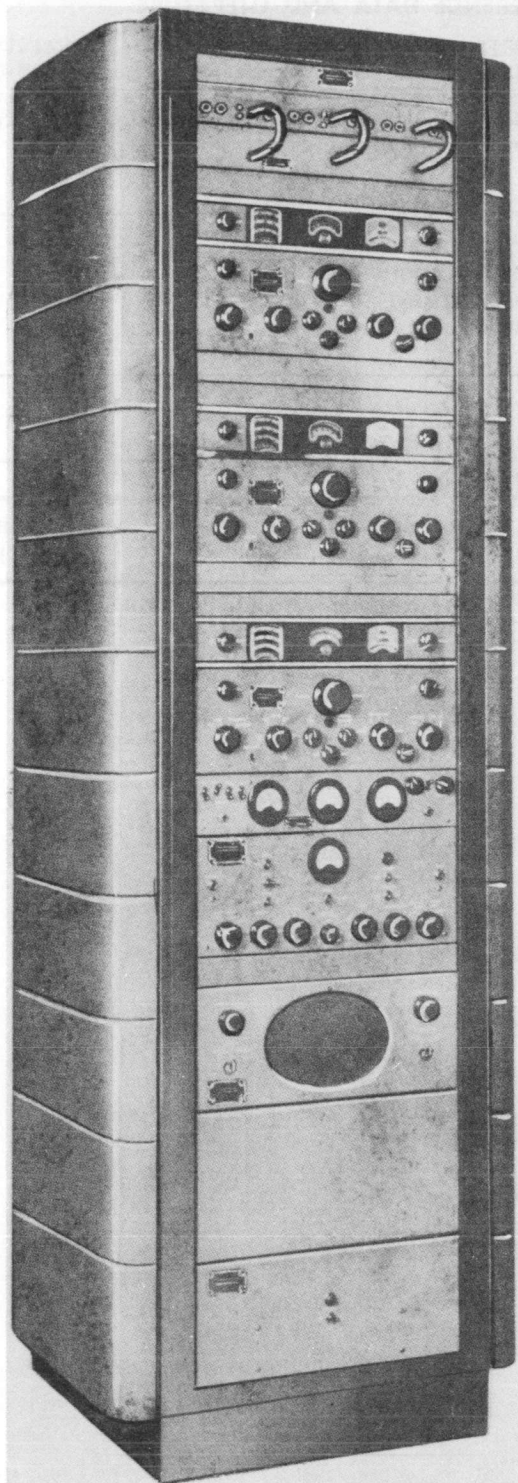
## RADIO RECEIVING EQUIPMENT

## EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver-46242	3-1/2 X 11-7/16 X 19	14.5
1	Coil Set 200 to 250 kc -47380		
1	Coil Set 250 to 330 kc -47381		
1	Coil Set 330 to 430 kc -47382		
1	Coil Set 430 to 550 kc -47383		
1	Set of Equipment Spares		



April 1958

**DIVERSITY RADIO RECEIVING EQUIPMENT****RDM, RDM-1**

Diversity Radio Receiving Equipment RDM, RDM-1

**FUNCTIONAL DESCRIPTION**

The RDM and RDM-1 are used for reception of A1, A2, and A3 signals in the MF and HF ranges. The tone keyer electronically selects the strongest output signal of the three identical superheterodyne receiver units and suppresses the output of the other two. Output of the complete diversity receiver may be taken from the tone keyer or from any one of the three component radio receivers, all of which are terminated with suitable impedances to match a transmission line, a loudspeaker, or headphones. Voltage tap switches are provided to permit operation of the units with input voltages in two ranges.

The Model RDM-1 is the same as the RDM except the speaker elliptically shaped instead of round, the cabinet is a standard cabinet and the equipment is painted Navy grey instead of black wrinkle finish.

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

**RELATION TO OTHER EQUIPMENT**

The RDM and RDM-1 are similar to the type DR-89 (RCA) Diversity Receiver.

Equipment Required but not Supplied: Complete diversity antenna system, separately fused AC power supply, and headphones M1-5803-6 or equivalent.

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

FREQUENCY RANGE: 535 kc to 32.0 mc in 6 bands.

RECEPTION: A1, A2, A3.

**POWER OUTPUT**

    TONE KEYER AND COMBINING UNIT: 12 mw.

    RECEIVER AMPLIFIER: 2.5 W.

**OUTPUT IMPEDANCE**

    TONE KEYER: 600 ohms.

