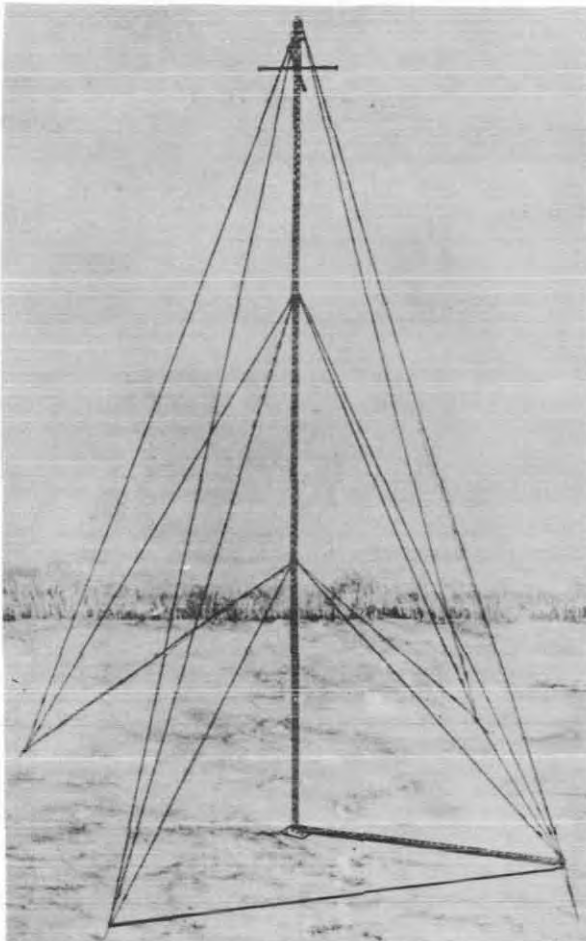


MAST

AB-158/GR



Mast AB-158/GR

FUNCTIONAL DESCRIPTION

Mast AB-158/GR is a trylon welded tower

used to support directional and omni-directional antennas, which are used in conjunction with associated ground installations.

The masts are made up of joinable three-cornered sections. The AB-158/GR is supplied for erection to 90 feet in height. It may also be erected to any intermediate height in 10 foot intervals.

No field changes in effect at time of preparation (9 July 1959).

MANUFACTURER'S OR CONTRACTOR'S DATA

Pfaff and Kendall, Newark, New Jersey.
Contract AF33(38)-7317.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

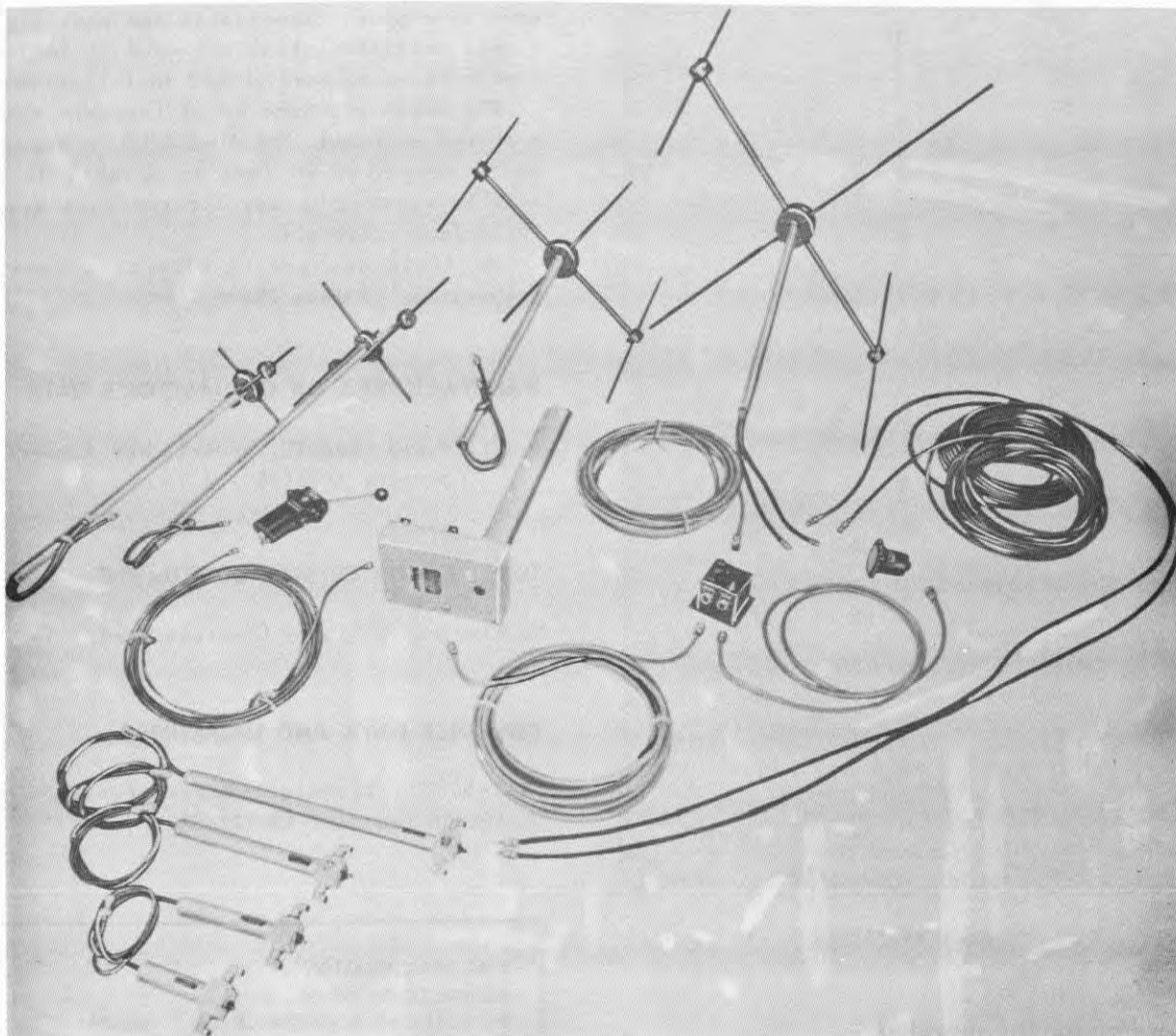
REFERENCE DATA AND LITERATURE

TM11-5137: Technical Manual for MAST AB-158/GR and MAST AB-175/GR.

TYPE CLASSIFICATION
DESIGN COGNIZANCE USAF
PROCUREMENT COGNIZANCE USAF Exhibit 231A
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Mast AB-158/GR		770

DIRECTION FINDER ANTENNA SYSTEM**AN/APA-24**

Direction Finder Antenna System AN/APA-24

FUNCTIONAL DESCRIPTION

The AN/APA-24 is designed for homing or direction finding on intercepted signals ranging in frequency from 100 to 750 mc. The direction of the intercepted signal is established by rotating the antenna until the point of minimum signal is obtained. In operation the antenna system is connected to a receiver having suitable frequency range and sensitivity. Either headphones, an oscilloscope, or both, are connected to the receiver output.

No field changes in effect at time of preparation (25 October 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Radio Receiver, (1) Headphone, (1) Oscilloscope (optional), (as required) machine screws, (as required) Elastic Stop Nut.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**FREQUENCY RANGE**

AS-84/APA-24:	100 to 165 mc.
AS-88/APA-24:	165 to 275 mc.
AS-101/APA-24:	275 to 450 mc.
AS-158/APA-24:	450 to 750 mc.

June 1957

Radio-Antennas

AN/APA-24**DIRECTION FINDER ANTENNA SYSTEM**

ANTENNA AZIMUTH RANGE: 100 deg each side of
set position.

OPERATING POWER: 115 v or 80 v, 400 or 800
cps at 0.10 amp.

REFERENCE DATA AND LITERATURE

AN16-30 APA24-2: Technical Manual for Di-
rection Finder Antenna System AN/APA-24.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assembly AS-84/APA-24	40 X 46 X 55	9.75
1	Antenna Assembly AS-88/APA-24	26 X 29 X 47	7.75
1	Antenna Assembly AS-101/APA-24	15 X 20 X 42	6.25
1	Antenna Assembly AS-158/APA-24	10 X 12 X 39	5.0
1	Antenna Base Assembly AB-20/APA-24	7-1/4 X 12-9/16 X 34-1/8	10.4
1	Antenna Positioning Assembly MX-110/APA-24	1-5/8 X 5-3/8 X 15-1/2	6.3
1	Antenna Position Indicating Assy ID-61/APA-24	3-1/4 X 3-1/4 X 3-7/8	1.9
1	Impedance Matching Switching Unit RF-11/APA-24	2-1/8 X 3 X 26	3.0
1	Impedance Matching Switching Unit RF-12/APA-24	2-1/8 X 3 X 16	2.5
1	Impedance Matching Switching Unit RF-22/APA-24	1-3/4 X 5 X 11-1/2	2.25
1	Impedance Matching Switching Unit RF-26/APA-24	1-3/4 X 5 X 9	2.1
1	Transformer Box	4 X 4-5/8 X 5-1/8	1.63
2	Antenna RF Cable RG-22/U	420 lg	3.50
1	Hydraulic Line	600 lg	
* 1	Power Cable AN-WW-C-561	480 lg	
* 1	Autosyn Transmitter Cable AN-WW-C-561	420 lg	
* 1	Autosyn Indicator Cable AN-WW-C-561	120 lg	
** 1	Power Cable	480 lg	
** 1	Autosyn Transmitter Cable	420 lg	
** 1	Autosyn Indicator Cable	120 lg	

* For Serial numbers 1 to 300 inclusive only

** For Serial numbers 301 and above only

6 August 1962

ANTENNA TUNING GROUP AN/BRA-6
Functional Class:

Cog Service: USN FSN:

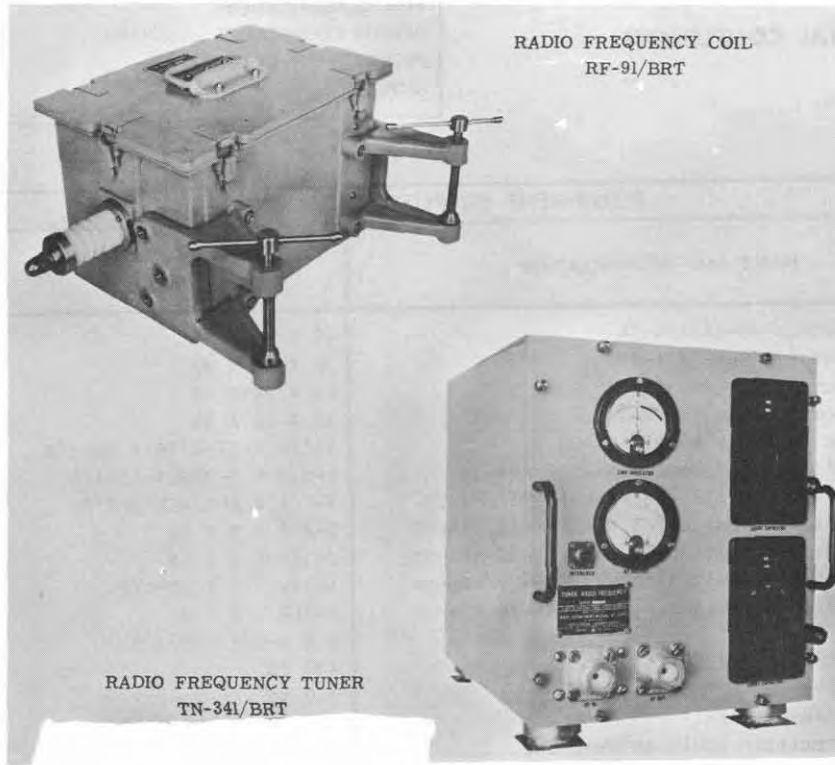
USA

USN

USAF

TYPE CLASS: Used by Used by

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



Antenna Tuning Group AN/BRA-6

FUNCTIONAL DESCRIPTION:

The Antenna Tuning Group AN/BRA-6 is designed to provide emergency communication for submarines when normally used antenna equipment is inoperable. The equipment is a tuning network for matching the input impedance of Antenna AT-774A/UR to a 50-ohm transmitter feedline within a standing wave ratio of 3:1. The antenna tuning group operates over a frequency range of 2 to 30 megacycle (MC) at an average power input of up to 750 watts. The rf tuner and rf coil provide the proper matching of antenna to transmitter by the removal or insertion of inductance and capacitance in the antenna circuit, thus increasing or decreasing the effective antenna impedance.

The AN/BRA-6 is designed for surface operation only.

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

AN/BRA-6 ANTENNA TUNING GROUP

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Submarine.

EQUIPMENT PURPOSE: Emergency communications when normally used antenna equipment is inoperable.

FREQUENCY RANGE: 2 to 30 mc.

POWER INPUT

AVERAGE: 500 W.

100 PERCENT MODULATION: 750 W.

VOICE OPERATION PEAK ENVELOPE: 1000 W.

CW PULSED: 5000 W.

INPUT IMPEDANCE: 50 ohms at SWR of 3:1 or better.

EFFICIENCY

AT 2-MC: 2%.

AT 6-MC: 30%.

AT 6 TO 30 MC: 30 to 80%.

AMBIENT TEMPERATURE RANGE: 0 deg C to 50 deg C (32 deg F to 122 deg F).

RELATION TO OTHER EQUIPMENT:

The AN/BRA-6 is designed to be used with, but is not part of Antenna AT-774A/UR.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna AT-774A/UR; (1) R.F. Cable RG-218/U or RG-17/U; (1) 3 ft Polyethylene insulated wire #14 AWG; (1) Stuffing Tube; (1) End Seal MX-1203F/U; (3) Dummy Load DA-91/U; (2) Tee connector UG-566A/U; (3) Connector UG-573A/U; (As required) Cable RG-8/U; (1) Potentiometer Allen Bradley Type CU-541 or equivalent.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Tuning Group AN/BRA-6 consists of:			
1	Radio Frequency Tuner TN-341/BRT		12-1/2 x 15-5/8 x 16-7/8	73
1	Radio Frequency Coil RF-91/BRT		9-1/16 x 10-1/4 x 14-7/8	33
1	Connector, Plug UG-154/U			
2	Connector, Plug UG-154A/U			
1	Connector, Plug MS3106E10SL-4S			
2	Technical Manual NAVSHIPS 94198		1/4 x 9-3/4 x 11-1/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94198: Technical Manual for Antenna Tuning Group AN/BRA-6.

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	8.0	135

PROCUREMENT DATA

PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
ITT Federal Laboratories Part no. 2273961	Nutley, N. J.	N0bsr-81589	

31 July 1962
Cog Service: USN FSN:

ANTENNA GROUP AN/DRA-4
Functional Class:

USA

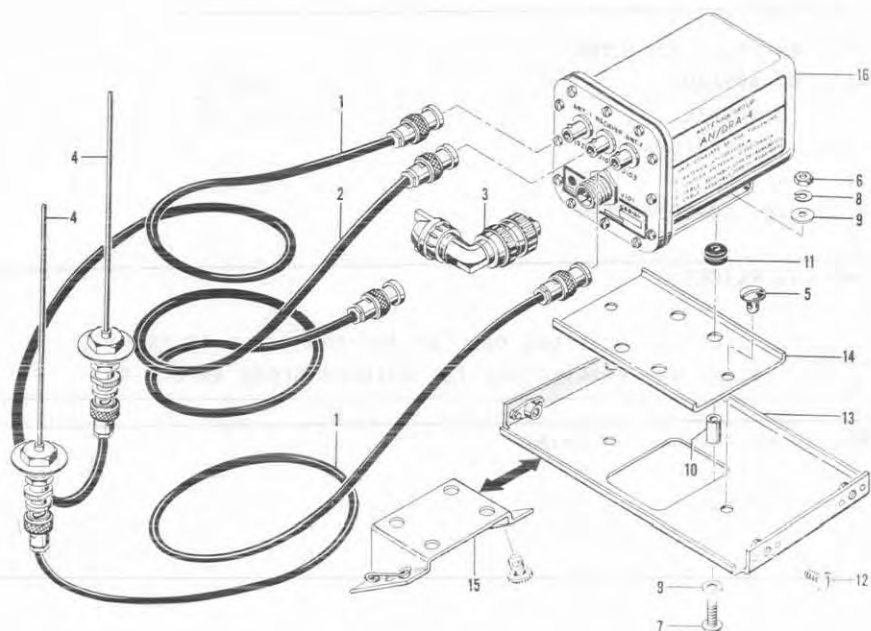
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Babcock Radio Engineering Incorporated.



Antenna Group AN/DRA-4

FUNCTIONAL DESCRIPTION:

Antenna Group AN/DRA-4 is designed for installation in target drones, permits connection of two receiving antennas to the input of a single radio receiver. The equipment functions to switch the receiver input from one antenna to the other at a rate of approximately 100 kc per second. This frequency is well above any of the a-f tones used in the receiver, permitting full use of all control channels. Once the equipment is energized, the switching action is entirely automatic.

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

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 406 to 420 mc.
SWITCHING FREQUENCY: 100 kc nominal.

AN/DRA-4 ANTENNA GROUP

RF VOLTAGE GAIN: 2.5 db min.
INPUT VOLTAGE: 26.5 v dc nominal.
INPUT CURRENT: 320 ma.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group AN/DRA-4 includes:			1.7
2	Cable Assy CG-409A/U		36 lg	
1	Cable Assy CG-409A/U		48 lg	
2	Antenna Assy AT-690/DRA-4			
1	Connector Plug			
1	Antenna Coupler CU-503/DRA-4			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30DRA4-501: Overhaul Instructions for Antenna Group AN/DRA-4.
TM11-5985-213-15: Operation and Maintenance for Antenna Group AN/DRA-4.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) CK6111 (2) 6BC4

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Radio Engineering Co. Part no. 2101	Van Nuys, California	N0as 55-668	

1.1 AN/DRA-4: 2

December 1956

ANTENNA GROUP**AN/GPA-24A****FUNCTIONAL DESCRIPTION**

The AN/GPA-24A is an antenna group designed to provide rotating identification friend or foe antenna in continuous synchronism with a separate radar system.

No field changes in effect at time of preparation (15 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1010 to 1110 mc.

INPUT IMPEDANCE: 51 ohms.

POWER OUTPUT: 3000 W peak.

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Hazeltine Electronics Corp., Little Neck, N. Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Antenna Group AN/GPA-24A.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Group AN/GPA-24A c/o		
1	Antenna AT-352/UPA-22		
1	Case, Antenna CY-1230A/GPA-8		
1	Pedestal, Antenna AB-447/UP		
1	Case, Pedestal CY-1889/GPA-24A		
1	Prod, Test MX-1263/UPA		
1	Amplifier, Electronic Control AM-1369/UP		
1	Mast AB-278/GPA		
1	Case, Mast CY-1229/GPA-8		
1	Filter, Low Pass F-301/UP		

ANTENNA GROUP**AN/GRA-47***Antenna Group AN/GRA-47***ELECTRICAL AND MECHANICAL CHARACTERISTICS**

POWER REQUIREMENTS: 208 v, 60 cy, 3 ph, and
120 v, 60 cy, 1 ph.

ANTENNA POWER

10,000 FEET TO SEA LEVEL: 20 kw at a
duty cycle of 2%.

10,000 FEET AND ABOVE: 15 kw.

FREQUENCY RANGE: 962 to 1,213 mc.

ANTENNA IMPEDANCE: 50 ohms.

ANTENNA SPEED OF ROTATION: 900 rpm.

MODULATION FOR REFERENCE MARKERS: +3600
pulse-pairs per sec.

PULSE-PAIR SPACING: 12 usec.

PULSE DURATION: 3.5 usec.

PULSE RISE TIME: 2.5 usec.

PULSE DECAY TIME: 2.5 usec.

WIND VELOCITY: 100 knots (survival).

TRAFFIC CAPACITY: 100 aircraft.

MANUFACTURER'S OR CONTRACTOR'S DATA

ITE Circuit Breaker Co., Special Products
Div., Philadelphia, Pennsylvania.
Contract NObsr-75128.

FUNCTIONAL DESCRIPTION

Antenna Group AN/GRA-47 of Radio Sets AN/GRN-9 and 9A, which together comprise a tactical air communications and navigational (tacan) system supplies aircraft, equipped to use it, with information necessary to fix its position relative to the (TACAN) beacon antenna in both azimuth and range.

No field changes in effect at time of preparation (11 August 1959).

RELATION TO OTHER EQUIPMENT

This equipment is used with AN/GRN-9 and 9A, it is not a part of AN/GRN-9 and 9A.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Technical Manual for Radio Sets AN/GRN-9 and 9A, AN/SRN-6.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes used.

(5) 2N43A

Total Crystals: (5)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93240: Technical Manual for ANTENNA GROUPS AN/GRA-47 and AN/GRA-48.

TYPE CLASSIFICATION (NAVY)

DESIGN COGNIZANCE USN, BUSHIPS

PROCUREMENT COGNIZANCE SPEC: SHIPS-A-2492

STOCK NO.

R.D.B. IDENT. NO.

Radio-Antennas

AN/GRA-47

ANTENNA GROUP

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AS-966/GRA-47	93-1/3	48 X 48 X 70	700
1	Control, Antenna C-2634/GRN	33-1/3	12 X 30 X 80	700

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Group AN/GRA-47 Including:		
1	Antenna AS-966/GRA-47	44 dia X 66	
1	Control, Antenna C-2634/GRN	7-15/16 X 24-7/8 X 70	

ANTENNA GROUP**AN/GRA-48***Antenna Group AN/GRA-48***FUNCTIONAL DESCRIPTION**

Antenna AN/GRA-48 of Radio Set AN/GRN-9 and 9A, which together comprise a tactical air communications and navigation (TACAN) system supplies an aircraft, equipped to use it, with information necessary to fix its position relative to the (TACAN) beacon antenna in both azimuth and range.

No field changes in effect at time of preparation (11 August 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 208 v, 60 cy, 3 ph, and 120 v, 60 cy, 1 ph.

ANTENNA POWER

10,000 FEET TO SEA LEVEL: 20 kw at a duty cycle of 2%.

10,000 FEET AND ABOVE: 15 kw.

FREQUENCY RANGE: 962 to 1,213 mc.

ANTENNA IMPEDANCE: 50 ohms.

ANTENNA SPEED OF ROTATION: 900 rpm.

MODULATION FOR REFERENCE MARKERS: +3600 pulse-pairs per sec.

PULSE-PAIR SPACING: 12 usec.

PULSE DURATION: 3.5 usec.

PULSE RISE TIME: 2.5 usec.

PULSE DECAY TIME: 2.5 usec.

WIND VELOCITY: 100 knots (survival).

TRAFFIC CAPACITY: 100 aircraft.

MANUFACTURER'S OR CONTRACTOR'S DATA

ITE Circuit Breaker Co., Special Products
Div., Philadelphia, Pennsylvania.
Contract NObsr-75128.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes used.

(5) 2N43A

Total Crystals (5)

RELATION TO OTHER EQUIPMENT

NAVSHIPS 93240: Technical Manual for Antenna Groups AN/GRA-47 and AN/GRA-48.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: SHIPS-A-2492
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AS-965/GRA-48	93-1/3	48 X 48 X 70	700
1	Control, Antenna C-2634/GRN	33.1/3	12 X 30 X 80	700

February 1960

Radio-Antennas

AN/GRA-48**ANTENNA GROUP**

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Group AN/GRA-48 including:		
1	Antenna AS-965/GRA-48	44 dia X 66	
1	Control, Antenna C-2634/GRN	7-15-16 X 24-7/8 X 70	

June 1961

Radio-Antennas

ANTENNA GROUP**AN/GRA-61****FUNCTIONAL DESCRIPTION**

The AN/GRA-61 is designed to provide facilities for transmitting and receiving electromagnetic energy and amplitude modulates the transmitted energy. This TACAN antenna receives from, and transmits signals to, aircraft to supply distance and bearing information to aircraft.

No field changes in effect at time of preparation (21 September 1960).

RELATION TO OTHER EQUIPMENT

The AN/GRA-61 is designed to be used with but not part of Radio Sets AN/URN-3 and AN/GRN-9.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Shore installation.

TYPE OF FACILITIES PROVIDED: Transmitting and receiving electromagnetic energy, and amplitude modulates the transmitted energy.

HIGH BAND FREQUENCY RANGE: 1152 to 1215 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

ITT Federal Division, Clifton, N. J.

Contract NObsr-81179.

Approximate Cost \$7,050.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Antenna Group AN/GRA-61.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	NAVY BUSHIPS
PROCUREMENT COGNIZANCE	SHIPS-S-3369
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Group AN/GRA-61 consists of:		
1	Antenna		
1	Antenna Pedestal		
1	Antenna Control Group		

2 July 1962

Cog Service: USN FSN:

ANTENNA GROUP AN/SRA-10

Functional Class:

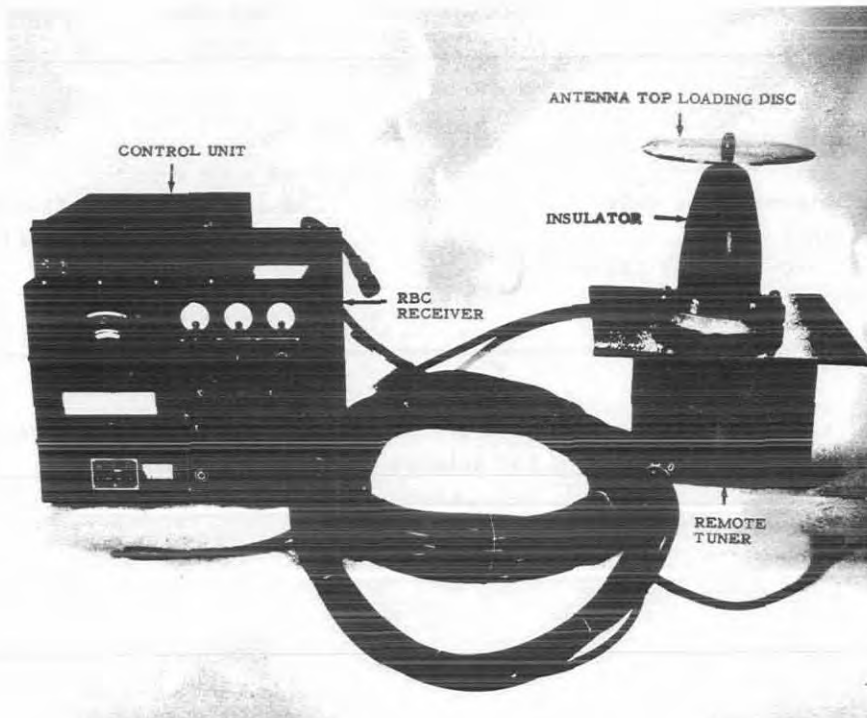
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: U. S. Navy Electronics Laboratory, (89199).



Antenna Group AN/SRA-10

FUNCTIONAL DESCRIPTION:

The Antenna Group AN/SRA-10 is designed as a small top loaded monopole antenna supported by a standard 12-inch deck insulator. The antenna is connected to a Remote Tune Unit located directly under the insulator. Signals from the Tuner Unit are fed by Radio Frequency Transmission Line to a modified Radio Broadcasting Receiver. A control unit on top of the receiver enables the operator to change bands and to tune the antenna from the operating position.

No field changes in effect at time of preparation (8 January 1962).

TECHNICAL CHARACTERISTICS:

ANTENNA SENSITIVITY: At 4 mc, 28 db below the sensitivity of a quarter-wave monopole over a ground plane & 6 db below at 27 mc.

OUTPUT IMPEDANCE: 50 ohms.

NUMBER OF BANDS: 4 bands.

AN/SRA-10 ANTENNA GROUP

FREQUENCY RANGE: 4 to 27 mc.

OPERATING POWER RQMT: 117 v ac, 60 cps, single ph, 100 w.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group AN/SRA-10 consists of:			
1	Antenna Unit		18 x 18 x 22	54-1/2
1	Remote Antenna Tuner Unit		9-1/4 x 11-1/2 x 12-1/4	7
1	Control Unit		3-1/2 x 11-1/2 x 12-1/4	17-1/2
1	Receiver RBC-5 (CRU-46148-D)		15 x 18 x 20	82
1	Power Rectifier Unit		9-1/2 x 13-1/2 x 15	48

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91555: Technical Manual for Miniature Receiving Antenna AN/SRA-10(YG-1).

