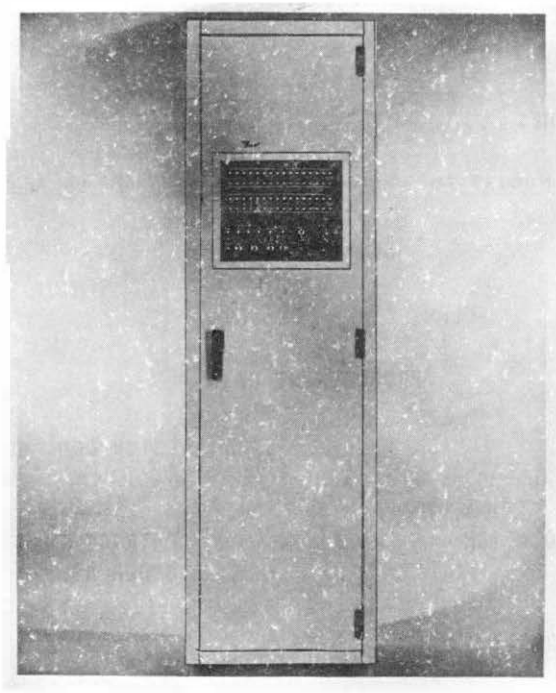
20 September 1967 TELETYPEWRITER GROUP ROUTING AN/GGA-21(V)

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: The Bendix Corporation Radio Division, (06845).



TELETYPEWRITER GROUP ROUTING AN/GGA-21(V)

FUNCTIONAL DESCRIPTION:

The Teletypewriter Group Routing AN/GGA-21(V) system is completely solic state, using low speed digital modules for all of the digital circuitry. It is used in conjunction with standard, low level teletype tape reader and reperforator equipment. When operating with teletype equipment, the input/output data is normally controlled by the teletype speed. AMASS can operate at data rates up to 4800 baud.

The input to AMASS normally comes from one of two tape readers into which is fed a multiple address message punched on standard teletype tape in the format of ACP-127. The output consists of polar signals capable of driving up to 32 reperforators, each of which produces a tape carrying the entire message, except that each tape contains only the Routing Indicators which must be retransmitted over a single output teletype circuit.

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

TELETYPEWRITER GROUP ROUTING AN/GGA-21(V)

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(32) Reperforators; (2) Tape Readers; (1) Keyboard; (1) Monitor Page Printer; (As Required) Interconnecting Cables.

TECHNICAL CHARACTERISTICS:

PRIMARY POWER REQUIREMENTS: ± 6 v at 11 ampere.
OPERATING TEMPERATURE: 0° C to + 55 deg C but maximum mean-time-between-failure of the solid state components is realized if the ambient temperature is below 35° C.
STORAGE TEMPERATURE: - 55° C to + 95° C.
HUMIDITY: 100% not including condensation.
BIAS DISTORTION: Less than 1%.
INPUT SIGNALS: IN Polar, ± 6 v, input impedance 70 k ohms.
OUTPUT SIGNALS: OUT Polar, ± 6 v, at 10 ma.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Group Routing AN/GGA-21(V) includes:	24-1/16 x 24-1/16 x 85-7/8	550
1	Maintenance Panel		
1	Control Panel		
1	Terminal Board Panel		
1	Routing Indicator Program Board		
9	Printed Circuit Board Rack (Empty)		
1	D.C. Distribution Panel		

REFERENCE DATA AND LITERATURE:

Technical Manual for Automatic Multiple Address Segregating System MAS-1018.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The Bendix Corporation Radio Division	Towson, Md.	N600(63133-126) 65720	

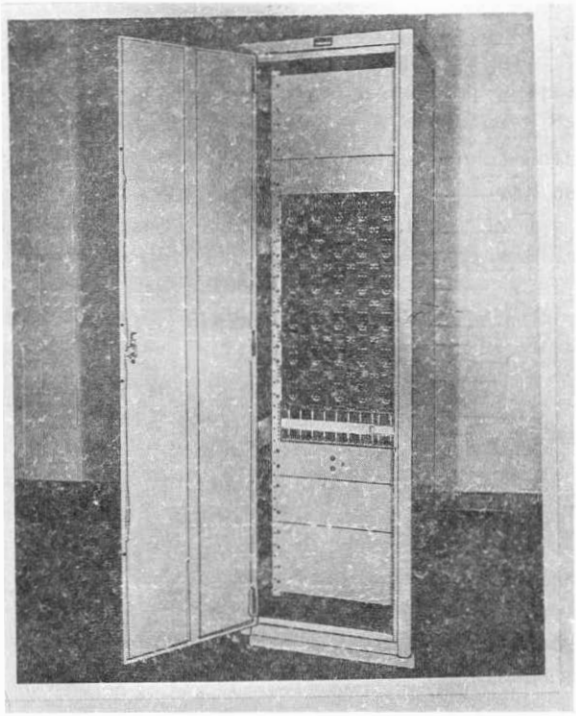
20 September 1967 CHANNEL-DESIGNATOR GROUP AN/GGA-22

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: The Bendix Corporation (06845)



CHANNEL-DESIGNATOR GROUP AN/GGA-22

FUNCTIONAL DESCRIPTION:

The Channel Designator Group AN/GGA-22 is designed to operate in conjunction with the Teletypewriter Routing Group AN/GGA-21(V). The Channel Designator Group provides the start of Message Sequence, A Channel Designator and incremental message numbering for thirty channels. It is capable of being placed directly on line or to a reperforator operating with a tape loop into a Transmitter Distributor which is not equipped with a numbering device. Either method of operation decreases the required tape handling since the multiple outputs of the Automatic Multiple Address Segregating System do not have to be individually handled.

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

RELATION TO OTHER EQUIPMENT: None.

CHANNEL-DESIGNATOR GROUP AN/GGA-22

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: + 6 volts at 2 ampere – 6 volts at 2.5 ampere ± 10% voltage regulation transient response 50 usec.
TEMPERATURE RANGE: 0 to 55° C operating -55 to + 95° C non-operating

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Channel Designator Group AN/GGA-22 includes:	24-1/16 x 24-1/16 x 85-7/8	400
30	Channel Control Modules		
1	Operation and Maintenance Manual		
1	Modification Cable (AMASS)		

REFERENCE DATA AND LITERATURE:

NavShips 0967-186-1010: Technical Manual for Channel Designator Group AN/GGA-22.

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SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The Bendix Corporation Radio Division	Towson, Md.	N600(63133-126) 65720	

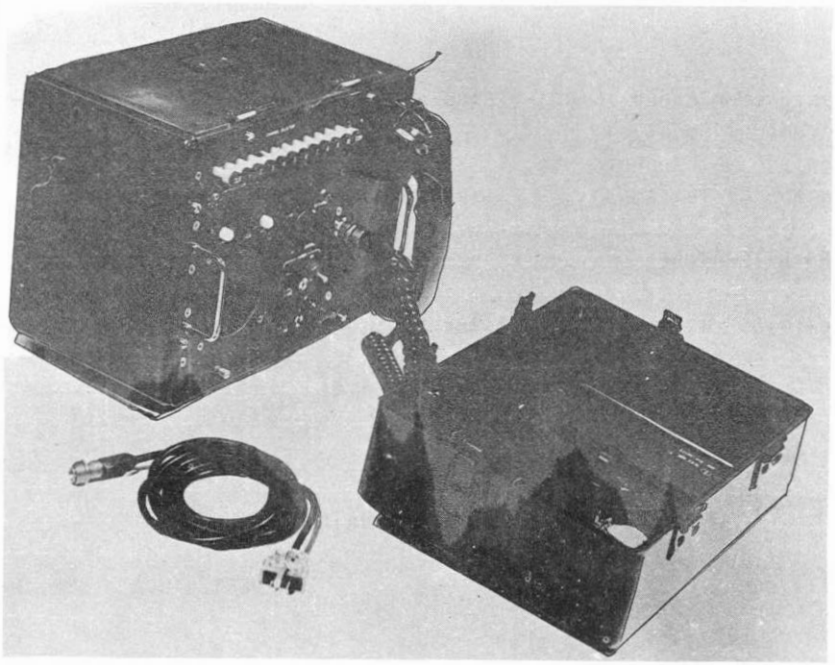
14 September 1967
Cog Service: USN FSN:

INTERCOMMUNICATION SET AN/GIC-17(V)
Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Tridea Electronics Inc. (13190).



INTERCOMMUNICATION SET AN/GIC-17(V)

FUNCTIONAL DESCRIPTION:

Intercommunication Set AN/GIC-17(V) comprises ten identical intercommunication units which function as a ten-channel voice communication system for use by Marine Air Traffic Control Units in tactical airstrip control. The Intercommunication Set provides all of the communication capabilities of a multiple-wire intercommunication system through frequency multiplexing over a single, twisted-pair wire transmission line. Each intercommunication unit in the set is portable and is individually operated from selected station sites whose locations are determined by tactical requirements. Each station can communicate with any of the other stations individually, all stations can participate in a conference call, or a station can broadcast a command call which is received by all of the other stations simultaneously. A max. of 5 station-to-station communications can be conducted simultaneously without interference. Three or more stations may participate in a conference call without interfering with

station-to-station communications between non-participating stations. Any station can initiate a command call which is received simultaneously by all other stations regardless of their talk-receive status. Each station is assigned one of the ten designated channels in the intercommunication system as a home channel. Each channel has characteristic operating frequencies. These frequencies are the transmit call tone, voice carrier band, and local oscillator. The command call tone frequency is common to all channels.

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

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Field Wire, type WD-1/TT, max lg 5 nautical miles; (10) DC Power Cable, two equal lengths insulated wire, no. 16 or no. 20 gauge, to carry 26 vdc at 1 amo.

TECHNICAL CHARACTERISTICS:

EMISSION: Composite of transmit call tone and voice carrier, voice carrier only, or composite of command call tone and command voice.

RECEPTION: Same as emission. In addition, an internally-generated receive call tone is audible at the speaker of a receiving station for one second.

NOMINAL OUTPUT TO TRANSMISSION LINE

RF: 2 vrms into 200 ohms.

AF: 5 vrms into 470 ohms.

PEAK POWER OUTPUT TO TRANSMISSION LINE: 200 mw.

TYPE OF FREQUENCY CONTROL

TRANSMIT CALL TONE: RC oscillator.

RECEIVE CALL TONE: RC oscillator.

COMMAND CALL TONE: Same as transmit call tone.

IF FREQUENCY: 250 kc crystal.

LOCAL OSCILLATOR: Selected crystal.

VOICE CARRIER: Mechanical filter.

MODULATION CHARACTERISTICS: Amplitude modulation, single-sideband, suporessed carrier.

RECEIVER OUTPUT: 2 w into 45 ohm speaker; 25 mw into 20 ohm headseat.

RECEIVER INPUT IMPEDANCE:

RF: 800 ohms at 50-100 kc.

AF: 3600 ohms at 3.5 kc.

TRANSMITTER BANDWIDTH: 3.25 kc at 20 db points.

POWER REQUIREMENTS: Negative 26 v dc ± 4 v dc or 117 v ac ± 10%, 45 to 66 cps, or 400 cps.

POWER SUPPLY OUTPUT: Negative 18 v dc regulated.

POWER CONSUMPTION: 20 w max.

MAX RANGE: 5 nautical mi between most distant stations.

HUM AND NOISE LEVEL: 60 db below rated output.

HARMONIC DISTORTION: 5% max.

AUTOMATIC GAIN CONTROL: Within 3 db of level set by Volume Control.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Intercommunication Set, AN/GIC-17(V) includes:		320
10	Intercommunication Station LS-548/GIC		

INTERCOMMUNICATION SET AN/GIC-17(V)

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-169-8010: Technical Manual for Intercommunication Set AN/GIC-17(V).

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
10	24	393

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, NavShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Tridea Electronics Inc.	South Pasadena, Calif.	NObsr-95222	

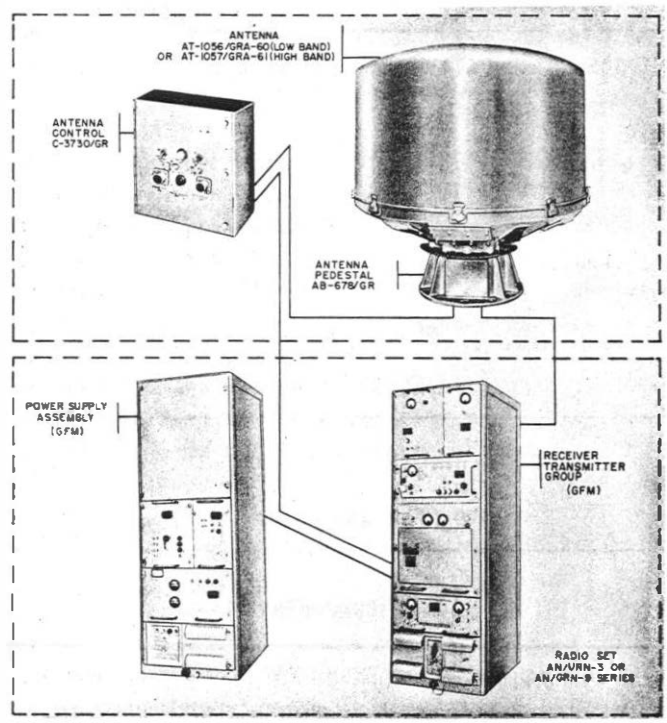
14 July 1964 ANTENNA GROUP AN/GRA-61

Cog Service: USN FSN: 2F5985-893-4918 Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: ITT Federal Laboratories, (21964).



ANTENNA GROUP AN/GRA-61

FUNCTIONAL DESCRIPTION:

Antenna Group AN/GRA-61 is a shore antenna system intended for use with the Radio Set AN/URN-3 or AN/GRN-9 series. The antenna group and the radio set together function as a radio beacon that provides navigational information for up to 100 aircraft within a 200 mile radius of the radio beacon.

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

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Set AN/URN-3 or AN/GRN-9 Series; (1) Oscilloscope OS-54/URN-3; (1) Monitor

AN/GRA-61 ANTENNA GROUP

MX-1627/URN-3; (1) Multimeter AN/PSM-4; (1) Switch-Test Adapter SA-420/URN-3; (1) Crystal Detector Assy; (1) Dummy Load MX-554/U; (1) Connector UG-274A/U.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE
- TRANSMISSION: 1151 to 1213 mc.
- RECEPTION: 1088 to 1150 mc.

VOLTAGE STANDING WAVE RATIO: Not more than 2:1 for the ANT and 5 ft of low-loss coaxial cable over the specified transmission band.

RF POWER: Peak power capability of 20 kw with a duty cycle of 2%.

ANTENNA IMPEDANCE: 50 ohms.

POLARIZATION: Vert.

HORIZONTAL PATTERN: A scalloped car-dioid rotated at a speed of 15 cps (900 rpm).

VERTICAL PATTERN: Max carrier energy is radiated above a plane perpendicular to the axis of the ANT; carrier amplitude from the horiz to 50 deg above the horiz is not less than 25 db below the max carrier amplitude included in this angle.

REFERENCE BURST TRIGGER PULSES: One 15 cps (north ref burst) trigger pulse is generated for ea revolution of the parasitic elements.

POWER SUPPLY
- POWER REQUIREMENTS: 208 v, 60 cyc, 3 ph, 3 wire, 1.9 kw, 3.8 kva, starting current 5 amp per ph; 120 v, 60 cyc. single ph, 0.3 kw, 0.33 kva, 90% pf, max current 5 amp.
- CONVENIENCE OUTLETS: 120 v, 60 cyc, single ph, 8 amp max, 1.0 kva max.

MAXIMUM OPERATING TEMPERATURE
- ANTENNA AND PEDESTAL ASSY: + 65 deg C (+ 149 deg F).
- ANTENNA CONTROL UNIT: + 65 deg C (+ 149 deg F).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group AN/GRA-61 includes:	2F5985-893-4918		
1	Antenna and Pedestal Assy includes:			237
1	Antenna AT-1057/GRA-61			
1	Pedestal, Antenna AB-678/GR		16-19/64 dia x 6-11/32	
1	Control, Antenna C-3730/GR		12-1/2 x 17 x 19-3/4	84
1	Amplifier, Electronic Control AM-3022/GR			
2	Technical Manual NAVSHIPS 94118			
1	Maintenance Standards Book NAVSHIPS 94118.42			
1	Performance Standard Sheet NAVSHIPS 94118.32			
1	Operating Instructions NAVSHIPS 94118.21			

1.2 AN/GRA-61: 2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94118: Technical Manual for Antenna Groups AN/GRA-60 and AN/GRA-61.
NAVSHIPS 94118.21: Operating Instruction Chart for Antenna Groups AN/GRA-60 and AN/GRA-61.
NAVSHIPS 94118.32: Performance Standards Sheet for Antenna Groups AN/GRA-60 and AN/GRA-61.
NAVSHIPS 94118.42: Maintenance Standards Book for Antenna Groups AN/GRA-60 and AN/GRA-61.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N459 (8) 1N538 (4) 1N540 (2) 1N1202 (1) 2N1537A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	45	357
1	5	113

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
ITT Federal Laboratories	Nutley, New Jersey	NObsr-81179 NObsr-85117	

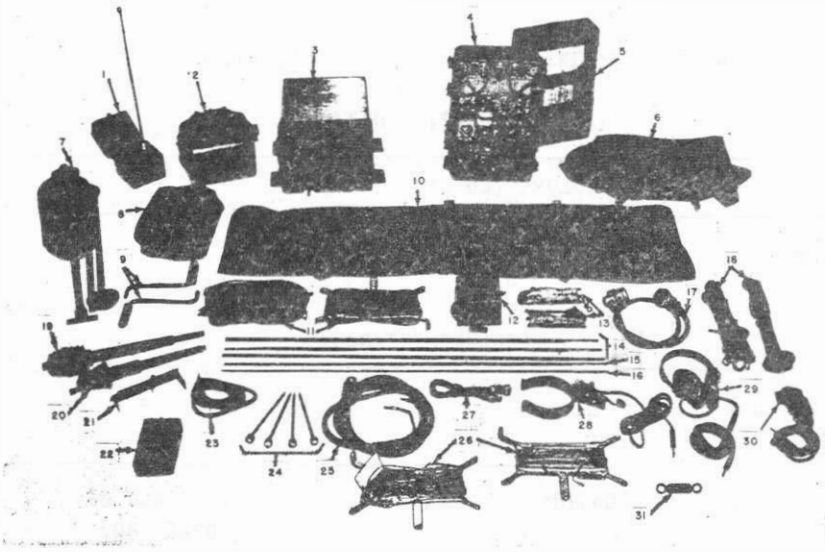
14 July 1964 RADIO SET AN/GRC-87

Cog Service: USA FSN: 2F5820-543-1997 Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER:



RADIO SET AN/GRC-87

FUNCTIONAL DESCRIPTION:

Radio Set AN/GRC-87 provides low-power, short-range (10 to 30 miles) communications capable of transmitting and receiving radio signals in the frequency range of 2 to 12 mc. It can transmit and receive (not simultaneously) cw, mcw, and AM radio signals.

The AN/GRC-87 may be used for ground (man-transportable) or vehicular installations. The radio set may be operated as an isolated unit or in a net group.

No field changes in effect at time of preparation (15 June 1964).

RELATION TO OTHER EQUIPMENT:

This equipment is similar to Radio Set AN/VRC-34 except for power supplies and antennas issued and certain modifications to improve operational features.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Battery 6, 12 or 24 v; (1) Frame FM-85; (1) Mast Bracket MP-50.

TECHNICAL CHARACTERISTICS:

RECEIVER-TRANSMITTER RT-77/GRC-9 OR RT-77A/GRC-9

FREQUENCY RANGE

BAND 1: 6.6 to 12 mc.

BAND 2: 3.6 to 6 mc.

BAND 3: 2.0 to 3.6 mc.

TRANSMITTER

TYPE OF MODULATION: Amplitude.

TYPE OF TRANSMISSION: CW, mcw, and AM (voice).

TYPE OF CONTROL: Crystal or master oscillator power ampl.

DISTANCE RANGE

CW SIGNALS: 30 mi (grd operation), 15 mi (vehicular operation).

MCW SIGNALS: 20 mi (grd operation), 10 mi (vehicular operation).

AM SIGNALS: 15 mi (grd operation), 10 mi (vehicular operation).

POWER OUTPUT

CW OPERATION: 15 W, depending on freq, ANT, and power supply.

AM (VOICE), OR MCW OPERATION: 7 W, depending on freq, ANT, and power supply.

ANTENNAS

GROUND OPERATION: Whip or long wire.

VEHICLE OPERATION: Whip.

RECEIVER

TYPE: AM, superheterodyne.

TYPE OF SIGNAL RECEIVED: CW, mcw, and AM (voice)

INTERMEDIATE FREQUENCY: 456 kc.

METHOD OF CALIBRATION: Built-in crystal freq calibrator.

CALIBRATION POINTS: Every 200 kc.

POWER SUPPLY

VEHICLE INSTALLATION: Dynamotor-Power Supply DY-88/GRC-9 or DY-105/GRC-9X.

GROUND INSTALLATION (MAN-TRANSPORTABLE): Generator, dc G-43/G and Battery, Dry BA-317/U.

DYNAMOTOR-POWER SUPPLY DY-88/GRC-9

TRANSMITTER OPERATION

6 V VEHICLE BATTERY: 22.2 amp (high power); 20 amp (low power).

12 V VEHICLE BATTERY: 12.2 amp (high power); 11.1 amp (low power).

24 V VEHICLE BATTERY: 6.7 amp (high power); 6.1 amp (low power).

RECEIVER OPERATION (STANDBY)

6 V VEHICLE BATTERY: 1.25 amp.

12 V VEHICLE BATTERY: 0.8 amp.

24 V VEHICLE BATTERY 0.6 amp.

OUTPUT POWER

TRANSMITTER PA SCREEN AND PLATE POWER: 580 v dc, 0.1 amp.

TRANSMITTER FILAMENTS: 6.3 v dc, 2 amp.

RECEIVER AND LOW LEVEL TRANSMITTER SCREEN AND PLATE POWER: 105 v dc, 0.045 amp.

RECEIVER FILAMENTS: 1.4 v dc, 0.5 amp.
KEY RELAY: 6.3 v dc, 0.575 amp.
STANDBY RECEIVER PLATES: 105 v dc, 0.017 amp.

DYNAMOTOR-POWER SUPPLY DY-105/GRC-9X

TRANSMITTER OPERATION
24 V VEHICLE BATTERY: 6.7 amp (high power); 6.1 amp (low power).

RECEIVER OPERATION (STANDBY)
24 V VEHICLE BATTERY: 0.6 amp.

OUTPUT POWER
TRANSMITTER PA SCREEN AND PLATE POWER: 580 v dc, 0.1 amp.
TRANSMITTER FILAMENTS: 6.3 v dc, 2 amp.
RECEIVER AND LOW LEVEL TRANSMITTER SCREEN AND PLATE POWER: 105 v dc, 0.045 amp.
RECEIVER FILAMENTS: 1.4 v dc, 0.5 amp.
KEYING RELAY: 6.3 v dc, 0.575 amp.
STANDBY RECEIVER PLATES: 105 v dc, 0.017 amp.

GENERATOR, DC G-43/G

CRANK SPEED: 50 to 70 rpm.

POWER OUTPUT TO TRANSMITTER
FILAMENT POWER: 1.4 v dc, 465 ma.
PLATE POWER: 105 v dc, 320 ma.

POWER OUTPUT TO RECEIVER
FILAMENT POWER: 6.3 v dc, 2.5 amp.
PLATE POWER: 425 v, 115 ma.

TOTAL OUTPUT POWER: 85 W (approx).

OPERATING TEMPERATURE RANGE: $^{-}$ 40 to $^{+}$ 125 deg F.

METER, FIELD STRENGTH ME-61/GRC

FREQUENCY RANGE
BAND 3: 1.5 to 4 mc.
BAND 2: 4 to 10 mc.
BAND 1: 10 to 24 mc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/GRC-87 includes:	2F5820-543-1997		
1	Meter, Field Strength ME-61/GRC		5 x 5-1/2 x 6	
1	Generator, dc G-43/G			
1	Dynamotor-Power Supply DY-105/GRC-9X or DY-88/GRC-9			
1	Receiver-Transmitter RT-77/GRC-9 or RT-77A/GRC-9		8 x 12-1/2 x 16-1/2	
1	Mounting MT-350/GRC-9			
1	Bag CW-140/GRC-9		14 x 14 x 16	
1	Panel Cover CW-109/GRC-9			
1	Tripod MT-1643/U			
1	Bag, Cotton Duck CW-420/G		6-1/2 x 11-3/4 x 15-1/2	
2	Crank, Hand GC-7			

AN/GRC-87 RADIO SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Bag, Cotton Duck CW-419/GRC-9			
1	Counterpoise, Antenna CP-12	N5820-296-5100		
1	Counterpoise CP-13			
1	Loudspeaker, Permanent Magnet LS-203/U	N5965-665-0590	3-3/16 x 4-29/32 x 7-1/32	
1	Guy GY-12	N5985-284-9728	240 lg	
1	Guy GY-42	N5985-284-9729	240 lg	
3	Mast Sections MS-116-A	N5985-369-5623	0.393 dia x 39-1/2	
1	Mast Section MS-117-A	N5820-199-8843	0.373 dia x 39-1/2	
1	Mast Section MS-118-A	N5985-238-7474	0.246 dia x 39-1/2	
1	Cord CD-1086		84 lg	
1	Halyard M-378		9/64 dia x 126	
1	Halyard, Antenna M-379	N5820-408-3197	9/64 dia x 126	
1	Mast Base MP-65-B			
1	Insulator IN-127		12-21/32 lg	
1	Bracket FT-515		1/8 x 1 x 6-1/2	
1	Battery, Dry BA-317/U			
1	Wire W-128			
4	Stake, Guy GP-27-B		5/16 dia x 7-9/16	
1	Cable Assy, Special Purpose, Electrical CX-2031A/U		96 lg	
1	Antenna AT-101/GRC-9	N5985-243-0432	1290 lg	
1	Antenna AT-102/GRC-9	N5985-249-4384	1644 lg	
1	Cord CD-119		38 lg	
1	Key J-45		4-1/4 x 5-1/2 x 6	
1	Headset, Electrical H-16/U	N5965-243-7782		
1	Microphone, Carbon M-52/U			
1	Insulator, Strain IN-86			

REFERENCE DATA AND LITERATURE:

TM11-5820-453-10: Operator's Manual for Radio Sets AN/GRC-87 and AN/VRC-34.
TM11-5820-453-20: Organizational Maintenance Manual for Radio Sets AN/GRC-87 and AN/VRC-34.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available

CRYSTALS: (as reqd) CR-8/U

SEMI-CONDUCTORS: Data not available.

