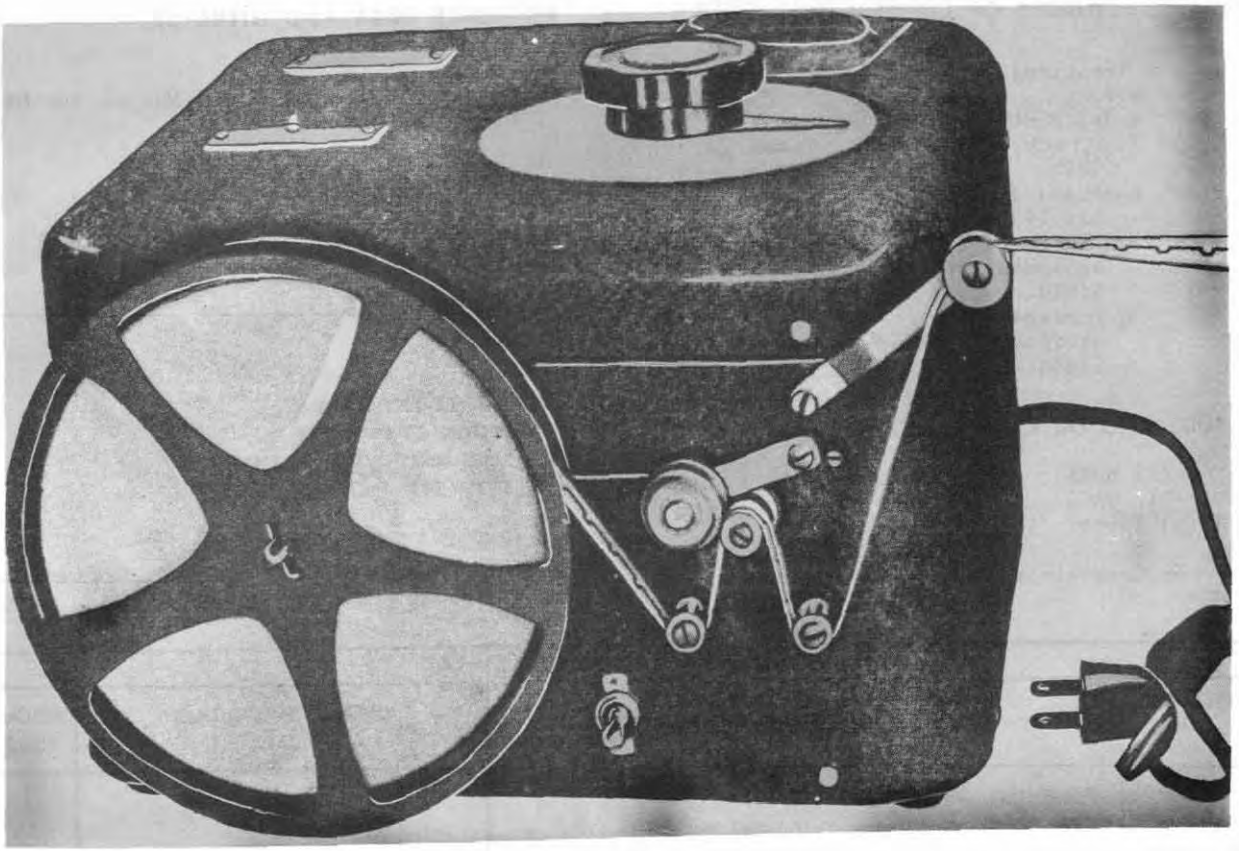
September 1956

TAPE PULLER

TP-890-B



Tape Puller TP-890-B

FUNCTIONAL DESCRIPTION

The McElroy tape puller TP-890-B is used to give traction to standard 3/8 in. wide paper tape inked with radio telegraph signal line, and to wind the tape on standard 16 mm 400 ft motionpicture reels. The unit is designed so that pulling rate remains constant, after setting by a knob and pointer, regardless of load differences, power fluctuations or temperature variations. The tape puller may be idled so that the take up reel does not revolve with the motor running. The unit is used with high speed radiotelegraph recorders, school practice recorders, and phototube Keying units.

No field changes in effect at time of preparation (28 May 1956).

RELATION TO OTHER EQUIPMENT

Same as Sig Corp type MC-310.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 110 v, 60 cps, single ph.
MOTOR
SPEED: 1630 rpm.
HORSEPOWER: 1/30.
CURRENT: 1.2 amp.
TAPE SPEED: Adjustable to rate of signals recorded.
TAPE WIDTH: 3/8 in.