NAVSHIPS 93400: Technical Data Sheets for Antenna Group AN/SRA-10.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 6J6 (1) 6AQ5 (1) 6J4

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

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

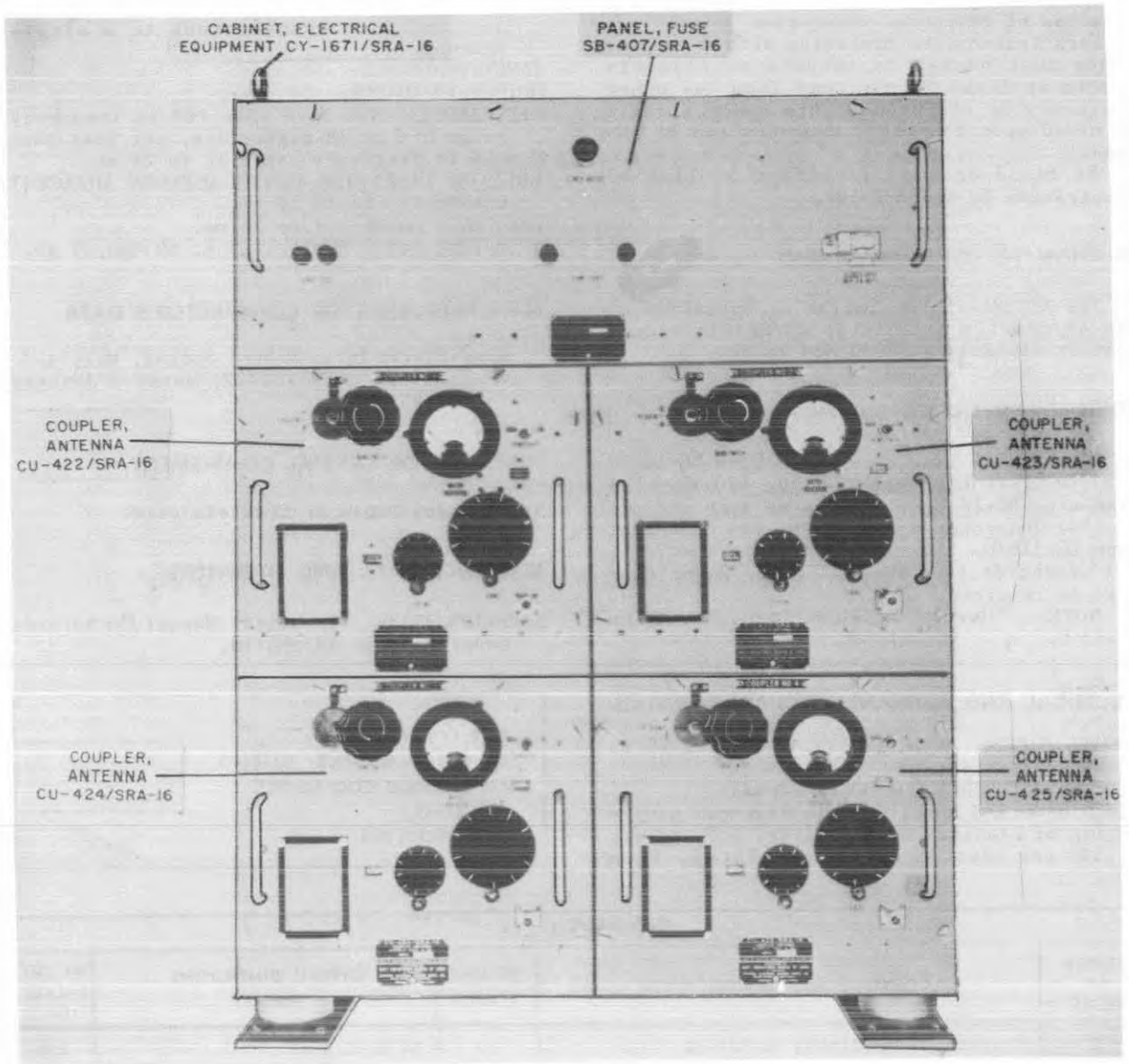
PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
U. S. Navy Electronics Laboratory	San Diego, California	BuShips Problem, NE091003	

ANTENNA COUPLER GROUP



Antenna Coupler Group AN/SRA-16

FUNCTIONAL DESCRIPTION

The AN/SRA-16 is designed specifically for shipboard use. Each coupler group is capable of coupling four transmitters into a single broadband antenna. Each coupler group must be 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 out-

put terminal of the coupler group. The principal function of this equipment is to provide an efficient means for operating several transmitters having an output power up to 500 watts, into a single broadband antenna. For example, the use of five of these couplers, covering the desired frequency ranges, requires only 5 broadband antennas instead of 20 antennas (each for a separate frequency) with consequent space saving and mini-

AN/SRA-16

ANTENNA COUPLER GROUP

mization of radiation absorption loss.

Each transmitter operating with a coupler group must be set to operate at channels spaced at least 10 per cent from any other frequency in the group. This spacing shall be based upon the high frequency end of the band.

No field changes in effect at time of preparation (8 April 1959).

RELATION TO OTHER EQUIPMENT

The AN/SRA-16 is similar in operation to the AN/SRA-13, AN/SRA-14, AN/SRA-15 except that it differs in frequency range.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(4) Coaxial Line type RG-10/U or RG-18/U, (*4) Coaxial Line type RG-10, (1) Coaxial Line type RG-18/U, (*4) Adapter type UG-167/U, (*4) Connector type UG-23/U, (4) Connector type UG-21B/U, (*4) Connector type UG-27A/U, (1) Connector type UG-154/U, (1) Power Line type as required.

NOTE: *Used only when item No. 1 is RG-18/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TUNING BANDS: 9 to 12, 12 to 18 and 18 to 26 megacycles.

TYPE OF FREQUENCY CONTROL: Manual.

POWER HANDLING ABILITY: Simultaneous coupling of a maximum of 500 watts, R.F. power, 100 per cent amplitude modulated, from

each of four transmitters to a single antenna.

INPUT IMPEDANCE: 50 ohms.

OUTPUT IMPEDANCE: 50 ohms.

EFFICIENCY: Not less than 70% in frequency range of 9 to 18 megacycles; not less than 65% in frequency range 18 to 26 mc.

VOLTAGE ISOLATION RATIO BETWEEN ADJACENT CHANNELS: 15 to 1.

FREQUENCY RANGE: 9 to 26 mc.

OPERATING POWER RQMT: 115 v, 60 cps, 1 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Nems-Clarke Inc., Silver Spring, Maryland.
Contract NObsr-63422, dated 6 January 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92839: Technical Manual for Antenna Coupler Group AN/SRA-16.

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

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Coupler Group Antenna AN/SRA-16	22	27 X 32 X 44	430

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Coupler Group Antenna AN/SRA-16	25-1/8 X 29-1/4 X 39-3/4	320
1	Coupler Antenna CU-422/SRA-16	12-3/8 X 13-3/4 X 24-3/4	42
1	Coupler Antenna CU-423/SRA-16	12-3/8 X 13-3/4 X 24-3/4	42
1	Coupler Antenna CU-424/SRA-16	12-3/8 X 13-3/4 X 24-3/4	42
1	Coupler Antenna CU-425/SRA-16	12-3/8 X 13-3/4 X 24-3/4	42
1	Panel Fuse SB-407/SRA-16	9-7/8 X 10-7/8 X 27-3/4	13
1	Cabinet Electrical Equipment CY-1671/SRA-16	25-1/8 X 29-1/4 X 39-3/4	139

11 July 1962

Cog Service: USN FSN: 5985-633-6842

ANTENNA GROUP AN/SRA-17

Functional Class:

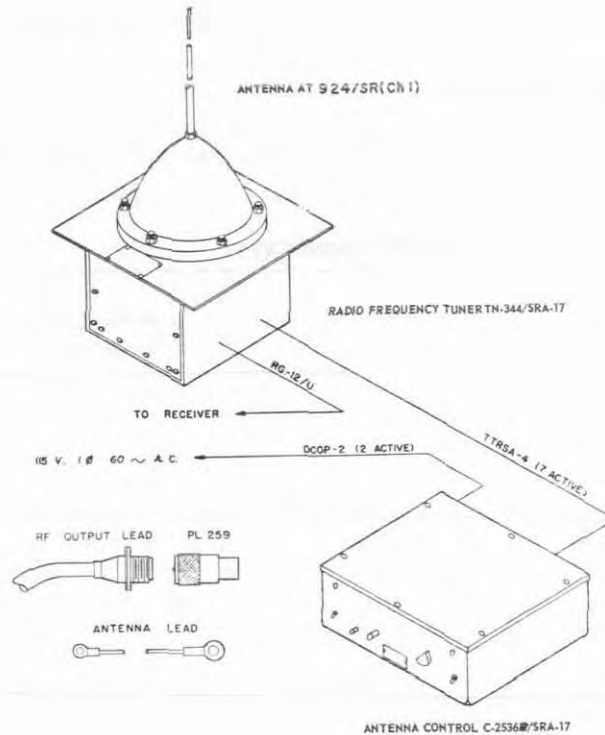
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Polytronic Research Inc., (04458).



Antenna Group AN/SRA-17

FUNCTIONAL DESCRIPTION:

The Antenna Group AN/SRA-17 is designed to provide a physically small, but efficient receiving antenna covering the VLF-LF frequency range, for installations where interaction between large, closely spaced antenna would present a problem, and on a smaller craft where space for a long wire antenna is not available.

No field changes in effect at time of preparation (15 December 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Shipboard installation.

EQUIPMENT FUNCTION: Resonates a vertical whip antenna over the frequency range of 15 kc to 600 kc.

ANTENNA IMPEDANCE: 72 ohms.

SENSITIVITY: 20 db signal to noise ratio min sensitivity.

AN/SRA-17 ANTENNA GROUP

FREQUENCY RANGE: 14 kc to 600 kc.

Band One: 14 kc to 38 kc.

Band Two: 38 kc to 95 kc.

Band Three: 95 kc to 235 kc.

Band Four: 235 kc to 600 kc.

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

RELATION TO OTHER EQUIPMENT:

The AN/SRA-17 is designed to be used with, but not part of shipboard communications system.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Coaxial Cable RG-12U; (1) Power Cable DCOP-2; (1) G.R. Type "female" Connector NT-49121-A; (1) Control Cable TTRSA-4.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group AN/SRA-17 consist of:			
1	Antenna Control C-2536/SRA-17		4-1/2 x 12 x 12	14
1	RF Tuner & Housing TN-344/SRA-17		10-1/2 x 12 x 12	22
1	Antenna AT-924/SR		7 dia x 131	20
1	Connector AN3106A-14S-9S			
1	Connector AN3106A-18-8P			
1	UHF Connector Plug PL-259, 49190			
1	UHF Connector SO-239, 49194			
1	UHF Shield UG-106/U, M-36U			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93679: Technical Manual for Antenna Group AN/SRA-17A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5Y3WGTA (1) VR-105

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.12	100
1	.219	35

PROCUREMENT DATA

PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Polytronic Research Inc.	Rockville, Maryland	NObsr-71843 NObsr-75149 NObsr-75177	

9 June 1962

Cog Service: USN FSN: 5985-722-3791

ANTENNA GROUP AN/SRA-17A

Functional Class:

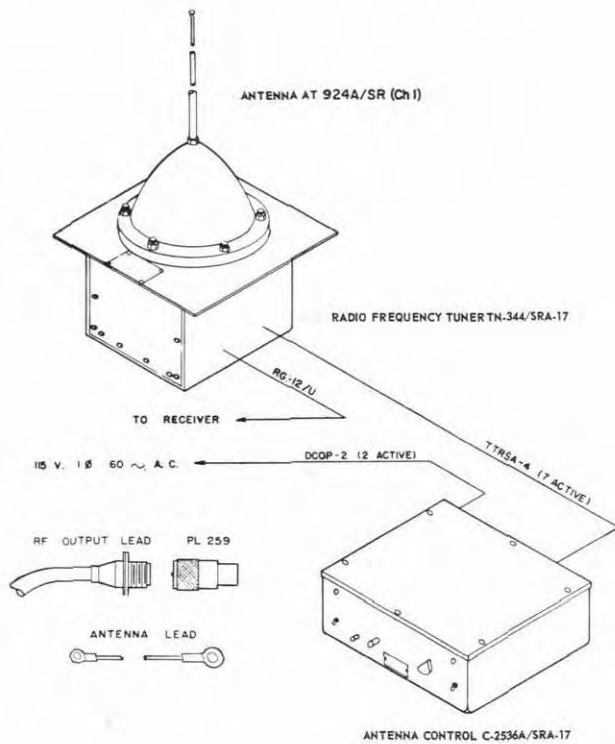
USA

USN

USAF

TYPE CLASS: Used by Used by

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



Antenna Group AN/SRA-17A

FUNCTIONAL DESCRIPTION:

The Antenna Group AN/SRA-17A provides a physically small, but efficient receiving antenna covering the VLF-LF frequency range, for installations where interaction between large, closely spaced antenna would present a problem, and on smaller craft where space for a long wire antenna is not available.

No field changes in effect at time of preparation (6 December 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Shipboard installation.

EQUIPMENT PURPOSE: Provides remote tuning of receiving antenna.

ANTENNA IMPEDANCE: 72 ohms.

FREQUENCY RANGE: 14 to 600 kc.

AN/SRA-17A ANTENNA GROUP

TUNING BANDS

BAND ONE FREQUENCY: 14 to 38 kc.
BAND TWO FREQUENCY: 38 to 95 kc.
BAND THREE FREQUENCY: 95 to 235 kc.
BAND FOUR FREQUENCY: 235 to 600 kc.

SENSITIVITY: 20 db signal to noise ratio minimum sensitivity.

RBA

BAND ONE: 15 kc-13.4 microvolts; 25 kc-10.8 microvolts; 38 kc-12.9 microvolts.
BAND TWO: 38 kc-5.1 microvolts; 65 kc-5.0 microvolts; 95 kc-5.7 microvolts.
BAND THREE: 95 kc-5.0 microvolts; 165 kc-4.6 microvolts; 235 kc-5.6 microvolts.
BAND FOUR: 235kc-3.1 microvolts, 420 kc-3.0 microvolts; 600 kc-4.2 microvolts.

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

RELATION TO OTHER EQUIPMENT:

The AN/SRA-17A is functionally interchangeable with AN/SRA-17.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Coaxial Cable RG-12/U; (1) Power Cable DCOP-2; (1) G.R. Type "Female Connector" NT 49121-A; (1) Control Cable TTRSA-4.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Control C-2536A/SRA-17		4-1/2 x 12 x 12-1/2	14
1	Radio Frequency Tuner & Housing TN-344/SRA-17		10-1/2 x 12 x 12	22
1	Antenna AT-924A/SR		7 dia x 131	20
1	Connector AN3106A-14S-9S			
1	Connector AN3106A-18-8P			
1	UHF Connector PL-259, 49194			
1	UHF Connector SO-239, 49194			
1	UHF Shield IIG-106/U, M-360			
2	Technical Manual NAVSHIPS 93679		1/4 x 9-1/8 x 11-1/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93679: Technical Manual for Antenna Group AN/SRA-17A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5Y3WGTA

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.12	100
1	2.7	35

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-R-3071

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Lieco Incorporated	Syosset, New York	N0bsr-75382 26 August 1960	

14 August 1962

Cog Service: USN FSN:

ANTENNA GROUP AN/SRA-17B

Functional Class:

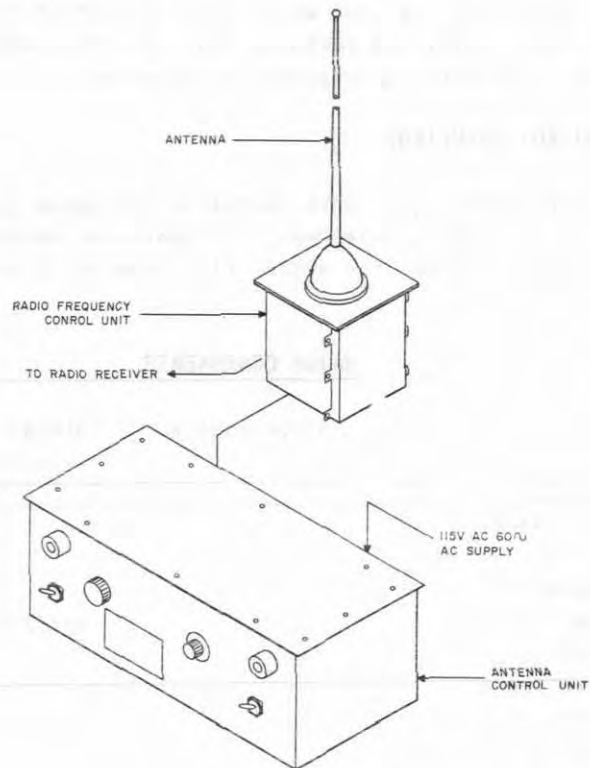
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Decitron Electronics Corp., (06053).



Antenna Group AN/SRA-17B

FUNCTIONAL DESCRIPTION:

The Antenna Group is designed as a compact Very Low Frequency - Low Frequency (VLF-LF) antenna system where space for a conventional long wire antenna is not available or where such antennas would interact with existing antenna installations.

No field changes in effect at time of preparation (21 May 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF TUNING: Saturable reactor.

TYPE OF ANTENNA: Tubular, whip-type.

FREQUENCY RANGE: 14 to 600 kc.

NUMBER OF BANDS: 4

BAND FREQUENCIES

ONE: 14 to 38 kc.

AN/SRA-17B ANTENNA GROUP

TWO: 38 to 95 kc.

THREE: 95 to 235 kc.

FOUR: 234 to 600 kc.

TUNER IMPEDANCE: 72 ohms.

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

RELATION TO OTHER EQUIPMENT:

The AN/SRA-17B is designed to be used with, but not part of Radio Receivers AN/SRR-11.

The AN/SRA-17B is electrically and mechanically interchangeable with AN/SRA-17 and AN/SRA-17A except that it differs in component differences.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(As required) Stuffing Tubes; (1) Cable RG-12A/U; (1) Cable (2-wire, no. 12 gage or heavier); (1) Cable (11 conductor, shielded); (1) Connector AN3106B-24-20P; (1) Connector AN3106B-14S-7S; (1) Connector Navy Type 49121; (11) Terminal Lugs Type MS25036-1; (1) Multi-meter (VTVM) ME-26/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group AN/SRA-17B consists of:			
1	Antenna AT-924A/SR			5-1/2
1	Radio Frequency Tuner TN-334B/SRA-17		9-1/2 x 12 x 12	20
1	Antenna Control Unit C-2536B/SRA-17		4-1/2 x 10-5/16 x 14	16
2	Technical Manuals NAVSHIPS 94127		1/4 x 8-1/2 x 11-1/2	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94127: Technical Manual for Antenna Group AN/SRA-17B.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5Y3WGTA (1) 0B2WA

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N21B

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	.89	18
1	1.72	26
1		6-1/2

PROCUREMENT DATA

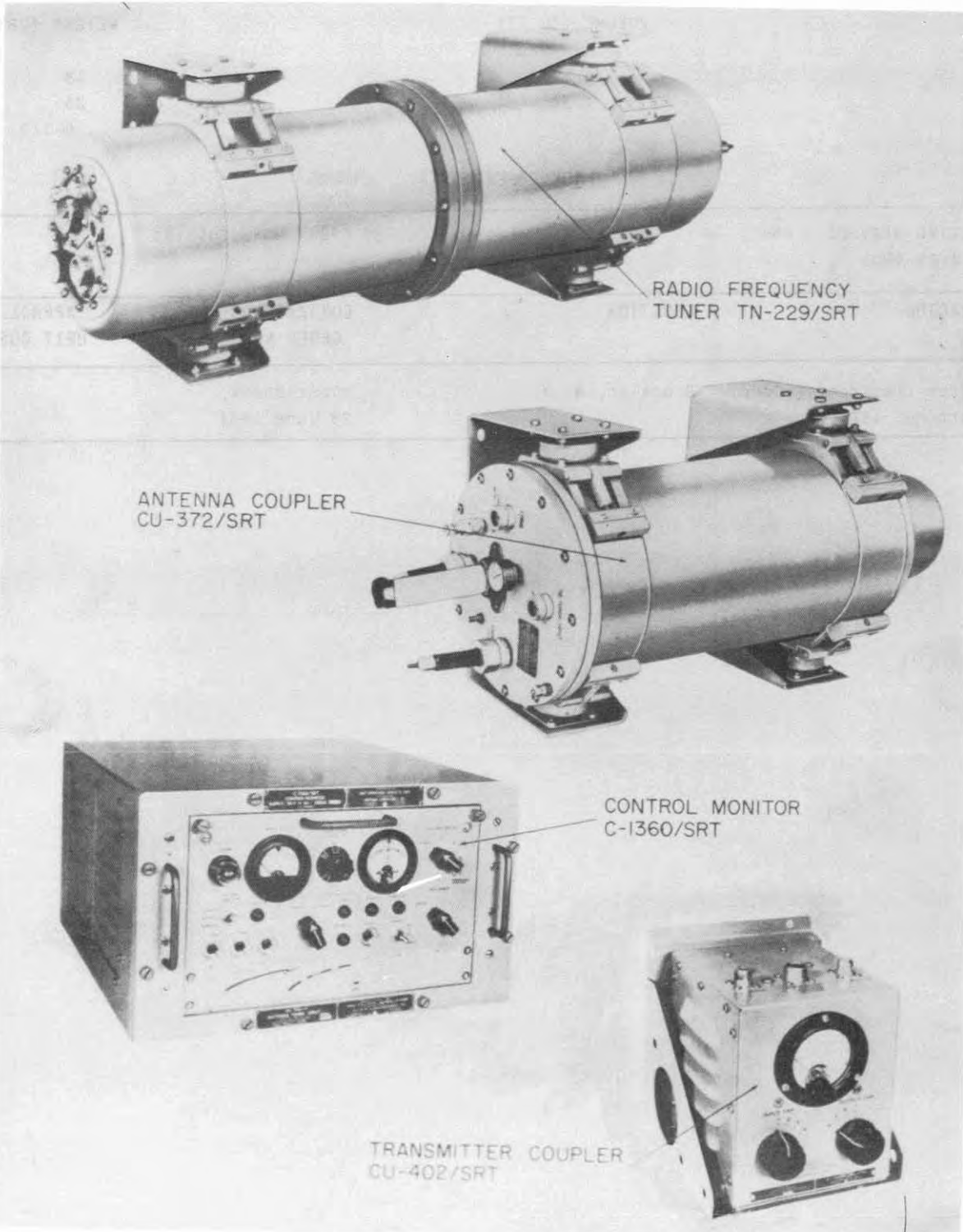
PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Decitron Electronics Corp. Part no. 184	Brooklyn, N. Y.	N0bsr-85064, 23 June 1961	

ANTENNA TUNING GROUP

AN/SRA-18



Antenna Tuning Group AN/SRA-18

FUNCTIONAL DESCRIPTION

The AN/SRA-18 provides a means for tuning and matching an antenna to a 50 ohm transmission line over a frequency range of 0.3 to 30 mc with a Standing Wave Ratio of 4:1 or less. Tuning is accomplished by matching the transmitter to the transmission line and matching the antenna to the transmission line.

As a complete system it is intended for use with Radio Transmitting Set AN/URT-2, 3 and 4 also TBK-13, 18, 19 and 20, TBM-5, 7, 9 and 11. Three of the four units can be used with the transmitter of the AN/SRT. Automatic operation of the Antenna Tuning Group is not possible when used with manual transmitters TBK, TBM, TBL and TDE. Automatic operation is possible only when used with the automatic URT transmitters. Antenna Tuning Group AN/SRA-18 operates with Navy Type Antenna 66047, base insulator type antennas 61335 and 61350 or a single wire antenna 60 to 100 ft in length and at least 40 ft high.

Data on this sheet reflects the following field changes: FC 1.

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Radio Transmitter Set AN/URT-2, 3, 4, TBK-19, 20, TBK-13, TBK-18, TBM-5, TBM-7, TBM-9 or TDE, TDE-1 and TDE-3. (2) Bulk Cable MSCA-19, (2) Bulk Cable MSCA-24, (1) Bulk Cable MHFF-14, (2) Bulk Cable RG-17/U (10 ft max), (2) Bulk Cable RG-17/U (5 ft max), (1) Bulk Cable RG-17/U or RG-8/U (10 ft max), (9) Plug Connectors, (3) Adapter.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 0.3 to 30 mc.

R.F. POWER OUTPUT (MAX): 500 W from 2 to 30 mc, 200 W from 0.3 to 2 mc.

INSERTION LOSS (MAX): 0.5 db.

CHARACTERISTIC LINE IMPEDANCE: 50 ohms.

STANDING WAVE RATIO: 4:1 or less.

POWER SOURCE REQUIRED: 110-120 v, 60 cps, single ph.

HEAT DISSIPATION

TN-229/SRT: 300 W max.

CU-372/SRT: 300 W max.

C-1360/SRT: 145 W max.

CU-402/SRT: 0 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hoffman Laboratories Inc, Los Angeles, Calif.

Contract: NObsr-64218, 21 June 1954.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5726/6AL5

(1) 5727/2D21

(1) 0B2WA

(3) 12AT7WA

Total Tubes: (6)

(2) 1N39 or 1N39A

(2) 1N68

Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92540(A): Technical Manual for Antenna Tuning Group AN/SRA-18.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Frequency Tuner TN-229/SRT	16.43	20-1/4 X 23-3/8 X 60	230
1	Antenna Coupler CU-372/SRT	11.36	20-3/8 X 23-1/2 X 41	170
1	Control Monitor C-1360/SRT	6.0	14-1/8 X 26-1/8 X 28-1/8	87
1	Transmitter Coupler CU-402/SRT	2.0	13-7/8 X 14-7/8 X 15-5/8	35
1	Equipment spares kit	1.4	12 X 13 X 15	35

Apr 11 1958

ANTENNA TUNING GROUP

Radio-Antennas

AN/SRA-18

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Frequency Tuner TN-229/SRT	12 3/8 dia X 50-13/16	108
1	Antenna Coupler CU-372/SRT	12-5/8 dia X 34-5/8	66
1	Control Monitor C-1360/SRT	11 X 17 X 19	55
1	Transmitter Coupler CU-402/SRT	7-1/2 X 8 1/2 X 8-1/2	9
1	Equipment Spares		9
2	Technical Manuals NAVSHIPS 92540		

17 July 1962

Cog Service: USN FSN: 5985-543-1487 W/S

ANTENNA TUNING GROUP AN/SRA-18A
Functional Class:

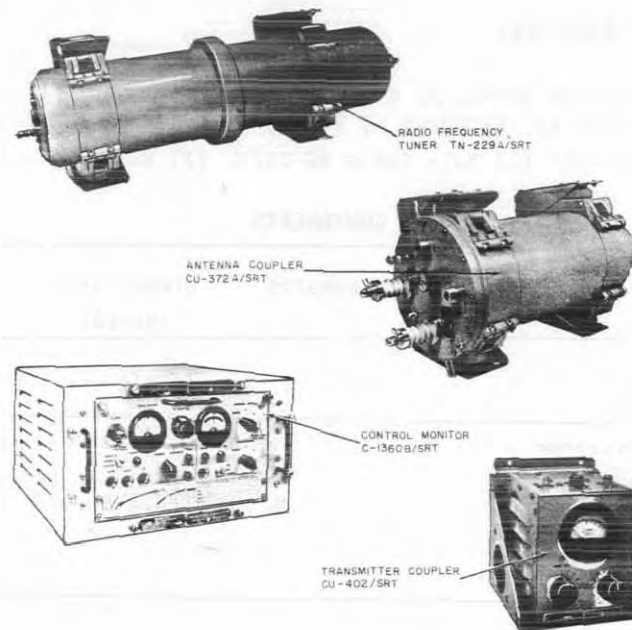
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Nevada Air Products Co., (04677).



Antenna Tuning Group AN/SRA-18A

FUNCTIONAL DESCRIPTION:

The Antenna Tuning Group AN/SRA-18A is designed to provide a means for tuning and matching an antenna to a 50-ohm transmission line over a frequency range from 0.3 to 30 megacycle (MC) with a Standing Wave Ratio (SWR) or 4:1 or less.

No field changes in effect at time of preparation (6 December 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Shipboard installation.

OPERATING FREQUENCY RANGE: 0.3 to 30 mc.

MAXIMUM RF POWER INPUT: 500 W from 2 to 30 mc; 200 W from 0.3 to 2.0 mc.

LINE IMPEDANCE: 50 ohms.

HEAT DISSIPATION PER EQUIPMENT

AN/SRA-18A ANTENNA TUNING GROUP

IN-229A/SRT: 300 W max.

CU-372A/SRT: 300 W max.

C-1360P/SRT: 145 W max.

CU-402/SRT: 0 watts.

OPERATING POWER RQMT: 110/120 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/SRA-18A is similar to the AN/SRA-18 except it differs in that smaller motors are used in coupler and tuner; plus added safety features; and standard "AN Connectors" are used.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Transmitting Set AN/URT-2, 3, 4 or TBK-19 or 20, or TBK-13, 18, TBM-5, 7, 9, 11; or TBL-4, 8, 9, 5, 6, 7, 12 or 13, or TDE-1, 2 and 3; (2) Bulk Cable MSCA-19; (2) Bulk Cable MSCA-24; (1) Bulk Cable MHFF-14; (2) Bulk Cable RG-17/U; (2) Bulk Cable RG-17/U or RG-18/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Frequency Tuner TN-229A/SRT		12-5/8 dia x 49	134
1	Antenna Coupler CU-372A/SRT		12-5/8 dia x 31-3/4	105
1	Control Monitor C-1360B/SRT		11 x 17 x 19	76
1	Transmitter Coupler CU-402/SRT		7-5/8 x 9-1/4 x 9-1/2	11
1	Set of Equipment Spares			17
2	Technical Manuals NAVSHIPS 93193		1 x 9 x 12	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93193: Technical Manual for Antenna Tuning Group AN/SRA-18A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2WA (3) 12AT7 (1) 5726/6AL5 (1) 5727/2021

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	15.5	220

April 1959

Radio-Antenna

AN/SRA-19

ANTENNA COUPLER GROUP

FUNCTIONAL DESCRIPTION

The AN/SRA-19 is designed as a tunable receiving multicoupler to be used from 2 to 32 megacycles for the purpose of using four (4) radio receivers on a single antenna. The antenna coupler can be tuned from its receiver by the coupler control.

No field changes in effect at time of preparation (3 July 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF COUPLING: Direct coupling.

TYPE OF TUNING: Capacitance.

TYPE OF CONTROL: Remote controlled.

IMPEDANCE

INPUT AND OUTPUT: 72 ohms.

OPERATING FREQUENCY RANGE: 2 to 32 mc.