RADIO SET AN/GRC-87

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USA
SPEC &/OR DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST

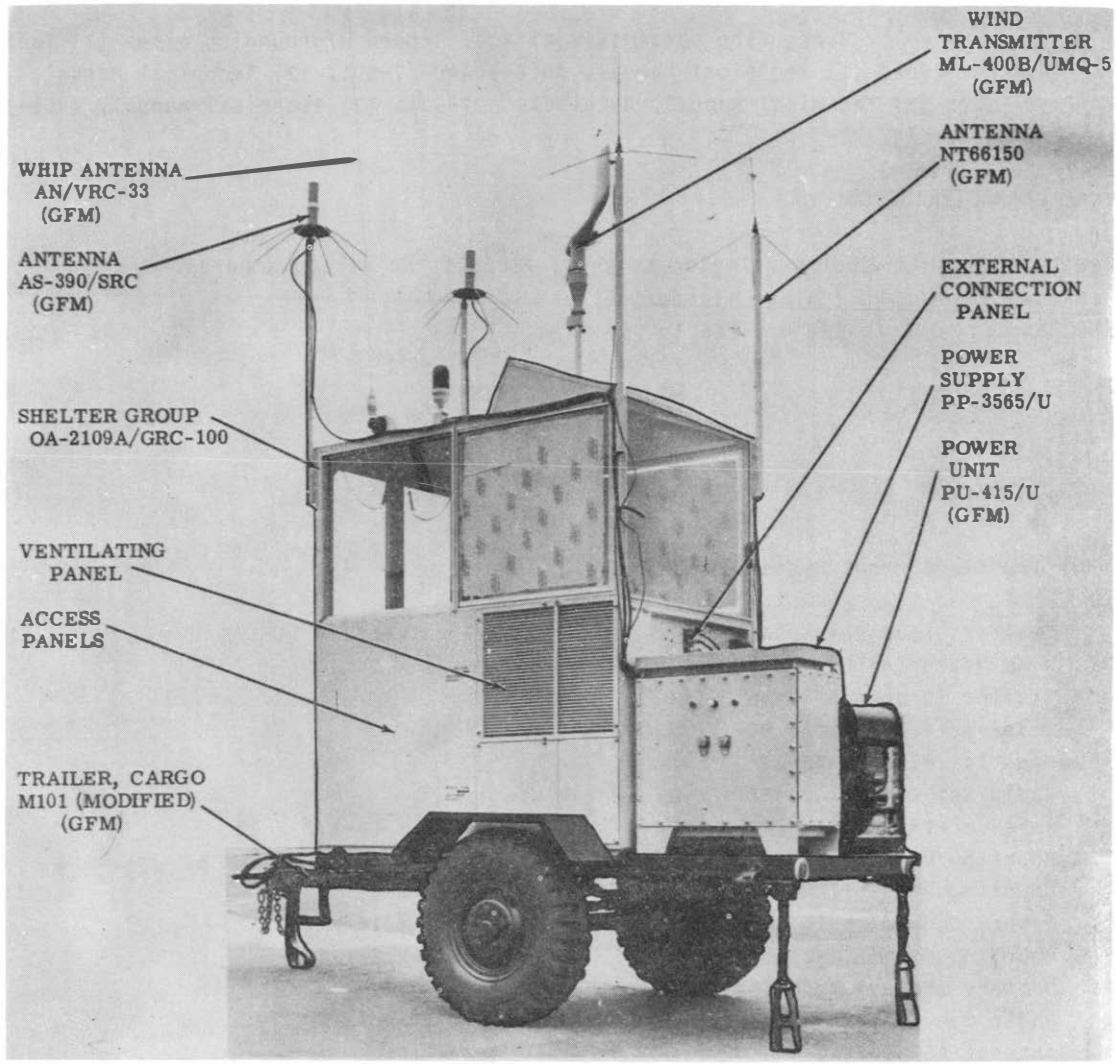
21 July 1967 AIR TRAFFIC CONTROL SYSTEM AN/GRC-100A

Cog Service: USN FSN: **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Wickes Industries Incorporated, (74451).



AIR TRAFFIC CONTROL SYSTEM AN/GRC-100A

AIR TRAFFIC CONTROL SYSTEM AN/GRC-100A

FUNCTIONAL DESCRIPTION:

The Air Traffic Control System AN/GRC-100A is a mobile facility which provides VHF, UHF, and HF ground-to-ground and ground-to-air communications. It can be controlled from a shelter or from a remote location. The system is installed in a splashproof enclosure with storage facilities for all equipment.

No field changes in effect at time of preparation (26 May 1966).

RELATION TO OTHER EQUIPMENT:

The AN/GRC-100A is two-way interchangeable with the AN/GRC-100 but the equipment complement complement differs.

EQUIPMEHT REQUIRED BUT NOT SUPPLIED:

(1) Battery, 24 volt, BuAer Type 53A3A910; (2) Rod, Ground w/grounding wire; (2) Technical Manual, NAVSHIPS 92922; (2) Technical Manual, AN16-30ARC-27-501; (2) Technical Manual, AN16-30ARC-27-502; (2) Technical Manual, AN16-30ARC-27-503; (2) Technical Manual, AN08-30ARC-1-2; (1) Radio Set, AN/VRC-33.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 24 to 28 volts dc at 2 kw; 28 volts dc at 100 amperes.
INPUT IMPEDANCE: 50 ohm (carbon microphone).
FREQUENCY RANGE: 100 to 156 mc, 225 to 399.9 mc.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Air Traffic Control System AN/GRC-100A includes:		
1	Shelter Group OA-2109A/GRC	47 x 74-1/2 x 91-1/2	1125
1	Wind Measuring Set AN/UMQ-5	1-1/2 x 24	5.5
1	Trailer (Ordnance) Type M-101		
2	Receiver-Transmitter RT-178/ARC-27		
2	Mounting MT-822/ARC-27		
2	Radio Set Control C-626/ARC-27		
2	Receiver-Transmitter RT-18/ARC-1	7-1/2 x 10-1/2 x 22	
2	Mounting MT-821/ARC-27		
2	Mounting MT-230A/ARC-1	2-1/2 x 3-1/2 x 5	
2	Remote Control Unit C-45/ARC-1	2-1/2 x 16 x 21	
2	Mounting MT-4/ARR-2	3-1/2 x 3-1/2	
2	Battery (BuAer) Type 53A3A910		
1	Radio Set AN/VRC-33	6 x 11 x 13	
2	Antenna AS-390/SRC	24 x 166	
2	Antenna Navy Type 66150	2 x 24	
2	Headset H-63/U (Microphone)	4 x 6 x 8	
1	Radio Set Control C-2732/GRC-100	5 x 7-1/4 x 7-1/2	3
2	Power Unit Type PU-415C	25 x 33 x 33	515

AIR TRAFFIC CONTROL SYSTEM AN/GRC-100A

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Telephone TA-312/PT	5 x 8 x 12	
2	Chest Set Group AN/GSA-6	2-3/4 x 5 x 9	
1	Power Supply PP-3565/GRC-100A	17 x 31-3/4 x 35	350
1	Wind Direction Velocity Transmitter ML-4008/UMQ-5	15-1/2 x 30 x 33	15
1	Wind Direction Velocity Indicator, ID-300C/UMQ-5A	8-1/16 x 10-7/8 x 20-15/16	17
1	Tripod Folding Type	4-1/2 x 4-1/2 x 43	6
1	Pipe, Exhaust Extension	1-7/8 x 22-1/2	4
1	Pipe, Exhaust Extension	1-7/8 x 5	1
1	Fitting, Pipe Elbow	2-1/4 x 2-3/4 x 2-3/4	1
1	Coupling, Pipe	1-7/8 x 2-1/4	0.25
1	Radio Set Control C-2732/GRC-100	5 x 7-1/4 x 7-1/2	3
1	Power Supply PP-3565/U	17 x 31-3/4 x 35	350
1	Static Power Inverter PP-2739/U	6 x 6 x 8	8
1	Trailer Modified (GFM) M-101		
1	Technical Manual NAVSHIPS 93311		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93311: Technical Manual for Air Traffic Control System AN/GRC-100A.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	793.8	2000
1	17.8	515
1		350

303

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, NavShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Wickes Industries Inc. Mfr's Model No. W-184	Camden, New Jersey	NObsr 87371	

ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62)

DESIGNATION: AN/GRC-112(XN-1)

CLASSIFICATION of Equip.	ITEM NAME	DATE
UNCLASSIFIED	Radio Set	4 April 1961
SPECIFICATION	CONTRACT NUMBER AND DATE	QUANTITY ON ORDER
-	NObsr-72736	-

CONTRACTOR'S NAME AND ADDRESS
Electronic Comm nications, Inc.
St. Petersburg, Florida

SERVICE APPROVAL LETTER - SERIAL AND DATE: -

ELECTRICAL CHARACTERISTICS

POWER INPUT: 208/120 v, 400 cycles, 3 phase, 4 wire WATTS - ___ v - - CYCLE ___ PHASE - AMPS ___ - WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUID OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
-	-	-	1000 w FSK 250 w AM
OPERATING FREQ. AND FREQ. RANGE	**EMISSION OR ECEPTION (TYPE)**	**FREQ. CONTROL (TYPE)**	**NO. OF CHANNELS**
225-399.9 mc, 1 band	AM voice/FSK data	-	1750

ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN
-	-	-	- °HORIZ. - °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-	-	-	TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	-
			PERFORMANCE STANDARD SHEET	-
			MAINTENANCE STANDARD BOOK	-

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN) HEIGHT	WIDTH	DEPTH	VC of G H.D. (UNITS) (feet)	WEIGHT (LBS)
	Radio Set AN/GRC-112(XN-1) consists of:	39	24	29	1.0	300
1	Radio Frequency Amplifier AM-3125( )/GRC					
1	Radio Receiver R-1089( )/GRC					
1	Amplifier-Frequency Multiplier-Modulator AM-3126( )/GRC					
1	Power Supply PP-3101( )/GRC					
1	Radio Set Control C-3839( )/GRC					
				1.7 AN/GRC-112(XN-1): 1		
	CHANGE 74 - 675H				UNCLASSIFIED	

151 IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE

217419

DESIGNATION	ITEM NAME
AN/GRC-112(XN-1)	Radio Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/GRC-112(XN-1) transmits and receives AM and FSK signals. The receiver sensitivity is 5 microvolts. The power output of the transmitter carrier is 250 watts in the AM mode with a modulation capability of 95 percent in the audio range from 300 to 3000 cps. In the FSK mode, the carrier power of the transmitter is 1000 watts. The equipment is automatically tuned and is capable of operation on any of the 1750 channels with 10 preset channels that may be locally or remotely selected. Floor type mounting.

Mfr's Part No. 01-00176-000.

No unit cost available.

Source of information: Request for Nomenclature
BuShips correspondence
Cognizant Engineer

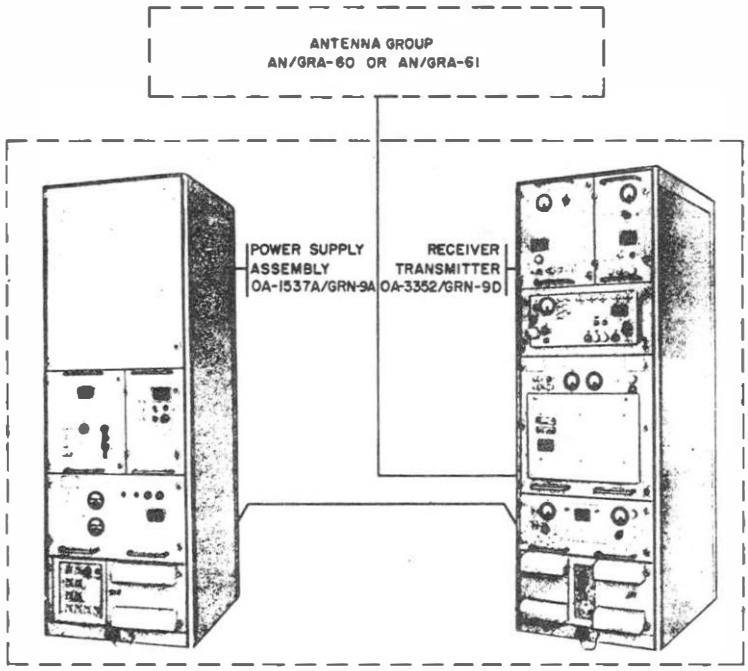
14 July 1964 RADIO SET AN/GRN-9D

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: ITT Federal Laboratories Div. of International Telephone and Telegraph Corporation, (16235).



RADIO SET AN/GRN-9D

FUNCTIONAL DESCRIPTION:

Radio Set AN/GRN-9D contains two major functional assemblies; Receiver-Transmitter Group OA-3352/GRN-9D and Power Supply Assembly OA-1537A/GRN-9A. This equipment supplies information for bearing relative to the radio beacon, referenced to magnetic north, radio beacon identification, and range or distance from the beacon.

No field changes in effect at time of preparation (3 June 1964).

RELATION TO OTHER EQUIPMENT:

One-way interchangeable with previous versions of AN/GRN-9 ( ).

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Power Meter-Pulse TS-891/URN-3; (1) Switch-Test Adapter SA-420/URN-3; (1) Oscilloscope OS-54/URN-3; (1) Pulse Analyzer Signal Generator TS-890A/URN-3 or TS-8908/URN-3; (1) Pulse Sweep Generator SG-121A/URN-3; (1) Antenna Group AN/GRA-60 or AN/GRA-61 or equivalent; (1) Technical Manual NAVSHIPS 82809; (1) Technical Manual NAVSHIPS 82778; (1) Technical Manual NAVSHIPS 92745; (1) Technical Manual NAVSHIPS 94118.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE
RECEIVING: 1025 to 1150 mc.
TRANSMITTING: 962 to 1024 mc; 1151 to 1213 mc.
TRANSMITTER FREQUENCY STABILITY: ± 25 kc (over the operating range).
RECEIVER FREQUENCY STABILITY: ± 50 kc (over the operating range).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/GRN-9D includes:			
1	Receiver-Transmitter Group OA-3352/GRN-9D includes:		25 x 34-1/8 x 72	1126
1	Coder-Indicator KY-3B2/GRN-9D			
1	Radio Receiver R-824/URN			
1	Control-Duplexer C-2226A/GRN-9			
1	Amplifier-Modulator AM-171/URN			
1	Frequency Multiplier-Oscillator CV-1171/GRN-9D			
1	Electrical Equipment Cabinet CY-3163/GRN-9D			
1	Power Supply Assy OA-1537A/GRN-9A includes:		25 x 34-1/8 x 72	986
1	Power Supply PP-1763/URN			
1	Power Supply PP-1765/URN			
1	Power Supply PP-1766/URN			
1	Electrical Equipment Cabinet CY-3164/GRN-9D			
2	Technical Manuals NAVSHIPS 93881.A			
1	Performance Standard Sheet NAVSHIPS 93881.32			
1	Maintenance Standard Book NAVSHIPS 93881.42			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93881.61: Technical Manual Covering Overhaul and Repair Instructions for Radio Set AN/GRN-9D.
NAVSHIPS 93881.A: Technical Manual for Radio Beacon Set AN/GRN-9D.
NAVSHIPS 93881.32: Performance Standard Sheet for Radio Set AN/GRN-9D.
NAVSHIPS 93881.42: Maintenance Standard Book for Radio Set AN/GRN-9D.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (6) 2C39A (8) 5687WA (5) 5R4WGB (2) 5725/6AS6W (1) 6AH6 (3) 5726/6AL5W (3) 6J4WA (1) 5B14A (2) 6X4W (1) 6005/6AQ5W (1) 6V3A (2) 60B0WA (*3) 12AT7WA (5) 6293 (1) SALB9 (5) 6626/0A2WA (8) 8298 (3) 6627/0B2WA (2) B36 (6) B020 (3) 5651WA (11) 5654/6AK5W (10) 5670

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1N21C (2) 1N25 (8) 1N69 (5) 1N126 (2) 1N256

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	105	1935
1	105	1655
1	7.0	78

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
ITT Federal Laboratories Div. of International Telephone and Telegraph Corp.	Nutley, New Jersey	NObsr-81170, 2 August 1961	

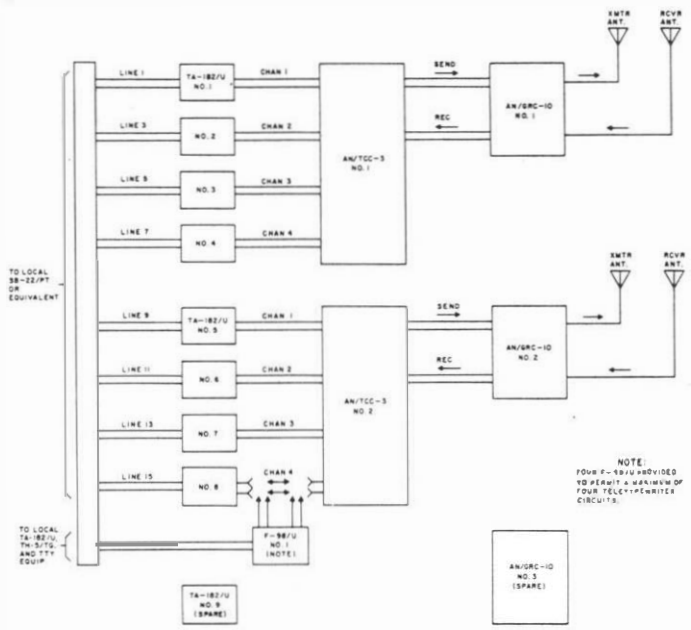
14 July 1964 RADIO TERMINAL SET AN/MRC-68A

Cog Service: USA FSN: Functional Class:

USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER:



RADIO TERMINAL SET AN/MRC-68A

FUNCTIONAL DESCRIPTION:

Radio Terminal Set AN/MRC-68A is an air or ground vehicular-transportable, shelter-housed set of radio-telephone carrier equipment used to provide radio and telephone carrier facilities in a tactical military communications system. The AN/MRC-68A is normally used as a radio-telephone carrier terminal to provide two 4 channel voice frequency systems.

No field changes in effect at time of preparation (15 June 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AN/MRC-68A RADIO TERMINAL SET

TECHNICAL CHARACTERISTICS:

RADIO SET AN/GRC-10
- FREQUENCY RANGE: 54 to 70.9 mc.
- TYPE OF MODULATION: FM.
- TRANSMISSION RANGE: 20 to 50 mi (12.5 to 31 kilometers) line-of-sight path.
- POWER OUTPUT: 40 W max.

CARRIER FACILITIES
- TELEPHONE TERMINAL AN/TCC-3: 2.
  - CHANNELS: 8 (4 per AN/TCC-3).
  - TYPES OF OPERATION: 2 wire, 4 wire.
  - ORDER-WIRE CIRCUITS: 2 (1 per AN/TCC-3).

SIGNALING FACILITIES
- CONVERTER, TELEGRAPH-TELEPHONE TA-182/U: 9 (1 per channel, 1 spare).

SIGNALING FREQUENCIES
- TELEPHONE LOOP CIRCUITS: 20 cps.
- TELEPHONE LINE TRAFFIC CHANNELS: 1600 cps.
- ORDER-WIRE CHANNEL (TELEPHONE AND RADIO): 1600 cps.
- TELETYPEWRITER (LOOP AND LINE CIRCUITS): 1225 cps.

SPEECH-PLUS-DUPLEX FACILITIES: 4 (F-98/U).

POWER REQUIREMENTS: 115 v ± 10%, 50 to 60 cyc, single ph.

CONSUMPTION
- AN/GRC-10 (2 IN OPERATION): 600 W.
- AN/TCC-3 (2 IN OPERATION): 250 W.
- TA-182/U (8 IN OPERATION): 280 W.
- BLOWER (2): 250 W.
- ELECTRIC HEATER: 1500 W.
- SHELTER LIGHTS: 100 W.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Terminal Set AN/MRC-68A includes:			
1	Shelter, Electrical Equipment S-304/MRC-68A			1750
1	Generator Set, Gasoline Engine, Trailer Mtd PU-322/G			3050
3	Radio Set AN/GRC-10	2F5820-552-8483		
2	Terminal, Telephone AN/TCC-3	2F5805-503-2648		
9	Converter, Telegraph-Telephone TA-182/U	2F5805-263-3326		
4	Filter Assy, Electrical F-98/U			
2	Telephone Set TA-312/PT			
1	Distribution Box J-1077A/U			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Heater, Electric			
1	Cable Assy, Power, Electrical CX-4694/U		1200 lg	
2	Reel, Cable RL-435/U			
1	Cable Assy, Power, Electrical CX-2254/U		180 lg	
1	Cable Assy, Telephone CX-4566A/G		3000 lg	
1	Cable Assy, Telephone CX-4760/U		180 lg	

REFERENCE DATA AND LITERATURE:

TM11-5820-505-15: Operator's Organizational, Field, and Depot Maintenance Manual for Radio Terminal Set AN/MRC-68A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USA
SPEC &/OR DWG:

DESIGN COG: USA, Sig C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST

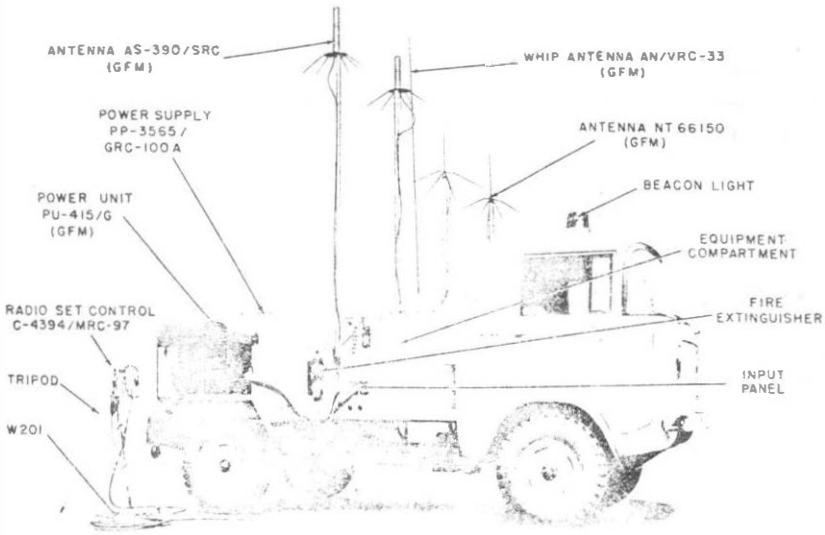
16 July 1964 RADIO SET AN/MRC-97

Cog Service: USN FSM: Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Wickes Industries, Incorporated, (74451).



RADIO SET AN/MRC-97

FUNCTIONAL DESCRIPTION:

Radio Set AN/MRC-97 is a mobile communication system providing ground-to-air and ground-to-ground vhf and uhf voice communications. The equipment can be controlled from within the cab of the truck, or from a remote location up to 100 feet from the truck by use of Radio Set Control C-4394/MRC-97. Operating power is supplied by Power Unit PU-415/G. Commercial 115 or 230 volt, 60 cycle power can be used in conjunction with Power Supply PP-3565/CRC-100A

No field changes in effect at time of preparation (18 June 1964).

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Set AN/VRC-33; (1) Battery BuAer Type 53A3A910, and (2) Instruction Manual NAVSHIPS 92922.

TECHNICAL CHARACTERISTICS:

OPERATING FREQUENCY
AMPLITUDE MODULATION: 100 to 156 mc (AN/ARC-1); 32 to 42 mc (AN/ARC-27).
FREQUENCY MODULATION: 30 to 42 mc (AN/VRC-33).
POWER REQUIREMENTS: 115 or 230 v, 60 cps ac or 28 v dc.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/MRC-97 includes:		76-1/2 x 149 x 180	2350
1	Power Supply PP-3565/GRC-100A		17 x 31 x 35	350
1	Radio Set Control C-4394/MRC-97		5 x 7-1/4 x 7-1/2	3
1	Tripod		8 x 21 x 43	17
1	Start Power Cable Wickes #7790128501		104	
1	Input Power Cable Wickes #7790128-502		144	
1	Remote Control Cable Wickes #7790104-501		1200	
*1	Interconnecting Cabling			
1	Diesel Fuel Can			
1	Fire Extinguisher General Model 2-1/2R			
1	Tire Pump Hite No. 1			
1	Canvas Storage Bag Wickes #5750305			
2	Technical Manual NAVSHIPS 94590			
2	Antenna Mast Wickes #775127-502		40	
2	Antenna Mast Wickes #7750411-501			
*1	VRC Installation Kit with Instructions			
*3	Padlock with 2 keys			
	Government Furnished Material consist of:			
1	1-3/4 Ton Truck Willys FC-170			
2	Receiver-Transmitter RT-178/ARC-27			
2	Mounting MT-822/ARC-27.			
2	Radio Set Control C-626/ARC-27			
2	Mounting MT-821/ARC-27			
2	Receiver-Transmitter RT-18/ARC-1		7-1/2 x 10-1/2 x 22	

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Mounting MT-230A/ARC-1		2-1/2 x 3-1/2 x 5	
2	Remote Control Unit C-45/ARC-1		2-1/2 x 16 x 21	
2	Mounting MT-4/ARR-2		3-1/2 x 3-1/2	
2	Antenna AS-390/SRC		16 x 24	
2	Antenna NT-66150(Modified)		2 x 24	
2	Headset-Microphone H-63/U		4 x 6 x 8	
2	Chest Set Group AN/GSA-6		2-3/4 x 5 x 9	
2	Telephone TA-312/PT		5 x 8 x 12	
1	Power Unit PU-415/G(Modified)		25 x 33 x 33	
1	Jack Assembly			
1	Jack Handle			

* Set.

