

RONIC EQUIPMENT - PRELIMINARY DATA

NAVPERS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION AB-234B/B	ITEM NAME Antenna Support Base
FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.	

The AB-234B/B is used for mounting antenna assemblies. It is electrically and mechanically interchangeable with previous versions except that component parts differ. The following changes have been made:

Two connectors are furnished in lieu of three. The connectors are screwed into the base rather than welded.

The base is part of Antenna Assembly AS-523C/BPX and mounts with eight cap screws and lockwashers on 6-inch by 45-degree centers. The cylindrical unit is stainless steel with a vinyl-alkyd coating.

No unit cost available.

Source of information: Request for Nomenclature.

CLASSIFICATION
UNCLASSIFIED

Re: 4/1/64

CHANGE 57/72 - 687A

1.2 AB-234B/B: 2

B-17878

12

31 August 1967
Cog Service: USN

FSN:

BASE, ANTENNA SUPPORT AB-770/B
Functional Class:

USA

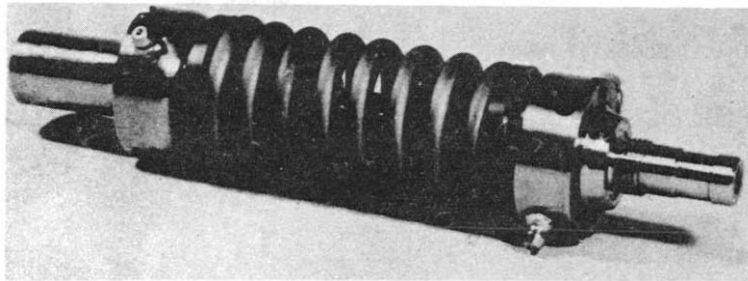
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Alton Iron Works, Inc., (84027).



BASE, ANTENNA SUPPORT AB-770/B

FUNCTIONAL DESCRIPTION:

Base Antenna Support AB-770/B: This base goes between the antenna and the former support. It provides for flexibility to allow for greater speeds and stresses on Antenna AT-497/U. For Submarine use only.

No field changes in effect at time of preparation (8th March 1967).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

SPRING EXTENDED IN NORMAL OPERATION: 3.28 inches.

SPRING COMPRESSED: 35 degree max allowable flexibility; 2.65 inches.

BASE, ANTENNA SUPPORT AB-770/B

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Base, Antenna Support, AB-770/B		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-100-9010: Technical Manual for Base, Antenna Support AB-770/B.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.01	3

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-G-327BA

DESIGN COG: USN, NavShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Alton Iron Works, Inc. dwg. No. REC 66011 Rev. A.	Brooklyn, N.Y.	N0bsr-93275	

31 August 1967

Cog Service: USN FSN:

BASE, ANTENNA SUPPORT AB-771/B
Functional Class:

USA

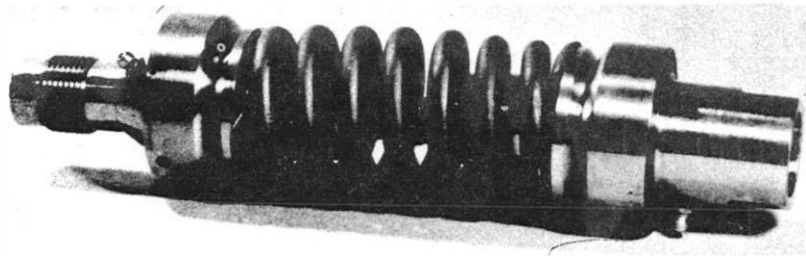
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Alton Iron Works Inc., (84027).



BASE, ANTENNA SUPPORT AB-771/B

FUNCTIONAL DESCRIPTION:

Base, Antenna Support AB-771/B: This base goes between the antenna and the former support. It provides for flexibility to allow for greater speeds and stresses on Antenna AS-1287/BRC. For Submarine use only.

No field changes in effect at time of preparation (9 March 1967).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

SPRING EXTENDED IN NORMAL OPERATION: 4-3/8 inches.

SPRING COMPRESSED: 34 degrees max allowable flexibility; 3-1/2 inches.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Base, Antenna Support AB-771/B		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-096-5010: Technical Manual for Base Antenna Support AB-771/B.

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-G-327BA

DESIGN COG: USN, NavShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Alton Iron Works, Inc. Dwg. No. RE660664	Brooklyn, N.Y.	N0bsr-93275	

11 August 1967

AUDIO DISTRIBUTION AMPLIFIER AD-2

Cog Service: USN FSN:

Functional Class:

USA

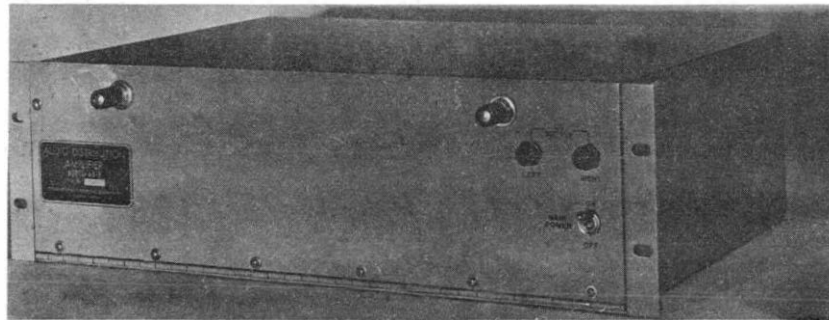
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Cooke Engineering Company, (02002).



AUDIO DISTRIBUTION AMPLIFIER AD-2

FUNCTIONAL DESCRIPTION:

The Audio Distribution Amplifier AD-2 is a solid-state general purpose amplifier, designed to accept up to five input signals and provide up to eight output signals per input. The five input channels of the amplifier are of the balanced (ungrounded) configuration, and are compatible with either 600 ohm or 10 k ohm signal sources. All output channels of the amplifier are of the balanced configuration, with a nominal output impedance of 600 ohms.

No field changes in effect at time of preparation (6 June 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

23 November 1966

AMPLIFIER RADIO FREQUENCY AM-1355(XN-2)/URT

Cog Service: USN FSM:

Functional Class:

USA

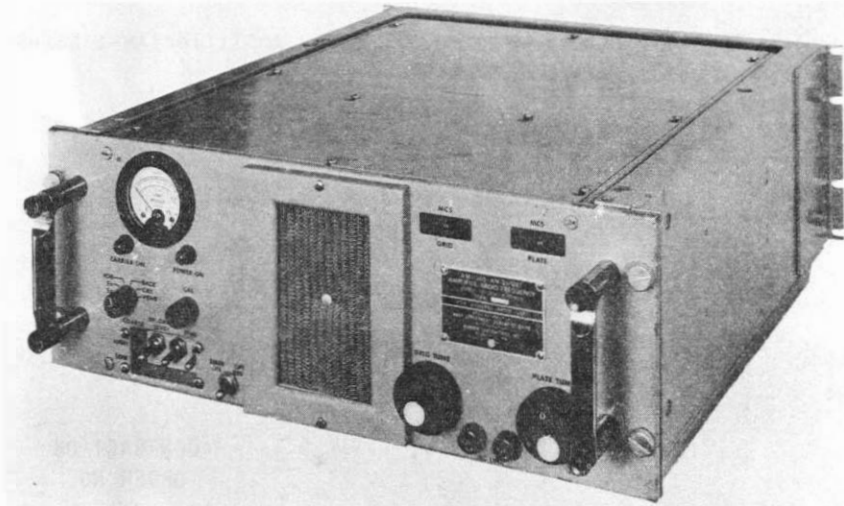
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Mason Laboratories, (93279).



AMPLIFIER RADIO FREQUENCY AM-1365(XN-2)/URT

FUNCTIONAL DESCRIPTION:

Amplifier Radio Frequency AM-1365(XN-2)/URT is a linear amplifier intended for use with a transmitter having an output frequency of 225 to 400 mc and a power output of 10 to 33.3 watts across the band. It is designed to amplify the modulated output of the transmitter to a 100 watt RF carrier level.

No field changes in effect at time of preparation (24 March 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Transmitter Model TED; (1) Shock Mount Robinson Technical Prod Type W794-1; (1) Instruction Manual for Model TED.

1.2 AM-1365(XN-2)/URT: 1

14 August 1967
Cog Service: USN FSN:

AMPLIFIER RADIO FREQUENCY AM-1565/URC
Functional Class:

USA

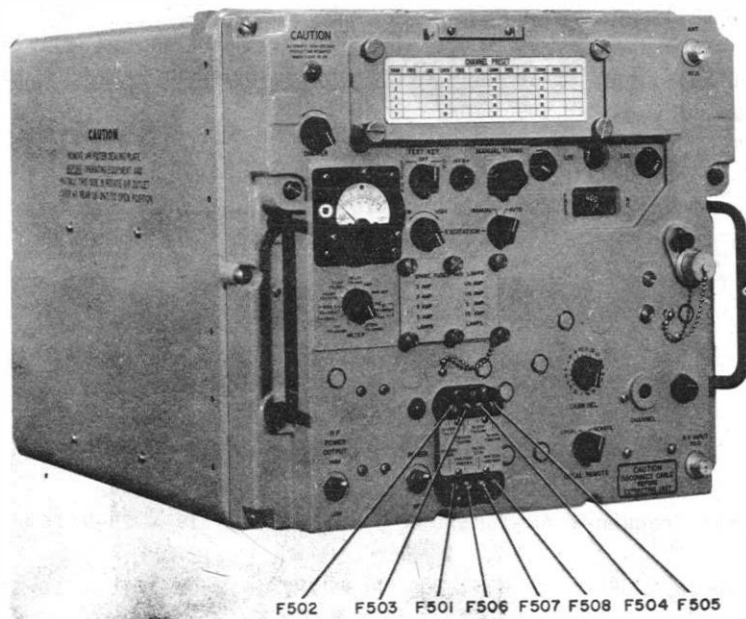
USN

USAF

TYPE CLASS:

Used by

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



AMPLIFIER RADIO FREQUENCY AM-1565/URC

FUNCTIONAL DESCRIPTION:

The Amplifier Radio Frequency AM-1565/URC is an automatically tuned, fixed station linear power amplifier which operates from 225 to 399.9 megacycles. The cathode and plate tuned circuits of the radio frequency amplifier are high Q coaxial cavities servo tuned to the selected frequency. Because the radio frequency amplifier is linear, interference due to transmitter intermodulation is minimum. The radio frequency amplifier, with integral power supply, is installed in the equipment case on a tilting slide mechanism, this allows the unit to be withdrawn from the case for servicing.

No field changes in effect at time of preparation (19 April 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

AMPLIFIER RADIO FREQUENCY AM-1565/URC

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225.0 to 399.9 mc.
WAVELENGTH: 1.33 to 0.75 meters.

TUNING

CHANNEL SPACING: Continuously tuned.
PRESET CHANNELS: 19 plus 1 manual.
CHANNEL SELECTION TIME: 10 seconds maximum.
EXCITATION REQUIRED: 16 watts.
IMPEDANCE: 50 ohms, nominal.

OUTPUT DATA

MINIMUM POWER: 100 watts, average carrier.
IMPEDANCE: 50 ohms nominal.
ENVELOPE DISTORTION: 4% maximum above drive signal distortion at 80% modulation.
NOISE MODULATION: Not less than 30 db when driven by a source having a noise modulation at least 35 db below 80% modulation 1000 cps.

AMBIENT TEMPERATURE RANGE

OPERATING: -54 deg C to +65 deg C (-65 deg F to +149 deg F).
STORAGE: -62 deg C to +75 deg C (-79 deg F to +167 deg F).

AMBIENT HUMIDITY: 0% to 95%.

ALTITUDE: Up to 10,000 feet.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Radio Frequency AM-1565/URC includes:	15-3/4 x 19 x 23-9/16	12
1	Mounting: MT-2037/URC	2-7/16 x 16-1/16 x 18-11/16	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-032-5000: Technical Manual for Radio Sets AN/SRC-20 and AN/SRC-21.
NAVSHIPS 0967-032-5010: Technical Manual for Radio Sets AN/SRC-20 and AN/SRC-21.

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: SHIPS-A-3828

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company Sketch No. 3662F9046.	Cedar Rapids, Iowa	NObsr-72650	

1.2 AM-1565/URC: 2

26 August 1965

Cog Service: USN FSH:

AMPLIFIER, AUDIO FREQUENCY AM-1850/STC

Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Stromberg-Carlson, a Div. of General Dynamics Corp., (14100).



AMPLIFIER, AUDIO FREQUENCY AM-1850/STC

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency AM-1850/STC provides a means of amplifying one-way communication (incoming speech) in a two-way sound-powered telephone communication system. It is designed to amplify voice signals to such a level that the reproduced message will be clear and understandable at locations aboard ship where the noise level is high, such as at a gun position or in a machinery space.

When the amplifier is off, direct two-way communication can be carried on at sound-powered telephone level. In the event of a lack of ac power, due to power failure, blown fuse, etc., direct two-way communication is automatically restored at the sound-powered telephone level.

The equipment used in a telephone-amplifier circuit consists of an amplifier, one to six sound-powered telephone headsets, and one or two loudspeakers.

No field changes in effect at time of preparation (29 July 1965).

AMPLIFIER, AUDIO FREQUENCY AM-1850/STC

RELATION TO OTHER EQUIPMENT:

The AM-1850/STC is similar in operation to type IC/AM-1/STC and AM-1788/STC. The AM-1850/STC can be used to replace the type IC/AM-1/STC or AM-1788/STC, by using type SA7B Headsets or by changing the wiring in each local headset to provide the required wiring.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

INPUT IMPEDANCE: 800 ohms \pm 200 ohms at any freq between 400 and 2500 cps.
OUTPUT VOLTAGE: 832, 525 or 331 mv rms at telephone terminals; 70 v rms for 1 speaker or 40 v rms for 2 loudspeakers in parallel.
OUTPUT POWER: 7.5 W available at loudspeaker output terminals.
GAIN: 25 mv rms 1000 cps input provides rated output power at rated voltage.
GAIN CONTROL: Provides reduction in output of 24 db in 6 steps.
FREQUENCY RESPONSE: 200 to 4000 cps.
NOISE LEVEL: At least 46 db below 70 v measured at output terminals for one speaker.
REGULATION: Not more than 3 db variation in output voltage between full loudspeaker load and no load.
POWER REQUIREMENTS: 115 v, 60 cps, 1 ph, 73 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency AM-1850/STC		6-3/4 x 8-1/4 x 10-1/8	24

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2528: I.C. Technical Manual No. 87C for Sound-Powered Telephone Amplifier Type AM-1850/STC.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 6AU6WA (2) 6X4W (2) 6005/6AQ5WA (1) 12AT7WA

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stromberg-Carlson, A Div. of General Dynamics Corp.	Rochester, N.Y.	NObs 73649	

6 October 1966

Cog Service: USN FSN:

AMPLIFIER AUDIO FREQUENCY AM-1850A/STC
Functional Class:

USA

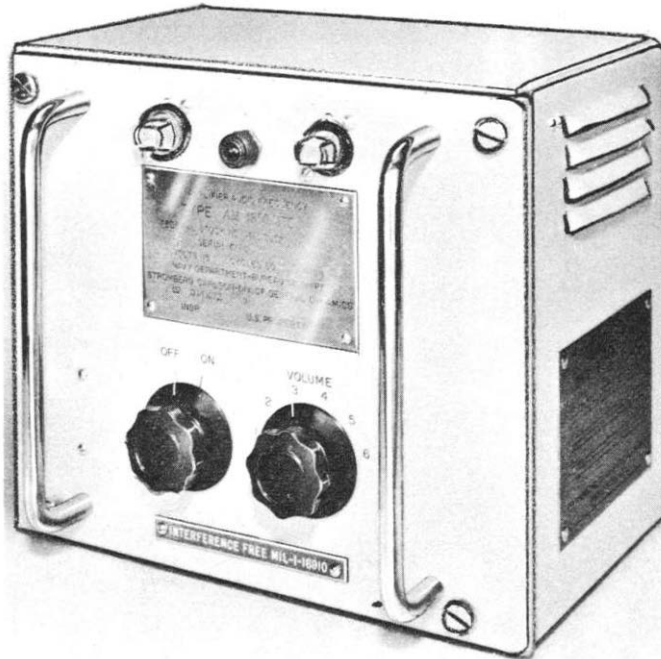
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Remler Company, (77748).