OPERATING POWER RQMT: 115 v AC, 60 cps, 1 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

U.S. Navy Electronics Lab, San Diego, California.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/SRA-19 for Antenna Coupler Group.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Coupler Group AN/SRA-19	12 X 12 X 13	

24 August 1962

ANTENNA GROUP AN/SRA-28

Cog Service: USN

FSN:

Functional Class:

USA

USN

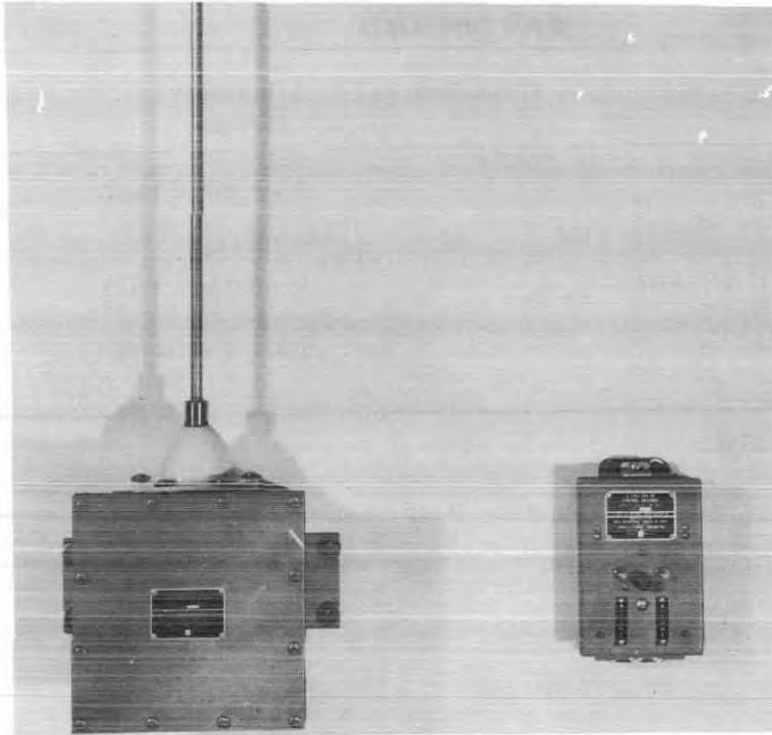
USAF

TYPE CLASS:

Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Lyman Electronics Corp., (75688).



Antenna Group AN/SRA-28

FUNCTIONAL DESCRIPTION:

The Antenna Group AN/SRA-28 is designed as an antenna for a Loran-A-receiver; it is tuned from a control unit located near the receiver. The antenna group consists of three (3) units, two (2) of which are assembled and installed as a single unit.

No field changes in effect at time of preparation (23 May 1962).

TECHNICAL CHARACTERISTICS:

EQUIPMENT PURPOSE: General purpose Loran use.

FREQUENCY RANGE: 1700 to 2350 kc.

OPERATING TEMPERATURE RANGE: M28 deg C to P65 deg C.

OPERATING POWER RQMT: 115 v ac, 60 cps, single ph, 15 W.

AN/SRA-28 ANTENNA GROUP

RELATION TO OTHER EQUIPMENT:

The AN/SRA-28 is designed to be used with Loran Receiving Equipment.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(As required) Cable, Coaxial RG-8A/U; (As required) Cable, Power TSGA-3; (As required) Cable, Power FHOF-3 or FSGA-3; (3) Stuffing, Tubes MS16156 (size #2).

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna AT-1065/U and		7 x 9-3/8 x 73-1/2	16
1	Tuner, Radio Frequency TN-370/SRA-28			
1	Control, Antenna C-3765/SRA-28		3 x 5-1/4 x 8-1/2	3
1	Connector, Plug UG-943A/U			
2	Technical Manual NAVSHIPS 94350		1/4 x 9 x 11-3/4	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94350: Technical Manual for Antenna Group AN/SRA-28.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N540

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.8	35

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-A-3414

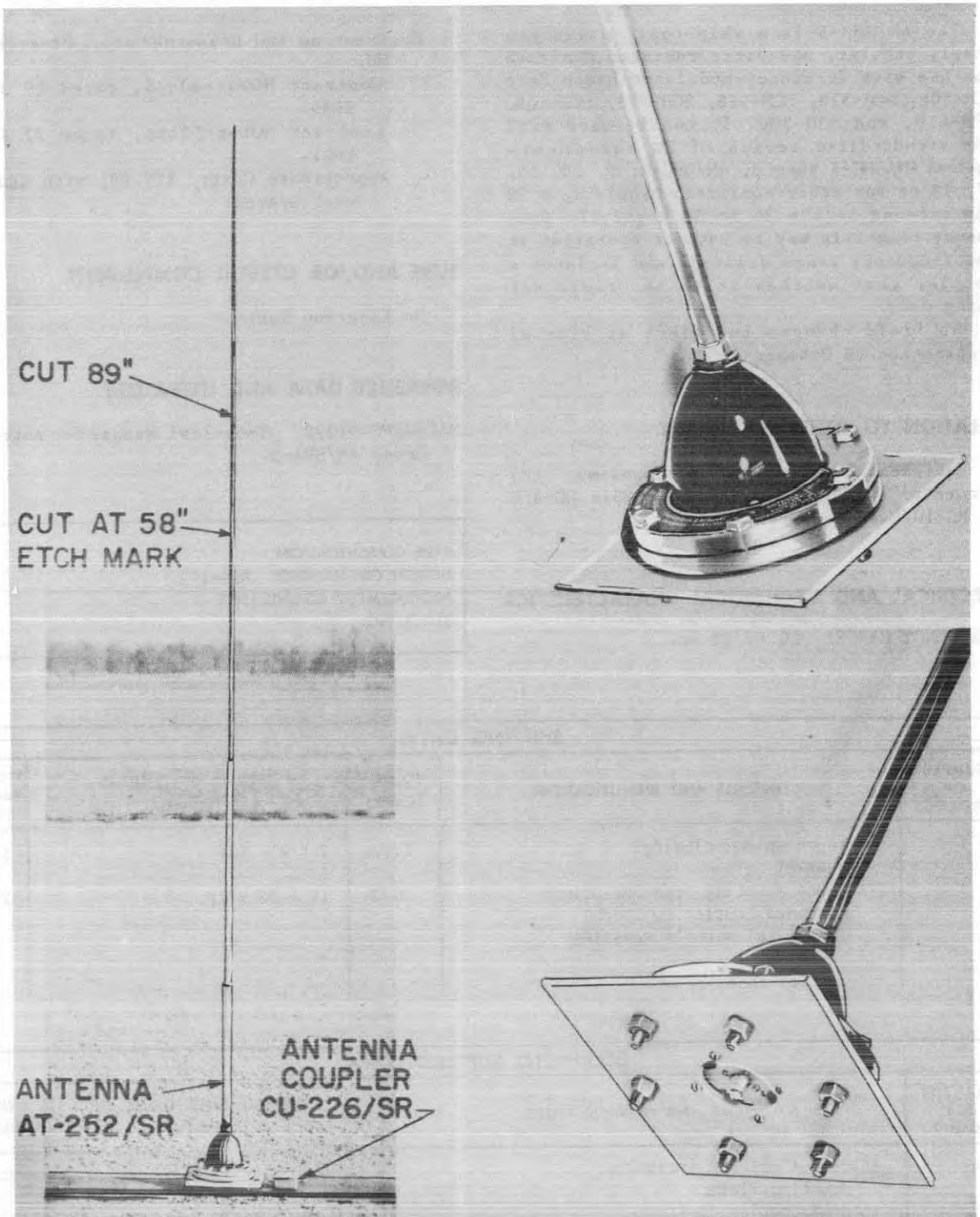
DESIGN COG: USN, BuShips

CONTRACT	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Lyman Electronics Corp.	Springfield, Mass.	NObsr-81221	

April 1958

ANTENNA GROUP

AN/SRA-3



Antenna Group AN/SRA-3

Radio-Antennas

AN/SRA-3**ANTENNA GROUP**

April 1958

FUNCTIONAL DESCRIPTION

The AN/SRA-3 is a whip-type, stainless steel, tubular, one-piece radiator designed for use with frequency-modulated Radio Sets SCR-508, SCR-510, SCR-528, SCR-628, SCR-608, SCR-610, and SCR-300. It can be used with the standardized series of FM equipments such as AN/GRC-3 thru 8, AN/URC-8, 9, 10, 16, 17, 18 or any other equipment requiring a 50 ohm antenna in the 20 to 50 megacycle frequency range. It may be cut for operation in the frequency range desired, and includes a coupler that matches it to the radio set being used.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (2) Connector UG-21/U, (1) Coaxial Cable RG-8/U or RG-10/U as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 20 to 50 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Engineering and Research Corp., Riverdale, Md.

Contract NObsr-43445, dated 29 June 1949.

Contract NObsr-52485, dated 27 June 1951.

Approximate Cost: \$77.00, with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91292: Technical Manual for Antenna Group AN/SRA-3.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Whip including: Gasket	1.125	2 x 2 x 126	18.5
1	Antenna Mounting Base including: Antenna Coupler CU-226/SR Technical Manuals NAVSHIPS 91292 Set of Accessories	0.83	10 x 12 x 12	26.5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-252/SR including: Mounting Plate	9-1/2 x 9-1/2 x 131	25
1	Antenna Coupler CU-226/SR	1-3/4 x 2-3/8 x 4-3/8	0.5
2	Technical Manual NAVSHIPS 91292	1/8 x 8-1/2 x 11	

April 1959

ANTENNA COUPLER GROUP**AN/URA-24 and
AN/URA-25****FUNCTIONAL DESCRIPTION**

The AN/URA-24 and AN/URA-25 is the TMC Antenna Tuning System ATS-70(50) and have been designed to couple the output of any 1000 watt transmitter, with a nominal output impedance of 70(50) ohms, to a 35 foot vertical whip antenna. The system covers the frequency range of 2 to 32 megacycles (mc) with very little insertion loss.

NOTE: Where information of these two (2) equipments applies to the ATS-70 or to the ATS-50, their parts, or operation, the 70 ohm system will be specified and the 50 ohm system will be included parenthetically.

The AN/URA-24 (ATS-50) and the AN/URA-25 (ATS-70) are similar but distinctly separate systems.

No field changes in effect at time of preparation (12 January 1959).

RELATION TO OTHER EQUIPMENT

The AN/URA-24 and AN/URA-25 are the same as the Technical Materials Corporation Model ATS(IN-188A).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

STANDING WAVE RATIO: Better than 2.5 to 1.

INPUT CONNECTION: HN series UG-61B/U receptacle.

OUTPUT CONNECTION: LC series UG-352B/U receptacle.

DIRECTIVITY OF S.W. COUPLER: Better than 30 db.

EFFICIENCY: Better than 80% over the 2 to 32 mc range.

INPUT IMPEDANCE

AN/URA-24: 50 ohms.

AN/URA-25: 70 ohms.

TYPE OF TRANSMISSION

AN/URA-24: 50 ohm RG-8/U.

AN/URA-25: 70 ohm RG-11/U.

OUTPUT IMPEDANCE

AN/URA-24: It will match a 35 ft. whip

antenna with a resistance of 2 to 500 ohms and a reactance from -j850 to +j750 ohms.

AN/URA-25: It will match a 35 ft. whip antenna with a resistance of 2 to 650 ohms and a reactance from -j850 to +j750 ohms.

RADIO FREQUENCY TUNER: 1000 w continuous, 100% modulated.

FREQUENCY RANGE: 2 to 32 mc.

OPERATING POWER REQUIREMENT: 110/220 v, 50 to 60 cps, single ph, 50 w.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Technical Material Corp., Mamaroneck, N.Y.

Contract NObsr-71790; dated 29 April 1957.

Approximate Cost: \$438,863.20 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes used.

(2) 1N39A

(2) 1N69

Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93164: Technical Manual for Antenna Coupler Group AN/URA-24 and 25.

NAVSHIPS 4457 (Rev. 11-56) for the Antenna Coupler Group AN/URA-24.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

ANTENNA COUPLER GROUP

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AN/URA-24 Control Indicator C-2413/URA	6-31/32 X 7-3/8 X 19	Approx 40
1	Antenna Coupler CU-650/UR	3-3/8 X 3-1/2 X 9	Approx 15
1	Directional Coupler CU-652/UR	9-1/2 X 18-1/2 X 20	Approx 1
1	AN/URA-25 Control Indicator C-2413/URA	6-31/32 X 7-3/8 X 19	Approx 40
1	Antenna Coupler CU-651/UR	3-3/8 X 3-1/2 X 9	Approx 15
1	Directional Coupler CU-653/UR	9-1/2 X 18-1/2 X 20	Approx 1

10 January 1962

ANTENNA ASSEMBLY-BUOY AS-1014(XN-1)/B

Cog Service:

FSN:

Functional Class:

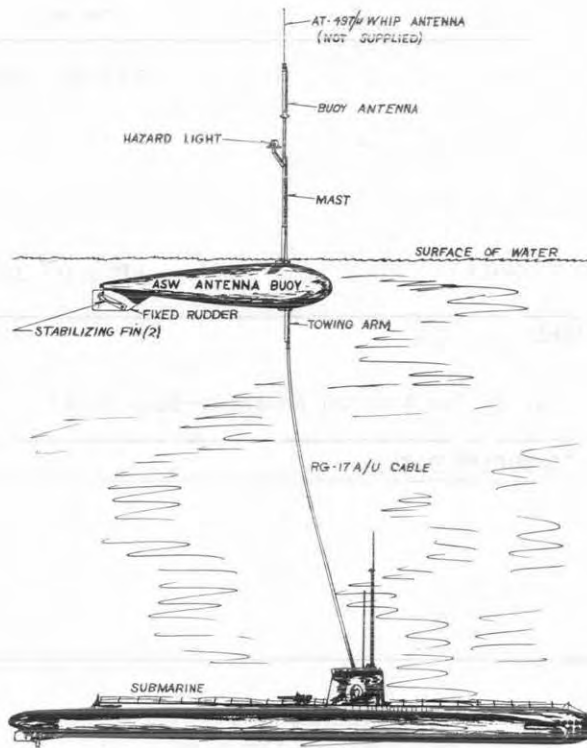
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Granite State Machine Co., Inc.



Antenna Assembly-Buoy AS-1014(XN-1)/B

FUNCTIONAL DESCRIPTION:

Antenna Assembly-Buoy AS-1014(XN-1)/B is designed to allow submarines to conduct radio communications while submerged, by providing a means of extending the necessary antennas above the surface of the water. The equipment consists mainly of a tear-drop shaped, hollow hull; a mast and antenna assembly; and a length of RF coaxial cable.

No field changes in effect at time of preparation (16 May 1961).

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: Multiple, including HF (3 to 30 mc), UHF (220 to 400 mc), and IFF.

POWER REQUIREMENTS: 28 v dc for blinker light.

MATERIAL: Stainless steel buoy and extension mast; fiberglass covered antenna.

MOUNTING: On controlled float from submarine.

ENCLOSURE: Water-tight, except for free flooding lower extension mast.

AS-1014(XN-1)/B ANTENNA ASSEMBLY-BUOY

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Communications Equipment, (1) Antenna AT-497/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	ASW Antenna Buoy consists of: Hull Cable RG-17A/U Cable RG-8A/U Chassis Antenna Assembly		17 x 82 x 133-1/4	250
1	Technical Manual NAVSHIPS 93334		1/2 x 8 x 11-1/2	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93334: Technical Manual for Antenna Assembly-Buoy AS-1014(XN-1)/B.

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	38	300
1	8.5	170

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Granite State Machine Co., Inc.	Manchester, New Hampshire	N0bsr-75639	\$1,936.59

17 August 1962
Cog Service: USN

FSN:

ANTENNA ASSEMBLY AS-1018/URC
Functional Class:

USA

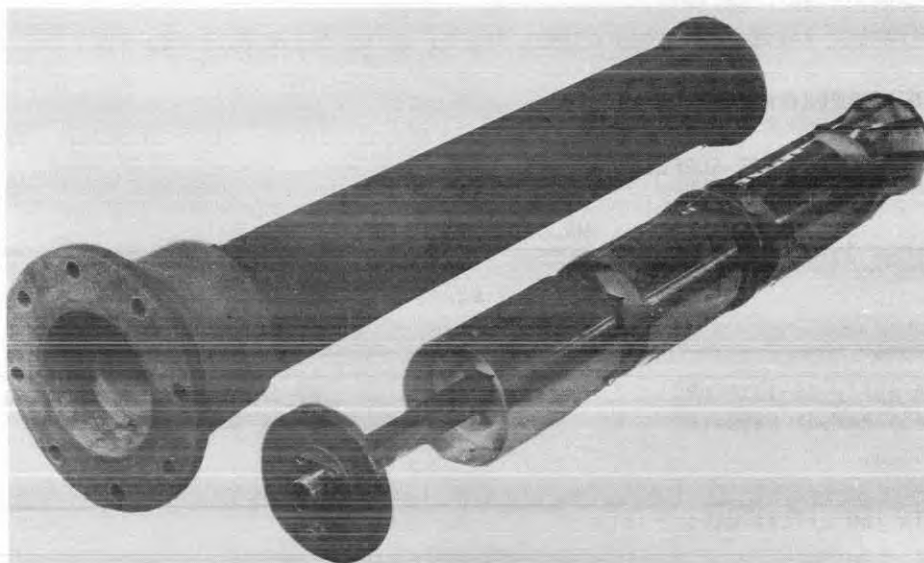
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: CHU Associates Inc., (04953).



Antenna Assembly AS-1018/URC

FUNCTIONAL DESCRIPTION:

The Antenna Assembly AS-1018/URC is a broad-band, Ultra-High-Frequency (UHF), communications antenna used to transmit rf energy in the frequency range of 225 to 400 megacycles (MC). It provides essentially hemispherical radiation coverage with a horizontal radiation pattern omnidirectional to within form 1.0 decibels (DB). The antenna is vertically polarized, and has lower half power points on or below the horizon. The vertical upward propagation, needed to fill the cone of silence, is horizontal polarized. The line on the mast cap of the AS-1018/URC indicates the direction of this horizontal polarization. The AS-1018/URC consists basically of the internal transmission line, the antenna (a two-element colinear dipole array), and the polyester fiberglass mast which completely encloses them.

No field changes in effect at time of preparation (5 June 1962).

AS-1018/URC ANTENNA ASSEMBLY

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225 to 400 mc.
POWER RATING: 2 kw average.
POLARIZATION: vertically polarized.
GAIN: 5 db above an isotropic source.
INPUT IMPEDANCE: 50 ohms.
VOLTAGE STANDING WAVE RATIO: 2:1 max (VSWR).
CIRCULARITY: Omnidirectional horizontally to within 1.0 db.
TILT OF PATTERN: Antenna beam is tilted upward to place lower half power point on or below horizon.
WIND LOAD: 120 knots.
MAXIMUM PRESSURIZATION: 15 psig.
AMBIENT TEMPERATURE RANGE: M32 deg C (M26 deg F) to 52 deg C (125 deg F).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Ass'y AS-1018/URC		13-1/2 x 13-1/2 x 72-3/8	50
2	Technical Manual NAVSHIPS 94041(A)		1/4 x 8-1/2 x 11	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94041(A): Technical Manual for Antenna Assembly AS-1018/URC.

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	11.6	118

PROCUREMENT DATA

PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
CHU Associates Inc.	Littleton, Mass.	N0bsr-85111, 11 May 1961	

ANTENNA ASSEMBLY**AS-236/SPT****FUNCTIONAL DESCRIPTION**

The AS-236 SPT is a shipborne antenna consisting of a half-wave adjustable dipole connected to a balanced to unbalanced converter and mounted in a fixed angle corner reflector. Two adjustable dipole-balun assemblies cover the frequency range from 350 to 1500 mc. It may be used for transmitting powers up to 100 w. The antenna is supplied with a mounting support and pedestal which permits it to rotate in a horizontal plane and to be used for either horizontal or vertical polarization.

No field changes in effect at time of preparation (29 March 1957).

RELATION TO OTHER EQUIPMENT

EQUIPMENT REQUIRED BUT NOT SUPPLIED: (25 ft) Connecting Cable RG-14/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 350 to 1500 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Marine Radio Co, Baltimore, Md.
Contract: N5sr-790.

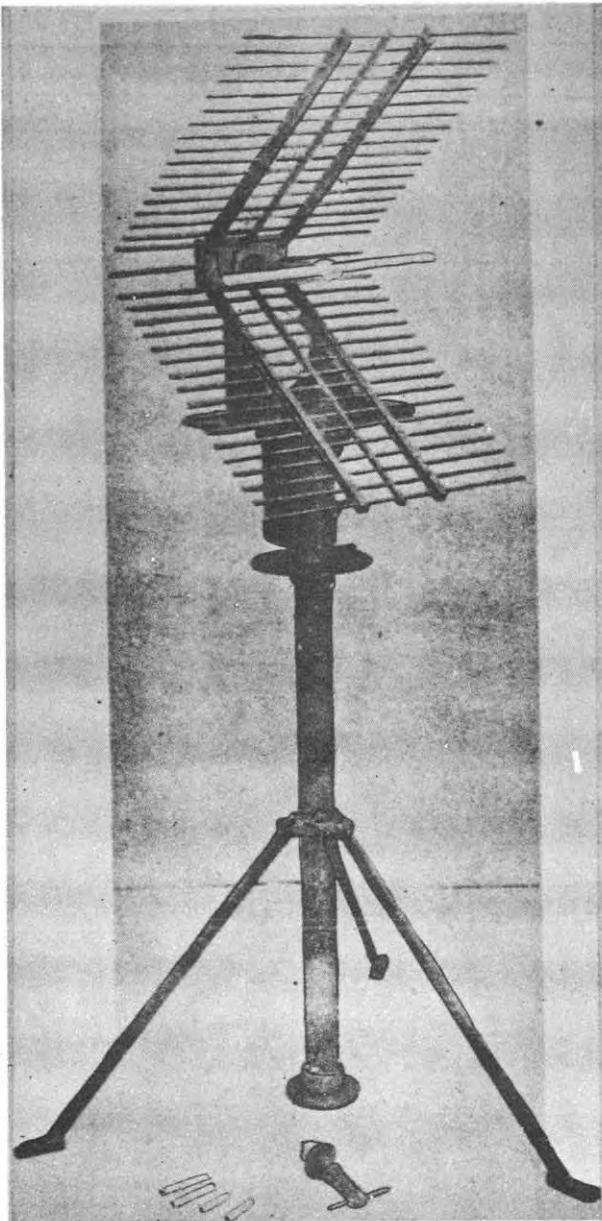
TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,837: Technical Manual for Antenna Assembly AS-236/SPT.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.



Antenna Assembly AS-236/SPT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Low Frequency Antenna and Matching Section	2.5 x 12.5 x 15.75	2
1	High Frequency Antenna and Matching Section	2.5 x 5 x 6.5	1.5
1	Corner Reflector and Cradle	18 x 20.25 x 28.5	16

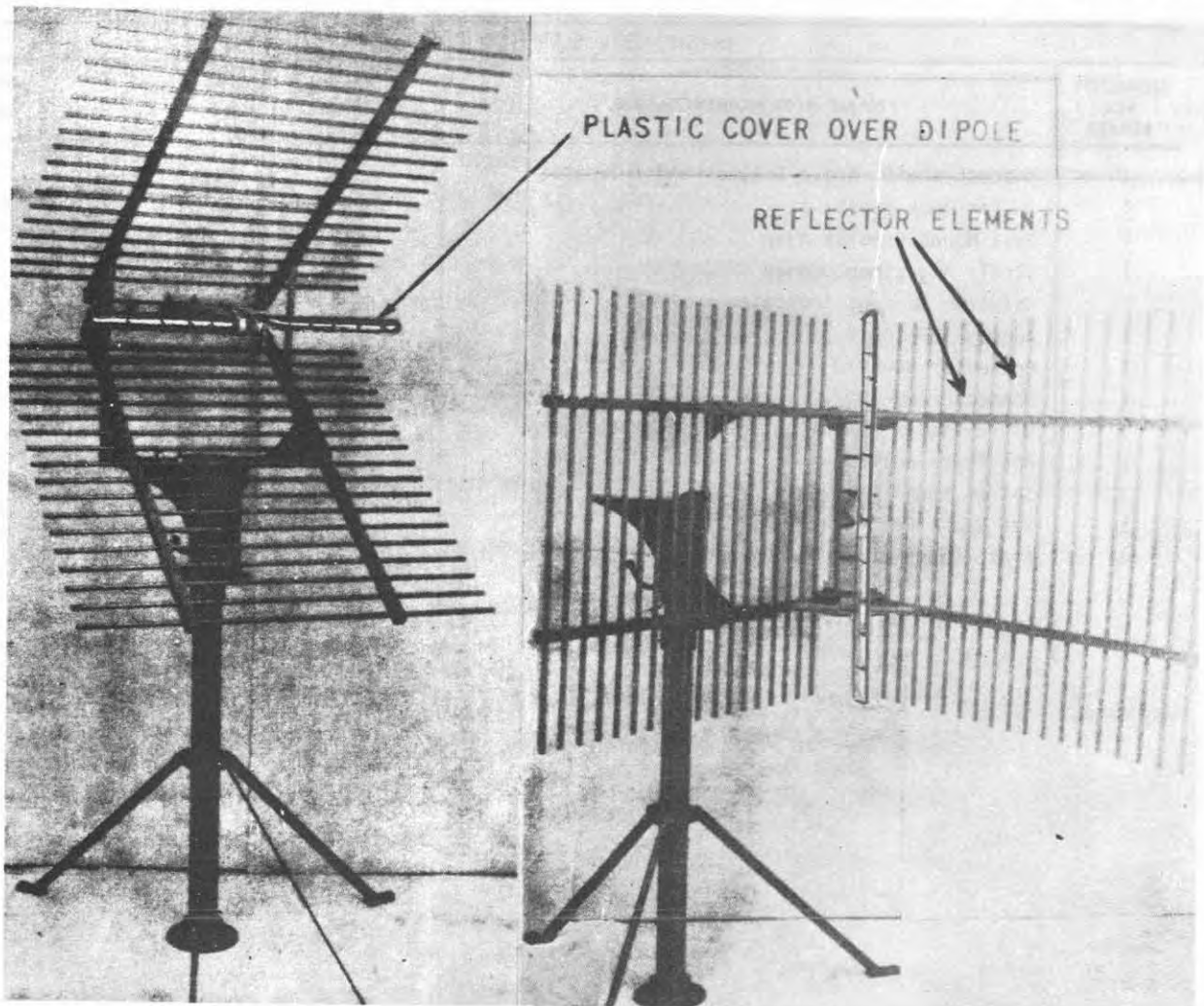
AS-236/SPT

ANTENNA ASSEMBLY

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Support Shaft, Angle Bracket and Indicator	8 x 15 x 53	65.75
1	for Deck Mounting		
1	Rail Mount Bracket Assy	2.2 x 6.9	
1	Dipole Adjustment Gauge		
	Relative Bearing Indicator		
1	Adapter UG-108/U		
1	Connector UG-57/U		
1	Connector UG-100/U		
1	Ultra-Violet Flashlight w/spares batteries		
1	Set Spare Bolts		
2	Set of Spare Removable Bolts		
1	Set Spare Removable Bolt and Nuts		
1	Spare Parts Box		

ANTENNA ASSEMBLY



Antenna set for
Horizontal Polarization

Antenna Set for
Vertical Polarization

Antenna Assembly AS-263/UPT

FUNCTIONAL DESCRIPTION

The AS-263/UPT is a shipborne antenna consisting of an adjustable dipole connected to a balanced to unbalanced converter (balun) and mounted in a fixed angle corner reflector. It covers the frequency range from 175 to 550 mc. with a standing wave ratio of less than 2.1. It may be used for transmitting powers up to 200 w. The antenna is supplied with a mounting pedestal which permits it to rotate in a horizontal plane and to be used for vertical and horizontal polarization.

No field changes in effect at time of preparation (29 March 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 175 to 550 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Marine Radio Co, Baltimore, Md.
Contract N5sr-17788.

Radio-Antennas

October 1957

AS-263/UPT

ANTENNA ASSEMBLY

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900871: Technical Manual for Antenna Assembly AS-263/UPT.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.

EQUIPMENT SUPPLIED DATA

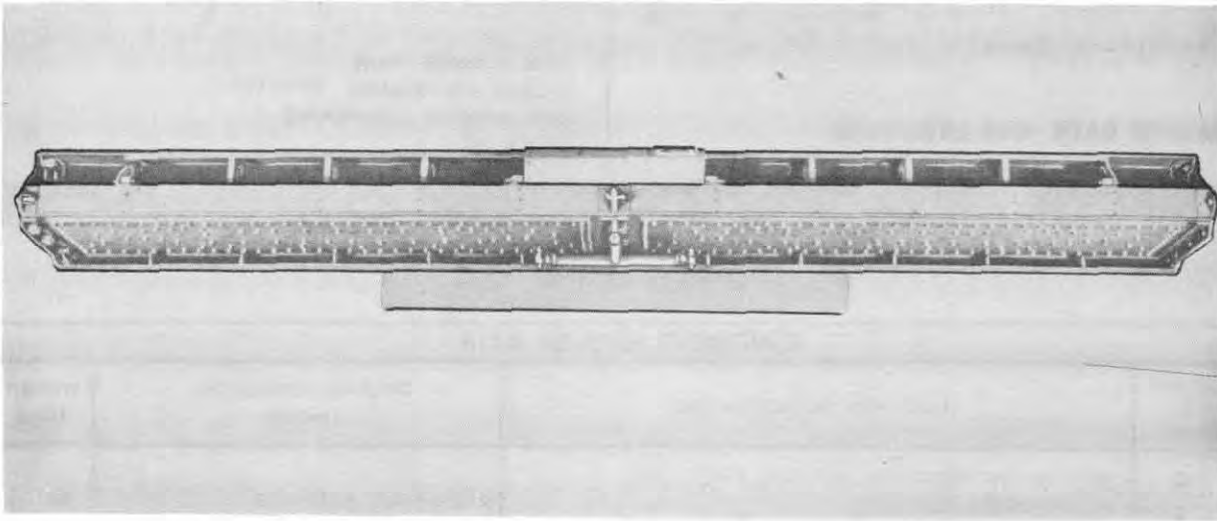
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Antenna and Matching Sections AS-263/UPT w/plastic covers	2 x 23-1/2 x 32-1/2	10
1	Corner Reflector	1 x 40 x 43	47.5
1	Mounting Pedestal and Indicator	8 x 10-1/2 x 49	86
2	Azimuth Indicator		1
2	Frequency Setting Gauge	1/8 x 2-1/2 x 22	0.75
2	Adapter UG-108/U		
3	Connector UG-100/U		0.6
1	Ultra-Violet Flashlight w/spares Batteries		
1	Complete Set Spare Bolts		
1	Spare Set Removable Bolts and Nuts		
1	Spare Parts Box		
2	Plastic Covers		
1	T-Handle for Table		

April 1958

Radio-Antennas

AS-294/UP

ANTENNA ASSEMBLY



Antenna Assembly AS-294/UP

FUNCTIONAL DESCRIPTION

The AS-294/UP serves as both a receiving and transmitting antenna for land based interrogator-responder units of the MK 5 IFF System. It is used as a component part of the AN/UPA-11 Directional Antenna Assembly, and with the AN/UPA-12 Directional Antenna Assembly.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE: Broadside Array (through).
 FREQUENCY: 950 to 1150 mc.
 POLARIZATION: Vertical.
 BEAMWIDTH: 7° at 1/2 power.
 FEED: 51 ohm coaxial connector.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hughes Aircraft Co., Culver City, Calif.
 Contract N5sr-7248, dated 9 June 1945.