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94590: Technical Manual for Radio Set AN/MRC-97.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) IRC66F1M1P42U (1) IRC66H1B1S2DU (1) 1N1590 (1) 1N1522 (1) 1N2033 (1) 2N424

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
Wickes Industries, Inc.	Camden, New Jersey	NObsr-87344	

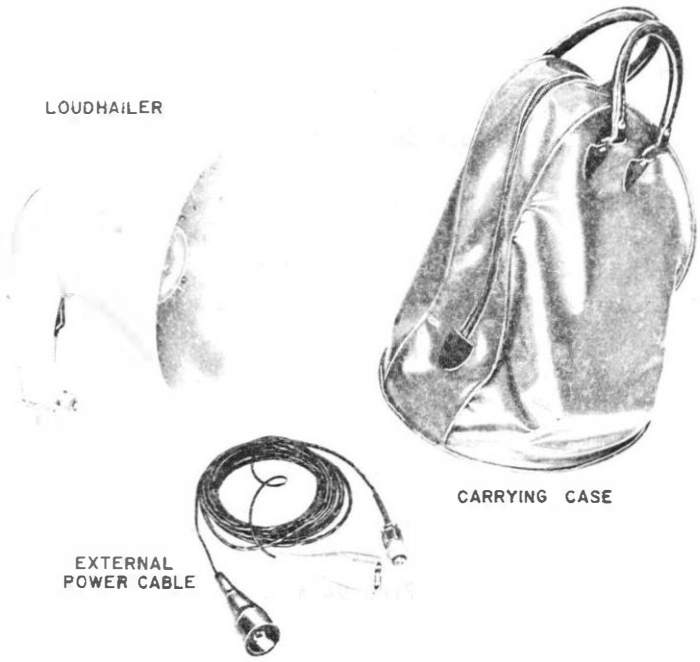
19 April 1966 PUBLIC ADDRESS SET AN/PIC-2

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Audio Equipment Company, Incorporated, (91505).



PUBLIC ADDRESS SET AN/PIC-2

FUNCTIONAL DESCRIPTION:

The Public Address Set AN/PIC-2 is a hand held portable, electronic megaphone powered by a self-contained flashlight battery. By using a cable furnished as an accessory, an external 12 v storage battery may be used as an alternate power source. The unit has a pistol grip handle, trigger switch, and a magnetic microphone. It is for general purpose use.

No field changes in effect at time of preparation (2 February 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

PUBLIC ADDRESS SET AN/PIC-2

TECHNICAL CHARACTERISTICS:

ELECTRICAL RATINGS
- RATED POWER OUTPUT: 10 va at 10% distortion or less.
- INPUT IMPEDANCE: 400 ohms, 10 W input.
- OUTPUT IMPEDANCE: 16 ohms.
- AMPLIFIER VOLTAGE GAIN: 47 db.
- POWER SUPPLY: Eight 1.5 v Type BA-30 dry cell batteries in series providing 12 bolts of internal supply, or an external 12 v storage battery. In lieu of BA-30 dry cells, commercial types, such as D-99 or No. 950 flashlight cells, may be used.

OPERATING POWER REQUIREMENTS: DC 12 v.
MAGNETIC MICROPHONE: 150 ohms impedance.
FREQUENCY RESPONSE: 300 to 4000 cycles per sec.
PERMANENT MAGNET TYPE: 16 ohms voice call impedance.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Public Address Set AN/PIC-2 includes:		12 x 13-3/8 x 15	8
1	External Power Cable		180	11 oz.
1	Carrying Case		13 x 14-1/2 x 15-1/2	2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2732: Technical Manual for Public Address Set AN/PIC-2.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.7	14

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-L-22250(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Audio Equipment Co., Inc.	Port Washington, New York	N126-098071 N126-099198 N126-094703 N126-098171 TEG-41150	

13 September 1967 PUBLIC ADDRESS SET AN/PIQ-5A

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Arkay International Inc.(12431),

PUBLIC ADDRESS SET AN/PIQ-5A

FUNCTIONAL DESCRIPTION:

Public Address Set AN/PIQ-5A is a portable unit consisting of an electric megaphone and a detachable hand-held microphone which are used for voice amplification. An extension cable supplied with the address set permits use of the microphone at distances up to 25 feet from the megaphone. Voice commands applied to the microphone are fed to the audio amplifier input of the electronic megaphone. The amplifier, powered by a battery power supply provides amplification up to 46 db. The amplifier output is then applied to the loudspeaker which reproduces the amplified voice command.

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

PUBLIC ADDRESS SET AN/PIQ-5A

RELATION TO OTHER EQUIPMENT:

The AN/PIQ-5A is similar to and interchangeable with the AN/PIQ-5, except that the pistol grip and the carrying case are physically different.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(10) Batteries, type BA-30 or type BA-2030.

TECHNICAL CHARACTERISTICS:

ELECTRICAL RATING: 15 va.
INPUT IMPEDANCE: 400 ohms nom.
OUTPUT IMPEDANCE: 10 ohms nom.
AMPLIFIER GAIN: 46 db.
POWER SUPPLY: 15 v dc.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Public Address Set, AN/PIQ-5A includes:		
1	Megaphone w/microphone	8-1/2 x 12 x 14-1/8	6.87
1	Extension Cable		1.5
1	Carrying Case	9-3/16 x 13 x 15	4.5

REFERENCE DATA AND LITERATURE:

TM-02543B-15: U.S. Marine Corps Technical Manual, Public Address Set, AN/PIQ-5A. Operation and Maintenance.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	1.8	16.5

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:
DESIGN COG: USMC

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Arkay International Inc.	Brooklyn, N.Y.	Nom-73042	

1.2 AN/PIQ-5A: 2

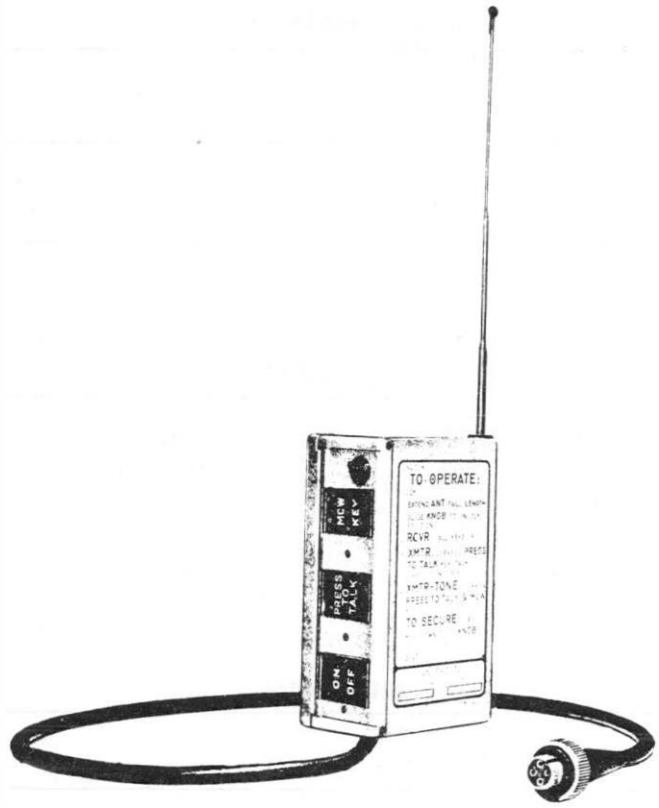
16 July 1964 RADIO SET AN/PRC-32

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

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



RADIO SET AN/PRC-32

FUNCTIONAL DESCRIPTION:

Radio Set AN/PRC-32 is a battery-powered, hand-held, uhf transceiver. Its primary function is to provide two-way voice or keyed tone communication between distressed personnel and air or surface search craft, on an assigned frequency of 243.0 mc. The AN/PRC-32 can also be used for general purpose short range communication.

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

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AN/PRC-32 RADIO SET

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 240.0 to 246.0 mc.
OUTPUT CHARACTERISTICS: Facilities are provided within the equip for either voice or tone modulation of the output carrier.
POWER REQUIREMENTS: 13.6 v dc ("A" supply), 120 v dc ("B" supply).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-32 includes:		1-5/8 x 2-7/8 x 5	1.75
1	Battery CMA-302827		1-1/2 x 3-7/16 x 7	3.00

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30PRC32-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Radio Set AN/PRC-32.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5702WA (1) 5703WA (1) VR57

CRYSTALS: (1) M20

SEMI-CONDUCTORS: (3) 2N43A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
SPEC &/OR DWG: MIL-R-19360(Aer)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Telephonics Corporation	Huntington, Long Island, N.Y.	NOas 59-0217-f	$187.55

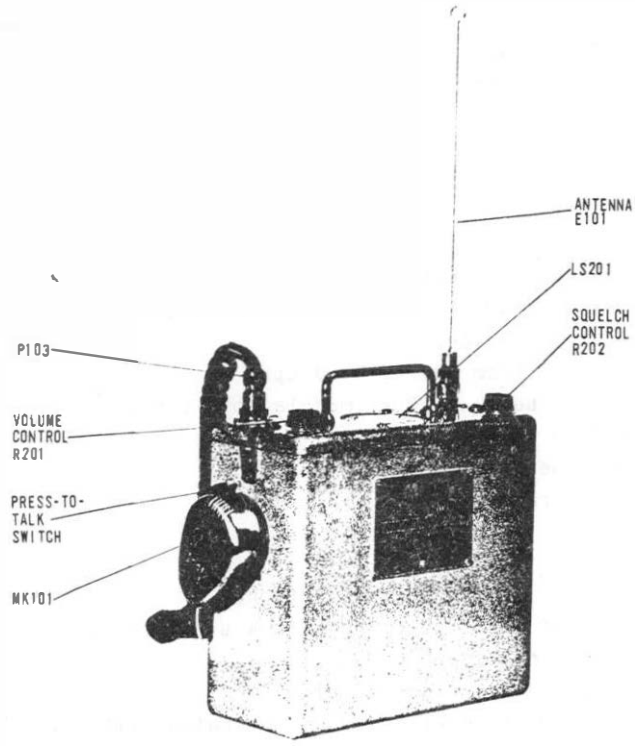
16 July 1964 RADIO SET AN/PRC-40AX

Cog Service: USN FSN: 2F5820-078-4282 Functional Class:

USA USN USAF

TYPE CLASS: **Used by**

MANUFACTURER'S NAME/CODE NUMBER: Space Avionics Incorporated, (14518).



RADIO SET AN/PRC-40AX

FUNCTIONAL DESCRIPTION:

Radio Set AN/PRC-40AX is a portable wide-band (15 kc) FM transmitter-receiver. The receiver and transmitter are constructed on printed circuit boards which mount plug-in nodules. Transistors are used throughout both the receiver and transmitter. A self-contained battery supplies all operating power for the equipment.

The AN/PRC-40AX equipment may be tuned to transmit and receive any single frequency within the range of 132 to 152 mc. The equipment has an effective range of up to ten miles, depending on environment. Under average conditions, effective voice communication will be maintained between AN/PRC-40AX's within a distance of two miles.

No field changes in effect at time of preparation (16 June 1964).

AN/PRC-40AX RADIO SET

RELATION TO OTHER EQUIPMENT

The AN/PRC-40AX is remanufactured from Radio Set AN/PRC-40 and will operate with AN/PRC-40 units and with other wide-band FM transmitters and receivers utilizing a frequency within the range 132 to 152 mc.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Battery, Dry PN-301144; (1) Volt-Ohm-Milliameter AN/PSM-4; (1) FM-AM Signal Generator 202-H Boonton Radio Co.; (1) RF Wattmeter AN/URM-43A; (1) Frequency Meter TS-186/UP; (1) Deviation Meter Mod AR1-A A.R.F. Products Inc.; (1) Crystal CR-18U; (1) Crystal CR-52/U.

TECHNICAL CHARACTERISTICS:

TRANSMITTER
- TYPE OF TRANSMISSION: FM.
- FREQUENCY RANGE: 132 to 152 mc (by crystal selection).
- POWER OUTPUT: 0.8 W at 132 and 142 mc, 0.7 W at 152 mc into a 50 ohm load.
- MODULATION CAPABILITY: ± kc deviation.
- FREQUENCY RESPONSE: + 1 − 3 db from 500 to 3000 cps.
- NOISE LEVEL: At least − 40 db below ± 10 kc modulation level.
- DISTORTION: Max of 8% at + 10 kc modulation.
- CRYSTAL FREQUENCY: 1/12 of operating freq.
- AUDIO INPUT: Push-to-talk microphone.

RECEIVER
- TYPE OF RECEPTION: FM.
- FREQUENCY RANGE: 132 to 152 mc (by crystal selection).
- SENSITIVITY: At least 20 db of noise quieting with 4 uv of cw signal.
- AUDIO OUTPUT: Self-contained loudspeaker.
- CRYSTAL FREQUENCY: F = (Input freq in mc − 8.5)/3.
- POWER SOURCE: Self-contained battery with 100 hrs operating life.

ANTENNA: 1/4 wave, whip type.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-40AX includes:	2F5820-078-4282	5 x 10 x 11-1/2	11.5
1	Radio Receiver-Transmitter RT-507/PRC-40AX complete with microphone antenna, and battery cable			
1	Radio Set Case CY-2625/PRC			
1	Plug-in unit removal tool			
1	Technical Manual NAVSHIPS 95681			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 95681: Technical Manual for Radio Set AN/PRC-40AX.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: (1) CR-18U (1) CR-52/U

SEMI-CONDUCTORS: Not required.

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
Space Avionics Inc.	Alexandria, Virginia	NObsr-87270	

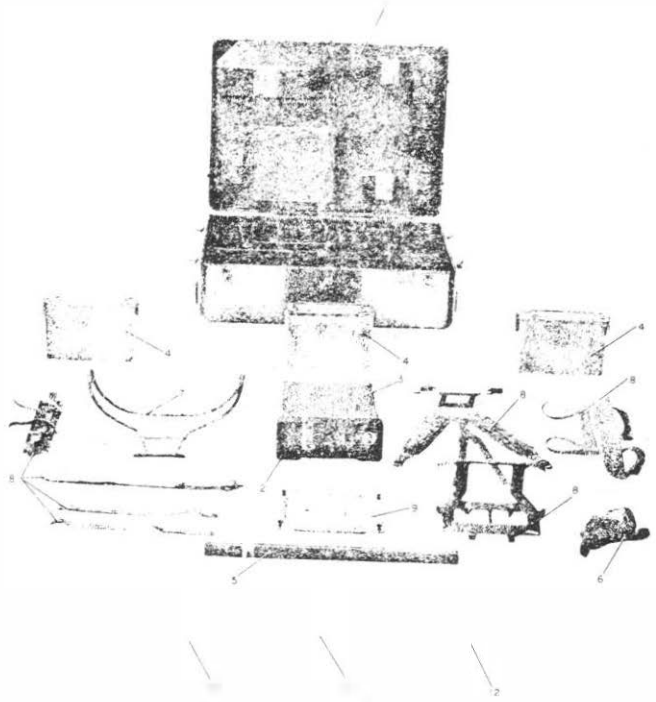
23 November 1965 RADIO SET AN/PRC-41

Cog Service: USN FSN: 2F5820-952-3330 Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

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



RADIO SET AN/PRC-41

FUNCTIONAL DESCRIPTION:

Radio Set AN/PRC-41 is a lightweight, portable uhf receiver-transmitter equipment. The versatility of this equipment permits man-pack, fixed station, or vehicular operation.

No field changes in effect at time of preparation (19 June 1964).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Signal Generator AN/USM-44A or AN/URM-26B; (1) Signal Generator AN/URM-25D; (1) RF Wattmeter AN/URM-43C or TS-1389; (1) Oscilloscope AN/USM-105A; (1) Output Power Meter or Output Meter ME-2/U or ME-184 or TS-585B/U; (1) Audio Oscillator TS-382B/U AN/URM-127; (1) Fuseholder MX-1730/U; (1) Multimeter AN/PSM-4C; (1) Electronic Multimeter TS-505/U or

AN/USM-116; (1) Frequency Counter AN/USM-122 or CAQI-524D; (1) Electronic Frequency Converter CV-394/USA-5 or CAQI-525C; (1) Frequency Comparator CM-102/USM-73; (1) Electrical Dummy Load DA-233/U or CAG-874-GA; (1) Fixed Attenuator CN-315/URM-26; (1) Power Resistor; (1) Transistor Test Set TS-110A/U; (1) Electron Tube Test Set TV-7D/U; (1) Coaxial Crystal Detector Hewlett Packard HP-420A and (1) Junction Box.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 26.5 v dc ± 10% (Equipment will operate with an input voltage as low as 22 v dc) or 115 or 230 v ± 10%, 50 to 400 cps single ph.

FREQUENCY DATA

RANGE: 225.0 to 399.9 mc.

CHANNELS: 1750 spaced at 100 kc intervals over the range.

STABILITY: ± 15 kc.

TYPE OF FREQUENCY CONTROL: Crystal.

NUMBER OF CRYSTALS: 39.

TYPE OF TRANSMISSION AND RECEPTION: A3.

TRANSMITTER DATA

POWER OUTPUT: 3 W avg unmodulated power into a 50 ohm load.

MODULATION: AM.

MODULATION SENSITIVITY: Carbon microphone input of 1.0 v.

MODULATION CAPABILITY: 80% min (adj to dip between 70 to 90%).

TRANSMITTER FIDELITY: + 1, − 3 db, 300 to 3500 cps (from 1000 cps ref).

TRANSMITTER DISTORTION: Less than 10% with modulation 3 db below dipping level.

DUTY CYCLE: 1 min transmit, 9 min receive.

RECEIVER DATA

SENSITIVITY: A signal having an average level of 3 uv modulated 30% at 1000 cps produces 7 mw at a signal-plus-noise to noise ratio of 10 db or greater.

SELECTIVITY: 6 db, 47 kc min; 60 db, 120 kc max.

IMAGES AND SPURIOUS RESPONSES: 70 db down.

IF REJECTION: 80 db down.

AVC CHARACTERISTICS: Output within ± 3 db from 10 to 100,000 uv (from 1000 uv ref).

BLOCKING: No blocking for input signals up to 0.5 v.

SQUELCH OPERATION: A change in audio output of at least 10 db is effected by a 1 db change in input signal.

ULTIMATE STN/N RATIO: At least 35 db (measured at 1000 uv).

AUDIO OUTPUT: 50 mw into a 300 ohm load with 30% modulation, 1000 uv.

AUDIO FIDELITY: + 1, − 3 db from 300 to 3500 cps (from 1000 cps ref).

AUDIO DISTORTION: Less than 10% at 50 mw output.

GUARD RECEIVER DATA

SENSITIVITY: A signal having an average level of 5 uv into the guard receiver modulated 30% at 1000 cps produces 7 mv at a signal-plus-noise to noise ratio of 10 db or greater.

SELECTIVITY: 6 db, 50 kc min, 60 db, 200 kc max.

IMAGES AND SPURIOUS RESPONSES: 60 db down.

IF REJECTION: 80 db down.

AVC CHARACTERISTICS: Output within ± 3 db from 10 to 100,000 uv (from 1000 uv ref).

BLOCKING: No blocking for input signals up to 0.5 v.

SQUELCH OPERATION: A change in audio output of at least 10 db is effected by a 1 db change in input signal.

ULTIMATE STN/N RATIO: At least 35 db (measured at 1000 uv).
AUDIO OUTPUT: 50 mw into a 300 ohm load with 30% modulation, 1000 uv.
AUDIO FIDELITY: + 1 − 3 db from 300 to 3500 cps (from 1000 cps ref).
AUDIO DISTORTION: Less than 10% at 50 mw output (1000 uv input, 1000 cps, 30% modulated).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-41 includes:	2F5820-952-3330		
1	Radio Set Case (less contents) CY-3883/PRC-41		15-1/2 x 26-1/2 x 35	79
1	Radio Receiver Transmitter (without CY-3884/PRC-41) RT-695/PRC-41		4-9/16 x 11-5/16 x 14	18.5
1	Receiver Transmitter Case CY-3884/PRC-41		4-15/32 x 11-3/16 x 12-5/8	3.6
3	Storage Battery BB-451/U		4-9/64 x 7-11/16 x 11-9/16	16
1	Antenna AS-1404/PRC-41		1-3/4 x 23-1/2	0.7
1	Handset H-33E/PT (GFE)		2 x 3-3/8 x 8	1.2
1	Rucksack Frame (GFE)		6-1/4 x 17 x 19	1.5
1	Harness Set			3.1
1	Equipment Repair Parts and Bracket		1-5/8 x 8-1/2 x 11	
2	Installation and Operation Technical Manual TM-03816A-12/1		1-1/2 x 8-1/2 x 11	
2	Repair and Maintenance Technical Manual TM-03816A-35/2		1-3/4 x 8-1/2 x 11	
1	Repair Parts List		8-1/2 x 11	
1	Radio Set Accessory Kit MK-706/PRC-41 includes:			
1	Electronic Equipment Case (less contents) CY-3885/PRC-41		15-1/2 x 26-1/2 x 35	65
1	Power Supply PP-3700/PRC-41		4-5/32 x 7-47/64 x 10-15/16	17.6
1	Antenna AS-1405/PRC-41		3-1/2 x 27-11/16 x 30-27/32	6.3
1	Mast AB-777/PRC-41		3-1/2 x 78-1/4	3.0
1	Adjustable Antenna Mast Adapter		1-7/8 x 10-3/4	1.0
1	Antenna Mounting Bracket		1-7/8 x 4-13/16 x 8-5/8	0.7
1	Directional Antenna Carrying Bracket		1-3/4 x 19-23/32 x 31-17/32	4.8
3	Guy Rope Accessory		120	1.5
3	Gyy Stake		1 x 1 x 10	2.1
1	Bag (for Guy Stake)		5 x 12	0.1
1	Mounting MF 2976/PRC-41		6-1/8 x 11-13/16 x 17-3/4	6.6
1	Mounting MT-2977/PRC-41		17/32 x 5-3/8 x 11-1/2	2.1
1	Radio Frequency Cable Assy CG-55G/U		240	2.4

RADIO SET AN/PRC-41

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Power Electrical Cable Assy CX-8686/PRC-41		240	2.8
1	Power Electrical Cable Assy CX-8687/PRC-41		600	5.4
1	Special Purpose Electrical Cable Assy CX8688/PRC-41		120	1.0
1	DC Adapter Cable		27	0.3
1	Maintenance Cable Kit		5 x 12	
1	Tool Kit		3-1/2 x 7-1/4	0.8
2	Installation and Operation Technical Manual TM-03816A-12/1		1-3/4 x 8-1/2 x 11	
2	Repair and Maintenance Technical Manual TM-03816A-35/2		1-3/4 x 8-1/2 x 11	
1	Repair Part List		8-1/2 x 11	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94757: Installation and Operation Technical Manual for Radio Set AN/PRC-41.
TM-03816A-12/1: Installation and Operation Technical Manual for Radio Set AN/PRC-41.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6442 (2) 7077 (2) 7554

CRYSTALS: (39) ML-18

SEMI-CONDUCTORS: (1) 1N1591A (3) 1N251 (1) 1N30248 (7) 1N457 (4) 1N649
(1) 1N751A (1) 1N753A (2) 1N816 (1) 2N1132 (1) 2N148 (2) 2N338
(3) 2N329A (4) 2N697 (2) 2N706 (1) 2N716 (4) 3N35

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USMC
SPEC &/OR DWG: SHIPS-R-4083

RADIO SET AN/PRC-41

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company,	Cedar Rapids, Iowa	NObsr 87474 NObsr 89389	$5126.74

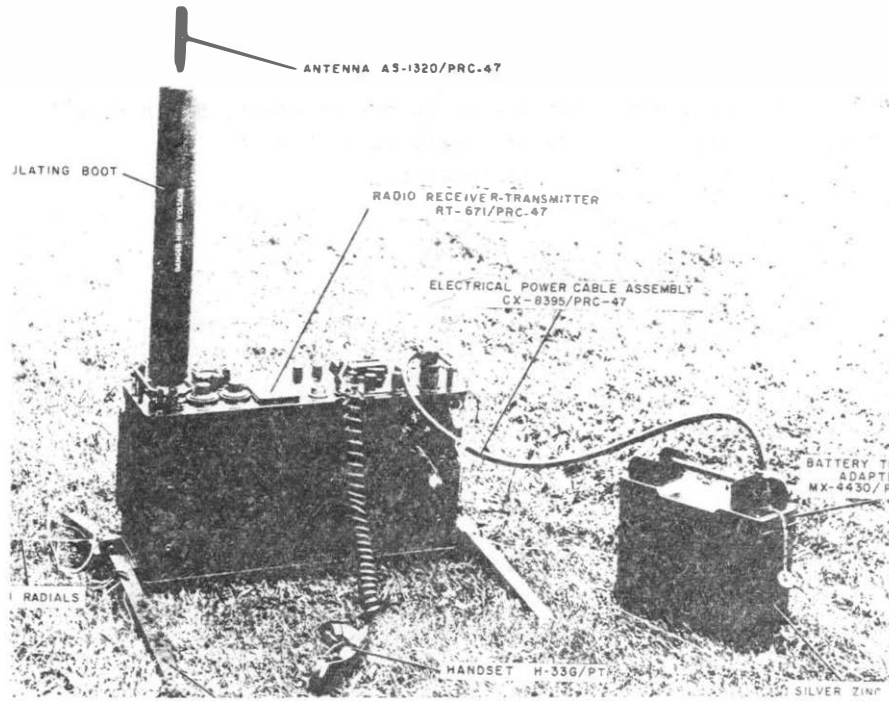
19 April 1966 RADIO SET AN/PRC-47

Cog Service: USN FSN: Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company,



RADIO SET AN/PRC-47

FUNCTIONAL DESCRIPTION:

Radio Set AN/PRC-47 is a complete portable high-frequency communications system including antenna and accessories. The radio set provides continuous wave and upper sideband voice transmission and reception in 1-kilocycle increments over the frequency range of 2 to 11.999 megacycles. The equipment is also capable of frequency shift keying communication when operated in conjunction with a frequency shift keying converter. The radio set may be operated at its own control panel or from a remote control panel.