AMPLIFIER AUDIO FREQUENCY AM-1850A/STC

16

FUNCTIONAL DESCRIPTION:

The Amplifier Audio Frequency AM-1850A/STC permits two-way communication at all times between the sound powered telephone line and the local sound powered headsets associated with the amplifier. To receive and amplify signals to local headsets and one or two loudspeakers aboard ships.

No field changes in effect at time of preparation (18 April 1966).

RELATION TO OTHER EQUIPMENT:

The AM-1850A/STC is two-way interchangeable with AM-1850/STC, except maintenance parts.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

AMPLIFIER AUDIO FREQUENCY AM-1850A/STC

TECHNICAL CHARACTERISTICS:

INPUT IMPEDANCE: 800 ohms \pm 200 ohms at any freq between 400 and 2500 cps.
OUTPUT VOLTAGE: 832, 525 or 331 mv rms at telephone terminals; 70 volts rms for one loudspeaker or 40 volts rms for two loudspeakers in parallel.
OUTPUT POWER: 7.5 watts available at loudspeaker output terminals.
GAIN: 25 mv rms 1000 cps input provides rated output power at rated voltage.
GAIN CONTROL: Provides reduction in output of 24 db in six steps.
FREQUENCY RESPONSE: 200 to 4000 cps.
NOISE LEVEL: At least 46 db below 70 volts measured at output terminals for one loudspeaker.
REGULATION: Not more than 3 db variation in output voltage between full loudspeaker load and no load.
POWER REQUIREMENTS: 115 v ac, 60 cycles, single ph.
OUTPUT IMPEDANCE: 1.8, 5.3, 12.3, 13.1, 13.3, 325 and 650 ohms.
VARIATION OUTPUT: Is 0 to - 16 db.
GAIN: Is 2800 volts.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency AM-1850A/STC	8-5/16 x 8-3/8 x 9-5/8	24

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2528: I. C. Technical Manual for Sound Powered Telephone Amplifier AM-1850/STC.

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-A-16749D (SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Remler Company	San Francisco, Calif.	P.O. 553-S-31E-86	

14 August 1967

AMPLIFIER, RADIO FREQUENCY AM-2123/U

Cog Service: USN FSN:

Functional Class:

USA

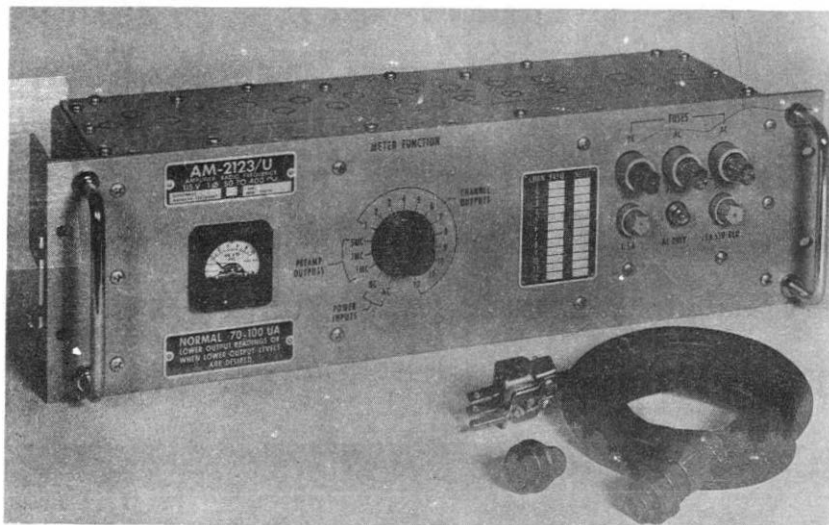
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Montronics Inc., (19429).



AMPLIFIER, RADIO FREQUENCY AM-2123/U

FUNCTIONAL DESCRIPTION:

Amplifier, Radio Frequency, AM-2123/U is a transistorized radio frequency amplifier used for shipboard distribution of standard frequencies. The unit accepts three input frequencies and provides 12 isolated outputs at any one of the three input frequencies in any combination. The unit contains three preamplifiers, one for each frequency, followed by 12 amplifiers. The 12 amplifier channels can serve any of the 3 input frequencies. Each individual amplifier module is designed to operate at one of these frequencies. Frequency service for a given channel is selected by inserting an amplifier module of the desired frequency. The unit is normally supplied with four amplifier modules serving each of the three input frequencies. The unit will operate properly, however, with any number of amplifier modules plugged in. The amplifier allows standard frequencies to be distributed to remote locations for operation of communications equipment, counters, signal generators, and other frequency dependant equipment.

No field changes in effect at time of preparation (3 November 1966).

AMPLIFIER, RADIO FREQUENCY AM-2123/U

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

INPUT CHARACTERISTICS

FREQUENCY: 0.1 mc, 1 mc, and 5 mc.

INPUT VOLTAGE LEVEL: 0.5 to 5 v.

IMPEDANCE: Greater than 50 ohms on each channel w/any number of amplifier assemblies connected.

OUTPUT CHARACTERISTICS

VOLTAGE LEVEL: 4 to 5 vrms across any load from 50 ohms to 1 megohm.

BANDWIDTH: Less than 2% of input frequency for 3 db down, and 10% for 30 db down.

DISTORTION: 80 db below signal level, except harmonics which are greater than 60 db down.

ISOLATION: The signal at any output is changed by less than 1% by a short in any other output.

POWER REQUIREMENTS: 115 v ac, single ph, 50 to 400 cps, 0.5 amp, or 22 to 30 v dc.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Radio Frequency, AM-2123/U	5-1/4 x 8-1/2 x 19	16

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-136-1010: Technical Manual for Amplifier, Radio Frequency, AM-2123/U.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.85	21

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, NavShips

SPEC &/OR DWG:

CONTRACTOR

LOCATION

**CONTRACT OR
ORDER NO.**

**APPROX.
UNIT COST**

Montronics inc.

Seattle, Wash.

N600(24-126)63567

14 July 1964

Cog Service: USN FSN:

AMPLIFIER, AUDIO FREQUENCY AM-2210B/WTC

Functional Class:

USA

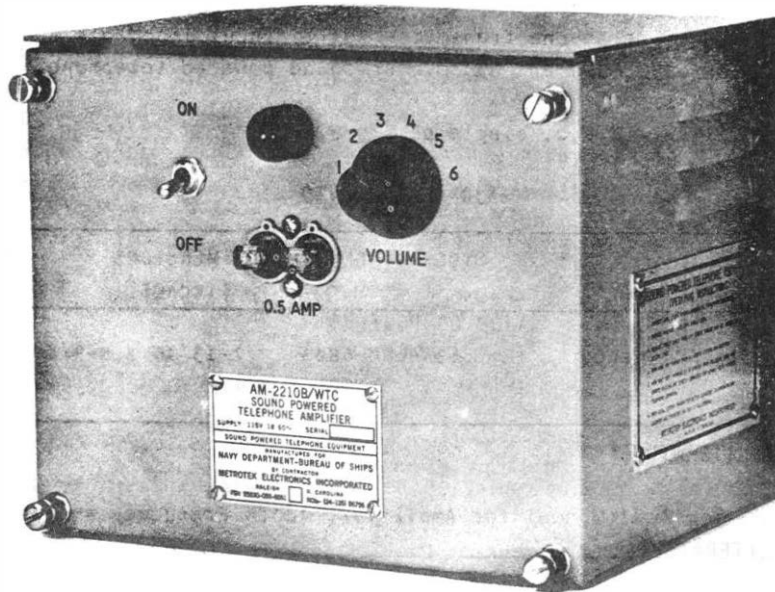
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Metrotek Electronics Inc., (16145).



AMPLIFIER, AUDIO FREQUENCY AM-2210B/WTC

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency AM-2210B/WTC is designed to provide a means of amplifying one-way communications in a two-way communication system using sound powered telephone sets. The equipment is designed to reproduce voice signals at such a level that the message will be clear and understandable through high noise levels such as exist at gun positions or machinery spaces.

No field changes in effect at time of preparation (1 July 1964).

RELATION TO OTHER EQUIPMENT:

AM-22108/WTC AMPLIFIER, AUDIO FREQUENCY

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1 to 6) Sound Powered Telephone Sets; (1 to 2) Loudspeaker.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: Usable from 200 to 4000 cps with sound Powered Telephone System; response curve compensates for sharply peaked characteristics of telephone headset transmitter units.

POWER OUTPUT: 7.5 W at 1000 cps with input of 25 ± 2 mv; output may be reduced by 25 db in five equal steps.

INPUT: From sound powered telephone transmitter unit; input impedance 800 ± 200 ohms.

OUTPUT CHARACTERISTICS: 832, 525 and 331 mv for sound powered telephone headsets; 70.7 and 49.0 v for loudspeakers.

POWER REQUIREMENTS: 115 v, 60 cyc, single ph, 30 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency AM-22108/WTC	S5830-088-6861	7-13/16 x 8-3/4 x 9-11/16	18

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2827: Technical Manual for Amplifier, Audio Frequency AM-22108/WTC.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N277 (2) 1N1124A (1) 1N2984B (5) 2N297A (3) 2N404

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		22

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-A-16749D(SHIPS), Amend 1

AMPLIFIER, AUDIO FREQUENCY AM-2210B/WTC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Metrotek Electronics Inc.	Raleigh, North Carolina	NObs(24-126)86756	\$145.47

UNCLASSIFIED

NAVSHIPS 93400

ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION	ITEM NAME
AM-2210C/WTC	Audio Frequency Amplifier

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AM-2210C/WTC provides amplification for one-way communication in a two-way, sound-powered, telephone communications system using sound-powered telephone headsets. The unit will drive one or two loudspeakers and from one to six sound-powered telephones. It is two-way interchangeable with previous version of the series excepting for different manufacturer's and maintenance parts.

Impedance: 800 \pm 200 ohms input, 600 ohms low level, 650 ohms high level, and 325 ohms output.

No unit cost available.

Source of information: Request for Nomenclature.

24

CLASSIFICATION UNCLASSIFIED

4/1/64

CHANGE 72 - 665D

1.2 AM-2210C/WTC: 2

B-17878

3

18 September 1967
Cog Service: USN

FSM:

AMPLIFIER, AUDIO FREQUENCY AM-2316C/S1A
Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Dynalec Corp. (12763)



FIGURE 1-6, POWER RACK (FRONT)

AMPLIFIER, AUDIO FREQUENCY AM-2316C/S1A

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency AM-2316C/S1A is used to amplify alarm and voice signals from the AN/S1A-117A and for the AN/S1A-118A and to transmit these signals to loudspeakers aboard ship.

No field changes in effect at time of preparation (March 24, 1967).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 vac, 60 cps, 1 ph, 2400 w.

1.2 AM-2316C/S1A: 1

14 July 1964

Cog Service: USN FSN:

AMPLIFIER, AUDIO FREQUENCY AM-2317/SIC

Functional Class:

USA

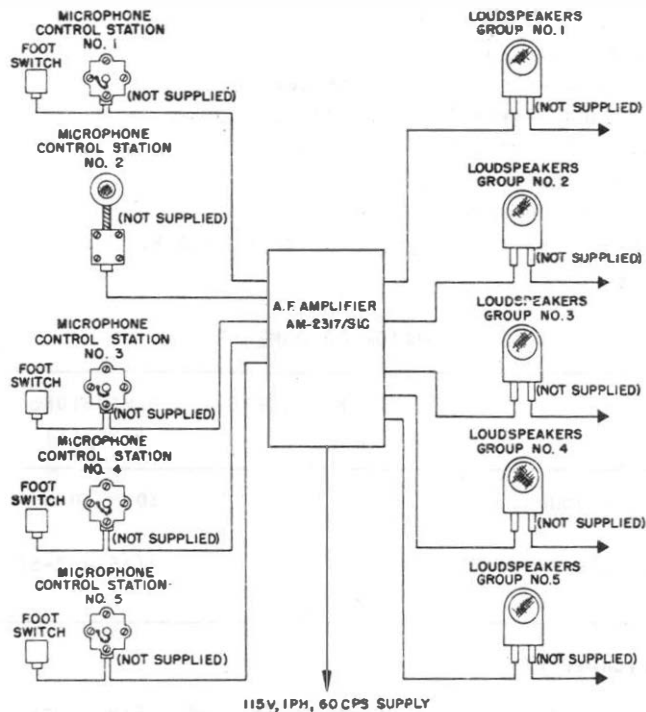
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Remler Company Ltd., (77748).



AMPLIFIER, AUDIO FREQUENCY AM-2317/SIC

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency AM-2317/SIC consists of a centrally located cabinet, which houses two 20 W audio amplifiers and switching facilities for selection of microphone stations, loudspeakers and test operations. Voice signals from any of five microphone stations located thru out the ship are routed to the AM-2317/SIC for amplification and transmission to the loudspeaker system. Test facilities are included for checking operation of the system, and special arrangements permit parts of the system to be isolated for test or repair.

No field changes in effect at time of preparation (1 July 1964).

RELATION TO OTHER EQUIPMENT:

AM-2317/SIC AMPLIFIER, AUDIO FREQUENCY

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(As reqd) Loudspeaker LS-305/SIC, LS-306/SIC, LS-387/SIC, or LS-388/SIC.