Approximate Cost: \$5000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,964: Technical Manual for Directional Antenna Assembly AN/UPA-11(XN-21).

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Assembly AS-294/UP	8.9	15-1/4 X 16-5/8 X 58-5/8	90

April 1958

Radio-Antennas

AS-294/UP

ANTENNA ASSEMBLY

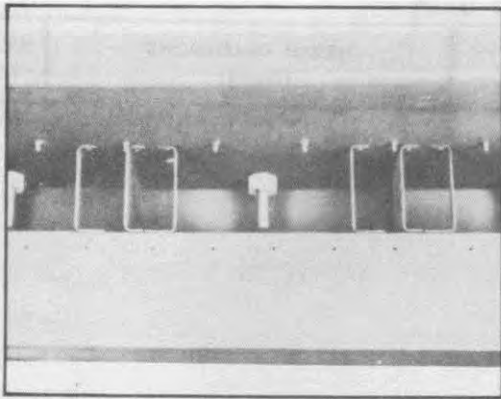
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assembly AS-294/UP	9-13/32 X 13-13/32 X 111	51

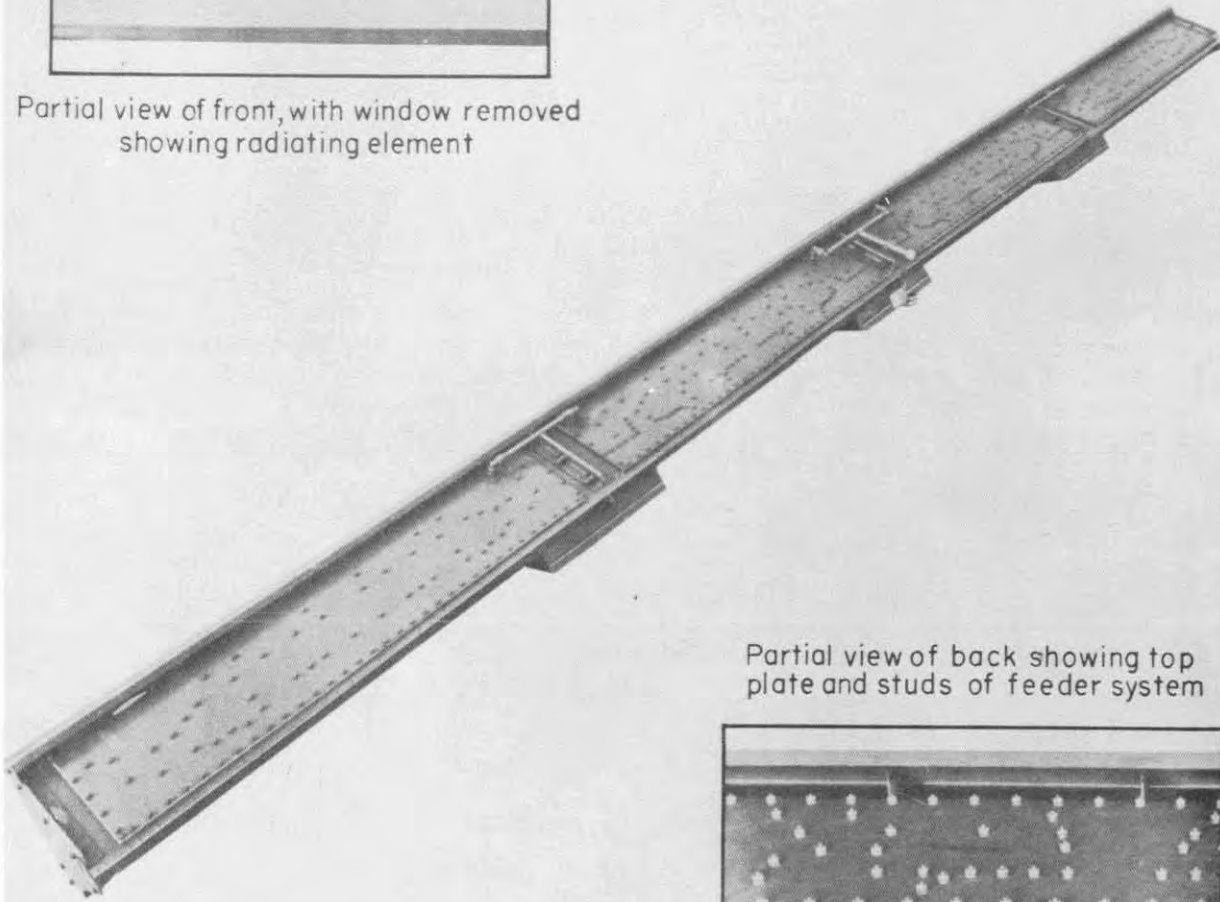
April 1958

ANTENNA ASSEMBLY

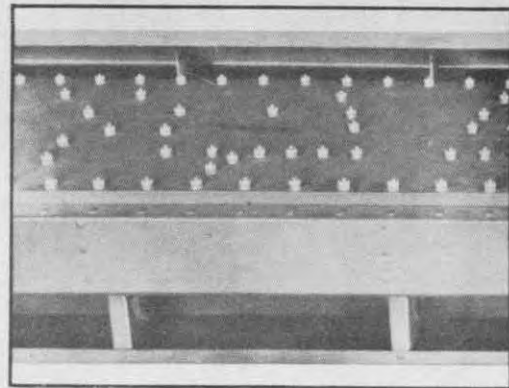
Radio-Antennas

AS-295/UP,
AS-295A/UP, AS-295B/UP

Partial view of front, with window removed
showing radiating element



Partial view of back showing top
plate and studs of feeder system



Antenna Assembly AS-295A/UP

FUNCTIONAL DESCRIPTION

The AS-295/UP, AS-295A/UP and AS-295B/UP

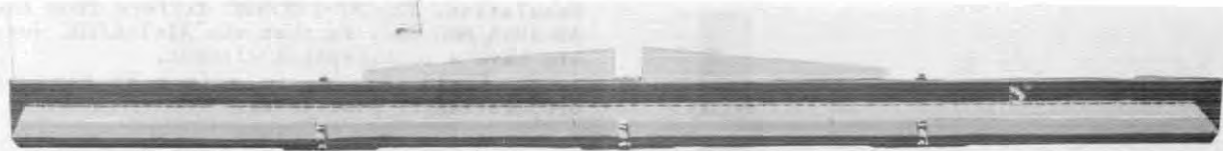
are designed for high power transmission and reception of signals in the frequency range. The antennas have a narrow horizontal beam-

Radio-Antennas

AS-295/UP,
AS-295A/UP, AS-295B/UP

ANTENNA ASSEMBLY

April 1958



Antenna Assembly AS-295B/UP

width and low side lobe radiation. It is designed for transmission and reception of vertically polarized waves.

The antenna is 20 ft long, consisting of four sections, an RF filter, and three mounting boxes. Each antenna section consists of the radiators, reflector, and feeder system.

No field changes in effect at time of preparation (5 March 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

AS-295/UP: 950 to 1150 mc.

AS-295A/UP: 950 to 1150 mc.

AS-295B/UP: 1010 to 1110 mc.

RF POWER INPUT: 10 kw peak at a duty cycle of 0.25%.

FILTER CHARACTERISTICS: Attenuation over antenna frequency less than 0.5 db; better than 40 db from 1800 to 12000 mc.

STANDING WAVE RATIO: Referred to the 50 ohm transmission line less than 3.5 db.

TEMPERATURE RANGE: -50 deg F to +450 deg F.

WIND LOADING: 740 lbs at 90 mph.

INPUT IMPEDANCE: 50 ohms.

BEAM PATTERN: The horizontal beamwidth is less than 4 deg at the half power points and the side lobes are at least 24 db down with respect to the main lobe.

POLARIZATION: Vertically polarized.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hughes Aircraft Co, Culver City, Calif.

Contract: NObsr-43418, dated 30 June 1949. (AS-295/UP).

Hughes Aircraft Co, Culver City, Calif.

Contract: NObsr-52045, dated 12 Oct 1950. (AS-295A/UP).

Maryland Electronic Mfg Corp, College Park, Md.

Contract: NObsr-63291, dated 31 March 1953. (AS-295B/UP).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes, or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91412: Technical Manual for Antenna Assembly AS-295A/UP.

NAVSHIPS 92464: Technical Manual for Antenna Assembly AS-295B/UP.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Assy AS-295/UP	7.9	15-1/4 X 16-5/8 X 58-5/8	179
1	Antenna Assy AS-295A/UP	20	22-7/8 X 30-3/8 X 58-5/8	200
1	Antenna Assy AS-295B/UP	32.4	26-1/2 X 33-1/2 X 63	414

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AS-295/UP, AS-295A/U		
1	Antenna Assy AS-295/UP or AS-295A/UP	9-13/32 X 13-13/32 X 222	101
2	Technical Manual		
	AS-295B/UP		
1	Antenna Assy AS-295B/UP	15-3/4 X 18-5/8 X 222-5/16	117

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Radio-Antennas

**ANTENNA ASSEMBLY
AND ANTENNA****AS-390/SRC,-390A/SRC,
AT-150/SRC,-748/VRC**

feed section cable is provided with teflon insulation. The AT-748/VRC differs from the AS-390A/SRC only in that the AT-748/VRC does not have a counterpoise element.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 220 to 400 mc.

INPUT IMPEDANCE: 52 ohms.

VSWR

AT-150/SRC: 2.1 to 1.

AS-390/SRC, AS-390A/SRC, AT-748/VRC: 1.9 to 1.

OPERATING TEMPERATURE: 177 deg C max.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bird Electronic Corp, Cleveland, Ohio
(AS-390/SRC, AT-150/SRC).

Contract NObsr-43272, dated 21 April 1949.

Technical Appliance Corp, Sherburne, N.Y.
(AS-390/SRC, AT-150/SRC).

Contract NObsr-57179, dated 25 January 1952.

Contract NObsr-63135, dated 12 December 1952.

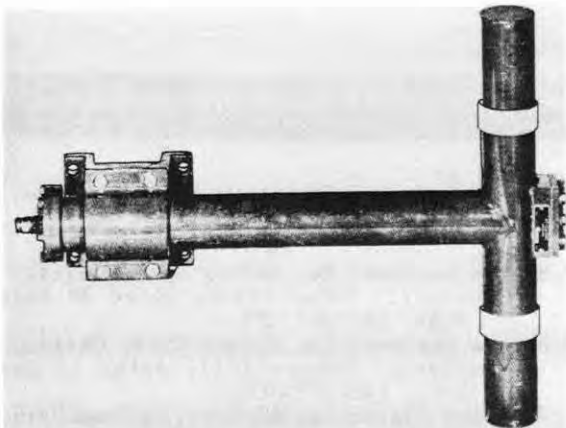
King Electronics Co, Inc, Tuckahoe, N.Y.
Contract NObsr-71370, dated 26 June 1956 (AS-390A/SRC).

Contract NObsr-71603, dated 29 November 1956 (AS-390A/SRC, AT-748/VRC).

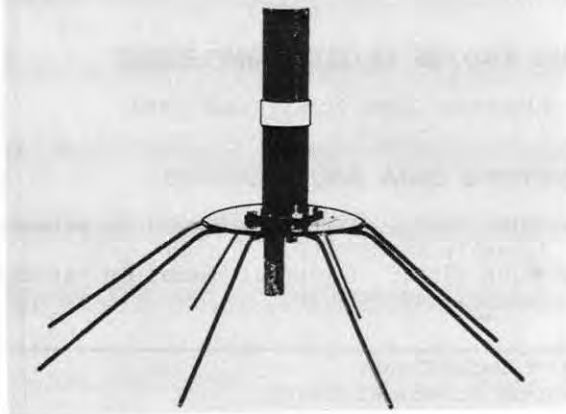
Approximate Cost: \$35.00 (AS-390/SRC,
AS-390A/SRC).

Approximate Cost: \$56.00 (AT-150/SRC).

Approximate Cost: \$25.00 (AT-748/VRC).



Antenna AT-150/SRC



Antenna Assembly AS-390/SRC

FUNCTIONAL DESCRIPTION

The AS-390/SRC and AS-390A/SRC antenna assemblies, and AT-150/SRC and AT-748/VRC antennas have radiation patterns similar to that of a conventional dipole and may be used for transmitting or receiving vertically polarized radio waves in the 220 to 400 megacycles frequency range.

The AS-390/SRC, AS-390A/SRC, and AT-748/VRC are broad band, coaxial stub antennas that have a nominal input impedance of 52 ohms and are unbalanced to ground, while the AT-150/SRC is a broad band, coaxial dipole antenna that has a nominal input impedance of 52 ohms and is balanced with respect to ground.

The AS-390A/SRC differs from the AS-390/SRC only in that the AS-390A/SRC internal

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91338: Technical Manual for Antenna AT-150/SRC, AT-748/VRC and Antenna Assembly AS-390/SRC, AS-390A/SRC.

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

April 1958

Radio-Antennas

**AS-390/SRC,-390A/SRC,
AT-150/SRC,-748/VRC**

**ANTENNA ASSEMBLY
AND ANTENNA**

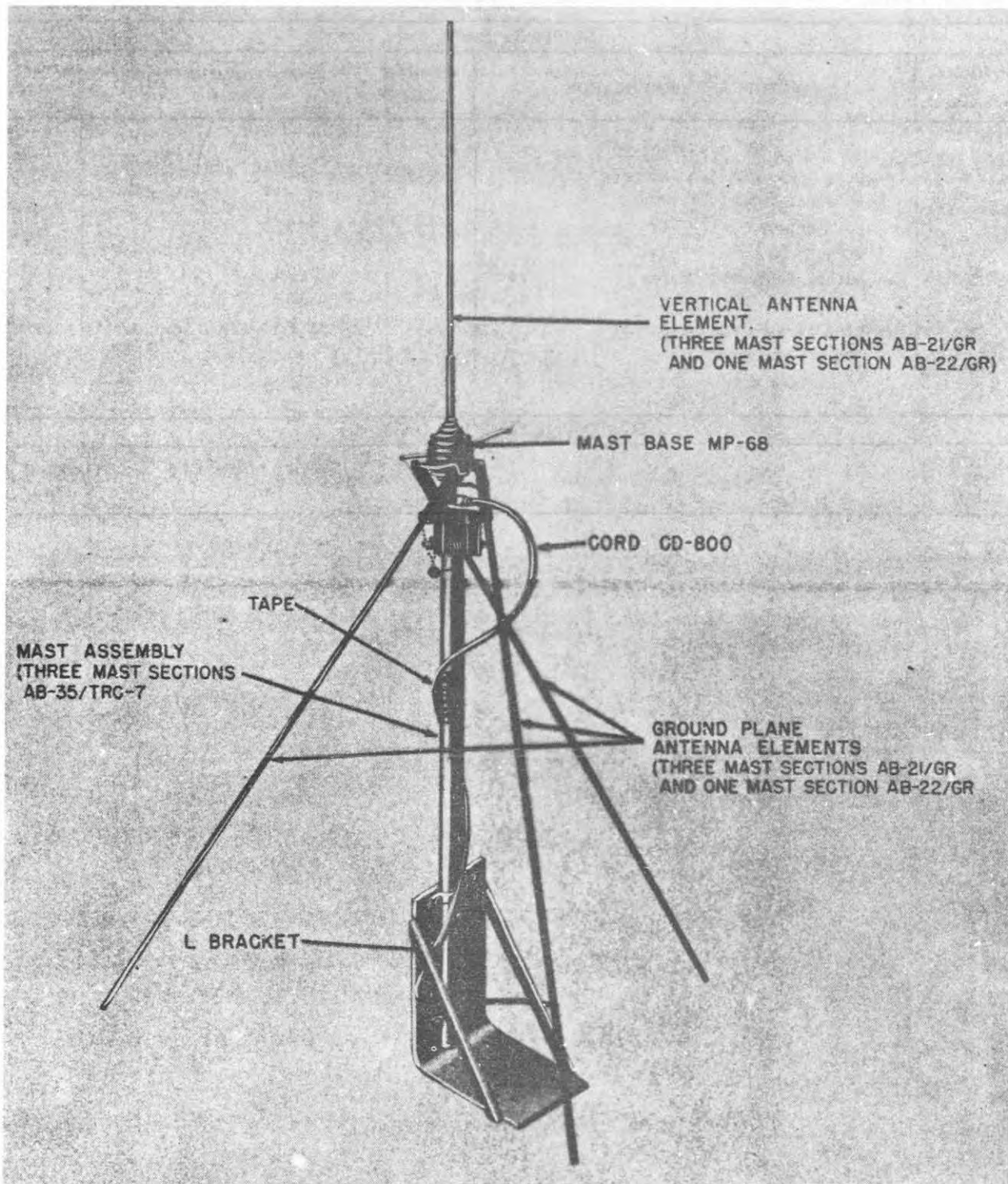
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	AS-390/SRC Antenna AS-390/SRC including: Antenna Stub Counterpoise Wrench Set of Equipment Spares	2.25	8 X 22 X 22	8.5
1	AT-150/SRC Antenna AT-150/SRC including: Set of Equipment Spares	1.35	4-3/4 X 18-1/2 X 23-1/2	10.5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AS-390/SRC Antenna Assembly AS-390/SRC	16 X 23 X 23	3.625
1	Wrench	11/16 X 5 X 5	0.3
1	Set of Equipment Spares	3 X 4 X 4	2.0
2	Technical Manual NAVSHIPS 91338 AT-150/SRC	3/16 X 8-1/2 X 11	1.3
1	Antenna AT-150/SRC	3-1/4 X 17-3/8 X 22-7/16	4.5
1	Set of Equipment Spares	3 X 4 X 4	2.25
2	Technical Manual NAVSHIPS 91338	3/16 X 8-1/2 X 11	1.3

ANTENNA



Antenna AS-412/FRC-6

Radio-Antennas

AS-412/FRC-6

ANTENNA

FUNCTIONAL DESCRIPTION

The AS-412/FRC-6 is an elevated, modified ground plane, wide band antenna designed to operate with Radio Set AN/FRC-6 in the communication range of 30 to 40 mc.

No field changes in effect at time of preparation (25 March 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1)
Radio Set AN/FRC-6.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 40 mc.
RANGE: 25 mi.

MANUFACTURER'S OR CONTRACTOR'S DATA

Approximate Cost: \$80.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-5023: Technical Manual for ANTENNA AS-412/FRC-6.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

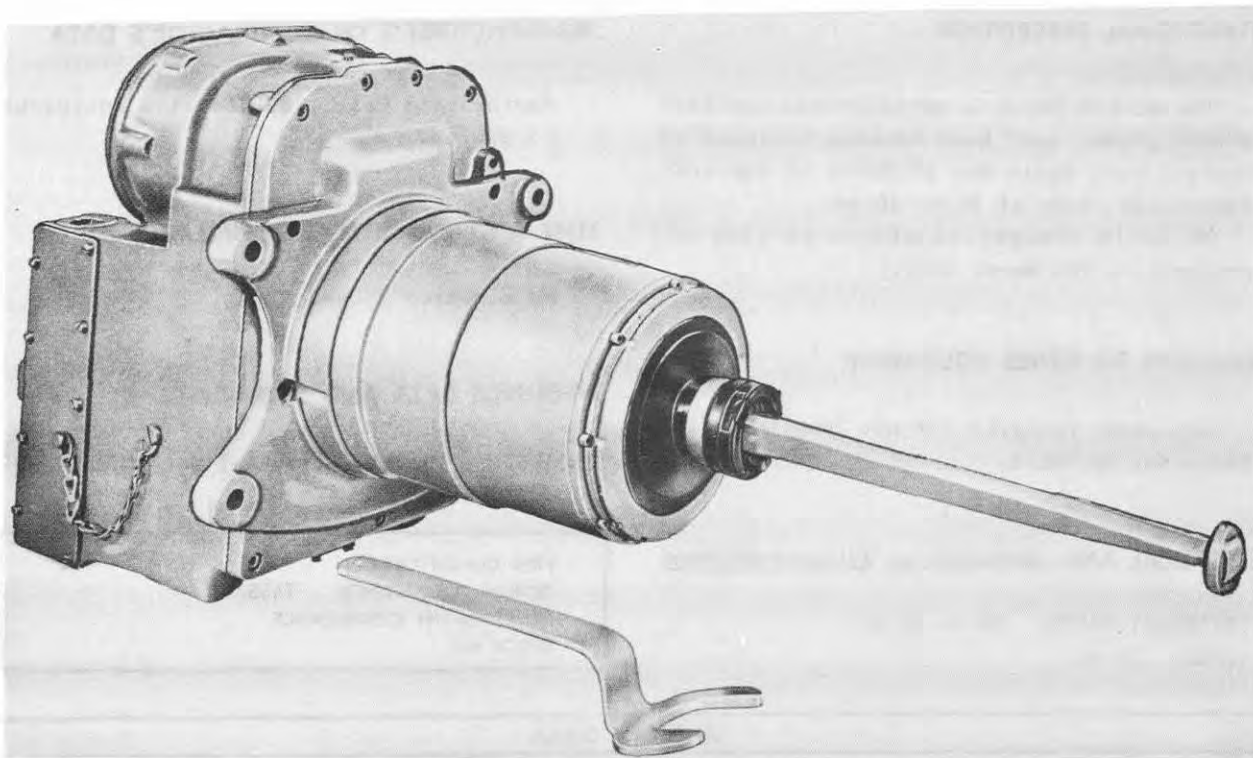
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AS-412/FRC-6	3.87	12-3/4 x 14 x 37-1/2	39.5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Cord CD-800	1/2 dia x 816	5.95
1	Coaxial Adapter	1/2 dia x 12	0.61
14	Mast Section AB-21/GR	25/64 dia x 23-1/2	0.18
6	Mast Section AB-22/GR	3/8 dia x 23-1/2	0.9
5	Mast Section AB-35/TRC-7	1-1/2 dia x 30	0.75
1	L - Mounting Bracket	5 x 8 x 8	2.1
2	Plug PL-258	1/2 dia x 1-1/8	0.2
1	Roll CW-50/TRC-70	2 x 12 x 34	4.20
1	Tape TL-83	4 dia	0.50
1	Mast Base MP-68	5 x 5 x 12-3/4	2.88

ANTENNA



Antenna AS-515/SPG

FUNCTIONAL DESCRIPTION

The AS-515/SPG is a unit of shipborne fire control equipment. It is used for the pointing of the antenna feedhorn, which emits radio frequency pulses generated by the transmitting unit of the associated radar system.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS**DRIVE MOTOR**

INPUT: 440 v, 60 cps, 3 phase.

RUNNING CURRENT: 1 amp.

HORSEPOWER: 1/6.

SPEED: 1735 rpm.

REFERENCE GENERATOR

OUTPUT: 115 v, 2 ph, 29 cps driven at motor speed.

PHASE SEPARATION: 90 electrical deg.

SINUSOIDAL OUTPUT: Less than 5% rms.

RESISTIVE LOAD: 50,000 ohms.

SOLENOID: 115 v, 60 cycles, 1/2 in. stroke positive action range 103 to 127 v, 60 cycles.

HEATER: 115 v, 60 cps, 150 W.

WAVEGUIDE: 8500 to 9600 mc at peak, peak power of 500 kw.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVORD OD 10126: Technical Manual for Antenna AS-515/SPG.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUORD
PROCUREMENT COGNIZANCE	
STOCK NO.	

Radio-Antenna

AS-515/SPG

YADHEDEA ANWITNA

ANTENNA

UNCLASSIFIED

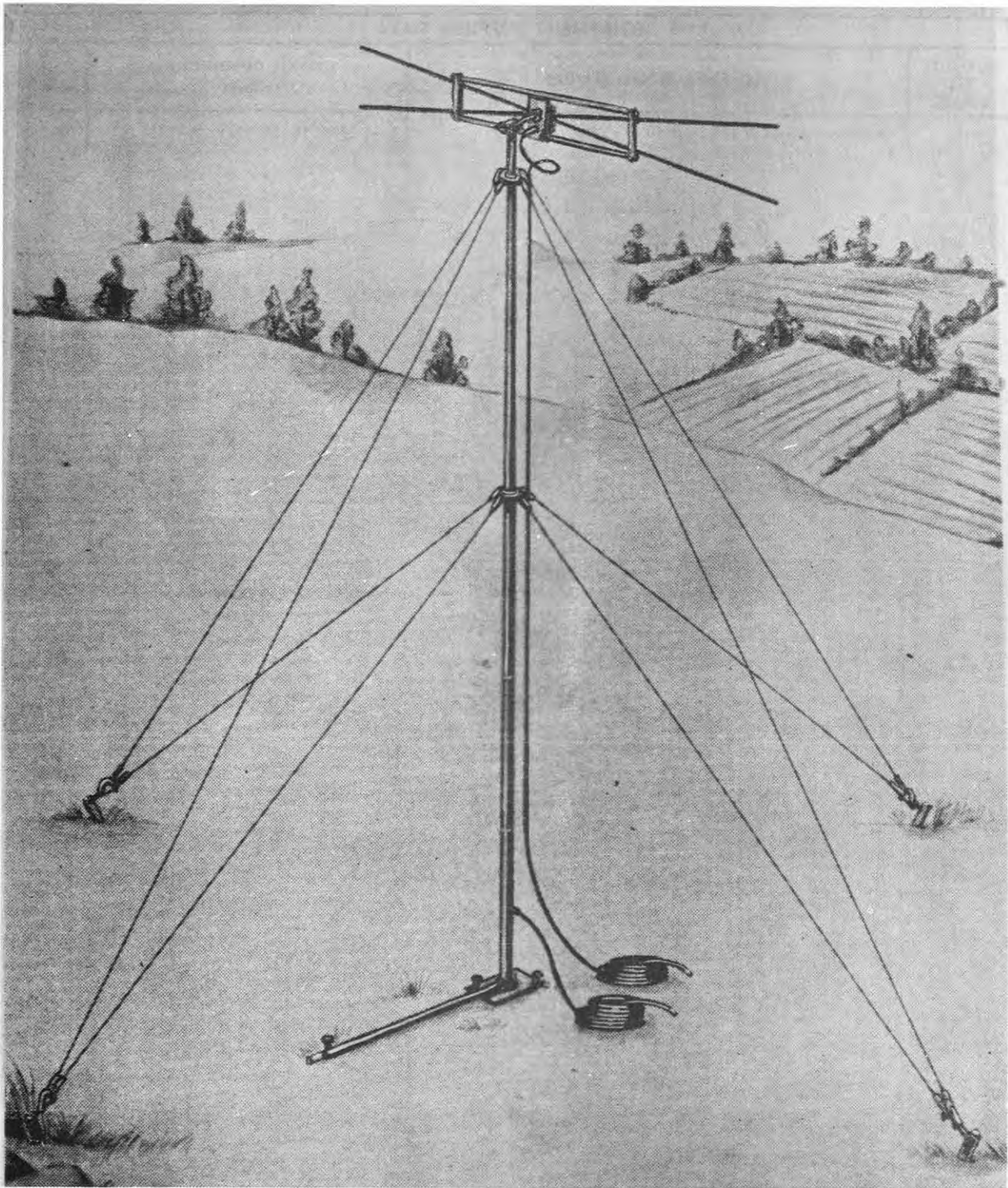
June 1957

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-515/SPG	11-7/8 X 14-13/32 X 35-1/8	98

ANTENNA ASSEMBLY

Radio-Antennas
AS-574/URR



Antenna Assembly AS-574/URR.

Radio-Antennas
AS-574/URR

ANTENNA ASSEMBLY

FUNCTIONAL DESCRIPTION

The AS-574/URR is a portable antenna with mast support for the reception of VHF radio frequency signals in the frequency range from 20 to 230 mc. The antenna assy is a component of Radio Receiving Set AN/URR-29 and AN/URR-29X. It may be used with other radio equipment which operate on a frequency range from 20 to 230 mc provided other requirements are met. The antenna may be constructed for use as a biconical dipole when the dipole elements are used, or as a quarter-wave vertical monopole using the mast at the receiving element.

Data on This Sheet Reflects the Following Field Changes, FC 1 (26 March 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY COVERAGE

- 4 MAST SECTIONS AB-21/GR AND ANTENNA ELEMENT AT-503/URR: 85 to 230 mc.
- 8 MAST SECTIONS AB-21/GR AND ANTENNA ELEMENT AT-503/URR: 45 to 90 mc.

- 8 MAST SECTIONS AB-21/GR, 4 MAST SECTIONS MS-116-A AND ANTENNA ELEMENT AT-503/URR: 20 to 50 mc.
- IMPEDANCE (DIPOLE ASSY): 95 ohms non.
- IMPEDANCE SHIELDED, TWIN AXIAL: 95 ohms.
- RADIATION PATTERNS: similar to doublet antenna, bidirectional.
- IMPEDANCE(MONOPOLE ASSY): 50 ohms non.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

TM11-5016: Technical Manual for ANTENNA ASSEMBLY AS-574/URR.