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

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

AMBIENT TEMPERATURE RANGE: − 40 to + 60° C (− 40 to + 140° F).
AMBIENT HUMIDITY: 0 to 200% relative.
ALTITUDE RANGE: Sea level to 12000 ft.
POWER SOURCE
  DC POWER SUPPLY: 24 v dc silverzinc battery; 26.5 v dc vehicular supply.
  AC POWER SUPPLY: 115 v, single ph, 400 cps.
POWER CONSUMPTION
  TRANSMIT: 320 W max (normal voltage, average power voice operation).
  RECEIVE: 21 W (at max battery voltage and with lights on).
DUTY CYCLE
  HIGH POWER: 1 min transmit, 9 min receive for 1 hr.
  LOW POWER: 2 min transmit, 9 min receive or 10 min transmit, 5 min receive for 1 hour.
MODES OF OPERATION: USB only, FSK or CW (fo + 800 cps).
FREQUENCY RANGE: 2 to 11.999 mc in 1 kc increments.
NUMBER OF CHANNELS: 10,000.
TRANSMIT POWER OUTPUT
  HIGH POWER: 100 W peak envelope power.
  LOW POWER: 20 W peak envelope power.
FREQUENCY STABILITY: ± 25 cps for 60 days.
BATTERY SERVICE CONDITIONS
  AMBIENT TEMPERATURE: − 25 to + 60° C (− 13 to + 140° F).
  HUMIDITY: Up to 100% relative.
  ALTITUDE: Up to 15,000 feet.
  ATTITUDE: Any position.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-47 includes:			
1	Radio Receiver-Transmitter RT-671/PRC-47		6-29/32 x 13-13/32 x 21-5/32	40.8
3	Storage Battery BB-451/U		4-1/8 x 7-27/32 x 11-5/8	17
1	Antenna AS-1320/PRC-47		180 lg	4
1	Radio Set Case CY-3700/PRC-47		17 x 20-3/4 x 28	65
1	Electrical Power Cable Assy CX-8393/PRC-47		600 lg	6.68
1	Electrical Power Cable Assy CX-8395/PRC-47		36 lg	0.5
1	Electrical Power Cable Assy CX-8394/PRC-47		120 lg	1.5
1	Battery Terminal Adaptor MX-4430/PRC-47		2-3/4 x 4-3/32 x 10-27/32	1.8
1	Handset H-33G/PT			1.0
1	Headset H-70C			1.12
1	Telegraph Key J-45			0.83
1	Cable U-239/PRC-47			0.4

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Loudspeaker LS-166/U			3.875
1	Antenna AS-1321/PRC-47		540 lg	2.5
1	Cable CX-8396/PRC-47			0.38
2	Electrical Equipment Leg MT-2786/PRC-47		2-1/2 x 3-7/8 x 18	5.48
3	Rucksack Frames			

REFERENCE DATA AND LITERATURE:

TM 11-5820-509-12: Operator and Organizational Maintenance Manual for Radio Set AN/PRC-47.
TM 11-5820-509-35: Field and Depot Maintenance Manual for Radio Set AN/PRC-47.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not available.

CRYSTALS: Not available.

SEMI-CONDUCTORS: Not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USA
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NOm 72362	

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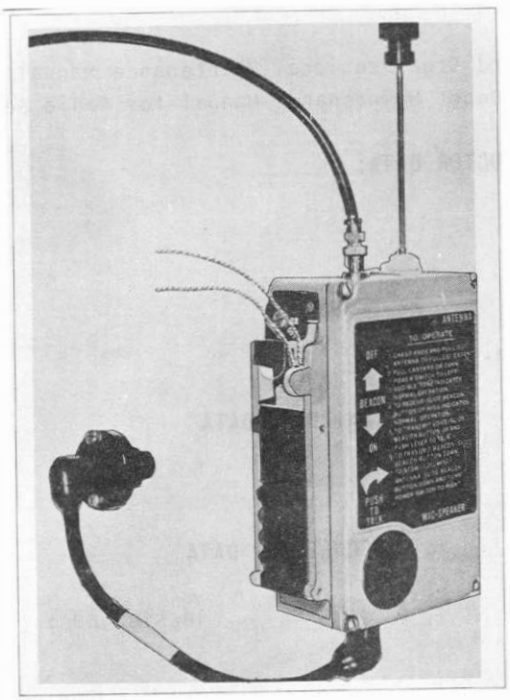
13 September 1967 RADIO SET AN/PRC-49A

Cog Service: USN **FSM:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Philharmonic Radio and Television Corp. (01206)



RADIO SET AN/PRC-49A

FUNCTIONAL DESCRIPTION:

Radio Set, AN/PRC-49A is a portable receiver-transmitter designed for Air-Sea rescue service. It transmits continuous sweeping tone signals and provides voice communication with search craft. The equipment provides automatic radio beacon transmission and voice mode communication between distressed persons and air-sea rescue craft. The radio set is capable of being used as an immediate emergency beacon transmitter by installation within parachute gear. The equipment is installed in a standby state and energized automatically when the parachute opens. Continuous automatic transmission is accomplished on the emergency guard band frequency of 243 mc.

No field changes in effect at time of preparation (29 December 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Battery, P.R. Mallory Type 303214.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 14 v dc at 100 ma peak and 6 v dc at 85 ma peak (from battery).
TRANSMIT DATA
FREQUENCY RANGE: 240 to 246 mc, preset at 243 mc.
POWER OUTPUT: 100 mw for cw; 200 mw peak for mcw.
DUTY CYCLE: 100% for cw; 50% for mcw.
OUTPUT IMPEDANCE: 50 ohms.
MODULATION: 80%.
RECEIVE DATA
FREQUENCY RANGE: 240 to 246 mc, preset at 243 mc.
POWER OUTPUT: 5 mW audio output.
SENSITIVITY: 6 db signal plus noise to noise ratio w/RF input of mv modulated 30% at 1000 cps.
OUTPUT IMPEDANCE: 4 ohms.

MAJOR COMPONENTS

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QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-49A, includes:	1-3/4 x 3-5/8 x 7-1/4	26
1	Antenna	3/8 x 64-1/8	3

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30 PRC49-3: Handbook, Operation and Service Instructions w/Illustrated Parts breakdown, Radio Set AN/PRC-49A.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, NavAir
SPEC &/OR DWG: MIL-R-22633(WEP)

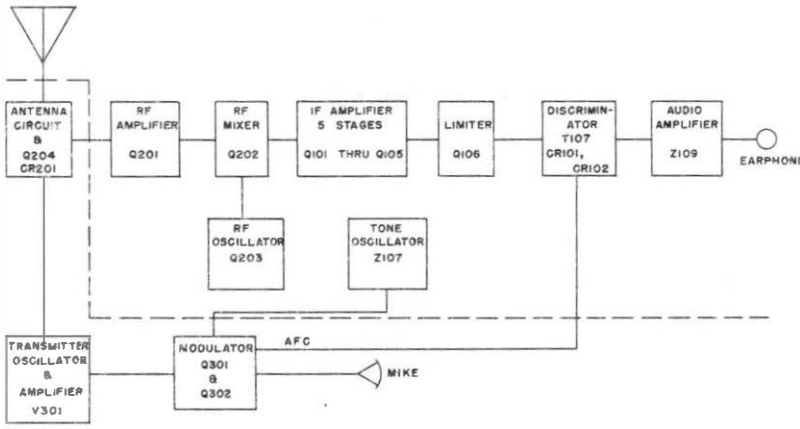
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COS
Philharmonic Radio and Television Corp.	New Brunswick, N.J.	N600(19) 58091	

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Naval Air Station, (97057).



RADIO SET AN/PRC-53

FUNCTIONAL DESCRIPTION:

The Radio Set AN/PRC-53 is a subminiature radio set for use in helmets on the flight deck. The unit incorporates transistors and employs frequency modulation (voice). It joins the network of standard, FM combatant communication equipments. The AN/PRC-53 is fully transistorized except for the transmitter oscillator tube. The receiver-transmitter unit is of modular construction.

No field changes in effect at time of preparation (1 February 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Headset Battery, Ever-ready Type W-591.

TECHNICAL CHARACTERISTICS:

TRANSMITTER DATA
- TYPE OF EMISSION: F3.
- POWER OUTPUT: 75 mw.
- FREQUENCY DATA: 38.0 to 51 mc, 1 band, 12 channels.

RECEIVER DATA
- TYPE OF EMISSION: F3.
- FREQUENCY DATA: 38.0 to 51 mc, 1 band, 12 channels.
- OPERATING POWER REQUIREMENTS: DC, facilities provided for internal batteries (Ever-ready Type W-591).
- RECEIVER TYPE: Superhetrodyne.
- BATTERY LIFE: 8 to 10 hours.
- ANTENNA: Twelve inch whip.
- MICROPHONE: M-33/AIC-Noise Cancelling.
- AVERAGE RANGE: 300 yards.
- TRANSMISSION TYPE: Voice and Tone.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-53 includes:			3.16
1	Receiver-Transmitter Unit			
1	Control Unit			
1	Canvas Flight Deck Helmet			
1	12-Inch Whip Antenna			
1	Room Type Microphone w/Cable			
1	Headset w/Headband			
1	Power Supply (Ever-ready Battery, Type W-591)			

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REFERENCE DATA AND LITERATURE:

Handbook for Operation and Maintenance Instruction with Parts Breakdown for Radio Headset AN/PRC-53.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

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

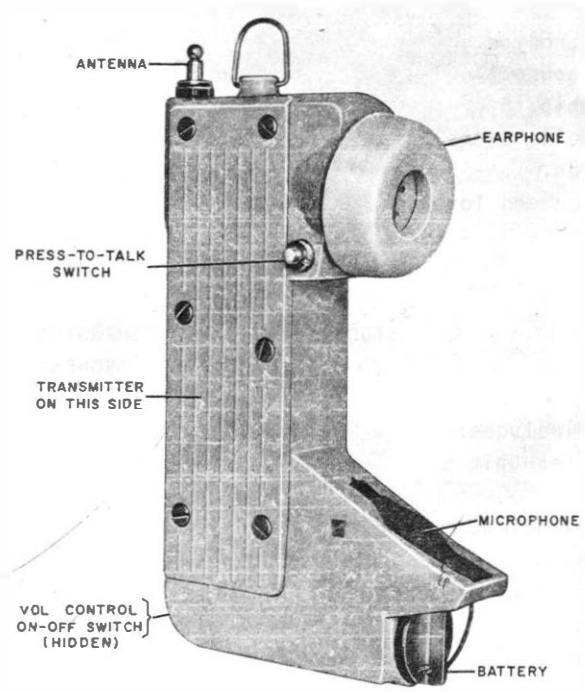
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Naval Air Station	Norfolk, Virginia		

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: **Used by**

MANUFACTURER'S NAME/CODE NUMBER: The Bendix Corporation, Radio Division, (06845).



RADIO SET AN/PRC-55

FUNCTIONAL DESCRIPTION:

The Radio Set AN/PRC-55 is a hand-held flight-deck intercommunications system. It is miniaturized, and crystal controlled. The unit is functionally interchangeable with the AN/PRC-55 (XN-1), but the design was modified to include a telescopic antenna. Various components were refined.

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

RELATION TO OTHER EQUIPMENT:

The Radio Set AN/PRC-55 is functionally interchnageable with the AN/PRC-55(XN-1).

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

OPERATING FREQUENCY: 132.0 to 150.8 mc, 1 band.
OUTPUT POWER: 5 mw, max.
INPUT POWER: 8.4 v dc (internal batteries).
EMISSION: Type A3.
NUMBER OF CHANNELS: 1.
OPERATING FREQUENCIES ARE APPLIED AS FOLLOWS:

	PRIMARY	SECONDARY
RECEIVE		
Radio-Set AN/PRC-55:	138.66 mc	138.54 mc
	138.66 mc	138.54 mc
	149.07 mc	148.35 mc
TRANSMIT		
Radio Set AN/PRC-55:	149.07 mc	148.35 mc
	149.07 mc	148.35 mc
	138.66 mc	138.54 mc

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-55		2-1/2 x 6-1/4 x 10-13/64	2.0

REFERENCE DATA AND LITERATURE:

NAVSHIPS 95762: Technical Manual for Flight Deck Communications System AN/SRC-22(V).

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
The Bendix Corp., Radio Div.	Towson, Maryland	NObsr 89163 NObsr 81083	

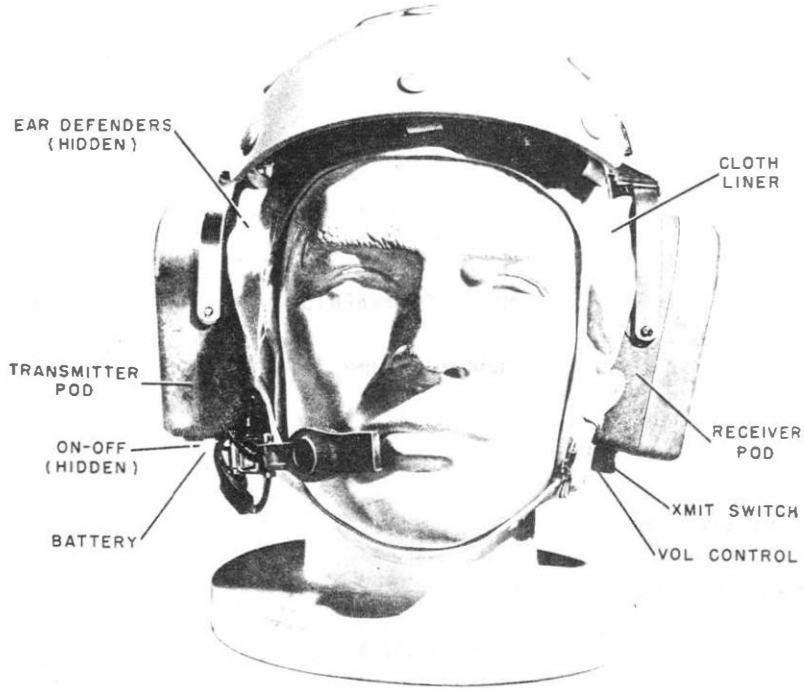
11 April 1966 RADIO SET AN/PRC-56

Cog Service: USN FSM: Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: The Bendix Corporation, Radio Division, (06845).



RADIO SET AN/PRC-56

FUNCTIONAL DESCRIPTION:

The Radio Set AN/PRC-56 is a complete battery power radio transceiver mounted in a protective helmet for intercommunications between flight deck personnel. The helmet is supplied in various sizes.

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

RELATION TO OTHER EQUIPMENT:

The AN/PRC-56 is functionally, electrically, and mechanically interchangeable with the AN/PRC-56(XN-1) except for several minor component changes.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

RADIO SET AN/PRC-56

TECHNICAL CHARACTERISTICS:

TRANSMITTER DATA
EMISSION: Type A3.
POWER OUTPUT: 5 mw maximum.
FREQUENCY DATA: 132 to 150.8 mc.
NUMBER OF CHANNELS: 1.
NUMBER OF BANDS: 1.
OPERATING POWER REQUIREMENTS: DC 8.4 v, facilities provided for internal battery.
OPERATING FREQUENCIES ARE APPLIED AS FOLLOWS:

	PRIMARY	SECONDARY
RECEIVE		
Radio Set AN/PRC-56:	138.66 mc	138.54 mc
	138.66 mc	138.54 mc
	149.07 mc	148.35 mc
TRANSMIT		
Radio Set AN/PRC-56:	149.07 mc	148.35 mc
	149.07 mc	148.35 mc
	138.66 mc	138.54 mc

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-56		8.0 x 9.0 x 10-1/2	4

REFERENCE DATA AND LITERATURE:

NAVSHIPS 95762: Technical Manual for Flight Deck Communications System AN/SRC-22(v).

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
The Bendix Corp., Radio Div.	Towson, Maryland	NObsr 89163	

12 April 1966 RADIO SET AN/PRC-61

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

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

RADIO SET AN/PRC-61

FUNCTIONAL DESCRIPTION:

Radio Set AN/PRC-61 has a partially transistorized transmitter and a fully transistorized receiver. The radio set is a commercial and industrial portable communications unit. It features greater transmitter RF and receiver audio outputs as well as all the aspects inherent to transistors such as low drain, long life, ruggedness and greater performance. The radio set is a complete, self-powered, portable FM transmitter and receiver unit for two-way communication.

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

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(2) Crystals.

TECHNICAL CHARACTERISTICS:

GENERAL

FREQUENCY: 132 to 152 mc.

POWER SUPPLY: Two 67-1/2 v "B" batteries, one 6 v battery and one 1-1/2 v "A" battery.

DIMENSIONS: 3-1/8 x 10-1/8 x 12-1/8 in. excluding antenna.

WEIGHT: 7 lb less batteries.

POWER INPUT: 0.17 w receiver standby, 0.75 W receiver operate, and 8.5 W transmit.

TRANSMITTER

RF POWER OUTPUT: 1 W at full battery v (135 v); 0.8 W at nom battery v (120 v).

POWER INPUT: 55 ma at 120 v; 875 ma at 1.3 v; 114 ma at − 5.2 v (microphone and relay current).

CRYSTAL MULTIPLICATION: 24 times.

SPURIOUS AND HARMONIC EMISSIONS: More than 50 db below carrier.

FREQUENCY STABILITY: ± 0.0025% from − 30° C to + 60° C (+ 25° C ref).

MODULATION: 40F3; ± 15 kc for 100% at 1000 cps.

FM NOISE: At least 40 db below ± 10 kc deviation at 1000 cps.

AUDIO DISTORTION: Less than 6% at 1000 cps, ± 10 kc deviation.

RECEIVER

CHANNEL SPACING: 60 kc.

MODULATION ACCEPTANCE: ± 15 kc.

SELECTIVITY: More than 80 db at ± 60 kc.

TUNED CIRCUITS: 29 (6 plastic-sealed in miniature "Permakay" filter).

SENSITIVITY: Less than 0.7 uv for 20 db quieting; 50 ohms RF input impedance.

FREQUENCY STABILITY: ± 0.0025% from − 30° C to + 60° C (+ 25° C ref).

SPURIOUS AND IMAGE REJECTION: More than 60 db down for all except (f-227.5 kc) which is 50 db down.

SQUELCH SENSITIVITY: Adjustable, will open at less than 0.35 uv.

NOMINAL POWER INPUT: 30 ma at − 6 v (squelched).

AUDIO OUTPUT: 300 mw at less than 10% distortion.

BATTERY LIFE: Under operating conditions of 10% transmit and 10% receive at rated audio output and 80% receive standby, dry batteries will last ten 8 hour working days each seperated by a 16 hr OFF period.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-61 includes:		3-1/8 x 10-1/8 x 12-1/8	7
1	Antenna AS-1395/PRC-61			
1	Microphone, Carbon M-120/PRC-61			
1	Radio Receiver-Transmitter RT-693/PRC-61			
1	Battery Box CY-3870/PRC-61 (less batteries)			
1	Carrying Strap			
1	Carrying Bag CW-672/PRC-61			
1	Tuning Tool Kit			

RADIO SET AN/PRC-61

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94682: Technical Manual for Radio Set AN/PRC-61.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (5) 1AD4 (3) 6397

CRYSTALS: (1) (80211)AN-1 (1) (80211)VMS-13

SEMI-CONDUCTORS: (2) (80211)48C859464 (1) (80211)48C82420C03 (4) (80211)48C855216
(1) (80211)48C82392803 (1) (80211)48R134576 (1) (80211)48R134577
(1) (80211)48R134578 (6) (80211)48A124388 (3) (80211)48R134596
(2) (80211)48A124313

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
Motorola Incorporated	Chicago, Illinois	NObsr 87644	

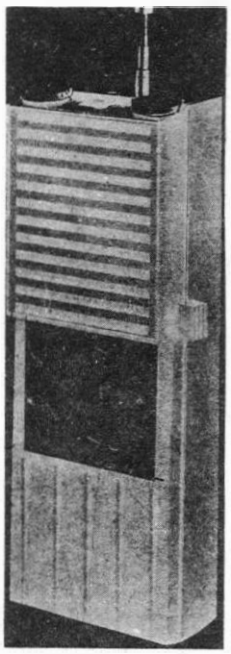
13 September 1967 RADIO SET AN/PRC-73

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Repco Inc.



RADIO SET AN/PRC-73

FUNCTIONAL DESCRIPTION:

Radio Set AN/PRC-73, is a portable two way FM radio consisting of a battery, case and Radio Receiver-Transmitter which is designed to operate in the VHF frequency range of 132 to 174 mc. It uses thirteen rugged, highly reliable transistorized modules, which can be easily replaced in the event of failure. The tranceiver is operated from a rechargeable nickel-cadmium battery which mounts with the use of a battery compartment adapter smoothly integrated into the overall case design. Provision for an external earphone jack is available, and for a rugged whip antenna.

No field changes in effect at time of preparation (Jan 16, 1967).

RELATION TO OTHER EQUIPMENT: None.

RADIO SET AN/PRC-73

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 132 to 174 mc.
RF POWER OUTPUT: 1 w min; 1.5 w max.
SPURIOUS EMMISSIONS: -45 db.
FREQUENCY STABILITY: ±.002% -30°C to +50°C.
MODULATION: ±5 kc (NB) or ±15 kc (WB).
RECEIVER DATA
SENSITIVITY: 0.5 uv for 20 db quieting.
SELECTIVITY: -55 db at adjacent channel.
SPURIOUS-IMAGE REJECTION: More than 55 db.
SQUELCH: Adjustable-will open at 0.25 uv.
AUDIO OUTPUT: 500 mw at less than 10% distortion.
FREQUENCY STABILITY: ±.002% -30°C to +50°C.
MODULATION: ±5 kc (NB) or ±15 kc (WB).
POWER REQUIREMENTS: 22-1/2 v and 10 vdc (from rechargeable battery).

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/PRC-73	1-1/4 x 3-1/8 x 10-1/4	4

REFERENCE DATA AND LITERATURE:

NavShips 0969-023-1000: Instruction Manual for Radio Set AN/PRC-73.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, NAVSHIPS
SPEC &/OR DWG: SHIPS-R-1721

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Repco Inc.	Orlando, Calif.	N600(24-126) 63045	

12 April 1966 AMPLIFIER OSCILLATOR GROUP AN/SIA-112A

Cog Service: USN FSN: **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

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

AMPLIFIER OSCILLATOR GROUP AN/SIA-112A

FUNCTIONAL DESCRIPTION:

The Amplifier Oscillator Group AN/SIA-112A is a shipboard installation used for voice announcements and generating chemical attach, collision, sonar and general alarms.

No field changes in effect at time of preparation (25 February 1966).

RELATION TO OTHER EQUIPMENT:

The AN/SIA-112A is similar to AN/SIA-112 except for maintenance spare parts.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 60 cyc, single ph.
STANDBY WATTS: 400.

AMPLIFIER OSCILLATOR GROUP AN/SIA-112A

READY WATTS: 600.
AT FULL OUTPUT WATTS: 1000.
HEAT DISSIPATION
BTU PER HOUR STANDBY: 1365.
BTU PER HOUR READY: 2050.
INPUT IMPEDANCE: 150 ohms.
OUTPUT IMPEDANCE: 40 ohms.
RATED OUTPUT VOLTAGE: 70 volts.
RATED GAIN: 87 db at 150 ohms.
INPUT REQUIRED FOR RATED OUTPUT: 8.7 mv at 150 ohms.
OUTPUT POWER AT 5% TOTAL HARMONIC DISTORTION: 250 watts.
RATED AT 10% TOTAL HARMONIC DISTORTION: 400 watts.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Oscillator Group AN/SIA-112A includes:		15 x 20 x 62	600
2	Oscillator, Audio Frequency O-936A/SIA-112			
2	Amplifier, Audio-Frequency AM-315A/SIA-112			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2439: Technical Manual for Shipboard Announcing Equipment IC-34P.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: EEE20-62
DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACTOR ORDER NO.	APPROX. UNIT COST
Dynalec Corporation	Rochester, New Jersey	TCG-41971 (CG-55,946A)	

ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62)

		DESIGNATION: AN/SIA-114A
CLASSIFICATION of Equip.: UNCLASSIFIED	ITEM NAME: Amplifier-Oscillator Group	DATE of Request.: 14 January 1963
SPECIFICATION: MIL-A-21577/A(SHIPS)	CONTRACT NUMBER AND DATE: NObs (24-126) 86912	QUANTITY ON ORDER: -
CONTRACTOR'S NAME AND ADDRESS: Webster Electric Company, Racine, Wisconsin		SERVICE APPROVAL LETTER - SERIAL AND DATE: -

ELECTRICAL CHARACTERISTICS

POWER INPUT									
115 V	60 CYCLE	1 PHASE	AMPS 500	WATTS	- V	- CYCLE	- PHASE	- AMPS	- WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
-	-	-	500 W Amplification
OPERATING FREQ. AND FREQ. RANGE	**EMISSION OR RECEPTION (TYPE)**	**FREQ. CONTROL (TYPE)**	**NO. OF CHANNELS**
200 to 800 cps ±3 db variation in output	-	-	2 input

ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN
-	(see reverse)	-	- °HORIZ. - °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-	-	-	TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	-
			PERFORMANCE STANDARD SHEET	-
			MAINTENANCE STANDARD BOOK	-

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN) HEIGHT	WIDTH	DEPTH	H.D. (UNITS)	WEIGHT (LBS)
	Amplifier-Oscillator Group AN/SIA-114A consists of:					
2	Audio Frequency Amplifier AM-3820/SIA-114A					
2	Audio Frequency Amplifier AM-3821/SIA-114A					
2	Power Supply PP-3837/SIA-114A					
2	Audio Frequency Oscillator O-1138/SIA-114A					
2	Audio Frequency Oscillator O-1139/SIA-114A					
2	Audio Frequency Oscillator O-1140/SIA-114A					
2	Audio Frequency Oscillator O-1141/SIA-114A					
2	Audio Frequency Oscillator O-1142/SIA-114A					
1	Amplifier Assembly AM-2316A/SIA					
	CHANGE 71 - 665D	1.5 AN/SIA-114A:		1	UNCLASSIFIED	

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE

DESIGNATION	ITEM NAME
AN/SIA-114A	Amplifier-Oscillator Group

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/SIA-114A controls and amplifies voice and alarm signals. It transmits these signals to shipboard General Announcing System circuit 1 mc and Inter-ship Announcing System circuit 6 mc. It is electrically and functionally one-way interchangeable with Amplifier-Oscillator Group AN/SIA-114. Circuit design is improved. The mechanical assembly of the preamplifiers and alarm oscillators is different since all modules must be mounted in a vertical position. There are also some minor electrical circuit improvements. Special features are: amplifier channel selector, limiter circuit, six loudspeaker and six microphone disconnect switches, meter calibrated in db, oscillator selector, power ON indicator, power supply switches, test lead resistor, four test signal alarm switches, test start switch, visual alarm disconnect, collision alarm, flight crash alarm, general alarm, chemical alarm, and unassigned alarm A. An integral loudspeaker is not included.