TECHNICAL CHARACTERISTICS:

NUMBER OF SELECTIVE ANNOUNCING CIRCUITS: 5.
INPUT IMPEDANCE: 150 ohms at 1000 cps.
INPUT VOLTAGE (SIGNAL): 8.7 mv for 150 ohms.
NUMBER OF OUTPUT CHANNELS AVAILABLE: 2.
OUTPUT IMPEDANCE (EACH CHANNEL): 245 ohms at 1000 cps.
OUTPUT VOLTAGE (SIGNAL EACH CHANNEL): 70 v for 245 ohms.
OUTPUT POWER (EACH CHANNEL): 20 w for 245 ohms.
NUMBER OF SELECTIVE OUTPUT GROUPS: 5
FREQUENCY RESPONSE: 200 to 8000 cps.
POWER REQUIREMENTS: 115 v, 50 to 60 cyc, single ph, 120 W.
HEAT DISSIPATION: 80 w.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency AM-2317/SIC		10 x 10 x 20	62
2	Technical Manuals NAVSHIPS 365-2647		3/16 x 8-5/8 x 11-1/4	0.5

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2647: Technical Manual for Amplifier, Audio Frequency AM-2317/SIC.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N253 (3) 1N270 (1) 1N457 (2) 1N53B (1) 1N759A (1) 1N1819A
(2) 2N174 (4) 2N331 (1) 2N539 (1) 2N1039

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-A-20222(SHIPS)

DESIGN COG: USN, BuShips

1.2 AM-2317/SIC: 2

AMPLIFIER, AUDIO FREQUENCY AN-2317/SIC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Remler Company Ltd.	San Francisco, California	NObs-76687 NObs-76797	\$2,873.14

8 July 1965

AMPLIFIER RADIO FREQUENCY AM-2643/UR

Cog Service: USN FSN:

Functional Class:

USA

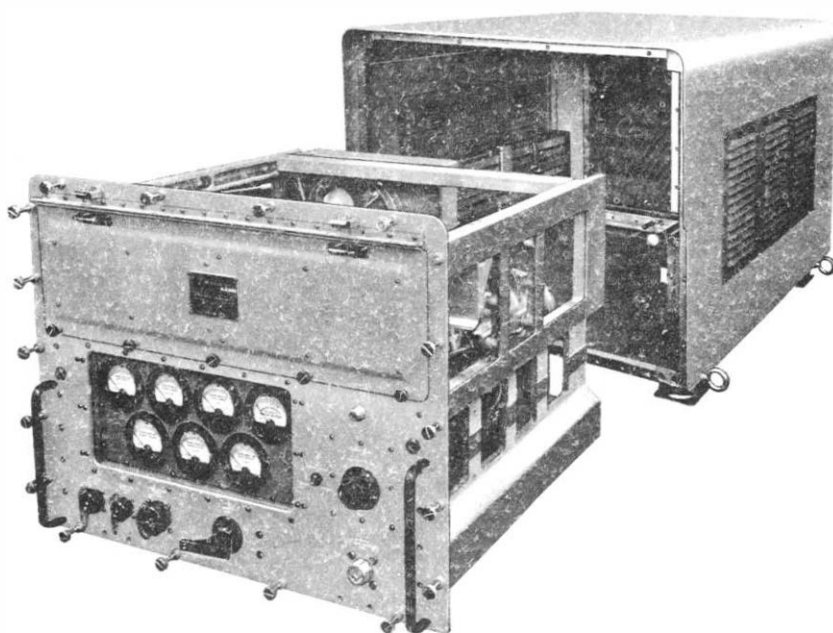
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Babcock Electronics Corp., (82050).



AMPLIFIER RADIO FREQUENCY AM-2643/UR

FUNCTIONAL DESCRIPTION:

Amplifier Radio Frequency AM-2643/UR functions as a cavity-tuned, class C radio-frequency amplifier. Transmitting Set, Radio AN/URW-14A is normally used to drive the AM-2643/UR. The front panel of the amplifier contains seven meters for monitoring currents and voltages while the amplifier is in operation.

No field changes in effect at time of preparation (27 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Test Harness, Transmitting Set AN/URM-111A.

AMPLIFIER RADIO FREQUENCY AM-2643/UR

TECHNICAL CHARACTERISTICS:

RF FREQUENCY RANGE: 406 to 549.5 mc (operating freq) determined by driving transmitter.
RF INPUT CHARACTERISTICS: 75 to 100 w, may be frequency-modulated up to ± 300 kc deviation.

INPUT IMPEDANCE: 50 ohms.

OUTPUT CHARACTERISTICS

FREQUENCY: Same as driving transmitter.

FREQUENCY MODULATION: Same as driving transmitter.

POWER: 1000 W nom.

IMPEDANCE: 50 ohms.

INPUT POWER

HIGH VOLTAGE: 2500 v dc; 115 v ac, 102 to 126 v, 55 to 65 cyc, 1 ph; 230 v ac, 204 to 252 v, 55 to 65 cyc, 3 ph.

BIAS VOLTAGE: - 30 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Radio Frequency AM-2643/UR includes:		24-3/8 x 31-1/2 x 34-1/8	505
1	Case Amplifier CY-2921/UR			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30URA35-1: Handbook of operation and Service Instructions with Illustrated Parts Breakdown for Power Supply Set AN/URA-35 and Amplifier Radio Frequency AM-2643/UR with Case, Amplifier CY-2921/UR.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 7213

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 1N53B (20) M-500 (1) HMP-1A

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

AMPLIFIER RADIO FREQUENCY AM-2643/UR

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Electronics Corp.	Costa Mesa, Calif.	NOas-60-6083C	

6 July 1965
Cog Service: USN

FSN:

AMPLIFIER, FREQUENCY MULTIPLIER AM-3017/SR
Functional Class:

USA

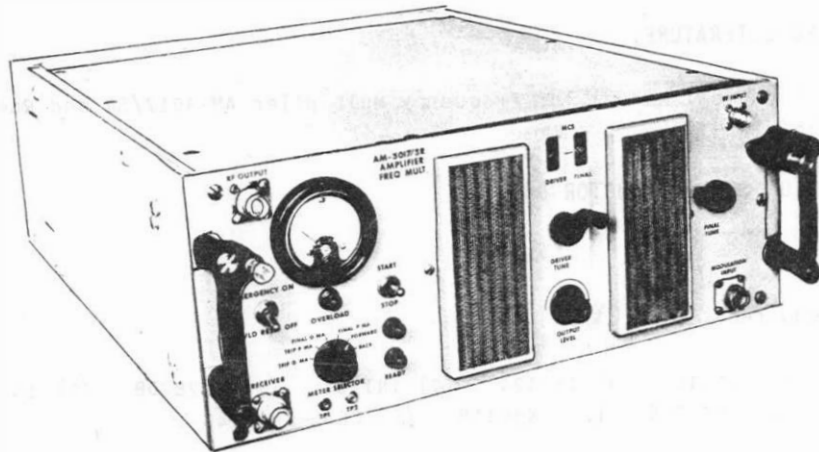
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Manson Laboratories Inc., (93279).



AMPLIFIER, FREQUENCY MULTIPLIER AM-3017/SR

FUNCTIONAL DESCRIPTION:

Amplifier, Frequency Multiplier AM-3017/SR accepts an RF signal over the range of 75 to 133 mc, amplifies this signal and a frequency multiplier circuit triples the input frequency. The tripled RF signal is then further amplified so that the amplifier output level is 10 watts. This output is applied directly to an antenna or used to provide driving energy for a higher power level amplifier or transmitter. The amplifier can be modulated by means of external modulation equipment. For AM modulation the power output stage plate and screen grid voltages are controlled by the external modulator. For FM operation the input signal consists of the low level FM signal.

No field changes in effect at time of preparation (25 May 1965).

RELATION TO OTHER EQUIPMENT:

The AM-3017/SR and the AM-3017(XN-1)/SR are basically the same except the AM-3017/SR has two tuning controls, two broadband amplifiers slide mechanism release located on front panel and improved cable retractor.

AMPLIFIER, FREQUENCY MULTIPLIER AM-3017/SR

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Mounting (Antivibration Fixture); (8) Outer Chassis Mtg Brackets.

TECHNICAL CHARACTERISTICS:

INPUT FREQUENCY: 75 to 133 mc.
OUTPUT FREQUENCY: 225 to 400 mc.
OUTPUT LEVEL: 10 W modulated or unmodulated.
OUTPUT IMPEDANCE: 50 ohms.
POWER REQUIREMENTS: 115 v, 60 cps, 1 ph.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Frequency Multiplier AM-3017/SR		7 x 17-1/2 x 22	120

REFERENCE DATA AND LITERATURE:

NAVSHIPS 95868: Technical Manual for Frequency Multiplier AM-3017/SR and Radio Transmitter Modulator MD-556/SRC-17.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (4) 6816

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1N21B (4) 1N1124 (1) 1N1251 (1) 1N2820B (1) 1N2974B
(2) 1N3005B (2) 1N3011B (4) CCAB-TM-124C

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: SHIPS-U-4001

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Manson Laboratories Inc.	Wilton, Conn.	N0bsr-87289	

14 July 1964

Cog Service: USN FSN:

AMPLIFIER ASSEMBLY AM-3051/WIH

Functional Class:

USA

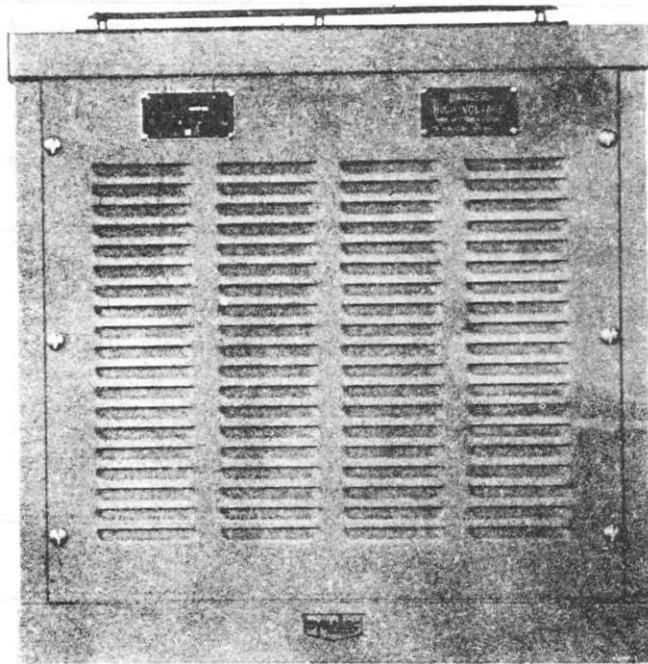
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Dynalac Corporation, (12763).



AMPLIFIER ASSEMBLY AM-3051/WIH

FUNCTIONAL DESCRIPTION:

Amplifier Assembly AM-3051/WIH provides voltage and power amplification for the amplifier control on the Shipboard Audio Entertainment System. It is used with Recorder-Reproducer Control C-3766/WIH.

No field changes in effect at time of preparation (1 July 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

14 July 1964

Cog Service: USN FSM:

AMPLIFIER ASSEMBLY AM-3051A/WIH

Functional Class:

USA

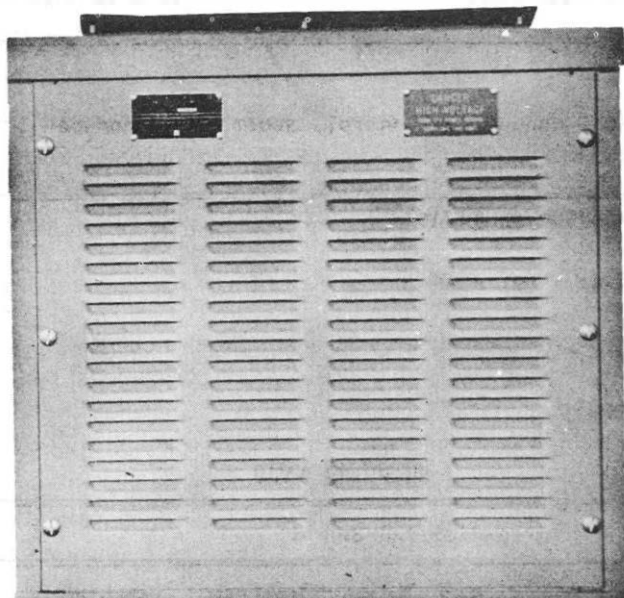
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: U. S. Recording Company, (81798).



AMPLIFIER ASSEMBLY AM-3051A/WIH

FUNCTIONAL DESCRIPTION:

Amplifier Assembly AM-3051A/WIH provides voltage and power amplification for the amplifier control on the shipboard Audio Entertainment System. It is used with Recorder-Reproducer Control C-3766A/WIH.

No field changes in effect at time of preparation (1 July 1964).

RELATION TO OTHER EQUIPMENT:

This equipment is interchangeable with Amplifier Assembly AM-3051/WIH except for maintenance parts.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AM-3051A/WIH AMPLIFIER ASSEMBLY

TECHNICAL CHARACTERISTICS:

OUTPUT: 50 W at 70 v to a 100 ohm load.
POWER REQUIREMENTS: 115 v, 60 cyc, single ph, 100 w.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Assembly AM-3051A/WIH		11 x 20 x 20-3/8	

REFERENCE DATA AND LITERATURE:

NAVSH:PS 365-2847: Technical Manual for Control, Recorder-Reproducer C-3766A/WIH and Amplifier Assembly AM-3051A/WIH.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5R4GY (1) 6BA8A (2) 6550

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N1693

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-A-17053D(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
U. S. Recording Company,	Washington, D. C.	NObs(24-126)-88340	\$596.35

14 July 1964

Cog Service: USN FSN:

AMPLIFIER, AUDIO FREQUENCY AM-3457/SIC

Functional Class:

USA

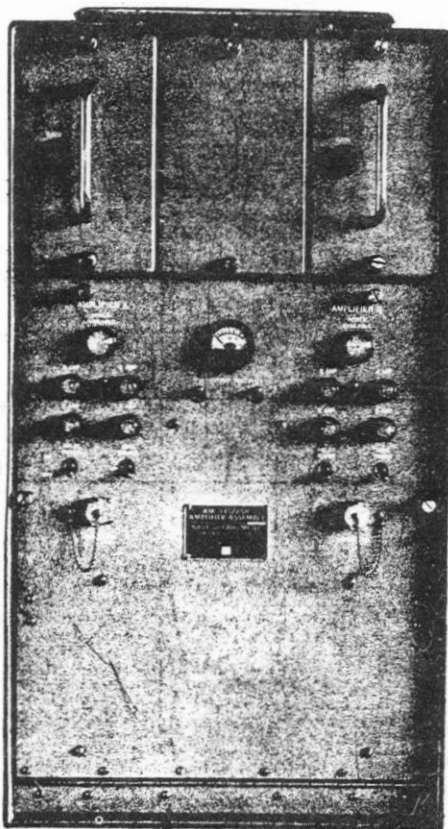
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Remler Company Ltd., (77748).



AMPLIFIER, AUDIO FREQUENCY AM-3457/SIC

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency AM-3457/SIC is designed to make possible a two-way communication system for disseminating information from one area aboard ship to another.

Two independent systems are provided by the Amplifier, Audio Frequency together with an "Audio Break-in" or emergency override by the Speaker-Talk stations. These features allow a Speaker-Talk station to voice contact the remote control unit at any time.

Up to thirty Speaker-Talk stations, each with an associated explosion-proof loudspeaker, and two "Thirty Station Selection" Remote Control Unit operate in conjunction with the A.F. Amplifier AM-3457/SIC.

No field changes in effect at time of preparation (14 May 1964).

RELATION TO OTHER EQUIPMENT:

1.2 AM-3457/SIC:

AM-3457/SIC AMPLIFIER, AUDIO FREQUENCY

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(3) Remote Control Station C-4275/SIC; (40) Loudspeaker Explosion-Proof; (40) Speaker-Talk Station.