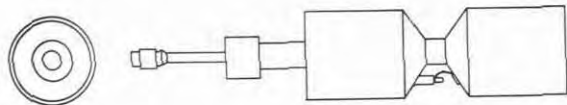
TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Bag consists of:	7 X 9 X 67	53.25
5	Mast Section MS-116-A	3/8 dia X 39-1/2	0.25
10	Mast Section AB-21/GR	3/8 dia X 24	0.15
5	Antenna Element AT-503/URR	3/8 dia X 7-3/8	0.34
1	Bottom Mast Section	1-5/8 X 1-5/8 X 66	3.75
6	Upper Mast Section	1-5/8 X 1-5/8 X 66	3.67
2	Spreader Dowel	1 X 2 X 40	0.75
3	Stake GP-2	1-1/8 X 1-1/8 X 16	2
5	Guy Stake GP-111/G	1-1/4 X 1-1/4 X 18-1/2	2.25
1	Bag BG-102-A consists of:	10 X 12 X 14	34.55
1	Mast Coupler	2-3/4 X 2-3/4 X 10-5/16	0.90
1	Gin Pole Cap	3/4 X 3 X 7-1/4	0.25
5	Guy	1 X 1-1/2 X 480	0.78
5	Guy	1 X 1-1/2 X 372	0.68
3	Guy Plate	15/16 X 3-1/16 X 4-3/8	0.20
1	Hammer HM-1	1-3/4 X 4-1/2 X 15	2.5
2	Technical Manual	1/8 X 5-7/8 X 9-1/8	0.10
1	Junction Box	1-7/16 X 4-1/8 X 4-1/8	4.50
1	Mast Adapter	3 X 3 X 9-3/8	1.00
1	Mast Base AB-102/TRC-1	2-5/8 X 8-1/2 X 14-1/2	3.00
1	Roll Tape	1/2 X 5 X 5	0.50
1	Halyard	1 X 1-3/4 X 240	1.00
1	RF Cable Assy	3/4 X 3/4 X 600	6.25
1	RF Cable Assy	3/4 X 3/4 X 300	2.50
2	Spreader	1-1/8 X 1-1/2 X 8-3/8	0.25

June 1961

Radio-Antennas

ANTENNA**AS-725/S***Antenna AS-725/S***FUNCTIONAL DESCRIPTION**

Antenna AS-725/S is an "around-the-mast" type of antenna intended for use in type MKII rescue boats for transmitting and receiving. The antenna is designed to accommodate a Navy Type R-168 range light.

The top portion of the antenna is threaded to accommodate a Navy type R-168 range light conforming to Drawing 900-S6405-73887. This requirement dictates that the range light shall provide 360 degrees visibility in a plane along the azimuth.

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

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Navy Type No. R-168 range light, (1) 2 inch standard pipe support for mounting antenna on boat.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DESCRIPTION: Coaxial folded dipole.

MOUNTING: Major axis vertical, pipe support has 2 inch standard pipe thread.

POLARIZATION: Vertical.

DIRECTIONAL PROPERTIES: Non-directional horizontal plane.

FREQUENCY RANGE: 225 to 390 mc.

INPUT CONNECTION: Stub-line-24 inches of RG-10/U cable.

INPUT IMPEDANCE: 70 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Watson Elevator Co., Inc, New York, New York.

Drawing No. 1463.

Contract NObsr-64222.

Contract NObsr-71758, dated 28 March 1957.

Approximate cost \$497.00.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93110: Technical Data Sheet for ANTENNA AS-725/S.

TYPE CLASSIFICATION	STD
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: SHIPS-A-2570,
STOCK NO.	dated 2 Nov. 1956
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AS-725/S	1.1	9 X 9 X 24	20

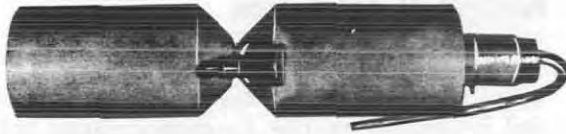
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-725/S	5 dia X 23-1/2	9

June 1961

AS-725A/S

ANTENNA



Antenna AS-725A/S

FUNCTIONAL DESCRIPTION

Antenna AS-725A/S is an "around-the-mast" type of antenna intended for use in type MKII rescue boats for transmitting and receiving. The antenna is designed to accommodate a Navy Type R-168 range light.

The top portion of the antenna is threaded to accommodate a Navy Type R-168 range light conforming to Drawing 900-S6405-73887. This requirement dictates that the range light shall provide 360 degrees visibility in a plane along the azimuth.

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

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Navy Type No. R-168 range light; (1) 2 inch standard pipe support for mounting antenna on boat.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DESCRIPTION: Coaxial folded dipole.

MOUNTING: Major axis vertical, pipe support has 2 inch standard pipe thread.

POLARIZATION: Vertical.

DIRECTIONAL PROPERTIES: Non-directional

horizontal plane.

FREQUENCY RANGE: 225 to 390 mc.

INPUT CONNECTION: Stub-line-24 inches of RG-10/U cable.

INPUT IMPEDANCE: 50 ohms nominal.

MANUFACTURER'S OR CONTRACTOR'S DATA

Barkley and Dexter Laboratories Inc, Fitchburg, Massachusetts.

Contract NObsr-75426, dated 28 June 1958.

A. R. F. Products Inc, River Forest, Ill. Part No. I-2011.

Contract NObsr-75931.

Approximate cost \$1,634.00, including equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93458: Technical Data Sheet for ANTENNA AS-725A/S.

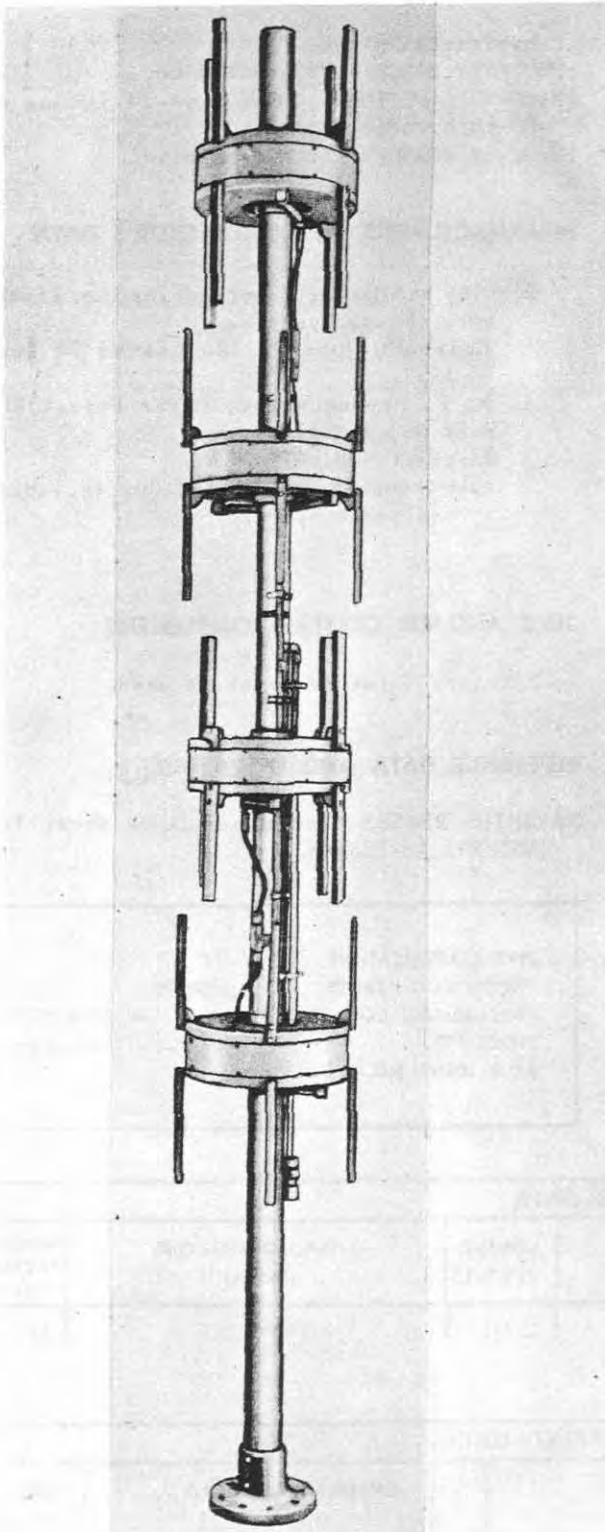
TYPE CLASSIFICATION	STD
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: SHIPS-A-3025;
STOCK NO.	SHIPS-A-3256 AMEND 1
R.D.B. IDENT. NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AS-725A/S	0.725	7 X 7 X 26	21

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-725A/S	5 X 5 X 23-1/2	6-1/2



Antenna AS-768/GR

FUNCTIONAL DESCRIPTION

The AS-768/GR is a vertically stacked antenna array designed for radio transmission and reception in the frequency range 225 to 400 mc. It is used for communication with aircraft at naval air stations. This vertically stacked antenna array gives a circular radiation pattern in the horizontal plane with the point of maximum radiation four degrees above the optical line of sight.

No field changes in effect at time of preparation (24 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.

INPUT IMPEDANCE: 50 ohms at 300 mc.

RADIATION PATTERN

HORIZONTAL: Circular 0 to 360 degree.

VERTICAL: 15 degree at 300 mc, point of max radiation 4 degree above optical line of sight

STANDING WAVE RATIO: 2 to 1 max.

MANUFACTURER'S OR CONTRACTOR'S DATA

Product Development Company, Inc., Kearny, N.J.

CONTRACT: NObsr 64096

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92489 Technical Manual for AS-768/GR.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.

AS-768/GR

ANTENNA

March 1957

SHIPPING DATA

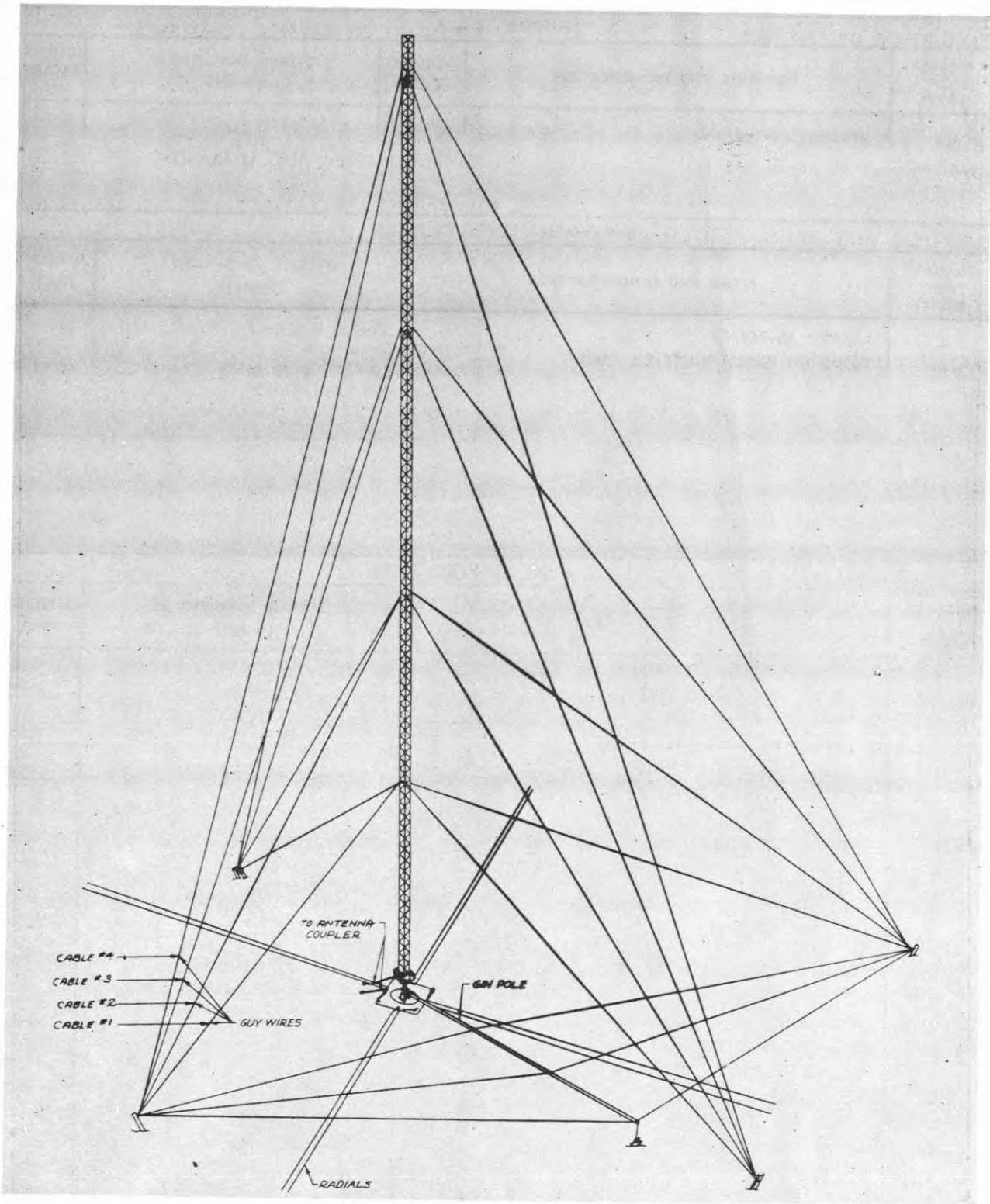
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AS-768/GR	33.7	21 x 21 x 132	275

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-768/GR	14-7/8 x 126-5/8	120
2	Technical Manual NAVSHIPS 92489		

TRANSMITTING ANTENNA

Radio-Antennas
AS-769/TRN



Transmitting Antenna AS-769/TRN

TRANSMITTING ANTENNA

FUNCTIONAL DESCRIPTION

The AS-769/TRN is a quarter-wave, vertical radiator at a frequency of 2.3 mc.

No field changes in effect at time of preparation (25 March 1957).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 2.3 mc.

REFERENCE DATA AND LITERATURE

NAVSHIPS - 92414: Technical Manual for Transmitting Antenna AS-769/TRN.

MANUFACTURER'S OR CONTRACTOR'S DATA

Seismograph Service Corp., Tulsa, Okla.
Contract NObsr-64609.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Lighting Arrester Assembly		
1	Antenna Tower Bottom Section		
3	Antenna Tower Sections for Guys		
12	Antenna Tower Sections, Plain		
1	Antenna Tower Top Section		
1	Set Antenna-Tower Guy-wire attachments		
12	Guy-wire		
12	Eyebelts and Nuts		
4	Guy-wire Yokes, Chain		
150	Aircraft Bolts	10-32 X 17/32	
150	Aircraft Hex Nuts	10-32	
300	Washers No. 10		
1	Insulators Top Connector		
8	Bolt, Cap	1/2 in. - 13 X 1 in.	
8	Lockwasher	1/2 in.	
1	Base insulator		
1	Antenna Base Plate Assembly		
4	Ground Rods		
4	Ground Rod Clamps		
4	Ground Rod Cables		
3	Gin Pole Section		
1	Gin Pole Top Fitting		
2	Set Gin Pole Straps		

October 1957

TRANSMITTING ANTENNA

Radio-Antennas
AS-769/TRN

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
4	Bolt, Cap	1/4 dia x 1	
4	Nuts, Hex	1/4	
8	Shakle	1/4	
1	Shakle	.7/16	
1	Set Blocks w/200 ft. of 3/8 in. Manila Rope		
4	Antenna Guy Wire Stake		
1	Spade - Type Gin Pole Stake		
4	Set Antenna Guy Wire, 4 Guys ea.		
2	Set Gin Pole Guy Wire, 3 Guys ea.		
4	Turnbuckles		
22	Adjusting Chains		
1	Sledge Hammer		
2	Nut Drivers No. 12		
1	Ground Plane Radial Wire, on Reel	92,400	
2	Reel		

October 1957

AS-784/TRN

ANTENNA

FUNCTIONAL DESCRIPTION

The AS-784/TRN is designed as a light-weight quick erecting transmitting antenna. The antenna proper is an insulated aluminum tower weighing 15 lbs per 10 foot section. The tower consists of a mast 100 ft in length and a 30 ft boom for raising it. It is possible to assemble the mast and boom on the ground and raise it into the air by means of a block and tackle.

No field changes in effect at time of preparation (1 April 1957).

MANUFACTURER'S OR CONTRACTOR'S DATA

Wind Turbine Co, West Chester, Pa

Contract NObsr-64087.

Approximate Cost: \$840.00 With equipment spares.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92535: Technical Manual For Antenna AS-784/TRN.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
12	Mast Section		
1	Mast Section Base		
2	Side Top Guy w/9 Insulators	1284 lg.	
2	Side Middle Guy w/7 Insulators	984 lg.	
2	Side Bottom Guy w/4 Insulators	756 lg.	
2	Side Top Extension w/2 Insulators	384 lg.	
2	Side Middle Extension w/2 Insulators	372 lg.	
2	Side Bottom Extension w/2 Insulators	360 lg.	
1	Back Top Guy w/9 Insulators	1284 lg.	
1	Back Middle Guy w/7 Insulators	984 lg.	
1	Back Bottom Guy w/4 Insulators	756 lg.	
1	Back Top Extension w/2 Insulators	384 lg.	
1	Back Middle Extension w/2 Insulators	372 lg.	
1	Back Bottom Extension w/2 Insulators	360 lg.	
4	Ground Radials	2400 lg.	
2	Temporary Boom Guy	5/16 dia x 1140	
2	Temporary Side Guy	5/16 dia x 1440	
3	Eye and Jaw Turn buckle	5/16 dia x 4-1/2	
1	Block and Tackle Assy		
13	Guy Clip Assy		
1	Hinged Base Assy		
1	Boom Top Assy		
4	3 Hole Equalizer Plate		

October 1957

AS-784/TRN

ANTENNA

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
12	Screw Pin Shackle	1/4	
1	Horn Gap (Horizontal)		
1	Horn Gap (Vertical)		
2	Ground Clamp		
3	Insulator Assy		
42	Horizontal Bar		
3	Ground Pin		
9	Turn buckle	3/8 dia x 6	
6	Screw Pin Shackle	1/2	
3	Trace Chain	36 lg	
4	Screw Anchor, Ovaley		
12	Bolt w/nut	1/2 dia x 1-1/2	
110	Bolt w/nut	5/16 dia x 3/4	
8	Stacke		
4	Anchor Stake		
18	Wire Rope Clip, First-Grip		
9	Thimble, Wire Rope		
1	Maul		
1	Ratchet		
1	Socket		
1	Wrench, Engineer's		
1	Pliers		
1	Adjustable Wrench		
1	Crow Bar		
1	Transit Case		
4	Cable Reel		

ANTENNA SYSTEM**AS-81/GR****FUNCTIONAL DESCRIPTION**

The AS-81/GR is a one-tube directional antenna system designed as an addition to communication receivers. This system permits the operator to make use of unidirectional reception. Antijamming is the function of the equipment. By proper use, the pick-up of any signal can be reduced greatly or completely. Satisfactory performance of the antenna-system depends on the skill of the operator in adjusting it. Effective operation of the system will provide satisfactory communication and will eliminate the possibility of complete jamming by enemy or friendly station operating on the same frequency.

No field changes in effect at time of preparation (11 December 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1.1 to 16 mc.

OPERATING POWER: 12 v DC.

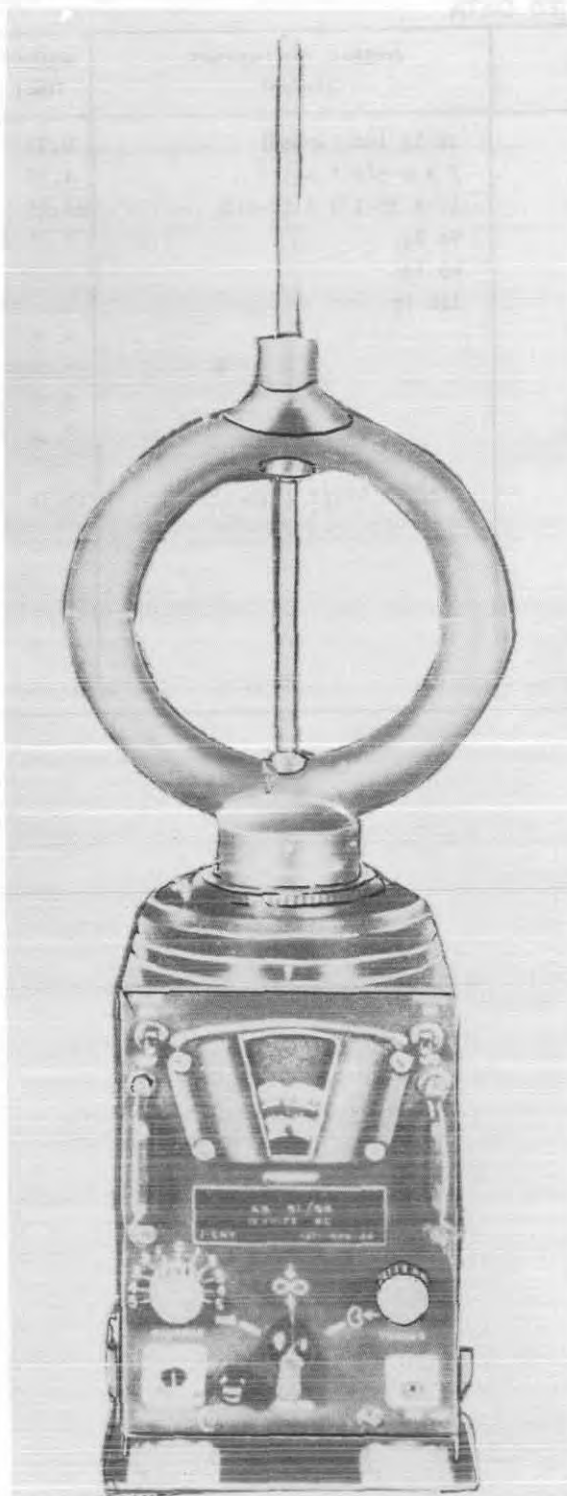
TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12J5GT

Total Tubes: (1)

REFERENCE DATA AND LITERATURE

TM11-2608: Technical Manual for Antenna System AS-81/GR.



Antenna System AS-81/GR

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

June 1957

AS-81/GR

ANTENNA SYSTEM

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AN-45-G	16 lg (collapsed)	0.75
1	Antenna Mounting AB-9/GR	7 X 8-3/8 X 8-1/2	4.25
1	Case CY-48/GR	14 X 15-1/2 X 20-1/2	26.25
1	Cord CG-52/GR	96 lg	0.75
1	Cord CG-57/GR	48 lg	0.375
1	Cord CX-105/GR	120 lg	1
1	Loop AT-27/GR		3.75
1	Loop AT-28/GR		3.75
1	Loop AT-29/GR		3.75
1	Loop AT-30/GR		3.75
2	Technical Manual TM11-2608		
1	Control Box C-98/GR consists of:	7-1/2 X 9-1/2 X 10-1/2	18.75
3	Fuse 3AG		
4	Lamp GE53		
2	Tube 12J5GT		
3	Vibrator		
2	Spring and Contact Assembly		

June 1961

ANTENNA**AS-961 (XN-1)/VRC****FUNCTIONAL DESCRIPTION**

The AS-961(XN-1) is designed as a broad band antenna for use with Naval Research Laboratory Coupler, Antenna CU-699(XN-1)/VRC which covers the frequency range of 20 to 60 megacycles (MC).

No field changes in effect at time of preparation (19 January 1961).

RELATION TO OTHER EQUIPMENT

The AS-961(XN-1)/VRC is designed to be used with but not part of Coupler, Antenna CU-699(XN-1)/VRC.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF SLEEVE: Simulated.

TYPE OF INSTALLATION: Fixed; on top deck or vehicle.

METHOD OF MOUNTING: Flush.

TYPE OF ANTENNA: Two vertical whip (72 in. lg).

IMPEDANCE: 50 ohms.

OPERATING FREQUENCY RANGE: 20 to 60 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

International Electronics Engineering Co., Annapolis, Md.

Dwg No. RA66D478.

Contract NObsr-75010, dated 1 July 1957.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes and/or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Antenna AS-961(XN-1)/VRC.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-961(XN-1)/VRC	6 od x 22-1/4 lg	

September 1960

Radio-Antenna

AS-977/SRD-13

ANTENNA

FUNCTIONAL DESCRIPTION

The AS-977/SRD-13 is designed to seek the true-null position of the signal to which the receiver is tuned and remains there as long as the receiver is operated at that frequency.

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

RELATION TO OTHER EQUIPMENT

The AS-977/SRD-13 is designed as part of the AN/SRD-13.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

ANTENNA STYLE: Loop frame type.

ROTATING MOVEMENT PATTERN: Motor driven.

FREQUENCY RANGE: 275 kc to 3.5 mc.

OPERATING POWER RQMT: 115 v AC, 60 cps,
2 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Control Electronics Company Inc., Huntington Station, New York.

Part No. 32-304.

Contract Tcg-40709(CG-42, 102-A).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes and/or Crystals used.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Antenna AS-977/SRD-13.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	USCG EEE-9-58
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AS-977/SRD-13		

June 1961

ANTENNA ASSEMBLY

AS-997/SRC

FUNCTIONAL DESCRIPTION

The AS-997/SRC consists of three (3) broadband vertical omnidirectional dipoles mounted collinearly around a hollow mast, and a horizontal dipole and reflector mounted atop the mast. Vertical dipoles are phased to provide concentration of field at low angles. Horizontal dipole and reflector provide Zenith coverage.

Polarization is primarily vertical at low angles and horizontal at high angles. Radiation pattern in horizontal plane is omnidirectional. Gain in horizontal plane is at least 3 db greater than the gain of a simple vertically polarized dipole. Voltage Standing Wave Ratio (VSWR) at input to impedance matching transformer is 25:1 on 50 ohm line.

No field changes in effect at time of preparation (23 December 1960).

RELATION TO OTHER EQUIPMENT

The AS-997/SRC is designed for use with VHF radio equipment operating in the frequency range of 225 to 400 megacycle; for ship-to-air communication.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF USAGE: Ship-to-air communication.
TYPE OF ANTENNA: Stacked Array.
TYPE OF INSTALLATION: Fixed flange mounted.

BEAM PATTERN: 360 deg.
GAIN: 3 db greater than the gain of a simple vertically polarized dipole.
IMPEDANCE: 50 ohms.
TYPE OF CABLE: RG-8/U.
OPERATING FREQUENCY RANGE: 225 to 390 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Navy Electronics Laboratory, Long Beach, Calif.
NEL Dwg No. RAA66F43293,
BuShips Dwg No. RE66D644.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes used.

REFERENCE DATA AND LITERATURE

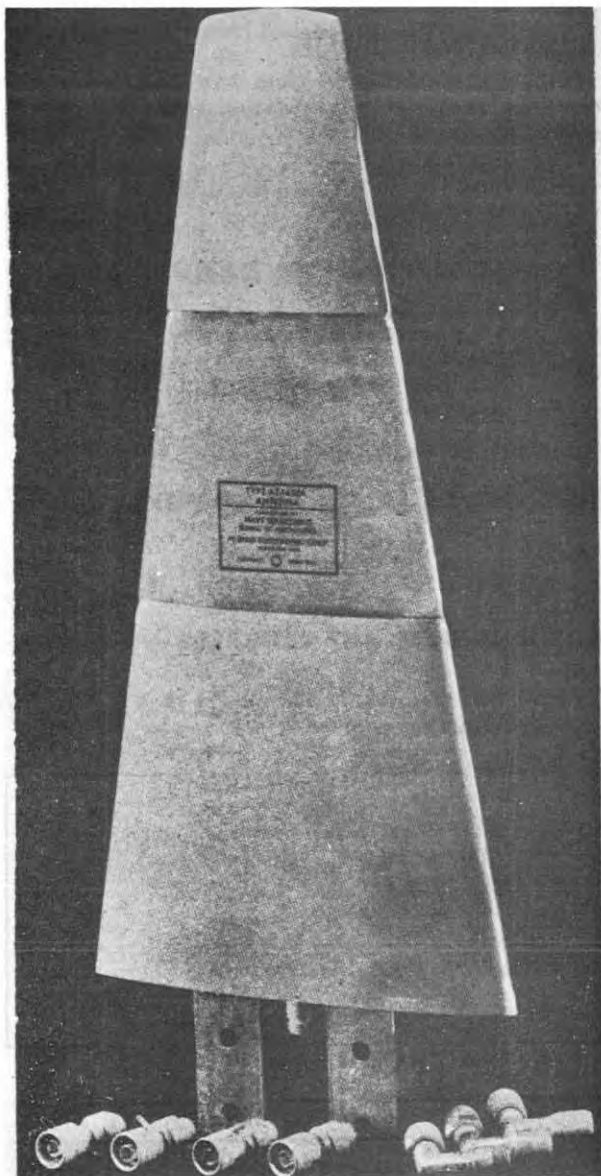
NAVSHIPS 93400: Preliminary Data Form for Antenna Ass'y AS-997/SRC.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Ass'y AS-997/SRC	7-3/4 x 36 x 105-27/64	

ANTENNA



Antenna AT-145/A

FUNCTIONAL DESCRIPTION

The AT-145/A is a VHF, broad band, streamlined blade antenna for general purpose use.

No field changes in effect at time of preparation (4 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 116 to 260 mc.

INPUT IMPEDANCE: 50 ohms.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 16-35AT145-501: Technical Manual for Antenna AT-145/A.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUAER
 PROCUREMENT COGNIZANCE
 STOCK NO.