No unit cost available.

Source of information: Request for Nomenclature.

Impedance (ohms)

10 and 18 output; 80 per channel input.

348

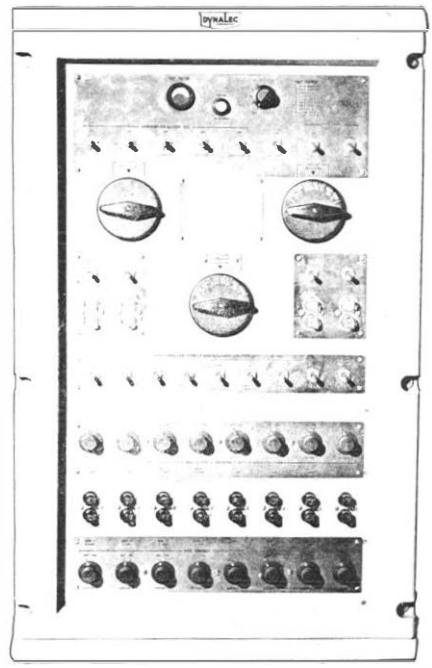
7 September 1967 AMPLIFIER-OSCILLATOR GROUP AN/SIA-117A

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

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



AMPLIFIER-OSCILLATOR GROUP AN/SIA-117A

FUNCTIONAL DESCRIPTION:

Amplifier-Oscillator Group AN/SIA-117A is designed for shipboard operation and is used for voice announcements and to generate signal numbers 1, 4, 5, 7 and 8 as listed on page 11 of MIL-A-21577 (Ships). A circuit is provided for general announcing capabilities, and a circuit is provided for aviator's announcing capabilities. The alarms provided by this equipment include the collision, chemical, general, unassigned (7) and unassigned (8) signals.

No field changes in effect at time of preparation (16 January 1967).

RELATION TO OTHER EQUIPMENT:

AN/SIA-117A is similar to and two-way interchangeable w/AN/SIA-117, except for maintenance parts.

AMPLIFIER-OSCILLATOR GROUP AN/SIA-117A

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(Up to 15) loudspeakers; (8) Loudspeaker group; (15) microphone stations; (as required) Alarm Contact Makers; (as required) visual alarm indicators.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v ac, 1 ph, 60 cyc, 100 w.
INPUT IMPEDANCE: 150 ohms.
OUTPUT IMPEDANCE: 600 ohms.
RATED OUTPUT VOLTAGE: 10 v.
INPUT REQUIRED: .0087 v.
OUTPUT POWER AT LESS THAN 5% THD: 0.167 w.
RATED GAIN: 55 db.
FREQUENCY RESPONSE: 200 to 8000 cps.
CONTROL FUNCTIONS: Amplifier transfer switches, microphone station discount switches; oscillator transfer switch; output test meter; power available lamp; primary power switches; speaker group disconnect switches; test switches.
ALARM SIGNAL CHARACTERISTICS
COLLISION: Pulsed 1000 cps.
CHEMICAL: Continuous 1000 cps.
GENERAL: Gong striking at 100/min.
UNASSIGHED (7): Jumptone, 500 to 1500 cps, alternating 90/min.
UNASSIGNED (8): Jumptone, 600-1500 cps alternating at 360/min.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier Oscillator Group AN/SIA-117A, includes:	16-5/8 x 19-1/2 x 31-1/4	230
2	Amplifier, Audio Frequency AM-4153/SIA-1148		
2	Oscillator, Audio Frequency O-1237/SIA-1148		
2	Oscillator, Audio Frequency O-1239/SIA-1148		
2	Oscillator, Audio Frequency O-1240/SIA-1148		
2	Oscillator, Audio Frequency O-1241/SIA-1148		
2	Oscillator, Audio Frequency O-1287/SIA-117A		
2	Power Supply PP-4160/SIA-1148		
2	Amplifier, Audio Frequency AM-2316C/SIA includes:	19-1/2 x 23 x 64	
4	Amplifier, Audio Frequency AM-4154/SIA		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0965-009-7000: Type 1 Technical Manual for Amplifier-Oscillator Group AN/SIA-117A; Amplifier-Oscillator Group AN/SIA-118A; Amplifier, Audio Frequency AM-2316C/SIA. Circuit 1MC, 3MC, and 5MC announcing equipment.

AMPLIFIER-OSCILLATOR GROUP AN/SIA-117A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MILA-21577/4A(SHIPS)

DESIGN COG: USN, NAVSHIPS

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Dynalec Corp.	Rochester, N.Y.	NObs(24-126) 92047	

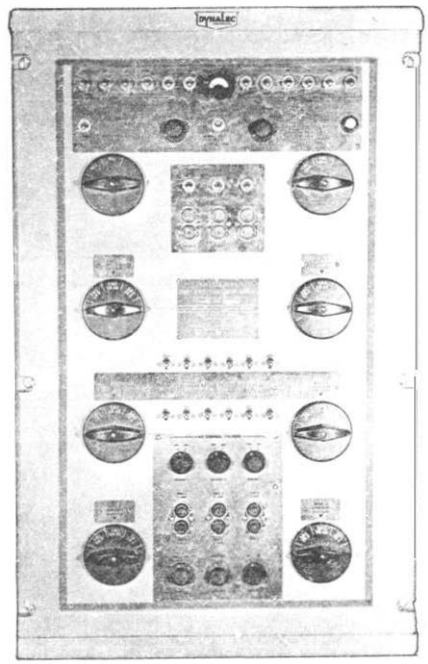
7 September 1967 AMPLIFIER-OSCILLATOR GROUP AN/SIA-118A

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

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



AMPLIFIER-OSCILLATOR GROUP AN/SIA-118A

FUNCTIONAL DESCRIPTION:

Amplifier-Oscillator Group AN/SIA-118A is designed for shipboard operation and is used for voice announcements and to generate signal numbers 1, 2, 4 and 6 as listed on page 11 of MIL-A-21577(SHIPS). The circuit provides for flight deck announcing capabilities. The alarms provided by this equipment include the Collision, Chemical, Flight Crash, and Flight Warning signals.

No field changes in effect at time of preparation (23 March 1967).

RELATION TO OTHER EQUIPMENT:

AN/SIA-118A is similar to and two-way interchangeable w/AN/SIA-118, except for maintenance parts.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(6) loudspeakers; (12) Loudspeaker Groups; (6) Microphone Stations; (as required) Alarm Contact Makers; (as required) Visual alarm circuit.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115v ac, 1 ph, 60 cyc, 130 W.
OUTPUT IMPEDANCE: 600 ohms.
INPUT IMPEDANCE: 150 ohms.
RATED OUTPUT VOLTAGE: 10 v.
INPUT REQUIRED: 0.0087 v.
OUTPUT POWER AT LESS THAN 5% THD: 0.167 W.
RATED GAIN: 55 db.
FREQUENCY RESPONSE: 200 to 8000 cps.
CONTROL FUNCTIONS: Amplifier transfer switch, Microphone station discount switches, Oscillator transfer switch; Output test meter; Power available lamp, primary power switches, Speaker group disconnect switches, Test switches.
ALARM SIGNAL CHARACTERISTICS
COLLISION: Pulsed 1000 cps.
CHEMICAL: Continuous 1000 cps.
FLIGHTCRASH: Siren, sweeping at 20/min.
FLIGHT WARNING: Jumptone, 600-1000 cps alternating at 90/min.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier-Oscillator Group AN/SIA-118A, includes:	16-5/8 x 19-1/2 x 31-1/4	230
2	Amplifier, Audio Frequency AM-4153/SIA-1148		
2	Oscillator, Audio Frequency O-1237/SIA-1148		
2	Oscillator, Audio Frequency O-1239/SIA-1148		
2	Oscillator, Audio Frequency O-1238/SIA-1148		
2	Oscillator, Audio Frequency O-1288/SIA-1188		
2	Power Supply PP-4160/SIA-1148		
6	Amplifier, Audio Frequency AM-2316C/SIA includes:		
12	Amplifier, Audio Frequency AM-4154/SIA		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0965-009-7000: Technical Manual for Amplifier-Oscillator Group, AN/SIA-117A; Amplifier-Oscillator Group AN/SIA-118A; Amplifier, Audio Frequency AM-2316C/SIA, circuit 1MC, 3MC, and 5MC Announcing Equipment.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

AMPLIFIER-OSCILLATOR GROUP AN/SIA-118A

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, NavShips
SPEC &/OR DWG: MIL-A-21577/5A(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Dynalec Corp.	Rochester, N.Y.	NObs(24-126)92047	

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Virginia Electonics Company, Inc., (98473).

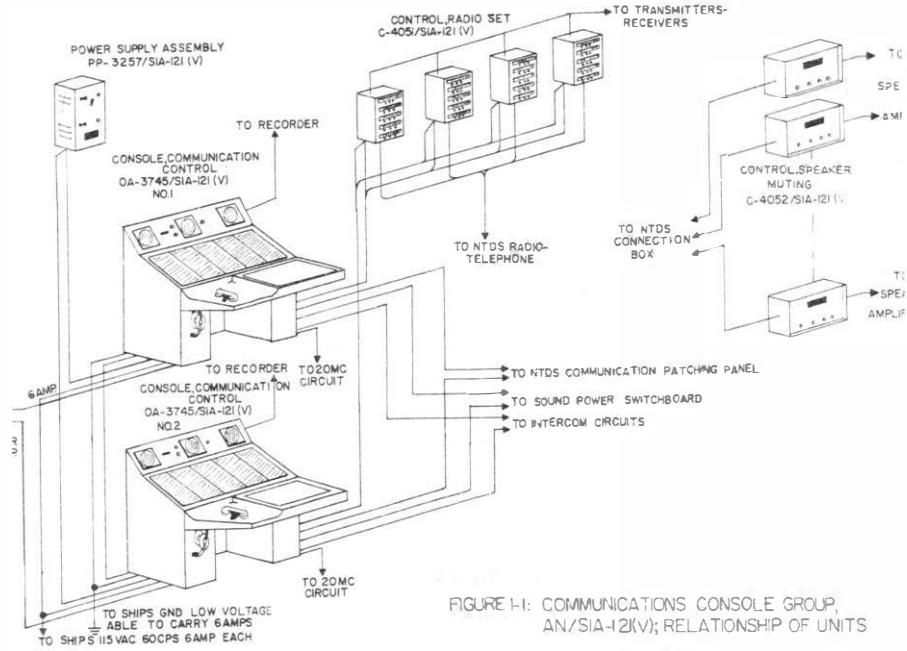


FIGURE 1-1: COMMUNICATIONS CONSOLE GROUP, AN/SIA-12I(V); RELATIONSHIP OF UNITS

COMMUNICATION CONTROL GROUP AN/SIA-121(V)

FUNCTIONAL DESCRIPTION:

The Communication Control Group AN/SIA-121(V) provides a variable system of shipboard communication control. Incorporates all power and control circuitry necessary to function as an independent group in controlling 16 radio phones lines.

No field changes in effect at time of preparation (26 January 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 110 to 220 v, 60 cyc, single ph, 12 v dc.

COMMUNICATION CONTROL GROUP AN/SIA-121(V)

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Communication Control Group AN/SIA-121(V) includes:			
2	Communication Control Group OA-3745/SIA-121(V)		29-3/4 x 29-7/8 x 42	577 380
4	Control, Radio Set, C-4051/SIA-121(V)		8 x 12-5/8 x 20-5/16	46
1	Power Supply Assembly PP-3257/SIA-121(V)		13-7/8 x 15-7/8 x 23-3/8	136
10	Control, Speaker Muting C-4052/SIA-121(V)		7 x 8-1/2 x 14	15

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2778: Technical Manual for Communication Control Group, AN/SIA-121(V).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 5654 (2) 5879 (2) 6005 (2) 6072 (2) 6203 (2) 12AT7WA (4) 6L6WGB

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1N202 (37) 1N270 (8) 1N538 (4) 1N560 (1) 1N2967B (4) 2N526
(1) 2N297A (1) 2N404

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: C-3830(SHIPS), MIL-I-9838, MIL-D-963F and MIL-I-17928A

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Virginia Electronics Co., Inc.	Bethesda, Maryland	NObs(24-126)84803	

ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62)

CLASSIFICATION of Equip.: UNCLASSIFIED	ITEM NAME: Telemetric Data Recording Set	DESIGNATION: AN/SKH-1(XZ-3)
SPECIFICATION: MIL-T-17296B	CONTRACT NUMBER AND DATE: NOrd 18353, NOrd 18655	DATE: revised 12 May 1959
CONTRACTOR'S NAME AND ADDRESS: Radiophone Company, Inc. 600 E. Evergreen Monrovia, California		QUANTITY ON ORDER: -
		SERVICE APPROVAL LETTER - SERIAL AND DATE: -

ELECTRICAL CHARACTERISTICS

POWER INPUT										
115	V	60	CYCLE	1	PHASE	-	AMPS	-	-	WATTS
-	V	-	CYCLE	-	PHASE	-	AMPS	-	-	WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
-	-	-	-
OPERATING FREQ. AND FREQ. RANGE	**EMISSION OR RECEPTION (TYPE)**	**FREQ. CONTROL (TYPE)**	**NO. OF CHANNELS**
-	-	-	-

ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN
-	-	-	- °HORIZ. - °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
			TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	-
			PERFORMANCE STANDARD SHEET	-
			MAINTENANCE STANDARD BOOK	-
			ORDNANCE PUBLICATION	OP 2681

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN) HEIGHT	WIDTH	DEPTH	H.D. (UNITS)	WEIGHT (LBS)
	Reference Ordnance Publication of 2681 for equipment supplied					
	1. AN/SKH-1(XZ-3): 1					

CHANGE 61 - B uWeps

UNCLASSIFIED

IF ADDITIONAL EQUIPMENT OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE

DESIGNATION	ITEM NAME
AN/SKH-1(XZ-3)	Telemetric Data Recording Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/SKH-1(XZ-3) is a fixed, shipboard, rack-mounted installation for specific use with Telemetric Data Receiving Set AN/UKR-10. The set recovers data from multiplexed signals on magnetic tape, and it amplifies and records the data on sensitized paper. It also amplifies and records externally-derived signals. The recording set is enclosed in an aluminum case. Recording is on photo sensitized paper which comes in a five-inch wide, 125-foot long roll. Recording speed is 0.0865 to 138.5 inches per second. Input signal: 1.7 kc to 70 kc multiplexed signal containing intelligence signals of 2100 cycles maximum, 0 to 600 cycle signal. The set is ruggedized and has plug-in sub-assemblies.

No unit cost available.

Source of information: Nomenclature correspondence
Revised Request for Nomenclature

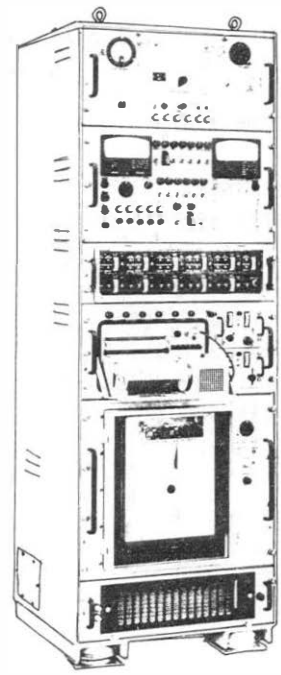
7 September 1967 RECEIVING-RECORDING-SCORING SET, TELEMETRIC DATA AN/SKQ-1

Cog Service: USN **FSN:** **Functional Class:**

	USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Naval Avionics Facility (02387).



RECEIVING-RECORDING-SCORING SET, TELEMETRIC DATA AN/SKQ-1

FUNCTIONAL DESCRIPTION:

The Receiving-Recording-Scoring Set, Telemetric Data AN/SKQ-1, receives, monitors, records on magnetic tape, and produces graphic records of telemetric data and miss distance information. The equipment is also used for preflight checks of the missile telemetering transmitters and for recording data during preflight missile systems tests. Time and erent signals generated in the AN/SKQ-1 provide time coordination of recorded data. The timing signals are available for use with external associated equipment.

No field changes in effect at time of preparation (26 January 1966).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

1.2 AN/SKQ-1: 1

RECEIVING-RECORDING-SCORING SET, TELEMETRIC DATA AN/SKQ-1

TECHNICAL CHARACTERISTICS:

FREQUENCY DATA: 150.39 mc, 229.2 mc, 231.9 mc.
FREQUENCY RANGE: 225 to 245 mc.
NO OF CHANNELS: 4.
MODULATION CHANNEL DATA: 11 Information Channels, No Reference Channel, No Synchro Channel, Discriminated Oscillograph Presentation.
POWER REQUIREMENT: 115 v, 60 cps, single ph, 11.3 amps.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Receiving-Recording-Scoring Set Telemetric Data AN/SKQ-1 includes:	25 x 27 x 72	750
1	Amplifier Direct Current: AM-3232/SKQ-1		
1	Reference Signal Generator: SG-471/SKQ-1		
1	Fan Centrifugal: HD-518/SKQ-1		
1	Cabinet Electronic Equipment: CY-3460/SKQ-1		
1	Electronic Frequency Converter: CV-1276/SKQ-1		
1	Electronic Frequency Converter: CV-1277/SKQ-1		
1	Electronic Frequency Discriminator: MD-454/SKQ-1		
1	Electronic Marker Generator: TD-539/SKQ-1		
1	Oscillograph-Reel Group: OA-3716/SKQ-1		
1	Power Supply: PP-3242/SKQ-1		
1	Power Supply: PP-3243/SKQ-1		
1	Electrical Equipment Rack: MT-2671/SKQ-1		
1	Electrical Equipment Rack: MT-2672/SKQ-1		
1	Electrical Equipment Rack: MT-2670/SKQ-1		
2	Radio Receiver: R-1114/SKQ-1		
1	Radio Receiver: R-1113/SKQ-1		
1	Telemetric Data Amplifier-Recorder-Reproducer Group: OA-3717/SKQ-1		

REFERENCE DATA AND LITERATURE:

NAVWEPS OP2976: Description, Operation and Maintenance for Tartar-Terrier-Talos Telemetering System Shipboard Ground Station.
NAVWEPS OP3041: Description, Operation and Maintenance of Telemetric Data Receiving, Recording and Scoring Set AN/SKQ-1.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuWeps
SPEC &/OR DWG: SPEC-OS11693

RECEIVING-RECORDING-SCORING SET, TELEMETRIC DATA AN/SKQ-1

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Naval Avionics Facility	Indianapolis, Ind.	Project Order No's 11.1001-PO-1-0081 48.1001-880 48.1001-PO1-0010 12.1001-880 97.1001-880 49.1001-PO-1-0004 47.1001-880 97.1001-PO-1-0011	

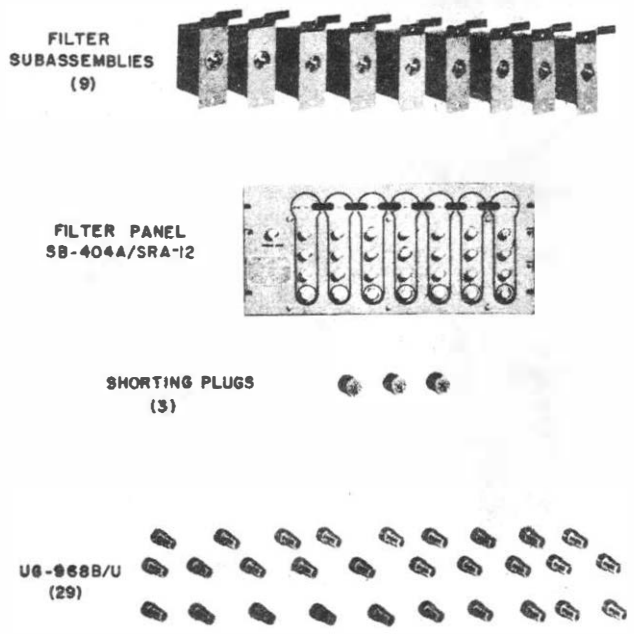
20 July 1964 FILTER ASSEMBLY, ELECTRICAL AN/SRA-12B

Cog Service: USN FSN: 2F5915-855-8953 Functional Class:

USA	USN	USAF	

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Lieco Incorporated, (98732).



FILTER ASSEMBLY, ELECTRICAL AN/SRA-12B

FUNCTIONAL DESCRIPTION:

Filter Assembly, Electrical AN/SRA-12B separates the frequency spectrum between 14 kc and 32 mc into as many as seven RF bands. The separation is accomplished by means of combinations of filter subassemblies. Any six of the nine filter subassemblies may be used at one time. Each filter subassembly comprises a low-pass filter and a high-pass filter. The common cross-over frequency between the two filters marks the division between bands.

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

RELATION TO OTHER EQUIPMENT:

This equipment is interchangeable as a complete unit with Filter Assembly, Electrical AN/SRA-12, AN/SRA-12A; receptacle plug-in holes on front differ.

AN/SRA-12B FILTER ASSEMBLY, ELECTRICAL

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

FREQUENCY SPECTRUM: 14 kc to 32 mc, 7 bands.
CROSS-OVER FREQUENCY: 50, 150, 300, 530, 1,500, 2,000, 3,500, 7,000 and 14,000 kc.
IMPEDANCE: 180 ohms (ea filter).
MOUNTING: Rack-mtd.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Filter Assembly, Electrical AN/SRA-128 includes:	2F5915-855-8953		
1	Panel, Filter SB-404A/SRA-12		2-1/8 x 8-3/4 x 19	10.5
9	Filter Subassembly		2-1/16 x 3-7/16 x 4	2
3	Shorting Plugs		1-1/4 dia x 1-25/32	0.1
29	Connector, Plug UG-9688/U		11 dia x 1-51/64	0.44
2	Technical Manual NAVSHIPS 92206		1/4 x 8-1/2 x 11	0.2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92206: Technical Manual for Electrical Filter Assembly AN/SRA-12, AN/SRA-12A, AN/SRA-128 and AN/SRA-12C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.0	75.5

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-F-17698B(SHIPS), Amend 5

FILTER ASSEMBLY, ELECTRICAL AN/SRA-128

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Lieco Incorporated	Syosset, New York.	NObsr-75181	$154.23
		NObsr-75558	$180.97
		NObsr-75690	

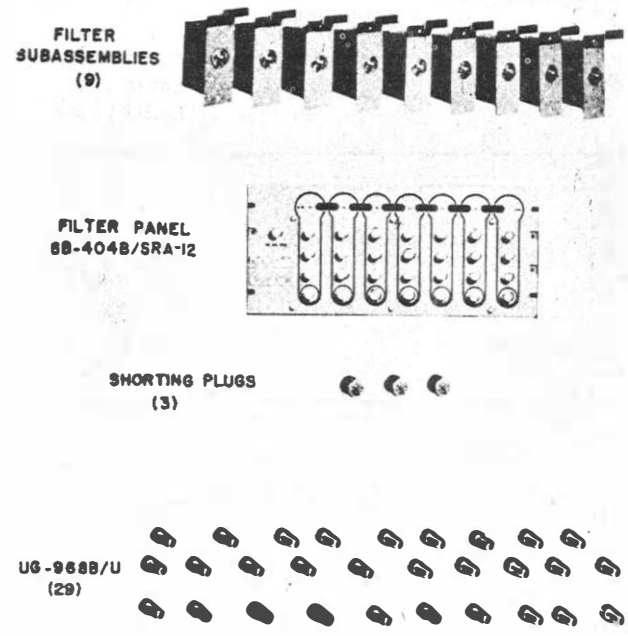
16 July 1964 FILTER ASSEMBLY, ELECTRICAL AN/SRA-12C

Cog Service: USN FSN: 2F5915-856-0981 Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: General Magnetics Incorporated, (08924).



FILTER ASSEMBLY, ELECTRICAL AN/SRA-12C

FUNCTIONAL DESCRIPTION:

Filter Assembly, Electrical AN/SRA-12C separates the frequency spectrum between 14 kc and 32 mc into as many as seven RF bands. The separation is accomplished by means of combinations of filter subassemblies. Any six of the nine filter subassemblies may be used at one time. Each filter subassembly comprises a low-pass filter and a high-pass filter. The common cross-over frequency between the two filters marks the division between bands.