TECHNICAL CHARACTERISTICS:

NUMBER OF SELECTIVE TALK-BACK CIRCUITS: 30 ea channel.
INPUT IMPEDANCE (AMPLIFIER): 150 ohms @ 1000 cps.
INPUT VOLTAGE (SIGNAL) (AMPLIFIER): 8.7 MV/150 ohms.
NUMBER OF OUTPUT CHANNELS AVAILABLE: Two (2).
OUTPUT IMPEDANCE (EACH CHANNEL): 245 ohms @ 1000 cps.
OUTPUT VOLTAGE (SIGNAL EACH CHANNEL): 70 v/245 ohms.
OUTPUT POWER (EACH CHANNEL): 20 w/245 ohms.
FREQUENCY RESPONSE: 200 to 8000 cps.
POWER REQUIREMENTS: 115 v, 50 to 60 cps, single ph, 200 w.
HEAT DISSIPATION: 160 w.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Video Frequency AM-3457/SIC includes:			
2	Audio Amplifiers (20 watt) with individual gain controls accessible thru front panel			
4	Power switches for the ampli- fiers and relay supplies			
2	Power available indicating lamps			
1	Output test meter			
2	Output test switches			
2	Relay power supplies			
70	Control relays			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2790: Technical Manual for Amplifier, Audio Frequency AM-3457/SIC.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (8) 1N1346 (1) 1N457 (1) 1N759A (2) 1N538 (3) 1N270 (2) 1N253
(1) 1N1819A (4) 2N331 (2) 2N174 (1) 2N1039

2 AM-3457/SIC: 2

20 September 1967

Cog Service: USN FSN:

AMPLIFIER, AUDIO FREQUENCY AM-3729/SR

Functional Class:

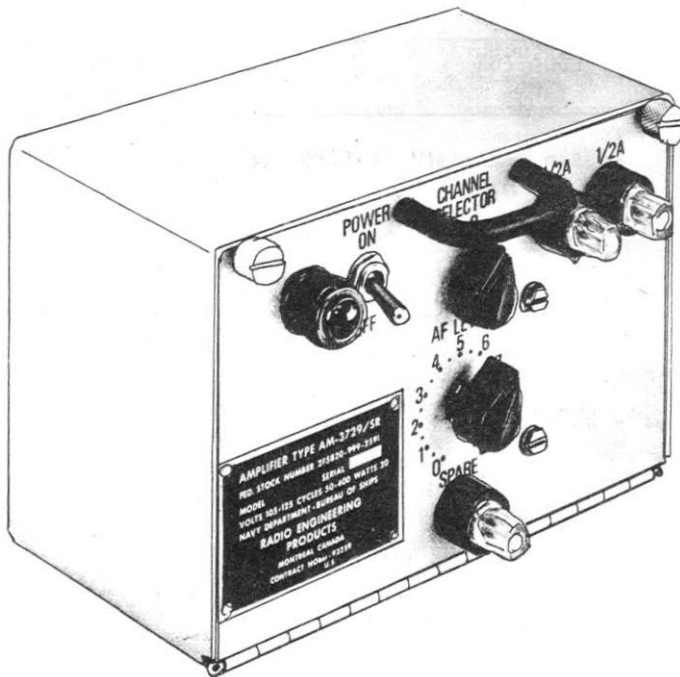
USA

USN

USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Radio Engineering Products, Ltd., (96344).



AMPLIFIER, AUDIO FREQUENCY AM-3729/SR

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency, AM-3729/SR is for general use with Navy Communication receivers, to operate loud speakers. It is a transistorized three-stage amplifier for audio frequencies. It has a push-pull output stage. The amplifier is enclosed in an aluminum cabinet with front panel hinged at the bottom. It includes an input module, a power output module, and a power supply module.

No field changes in effect at time of preparation (Dec. 28, 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1 or 2) Audio Frequency Source, such as Navy Radio Receiver; (1 or more) Loud Speakers, 60 ohm nom impedance.

1.2 AM-3729/SR: 1

AMPLIFIER, AUDIO FREQUENCY AM-3729/SR

TECHNICAL CHARACTERISTICS:

POWER SUPPLY: 105 to 125 vac, 50 to 400 cps, 30 w single ph.
INPUT CHANNELS: 2.
INPUT LEVEL (NOM 600 ohms): 6 mw to 2 w.
FREQUENCY RANGE: 200 to 4000 cps.
OUTPUT LEVEL (NOM 600 OHMS): 10 w max.
LEVEL CONTROL RANGE: 80 db.
PERMISSIBLE VARIATIONS
FREQUENCY RESPONSE: 2 db from 200 to 4000 cps.
OUTPUT LOAD: 2 db max from 300 ohms to 600 ohms.
VOLTAGE: 10%.
FREQUENCY: 5%.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency AM-3729/SR includes:	5-1/2 x 5-7/8 x 8	11.25
2	Technical Manual NavShips 0967-105-8010	8-3/4 x 10-3/4	0.25

REFERENCE DATA AND LITERATURE:

NavShips 0967-105-8010: Technical Manual for Audio Frequency Amplifier AM-3729/SR.

SHIPPING DATA

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

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COS
Radio Engineering Products, Ltd.	Montreal, Canada	N0bsr-93259	

UNCLASSIFIED
ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

NAVSHIPS 93400

DESIGNATION	ITEM NAME
AM-3729()/SR	Audio Frequency Amplifier

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AM-3729()/SR is a general-purpose, transistorized, shipboard audio amplifier. It is functionally similar to Audio Frequency Amplifier AM-215()/U. No loudspeaker is included.

No unit cost available.

Source of information: Request for Nomenclature.

CLASSIFICATION
UNCLASSIFIED

Rev 4/1/64

CHANGE 72 - 687C

1.2 AM-3729()/SR: 2

B-17078

UNCLASSIFIED
ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

NAVSHIPS 93400

DESIGNATION	ITEM NAME
AM-3905/URT	Audio Frequency Amplifier
FUNCTIONAL DESCRIPTION: SKETCH. MFG. DIMENSIONS. ETC.	

The AM-3905/URT is a transistorized, volume compressed, peak clipped, and filtered audio amplifier. It is used with a voice modulated AM or SSB transmitter to provide additional, over-all system efficiency.

The amplification is one mw across 600 ohms with a 50 db voltage gain. An integral loudspeaker is not included. The unit is for general-purpose use. Output impedance is 600 ohms. Each of the four input channels provides 600 ohms impedance, with a squelch circuit, a carbon microphone circuit, and facilities for high and low impedance microphones.

No unit cost available.

Source of information: Request for Nomenclature

47

CLASSIFICATION
UNCLASSIFIED

Rei 4/1/64

CHANGE 71/72 - 687C

1.2 AM-3905/URT: 2

B-17876

26 August 1965

AMPLIFIER, RADIO FREQUENCY AM-3924(XN-1)/URT

Cog Service: USN FSN:

Functional Class:

USA

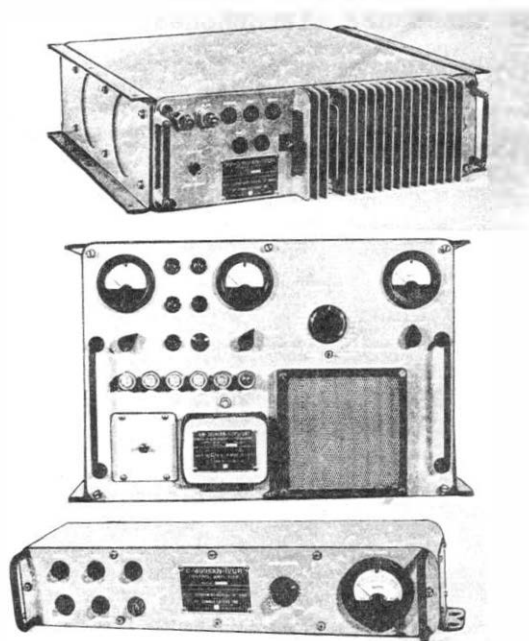
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: R. F. Communications Inc., (14304).



AMPLIFIER, RADIO FREQUENCY AM-3924(XN-1)/URT

FUNCTIONAL DESCRIPTION:

Amplifier, Radio Frequency AM-3924(XN-1)/URT is an automatically tuned radio frequency amplifier. It boosts the signal from a low power transmitter-exciter such as the T-827()/URT to a level sufficient for useful communications. The equipment is primarily for shipboard or ground communications. The AM-3924(XN-1)/URT and its accessories can either be mounted in a standard 19 in. rack or stacked on a shock mount using brackets attached to each unit.

These units are components which, when used with Transmitter-Exciter T-827()/URT comprise Radio Transmitter AN/URT-23(V) system.

Power Supply PP-3916(XN-1)/UR is used to convert 60 cycle power to 400 cycles in order to use the AM-3924(XN-1)/URT in installations where there is no source of 400 cycle power. This unit may also be useful in other general purpose applications as a 60 to 400 cycle frequency converter.

1.2 AM-3924(XN-1)/URT: 1

AMPLIFIER, RADIO FREQUENCY AM-3924(XN-1)/URT

Amplifier Control C-4991(XN-1)/UR is used to allow monitoring of the vital functions and output power control of the AM-3924(XN-1)/URT at a remote location.

No field changes in effect at time of preparation (28 July 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 32 mc in 20 bands.

MODES OF OPERATION: AM, SSB, LSB, FSK, CW.

POWER OUTPUT: 1000 W avg of PEP max into 50 ohm load.

INTERMODULATION DISTORTION: - 45 db.

HARMONIC SUPPRESSION: - 50 db.

LOAD VSWR: 3 to 1 max.

HUM AND NOISE: - 50 db.

OUTPUT IMPEDANCE: 50 ohms, unbalanced.

TUNING TIME: 2 sec max for automatic operation.

HEAT DISSIPATION: 3000 w at full output.

POWER INPUT: 100 mw.

POWER REQUIREMENTS: 115/440 v, 400 cps, 3 ph, 3 wire or 208/440 v, 60 cps, 3 ph, 3 wire (w/PP-3916(XN-1)/URT Power Supply.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Radio Frequency AM-3924(XN-1)/URT includes:		12-1/4 x 17-3/8 x 19	125
1	Power Supply PP-3916 (XN-1)/UR		5-1/4 x 17-3/8 x 19	86
1	Control, Amplifier C-4991 (XN-1)/UR		3-1/2 x 6-3/4 x 17-3/8	5
1	Shockmount		3-7/16 x 16-5/8 x 19-11/16	
2	Technical Manual NAVSHIPS 96026			
1	Set Cable Connectors			
1	Bag Hardware			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 96026: Technical Manual (Service Test Type) for R.F. Amplifier AM-3924(XN-1)/URT and Power Supply PP-3916(XN-1)/URT.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) CBZC-PL-8295A (2) CIM-4CX350A

1.2 AM-3924(XN-1)/URT: 2

AMPLIFIER, RADIO FREQUENCY AM-3924(XN-1)/URT

CRYSTALS: Not required.

SEMI-CONDUCTORS: (6) CCBS-78-4025 (2) 1N3040B (2) 2N398A (12) 1N3673A (35) 2N696
(2) 1N30118 (5) 2N1305 (1) 2N1412 (1) 2N297A (1) 2N491 (22) 1N277
(41) 1N547 (4) 1N914 (49) 1N4005 (1) 1N753A (8) 1N1614

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
R. F. Communications, Inc.	Rochester, N.Y.	N0bsr 89069	

3 August 1967

Cog Service: USN FSN:

AMPLIFIER, AUDIO FREQUENCY AM-4453/U

Functional Class:

USA

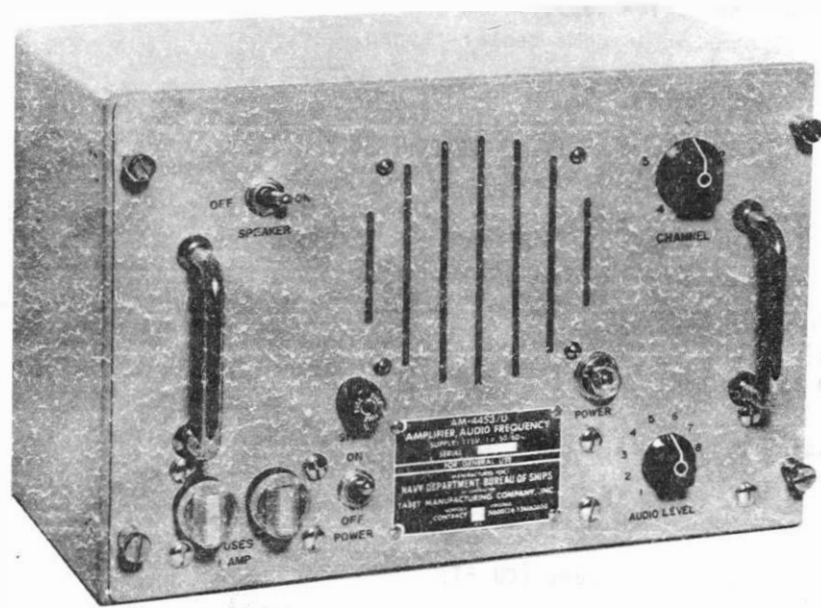
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Tabet Manufacturing Co., Inc., (88829).



AMPLIFIER, AUDIO FREQUENCY AM-4453/U

FUNCTIONAL DESCRIPTION:

Amplifier, Audio Frequency, AM-4453/U is designed for general communication work on ship-board or/and base installations in conjunction with electronic receiving equipment and associated loudspeaker units. Unit eliminates the use of vacuum tubes and cast aluminum housing and provides a two-stage semi-conductor amplifier with push-pull output in a fabricated welded aluminum cabinet. Five audio input signal channels may be applied, any one of which can be selected by means of the five position channel switch located on the front panel. This switch is a removable wafer, printed circuit type having all contacts, rotor section, and load resistors mounted on the removable wafer card. The load resistors provide a 600 ohm load to all channels not in use. Electrical component card is the plug-in type and is removable as a unit. Transistors and directly associated components are mounted on a printed wiring card of the plug-in type which is removable as a unit to facilitate inspection and maintenance.

1.2 AM-4453/U: 1

AMPLIFIER, AUDIO FREQUENCY AM-4453/U

No field changes in effect at time of preparation (Nov.8, 1966).

RELATION TO OTHER EQUIPMENT:

The AM-4453/U is functionally interchangeable with AM-2158/U and AM-215D/U and can replace either of these units.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 110/115/125 v 50/60 cyc, 0.22 amp, 25 W.

POWER OUTPUT: 10 W.

POWER INPUT: 2 W max, 0.001 min, for full power output.

INPUT IMPEDANCE: 600 ohms center-tapped.

OUTPUT IMPEDANCE: 600 ohms or 16 ohms center-tapped.

FREQUENCY RANGE: 200 to 4000 cps ± 3 db.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency, AM-4453/U	7-15/16 x 8-1/4 x 12-1/4	22.50

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0965-008-4000: Technical Manual for Audio Frequency Amplifier.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.71	24

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, NavShips

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Tabet Manufacturing Co., Inc.	Norfolk, Va.	N600(24-126)63650	

20 September 1967

Cog Service: USN FSN:

AMPLIFIER RADIO FREQUENCY AM-4495/GR

Functional Class:

USA

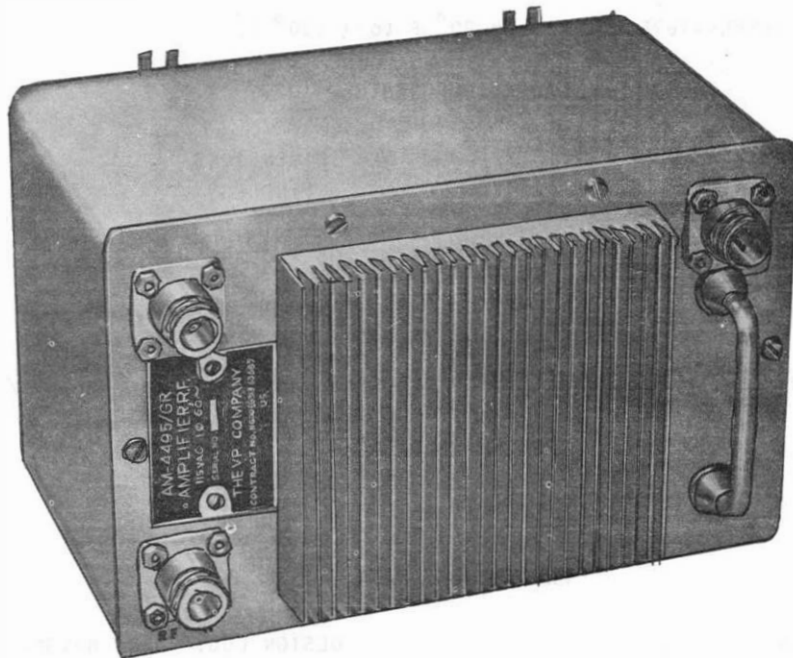
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: The V.P. Company, (21246).