    RECEIVER AMPLIFIER: 600 ohms.

INPUT IMPEDANCE: The antenna coupling system is designed to provide optimum coupling from a 200 ohm transmission line, except in the broadcast band.

**POWER SOURCE REQUIRED**

    RDM: 100 to 165 v or 190 to 260 v, single ph, 50 to 60 cps.

    RDM-1: 110 to 165 v or 190 to 260 v, single ph, 50 to 60 cps.

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

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

Contract NXsr-38074.

Contract NObsr-39228, dated 18 August 1947.

April 1958

**RDM, RDM-1 DIVERSITY RADIO RECEIVING EQUIPMENT**

Approximate Cost: \$4500.00 with equipment spares.

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) OA3	(6) 6J5
(4) 6SJ7	(5) OD3W
(3) 6K6GT	(3) 6SL7WGT
(5) 5Y3WGTB	(3) 6SA7Y
(2) 6SN7WGTA	(8) 6H6
(17) 6SG7Y	

Total Tubes: (57)

Crystal type data not available.

Total Crystals: (2)

**REFERENCE DATA AND LITERATURE**

NAVSHIPS 91061, Technical Manual for Diversity Radio Receiving Equipment Navy Model RDM-1.  
NAVSHIPS 95261, Technical Manual for Navy Model RDM Diversity Radio Receiving Equipment.

<b>TYPE CLASSIFICATION</b>
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

**EQUIPMENT SUPPLIED DATA**

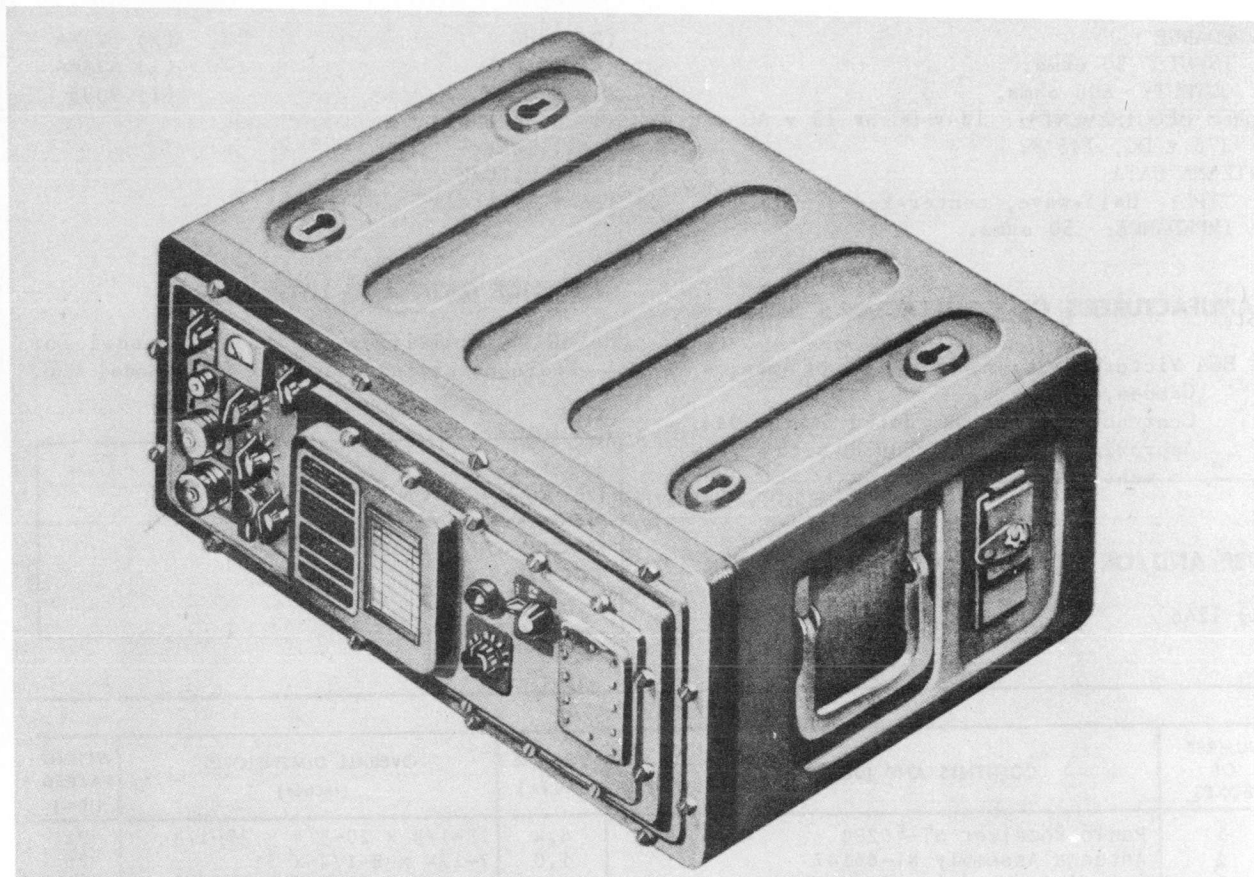
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver CRV-46246-A*	11 X 19-1/4 X 19-1/4	98
	CRV-46246-B**	10-1/2 X 19 X 17-3/4	98
1	Tone Keyer Unit CALO-35049*	7 X 19 X 10-1/2	26
	CRV-35049-A**	7 X 19 X 10-1/2	26
1	Monitoring Unit CALO-23424*		11
	CRV-23424-A**		
1	Monitoring Unit Power Supply CALO-20289*	7 X 6-1/2 X 19	18
	CRV-20289-A**	7 X 6-1/2 X 19	18
1	Loudspeaker Assembly CALO-49526*	8-3/4 X 19 X 4-3/4	12
	CRV-49256-A**	8-3/4 X 19 X 4-3/4	12
1	Cabinet Rack and Panels Assembly	84 X 22 X 21	280
1	Cabinet CRV-10692**	84 X 22 X 21	280
1	Antenna Panel CRV-23425-A**		
1	Set of Interconnecting Cables		
1	Set of Equipment Spares	15 X 18 X 18	