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

RELATION TO OTHER EQUIPMENT:

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

AN/SRA-12C FILTER ASSEMBLY, ELECTRICAL

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

TECHNICAL CHARACTERISTICS:

FREQUENCY SPECTRUM: 14 kc to 32 mc, 7 bands.
CROSS-OVER FREQUENCY: 50, 150, 300, 530, 1500, 2000, 3500, 7000 and 14,000 kc.
IMPEDANCE: 180 ohms (ea filter).
MOUNTING: Rack-mtd.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Filter Assembly, Electrical AN/SRA-12C includes:	2F5915-856-0981		
1	Panel, Filter S8-4048/SRA-12		2-1/8 x 8-3/4 x 19	10.5
9	Filter Subassembly		2-1/16 x 3-7/16 x 4	2
3	Shorting Plugs		1-1/4 dia x 1-25/32	0.1
29	Connector, Plug UG-9688/U		11 dia x 1-51/64	0.44
2	Technical Manual NAVSHIPS 92206		1/4 x 8-1/2 x 11	0.2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92206: Technical Manual for Electrical Filter Assembly AN/SRA-12, AN/SRA-12A, AN/SRA-12B and AN/SRA-12C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.0	75.5

PROCUREMENT DATA

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

1.2 AN/SRA-12C: 2

FILTER ASSEMBLY, ELECTRICAL AN/SRA-12C

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
General Magnetics Inc	Minneapolis, Minnesota	NObsr-81558	

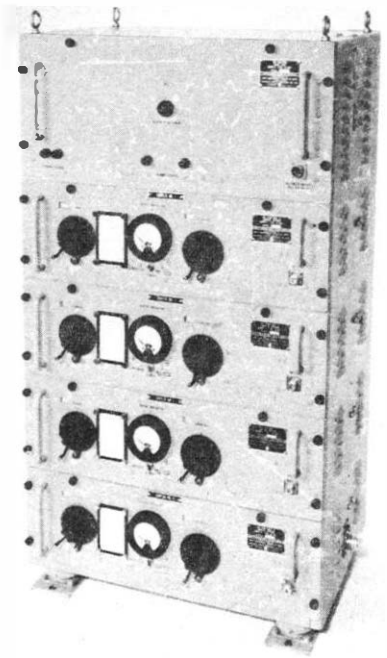
3 August 1965 ANTENNA COUPLER GROUP AN/SRA-13C

Cog Service: USN FSN: Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Electronics of Clearfield, (02230).



ANTENNA COUPLER GROUP AN/SRA-13C

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group, AN/SRA-13C is designed to be used aboard ships. The coupler group is capable of coupling four transmitters into a single broadband antenna. It is operated independently with a broadband antenna designed to produce a voltage standing wave ratio no greater than 3 to 1 over its frequency range at the output terminal of the coupler group. Each transmitter operating with a coupler group must be set to operate at channels spaced at least ten percent from any other frequency in the group.

The four antenna couplers are built as drawer assemblies, of the plug-in type, so as to be readily removable from the front of the cabinet for maintenance purposes. Tuning is accomplished by means of two variable controls which may be locked to the exact frequency desired. Two mechanical counters are mechanically connected to the two variable controls to indicate the settings of the controls. A microammeter, which is part of the match indicator circuit is mounted on the front panel to indicate optimum tuning.

Panel, Fuse SB-406/SRA is also built as a drawer assembly and connects the power source to the blower assembly and encloses the top deck of Cabinet, Electrical Equipment CY-1670A/SRA.

ANTENNA COUPLER GROUP AN/SRA-13C

Data on this sheet reflects the following field changes: FC#1, (30 June 1965).

RELATION TO OTHER EQUIPMENT:

This antenna coupler group is designed to work together with Antenna Coupler Groups AN/SRA-14, -14A, -14B, -14C, -15, -15A -15B, -15C, -16, -16A, -16B, and -16C. Each series of coupler groups covers a different range of frequencies. It can be replaced by or replace Antenna Coupler Group AN/SRA-13, -13A, or -13B.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Coaxial Line RG-10/U or RG-18/U; (4) Coaxial Line RG-10/U; (1) Coaxial Line RG-18/U; (4) Adapter UG-982/U; (4) Connector UG-23/U; (4) Connector UG-941A/U; (4) Connector UG-27A/U; (1) Connector UG-154/U or UG-216/U; (1) Power Line; (1) Primary Power Switch.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 6 mc.
TUNING BAND: 1 band, continuously variable, across the freq range.
TYPE OF FREQUENCY CONTROL: Manual.
POWER HANDLING ABILITY: Simultaneous coupling of 500 W, RF power, 100% amplitude modulated, from ea of 4 transmitters to a single antenna.
INPUT IMPEDANCE: 50 ohms.
OUTPUT IMPEDANCE: 50 ohms.
EFFICIENCY: Not less than 70%.
VOLTAGE ISOLATION RATIO: Between adjacent channels for 10% freq separation, 15 to 1 or greate
ELECTRICAL CHARACTERISTICS OF ANTENNA: Broadband with impedance characteristics such that VSWR does not exceed 3 to 1, related to 50 ohms, across the freq range.
POWER REQUIREMENTS: 115 v, 60 cps, 1 ph (for blower assembly).

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MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-13C includes:	20-1/2 x 26-1/4 x 46-3/4	174
4	Antenna Couplers CU-419B/SRA-13	7-23/32 x 18-3/16 x 24-3/4	43
1	Fuse Panel SB-406/SRA	10-3/8 x 11-7/32 x 24-3/4	11.5
1	Cabinet, Electrical Equipment CY-1670A/SRA	20-1/2 x 26-1/4 x 46-3/4	122.5
2	Technical Manuals NAVSHIPS 92746		
2	Changes to Tech Manual		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92746: Technical Manual for Antenna Coupler Groups AN/SRA-13, -13A, -13B, -13C, AN/SRA-14, -14A, -14B, -14C, and AN/SRA-15, -15A, -15B, -15C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (8) 1N277M

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	18.8	416

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-C-4077

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Electronics of Clearfield Pt No. B-186A101	Clearfield, Pennsylvania	NObsr 87338 NObsr 89257 NObsr 91375	

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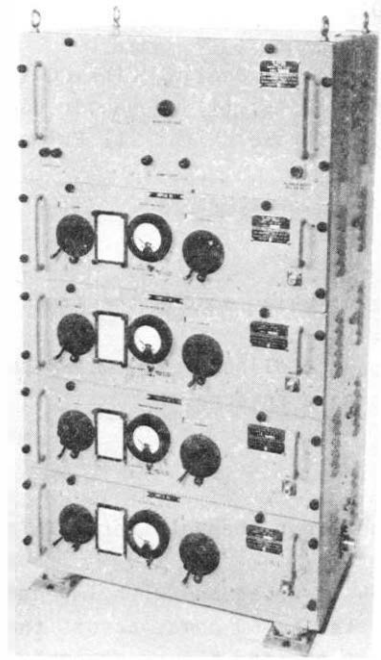
3 August 1965 ANTENNA COUPLER GROUP AN/SRA-14C

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Electronics of Clearfield. (02230).



ANTENNA COUPLER GROUP AN/SRA-14C

FUNCTIONAL DESCRIPTION:

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Antenna Coupler Group, AN/SRA-14C is designed to be used aboard ships. The coupler group is capable of coupling four transmitters into a single broadband antenna. It is operated independently with a broadband antenna designed to produce a voltage standing wave ratio no greater than 3 to 1 over its frequency range at the output terminal of the coupler group. Each transmitter operating with a coupler group must be set to operate at channels spaced at least ten percent from any other frequency in the group.

The four antenna couplers are built as drawer assemblies, of the plug-in type, so as to be readily removable from the front of the cabinet for maintenance purposes. Tuning is accomplished by means of two variable controls which may be locked to the exact frequency desired. Two mechanical counters are mechanically connected to the two variable controls to indicate the settings of the controls. A microammeter, which is part of the match indicator circuit is mounted on the front panel to indicate optimum tuning.

Panel, Fuse SB-406/SRA is also built as a drawer assembly and connects the power source to the blower assembly and encloses the top deck of Cabinet, Electrical Equipment CY-1670A/SRA. Data on this sheet reflects the following field changes: FC#1 (30 June 1965).

RELATION TO OTHER EQUIPMENT:

This antenna coupler group is designed to work together with Antenna Coupler Groups AN/SRA-13, -13A, -13B, -13C, -15, -15A, -15B, -15C, -16, -16A, -16B, and -16C. Each series of coupler groups covers a different range of frequencies. It can be replaced by or replace Antenna Coupler Group AN/SRA-14, -14A, or -14B.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Coaxial Line RG-10/U or RG-1B/U; (4) Coaxial Line RG-10/U; (1) Coaxial Line RG-1B/U; (4) Adapter UG-9B2/U; (4) Connector UG-23/U; (4) Connector UG-941A/U; (4) Connector UG-27A/U; (1) Connector UG-154/U or UG-216/U; (1) Power Line; (1) Primary Power Switch.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 4 to 12 mc.
TUNING BAND: 1 band, continuously variable, across the freq range.
TYPE OF FREQUENCY CONTROL: Manual.
POWER HANDLING ABILITY: Simultaneous coupling of 500 W, RF power, 100% amplitude modulated, from ea of 4 transmitters to a single antenna.
INPUT IMPEDANCE: 50 ohms.
OUTPUT IMPEDANCE: 50 ohms.
EFFICIENCY: Not less than 68%.
VOLTAGE ISOLATION RATIO: Between adjacent channels for 10% freq separation, 15 to 1 or greater.
ELECTRICAL CHARACTERISTICS OF ANTENNA: Broadband with impedance characteristics such that VSWR does not exceed 3 to 1, related to 50 ohms, across the freq range.
POWER REQUIREMENTS: 115 v, 60 cps, 1 ph (for blower assembly).

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-14C includes:	20-1/2 x 26-1/2 x 46-3/4	174
4	Antenna Coupler CU-4208/SRA-14	7-23/32 x 18-3/16 x 24-3/4	36.5
1	Fuse Panel SB-406/SRA	10-3/8 x 11-7/32 x 24-3/4	11.5
1	Cabinet, Electrical Equipment CY-1670A/SRA	20-1/2 x 26-1/4 x 46-3/4	122.5
2	Technical Manuals NAVSHIPS 92746		
2	Changes to Tech Manual		

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92746: Technical Manual for Antenna Coupler Groups AN/SRA-13, -13A, -13B, -13C, AN/SRA-14, -14A, -14B, -14C, and AN/SRA-15, -15A, -15B, -15C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (8) 1N277M

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	18.8	390

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: SHIPS-C-4077

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Electronics of Clearfield Pt No. 186A201	Clearfield, Pennsylvania	NObsr 87338 NObsr 89257 NObsr 91375	

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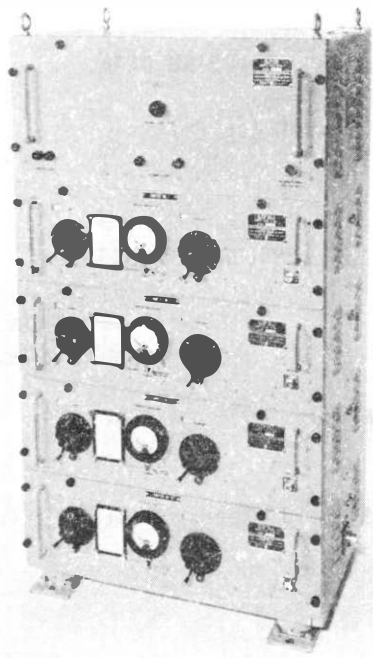
2 August 1965 ANTENNA COUPLER GROUP AN/SRA-15C

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Electronics of Clearfield, (02230).



ANTENNA COUPLER GROUP AN/SRA-15C

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-15C is designed to be used aboard ships. The coupler group is capable of coupling four transmitters into a single broadband antenna. It is operated independently with a broadband antenna designed to produce a voltage standing wave ratio no greater than 3 to 1 over its frequency range at the output terminal of the coupler group. Each transmitter operating with a coupler group must be set to operate at channels spaced at least ten percent from any other frequency in the group.

The four antenna couplers are built as drawer assemblies, of the plug-in type, so as to be readily removable from the front of the cabinet for maintenance purposes. Tuning is accomplished by means of two variable controls which may be locked to the exact frequency desired. Two mechanical counters are mechanically connected to the two variable controls to indicate the settings of the controls. A microammeter, which is part of the match indicator circuit is mounted on the front panel to indicate optimum tuning.

Panel, Fuse SB-406/SRA is also built as a drawer assembly and connects the power source to the blower assembly and encloses the top deck of Cabinet, Electrical Equipment CY-1670A/SRA. Data on this sheet reflects the following field changes: FC#1 (30 June 1965).

RELATION TO OTHER EQUIPMENT:

This antenna coupler group is designed to work together with Antenna Coupler Groups AN/SRA-13, -13A, -13B, -13C, -14, -14A, -14B, -14C, -16, -16A, -16B and -16C. Each series of coupler groups covers a different range of frequencies. It can be replaced by or replace Antenna Coupler Group AN/SRA-15, -15A, or -15B.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Coaxial Line RG-10/U or RG-18/U; (4) Coaxial Line RG-10/U; (1) Coaxial Line RG-18/U; (4) Adapter UG-982/U; (4) Connector UG-23/U; (4) Connector UG-941A/U; (4) Connector UG-27A/U; (1) Connector UG-154/U or UG-216/U; (1) Power Line; (1) Primary Power Switch.

TECHNICAL CHARACTERISTICS:

375

FREQUENCY RANGE: 6 to 18 mc.
TUNING BAND: 1 band, continuously variable, across the freq range.
TYPE OF FREQUENCY CONTROL: Manual.
POWER HANDLING ABILITY: Simultaneous coupling of 500 W, RF power, 100% amplitude modulated, from ea of 4 transmitters to a single antenna.
INPUT IMPEDANCE: 50 ohms.
OUTPUT IMPEDANCE: 50 ohms.
EFFICIENCY: Not less than 60%.
VOLTAGE ISOLATION RATIO: Between adjacent channels for 10% freq separation, 15 to 1 or greater.
ELECTRICAL CHARACTERISTICS OF ANTENNA: Broadband with impedance characteristics such that VSWR does not exceed 3 to 1, related to 50 ohms, across the freq range.
POWER REQUIREMENTS: 115 v, 60 cps, 1 ph (for blower assembly).

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-15C	20-1/2 x 26-1/4 x 46-3/4	174
4	Antenna Couplers CU-421B/SRA-15	7-23/32 x 18-3/16 x 24-3/4	35.5
1	Fuse Panel SB-406/SRA	10-3/8 x 11-7/32 x 24-3/4	11.5
1	Cabinet, Electrical Equipment CY-1670A/SRA	20-1/2 x 26-1/4 x 46-3/4	122.5
2	Technical Manuals NAVSHIPS 92746		
2	Changes to Tech Manuals		

ANTENNA COUPLER GROUP AN/SRA-15C

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92746: Technical Manual for Antenna Coupler Groups AN/SRA-13, -13A, -13B, -13C, AN/SRA-14, -14A, -14B, -14C, and AN/SRA-15, -15A, -15B, -15C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (8) 1N277M

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	18.8	

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-C-4077

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Electronics of Clearfield	Clearfield, Pennsylvania	NObsr 87338 NObsr 89257 NObsr 91375	

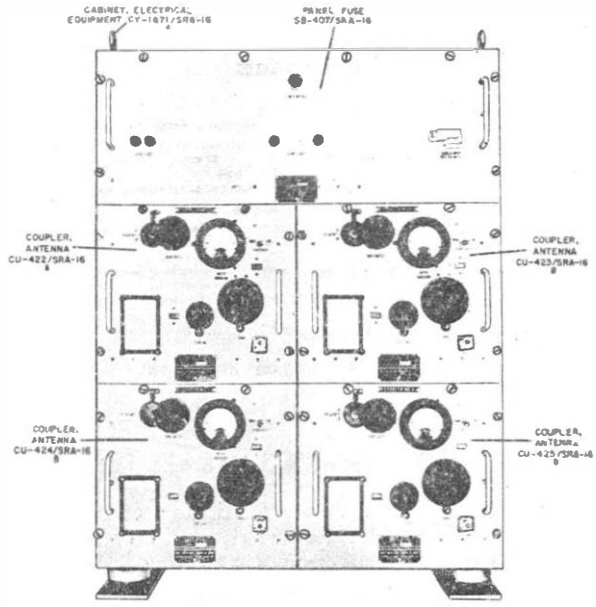
3 August 1965 ANTENNA COUPLER GROUP AN/SRA-16C

Cog Service: USN FSN: Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Electronics of Clearfield, (02230).



ANTENNA COUPLER GROUP AN/SRA-16C

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group, AN/SRA-16C is designed to be used aboard ships. The coupler group is capable of coupling four transmitters into a single broadband antenna. It is operated independently with a broadband antenna designed to produce a voltage standing wave ratio no greater than 3 to 1 over its frequency range at the output terminal of the coupler group. Each transmitter operating with a coupler group must be set to operate at channels spaced at least ten percent from any other frequency in the group.

The four antenna couplers are built as drawer assemblies of the plug-in type, so as to be readily removable from the front of the cabinet for maintenance purposes. Tuning is accomplished by means of two variable controls which may be locked to the exact frequency desired. Two mechanical counters are connected to the controls to indicate control settings. A three-position band switch provides selection of one of three tunable frequency bands, and a microammeter mounted on the front panel is the indicator for the Match Indicator circuit.

Fuse Panel SB-407/SRA-16 is also built as a drawer assembly, but not of the plug-in type. It supplies primary power and blower operation indication by means of an indicator lamp.

Data on this sheet reflects the following field changes: FC#1 (30 June 1965).

RELATION TO OTHER EQUIPMENT:

This Antenna coupler group is designed to work together with Antenna Coupler Groups AN/SRA-13, -13A, -13B, -13C, -14, -14A, -14B, -14C, -15, -15A, -15B, -15C. Each series of coupler groups covers a different range of frequencies. It can be replaced by or replace Antenna Coupler Group AN/SRA-16, -16A, -16B.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(4) Coaxial Line RG-10/U or RG-18/U; (4) Coaxial Line RG-10/U; (1) Coaxial Line RG-18/U; (4) Adapter UG-167/U; (4) Connector UG-23/U; (4) Connector UG-218/U; (4) Connector UG-27A/U; (1) Connector UG-154/U or UG-216/U; (1) Power Line.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 9 to 26 mc.
TUNING BANDS: 3 bands; 9 to 12 mc, 12 to 18 mc and 18 to 26 mc.
TYPE OF FREQUENCY CONTROL: Manual.
POWER HANDLING ABILITY: Simultaneous coupling of a max of 500 W, RF power, 100% amplitude modulated, from ea of 4 transmitters to a single antenna.
INPUT IMPEDANCE: 50 ohms.
OUTPUT IMPEDANCE: 50 ohms.
EFFICIENCY: Not less than 70% in freq range of 9 to 18 mc; not less than 65% in freq range of 18 to 26 mc.
VOLTAGE ISOLATION RATIO BETWEEN ADJACENT CHANNELS: 15 to 1.
ELECTRICAL CHARACTERISTICS OF ANTENNA: Broadband with impedance characteristics such that VSWR does not exceed 3 to 1, related to 50 ohms, across the freq range.
POWER REQUIREMENTS: 115 v, 60 cps, 1 ph (for blower assembly).

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-16C includes:	25-1/8 x 29-1/4 x 39-3/4	318
1	Antenna Coupler CU-422B/SRA-16	12-3/8 x 13-3/4 x 24-3/4	42
1	Antenna Coupler CU-423B/SRA-16	12-3/8 x 13-3/4 x 24-3/4	42
1	Antenna Coupler CU-424B/SRA-16	12-3/8 x 13-3/4 x 24-3/4	42
1	Antenna Coupler CU-425B/SRA-16	12-3/8 x 13-3/4 x 24-3/4	42
1	Fuse Panel SB-407/SRA-16	9-7/8 x 10-7/8 x 27-3/4	13
1	Cabinet, Electrical Equipment CY-1671A/SRA-16	25-1/8 x 29-1/4 x 39-3/4	139

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Technical Manual NAVSHIPS 92839			
2	Changes to Tech Manual			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92839: Technical Manual for Antenna Coupler Groups AN/SRA-16, AN/SRA-16A, AN/SRA-16B, AN/SRA-16C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (8) 1N277M

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SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	22	430

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-C-4077

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Electronics of Clearfield Pt No. B-186A301	Clearfield, Pennsylvania	NObsr 87338 NObsr 89257 NObsr 91375	

ELECTRONIC EQUIPMENT - PRELIMINARY DATA
NAVSHIPS 4457 (Rev. 9-62)

DESIGNATION: AN/SRA-23(XG-1)

CLASSIFICATION of Equip.	ITEM NAME	DATE
UNCLASSIFIED	Antenna Coupler Group	requested 24 February 1958
SPECIFICATION	CONTRACT NUMBER AND DATE (NEL B1-22)	QUANTITY ON ORDER
Designed by NEL	NEL Problem No. NE 090600	-

CONTRACTOR'S NAME AND ADDRESS: Long Beach Naval Shipyard, Long Beach, California

SERVICE APPROVAL LETTER - SERIAL AND DATE: -

ELECTRICAL CHARACTERISTICS

POWER INPUT: - V - CYCLE - PHASE - AMPS - WATTS | - V - CYCLE - PHASE - AMPS - WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
-	-	-	-
OPERATING FREQ. AND FREQ. RANGE	**EMISSION OR RECEPTION (TYPE)**	**FREQ. CONTROL (TYPE)**	**NO. OF CHANNELS**
2 to 27 mc	-	-	-

ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN
-	-	-	- °HORIZ. - °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-	-	-	TECHNICAL MANUAL	-
			OPERATING INSTRUCTION CHART	-
			PERFORMANCE STANDARD SHEET	-
			MAINTENANCE STANDARD BOOK	-

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN) HEIGHT	WIDTH	DEPTH	H.D. (UNITS)	WEIGHT (LBS)
	Antenna Coupler Group AN/SRA-23(XG-1) consists of:					
1	Antenna Coupler CU-678(XG-1)/SRA-23					
1	Antenna Coupler CU-679(XG-1)/SRA-23					
1	Antenna Coupler CU-680(XG-1)/SRA-23					
1	Antenna Coupler Group Control C-2530(XG-1)/SRA-23					
1	Electrical Equipment Cabinet CY-2417(XG-1)/SRA-23					

1.6 AN/SRA-23(XG-1): 1

131 CHANGE 62 - 687A

IF ADDITIONAL EQUIPMENTS OR UNITS ARE REQUIRED, ATTACH ADDITIONAL SHEETS AND SPECIFY SOURCE

DESIGNATION	ITEM NAME
AN/SRA-23(XG-1)	Antenna Coupler Group

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

Antenna Coupler Group AN/SRA-23(XG-1) is used for general-purpose transmitting. It was designed by NEL, San Diego, California.

Antenna Coupler Frequency Data: CU-678(XG-1)/SRA-23, 2 to 6 mc; CU-679(XG-1)/SRA-23, 5 to 15 mc; and CU-680(XG-1)/SRA-23, 9 to 27 mc.

The AN/SRA-23(XG-1) will permit the simultaneous operation of up to eight 500-watt, 2627-megacycle, communication transmitters on one broadband antenna system, consisting of three antennas, with approximately a ten percent minimum frequency separation between channels. Efforts are underway by NEL to improve the design the coupler to eliminate the technical difficulties in the present model. Relatively minor changes in the major components and electrical circuit will approximately double the isolation obtainable between adjacent channels.

NOTE: Approximately 60 units of the Antenna Coupler Group AN/SRA-23(XG-1) are now in fleet service. No more will be produced. The unit is to be redesigned under new nomenclature.

No unit cost available.

Source of information: Request for Nomenclature
Code 687A

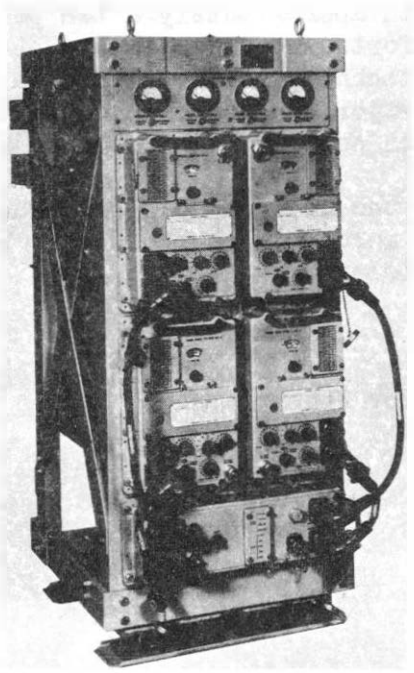
3 August 1965 ANTENNA COUPLER GROUP AN/SRA-33

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

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



ANTENNA COUPLER GROUP AN/SRA-33

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-33 provides isolation between four transmitter and/or receiver combinations operating simultaneously into a common antenna. Isolation is achieved with four highly selective tandem filters and a combining network. The high selectivity reduces intermodulation interference, cross-modulation interference, and spurious responses. Harmonic radiation from this transmitter(s) also is attenuated.

Inside each coupler are two silver-plated cavities, aperture coupled, forming a dual cavity filter.

An associated Auto positioner tunes the cavity to any one of nineteen preset channels upon receiving coded information either locally or from a remote station which can be located up to 1000 feet distance. An option for manually tuning the coupler is also provided. A meter and a switch on the front panel enables monitoring of forward and reflected wave components.

No field changes in effect at time of preparation (9 July 1965).