MANUFACTURER'S OR CONTRACTOR'S DATA

McElroy Manufacturing Corp. Boston, Mass.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

TP-890-B TAPE PULLER

September 1956

REFERENCE DATA AND LITERATURE

Technical Manual for McElroy Tape Puller TP-890-B.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Domestic Shipment	0.67	8-1/2 x 10-3/4 x 12-1/2	28
1	Overseas Shipment	0.67	8-1/2 x 10-3/4 x 12-1/2	38

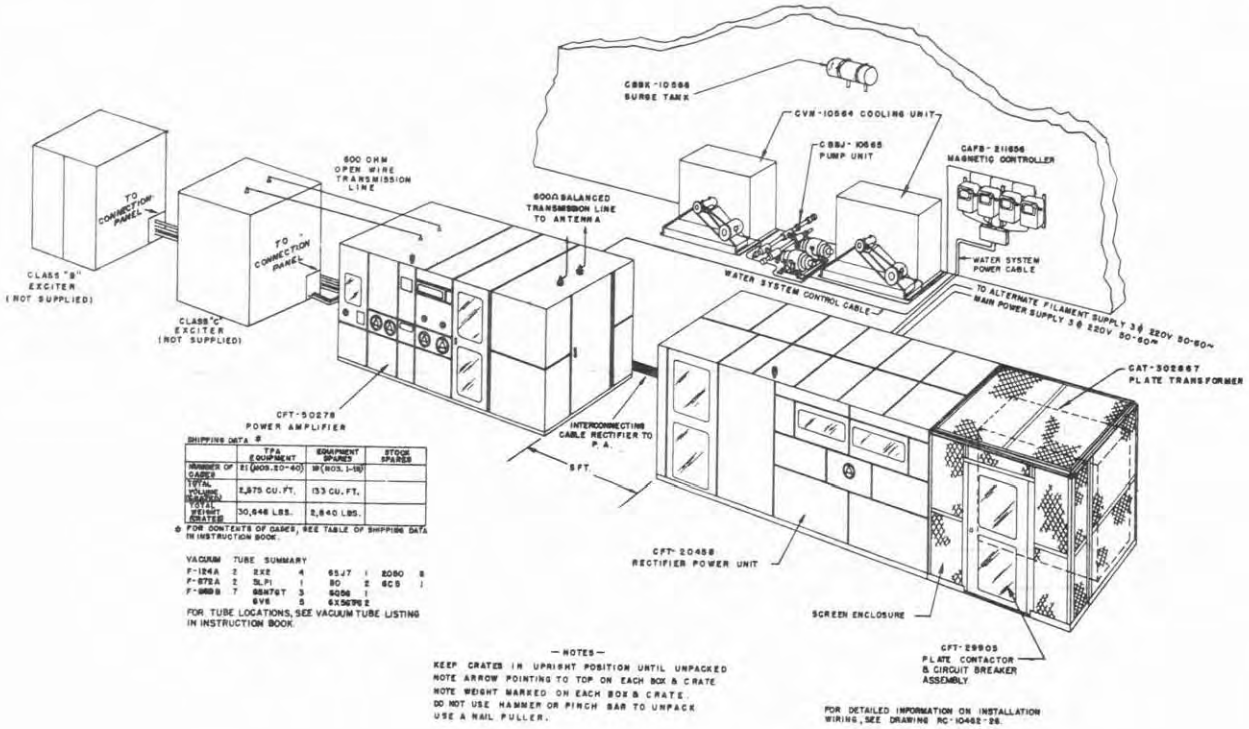
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tape Puller-TP-890B	7-1/2 x 10-3/4 x 11-3/4	24

March 1957

HIGH FREQUENCY POWER AMPLIFIER EQUIPMENT

TPA



High Frequency Power Amplifier Equipment TPA

FUNCTIONAL DESCRIPTION

The TPA is a high frequency power amplifier intended primarily for use in shore radio installations for the amplification and transmission of radio communications from one shore station to another, or from a shore station to ships at sea.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 4 to 22 mc.
TYPE OF EMISSION: A1, A2, A3.
FREQUENCY CONTROL: External exciter unit.
POWER OUTPUT: 50 KW.
INPUT IMPEDANCE: 200 and 600 ohms.
OUTPUT IMPEDANCE: 600 ohms.
POWER SOURCE REQUIRED: 220 v AC, 50 to 60 cps, 3 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp. Clifton N.J.