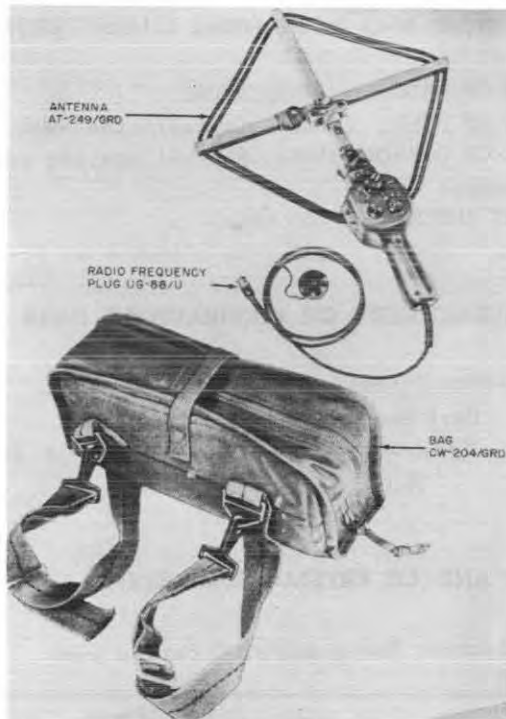
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-145/A		

February 1960

AT-249/GRD

ANTENNA



Antenna AT-249/GRD and Bag CW-204/GRD

FUNCTIONAL DESCRIPTION

Antenna AT-249/GRD, when used with an appropriate radio set, comprises an effective homing device that permits the radio operator to find the direction of a transmitter on the frequency to which the radio set is tuned. An azimuth scale is not provided because highly accurate bearings are generally not required for homing. When it

is desired, approximate azimuth readings can be obtained by sighting a pocket compass in the direction of the indicated bearing.

No field changes in effect at time of preparation (10 July 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 47 to 55.4 mc (continuously tunable).

TYPE OF ANTENNA: Unshielded loop.

PROVISION FOR SENSING: Built-in NORMAL-SENSE switch.

OUTPUT CONTROL: Four-position step attenuator.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

TM11-5058; TO31R4-2GRD-111: Technical Manual for ANTENNA AT-249/GRD, AT-339/PRC, AT-340/PRC.

TYPE CLASSIFICATION

DESIGN COGNIZANCE USA, SIG C

PROCUREMENT COGNIZANCE SPEC: MIL-A-10253

STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AT-249/GRD including: Bag CW-204/GRD		6-1/2 X 7-3/4 X 16-1/2	6-3/4

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-249/GRD	3-1/2 X 14-5/8 X 20-1/4	2
1	Bag CW-204/GRD	5-1/2 X 8-1/8 X 16-1/2	2.6

June 1961

Radio-Antenna

AT-252/SR**ANTENNA***Antenna AT-252/SR***FUNCTIONAL DESCRIPTION**

The AT-252/SR is a whip-type, stainless-steel, tubular, one-piece radiator, type Antenna designed for use with Navy, Monitor, Radio Frequency AN/URM-50, and AN/SRA-17 (XG-1) Antenna Group; AN/SRA-3 Antenna Group.

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

RELATION TO OTHER EQUIPMENT

The AT-252/SR is designed as part of the AN/URM-50, AN/SRA-3 and AN/SRA-17(XG-1).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF ANTENNA: Whip type.

TYPE OF FEED: Coaxial transmission feed.

TYPE OF CONSTRUCTION: Non-collapsible telescopic.

INPUT IMPEDANCE: 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

National Company Inc., Malden, Mass.

Part Dwg No. R683-1.

Contract NObsr-52582, dated 18 June 1951.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes and/or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92299: Technical Manual for Antenna Group AN/SRA-17(XG-1).

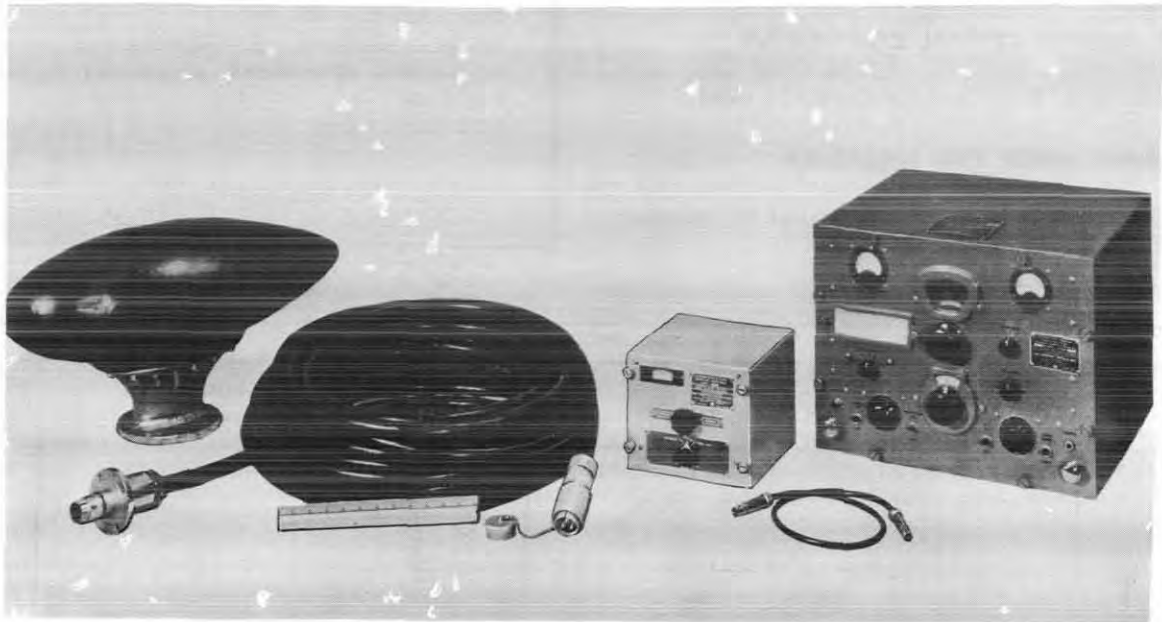
Nomenclature Card for Antenna AT-252/GR.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-252/SR	7 W x 131	20

June 1961

ANTENNA ASSEMBLYRadio-Antenna
AT-317 (XN-1)/BRR*Antenna AT-317 (XN-1) BRR***FUNCTIONAL DESCRIPTION**

The AT-317(XN-1)/BRR is a very low frequency (VLF) underwater loop antenna for submarine service in conjunction with Models RAK or RBA Radio Receiving Equipments. The outline of the antenna has been designed to resemble a streamline tear drop and it is mounted in line with the submarine for the purpose of reducing drag of sea water to a minimum. The crossed-loop antenna may be used for bi-directional reception in a plane fore-aft or in a plane athwart ships by means of a switching arrangement contained in the Antenna Coupler CU-352(XN-1)/BRR. The Antenna Coupler also contains matching transformers, tuning condensers and a phasing network so that both loop inductors can be phased electrically to produce omnidirectional reception.

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

RELATION TO OTHER EQUIPMENT

The AT-317(XN-1)/BRR is designed to be

used with but not part of the Antenna Coupler CU-352(XN-1)/BRR, CU-352/BRR and Navy Radio Receiving Equipment Model RBA or RAK.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(8) 1/2 inch dia Mounting bolts, (1) Hull fitting, (1) Fixed Capacitor.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF ANTENNA: Crossed-loop.
 HYDROSTATIC PRESSURE: Ability to withstand 600 psi.
 PRESENTATION: 3 modes of reception; (1) single-plane fore-aft, (2) single-plane athwartships, (3) Omni-directional.
 FREQUENCY RANGE: 14.6 to 38 kc.

MANUFACTURER'S OR CONTRACTOR'S DATA

American Phenolic Corporation, Chicago, Illinois.

June 1961

AT-317 (XN-1)/BRR**ANTENNA ASSEMBLY**

Part No. 142-002.
Contract NObsr-52691, dated 5 May 1952.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes and/or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92084: Technical Manual for Antenna
AT-317(XN-1)/BRR.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE MIL-A-15900(SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Loop Antenna AT-317(XN-1)/BRR Consisting of:	20.3	16-1/2 X 38-1/2 X 63	310
1	Antenna Coupler CU-352(XN-1)/BRR			
1	Antenna Cable RG-160/U			
1	Interconnecting Cable RG-11/U			

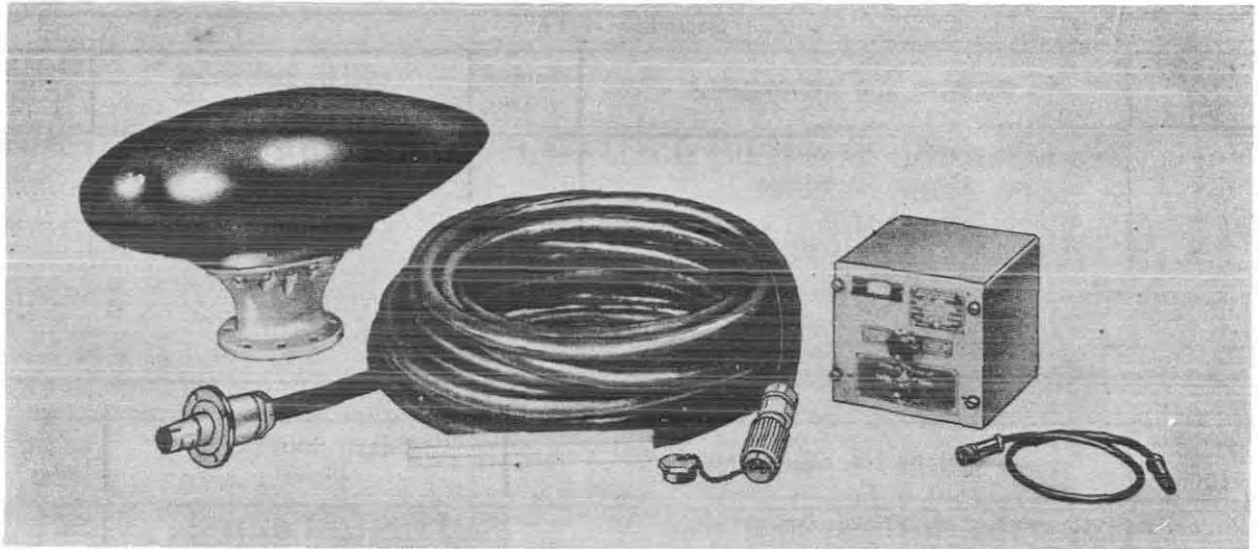
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Loop Antenna AT-317(XN-1)/BRR Consisting of:	8-1/2 X 13-1/4 X 24-1/2	126
1	Antenna Coupler CU-352(XN-1)/BRR	7-3/16 X 8-3/4 X 10-5/8	11.5
1	Antenna Cable RG-160/U	1-1/8 dia X 900 lg	
1	Interconnecting Cable RG-11/U	13/32 dia X 36 lg	

March 1957

LOOP ANTENNA SYSTEM

AT-317/BRR



VLF Loop Antenna System AT-317/BRR

FUNCTIONAL DESCRIPTION

The AT-317/BRR is a very low frequency streamlined loop antenna designed for submarine service. The antenna system has been designed to cover the frequency range of 14.6 to 38 kc and its primary use is to operate with Models RAK, RBA and AN/SRR-11 Radio Receiving Equipment. The CU-352/BRR Antenna Coupler is an integral part of the system and was developed to fill the immediate needs for an adapter which could provide various modes of radio reception including omni-directional coverage of radio signals with the submarine surfaced or submerged.

No field changes in effect at time of preparation (27 August 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (8) 1/2 inch dia Mounting Bolts, (1) Hull Fitting and (1) Capacitor Fixed.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 14.6 to 38 kc.
 TYPE: Crossed-loop.
 HYDROSTATIC PRESSURE: Ability to withstand 600 psi.

PRESENTATION: 3 modes of reception; (1) single-plane fore-aft, (2) single-plane athwartships, (3) omni-directional.

MANUFACTURER'S OR CONTRACTOR'S DATA

The American Phenolic Corporation, Chicago, Illinois.

Contract: NObsr 52691 dated 5 May 1952.
 Approximate Cost: \$2100.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93182: Technical Manual for Loop Antenna System Navy Model AT-317/BRR.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.

AT-317/BRR

LOOP ANTENNA SYSTEM

March 1957

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Loop Antenna AT-317/BRR consisting of:	20.3	16-1/2 X 38-1/2 X 63	310
1	Coupler, Antenna CU-352/BRR			
1	Antenna Cable RG-160/U			
1	Interconnecting Cable RG-11/U			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Loop Antenna AT-317/BRR consisting of:	8-1/2 X 13-1/4 X 24-1/2	126
1	Antenna Coupler CU-352/BRR	7-3/16 X 8-3/4 X 10-5/8	11.5
1	Interconnecting Cable RG-11/U	13/32 in. dia X 36 in. lg	
1	Antenna Cable RG-160/U	1-1/8 in. dia X 75 ft lg	

April 1959

Radio-Antenna
AT-317A/BRR**ANTENNA****FUNCTIONAL DESCRIPTION**

The AT-317A/BRR Very Low Frequency (VLF) Loop Antenna is designed as a streamlined loop for submarine service. The antenna system has been designed to cover the frequency range of 14.6 to 38 kilocycles (kc) and its primary use is to operate with models RAK, RBA, and AN/SRR-11 radio receiving equipment. The CU-352A/BRR Antenna Coupler is an integral part of the system and was developed to fill the immediate needs for an adapter which could provide various modes of radio reception including omni-directional coverage of radio signals with the submarine surfaced or submerged.

The AT-317A/BRR is electrically and mechanically interchangeable with the AT-317/BRR except that it differs in equipment type supplied.

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

RELATION TO OTHER EQUIPMENT

The AT-317A/BRR is designed to be used with Models RAK, RBA, and AN/SRR-11 Radio Receiving Equipments.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(8) Bolt 1/2 in. dia, (1) Hull Fitting Type UG-1083/U, (1) Fixed Capacitor Cornell Dubilier Type CM30C--J.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 14.6 to 38 kc.

TYPE-OF LOOP: Crossed-loop.
HYDROSTATIC PRESSURE: Ability to withstand 600 psi.
PRESENTATION: Three modes of reception; single-plane fore-aft; single-plane athwartships; omni-directional.

MANUFACTURER'S OR CONTRACTOR'S DATA

The American Phenolic Corp., Chicago, Illinois.

Contract NObsr-75180, dated 1 April 1958.

Approximate Cost: \$124,552.32 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92182: Technical Manual for Navy Model AT-317/BRR VLF Loop Antenna System for use with Models RAK, RBA, and AN/SRR-11 Radio Receiving Equipments.

Nomenclature Card AT-317A/BRR for Antenna Contract NObsr-75189 Letter Ser 6950-699 dated 21 July 1958.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-A-15900 (SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Loop Antenna AT-317A/BRR including:		16-1/2 X 38-1/2 X 63	310
1	Coupler Antenna			
1	Antenna Cable RG-160/U			
1	Interconnecting Cable RG-11/U			

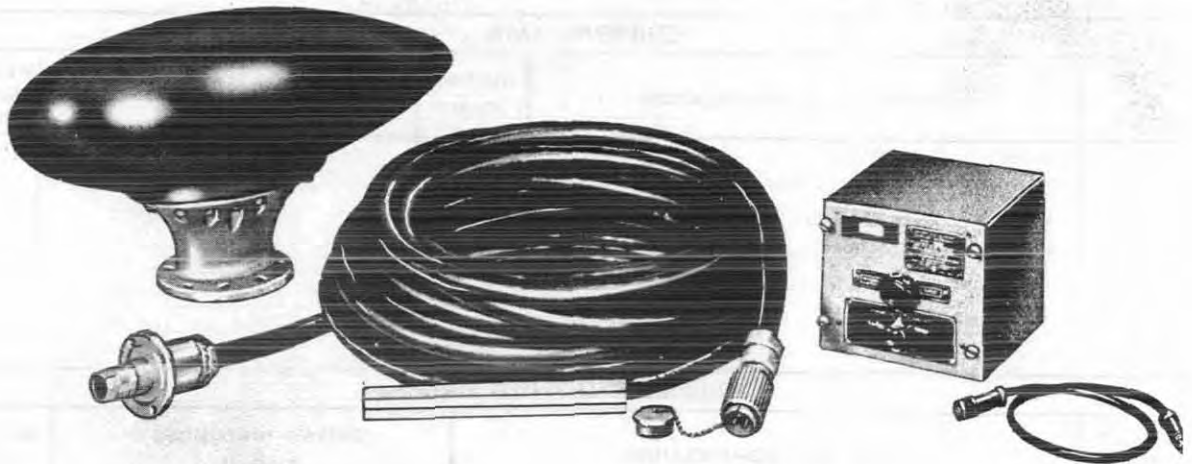
Radio-Antenna
AT-317A/BRR

ANTENNA

UNCLASSIFIED
April 1959

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Loop Antenna AT-317A/BRR	8-1/2 X 13-1/4 X 24-1/2	126
1	Antenna Coupler CU-352A/BRR	7-3/16 X 8-3/4 X 10-5/8	11-1/2
1	Interconnecting Cable RG-11/U	0.405 dia X 36 lg	
1	Antenna Cable RG-160/U	1-1/8 X 900 lg	

ANTENNA*Antenna AT-317B/BRR***FUNCTIONAL DESCRIPTION**

Antenna AT-317B/BRR is a very-low-frequency, streamlined loop antenna designed for submarine service. Its primary use is to operate with Radio Receiving Equipments RAK or RBA, and Radio Receiving Set AN/SRR-11.

Antenna Coupler CU-352/BRR is an integral part of the system. It functions as an adapter to provide various modes of radio reception including omnidirectional coverage of radio signals with the submarine surfaced or submerged.

No field changes in effect at time of preparation (14 October 1960).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(8) Bolt, 1/2 in. dia; (1) Hull Fitting UG-1083/U; (1) Capacitor, Fixed.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 14.6 to 38 kc.

TYPE: Crossed-loop.

HYDROSTATIC PRESSURE: Ability to withstand 600 pounds per square inch.

PRESENTATION: 3 modes of reception: (1)

single-plane fore-aft, (2) single-plane athwartships, (3) omnidirectional.

MANUFACTURER'S OR CONTRACTOR'S DATA

Amphenol-Borg Electronics Corp, Broadview, Ill.

Part No. 142-010.

Contract NObsr-75555.

Contract NObsr-75812.

Contract NObsr-75813.

Contract NObsr-81071.

Approximate cost \$2,089.00.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92182: Technical Manual for Loop Antenna AT-317/BRR, AT-317A/BRR and AT-317B/BRR.

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

Radio-Antennas

June 1961

AT-317B/BRR

ANTENNA

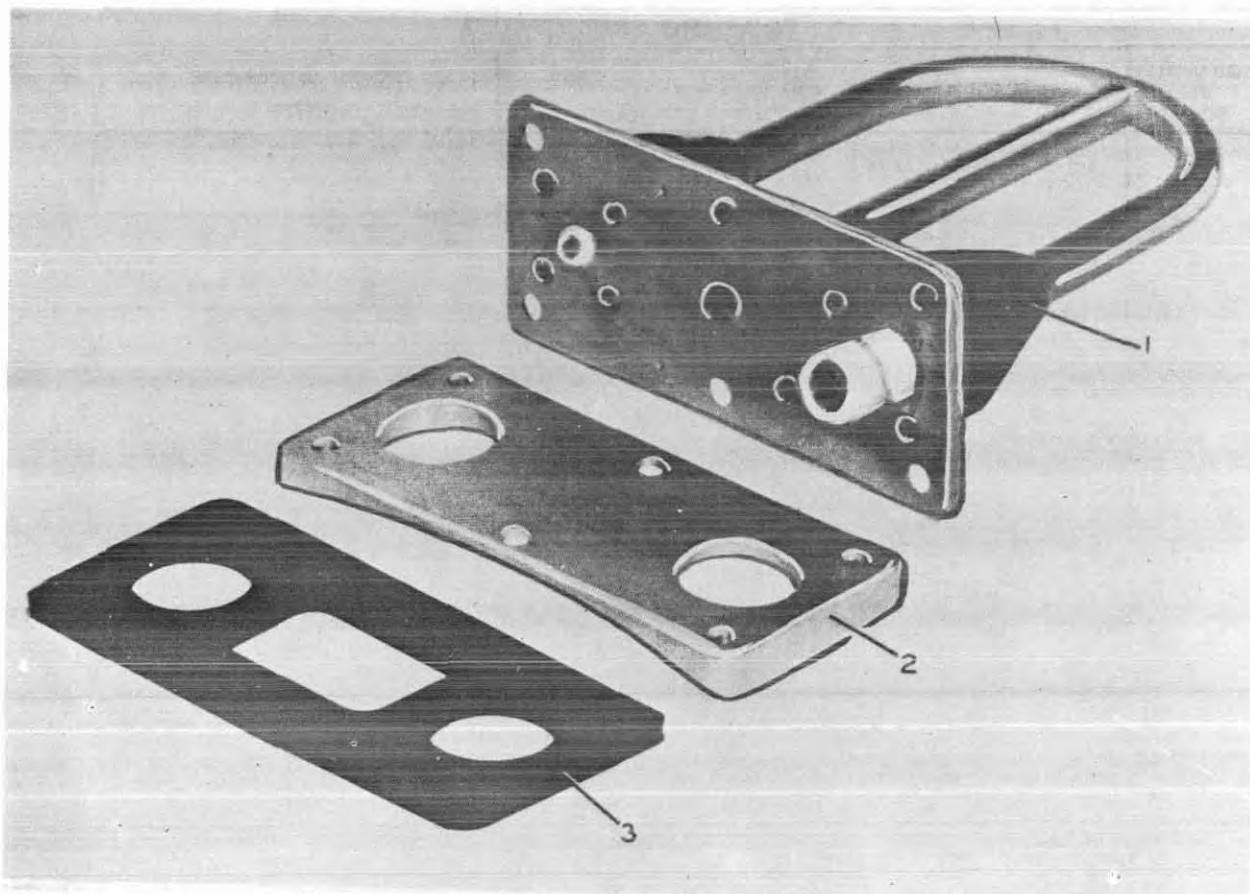
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AT-317B/BRR Coupler, Antenna CU-352/BRR Antenna Cable RG-160/U Interconnecting Cable RG-11/U	20.3	16-1/2 x 38-1/2 x 63	310

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-317B/BRR includes:	8-1/2 x 13-1/4 x 24-1/2	126
1	Coupler, Antenna CU-352A/BRR	7-3/16 x 8-3/4 x 10-5/8	11.5
1	Interconnecting Cable RG-11/U	0.405 dia x 36 lg	
1	Antenna Cable RG-160/U	1.125 dia x 900 lg	

ANTENNA



1. Antenna

2. Adapter Plate

3. Gasket

Antenna AT-326A/ARN

FUNCTIONAL DESCRIPTION

The AT-326A/ARN is designed for use with glide slope receivers in the frequency range of 328 to 336 mc.

No field changes in effect at time of preparation (4 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 320.0 to 336.0 mc.
INPUT IMPEDANCE: 52 ohm.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio, Cedar Rapids, Iowa.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVAER 16-35AT326-501: Technical Manual for ANTENNA AT-326A/ARN.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUAER
PROCUREMENT COGNIZANCE
STOCK NO.

Radio-Antennas

October 1957

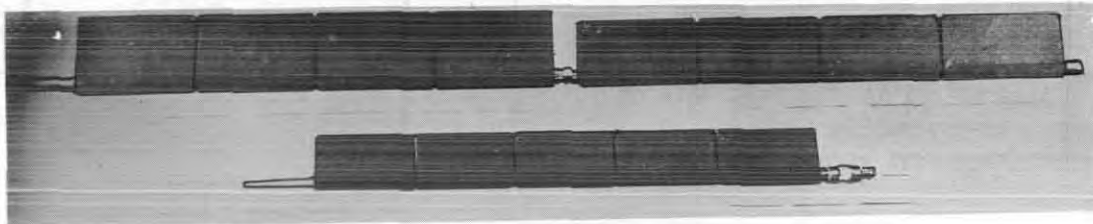
AT-326A/ARN

ANTENNA

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-326A/ARN		

June 1961

ANTENNA**AT-350/BRC***Antenna AT-350/BRC***FUNCTIONAL DESCRIPTION**

rotatable streamlined plastic fairings.

Antenna AT-350/BRC is a middle-frequency high-frequency transmitting and receiving antenna designed for installation on modern submarines. It is rigidly mounted on a separately supplied erecting mechanism and in the raised position is used to accomplish radio communication. It operates adequately at all moderate submarine speeds (15 knots max.) during both surface and, because of its unique design, at shallow submerged depths such as snorkel and periscope.

No field changes in effect at time of preparation (27 December 1960).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(As required) Connecting Cable RG-17/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RESONANT LENGTH: $1/4$ or $1/2$ wave.

RESONANT FREQUENCY: 20 mc for $1/4$ wave resonant length.

TYPE ANTENNA: Whip.

FREQUENCY RANGE (OPERATING): 300 kc to 30 mc.

POLARIZATION: Vertical.

RADIATION PATTERN: Omnidirectional.

INPUT IMPEDANCE: 52 ohms.

FEED: Dependent upon radio set used with.

ANTENNA SUPPORT: 3 sections of tubing w/

MANUFACTURER'S OR CONTRACTOR'S DATA

Premax Products Div., Chisholm-Ryer Co. Inc., Niagra Falls, N. Y.

Contract NObsr-52602, dated 13 June 1951.

Contract NObsr-71275, dated 23 April 1956.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92933: Technical Manual for Streamlined Mid-Fed Whip Antenna AT-350/BRC.

TYPE CLASSIFICATION STD
 DESIGN COGNIZANCE USN, BUSHIPS
 PROCUREMENT COGNIZANCE SPEC: RE66F627F
 STOCK NO.
 R.D.B. IDENT. NO.

AT-350/BRC

ANTENNA

SHIPPING DATA

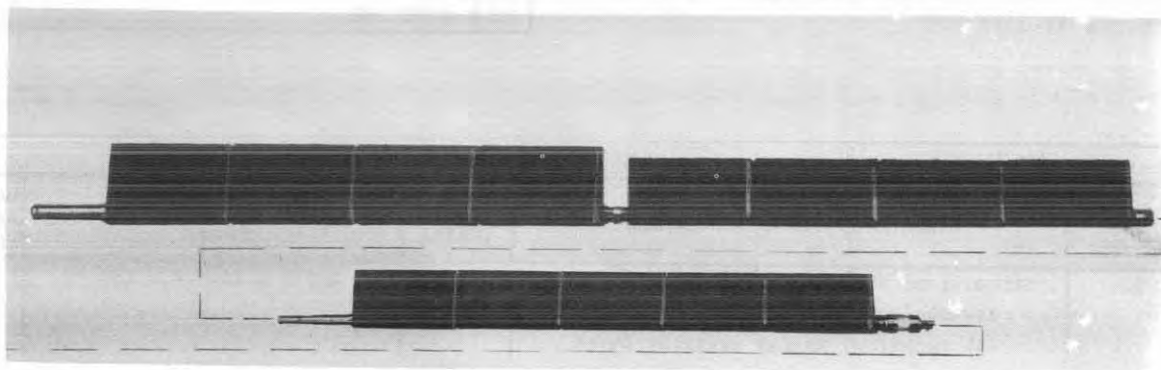
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Streamlined Mid-Fed Whip Antenna AT-350/BRC including:	4.88	4-3/4 x 11-3/4 x 151	95
2	Technical Manual NAVSHIPS 92933			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Streamlined Mid-Fed Antenna AT-350/BRC	2.4 x 9.4 x 360	80
1	Technical Manual NAVSHIPS 92933		

June 1961

ANTENNA



Antenna AT-350A/BRC

FUNCTIONAL DESCRIPTION

Antenna AT-350A/BRC is a middle-frequency high-frequency transmitting and receiving antenna designed for installation on modern submarines. It is rigidly mounted on a separately supplied erecting mechanism and in the raised position is used to accomplish radio communication. It operates adequately at all moderate submarine speeds (15 knots max.) during both surface and, because of its unique design, at shallow submerged depths such as snorkel and periscope.

No field changes in effect at time of preparation (27 December 1960).

RELATION TO OTHER EQUIPMENT

This antenna is electrically and mechanically interchangeable with Antenna AT-350/BRC.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(As required) Connecting Cable RG-17/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RESONANT LENGTH: $1/4$ or $1/2$ wave.
 RESONANT FREQUENCY: 20 mc for $1/4$ wave resonant length.
 TYPE ANTENNA: Whip.
 FREQUENCY RANGE (OPERATING): 300 kc to 30 mc.
 POLARIZATION: Vertical.
 RADIATION PATTERN: Omnidirectional.
 INPUT IMPEDANCE: 52 ohms.
 FEED: Dependent upon radio set used with.
 ANTENNA SUPPORT: 3 sections of tubing w/rotatable streamlined plastic fairings.

MANUFACTURER'S OR CONTRACTOR'S DATA

Premax Products Div., Chisholm-Ryer Co.,
 Inc., Niagara Falls, N.Y.
 Contract NObsr-75122, dated 9 March
 1958.
 Approximate unit cost \$1,160.00

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

June 1961

AT-350 A/BRC

ANTENNA

REFERENCE DATA AND LITERATURE

NAVSHIPS 93215: Technical Manual for Antenna AT-350A/BRC.

TYPE CLASSIFICATION (NAVY) DESIGN COGNIZANCE USN, BUSHIPS PROCUREMENT COGNIZANCE SPEC: RE66F627H STOCK NO. R.D.B. IDENT. NO.
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SHIPPING DATA

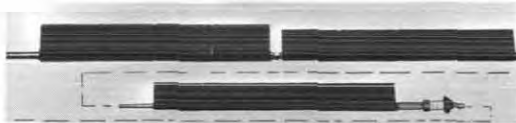
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Streamlined Mid-Fed Whip Antenna AT-350A/BRC including: (2) Technical Manual NAVSHIPS 93215	4.88	4-3/4 x 11-3/4 x 151	95

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Streamlined Mid-Fed Antenna AT-350A/BRC	2.4 x 9.4 x 360	80
2	Technical Manual NAVSHIPS 93215		

June 1961

ANTENNA



Antenna AT-350B/BRC

FUNCTIONAL DESCRIPTION

Antenna AT-350B/BRC is a middle-frequency high-frequency transmitting and receiving antenna designed for installation on modern submarines. It is rigidly mounted on a separately supplied erecting mechanism and in the raised position is used to accomplish radio communication. It operates adequately at all moderate submarine speeds (15 knots max.) during both surface and, because of its unique design, at shallow submerged depths such as snorkel and periscope.