AMPLIFIER RADIO FREQUENCY AM-4495/GR

FUNCTIONAL DESCRIPTION:

The Amplifier Radio Frequency AM-4495/GR is a wide-band low-noise amplifier for use between an antenna and a receiver to amplify all received signals within the frequency range of 225 to 400 megacycles per second, with gain of 16 decibels or more, without operating adjustments. The amplifier is capable of continuous operation between the temperature limits of minus 30 degrees "F" to plus 130 degrees "F", plus the direct rays of the sun. The amplifier is designed to operate from a primary source of $115 \pm 10\%$ v ac, $60 \pm 5\%$ cycles, single phase power.

The RF amplifier is designed for installation within a few feet of the receiving antenna, to increase the sensitivity of the receiving system by amplifying the signals to compensate for losses in long radio frequency transmission lines. The amplifier is a conventional 3-stage configuration with three tuned circuits.

No field changes in effect at time of preparation (1st March 1967).

1.2 AM-4495/GR: 1

AMPLIFIER RADIO FREQUENCY AM-4495/GR

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 ± 10% v ac, 60 ± 5% cycles, single-phase, 1 ampere.

FREQUENCY RANGE: 225 to 400 mc.

INPUT IMPEDANCE: 50 ohms.

OUTPUT IMPEDANCE: 50 ohms.

GAIN: 16 db.

OPERATING AND STORAGE TEMPERATURE LIMITS: - 30° F to + 130° F.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Radio-Frequency AM-4495/GR	5 x 6 x 8	8

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-075-5000: Technical Manual for Radio-Frequency Amplifier AM-4495/GR.

SHIPPING DATA

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

PROCURING SERVICE: USN
DESIGN COG: USN, NavShips

SPEC &/OR DWG: SPEC: TR-460-19

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The V.P. Company Pt. No. VP600-100-5	Pasadena, Calif.	N600(63133) 63685	

14 July 1964

Cog Service: USN FSN:

INTERCOMMUNICATION SET AN/AIC-14

Functional Class:

USA

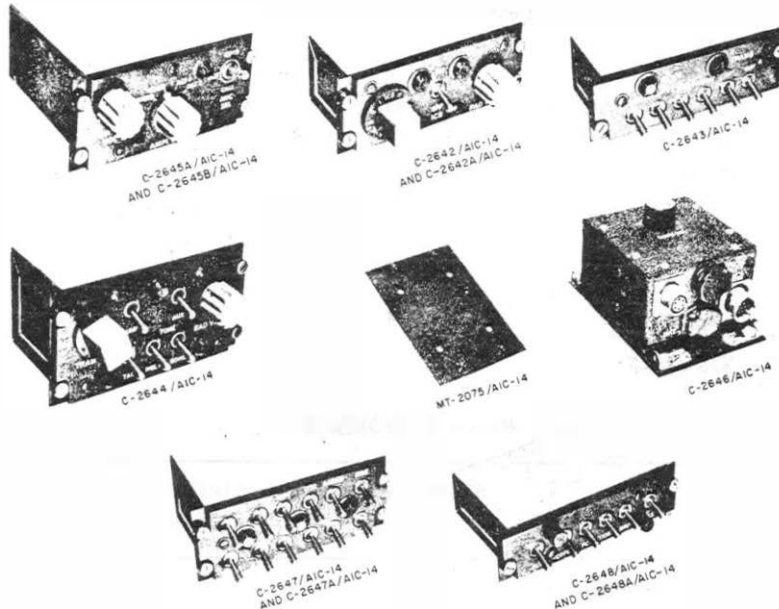
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Telephonics Corporation, (78711).



INTERCOMMUNICATION SET AN/AIC-14

FUNCTIONAL DESCRIPTION:

Intercommunication Set AN/AIC-14 is an intra-aircraft communications system which also integrates the audio facilities of the airborne communications and electronic equipment. The design characteristics of the AN/AIC-14 have been established by the practical requirements of aircraft operating personnel as well as the technical requirements of complex airborne electronic equipment. The over-all design of the AN/AIC-14 is based on modular construction and provides a high degree of versatility. This flexibility enables the system to be adapted to a wide variety of aircraft or other installations requiring an intercommunication facility.

No field changes in effect at time of preparation (1 July 1964).

RELATION TO OTHER EQUIPMENT:

AN/AIC-14 INTERCOMMUNICATION SET

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Interconnecting Box J-1013/AIC; (1) Microphone M-3A/A, M-92/U, M-94/A or M-96/A; (1) Earphones H-3/ARR-3, H-87B/U or H-173/AIC.

TECHNICAL CHARACTERISTICS:

INPUT IMPEDANCE

RECEIVER: 600 ohms.
INTERPHONE: 600 ohms.
SPLIT: 1.200 ohms.
MICROPHONE: 100 ohms.
AUXILIARY: 600 ohms.

AN/AIC-14 SUPPLIES THE FOLLOWING OUTPUT IMPEDANCE

HEADSET: 300 ohms.
INTERPHONE: 600 ohms.
SPLIT: 300 ohms.
MICROPHONE: 100 ohms.

DC INPUTS

VOLTAGE: 27 v.
FREQUENCY RESPONSE: 300 to 6,000 cps.

POWER REQUIREMENTS: 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Intercommunication Set AN/AIC-14 includes:			
1	Control, Interphone C-2645A/AIC-14 or C-2645B/AIC-14		2-5/8 x 5-3/4 x 6-3/16	2.50
1	Control, Interphone C-2642/AIC-14 or C-2642A/AIC-14		2-1/4 x 4-1/8 x 5-3/4	1.12
1	Control, Interphone C-2643/AIC-14		1-7/8 x 3-1/2 x 5-3/4	0.87
1	Control, Interphone C-2644/AIC-14		3 x 4-7/8 x 5-3/4	2.00
1	Control, Interphone C-2646/AIC-14		3-1/16 x 4 x 4-15/16	1.18
1	Control, Interphone C-2647/AIC-14 or C-2647A/AIC-14		2-1/4 x 4-13/32 x 5-3/4	1.50
1	Control, Interphone C-2648/AIC-14 or C-2648A/AIC-14		1-1/2 x 4-7/16 x 5-3/4	0.93
1	Mounting Plate MT-2075/AIC-14		5/16 x 3-1/2 x 4-15/16	0.12

1.2 AN/AIC-14: 2

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30AIC14-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Intercommunication Set AN/AIC-14.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (3) 1N645 (1) 1N1614 (3) 2N465 (3) 2N539A

SHIPPING DATA

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

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-I-22352A (Wep)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Telephonics Corporation	Huntington, New York	N0as 59-0236 N0as 60-0246 Now 60-0683	
Dare Incorporated	Troy, Ohio	N600 (19)-56440	

26 August 1965

RADIO SET AN/ARC-18

Cog Service: USN FSM:

Functional Class:

USA

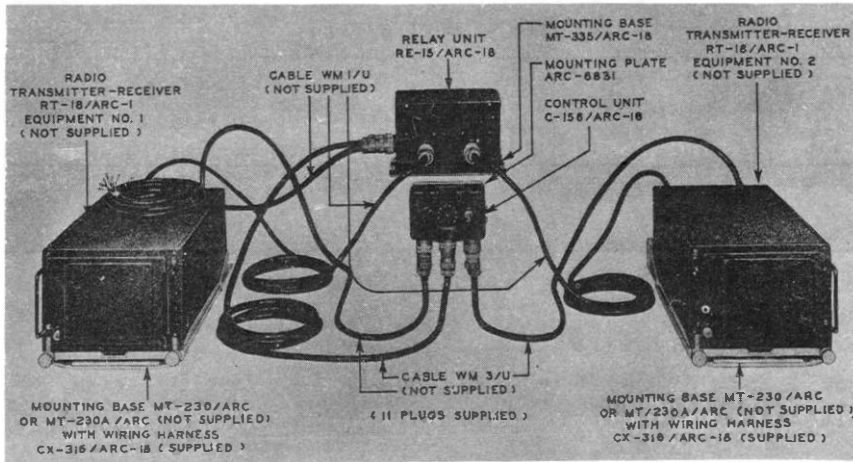
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Western Electric Co., Inc., (64959).



RADIO SET AN/ARC-18

FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-18 enables an aircraft to serve as a relay point for extending the range of two-way VHF radio communication with modulated signals, for example, between a ground station or ship and a second aircraft in flight. By this method the equipment is capable of extending constant VHF communication far beyond the ordinary horizon limitations. Normally, a modulated radio signal received from either terminal station of the radio circuit is retransmitted automatically to the other terminal station.

Each of the two Radio Transmitter-Receivers in the aircraft with the AN/ARC-18 Equipment is able to send and to receive on any one of ten pre-selected frequencies. A pair of frequencies, consisting of one frequency for transmitting and receiving on one transmitter-receiver and a second frequency for receiving and transmitting on the second transmitter-receiver, is assigned to each of the ten positions of the channel switch of Control Unit C-156/ARC-18. Accordingly, when the channel switch of the control unit is set for reception

RADIO SET AN/ARC-18

on any particular frequency, this position of the switch determines also the frequency on which the other transmitter-receiver will retransmit the incoming signal. A certain minimum separation between the receiving frequency and the transmitting frequency assigned to any given channel is required to avoid interference.

No field changes in effect at time of preparation (2 August 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(2) Transmitter-Receiver RT-18/ARC-1, (2) Mounting Base MT-100/ARC-1, MT-230/ARC, or MT-230A/ARC, (2) Antenna AT-8/AR, AN-104AX, or equivalent, (2) Transmission Line (Antenna) RG-8/U w/NT-49195 connector, (1) Headset H-1/AR or equivalent, (1) Microphone NAF 1124-17 or equivalent, (1) Junction Box J-17A/ARC-5 or equivalent, (3) Cables WM-3/U, (3) Cables WM-1/U, (7) Terminal Lugs.

TECHNICAL CHARACTERISTICS:

SYSTEM PERFORMANCE CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.

NUMBER OF PRESET FREQUENCY COMBINATIONS: 10.

POWER SUPPLY: 12 cell aircraft battery and engine-driven direct current generator.

POWER DRAIN

STANDBY: 15 amp.

TRANSMITTING: 18 amp.

CHANNEL SWITCHING INTERVAL-STANDBY: 25 amp.

CHANNEL SWITCHING INTERVAL-TRANSMITTING: 28 amp.

FREQUENCY STABILITY: 0.025%, (- 40° C to + 50° C).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-18 includes:			
1	Control Unit C-156/ARC-18		3-5/16 x 5-5/8 x 6-3/4	1.9
1	Mounting Plate ARC-6831		11/32 x 5-5/8 x 6-1/2	0.3
1	Relay Unit RE-15/ARC-18		5/16 x 7-1/8 x 10-1/2	5.5
1	Mounting Plate MT-335/ARC-18		11/32 x 6-1/4 x 10-3/8	0.5
2	Wiring Harness CX-316/ARC-18			
1	Plug w/Cable Clamp AN-3106-20-16S			
2	Plug w/Cable Clamp AN-3106-20-1S			
3	Plug w/Cable Clamp AN-3106-20-1P			
1	Plug w/Cable Clamp AN-3106-20-1S Pos.4			
3	Plug w/Cable Clamp AN-3106-20-16P			

1.7 AN/ARC-18: 2

RADIO SET AN/ARC-18

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Plug w/Cable Clamp AN-3106-20-16S Pos. # (all cable clamps are type AN-3057-12)			
1	Set of Operating Spare Parts			
1	Set of Bulk Spare Parts			

NOTE - TRANSMITTER - RECEIVER RT-18/ARC-1 is p/o AN/ARC-18 but not supplied.

REFERENCE DATA AND LITERATURE:

AN16-30ARC18-4: Handbook of Maintenance Instructions for Model AN/ARC-18 Aircraft Radio Equipment.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 12SL7GT

Tube, Crystal and Semi-Conductor Device Complement not given for RT-18/ARC-1 as item is not supplied with equipment.

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Western Electric Co., Inc.	New York, N. Y.	NXsa 85012	

20 April 1965

Cog Service: USN FSN:

RADIO SET AN/ARC-51

Functional Class:

USA

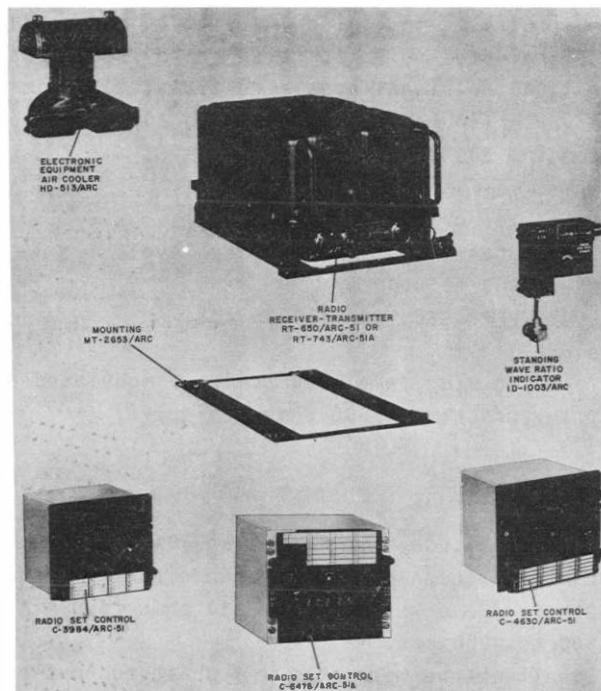
USN

USAF

TYPE CLASS:

Used by

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



RADIO SET AN/ARC-51

FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-51 is to provide two way amplitude modulated double sideband, full carrier, radio telephone communication between aircraft in flight, aircraft and shore, and aircraft and ship.

No field changes in effect at time of preparation (4 December 1964).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Primary dc power supply; (1) Primary ac power supply; (1) Antenna; (1) Headset; (1) Microphone NAF213264-6; (1) Interconnecting Cables and Connectors.

1.7 AN/ARC-51: 1

RADIO SET AN/ARC-51

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225.0 to 399.9 mc.
 FREQUENCY CHANNELS: 1750.
 PRESET CHANNELS: 19 (including guard).
 POWER REQUIREMENTS

SOURCE	MAXIMUM LOAD
115 v, 400 cyc	220 v/amp
3 ph, 4 wire	
27 v dc	170 w

RECEIVER SECTION

SENSITIVITY: An RF input of 4 uv modulated 30% at 1000 cps produces an audio output of 14 mw min, and the signal-plus-noise to noise ratio is at least 10 db.
 AVC CHARACTERISTICS: A 1000 uv signal modulated 30% at 1000 cps produces an audio pwr output of 100 mw; a variation in input from 10 to 100,000 uv produces an audio output of + 1 or - 3 db from the 100 mw reference.
 INPUT IMPEDANCE: 50 ohms.
 OUTPUT IMPEDANCE (AUDIO): 150 ohms, resistive.
 HARMONIC DISTORTION: Less than 10% at the 1000 uv level.
 AUDIO FREQUENCY RESPONSE: 300 to 400 cps.
 AUXILIARY AUDIO FREQUENCY RESPONSE: 70 to 7000 cps.
 NOISE LIMITING: 35 to 65%.
 AUXILIARY AUDIO OUTPUT: 0.25-v dc, w/a 1000 uv input modulated 30% at 1000 cps.
 AUXILIARY AUDIO OUTPUT IMPEDANCE: 20,000 ohms resistive.