Contract NXsr 84985, dated 25 Nov. 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 2X2/879	(1) 5LP1	(1) 6C5
(1) 6SJ7	(2) F124A	(3) 6SN7WGTA
(2) 6X5WGT	(2) 80	(5) 6V6Y
(7) 869B	(2) 872A	(1) 884
(8) 2050W		

Total Tubes: (39)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,962(A) Technical Manual for High Frequency Power Amplifier Equipment for Model TPA.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

HIGH FREQUENCY POWER AMPLIFIER EQUIPMENT

SHIPPING DATA

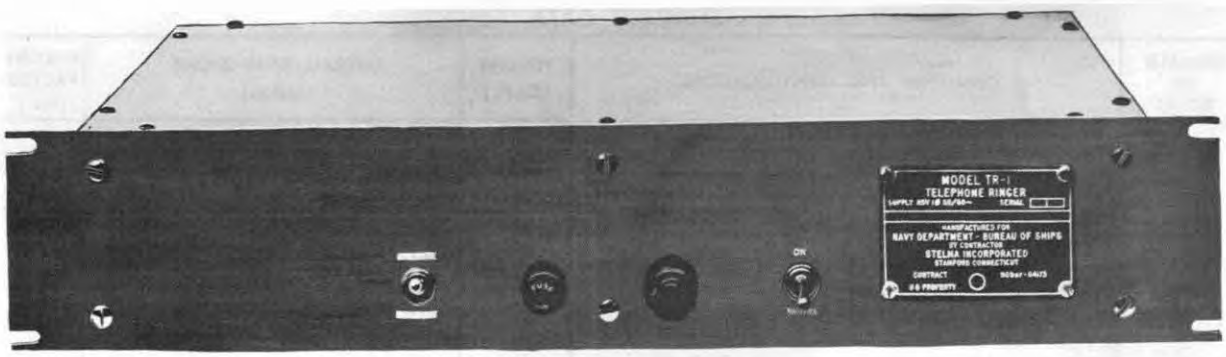
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Power Amplifier NT-50278	806	78 X 94 X 190	11023
1	Rectifier Power Unit NT-2045-8	806	78 X 94 X 190	10023
1	Voltage Regulator NT-303368	26	27 X 31 X 54	771
1	Plate Transformer NT-302867	188	45 X 82 X 91	6675
1	Screen Enclosure Assy	24	12 X 44 X 81	376
1	Screen Enclosure Assy	21	7 X 63 X 85	453
1	Plate Contactor NT-29905	97	36 X 57 X 79	1557
2	Cooling Unit NT-10564	221	60 X 71 X 90	2553
1	Surge Tank NT-10566	25	23 X 34 X 44	208
1	Dual Pump NT-10565	57	33 X 47 X 64	1023
1	Motor Starter Rack Assy. NT-211656	16	11 X 29 X 63	307
1	Streamline Copper Pipe (Typek)	7	5 X 10 X 24	261
1	Cable	2	14 X 20 X 20	326
1	Cable	6	7 X 39 X 41	300
1	Cable	4	18 X 29 X 29	198
1	Miscellaneous Hardware, Inter-connecting materials, technical manuals, spare parts reference list, test procedure.			
1	Spare Parts	6	18 X 22 X 30	140
1	Spare Parts	6	18 X 22 X 30	128
1	Spare Parts	6	18 X 22 X 30	207
1	Spare Parts	6	18 X 22 X 30	150
1	Spare Parts	6	18 X 22 X 30	181
1	Spare Parts	6	18 X 22 X 30	209
1	Spare Parts	6	18 X 22 X 30	150
1	Spare Parts	6	18 X 22 X 30	198
1	Spare Parts	6	18 X 22 X 30	145
1	Spare Parts	6	18 X 22 X 30	238
1	Spare Parts	6	18 X 22 X 30	289
1	Spare Parts	6	18 X 22 X 30	138
1	Spare Parts	6	18 X 22 X 30	111
1	Spare Parts	12	12 X 16 X 23	142
1	Spare Parts	8	13 X 33 X 33	122
2	Spare Parts	12	22 X 24 X 40	82
1	Spare Parts	12	22 X 27 X 35	72
1	Spare parts	9	17 X 22 X 43	56
2	Equipment Parts	12	22 X 24 X 40	82
1	Equipment Parts	12	22 X 27 X 35	72
1	Equipment Parts	9	17 X 22 X 43	56