ANTENNA COUPLER GROUP AN/SRA-33

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

INPUT IMPEDANCE: 50 ohms.
NUMBER OF INPUTS: 4 (type C connectors).
OUTPUT IMPEDANCE: 50 ohms nom.
NUMBER OF OUTPUTS: 1 (Type HN connector).
POWER LEVEL: 0-140 W.
FREQUENCY RANGE OF TANDEM FILTERS: 225.00-399.95 mc.
MAXIMUM SWR: 2.0 to 1.0.
OFF CHANNEL REJECTION: 1.5 mc, 20 db; 3 mc, 40 db; and 10 mc, 60 db.
MONITOR METER SCALE
FORWARD POWER: 0 to 200 W.
REFLECTED POWER: 0 to 200 W.
MONITOR POWER ACCURACY: ± 15 percent.
TYPE OF TUNING: Local, remote, or manual to 1 of 19 preset freq within range.
TUNING SCALES: MC.
TYPE OF COUPLING: Loop (input and output); aperture (between filter cavities).
DECOUPLING: 10 mc channel separation; 60 db min.
INSERTION LOSS: 2.0 db (normal conditions) and 3.0 db max (extreme environment).
CALIBRATION: For approx freq settings only.
RESET ACCURACY: ± .03 db.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-33 includes:			360
1	Antenna Coupler CU-1131/SRA-33		9-7/16 x 14-7/16 x 25-1/16	51
1	Antenna Coupler CU-1132/SRA-33		9-7/16 x 14-7/16 x 25-1/16	51
1	Antenna Coupler CU-1133/SRA-33		9-7/16 x 14-7/16 x 25-1/16	51
1	Antenna Coupler CU-1134/SRA-33		9-7/16 x 14-7/16 x 25-1/16	51
1	Control Power Supply C-4586/SRA-33		7-3/16 x 12-1/2 x 18-7/8	48
1	Electronic Equipment Cabinet CY-3852/SRA-33		22-1/2 x 25-23/32 x 45-11/16	107
2	Special Purpose Electrical Cable Assembly (short) CX-8661/U			
2	Special Purpose Electrical Cable Assembly (long) CX-8661/U			
1	Set Mating Connectors (As required)			

ANTENNA COUPLER GROUP AN/SRA-33

REFERENCE DATA AND LITERATURE:

Advanced Descriptive Data Sheet for Antenna Coupler Group AN/SRA-33.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 2N1247 (2) 2N336 (1) 2N657 (2) 2N1650 (2) 1N3022B (3) SG22
(2) 1N2823B (2) S320G (6) 1N538 (8) 1N249B

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	43	450

PROCUREMENT DATA

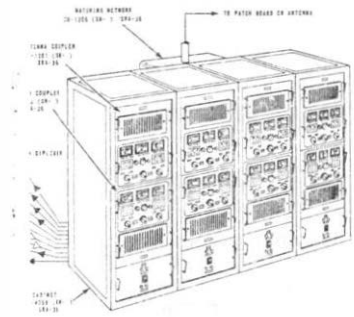
PROCURING SERVICE. USN DESIGN COG: USN, BuShips
SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	NObsr-91205	

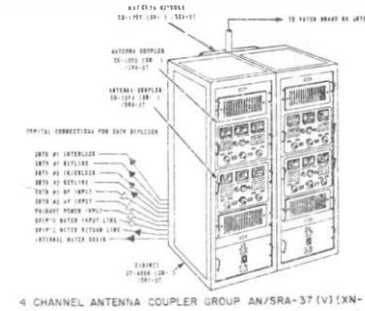
USA USN USAF

TYPE CLASS: Used by

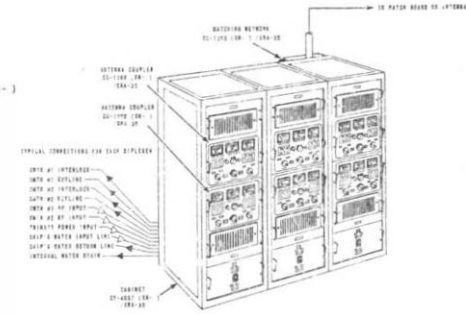
MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Inc., (22729).



8 CHANNEL ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-1)



4 CHANNEL ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-1)



ANTENNA COUPLER GROUP AN/SRA-35(V)(XN-1)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-35(V)(XN-1) is designed for shipboard use. The multicoupler permits two or more transmitters to operate simultaneously into a single broadband antenna and provides; (1) a coupling path of prescribed efficiency between each transmitter and a common antenna; (2) isolation between transmitters; (3) a tunable bandpass filter to suppress harmonic and spurious transmitter output; (4) line flattening by which an antenna whose impedance presents as much as a 3 to 1 voltage standing wave ratio can be transformed to acceptable lower VSWR load for the transmitter.

No field changes in effect at time of preparation (6 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-35(V)(XN-1) is similar to AN/SRA-36(V)(XN-1) in appearance and function except for the different frequency ranges in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Nonelectric Multimeter AN/PSM-4; (2) Electronic Voltmeter AN/USM-116; (1) Oscillscope AN/USM-140K; (1) Electronic Counter Hewlett-Packard Model 524C or equiv; (1) Frequency Converter Hewlett-Packard 524A or equiv; (1) Signal Generator Hewlett-Packard Model 606A or equiv; (2) Dry Cell (1.5 v) BA30; (1) RF Cable Adapter Andrew No. 22R or equiv; (1) Fixed Flange RF Connector Andrew No. 15840 or equiv; (1) RF Inner Connector Andrew No. 15093 or equiv; (1) Gas Barrier Andrew No. 1762A or equiv; (1) Male to Male Connector Adapter Andrew No. 23187 or equiv; As required RF Cables RG-218/U, RG-270/U, RG-288/U; As required Electrical Cables TTHFWA-2, DSGA-3; (12) Coaxial Connector UG-154A/U; (6) Coaxial Connector UG-155B/U.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 6 mc.
TUNING BAND: One band, continuously variable across the frequency range of each couplergroup.
TYPE OF FREQUENCY CONTROL: Manual.
POWER RATING: Each antenna coupler, 5 kw RF average, 10 kw RF peak.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Not greater than 2 db.
ISOLATION BETWEEN CHANNELS: (Spaced 5% in frequency) 35 to 40 db nominal.
ELECTRICAL CHARACTERISTICS OF REQUIRED ANTENNA
VSWR: 3 to 1 or less relative to 50 ohms across the frequency range.
ANTENNA AVERAGE POWER HANDLING CAPABILITY: 30 kw.
TEMPERATURE OPERATING RANGE: 5 deg C (41 deg F) to 45 deg C (113 deg F).
PRIMARY POWER INPUT: 115 v ac, 60 cycles, single ph.
FRESH WATER COOLING REQUIREMENTS: 150 psig max surge; 6 gpm/diplexer min flow; 35 deg C (95 deg F) max inlet temperature; 10 psi max pressure drop across heat exchanger.
HEAT DISSIPATION: 2 kw max per coupler drawer.
FOR USE WITH TRANSMITTERS: Any transmitter with RF output between 500 watts and 5 kw average and up to 10 kw peak within the frequency range.
ANTENNA PEAK POWER HANDLING CAPABILITY: 360 kw.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-35(v)(XN-1) includes:		54 x 73 x 87	2470
3	Cabinet Electrical Equipment CY-4067/SRA-35(XN-1)		28-3/4 x 38 x 73	300
3	Antenna Coupler CU-1199/SRA-35(XN-1)		24 x 28 x 32	250
3	Antenna Coupler CU-1200/SRA-35(XN-1)		24 x 28 x 32	250
1	Impedance Matching Net CU-1205/SRA-35(XN-1)		16 x 16 x 37-1/2	70
2	Technical Manual NAVSHIPS 94838			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94838: Technical Manual for Antenna Coupler Groups AN/SRA-35(V)(XN-1), AN/SRA-35(V)(XN-2), AN/SRA-36(V)(XN-1), AN/SRA-36(V)(XN-2), AN/SRA-37(V)(XN-1), AN/SRA-37(V)(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (42) 1N67A (27) 1N538 (12) 1N676 (6) 1N751A (6) 1N2326 (9) MZ20T5 (18) 2N489 (12) 2N1479

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Deco Electronics, Inc.	Washington, D. C.	NObsr 87401	

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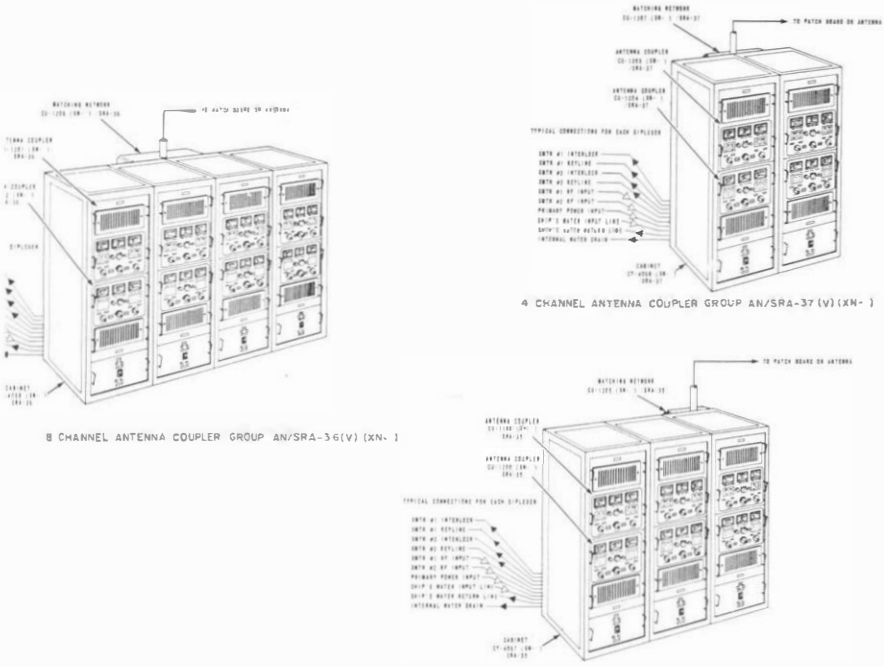
4 May 1966 ANTENNA COUPLER GROUP AN/SRA-35(V)(XN-2)

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Inc., (22729).



4 CHANNEL ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-1)

8 CHANNEL ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-1)

ANTENNA COUPLER GROUP AN/SRA-35(V)(XN-2)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-35(V)(XN-2) is designed for shipboard use. The multicoupler permits two or more transmitters to operate simultaneously into a single broadband antenna and provides: (1) A coupling path of prescribed efficiency between each transmitter and a common antenna; (2) Isolation between transmitters; (3) A tunable bandpass filter to suppress harmonic and spurious transmitter output; (4) Line flattening by which an antenna whose impedance presents as much as a 3 to 1 voltage standing wave ratio can be transformed to acceptable lower VSWR load for the transmitter.

No field changes in effect at time of preparation (6 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-35(V)(XN-2) is similar to AN/SRA-36(V)(XN-2) in appearance and function except for the different frequency ranges in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Nonelectronic Multimeter AN/PSM-4; (2) Electronic Voltmeter AN/USM-116; (1) Oscilloscope AN/USM-140K; (1) Electronic Counter Hewlett-Packard Model 524C or equiv; (1) Frequency Converter Hewlett-Packard 524A or equiv; (1) Electronic Counter Hewlett-Packard Model 524C or equiv; (1) Signal Generator Hewlett-Packard Model 606A or equiv; (2) Dry Cell (1.5 v) BA30; (1) RF Cable Adapter Andrew No. 22R or equiv; (1) Fixed Flange RF Connector Andrew No. 15840 or equiv; (1) RF Inner Connector Andrew No. 15093 or equiv; 1) Gas Barrier Andrew No. 1262A or equiv; (1) Male to Male Connector Adapter Andrew No. 23187 or equiv; As required RF Cables RG-218/U, RG-270/U, RG-288/U; As required Electrical Cables TTHFWA-2, DSGA-3; (12) Coaxial Connector UG-154A/U; (6) Coaxial Connector UG-155B/U; (1) Directional RF Wattmeter Bird Thruline No. 4610 or equiv.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 6 mc.
TUNING BAND: One band, continuously variable across the frequency range of each coupler group.
TYPE OF FREQUENCY CONTROL: Manual.
POWER RATING: Each antenna coupler, 5 kw RF average 10 kw RF peak.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Not greater than 2 db.
ISOLATION BETWEEN CHANNELS: (Spaced 5% in frequency) 35 to 40 db nominal.
ELECTRICAL CHARACTERISTICS OF REQUIRED ANTENNA
VSWR: 3 to 1 or less relative to 50 ohms across the frequency range.
ANTENNA AVERAGE POWER HANDLING CAPABILITY: 30 kw.
TEMPERATURE OPERATING RANGE: 5 deg C (41 deg F) to 45 deg C (113 deg F).
PRIMARY POWER INPUT: 115 v ac, 60 cycles, single ph.
FRESH WATER COOLING REQUIREMENTS: 150 psig max surge; 6gpm/diplexer min flow; 35 deg C (95 deg F) max inlet temperature; 10 psi max pressure drop across heat exchanger.
HEAT DISSIPATION: 2 kw max per coupler drawer.
FOR USE WITH TRANSMITTERS: Any transmitter with RF output between 500 watts and 5 kw average and up to 10 kw peak within the frequency range.
ANTENNA PEAK POWER-HANDLING CAPABILITY: 360 kw.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-35 (V)(XN-2) includes:		54 x 73 x 87	2470
3	Cabinet Electrical Equipment CY-4067/SRA-35(XN-2)		28-3/4 x 38 x 73	300
3	Antenna Coupler CU-1199/SRA-35(XN-2)		24 x 28 x 32	250
3	Antenna Coupler CU-1200/SRA-35(XN-2)		24 x 28 x 32	250
1	Impedance Matching Net CU-1205/SRA-35(XN-2)		16 x 16 x 37-1/2	70

ANTENNA COUPLER GROUP AN/SRA-35(V)(XN-2)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Technical Manual NAVSHIPS 94838			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94838: Technical Manual for Antenna Coupler Groups AN/SRA-35(V)(XN-1), AN/SRA-35(V)(XN-2), AN/SRA-36(V)(XN-1), AN/SRA-36(V)(XN-2), AN/SRA-37(V)(XN-1), AN/SRA-37(V)(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (42) 1N67A (27) 1N538 (12) 1N676 (6) 1N751A (6) 1N2326 (9) MZ20T5
(18) 2N489 (12) 2N1479

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
Deco Electronics, Inc.,	Washington, D. C.	NObsr 87401	

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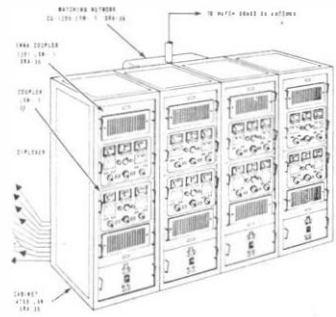
6 May 1966 ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-1)

Cog Service: USN **FSN:** **Functional Class:**

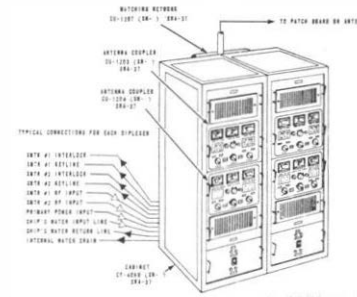
USA	USN	USAF

TYPE CLASS: Used by

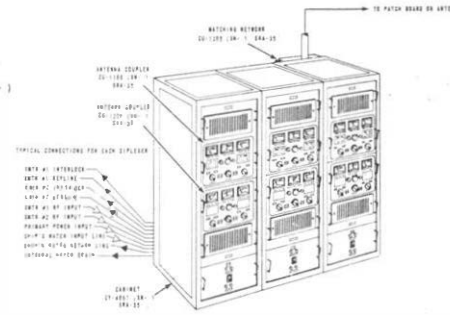
MANUFACTURER'S NAME/CODE NUMBER: Deco Electronic, Incorporated, (22729).



8 CHANNEL ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-1)



4 CHANNEL ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-1)



ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-1)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-36(V)(XN-1) is designed for shipboard use. The multicoupler permits two or more transmitters to operate simultaneously into a single broadband antenna and provides: (1) A coupling path of prescribed efficiency between each transmitter and a common antenna; (2) Isolation between transmitter; (3) A tunable bandpass filter to suppress harmonic and spurious transmitter output; (4) Line flattening by which an antenna whose impedance presents as much as a 3 to 1 voltage standing wave ratio can be transformed to acceptable lower VSWR load for the transmitter.

No field changes in effect at time of preparation (7 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-36(V)(XN-1) is similar to AN/SRA-37(V)(XN-1) in appearance and function except for the different frequency ranges in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Nonelectric Multimeter AN/PSM-4; (2) Electronic Voltmeter AN/USM-116; (1) Oscilloscope AN/USM-140K; (1) Electronic Counter Hewlett-Packard 524C or equiv; (1) Frequency Converter Hewlett-Packard 524A or equiv; (1) Signal Generator Hewlett-Packard 606A or equiv; (2) Dry Cell (1.5 volt) BA30; (1) RF Cable Adapter Andrew No. 22R or equiv; (1) Fixed Flange RF Connector Andrew No. 15840 or equiv; (1) RF Inner Connector Andrew No. 15093 or equiv; (1) Gas Barrier Andrew No. 1262A or equiv; (1) Male to Male Connector Adapter Andrew No. 23187 or equiv; (1) Directional RF Wattmeter Bird Thruline No. 4610 or equiv; As required RF Cables RG-218/U; RG-270/U, RG-288/U; As required Electrical Cables TTHFWA-2, DSGA-3; (16) Coaxial Connector UG/154A/U; (8) Coaxial Connector UG-1558/U.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 4 to 12 mc.
TUNING BAND: One band, continuously variable across the frequency range of each coupler group.
TYPE OF FREQUENCY CONTROL: Manual.
POWER RATING: Each antenna coupler, 5 kw RF average 10 kw RF peak.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Not greater than 2 db.
ISOLATION BETWEEN CHANNELS: (Spaced 5% in frequency) 35 to 40 db nominal.
ELECTRICAL CHARACTERISTICS OF REQUIRED ANTENNA
VSWR: 3 to 1 or less relative to 50 ohms across the frequency range.
ANTENNA AVERAGE POWER HANDLING CAPABILITY: 40 kw.
ANTENNA PEAK POWER HANDLING CAPABILITY: 640 kw.
TEMPERATURE OPERATING RANGE: 5 deg C (41 deg F) to 45 deg C (113 deg F).
PRIMARY POWER INPUT: 115 v ac, 60 cycles, single ph.
FRESH WATER COOLING REQUIREMENTS: 150 psi maximum surge; 6 gpm/diplexer minimum flow; 35 deg C (95 deg F); maximum inlet temperature; 10 psi; maximum pressure drop across heat exchanger.
FOR USE WITH TRANSMITTERS: Any transmitter with RF output between 50 watts and 5 kw average and up to 10 kw peak within the frequency range.
HEAT DISSIPATION: 2 kw maximum per coupler drawer.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-36 (V)(XN-1) includes:		56 x 73 x 116	3370
4	Cabinet Electrical CY-4068/SRA-36(XN-1)		28-3/4 x 38 x 73	300
4	Antenna Coupler CU-1201/SRA-36(XN-1)		24 x 28 x 32	250
4	Antenna Coupler CU-1202/SRA-36(XN-1)		24 x 28 x 32	250
1	Impedance Matching Net CU-1206/SRA-36(XN-1)		18-x 34-3/4 x 35	170
2	Technical Manual NAVSHIPS 94838			

ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-1)

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94838: Technical Manual for Antenna Coupler Groups AN/SRA-35(V)(XN-1), AN/SRA-35 (V)(XN-2), AN/SRA-36(V)(XN-1), AN/SRA-36(V)(XN-2), AN/SRA-37(V)(XN-1), AN/SRA-37(V)(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (42) 1N67A (27) 1N538 (12) 1N676 (6) 1N751A (6) 1N2326 (9) MZ20T5 (18) 2N489 (12) 2N1479

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
Deco Electronic, Inc.	Washington, D. C.	NObsr 87401	

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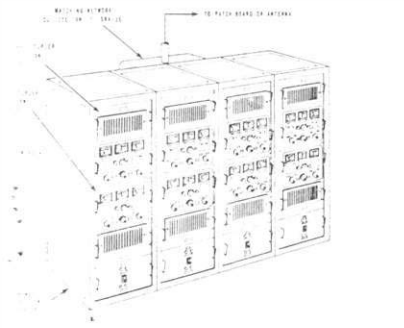
6 May 1966 ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-2)

Cog Service: USN FSN: Functional Class:

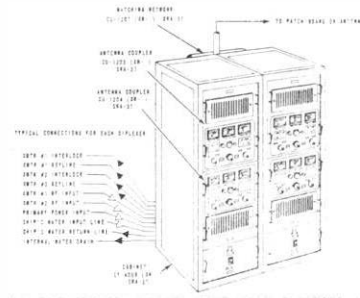
USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Incorporated, (22729).



8 CHANNEL ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-)



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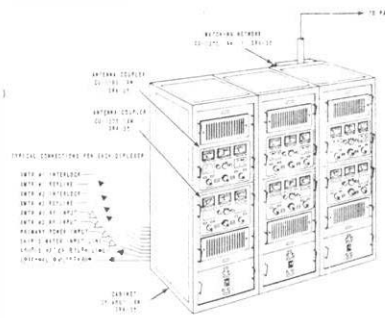

6 CHANNEL ANTENNA COUPLER GROUP AN/SRA-35(V)(XN-)

ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-2)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-36(V)(XN-2) is designed for shipboard use. The multicoupler permits two or more transmitters to operate simultaneously into a single broadband antenna and provides: (1) A coupling path of prescribed efficiency between each transmitter and a common antenna; (2) Isolation between transmitters; (3) A tunable bandpass filter to suppress harmonic and spurious transmitter output; (4) Line flattening by which an antenna whose impedance presents as much as a 3 to 1 voltage standing wave ratio can be transformed to acceptable lower VSWR load for the transmitter.

No field changes in effect at time of preparation (7 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-36(V)(XN-2) is similar to AN/SRA-37(V)(XN-2) in appearance and function except for the different frequency ranges in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Nonelectric Multimeter AN/PSM-4; (2) Electronic Voltmeter AN/USM-116; (1) Oscilloscope AN/USM-140K; (1) Electronic Counter, Hewlett-Packard 524C or equiv; (1) Frequency Converter Hewlett-Packard 525A or equiv; (1) Signal Generator Hewlett-Packard 606A or equiv; (2) Dry Cell (1.5 v) BA30; (1) RF Cable Adapter Andrew No. 22 or equiv; (1) Fixed Flange RF Connector Andrew No. 15840 or equiv; (1) RF Interconnector Andrew No. 15093 or equiv; (1) Gas Barrier Andrew No. 1262A; (1) Male to Male Connector Adapter Andrew No. 231870 or equiv; (1) Directional RF Wattmeter Bird Thruline No. 4610 or equiv, (As required) RF Cables UG-218/U, RG-270/U, RG-288/U; As required Electrical Cables TTHFW-2, DSGA-3; (8) Coaxial Connector UG-154A/U; (4) Coaxial Connector UG-155B/U.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 4 to 12 mc.

TUNING BAND: One band, continuously variable across the frequency range of each coupler group.

TYPE OF FREQUENCY CONTROL: Manual.

POWER RATING: Each antenna coupler, 5 kw RF average 10 kw RF peak.

INPUT IMPEDANCE: 50 ohms nominal.

OUTPUT IMPEDANCE: 50 ohms nominal.

INSERTION LOSS: Not greater than 2 db.

ISOLATION BETWEEN CHANNELS: (Spaced 5% in frequency) 35 to 40 db nominal.

ELECTRICAL CHARACTERISTICS OF REQUIRED ANTENNA

VSWR: 3 to 1 or less relative to 50 ohms across the frequency range.

ANTENNA AVERAGE POWER HANDLING CAPABILITY: 40 kw.

ANTENNA PEAK POWER HANDLING CAPABILITY: 640 kw.

TEMPERATURE OPERATING RANGE: 50 deg C (41 deg F) to 45 deg C (113 deg F).

PRIMARY POWER INPUT: 115 v ac, 60 cycles, single ph.

FRESH WATER COOLING REQUIREMENTS: 150 psi maximum surge; 6 gpm/diplexer minimum flow; 35 deg C (95 deg F); maximum inlet temperature; 10 psi: maximum pressure drop across heat exchanger.

FOR USE WITH TRANSMITTERS: Any transmitter with RF output between 50 watts and 5 kw average and up to 10 kw peak within the frequency range

HEAT DISSIPATION: 2 kw maximum per coupler drawer.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-36(V)(XN-2) includes:		56 x 73 x 116	3370
4	Cabinet Electrical Equipment CY-4068/SRA-36(XN-2)		28-3/4 x 38 x 73	300
4	Antenna Coupler CU-1201/SRA-36(XN-2)		24 x 28 x 32	250
4	Antenna Coupler CU-1202/SRA-36(XN-2)		24 x 28 x 32	250
1	Impedance Matching Net CU-1206/SRA-36(XN-2)		18 x 34-3/4 x 35	170

ANTENNA COUPLER GROUP AN/SRA-(V)(XN-2)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Technical Manual NAVSHIPS 94838			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94838: Technical Manual for Antenna Coupler Groups AN/SRA-35(V)(XN-1), AN/SRA-35 (V)(XN-2), AN/SRA-36(V)(XN-1), AN/SRA-36(V)(XN-2), AN/SRA-37(V)(XN-1), AN/SRA-37(V)(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (42) 1N67A (27) 1N538 (12) 1N676 (6) 1N751A (6) 1N2326 (9) MZ20T5 (18) 2N489 (12) 2N1479

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
Deco Electronics, Inc.	Washington, D. C.	NObsr 87401	

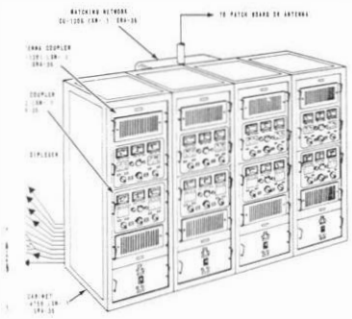
13 May 1966 ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-1)

Cog Service: USN **FSN:** **Functional Class:**

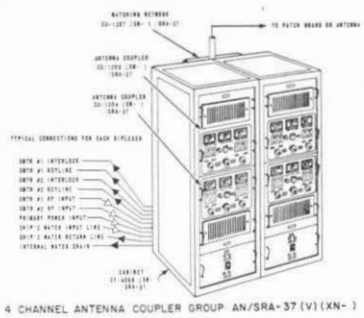
USA	USN	USAF

TYPE CLASS: Used by

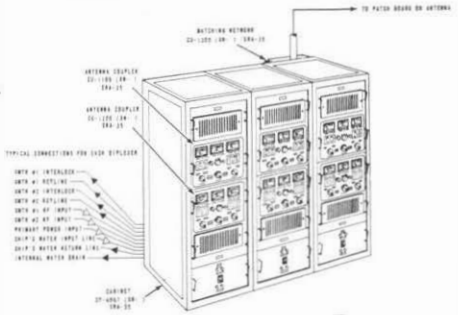
MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Incorporated, (22729).