\*Supplied with Radio Receiving Equipment RDM.

\*\*Supplied with Radio Receiving Equipment RDM-1.

## RADIO RECEIVING EQUIPMENT

RDR



Model RDR, Radio Receiver NT-46283

### FUNCTIONAL DESCRIPTION

The Navy Model RDR is a portable communication receiver designed for voice and modulated continuous-wave reception in the 225 to 390 megacycle frequency range. It is intended for selective operation on any one of ten crystal-controlled channels by a motor-driven selector mechanism which may be either locally or remotely actuated.

It is intended for ship, shore, field, or vehicular use and was designed as a companion receiver to the Navy Model MAR Radio Transmitting and Receiving Equipment, being housed in the same type case to permit grouping and mounting with Model MAR units.

Data on this sheet reflects the following field changes. FC-1, -2 (16 April 1958).

### RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied:  
SHIPBOARD INSTALLATION

- (1) Shock Mount Assembly NT-10629, Coaxial Cable RG-8/U or RG-10/U as Required.

### ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 390 mc.  
FREQUENCY CONTROL: Crystal.  
RECEPTION: A2, A3.  
POWER OUTPUT: 1 W into 600 ohm load.  
TYPE RECEIVER: Superheterodyne.  
IF: 30.2 mc.  
SENSITIVITY: 8 uv for 10 to 1 signal-to-noise ratio.  
SELECTIVITY: 200 kc bandwidth at 6 db.  
AVC GAIN: Flat above 75% amplifier capability.  
OUTPUT FREQUENCY: 300 to 3000 cps.

**RDR RADIO RECEIVING EQUIPMENT****IMPEDANCE**

INPUT: 50 ohms.

OUTPUT: 600 ohms.

POWER REQUIREMENTS: 13 v DC or 13 v AC and  
375 v DC, 145 W.**ANTENNA DATA**

TYPE: Half-wave, center-fed dipole.

IMPEDANCE: 50 ohms.

(2) 12H6

(4) 12SG7Y

(1) 12SL7GT

(1) 5654/6AK5W

Total Tubes: (14)

(10) CR-7E/U

Total Crystals: (10)

(2) 6C4WA

(1) 6J6WA

(1) 9003

**MANUFACTURER'S OR CONTRACTOR'S DATA**RCA Victor Division, Radio Corp of America,  
Camden, N.J.

Contract NXsr-60008, dated 5 May 1944.

Approximate Cost: \$3000.00 with equip-  
ment spares.**REFERENCE DATA AND LITERATURE**NAVSHIPS 900841(A): Technical Manual for  
Radio Receiving Equipment Navy Model RDR.