TRANSMITTER SECTION

POWER OUTPUT: 20 w avg.
 OUTPUT IMPEDANCE: 50 ohms.
 MODULATION CAPABILITIES: Amplitude, not less than 80% w/a 1000 cps signal at 1 v (open circuit) for carbon microphones and 0.8 v (open circuit) for dynamic microphone.
 MICROPHONE INPUT IMPEDANCE: 82 ohms (carbon), 150 ohms (dynamic).
 FREQUENCY RESPONSE: 300 to 4000 cps.
 MODULATION FIDELITY: Shall not be more than ± 3 db throughout the freq range of 300 to 4000 cps relative to the output obtained at the 1000 cps reference level w/a signal input 3 db below the clipping level.
 SIDETONE: Not less than 14 mw into a 150 ohm load when carrier is 30% modulated at 1000 cps.
 CHANNEL SELECTION TIME: 6.0 seconds max.
 TRANSMIT-RECEIVE TIME INTERVAL: 100 ms max.
 FREQUENCIES: 2.9 to 3.8 mc; 17.1 to 26.1 mc; 20.9 to 29.9 mc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-51 includes:			
1	Radio Receiver Transmitter RT-650/ARC-51		6-15/16 x 9-1/2 x 16-51/64	27.7
1	Electronic Equipment Air Cooler HD-513/ARC		2-19/64	1.0

1.7 AN/ARC-51: 2

RADIO SET AN/ARC-51

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Standing Wave Ratio Indicator ID-1003/ARC		1-3/8 x 2-9/16 x 3-1/2	1.0
1	Mounting MT-2653/ARC		1 x 9-1/2 x 14-1/4	0.4
1	Radio Set Control C-3984/ARC-51		4-7/8 x 5-3/4 x 5-3/4	3.0
1	Radio Set Control C-4630/ARC-51		4-7/8 x 5-3/4 x 5-3/4	4.4
1	Tool Kit NAVWEPS 16-30 ARC 51-2			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARC51-1: Handbook Operation Instructions Radio Sets, AN/ARC-51 and AN/ARC-51A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 6205 (1) 6299 (4) 7554 (2) 7077 (1) 6442 (1) 6884

CRYSTALS: (1) 2.9 mc (1) 20.1 mc (1) 83.33 mc (1) 3.0 mc (1) 21.1 mc (1) 86.66 mc
 (1) 3.1 mc (1) 22.1 mc (2) 90.00 mc (1) 3.2 mc (1) 23.1 mc (1) 72.50 mc
 (1) 3.3 mc (1) 24.1 mc (1) 75.00 mc (1) 3.4 mc (1) 25.1 mc (1) 77.50 mc
 (1) 3.5 mc (1) 26.1 mc (1) 82.50 mc (1) 3.6 mc (1) 66.66 mc (1) 85.00 mc
 (1) 3.7 mc (2) 70.00 mc (1) 87.50 mc (1) 3.8 mc (1) 73.33 mc (1) 92.50 mc
 (1) 17.1 mc (1) 76.66 mc (1) 111.225 mc (1) 18.1 mc (2) 80.00 mc
 (1) 19.1 mc

SEMI-CONDUCTORS: (2) 1N82A (1) 2N158 (4) 1N251 (2) 2N174 (10) 1N457 (1) 2N251
 (3) 1N645 (4) 2N328A (6) 1N649 (1) 2N329A (4) 1N753A (4) 2N338
 (2) 1N816 (3) 2N335 (1) 1N1825 (5) 2N697 (1) 1N2039 (2) 2N706
 (1) 1N3024B (1) 2N514B (2) 1N29708 (1) 2N716 (4) 2N917 (5) 3N35
 (1) 69-1020/1026.3 (1) 2N1021 (1) 3N45

SHIPPING DATA

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

PROCURING SERVICE: USN
 SPEC &/OR DWG: MIL-R-22659

DESIGN COG: USN, Buweps

63

RADIO SET AN/ARC-51

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOW 61-0805 NOW 64-0252f	

19 April 1965

RADIO SET AN/ARC-51A

Cog Service: USN FSM:

Functional Class:

USA

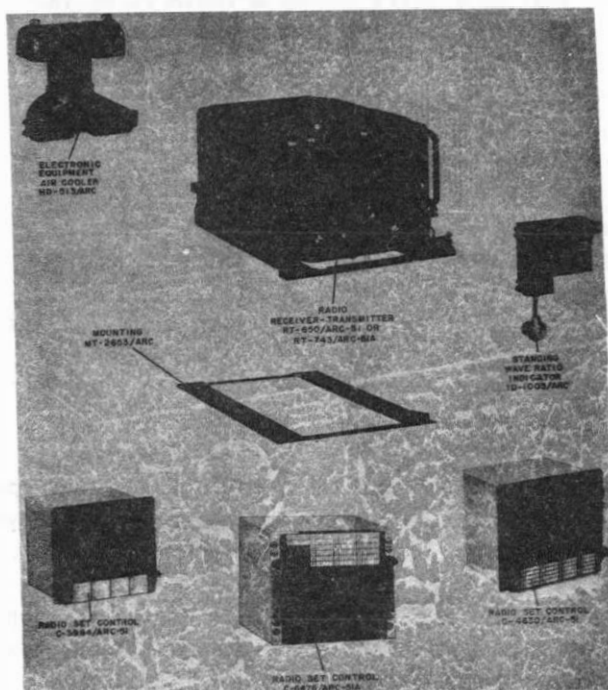
USN

USAF

TYPE CLASS:

Used by

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



RADIO SET AN/ARC-51A

FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-51A is to provide two way amplitude modulated double sideband, full carrier, radio telephone communication between aircraft in flight, aircraft and shore, and aircraft and ship.

No field changes in effect at time of preparation (4 December 1964).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Primary dc power supply; (1) Primary ac power supply; (1) Antenna; (1) Headset; (1) Microphone NAF213264-6; (1) Interconnecting cables and connectors.

RADIO SET AN/ARC-51A

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225.00 to 399.95 mc.

FREQUENCY CHANNELS: 3500.

PRESET CHANNELS: 20.

POWER REQUIREMENTS:	SOURCE	MAXIMUM LOAD
	115 v, 400 cyc	220 v/amp
	3 ph, 4 wire	
	27.5 v, dc	170 W

RECEIVER SECTION

SENSITIVITY: An RF input of 4 uv modulated 30% at 1000 cps produces an audio output of 14 mw min, and the signal plus noise to noise ratio is at least 10 db.

AVC CHARACTERISTICS: A 1000 uv signal modulated 30% at 1000 cps produces an audio pwr output of 100 mw; a variation in input from 10 to 100,000 uv produces an audio output of + 1 or - 3 db from the 100 mw reference.

INPUT IMPEDANCE: 50 ohms.

OUTPUT IMPEDANCE (AUDIO): 600 ohms resistive.

HARMONIC DISTORTION: Less than 10% at the 1000 uv level.

AUDIO FREQUENCY RESPONSE: 300 to 4000 cps.

AUXILIARY AUDIO FREQUENCY RESPONSE: 70 to 7000 cps.

NOISE LIMITING: 35 to 65%.

AUXILIARY AUDIO OUTPUT: 0.25 v ac w/a 1000 uv input modulated 30% at 1000 cps.

AUXILIARY AUDIO OUTPUT IMPEDANCE: 20,000 ohms resistive.

TRANSMITTER SECTION

POWER OUTPUT: 20 W avg.

OUTPUT IMPEDANCE: 50 ohms.

MODULATION CAPABILITIES: Amplitude, not less than 80% w/a 1000 cps signal at 1 v (open circuit) for carbon microphones and 0.8 v (open circuit) for dynamic microphone.

MICROPHONE INPUT IMPEDANCE: 82 ohms (carbon), 150 ohms (dynamic).

FREQUENCY RESPONSE: 300 to 4000 cps.

MODULATION FIDELITY: Shall not be more than + 1 or - 3 db throughout the freq range of 300 to 4000 cps relative to the output obtained at the 1000 cps reference level w/a signal input 3 db below the clipping level.

SIDETONE: Not less than 14 mw into a 150 ohm load when carrier is 30% modulated at 1000 cps.

CHANNEL SELECTION TIME: 6.0 sec max.

TRANSMIT RECEIVE TIME INTERVAL: 100 ms max.

FREQUENCIES: 2.9 to 3.8 mc; 17.1 to 26.1 mc; 20.9 to 29.9 mc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-51A, includes:			
1	Radio Receiver Transmitter RT-743/ARC-51A			29.1
1	Electronic Equipment Air Cooler HD513/ARC		2-19/64	1.0
1	Standing Wave Ratio Indica- tor ID-1003/ARC		1-3/8 x 2-9/16 x 3-1/2	1.0

1.7 AN/ARC-51A: 2

RADIO SET AN/ARC-51A

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Mounting MT-2653/ARC		1 x 9 1/2 x 14-1/4	0.4
1	Radio Set Control C-6476/ARC-51A		4-3/16 x 4-15/16 x 5-3/4	3.8
1	Tool Kit NAVWEPS 16-30ARC51-2			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARC51-1: Handbook for Operation, Instructions Radio Sets AN/ARC-51 and AN/ARC-51A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 6205 (1) 6299 (1) 6442 (1) 6B84 (2) 7077 (4) 7554

CRYSTALS: (1) 2.9 mc (1) 19.1 mc (2) 80.00 mc (1) 3.0 mc (1) 20.1 mc (1) 83.33 mc
 (1) 3.1 mc (1) 21.1 mc (1) 86.66 mc (1) 3.2 mc (1) 22.1 mc (2) 90.00 mc
 (1) 3.3 mc (1) 23.1 mc (1) 72.50 mc (1) 3.4 mc (1) 24.1 mc (1) 75.00 mc
 (1) 3.5 mc (1) 25.1 mc (1) 77.50 mc (1) 3.6 mc (1) 26.1 mc (1) 82.50 mc
 (1) 3.7 mc (1) 66.66 mc (1) 85.00 mc (1) 3.8 mc (2) 70.00 mc (1) 87.50 mc
 (1) 17.1 mc (1) 73.33 mc (1) 92.50 mc (1) 18.1 mc (1) 76.66 mc
 (1) 111.225 mc

SEMI-CONDUCTORS: (2) 1N82A (4) 1N251 (10) 1N457 (3) 1N645 (6) 1N649 (4) 1N753A
 (2) 1N816 (1) 1N1825 (1) 1N2039 (2) 1N2970B (1) 1N3024B
 (1) 69-1020/1026.3 (1) 3N45 (2) 2N706 (1) 2N158 (2) 2N174
 (1) 2N251 (4) 2N328A (1) 2N329A (4) 2N338 (3) 2N335 (5) 2N697
 (1) 2N514B (1) 2N716 (4) 2N917 (1) 2N1021 (5) 3N35

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
 SPEC &/OR DWG: MIL-R-22659

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOw 61-0805 NOw 64-0252f	

28 July 1948

Cog Service: USN FSN:

RADIO SET AN/ARC-58

Functional Class:

USA

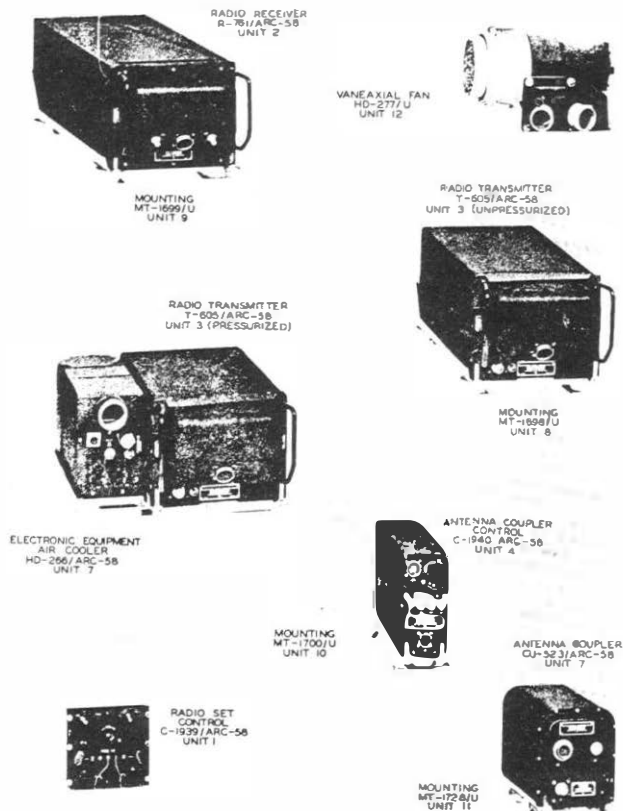
USN

USAF

TYPE CLASS:

Used by

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



RADIO SET AN/ARC-58

FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-58 provides reliable long-distance, two-way communication for ground-to-air, air-to-ground, and point-to-point service in the h-frequency band. Design features include improved communicating ability through the use of increased power and single-side band techniques, 28,000 directly selectable frequency channels, automatic tuning, ease of maintenance, and retention of compatibility with existing AM stations. One-kilowatt peak envelope transmitting power is available throughout the 2.0 to 29,999 megacycle h-f frequency range. Single sideband voice, amplitude-modulated voice, or tone modes of operation may be used.

No field changes in effect at time of preparation (11 May 1964).

RELATION TO OTHER EQUIPMENT:

AN/ARC-58 RADIO SET

EQUIPMENT REQUIRED BUT NOT SUPPLIED;

(1) Primary Power Source; (1) + 28.0 v dc Source; (1) Cooling Air Supply; (1) Seal Leak Pumping System; (1) Intercommunication Set AN/AIC-10 and (1) Antenna.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2.0 to 29,999 mc.

FREQUENCY CHANNELS: 28,000 at one-kc increments.

TUNING METHOD: Automatic, servo-controlled tuning.

FREQUENCY SELECTION: 5 direct-reading decode dials on Radio Set Control C-1939/ARC-58.

CHANNEL SELECTION TIME: 20 sec nom (to 60 sec depending on antenna).

FREQUENCY STABILITY: One pt per million per 30 days.

IMPEDANCE T-605/ARC-58

INPUT: 50 ohms.

OUTPUT: 50 ohms.

IMPEDANCE R-761/ARC-58

TRANSMIT AUDIO INPUT: 150 ohms.

TRANSMIT RF OUTPUT: 50 ohms.

RECEIVE AUDIO OUTPUT: 150 ohms.

RECEIVE RF INPUT: 50 ohms.

ENVIRONMENTAL CONDITIONS

TEMPERATURE RANGE: - 54.0 to + 71.0 deg C (- 65.2 to + 168.8 deg F).

AMBIENT HUMIDITY: 0 to 95%.

ALTITUDE: Sea level to 75,000 ft.

POWER REQUIREMENTS

DC POWER: + 28.0 v dc at 1.0 amp.