8 CHANNEL ANTENNA COUPLER GROUP AN/SRA-36(V)(XN-)



4 CHANNEL ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-)



6 CHANNEL ANTENNA COUPLER GROUP AN/SRA-35(V)(XN-)

Groups.

ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-1)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-37(V)(XN-1) is designed for shipboard use. The multicoupler permits two or more transmitters to operate simultaneously into a single broadband antenna and provides: (1) A coupling path of prescribed efficiency between each transmitter and a common antenna; (2) Isolation between transmitter; (3) A tunable bandpass filter to suppress harmonic and spurious transmitter output; (4) Line flattening by which an antenna whose impedance presents as much as a 3 to 1 voltage standing wave ratio can be transformed to acceptable lower VSWR load for the transmitter.

No field changes in effect at time of preparation (7 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-37(V)(XN-1) is similar to AN/SRA-35(V)(XN-1) and AN/SRA-36(XN-1) in appearance and function except for the different frequency ranges in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Nonelectric Multimeter AN/PSM-4; (2) Electronic Voltmeter AN/USM-116; (1) Oscilloscope AN/USM-140K; (1) Counter Electronic Hewlett-Packard Model 524C or equiv; (1) Frequency Converter Hewlett-Packard Model 524A or equiv; (1) Signal Generator Hewlett-Packard Model 606A or equiv; (2) Dry Cell (1.5 volt) BA-30; (1) RF Cable Adapter Andrew No. 22R or equiv; (1) Fixed Flange RF Connector Andrew 15840 or equiv; (1) RF Inner Connector Andrew No. 15093 or equiv; (1) Gas Barrier Andrew No. 1262A or equiv; (1) Male to Male Connector Adapter Andrew No. 23187 or equiv; (1) Directional RF Wattmeter Bird Thruline No. 4610 or equiv; As required RF Cables RG-218/U; RG-270/U, RG-288/U; As required Electrical Cable TTHFWA-2, DSGA-3; (8) Coaxial Connector UG-154A/U; (4) Coaxial Connector UG-154A/U; (4) Coaxial Connector UG-155B/U.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 10 to 30 mc.
TUNING BAND: One band, continuously variable across the frequency range of each coupler group.
TYPE OF FREQUENCY CONTROL: Manual.
POWER RATING: 5 kw RF average, 10 kw RF peak ea antenna coupler.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Not greater than 2 db.
ISOLATION BETWEEN CHANNELS: (Spaced 5% in frequency) 35 to 40 db nominal.
ELECTRICAL CHARACTERISTICS OF REQUIRED ANTENNA
VSWR: 3 to 1 or less relative to 50 ohms across the frequency range.
ANTENNA AVERAGE POWER HANDLING CAPABILITY: 20 kw.
ANTENNA PEAK POWER HANDLING CAPABILITY: 160 kw.
TEMPERATURE OPERATING RANGE: 5 deg C (41 deg F) to 45 deg C (113 deg F).
PRIMARY POWER INPUT: 115 v ac, 60 cycles, single ph.
FRESH WATER COOLING REQUIREMENTS: 150 psig maximum surge, 6 gpm/diplexer minimum flow, 35 deg C (95 deg F) maximum inlet temperature, 10 psi maximum pressure drop across heat exchanger.
FOR USE WITH TRANSMITTERS: Any transmitter with RF output between 500 watts and 5 kw average and up to 10 kw peak within the frequency range.
HEAT DISSIPATION: 2 kw maximum per coupler drawer.
8 COAXIAL CONNECTOR: UG-154A/U.
4 COAXIAL CONNECTOR: UG-155B/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-37 AN/SRA-37(V)(XN-1) includes:		52 x 58 x 73	1700
2	Cabinet Electrical Equipment CY-4069/SRA-37(XN-1)		28-3/4 x 38 x 73	300
2	Antenna Coupler CU-1203/SRA-37(XN-1)		24 x 28 x 32	250

ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-1)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Antenna Coupler CU-1204/SRA-37(XN-1)		24 x 28 x 32	250
1	Impedance Matching Net CU-1207/SRA-37(XN-1)		14 x 32 x 34-3/4	100
2	Technical Manual NAVSHIPS 94838			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94838: Technical Manual for Antenna Coupler Groups AN/SRA-35(V)(XN-1), AN/SRA-35(V)(XN-2), AN/SRA-36(V)(XN-1), AN/SRA-36(V)(XN-2), AN/SRA-37(V)(XN-1), AN/SRA-37(V)(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (42) 1N67A (27) 1N538 (12) 1N676 (6) 1N751A (6) 1N2326 (9) MZ20T5 (18) 2N489 (12) 2N1479

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
Deco Electronics, Inc.	Washington, D. C.	NObsr 87401	

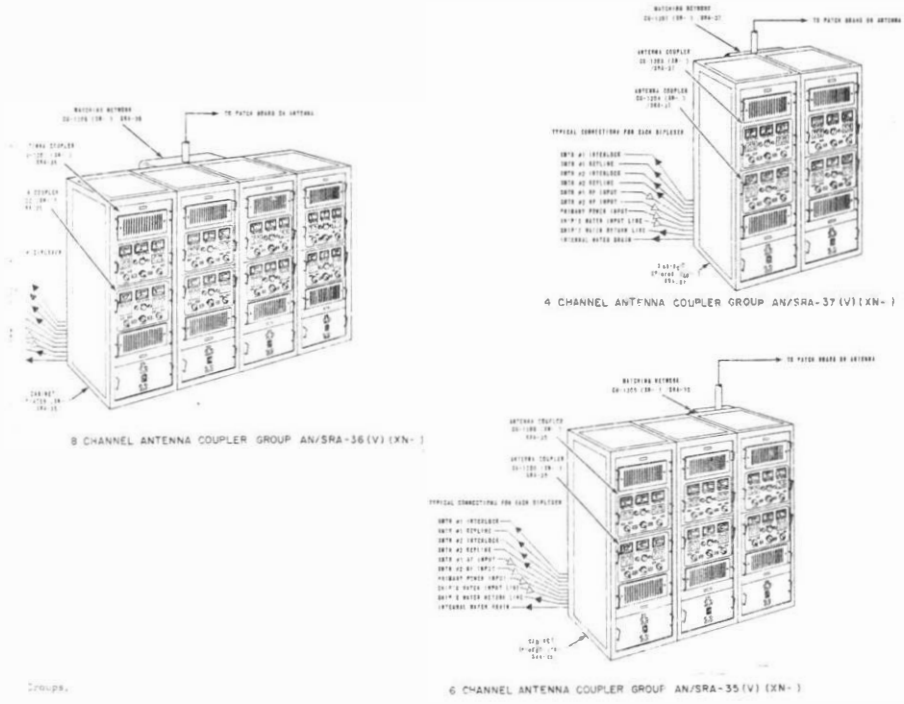
16 May 1966 ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-2)

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Incorporated, (22729).



ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-2)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-37(V)(XN-2) is designed for shipboard use. The multicoupler permits two or more transmitters to operate simultaneously into a single broadband antenna and provides: (1) A coupling path of prescribed efficiency between each transmitter and a common antenna; (2) Isolation between transmitter; (3) A tunable bandpass filter to suppress harmonic and spurious transmitter output; (4) Line flattening by which an antenna whose impedance presents as much as a 3 to 1 voltage standing wave ratio can be transformed to acceptable lower VSWR load for the transmitter.

No field changes in effect at time of preparation (7 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-37(v)(XN-2) is similar to AN/SRA-35(V)(XN-2) and AN/SRA-36(v)(XN-2) in appearance and function except for the different frequency ranges in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Nonelectric Multimeter AN/PSM-4; (2) Electronic Voltmeter AN/USM-116; (1) Oscilloscope AN/USM-140K; (1) Electronic Counter Hewlett-Packard No. 524C or equiv; (1) Frequency Converter Hewlett-Packard No. 524A or equiv; (1) Signal Generator Hewlett-Packard No. 606A or equiv; (2) Dry Cell (1.5 volt) BA30; (1) RF Cable Adapter Andrew No. 22R or equiv; (1) Fixed Flange RF Connector Andrew No. 15840 or equiv; (1) RF Inner Connector Andrew No. 15093 or equiv; (1) Gas Barrier Andrew No. 1262A or equiv; (1) Male to Male Connector Adapter Andrew No. 23187 or equiv; (1) Directional RF Wattmeter Bird Thruline No. 4610 or equiv; (As required) RF Cables RG-218/U, RG-270/U, RG-288/U; (As required) Electrical Cables TTHFWA-2, DSGA-3; (8) Coaxial Connector UG-154A/U; (4) Coaxial Connector UG-155B/U.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 10 to 30 mc.
TUNING BAND: One band, continuously variable across the frequency range of each coupler group.
TYPE OF FREQUENCY CONTROL: Manual.
POWER RATING: 5 kw RF average, 10 kw RF peak ea antenna coupler.
INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Not greater than 2 db.
ISOLATION BETWEEN CHANNELS: (Spaced 5% in frequency) 35 to 40 db nominal.
ELECTRICAL CHARACTERISTICS OF REQUIRED ANTENNA
VSWR: 3 to 1 or less relative to 50 ohms across the frequency range.
ANTENNA AVERAGE POWER HANDLING CAPABILITY: 20 kw.
ANTENNA PEAK POWER HANDLING CAPABILITY: 160 kw.
TEMPERATURE OPERATING RANGE: 5° C (41° F) to 45° C (113° F).
PRIMARY POWER INPUT: 115 v ac, 60 cycles, single ph.
FRESH WATER COOLING REQUIREMENTS: 150 psig maximum surge; 6 gpm/diplexer minimum flow; 35° C (95° F) maximum inlet temperature; 10 psi maximum pressure drop across heat exchanger.
FOR USE WITH TRANSMITTERS: Any transmitter with RF output between 500 watts and 5 kw average and up to 10 kw peak within the frequency range.
HEAT DISSIPATION: 2 kw maximum per coupler drawer.
8 COAXIAL CONNECTOR: UG-154A/U.
4 COAXIAL CONNECTOR: UG-155B/U.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-37 (V)(XN-2) includes:		52 x 58 x 73	1700
2	Cabinet Electrical Equipment CY-4069/SRA-37(XN-2)		28-3/4 x 38 x 73	300
2	Antenna Coupler CU-1203/SRA-37(XN-2)		24 x 28 x 32	250
2	Antenna Coupler CU-1204/SRA-37(XN-2)		24 x 28 x 32	250

ANTENNA COUPLER GROUP AN/SRA-37(V)(XN-2)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Impedance Matching Net CU-1207/SRA-37(XN-2)		14 x 32 x 34-3/4	100
2	Technical Manual			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94838: Technical Manual for Antenna Coupler Groups AN/SRA-35(V)(XN-1), AN/SRA-35(V)(XN-2), AN/SRA-36(V)(XN-1), AN/SRA-36(V)(XN-2), AN/SRA-37(V)(XN-1), AN/SRA-37(V)(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (42) 1N67A (27) 1N538 (12) 1N676 (6) 1N751A (6) 1N2326 (9) MZ20T5 (18) 2N489 (12) 2N1479

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
Deco Electronics, Inc.	Washington, D. C	Nobsr 87401	

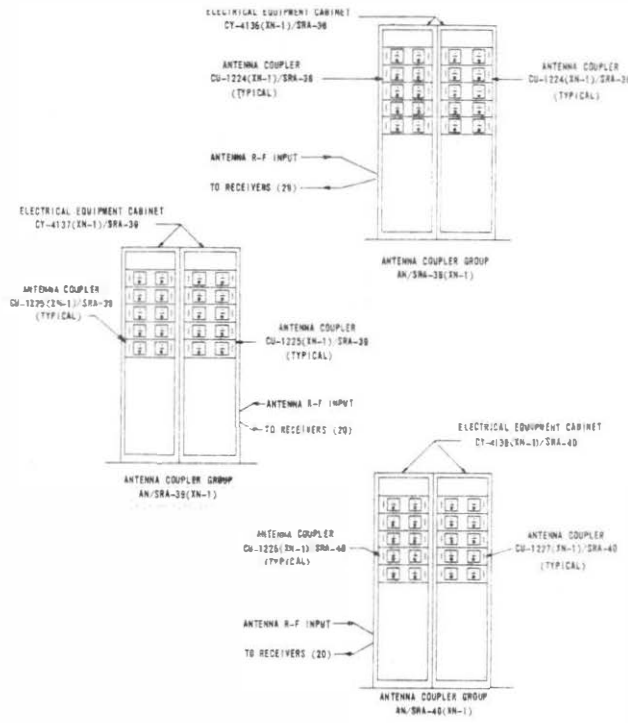
25 April 1966 ANTENNA COUPLER GROUP AN/SRA-38(XN-1)

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Incorporated, (22729).



ANTENNA COUPLER GROUP AN/SRA-38(XN-1)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-38(XN-1) is used to couple up twenty receivers to one antenna system in the 2 to 6 mc frequency range. Isolate receiver from interference caused by signals close to the receiving frequency and protects receiver from high RF voltage induced into the receiving antenna system.

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

RELATION TO OTHER EQUIPMENT:

AN/SRA-38(XN-1) is similar to AN/SRA-39(XN-1) and AN/SRA-40(XN-1) in appearance and function except for the different frequencies in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Electronic Voltmeter, Hewlett-Packard Model 411A or equiv; (1) Oscilloscope AN/USM-140K; (1) Capacitance-Inductance-Resistance Bridge ZM-11U; (1) Electronic Counter Hewlett-Packard

Model 524C or equiv; (1) Frequency Converter Hewlett-Packard Model 525A or equiv; (1) Signal Generator Hewlett-Packard Model 606A or equiv; (1) Bridge Oscillator Kay 860D or equiv; (2) Dummy Load; (1) Fixed Attenuator; (1) Technical Manual NAVSHIPS 91704; (1) Handbook of test Methods and Practices NAVSHIPS 91828; (40) BNC Connector's UG-88/U or equiv; As reqd RF Cable RG-58C/U;(20) BNC Connector Adapter; As reqd RF Cable RG-10A/U or equiv; As reqd RF Cable RG-9A/U or equiv.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 6 mc.
TUNING BAND: 20 channels, one band, continuously; variable across the frequency range.
TYPE OF FREQUENCY CONTROL: Manual.
POWER HANDLING CAPABILITY: Each coupler can be connected without damage to a transmission line under conditions that would cause dissipation of the following power levels in a 50-ohm load for each operating transmitter (separated 5% in frequency).

FREQUENCY	POWER
2 mc	500 Watts
3.5 mc	200 Watts
6 mc	100 Watts

INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Varies from approximately 20 db at 2 mc to between 4 and 8 do from 12 to 30 mc.
BROADBAND: With impedance characteristics such that the VSWR does not exceed 3 to 1 related to 50 ohms across the tuning range of the respective coupler group.
TEMPERATURE RANGE: + 5 deg C (41 deg F) to 45 deg C (113 deg F).
FOR USE WITH RECEIVERS: Receiver R-390/URR or equiv high quality communications receiver.
BANDWIDTH: Greater than 10 kc.
SPURIOUS RESPONSE: In excess of − 80 db at 2 mc, − 60 db at 30 mc.
PASSBAND ROLL OFF: For frequencies outside of 3 db bandwidth approximately 48 db per octave.
NO. OF CHANNELS: 20.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-38(XN-1) includes:		24 x 45 x 84	
2	Cabinet Electrical Equipment CY-4136(XN-1)/SRA-38		22-1/2 x 24 x 84	
10	Antenna Coupler CU-1224(XN-1)/SRA-38		7 x 17-1/2 x 19	
2	Technical Manual NAVSHIPS 94839			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94839: Technical Manual for Antenna Coupler Groups AN/SRA-38(XN-1), AN/SRA-39(XN-1), AN/SRA-40(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5823

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Deco Electronics, Inc.	Washington, D. C.	NObsr 87401	

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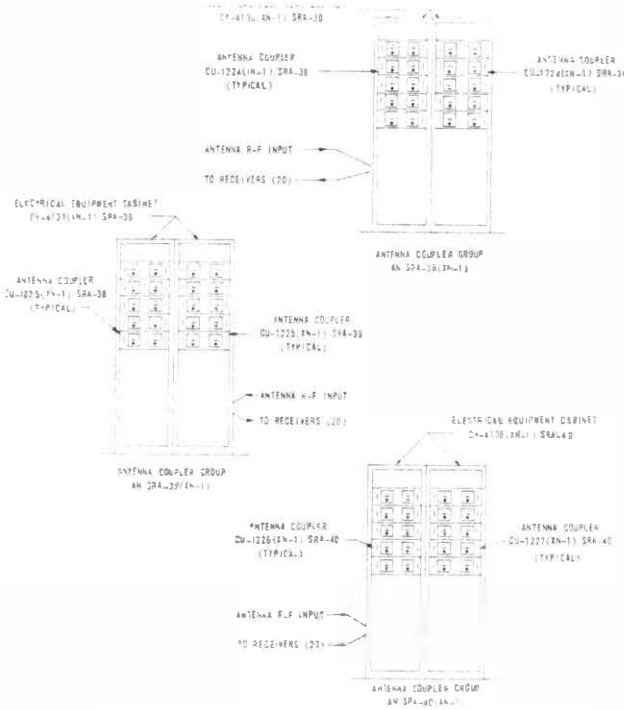
3 May 1966 ANTENNA COUPLER GROUP AN/SRA-39(XN-1)

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Incorporated, (22729).



ANTENNA COUPLER GROUP AN/SRA-39(XN-1)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SPA-39(XN-1) is used to couple up to twenty receivers to one antenna system in the 4-12 mc frequency range. Isolates receiver from interference caused by signals close to the receiving frequency and protects receiver from high RF voltages induced into the receiving antenna system.

No field changes in effect at time of preparation (3 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-39(XN-1) is similar to AN/SRA-38(XN-1) and AN/SRA-40(XN-1) in appearance and function except for the different frequencies in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Electronic Voltmeter, Hewlett-Packard Model 411A or equiv; (1) Oscilloscope AN/USM-140K; (1) Capacitance-Inductance-Resistance Bridge ZM-11U; (1) Electronic Counter Hewlett-Packard

Model 524C or equiv; (1) Frequency Converter Hewlett-Packard Model 524A or equiv; (1) Signal Generator Hewlett-Packard Model 606A or equiv; (1) Bridge Oscillator Kay 860D or equiv; (2) Dummy Load; (1) Fixed Attenuator; (1) Technical Manual NAVSHIPS 91704; (1) Handbook of test Methods and Practices NAVSHIPS 91828; (40) BNC Connectors UG-88/U or equiv; As required, RF Cable RG-58C/U; (20) BNC Connector Adapter; As required, RF Cable RG-10A/U or equiv; As required, RF Cable RG-9A/U or equiv.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 4 to 12 mc.
TUNING BAND: 20 channels, one band, continuously variable across the frequency range.
TYPE OF FREQUENCY CONTROL: Manual.
POWER HANDLING CAPABILITY: Each coupler can be connected without damage to a transmission line under condition that would cause dissipation of the following power levels in a 50 ohm lead for each operating transmitter (separated 5% in frequency).

FREQUENCY	POWER
4 mc	100 watts
7 mc	100 watts
12 mc	40 watts

INPUT IMPEDANCE: 50 ohms nominal.
OUTPUT IMPEDANCE: 50 ohms nominal.
INSERTION LOSS: Varies from approximately 20 db at 2 mc to between 4 and 8 db from 12 to 30 mc.
BROADBAND: With impedance characteristics such that the VSWR does not exceed 3 to 1 related to 50 ohms across the tuning range of the respective coupler group.
TEMPERATURE RANGE: + 5 deg C (41 deg F) to 45 deg C (113 deg F).
FOR USE WITH RECEIVERS: Receiver R-390/URR or equiv high quality communications receiver.
BANDWIDTH: Greater than 10kc.
SPURIOUS RESPONSE: In excess of − 80 db at 2 mc, − 60 db at 30 mc.
PASSBAND ROLL OFF: (For frequencies outside of 3 db bandwidth approxmiately 48 db per octave.
NO. OF CHANNELS: 20.

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MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-39(XN-1) includes:		24 x 45 x 84	
2	Cabinet Electrical Equipment CY-4137(XN-1)/SRA-39		22-1/2 x 24 x 84	
10	Antenna Coupler CU-1225(XN-1)/SRA-39		7 x 17-1/2 x 19	
2	Technical Manual NAVSHIPS 94839			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94839: Technical Manual for Antenna Coupler Groups AN/SRA-38(XN-1), AN/SRA-39(XN-1), AN/SRA-40(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5823

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

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

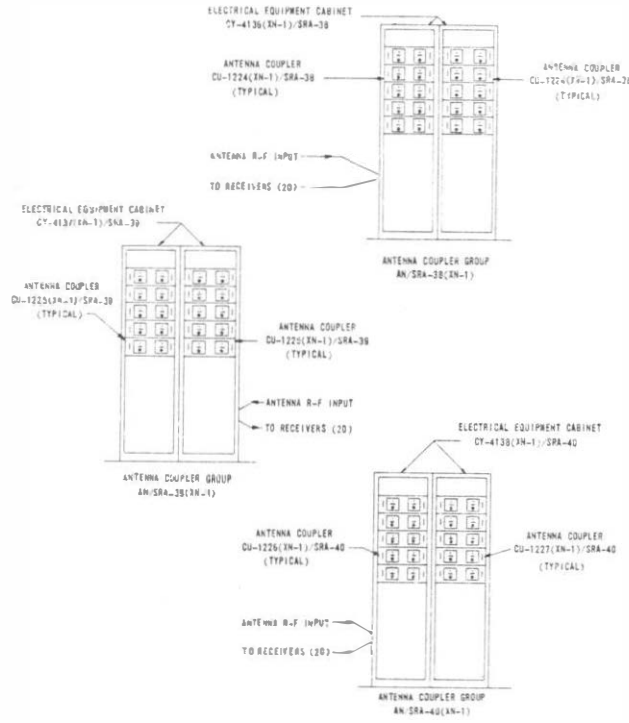
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX.
Deco Electronics, Inc.	Washington, D. C.	NObsr 87401	

Cog Service: USN **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Deco Electronics, Incorporated, (22729).



ANTENNA COUPLER GROUP AN/SRA-40(XN-1)

FUNCTIONAL DESCRIPTION:

Antenna Coupler Group AN/SRA-40(XN-1) is used with radio communications equipment to couple up to Ten receivers in the 10 to 17 mc frequency range and Ten receivers in the 17 to 30 mc frequency range to one broadband 10 to 30 mc antenna. It isolates the receiver from interference caused by signals close to the receiving frequency, and protects the receiver from high RF voltage induced into the receiving antenna Group. The group is assembled in two cabinets of five couplers each. The units are capacitively coupled to the antenna line. The output connectors to the receivers are located in the rear of the cabinets.

No field changes in effect at time of preparation (6 December 1965).

RELATION TO OTHER EQUIPMENT:

AN/SRA-40(XN-1) is similar to AN/SRA-38(XN-1) and AN/SRA-39(XN-1) in appearance and function except for the different frequencies in which they operate.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Electronic Voltmeter, Hewlett-Packard Model 411A or equiv; (1) Oscilloscope AN/USM-140K; (1) Capacitance, Inductance-Resistance Bridge ZM-11U; (1) Electronic Counter, Hewlett-Packard Model 524C or equiv; (1) Frequency Converter, Hewlett-Packard Model 524A or equiv; (1) Signal Generator, Hewlett-Packard Model 606A or equiv; (1) Bridge Oscillator Kay B60D or equiv; (2) Dummy Load; (1) Fixed Attenuator; (1) Technical Manual NAVSHIPS 91704; (1) Handbook of test methods and practices NAVSHIPS 91828; (40) BNC Connectors UG-88/U or equiv; As required RF Cable RG-58C/U; (20) BNC Connector Adapter; As required RF Cable RG-10A/U or equiv; As required RF Cable RG-9A/U or equiv.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 10 to 30 mc.

TUNING BAND: 10 channels, one band continuously variable across the frequency range 10 to 17 mc; 10 channels, one band continuously variable across the frequency range 17 to 30 mc.

TYPE OF FREQUENCY CONTROL: Manual.

POWER HANDLING CAPABILITY: Each coupler group can be connected without damage to a transmission line under conditions that would cause dissipation of the following power levels in a 50 ohm load for each operating transmitter (separated 5% in frequency).

FREQUENCY	POWER
10 to 30 mc	20 watts

INPUT IMPEDANCE: 50 ohms nominal.

OUTPUT IMPEDANCE: 50 ohms nominal.

INSERTION LOSS: Varies from approximately 20 db at 2 mc to between 4 and 8 db from 12 to 30 mc.

BROADBAND: With impedance characteristics such that the VSWR does not exceed 3 to 1 related to 50 ohms across the tuning range of the respective coupler group.

FOR USE WITH RECEIVERS: Receiver R-390/URR or equiv high quality communications receiver.

TEMPERATURE RANGE: + 5 deg C (41 deg F) to 45 deg C (113 deg F).

BANDWIDTH: Greater than 10 kc.

SPURIOUS RESPONSE: In excess of − 80 db at 2 mc, − 60 db at 30 mc.

PASSBAND ROLL OFFF: (For frequencies outside of 3 db bandwidth approximately 48 db per octave.

NO. OF CHANNELS: 20.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Coupler Group AN/SRA-40(XN-1) includes:		24 x 45 x 84	
2	Cabinet Electrical Equipment CY-4138(XN-1)/SRA-40		22-1/2 x 24 x 84	
5	Antenna Coupler CU-1226(XN-1)/SRA-40		7 x 17-1/2 x 19	
5	Antenna Coupler CU-1227(XN-1)/SRA-40		7 x 17-1/2 x 19	
?	Technical Manual NAVSHIPS 94839			

ANTENNA COUPLER GROUP AN/SRA-40(XN-1)

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94839: Technical Manual for Antenna Coupler Groups AN/SRA-38(XN-1), AN/SRA-39(XN-1), AN/SRA-40(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5823

CRYSTALS: Not required.

SEMI-CONDUCTORS: Not required.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Deco Electronics, Inc.	Washington, D. C.	NObsr 87401	

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