No field changes in effect at time of preparation (27 December 1960).

RELATION TO OTHER EQUIPMENT

This antenna is similar to Antenna AT-350/BRC and AT-350A/BRC, except in that the insulator is Teflon material to withstand 1000 psi. Also, has improved component parts to withstand greater sea slap.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(As required) Connecting Cable RG-17/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RESONANT LENGTH: 1/4 or 1/2 wave.

RESONANT FREQUENCY: 20 mc for 1/4 wave resonant length.

TYPE ANTENNA: Whip.

FREQUENCY RANGE (OPERATING): 300 kc to 30 mc.

POLARIZATION: vertical.

RADIATION PATTERN: Omnidirectional.

INPUT IMPEDANCE: 52 ohms.

FEED: Dependent upon radio set used with.

ANTENNA SUPPORT: 3 sections of tubing w/ rotatable streamlined plastic fairings.

MANUFACTURER'S OR CONTRACTOR'S DATA

Premax Products Div., Chisholm-Ryer Co., Inc., Niagara Falls, N. Y.

Pt/Dwg No. RA-A1501.

Contract NObsr-81536, dated 30 June 1960.

Approximate unit cost \$1,153.00.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93751: Technical Manual for Antenna AT-350B/BRC.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: RE66F627M
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Streamlined Mid-Fed Whip Antenna AT-350B/BRC Including: (2) Technical Manual NAVSHIPS 93751	4.88	4-3/4 x 11-3/4 x 151	95

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Streamlined Mid-Fed Antenna AT-350B/BRC	2.4 x 9.4 x 360	80
2	Technical Manual NAVSHIPS 93751		

12 January 1962

ANTENNA AT-353/UPA-23

Cog Service:

FSN:

Functional Class:

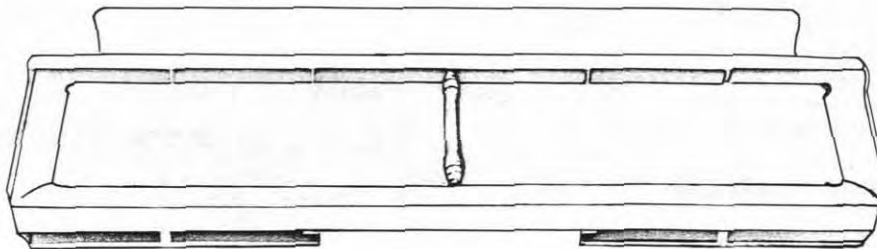
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Maryland Electronics Mfg Corporation.



Antenna AT-353/UPA-23

FUNCTIONAL DESCRIPTION:

The Antenna AT-353/UPA-23 is a five (5) foot antenna, that consists of radiators, reflector, feeder system, rf filter, and mounting box.

The Antenna AT-353/UPA-23 is designed for the transmission or reception of vertically polarized waves in the 1010 megacycle (mc) to 1110 mc band. The horizontal beam width is less than 15 deg at the half power points. The rf connections to the antenna are made through 51 ohm connectors. An rf filter F-152/UP is located between the antenna feeder input and the rigid coaxial cable connecting the antenna to the pedestal.

No field changes in effect at time of preparation (20 July 1961).

TECHNICAL CHARACTERISTICS:

INPUT IMPEDANCE: 51.5 ohms.

AT-353/UPA-23 ANTENNA

HORIZONTAL BEAM WIDTH: Less than 15 deg at the half power points.

FREQUENCY RANGE: 1010 to 1110 mc.

OPERATING POWER RQMT: 117 v ac, 60 cps, single ph, 600 W average (200 W idling - 1500 W peak demand).

RELATION TO OTHER EQUIPMENT:

The AT-353/UPA-23 is designed as part of Antenna Group AN/UPA-23.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna AT-353/UPA-23		11-7/8 x 15-1/2 x 55-7/8	25

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91516(B): Technical Manual for Antenna Group AN/UPA-22 and Antenna Group AN/UPA-23.

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	6.3	112

PROCUREMENT DATA

PROCURING SERVICE:

DESIGN COG: USN, BuShips

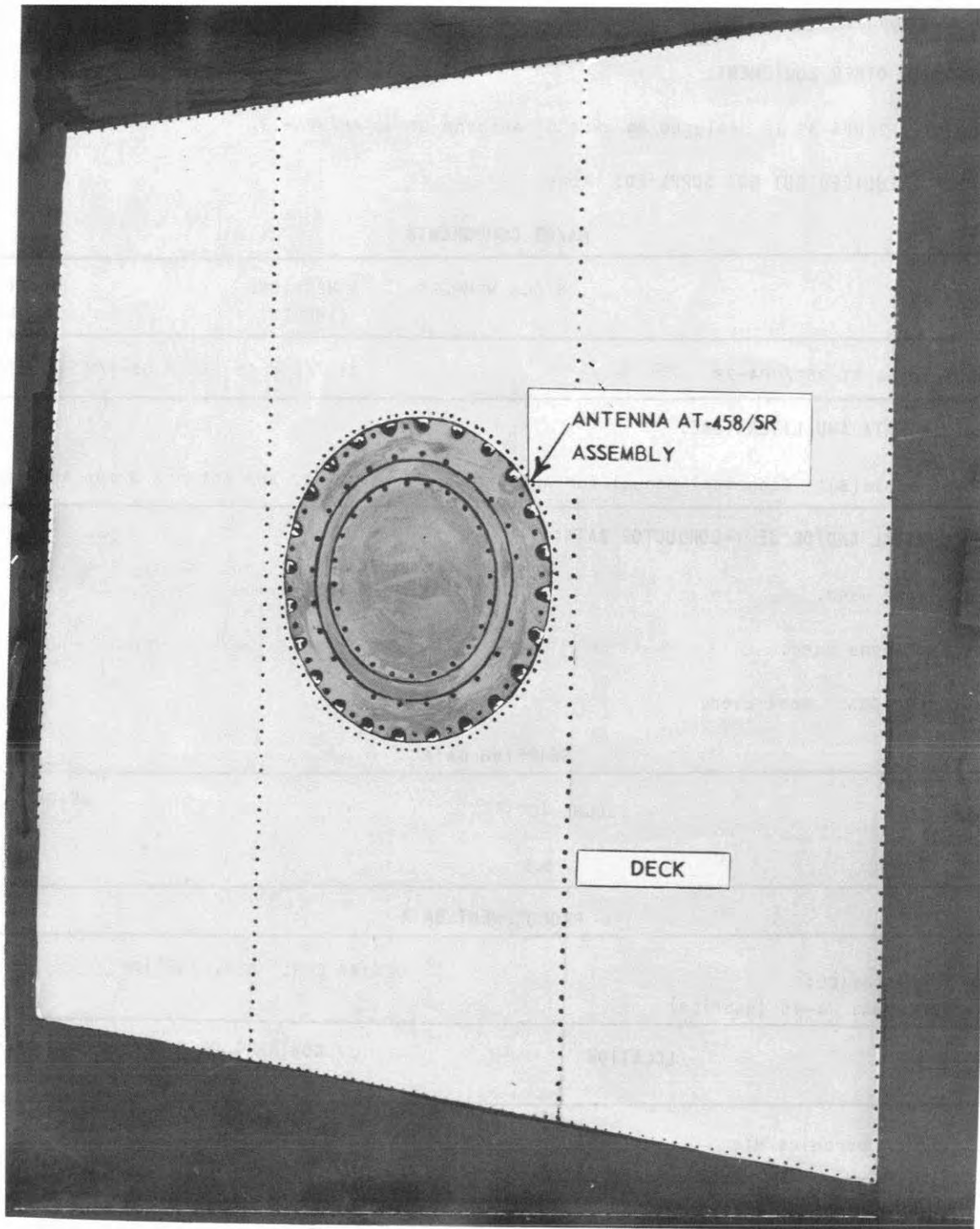
SPEC &/OR DWG: A-46 (BuShips)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Maryland Electronics Mfg Corporation Dwg no. AE1488E	College Park, Maryland	N0bsr-49188, 16 June 1950 N0bsr-52331, 26 March 1951	

April 1958

ANTENNA

Radio-Antenna
AT-458/SR



Antenna AT-458/SR

Radio-Antenna
AT-458/SR

ANTENNA

April 1958

FUNCTIONAL DESCRIPTION

The AT-458/SR is a broadband annular slot antenna which may be used for transmitting or receiving vertically polarized radio wave in the frequency range of 225 to 400 mc when installed in an extended, flat, unobstructed, metal deck.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.

INPUT IMPEDANCE: 50 ohms.

VOLTAGE STANDING WAVE RATIO: 3.0:1 (max).

OPERATING TEMPERATURE: Ambient temperature
 120 deg C (250 deg F) max.

RADIATION PATTERN: Similar to that of a conventional stub, at frequencies within and below the design range, except as affected by metal obstacles on the ground plane.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telecommunications Laboratories,
 Nutley, N.J.

Contract: NObsr-52349.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92196: Technical Manual for Antenna AT-458/SR.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE SHIPS-A-709 STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AT-458/SR	4	6 x 34 x 34	95

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-458/SR	30-1/2 dia x 4-1/2	77-1/2
2	Technical Manuals NAVSHIPS 92196		

ANTENNA

AT-534(XN-1)/GRC

FUNCTIONAL DESCRIPTION

The AT-534(XN-1)/GRC is an omni-directional antenna designed for use with Radio Set AN/GRC-15(XN-2) to provide simultaneous communications between a centrally located master station and several portable field sets located in any direction.

No field changes in effect at time of preparation (4 April 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 4400 to 5000 mc.
INPUT IMPEDANCE: 50 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

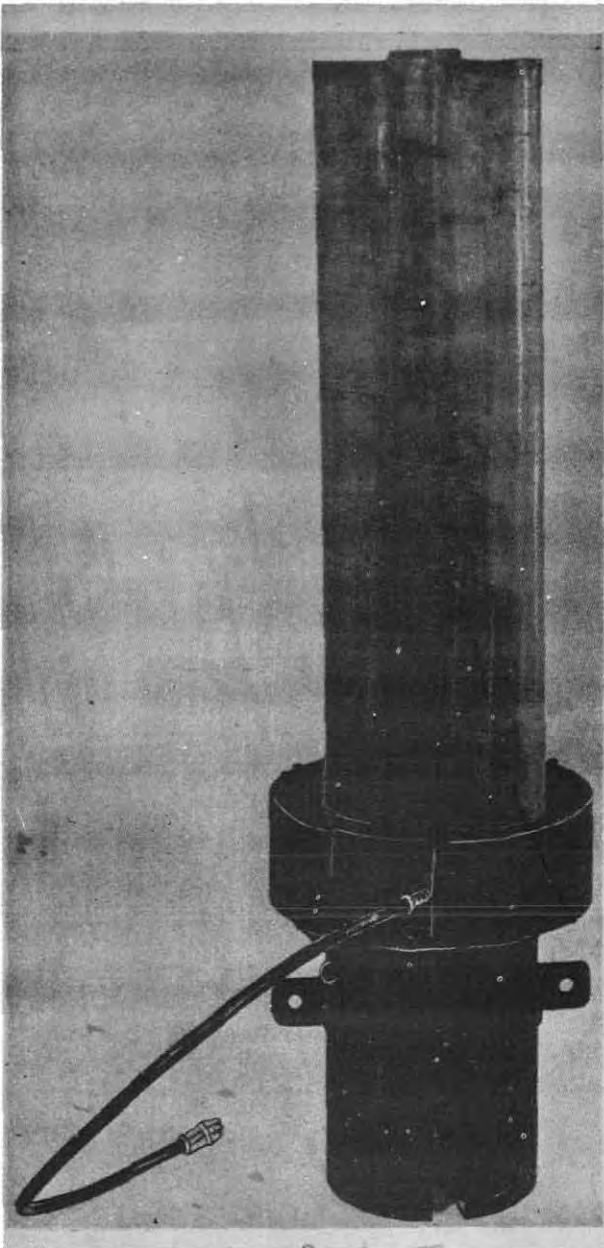
Melpar Inc, Alexandria, Virginia.
CONTRACT: NObsr 39174.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92291: Technical Manual for ANTENNA
AT-534(XN-1)/GRC.



Antenna AT-534(XN-1)/GRC

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna AT-534(XN-1)/GRC		11 x 11 x 37-7/8	40

October 1957

Radio-Antenna

AT-534(XN-1)/GRC

ANTENNA

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-534(XN-1)/GRC	10 dia x 34-5/8	30

12 January 1962

Cog Service:

FSN:

ANTENNA AT-592(XN-1)/URN-3
Functional Class:

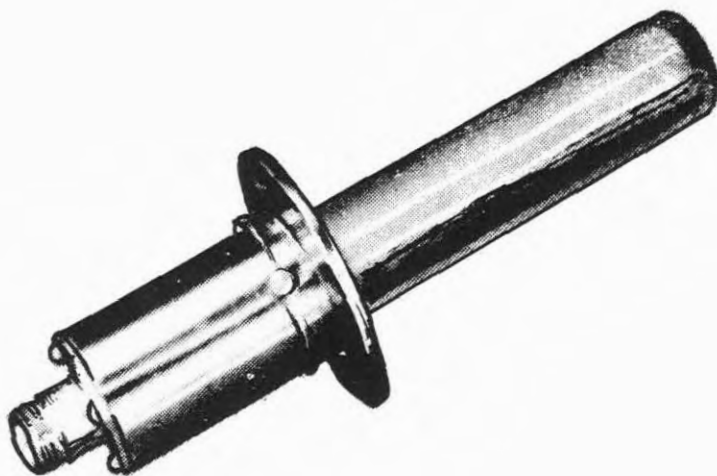
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Olympic Radio & Television Inc.



Antenna AT-592(XN-1)/URN-3

FUNCTIONAL DESCRIPTION:

The Antenna AT-592(XN-1)/URN-3 is designed to transmit pulsed radio frequency (RF) signals to and receives pulsed RF signals in return from Radio Set AN/URN-3.

No field changes in effect at time of preparation (19 July 1961).

TECHNICAL CHARACTERISTICS:

INPUT IMPEDANCE: 50 ohms.

FREQUENCY RANGE: 960 to 1250 mc.

OPERATING POWER RQMT: 115 v ac, 60 cps, single ph, 4 amp.

AT-592(XN-1)/URN-3 ANTENNA

RELATION TO OTHER EQUIPMENT:

The AT-592(XN-1)/URN-3 is designed as part of the Radio Frequency Monitor MX-1627/URN-3.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna AT-592(XN-1)/URN-3		6-5/8 lg x 24 dia	5

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92446: Technical Manual for Radio Frequency Monitor MX-1427(XN-1)/URN-3.

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	1.7	10

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-M-18338 (Ships)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Olympic Radio & Television Inc. Pt/Dwg no. AS15324	Long Island City, N. Y.	NObsr-57427, 23 May 1955	

10 January 1962

ANTENNA AT-592/URN-3

Cog Service:

FSN:

Functional Class:

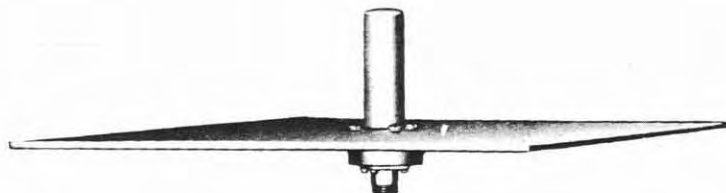
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Olympic Radio & Television.



Antenna AT-592/URN-3

FUNCTIONAL DESCRIPTION:

The Antenna AT-592/URN-3 is designed to transmit pulsed Radio Frequency (R.F.) signals to and receives pulsed R.F. signals in return from Radio Set AN/URN-3.

The Antenna AT-592/URN-3 is a quarter-wave stub with a ground plane construction and operates over the frequency range of 960 to 1215 megacycle (MC).

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

TECHNICAL CHARACTERISTICS:

TYPE OF ANTENNA: Quarter-wave stub.

TYPE OF GROUND ELEMENT: Plate type.

TYPE OF FEEDER: Coaxial transmission line.

INPUT IMPEDANCE: 50 ohms.

FRÉQUENCY RANGE: 960 to 1215 mc.

STANDING WAVE RATIO: 2:1.

AT-592/URN-3 ANTENNA

RELATION TO OTHER EQUIPMENT:

The AT-592/URN-3 is designed as part of Monitor, Radio Frequency MX-1627/URN-3.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna AT-592/URN-3		4-1/2 x 12-1/2 x 12-1/2	2-1/2
2	Technical Manual NAVSHIPS 92975(A)		1/2 x 8-1/2 x 11	1

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92975(A): Technical Manual for Antenna AT-592/URN-3.

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)
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PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: Navy BuShips
SPEC &/OR DWG: MIL-M-18338(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Olympic Radio & Television Pt/dwg no. AS15324	Long Island City, New York	N0bsr-64743, 31 May 1955 N0bsr-75245, 6 May 1958	

10 January 1962

ANTENNA AT-774/UR

Cog Service:

FSM: 5985-679-7303

Functional Class:

USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Polytronic Research Inc.



Antenna AT-774/UR

FUNCTIONAL DESCRIPTION:

Antenna AT-774/UR is a portable emergency whip antenna designed for use aboard submarines as an emergency receiving and transmitting antenna. The antenna is mounted on the superstructure of the submarine by means of its integral "C" clamp assembly. It may be mounted vertically, or tilted as much as 90 degrees from the vertical position. It can be fixed rigidly in any position throughout this range.

No field changes in effect at time of preparation (13 July 1961).

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 30 mc.

TYPE OF FEED: Series-fed by a 25 ft length of Amphenol type 14-054 cable.

RADIATION PATTERN: Nondirectional vertical radiator.

AT-774/UR ANTENNA

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna AT-774/UR		5-5/8 dia x 144	13

REFERENCE DATA AND LITERATURE:

NAVSHIPS 00000: Technical Instruction Sheet for Antenna AT-774/UR.

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	20

PROCUREMENT DATA

PROCURING SERVICE:

DESIGN COG: USN, BuShips

SPEC &/OR DWG: RE-C-66003

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Polytronic Research Inc.	Rockville, Maryland	N0bsr-75241	\$815.00
		N0bsr-81070 (FBM), 19 November 1959	\$854.48

10 January 1962

ANTENNA AT-774A/UR

Cog Service:

FSN: 5985-789-1655

Functional Class:

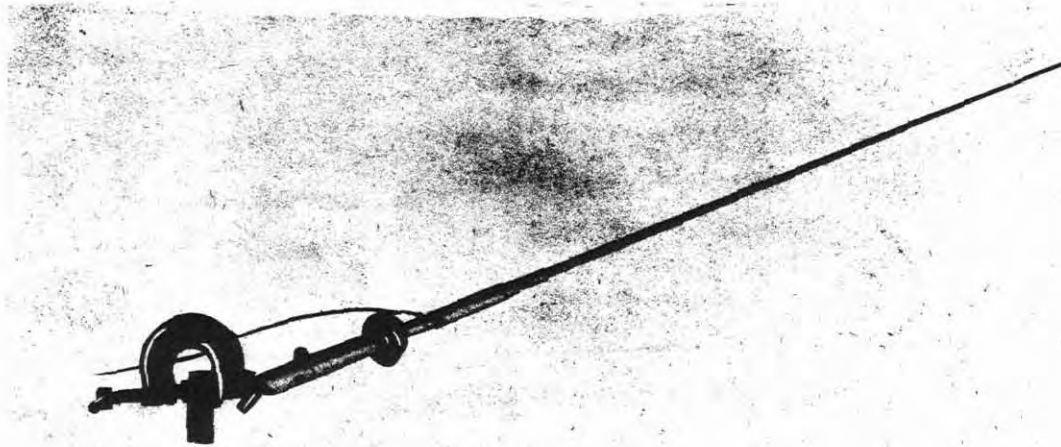
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Polytronic Research Inc.



Antenna AT-774A/UR

FUNCTIONAL DESCRIPTION:

Antenna AT-774A/UR is a portable emergency whip antenna designed for use aboard submarines as an emergency receiving and transmitting antenna. The antenna is mounted on the superstructure of the submarine by means of its integral "C" clamp assembly. It may be mounted vertically, or tilted as much as 90 degrees from the vertical position. It can be fixed rigidly in any position throughout its range.

No field changes in effect at time of preparation (12 July 1961).

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2 to 30 mc.

TYPE OF FEED: Series-fed by a 25 ft length of Ampenol type 14-054 cable.

RADIATION PATTERN: Nondirectional vertical radiator.

AT-774A/UR ANTENNA

RELATION TO OTHER EQUIPMENT:

This equipment is identical to Antenna AT-774/UR, except differing in type of insulator, clamp and pin.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna AT-774A/UR		5-5/8 dia x 144	13

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93629: Technical Instruction Sheet for Antenna AT-774A/UR.

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	20

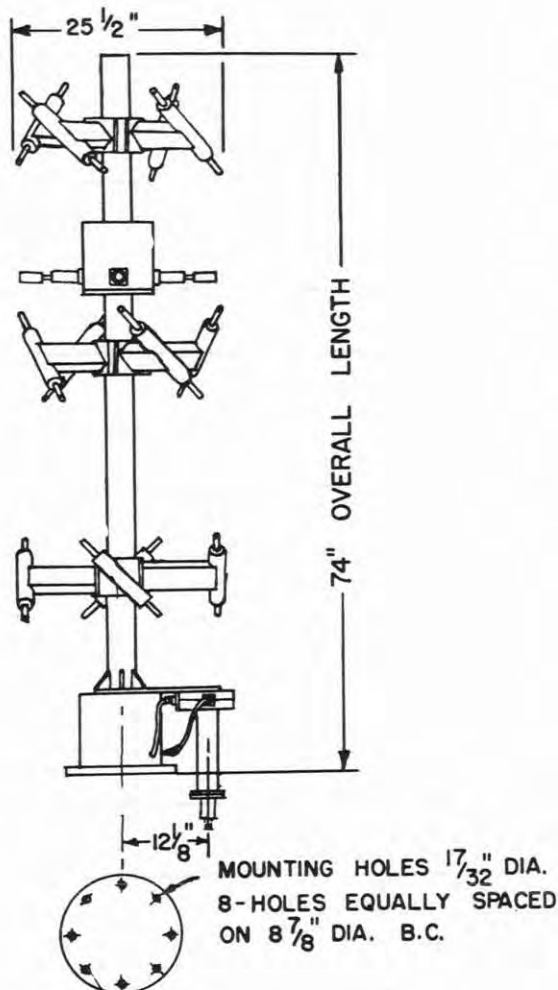
PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips
SPEC &/OR DWG: RE-C-66003 Rev B

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Polytronic Research Inc.	Rockville, Maryland	N0bsr-81400, 13 May 1960	\$730.00

ANTENNA

AT-781A/U



Antenna AT-781A/U

FUNCTIONAL DESCRIPTION

Antenna AT-781A/U is a surface and ship-based type radiator, designed for guided missile control and telemetry applications. It is circularly polarized with omni-azimuth and vertical-plane coverage in the UHF band of operation. The unit consists of three principal bays stacked equidistantly around the mast, and each bay consists of four stand-off sleeve dipoles. Individual dipoles are inclined 40 deg and excited in phase to produce circular polarization. Respective bays are phased vertically to give a 10% upward beam tilt.

No field changes in effect at time of preparation (29 December 1960).

RELATION TO OTHER EQUIPMENT

This antenna electrically and mechanically interchangeable with Antenna AT-781/U, except improved in order to meet MIL-T-17113 vibration and inclination test.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

BASIC TYPE: Stacked array of inclined dipoles.

FREQUENCY RANGE: 406 to 549 mc.

VOLTAGE STANDING WAVE RATIO

406 TO 425 MC: 1.4.

425 TO 450 MC: 1.6.

450 TO 500 MC: 1.7.

500 TO 549 MC: 1.8.

RADIATION PATTERN: Spatial coverage throughout a cylindrical volume with range to height ration of 5:1.

GAIN: 5 db over isotropic.

POLARIZATION: Left hand circular.

POWER/VOLTAGE RATING: 1 kw.

IMPEDANCE: 50 ohms.

CONNECTOR: 1-5/8 in. air line.

TEMPERATURE: M26 to 125 deg F.

WIND LOADING: 120 knots.

PRESSURE: 3 psi.

MANUFACTURER'S OR CONTRACTOR'S DATA

Gabriel Electronics Div, Gabriel Co.,
Needham Heights, Mass.
Model No. S185A.
Contract NOas-58-867.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

June 1961

Radio-Antennas

AT-781A/U

ANTENNA

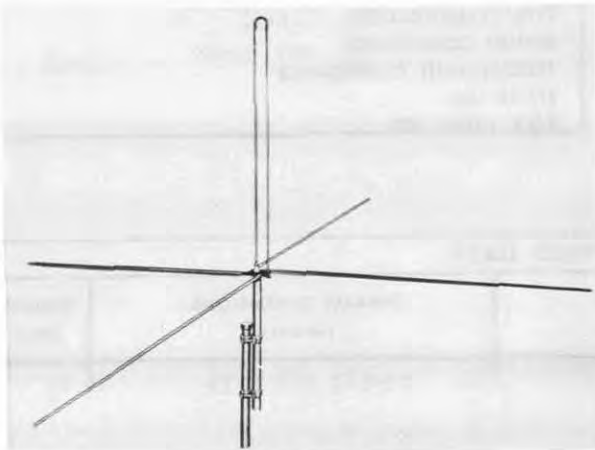
REFERENCE DATA AND LITERATURE

Gabriel Electronics Technical Data and Catalog.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUAER
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-781A/U	25-1/2 dia x 74	75

ANTENNA**AT-842/FRC-58**

AT-842/FRC-58 Antenna Mounted on Supporting Pipe

FUNCTIONAL DESCRIPTION

Antenna AT-842/FRC-58 is an omni-directional antenna used with fixed stations.

No field changes in effect at time of preparation (2 July 1959).

RELATION TO OTHER EQUIPMENT

This equipment similar to Antenna AT-853/FRC-59, except for frequency range which is 132 to 152 mc.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 42 mc.

IMPEDANCE: 50 ohms.

VOLTAGE STANDING WAVE RATIO: 1.3 (max).

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago, Illinois.
Contract NObsr-71897.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

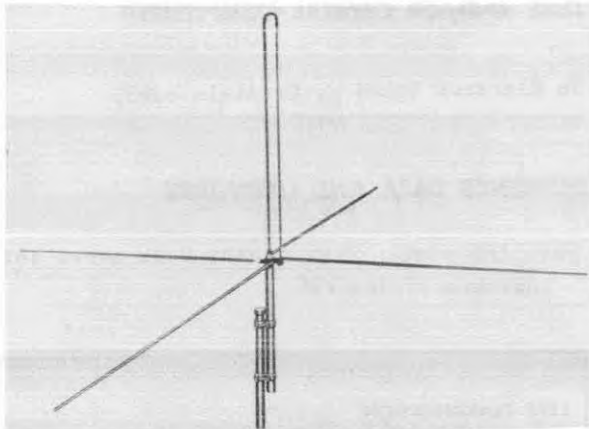
REFERENCE DATA AND LITERATURE

NAVSHIPS 93245: Technical Manual for ANTENNAS AT-842/FRC-58 and AT-853/FRC-59.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-842/FRC-58	104 X 192	27

ANTENNA**AT-853/FRC-59***AT-853/FRC-59 Antenna***FUNCTIONAL DESCRIPTION**

Antenna AT-853/FRC-59 is an omni-directional antenna used with fixed stations.

No field changes in effect at time of preparation (2 July 1959).

RELATION TO OTHER EQUIPMENT

This equipment similar to Antenna AT-842/FRC-58, except for frequency range.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 132 to 152 mc.

IMPEDANCE: 50 ohms.

VOLTAGE STANDING WAVE RATIO: 1.3 (max).

MANUFACTURER'S OR CONTRACTOR'S DATA

Motorola Inc., Chicago, Illinois.

Model DS-9664.

Contract NObsr-71897.

Contract NObsr-75678.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93245: Technical Manual for ANTENNAS AT-842/FRC-58 and AT-853/FRC-59.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-853/FRC-59	60 X 60	10

June 1961

ANTENNA**AT-964/FRC****FUNCTIONAL DESCRIPTION**

Antenna AT-964/FRC is a base-mounted antenna for a fixed installation. It is part of Radio Set AN/FRC-72.

No field changes in effect at time of preparation (27 February 1961).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 132 to 152 mc.

TYPE: Ground plane.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Sheet for Antenna AT-964/FRC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Antenna Specialist Co., Cleveland, Ohio.
Model no. ASP-12.
Contract NObsr-75942.