<b>TYPE CLASSIFICATION</b>
<b>DESIGN COGNIZANCE</b> BUSHIPS
<b>PROCUREMENT COGNIZANCE</b>
<b>STOCK NO.</b>

**TUBE AND/OR CRYSTAL COMPLEMENT**

(1) 12A6

(1) 6AG7Y

**SHIPPING DATA**

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Receiver NT-46283	4.4	13-1/4 x 20-3/4 x 27-1/4	91
1	Antenna Assembly NT-66147	1.0	7-1/4 x 8-1/4 x 31	26
1	Set of Accessories	3.0	12-1/4 x 19-5/8 x 21-1/8	55
1	Set of Equipment Spares	12.0	20-3/4 x 25-1/2 x 29	175
1*	Shipping Chest NT-10621	8.7	17 x 26 x 34	218
1*	Shipping Chest NT-10525	15.0	17 x 35 x 43	208
1*	Set of Engine-Generator Spares	3.5	14 x 19-1/2 x 23	94

NOTE: \*-Supplied for field application only.

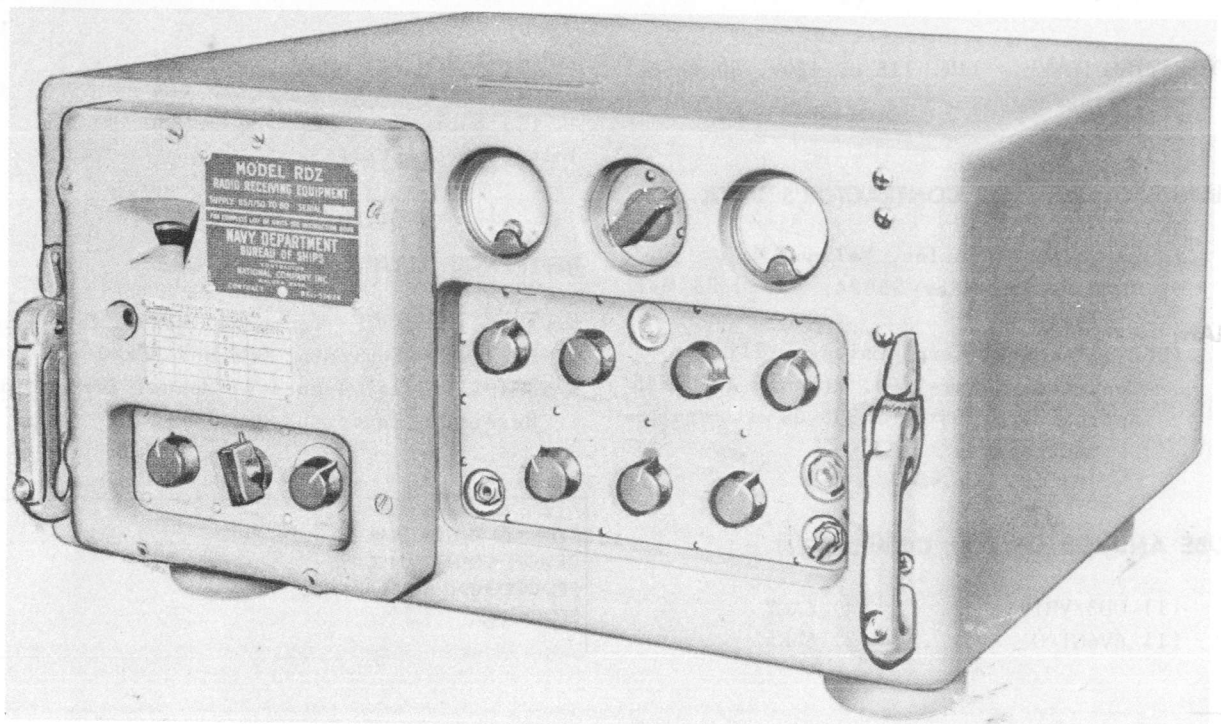
**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Receiver NT-46283	9-1/2 x 16-1/4 x 21-1/4	54
1	Antenna Assembly NT-66147	22 h x 25 d	3.5
1	Set of Accessories		
1*	Shipping Chest NT-10621 including: (1) Gas Engine-Generator Set NT-73037 (1) Engine Carrying Case NT-10620 (1) Set of Accessories	20 x 21-7/8 x 28-1/4	152
1*	Shipping Chest NT-10525 including: (1) Antenna Cable (1) Antenna Carrying Case	13-1/4 x 30-3/4 x 37-1/4	106
1*	Set of Engine-Generator Spares	12 x 15 x 18	66
1	Set of Equipment Spares	18 x 21 x 24	110

NOTE: \*-Supplied for field application only.