VOLTAGE LIMITS: 24 to 29 v dc.

AC POWER: 3 ph, 115/200 v, 4 wire (grounded neutral) system.

VOLTAGE LIMITS: 108 to 121 v ac.

FREQUENCY LIMITS: 380 to 420 cps.

TOTAL POWER REQUIRED

POWER RECEIVE: 380 W.

POWER TRANSMIT

SSB VOICE: 1200 W.

AM VOICE: 1800 W.

SINGLE TONE: 2000 W.

CW/FSK CHANNEL CHANGE: 1200 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-58 includes:			
1	Radio Set Control C-1939/ARC-58		5-1/4 x 5-3/4 x 7-9/16	5.1
1	Radio Receiver R-761/ARC-58 or R-761A/ARC-58		7-25/32 x 10-1/4 x 25-1/32	49.75

1.7 AN/ARC-58: 2

RADIO SET AN/ARC-58

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitter T-605/ARC-58 or T-605A/ARC-58		7-25/32 x 10-1/4 x 25-3/8	46.25
1	Antenna Coupler Control C-1940/ARC-58		3-11/16 x 7-5/8 x 14-1/2	13.1
1	Antenna Coupler CU-523/ARC-58		7 x 8 x 25-3/32	21.75
1	Mounting MT-1698/U		5 x 11-1/8 x 21-5/16	3.31
1	Mounting MT-1699/U		5 x 11-1/8 x 21-5/16	3.0
1	Mounting MT-1700/U		4-5/8 x 9-15/16 x 15-15/16	1.56
1	Mounting MT-1728/U		1-59/64 x 7 x 15-7/16	1.56
1	Transmitter Case CY-2059/ARC-58		7-5/8 x 10-1/4 x 19-9/16	4.25
1	Electronic Equipment Air Coder HD-266/ARC-58		9-5/16 x 16-3/8 x 25-5/32	16.375
1	Transmitter Case CY-2060/ARC-58		7-5/8 x 10-1/4 x 19-9/16	8.0
1	Vaneaxial Fan HD-277/U		5-7/8 x 9-5/8 x 10-1/2	5.0

REFERENCE DATA AND LITERATURE:

- TO 12R2-2ARC58-2: Handbook Field Maintenance Instructions for Radio Set AN/ARC-58.
 TO 12R2-2ARC58-3: Technical Manual Overhaul for Radio Set AN/ARC-58.
 TO 12R2-2ARC58-4: Technical Manual Illustrated Parts Breakdown for Radio Set AN/ARC-58.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) AF5896A (3) 5654/AK5W (9) 5636 (1) 5670WA (3) 5687WA (6) 5749/68A6W
 (1) 5750/68E6W (2) 5814A (2) 5840 (14) 5899 (3) 6CL6 (1) 6021 (3) 7580

CRYSTALS: Not required.

SEMI-CONDUCTORS: (25) 2N1150 (2) J319 (4) 2N1154 (1) 1N1317A (10) 2N1156 (3) 1N91
 (3) 1N721A (5) 2N1445 (26) 1N198 (8) 2N1753 (13) 1N647 (6) 2N243
 (24) 1N457 (1) 2N244 (15) 1N270 (21) 2N264 (8) HD-6755 (1) 2N333
 (4) HD2160 (1) 2N343 (8) 1N252 (1) 2N527 (3) 2N540 (4) 1N2796
 (7) 2N718A (3) 1N341 (1) 1N193 (3) 1N1118 (10) 1N251 (1) 1N467
 (118) 1N1095 (2) 1N539 (4) 1N795 (6) 1N320 (5) 1N459 (3) 1N817

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
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1.7 AN/ARC-58: 3

AN/ARC-58 RADIO SET

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: RADC 1800

DESIGN COG: USN, BuAer

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co.	Cedar Rapids, Iowa	AF30(635)-4504	



2 July 1965

RADIO SET AN/ARC-80

Cog Service: USM FSM:

Functional Class:

USA

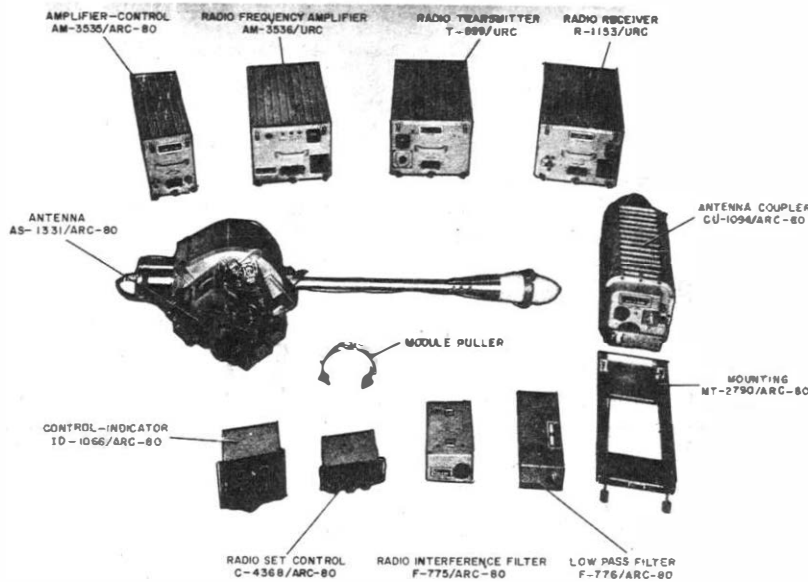
USM

USAF

TYPE CLASS:

Used by

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



RADIO SET AN/ARC-80

FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-80 is a single sideband, high frequency radio set used for multipurpose airborne communications. It provides data communications using upper, lower, or double sideband and voice communications using upper sideband. The equipment operates over the frequency range of 2,000 to 29,999 megacycles tunable in 1-kilocycle increments.

No field changes in effect at time of preparation (19 March 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Power Source 27.5 v dc; (1) AC Power Source; (1) Carbon Microphone; (1) Intercom Set AN/AIC-14; (1) Push-To-Talk Control; (1) Mounting-Plenum MT-2139/ASQ-52; (1) Mounting Plenum MT-2140/ASQ-52.

TECHNICAL CHARACTERISTICS:

RADIO RECEIVER

FREQUENCY RANGE: 2,000 to 29,999 mc.

OPERATING CHANNELS: 28,000 in 1 kc steps.

VOLTAGE REQUIREMENTS: Three ph, 400 \pm 20 cps, 115 v ac + 6, - 12 v ac, line-to-neutral Y connected or three phase, 400 \pm 20 cps, 115 + 6 - 12 v ac, line to line delta connected.

POWER REQUIREMENTS

TUNE (COLD START, SHORT TERM SURGE): 400 va, 300 W max.

OPERATE (STEADY STATE): 260 va, 240 W max.

STANDBY (STEADY STATE): 220 va, 200 W max.

TYPE OF SIGNAL INPUT: SSB, DSB, AM, FSK or CW.

INPUT IMPEDANCE: 50 ohms with max vswr of 2.5 to 1.

OUTPUT IMPEDANCE: (USB OR LSB): 600 ohms \pm 10% balanced.

OUTPUT AUDIO SIGNAL LEVEL (USB OR LSB): 0 dbm \pm 3 db for rated PEV signal input.

AUDIO FREQUENCY RESPONSE: 300 cps to 3050 cps at the 3 db point.

SSB AND DSB OPERATION

INPUT SENSITIVITY: Radio audio output of 0 dbm \pm 3 db for a data input of 20 uv PEV to 1 v PEV (measured into 6 db pad).

CONTINUOUS WAVE SENSITIVITY: 1 uv for 10 db S + N/N ratio for 300 to 3050 bandwidth (for either sideband) (1 uv measured into 6 db pad).

MAX INPUT LEVEL: 1.0 v PEV (at unit input terminals).

SELECTIVITY (IF BANDWIDTH)

USB 60 DB BANDWIDTH: 498.5 to 505.0 kc.

LSB 60 DB BANDWIDTH: 495.0 to 501.5 kc.

HARMONIC AND INTERMODULATION DISTORTION: At least 40 db below either tone of a two tone test signal for an input of 10 to 100,000 uv PEV. At least 14 db below either tone of a two tone test signal for input of 0.1 to 1.0 PEV.

OUTPUT HUM AND NOISE: At least 40 db below either tone of a two-tone test signal of 10 uv to 1.0 v PEV when measured within a 55 cps bandwidth.

AGC RANGE OF CONTROL: Less than 6 db increase in audio output for an increase of 100 db in RF input signal from 10 uv PEV or 2.5 uv rms.

AGC ATTACK AND DECAY TIME

ATTACK: 6 to 12 ms (to 63% point) for change from no signal to 2 v PEV into 6 db pad.

DECAY: 0.5 to 1.0 sec (to 37% point) for change from 0.5 v to no signal.

DATA FAST AGC DELAY: In data modes only, 10 to 15 ms agc voltage decay time when data antenna two tone signal is reduced from 2 v PEV to 20 uv PEV.

TUNING TIME: 9 sec max.

PHASE STABILITY: Phase shift in received signal less than 2.38° within any 22 ms period.

RADIO TRANSMITTER

FREQUENCY RANGE: 2,000 to 29,999 mc.

NUMBER OF CHANNELS: 28,000 spaced at 1 kc increments.

TYPE OF EMISSION: Upper, lower, and double sideband with suppressed carrier; AM sideband plus reinserted carrier; frequency shift keying.

INPUT VOLTAGE REQUIRED: 115 v ac + 6, - 12 v ac, 400 cps \pm 20 cps, line to neutral Y connected; or 115 v ac + 6, - 12 v ac, 400 cps \pm 20 cps line-to-line delta connected.

INPUT POWER REQUIRED: 240 W.

TUNING: Automatic adjustment to freq.

TUNING TIME: 9 sec max.

INPUT SIGNAL REQUIRED: 2.5 v PEV max.

RADIO SET AN/ARC-80

FREQUENCY STABILITY: Freq error in carrier less than 5 parts in 10^8 per 7 hr period.

POWER OUTPUT: 0.5 W PEP min. 4.0 W PEP max under any condition.

OUTPUT IMPEDANCE: 50 ohms unbalanced; max vswr 1.2 to 1.

BANDWIDTH: Constant response within 2.5 db peak to valley for a signal bandwidth of 300 to 3050 cps per sideband.

DISTORTION: Third and higher order distortion is suppressed at least 35 db from each tone of a two-tone test signal at rated power output.

ANTENNA LENGTH: 0 to 145 ft.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-80 includes:			
1	Radio Frequency Amplifier AM-3536/URC			
1	Radio Receiver R-1153/URC			
1	Amplifier Control AM-3535/ARC-80			
1	Antenna AS-1331/ARC-80			
1	Antenna Coupler CU-1094/ARC-80			
1	Radio Transmitter T-899/URC			
1	Radio Set Control C-4368/ARC-80			
1	Control Indicator ID-1066/ARC-80			
1	Radio Interference Filter F-775/ARC-80			
1	Mounting MT-2790/ARC-80			
1	Low Pass Filter F-776/ARC-80			
2	Module Puller			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARC80-5: Handbook of Service Instructions for Radio Set AN/ARC-80.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5726/6AL5W (1) 6CL6 (4) 4CX250F (2) 7558 (8) 12AT7WA (8) 6AH6WA
(4) 6DC6 (4) 5763 (9) 5899 (2) 5636 (2) 5840 (2) 5702WB

CRYSTALS: Not required.

SEMI-CONDUCTORS: (4) 1N39A (4) 1N82A (41) 1N198 (2) 1N252 (19) 1N270 (1) 1N458
(15) 1N483B (23) 1N538 (12) 1N547 (1) 1N643 (77) 1N645 (14) 1N647
(24) 1N649 (6) 1N691 (1) 1N751A (4) 1N753A (2) 1N754A (1) 1N755A
(1) 1N756A (2) 1N914 (4) 1N953 (6) 1N956 (4) 1N964B (2) 1N965B
(1) 1N968B (1) 1N1564 (14) 1N1614 (6) 1N2167A (1) 1N2970B
(1) 1N3022B (2) 1N3024B (1) 1N3036B (9) 1N3064 (11) 1N3070
(3) 1N3189 (2) 1N3282 (2) 1N3287W (3) HD6568 (6) RP36 (1) 2N118
(2) 2N128 (4) 2N274 (3) 2N328A (2) 2N332 (2) 2N333 (1) 2N335

RADIO SET AN/ARC-80

SEMI-CONDUCTORS: (1) 2N343 (8) 2N375 (2) 2N384 (1) 2N389 (3) 2N398 (4) 2N404
(8) 2N457A (4) 2N489 (2) 2N491 (7) 2N498 (17) 2N526 (10) 2N599
(8) 2N652A (1) 2N657 (4) 2N697 (12) 2N706 (1) 2N718A (6) 2N760A
(2) 2N1046 (6) 2N1150 (4) 2N1156 (2) 2N11848 (2) 2N1196
(4) 2N1225 (65) 2N1285 (2) 2N1445 (1) 2N1485 (2) 2N2218
(2) 2N1595

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: XAV-52

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOW-62-0567	

28 July 1964

RADIO SET AN/ARC-88

Cog Service: USN FSN:

Functional Class:

USA

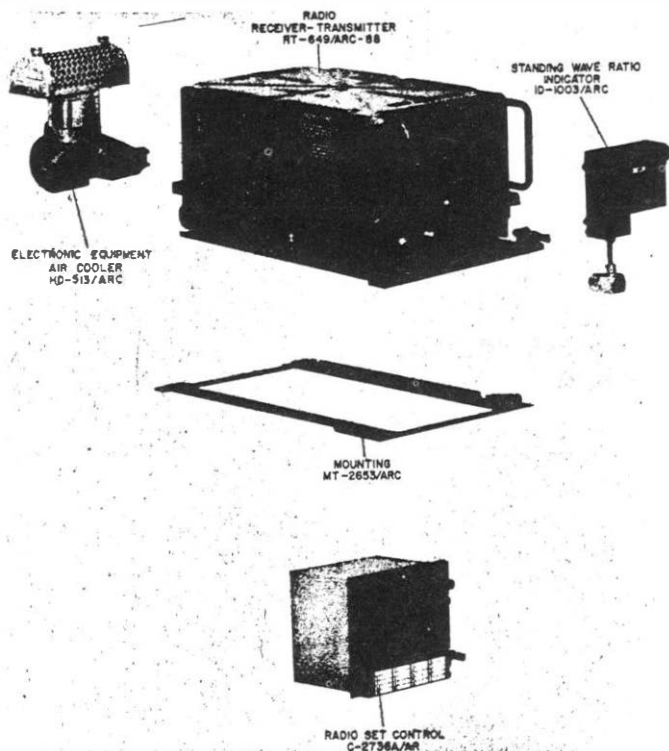
USN

USAF

TYPE CLASS:

Used by

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



RADIO SET AN/ARC-88

FUNCTIONAL DESCRIPTION:

The Radio Set AN/ARC-88 is to provide a uhf FM (Frequency Modulation) radio data link between aircraft and shore, and aircraft and ship. Radio Receiver-Transmitter RT-649/ARC-88 is a transistorized equipment capable of transmitting and receiving on any one of 1750 frequency channels, spaced at 100-kc intervals in the 225.0 to 399.9 mc range. The equipment receives and transmits multiplexed data information originating in the form of digital pulses from an associated equipment of the Digital Data Communications Set AN/ASW-13 or equivalent data Systems. Radio Set AN/ARC-88 is supplied with the digital information from the associated data equipment and transmits it on a frequency modulated carrier signal. Radio Set AN/ARC-88 also receives a similar frequency-modulated signal, demodulates the signal, and supplies the resulting pulses to the associated data equipment. Reception and transmission are on the same frequency and utilize the same antenna. Radio Set Control C-2736A/AR provides remote selection of the 1750 frequency channels or 19 preset channels within the specified range. The fre-

AN/ARC-88 RADIO SET

encies of the 19 preset channels are determined by adjustment of a memory drum on the front panel of Radio Set Control C-2736A/AR.