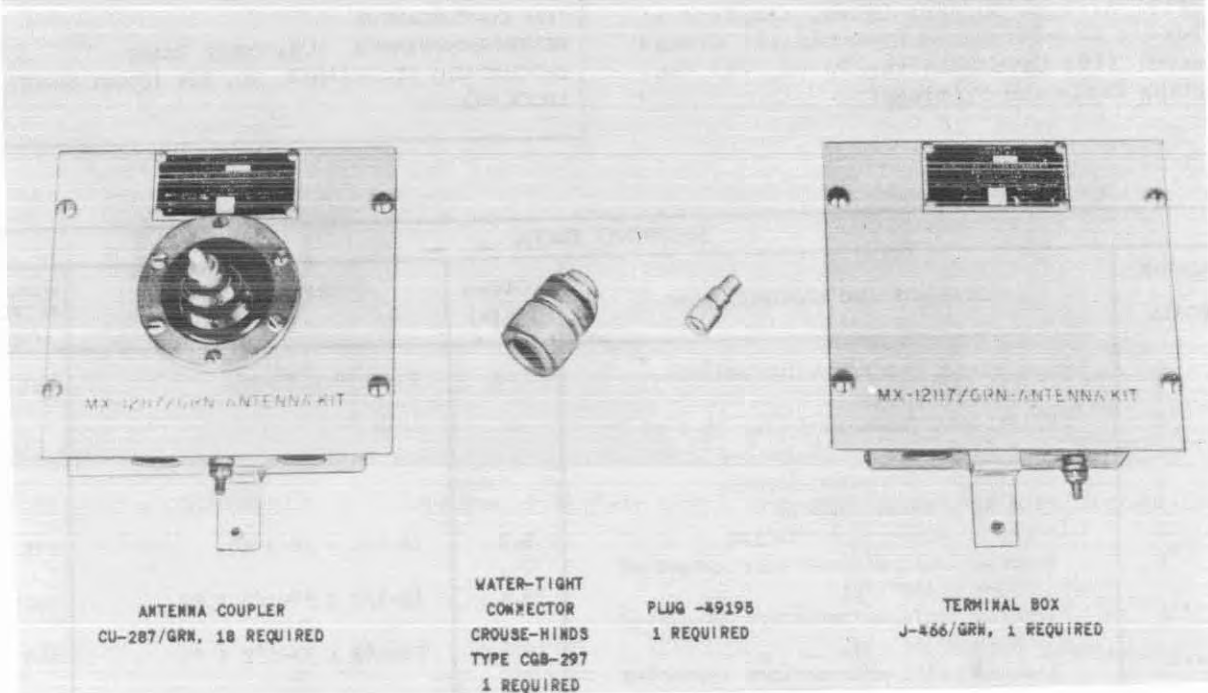
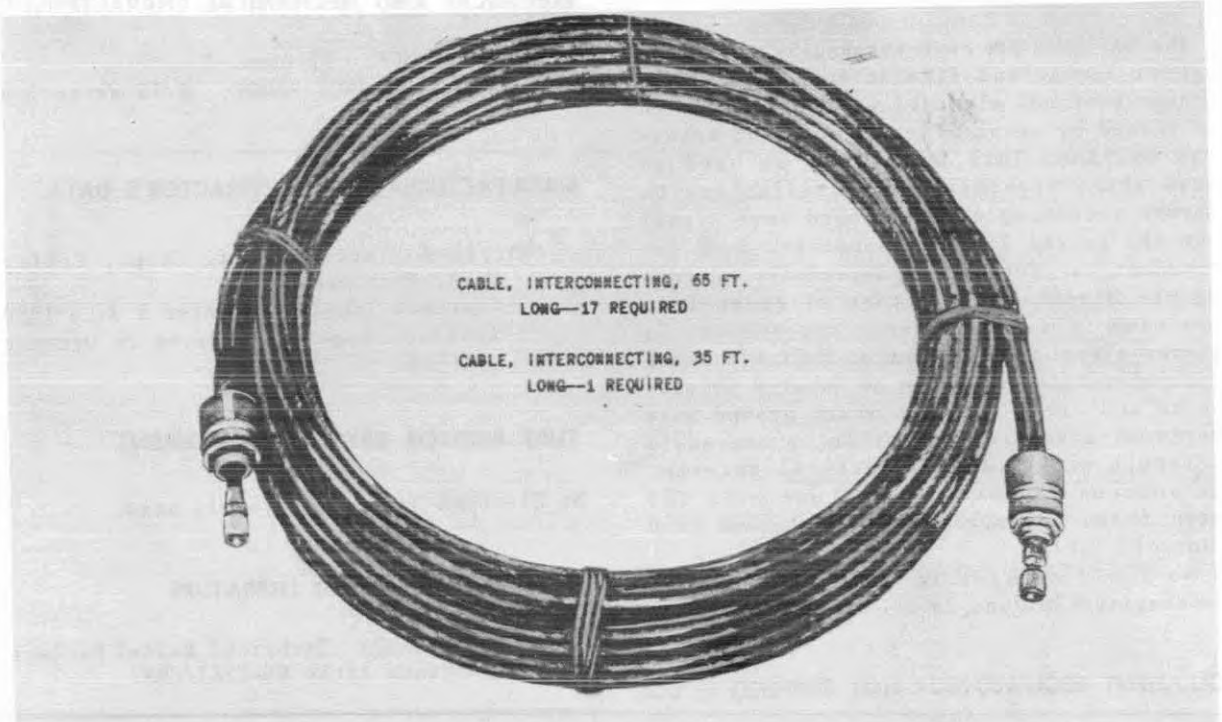
TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna AT-964/FRC		

ANTENNA KIT

MX-1287/GRN



Antenna Kit MX-1287/GRN

MX-1287/GRN**ANTENNA KIT****FUNCTIONAL DESCRIPTION**

The MX-1287/GRN comb antenna is a special type of linear end-fire antenna array, employing vertical elements which are connected and phased by means of a non-resonant transmission line. This type array is used at loran shore transmitting installations to improve reception of the ground wave signal from the paired loran transmitter. Such improvement is effected by materially narrowing the directivity pattern of reception, resulting in a considerable improvement in antenna signal to noise ratio. Reliable loran synchronization can often be insured between master and slave stations where ground wave synchronization is impossible or extremely difficult with a single vertical antenna. The antenna is intended for use with the loran frequencies of 1750, 1850, and 1950 kilocycle (kc).

No field changes in effect at time of preparation (26 June 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(18) Antenna Support Poles, complete w/ hardware insulators and posts, (1) Ground System, (19) Unit Mounting Posts, (1) Connecting Cable and Fittings.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT IMPEDANCE: 52 ohms.
OPERATING FREQUENCY RANGE: 1.75 mc to 1.95 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Maryland Electronic Mfg Corp., College Park, Maryland.
Contract Tcg-38120, dated 5 June 1950.
Contract Tcg-38317, dated 28 December 1950.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

U.S. COAST GUARD: Technical Manual for Loran Comb Antenna Array MX-1287/GRN.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	U.S. COAST GUARD
PROCUREMENT COGNIZANCE	NO. 364 (Coast Guard)
STOCK NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Technical Box J-466/GRN Including:	2.8	11 X 19 X 22-3/4	60
3	Technical Manual			
36	Watertight connectors (for 35 & 65 ft Cable)			
1	Watertight Connector (Spare)			
1	Plug N.T. 49195 (Spare)			
18	Antenna Couplers CU-287/GRN	9.9	21-3/4 X 26 X 30	175
**6	Armored Cable w/Connectors Assembled RG-8/U (65' 1g)	18.4	21-1/2 X 37-1/2 X 39	340
**6	Armored cable w/Connectors Assembled RG-8/U (65' 1g)	18.4	21-1/2 X 37-1/2 X 39	340
***5	Armored cable w/Connectors Assembled RG-8/U (65' 1g) and one (35, 1g)	18.4	21-1/2 X 37-1/2 X 39	323

*NOTE: The connectors are shipped in Box No. 3.

**Connectors are shipped in Box No. 4.

***Connectors are shipped in Box No. 5.

February 1960

Radio-Antenna

ANTENNA KIT

MX-1287/GRN

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
18	Antenna coupler CU-287/GRN	6-3/8 X 7-1/8 X 8-1/2	4
1	Terminal Box J-466/GRN	3-13/32 X 7-1/8 X 8-1/2	3-1/2
17	Interconnecting Cable	1-3/4 dia X 720 lg	33
1	Interconnecting Cable	1-3/4 dia X 420 lg	18
1	Plug N.T. 49195	3/4 dia X 30 lg	3 oz
1	Watertight Connector Crouse-Hinds Type OGB-297	1-5/8 dia X 2-1/4	10 oz

18 July 1962

Cog Service: USN

FSN: 5985-772-5693

ANTENNA GROUP OA-1801/SRN-6

Functional Class:

USA

USN

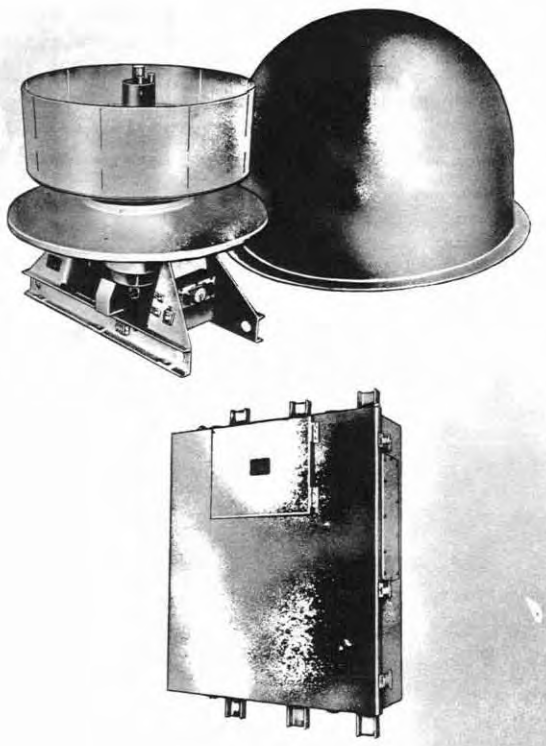
USAF

TYPE CLASS:

Used by

Used by

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



Antenna Group OA-1801/SRN-6

FUNCTIONAL DESCRIPTION:

The Antenna Group OA-1801/SRN-6 is a shipboard antenna system intended for use with Radio Set AN/SRN-6. The antenna group and the radio set together functions as a radio beacon that provides navigational information for up to 100 aircraft within a 200-mile radius of the radio beacon. This radio beacon is part of the tactical air navigation system known as "TACAN".

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

TECHNICAL CHARACTERISTIC:

TYPE OF INSTALLATION: Shipboard installed.

GAIN: 4.7 db above that of isotropic radiator, measured with the parasitic elements spinning.

VOLTAGE STANDING WAVE RATIO: 2 to 1.

RF POWER

OA-1801/SRN-6 ANTENNA GROUP

PEAK POWER: 20 kw.
ACTUAL POWER OF AN/SRN-6: 7.5 kw peak.
AVERAGE POWER: 180 W.
ANTENNA IMPEDANCE: 50 ohms.
TYPE POLARIZATION: Vertical.
HORIZONTAL BEAM PATTERN: A scalloped cardioid rotated at a speed of 15 cps (900 rpm).
ROLL CORRECTION: 25 degrees in a period of nine seconds.
OPERATING POWER RQMT
ONE: 440 v ac, 60 cps, 3-wire, 3 ph, 0.346 kw, 1.05 kva, starting current 5 amps per ph, normal operating current 1.5 amperes per ph.
TWO: 120 v ac, 1 ph, 60 cps, 0.165 kw, 0.20 kva 82% power factor, max current 1.8 amps.
THREE: 117 v ac, 1 ph, 60 cps, 8 amps max, 1.0 kva max.
MAXIMUM OPERATING TEMPERATURE
ANTENNA AND PEDESTAL ASS'Y: 95 deg C (203 deg F).
AMPLIFIER GROUP: 65 deg C (149 deg F).

RELATION TO OTHER EQUIPMENT:

The OA-1801/SRN-6 is designed to be used with, but not part of AN/SRN-6 and AN/URN-3.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Set AN/SRN-6 & Technical Manual NAVSHIPS 92986(A); (1) Oscilloscope OS-54/URN-3 & Technical Manual NAVSHIPS 92778.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna & Pedestal Ass'y		36 dia x 39	275
	consists of:			
1	Antenna AS-1075/SRN-6			
1	Pedestal, Antenna AB-636/SRN-6			
1	Amplifier Group OA-2619/SRN-6		12-1/2 x 42 x 50	410
	consists of:			
1	Amplifier, Electronic Control AM-2472/SRN-6		6 x 7-1/2 x 17-1/4	
1	Amplifier, Electronic Control AM-2473/SRN-6		8-1/2 x 11-3/8 x 13-5/8	
1	Amplifier, Electronic Control AM-2474/SRN-6		8-1/4 x 10-7/16 x 13-5/8	
1	Amplifier, Electronic Control AM-2475/SRN-6		6 x 6-9/16 x 19-5/8	
1	Radome CW-538/SRN-6		44 x 63 dia	45
2	Technical Manual NAVSHIPS 93654		3/4 x 8-1/2 x 11	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93654: Technical Manual for Antenna Group OA-1801/SRN-6

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (44) 1N538 (2) 1N253 (2) 1N457 (8) 1N540

TRANSISTORS: (2) 2N43A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	44.5	325
1	144	87
1	26.7	560

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-A-21212 Class 2

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
ITT Federal Division	Clifton, N. J.	N0bsr-75355, 2 August 1960	

24 July 1962

5820-284-8271

ANTENNA GROUP OA-878/URN-3

Cog Service: USN

FSN: 5985-518-1736 W/S

Functional Class:

USA

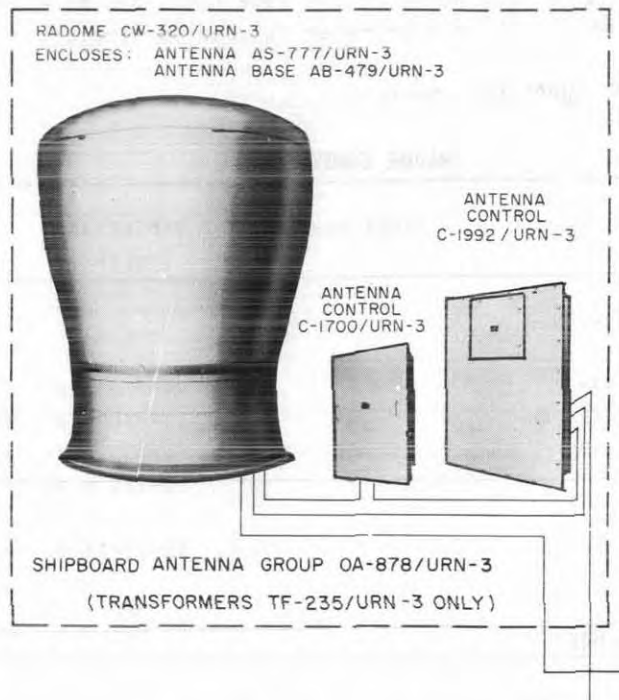
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone & Radio Co., (21964).



Antenna Group OA-878/URN-3

FUNCTIONAL DESCRIPTION:

Antenna Group OA-878/URN-3 is designed for shipboard radio beacon installations operating in the low frequency band.

Data on this sheet reflects the following field changes: FCI.

TECHNICAL CHARACTERISTICS:

ANTENNA

FREQUENCY RANGE

TRANSMITTING: 962 to 1024 mc.

RECEIVING: 1025 to 1087 mc.

IMPEDANCE: 50 ohms.

POWER REQUIREMENTS

(A): 120 v, single ph 60 cyc, 10 amp, 650 W, 1.2 kva, 0.54 pf.

OA-878/URN-3 ANTENNA GROUP

(B): 208 v, 3 ph, 60 cyc; starting current 18 amp per ph; nominal current 8.3 amp per ph, 1800 W, 2.95 kva, 0.60 pf.

HEAT DISSIPATION

C-1992/URN-3: 250 w.

C-1700/URN-3: 400 w.

AB-479/URN-3: 250 w.

RELATION TO OTHER EQUIPMENT:

This equipment is similar to and performs the same functions as Antenna Group OA-553/URN-3, except that an induction motor with a tachometer is used to rotate the antenna.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group OA-878/URN-3 includes:			
1	Antenna AS-777/URN-3		44-7/8 dia x 95-13/16	750
1	Antenna Base AB-479/URN-3		44-7/8 dia x 95-13/16	750
1	Radome CW-320/URN-3		76-23/32 dia x 100	250
1	Antenna Control C-1992/URN-3		12-1/2 x 38-1/4 x 56-1/2	733
1	Antenna Control C-1700/URN-3		11-13/16 x 29-1/4 x 49-1/8	450

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92348(A): Technical Manual for Radio Sets AN/URN-3 and AN/URN-3A.

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	220.0	1,600
1	440.0	1,540
1	51.0	1,110
1	28	653

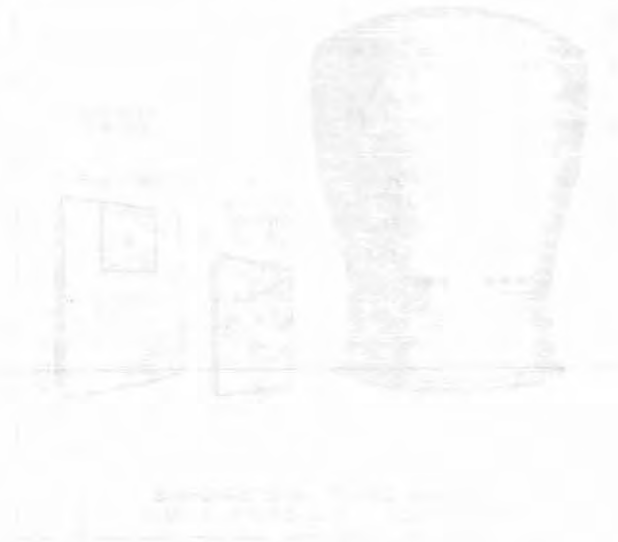
1.1 OA-878/URN-3: 2

PROCUREMENT DATA

PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone & Radio Co.	Clifton, New Jersey	N0bsr-57103, 19 December 1951	



28 September 1962

Cog Service: USN FSN: 5985-569-9705

ANTENNA GROUP OA-878A/URN-3

Functional Class:

USA

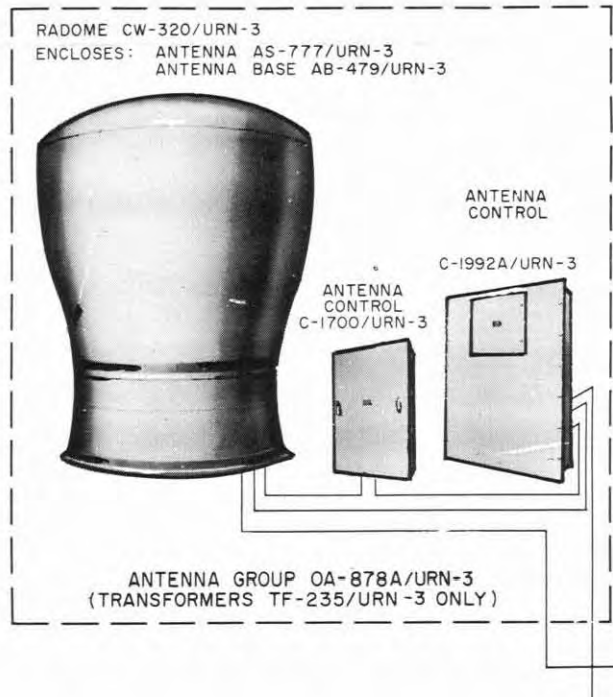
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone and Radio Company, (21964).



Antenna Group OA-878A/URN-3

FUNCTIONAL DESCRIPTION:

Antenna Group OA-878A/URN-3 is designed for shipboard radio beacon installations operating in the low frequency band.

Data on this sheet reflects the following field changes: FC1.

TECHNICAL CHARACTERISTICS:

ANTENNA

FREQUENCY RANGE

TRANSMITTING: 962 to 1024 mc.

RECEIVING: 2025 to 1987 mc.

IMPEDANCE: 50 ohms.

POWER REQUIREMENTS

(A): 120 v, single ph, 60 cyc, 10 amp, 650 W, 1.2 kva, 0.54 pf.

OA-878A/URN-3 ANTENNA GROUP

(B): 208 v, 3 ph, 60 cyc; starting current 18 amp per ph; normal current 8.3 amp per ph, 1800 W, 2.95 kva, 0.60 pf.

HEAT DISSIPATION

C-1992A/URN-3: 250 W.

C-1700/URN-3: 400 W.

AB-479/URN-3: 250 W.

RELATION TO OTHER EQUIPMENT:

This equipment is similar to and performs the same functions as Antenna Group OA-553/URN-3, except that an induction motor with a tachometer is used to rotate the antenna.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Antenna Group OA-878A/URN-3 includes:			
1	Antenna AS-777/URN-3 and		44-7/8 dia x 95-13/16	750
1	Antenna Base AB-479/URN-3			
1	Radome CW-320/URN-3		76-23/32 dia x 100	250
1	Antenna Control C-1992A/URN-3		12-1/2 x 38-1/4 x 56-1/2	733
1	Antenna Control C-1700/URN-3		11-13/16 x 29-1/4 x 49-1/8	450

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92348(A): Technical Manual for Radio Sets AN/URN-3 and AN/URN-3A.

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	220.0	1,600
1	440.0	1,540
1	51.0	1,110
1	28	653

1.1 OA-878A/URN-3: 2

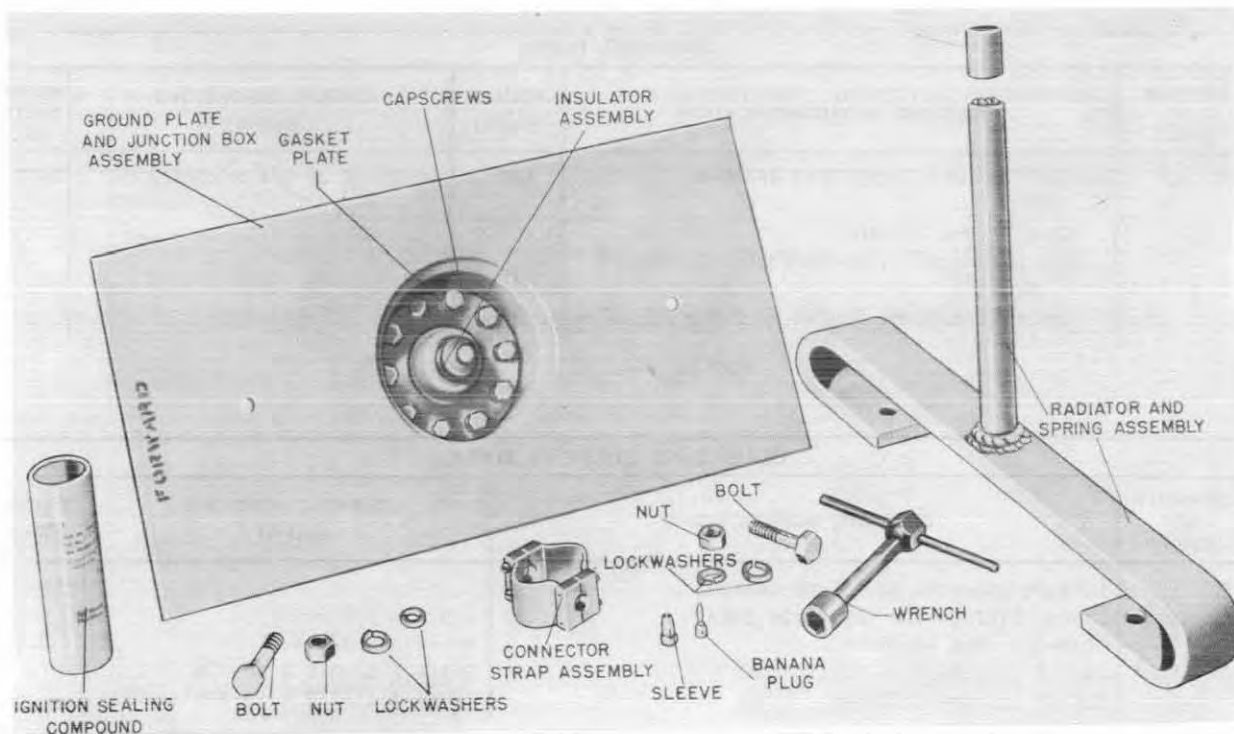
PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone and Radio Co.	Clifton, New Jersey	N0bsr-57103, 19 December 1951	

ANTENNA ASSEMBLY



Antenna Assembly 66AFU-1

FUNCTIONAL DESCRIPTION

The Navy Type 66AFU-1 is an omnidirectional pattern antenna designed for use on submarines in conjunction with Model ABK Series Aircraft Radio Receiving Equipment or Model BN Series IFF Interrogator Responder. It has a uniform azimuthal radiation pattern, and good general radio range, when installed as high and as much in the clear as possible.

No field changes in effect at time of preparation (27 September 1957).

RELATION TO OTHER EQUIPMENT

The Navy Type 66AFU-1 is interchangeable with the Navy Type 66AFU, differing only in the change-over switch and relay supplied.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 150 to 200 mc.
POLARIZATION: Vertical.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hazeltine Electronics Corp., New York, N.Y.

Contract NXsr-53309, dated 13 March 1944.

Approximate Cost: \$100.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900498: Technical Manual for Type CAGQ-66AFU-1 Antenna Assembly for use with BN Series Radio Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

April 1958

66AFU-1

ANTENNA ASSEMBLY

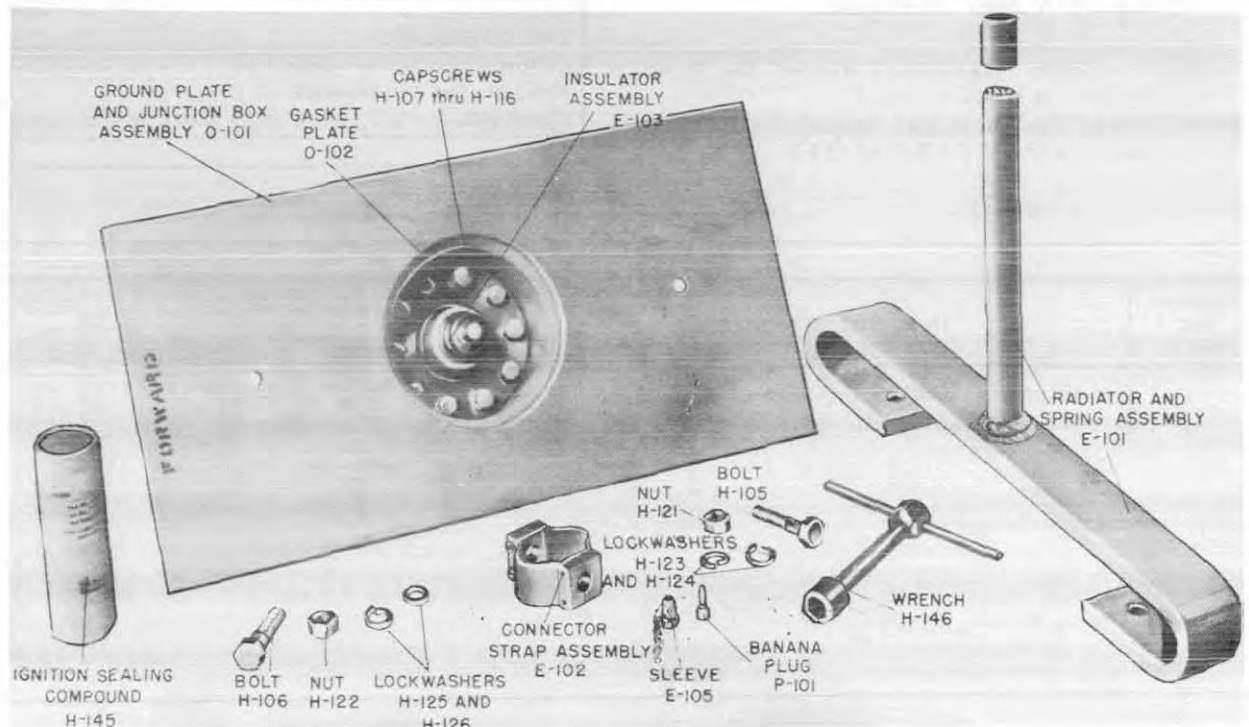
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Assembly Navy Type 66AFU-1 including: Change-Over Switch Set of Installation Parts and Connector Box Set of Equipment Spares	3.5	11-3/4 X 20-1/8 X 25-1/2	160

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assembly Navy Type 66AFU-1		56
1	Change-Over Switch Navy Type 24AAL	2-3/4 X 3 X 9-1/4	4
1	Connector Box Assembly	4-1/2 X 8-3/8 X 10	8.5
1	Set of Installation Parts	5-3/4 X 10-3/8 X 10-7/8	
1	Set of Equipment Spares	7-3/8 X 11-1/8 X 13-7/8	

ANTENNA ASSEMBLY



Antenna Assembly Type 66134

FUNCTIONAL DESCRIPTION

The Navy Types 66134 and 66134-A are vertical antennas with an omnidirectional radiation pattern designed for installation on submarines to be used with radio transmitting and receiving equipment.

They are similar, differing in frequency coverage.

No field changes in effect at time of preparation (7 May 1958).

RELATION TO OTHER EQUIPMENT

The Navy Types 66134 and 66134-A are similar to Navy Type 66AFU-1 except for frequency range.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE

NT-66134: 140 to 144 mc.

NT-66134-A: 110 to 156 mc.

RADIATION PATTERN: Omnidirectional.

FEED: RG-8/U coaxial cable inside 3/4 in. pressure-proof seamless tubing.

TYPE ANTENNA: Inverted T.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hazeltine Electronics Corp, New York, N.Y.
Contract NXsr-79983, dated 13 October 1944 (66134).

Granite State Machine Co, Inc, Manchester, N. H.

Contract NObsr-43366, dated 6 June 1949 (66134-A).

Approximate Cost: \$139.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals Used.

66134,66134-A

ANTENNA ASSEMBLY

REFERENCE DATA AND LITERATURE

NAVSHIPS 900524: Technical Manual for Type
CAGQ-66134 Antenna Assembly.
NAVSHIPS 91371: Technical Manual for Antenna
Assembly Navy Type CBOR-66134-A.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE RE13A1103B STOCK NO.
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EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assembly NT-66134 or NT-66134-A	10 X 22-1/2 X 24-3/4	56
1	Set of Equipment Spares		