December 1956

**RADIO RECEIVING EQUIPMENT****RDZ, RDZ-1***Radio Receiving Equipment RDZ, RDZ-1***FUNCTIONAL DESCRIPTION**

Radiophone Unit NT-23172, or 23211.

The RDZ, RDZ-1 is for shipboard or shore station use. The superheterodyne receiver employs a crystal-controlled oscillator and provides reception of A3 transmission on any ten channels in the frequency range of 200 to 400 mc. An automatic ten channel tuning unit associated with the receiver permits local or remote operation. Connections to and from the receiver are filtered to limit possible interference from nearby electronic apparatus. Three type outputs are available: frequency scan, video scan, and audio. The equipment is designed to be used with the TDZ.

Data on this sheet reflects the following field changes, F.C.7 (13 August 1956).

**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: (1) Selector Control Unit NT-23497, (1) Remote Selector Station NT-23445 on NT-23496, (1)

**ELECTRICAL AND MECHANICAL CHARACTERISTICS**

**FREQUENCY RANGE:** 200 to 400 mc covered by any ten preset frequency channels except from 22 to 232 mc which is unuseable due to blocking of the IF amplifier by harmonics of the Crystal Multiplier circuits.  
**TYPE FREQUENCY CONTROL:** Preset crystal-controlled channel frequencies only.

**TYPE RECEPTION:** A2 or A3.

**POWER OUTPUT**

**PHONE JACK:** 1.5v or 4 mw into 600 ohm load.

**AUDIO CHANNEL:** 6v or 60 mw in to 600 ohm load, or 600 mw in to 30 ohm at rear.

**SCANNING TERMINALS:** 10,000 uv in to 50 ohms.

**OUTPUT IMPEDANCE**

**HEADPHONES:** 600 ohms.

**OUTPUT TERMINALS:** 30 to 600 ohms.

**SENSITIVITY:** 5 to 15 uv.

**INPUT IMPEDANCE:** 50 ohms.



## RDZ,RDZ-1

## RADIO RECEIVING EQUIPMENT

December 1956

OPERATING POWER: 110, 115 or 120v, 50 to 60  
cps, single phase.

(1) 6SN7W (2) 6F4  
(1) 5W4G (1) 6H6  
(7) 6AB7 (1) 956

Total Tubes: (21)

## MANUFACTURER'S OR CONTRACTOR'S DATA

(RDZ) National Co Inc, Malden, Mass.  
Contract: NXsr-55624, dated 31 Mar  
1944.

(RDZ-1) Admiral Corp, Chicago, Ill.  
Contract: NXsr-7194, dated 5 Jun 1945  
Approximate Cost: \$3900.00 with equip-  
ment spares

## REFERENCE DATA AND LITERATURE

NAVSHIPS 900,617: Technical Manual for Radio  
Receiving Equipment RDZ and RDZ-1  
NAVSHIPS 91331: Technical Manual for Radio  
Receiving Equipment RDZ/RDZ-1

## TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3/VR105 (4) 6AC7  
(1) 6V6GT/G (2) 6AK5

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 NT-46275 consist of:	13-1/8 X 22 X 22-5/32	150
1	Preselector and Converter Unit NT-46273	8-1/2 X 8-1/2 X 14-3/16	20
1	AF/IP Unit NT-46274	8-23/32 X 11-5/16 X 13-1/8	17
1	Rectifier Power Unit NT-20407	5-1/2 X 8-9/32 X 18-1/2	37
1	RF Filter Unit NT-53280	2-7/8 X 6-15/32 X 20-9/16	10
1	Automatic Tuning Unit NT-23491	4-1/16 X 6 X 8-7/16	6
1	Cabinet NT-10511	13-1/8 X 18-5/16 X 22	50
1	Front Panel Assy NT-10512	10-1/2 X 19-11/16 X 22	10
2	Crystal Oven NT-40148	2-19/32 X 2-1/4 X 3-21/32	3/4
1***	Remote Channel Selector NT-23492	3-5/16 X 4-9/16 X 5-1/4	2
1	Antenna NT-66147 or AT-150/SRC or AS-390/SRC		
1	Set Equipment Spares		
100	Crystals NT-40161 * or NT-40162 **		

\* Equipment 1 to 100

\*\* Equipment 101 to 3500

\*\*\* Supplied by Navy with initial 1000 Model RDZ equipments.