No field changes in effect at time of preparation (14 May 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Primary power supply dc; (1) Primary power supply ac; (1) Antenna AT-141/ARC-27 or equivalent; (1) RF Cable RG-9/U; (1) Interconnecting multiwire cable; (1) Connector UG-21/B/U; (1) Connector PT06-E-16-26SW; (1) Connector MS3116E-16-26SW; (1) Connector MS3116E-16-26S.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225.0 to 399.9 mc.

FREQUENCY CHANNELS: 1750.

PRESET CHANNELS: 19.

POWER REQUIREMENTS:	SOURCE	CURRENT AT MAX LOAD
	115 v ac single ph	0.3 amp
	115 v ac two ph	0.3 amp
	115 v ac three ph	0.7 amp
	27.5 v dc	4.0 amp

CHANNEL SELECTING TIME: 6 sec.

RECEIVER SECTION

QUIETING: An unmodulated RF input of -98 dbm (5.6 open circuit uv) produces 20 db quieting at the data output terminal measured through a low-pass filter having attenuation at 3 db at 10 kc.

OUTPUT CAPABILITY: 10 v peak-to-peak across 2000 ohm load with ± 20 kc deviation at 1000 cps rate.

OUTPUT LINEARITY: Within $\pm 5\%$ of max peak-to-peak output for deviation up to ± 20 kc.

INPUT IMPEDANCE: 50 ohms.

OUTPUT IMPEDANCE: 2000 ohms resistance.

DATA FREQUENCY RESPONSE: Within 5% from dc to 7000 cps.

TRANSMITTER SECTION

POWER OUTPUT: 20 W average (standard conditions).

OUTPUT IMPEDANCE: 50 ohms.

TYPE OF MODULATION: Frequency shift.

MODULATION CAPABILITY: ± 20 kc deviation with digital data input level at ± 5 v.

DATA INPUT IMPEDANCE: 2500 ohms min.

FREQUENCY RESPONSE: Within 5% from dc to 7000 cps.

KEYING INPUT IMPEDANCE: 100000 ohms.

REQUIRED KEYING VOLTAGE: Turn around 0 to - 2 v dc. Carrier on; 13 to 25 v peak-to-peak 12 cps sq wave.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-88 includes:			
1	Radio Receiver-Transmitter RT-649/ARC-88		6-7/8 x 8-3/4 x 14-29/64	27
1	Radio Set Control		4-7/8 x 5-1/8 x 5-3/4	3.0
1	Mounting MF-2653/ARC		3/8 x 9-1/2 x 14-1/8	0.5
1	Standing Wave Ratio Indicator 1D-1003/ARC		1-3/8 x 4-5/8 x 6-5/8	1.1
1	Electronic Equipment Air Cooler HD-513/ARC		2-23/32 x 5-3/4 x 6	1.0

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARC88-2: Handbook of Service Instructions for Radio Set AN/ARC-88.
 NAVWEPS 16-30ARC88-3: Handbook of Overhaul Instructions for Radio Set AN/ARC-88.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 6205 (1) 6299 (4) 7554 (1) 6442 (1) 6884 (2) 7077

CRYSTALS: (1) 2.15 mc (1) 28.9 mc (2) 90.0 mc (1) 2.25 mc (1) 29.9 mc (1) 72.5 mc
 (1) 2.35 mc (1) 30.9 mc (1) 75.0 mc (1) 2.45 mc (1) 31.9 mc (1) 77.5 mc
 (1) 2.65 mc (1) 32.9 mc (1) 82.5 mc (1) 2.75 mc (1) 33.9 mc (1) 85.0 mc
 (1) 2.85 mc (1) 66.6 mc (1) 87.5 mc (1) 2.95 mc (2) 70.0 mc (1) 92.5 mc
 (1) 3.05 mc (1) 73.3 mc (1) 24.9 mc (1) 76.6 mc (1) 25.9 mc (2) 80.0 mc
 (1) 26.9 mc (1) 83.3 mc (1) 27.9 mc (1) 86.6 mc

SEMI-CONDUCTORS: (6) 3N35 (1) 1N968 (1) 2N716 (2) 1N643A (1) 2N335 (1) 1N953
 (4) 2N338 (6) 1N457 (1) 2N1389 (2) 1N3024B (3) 2N1893 (1) 1N1968
 (6) 2N697 (5) 1N645 (1) 2N457 (1) 1N3032B (1) 2N514B (6) 1N649
 (1) 2N1021 (2) 1N1753A (3) 2N251 (1) 1O2603 (1) 1N1825 (3) 1N251
 (1) 1N461 (3) 1N916 (2) 1N2970B

SHIPPING DATA

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

PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: USN, Buweps

AN/ARC-88 RADIO SET

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOW 61-0805	

21 April 1965

RADIO SET AN/ARC-94

Cog Service: USN FSN:

Functional Class:

USA

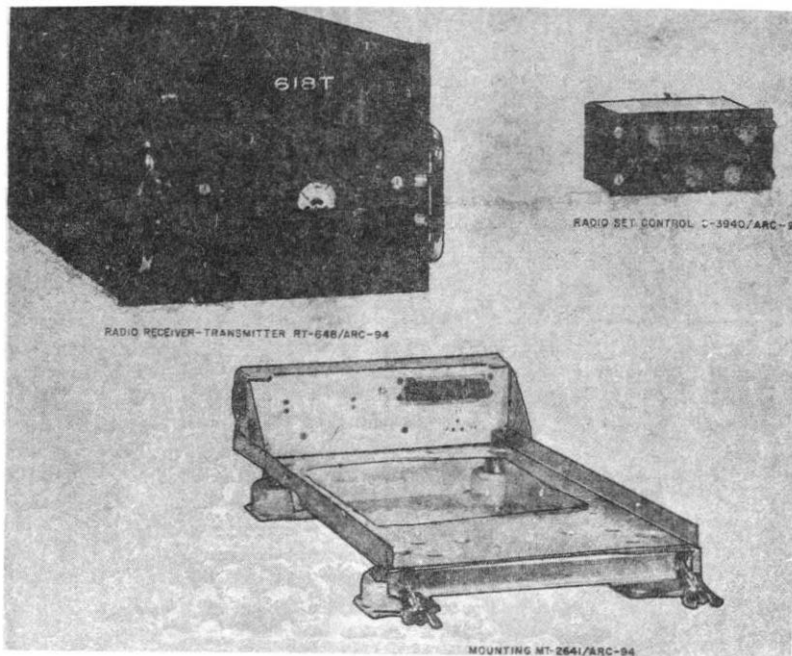
USN

USAF

TYPE CLASS:

Used by

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



RADIO SET AN/ARC-94

FUNCTIONAL DESCRIPTION:

Radio Set AN/ARC-94 is designed to provide facilities for communication between aircraft and between aircraft and fixed or mobile ground communications stations.

No field changes in effect at time of preparation (1 April 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Headset; (1) Microphone; (1) Key; (1) Antenna Coupler; (1) Antenna.

TECHNICAL CHARACTERISTICS:

AMBIENT TEMPERATURE RANGE: - 40 to + 55 deg C with 30 min operation at + 70 deg C.

AMBIENT HUMIDITY RANGE: Up to 95% relative humidity at 50 deg C for 48 hrs.

1 7 AN/ARC-94: 1

RADIO SET AN/ARC-94

ALTITUDE RANGE: Pressure equivalent of 40,000 ft with externally supplied cooling air.

FREQUENCY RANGE: 2 to 29,999 mc.

NUMBER OF FREQUENCY CHANNELS: 28,000.

FREQUENCY STABILITY: ± 0.8 ppm per month from -40 to $+75$ deg C.

TIME REQUIRED TO CHANGE: 8 sec max, independent of external antenna tuner

TRANSMIT CHARACTERISTICS

RF POWER OUTPUT

SSB: 400 w PEP ± 1 db.

AM: 100 w carrier.

CW: 100 w locked key.

RF OUTPUT IMPEDANCE: 51.5 ohms.

AUDIO INPUT IMPEDANCE: 100 ohms unbalanced, 60 ohms balanced.

AUDIO FREQUENCY RESPONSE: 5 db peak-to-valley ratio from 300 to 3000 cps.

DISTORTION

SSB: Third-order distortion products down at least 30 db.

AM: Less than 20% at 85% modulation.

RECEIVER CHARACTERISTICS

SENSITIVITY

SSB: 1 mv for 10 db S_n/N ratio.

AM: 3 mv modulated 30%, 1000 cps for 6 db S_n/N ratio.

SELECTIVITY

SSB: 27 kc min, 5 db down; 6 kc, 60 db down.

AM: 6 kc min, 5 db down, 14 kc, 60 db down.

AGC CHARACTERISTICS: Max variation of audio output is 6 db for input signals from 10 to 10,000 mv. No overload below 1 v signal input.

IF REJECTION: 80 db min.

AUDIO OUTPUT POWER: 200 mw into 300 ohm load.

AUDIO DISTORTION: Less than 10%

AUDIO FREQUENCY RESPONSE: 5 db peak-to-valley ratio from 300 to 3000 cps.

IMAGE REJECTION: 60 db min to 25 mc, 50 db min above 25 mc.

POWER REQUIREMENTS: 115 v, 400 cps, 3 ph and 27.5 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/ARC-94 includes:			
1	Radio Receiver-Transmitter RT-648/ARC-94		7-5/8 x 10-1/8 x 22-3/16	52
1	Radio Set Control C-3940/ARC-94		2-5/8 x 4-7/8 x 5-3/4	2
1	Mounting MT-2641/ARC-94		4-63/64 x 11-9/64 x 21-7/8	5

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARC94-1: Handbook of Service Instructions for Radio Set AN/ARC-94.

NAVWEPS 16-30ARC94-2: Handbook of Operations Instructions for Radio Set AN/ARC-94.

NAVWEPS 16-30ARC94-3: Handbook of Overhaul Instructions for Radio Set AN/ARC-94.

NAVWEPS 16-30ARC94-4: Illustrated Parts Breakdown for Radio Set AN/ARC-94.

24 June 1965

REPEATER SET, RADIO AN/ARC-97

Cog Service: USN FSN:

Functional Class:

USA

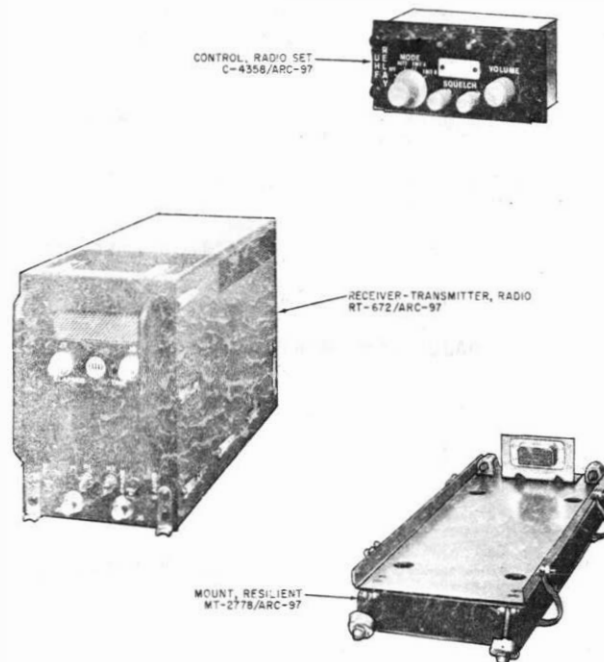
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Radio Corporation of America, (49671).



REPEATER SET, RADIO AN/ARC-97

FUNCTIONAL DESCRIPTION:

Repeater Set, Radio AN/ARC-97 is an aircraft mounted two channel automatic AM receiving-transmitting system, which is used to extend voice communication from a ship or ground station to a remote aircraft which is not within line-of-sight of the ground station or ship. Facilities are also provided within the system to permit the pilot or other crew member of the relay aircraft to insert voice signals into the relay loop whenever an automatic message relay is not in effect.

No field changes in effect at time of preparation (30 March 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

- (2) Antenna AT-256/ARC or AT-141 A/A; (1) Headset H-173/AIC; (1) Microphone M-96 or M-94;
- 1.7 AN/ARC-97: 1

REPEATER SET, RADIO AN/ARC-97

(1) Intercommunication Set AN/AIC-14; (1) Throttle Switch NAF-1124-17; (1) Junction Box J-1013/AIC and (1) Set Interconnecting Cabling.

TECHNICAL CHARACTERISTICS:

DC POWER INPUT: + 28 v dc, 5.2 amp.

AC POWER INPUT: 115 v ac, 400 cps, 0.8 amp.

FREQUENCY RANGE: 225 to 400 mc.

NUMBER OF PRESET FREQUENCIES

CHANNEL A: 2.

CHANNEL B: 1.

RF OUTPUT POWER: 4 W min per channel.

ANTENNA IMPEDANCE: 50 ohms.

SENSITIVITY: 10 uv for nom audio output.

SELECTIVITY

SIGNALS 25 KC OR LESS FROM CENTER FREQUENCY: Response-6 db max with respect to ctr freq response.

SIGNALS 85 KC OR MORE FROM CENTER FREQUENCY: Response-60 db min with respect to ctr freq response.

AUDIO OUTPUT POWER: 150 mw min across 600 ohms resistive load with antenna input of 1000 uv modulated 90% at 1000 cps.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Repeater Set, Radio AN/ARC-97 includes:			
1	Receiver-Transmitter Unit RT-672/ARC-97 includes:		4-7/8 x 7-5/32 x 13-21/32	17.5
1	Chassis			
2	Receiver Module			
2	Transmitter Module			
1	Power Supply Module			
1	Radio Set Control Unit C-4358/ARC-97		2-5/8 x 3 x 5-3/4	1.0
1	Receiver-Transmitter Unit Mount MT-2778/ARC-97			2.0

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REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30ARC97-1: Handbook of Operation Instructions for Radio Repeater Set AN/ARC-97.

NAVWEPS 16-30ARC97-2: Handbook of Service Instructions for Radio Repeater Set AN/ARC-97.

NAVWEPS 16-30ARC97-3: Handbook of Illustrated Parts Breakdown for Radio Repeater Set AN/ARC-97.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6263A (1) 7554 (2) 7586 (5) 7895

1.7 AN/ARC-97: 2

REPEATER SET, RADIO AN/ARC-97

CRYSTALS: Not required.

SEMI-CONDUCTORS: (5) 1N251 (6) 2N1613 (2) 1N457 (2) 2N2036 (1) 1N485B (7) 1N645
(1) 2N2226 (1) RCA99250-106 (5) 1N647 (1) RCA99250-204 (1) 1N816W
(1) RCA99250-205 (1) 1N2985B (1) RCA99250-206 (1) 1N3024B (8) 2N338
(1) 2N1480 (2) 2N1490 (5) 2N1491 (1) 2N1493

SHIPPING DATA

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

PROCURING SERVICE: USN

DESIGN COG: USN, BuWeps

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Corporation of America	New York, New York	N0W62-0769	