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Power Amplifier NT-50278 consisting of:	60 X 78 X 168	6816
1	Oscillograph NT-60167	8-3/4 X 14-1/4 X 19-1/2	54
1	Rectifier Power Unit NT-20458 consisting of:	60 X 78 X 168	5991
1	Screen Enclosure	60 X 78 X 80	404
1	Plate Transformer NT-302867	32 X 66 X 73	6675
1	Plate Contactor-Circuit Breaker Assy NT-29905	21 X 36-1/2 X 69	971
2	Cooling Unit NT-10564	51 X 60 X 62	1378
1	Dual Pump Unit NT-10565	35 X 36 X 50	618
1	Starter Rack NT-211656 consisting of:	7 X 11 X 15	235
4	Magnetic Controller		
1	Surge Tank NT-10566	14 X 16 X 34	75

April 1958

TELEPHONE RINGER



Telephone Ringer TR-1

FUNCTIONAL DESCRIPTION

The TR-1 is used in pairs to send 20 cycle ringing information over a telephone line not capable of passing 20 cycle signals. A ringer will accept 20 cycle signals from a switchboard and convert these to 1600 cycle signals which are transmitted to a telephone line. A 1600 cycle signal applied from the telephone line to the ringer will result in a 20 cycle signal being fed to the switchboard.

The TR-1 is constructed for mounting in a standard 19 inch rack.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TELEPHONE LINE
INPUT IMPEDANCE: 600 ohms.
SIGNAL FREQUENCY: 1600 cps.
OUTPUT LEVEL
1600 CPS: 0 dbm or +6 dbm.
20 CPS: 70 v.
INPUT LEVEL
1600 CPS: -30 dbm min.
SELECTIVITY
-30 DBM: INPUT: 1600 cps ±2%.
0 DBM INPUT: 1600 cps ±5%.

POWER SOURCE REQUIRED: 105 to 125 v, 50 to 60 cps, 60 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Stelma Inc, Stamford, Conn.
Contract NObsr-64173.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OA2WA
(1) 6X4WA
(1) 5726/6AL5W
(2) 6AU6WA
(2) 12AT7WA

Total Tubes: (7)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92348, Technical Manual for Telephone Ringer Model TR-1.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

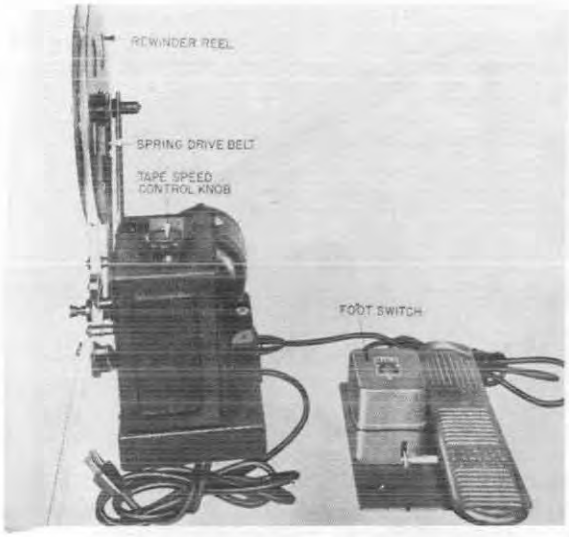
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telephone Ringer TR-1	3-1/2 x 13 x 19	22

April 1958

TAPE PULLER

Radio-Auxiliary

TT-2/FG



Tape Puller TT-2/FG

FUNCTIONAL DESCRIPTION

The TT-2/FG is a motor-driven tape puller designed for use with standard 3/8-inch paper tape. It is designed to secure a tape speed range of approximately 4 to 40 feet per minute. The tape-drive roller can be disengaged by hand from the speed-control mechanism by a cluth assembly so that the tape can be pulled back without stopping the tape puller.

It is designed for use on a bench or table, and is supplied with a foot switch connected in parallel with a hand on-off switch.

Data on this sheet reflects the following field changes: EIB 332 (25 March 1958).

RELATION TO OTHER EQUIPMENT

The TT-2/FG is the DeLisser Model TP-200.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TAPE SPEED: 4 to 40 ft per minute continuously variable.
MOTOR DATA
TYPE: Split-phase.
HORSEPOWER: 1/60.
SPEED: 1425 to 1725 rpm.
POWER REQUIREMENTS: 115 v, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

DeLisser Machine and Tool Co, New York, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

TM11-2514: Technical Manual for Tape Puller TT-2/FG.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

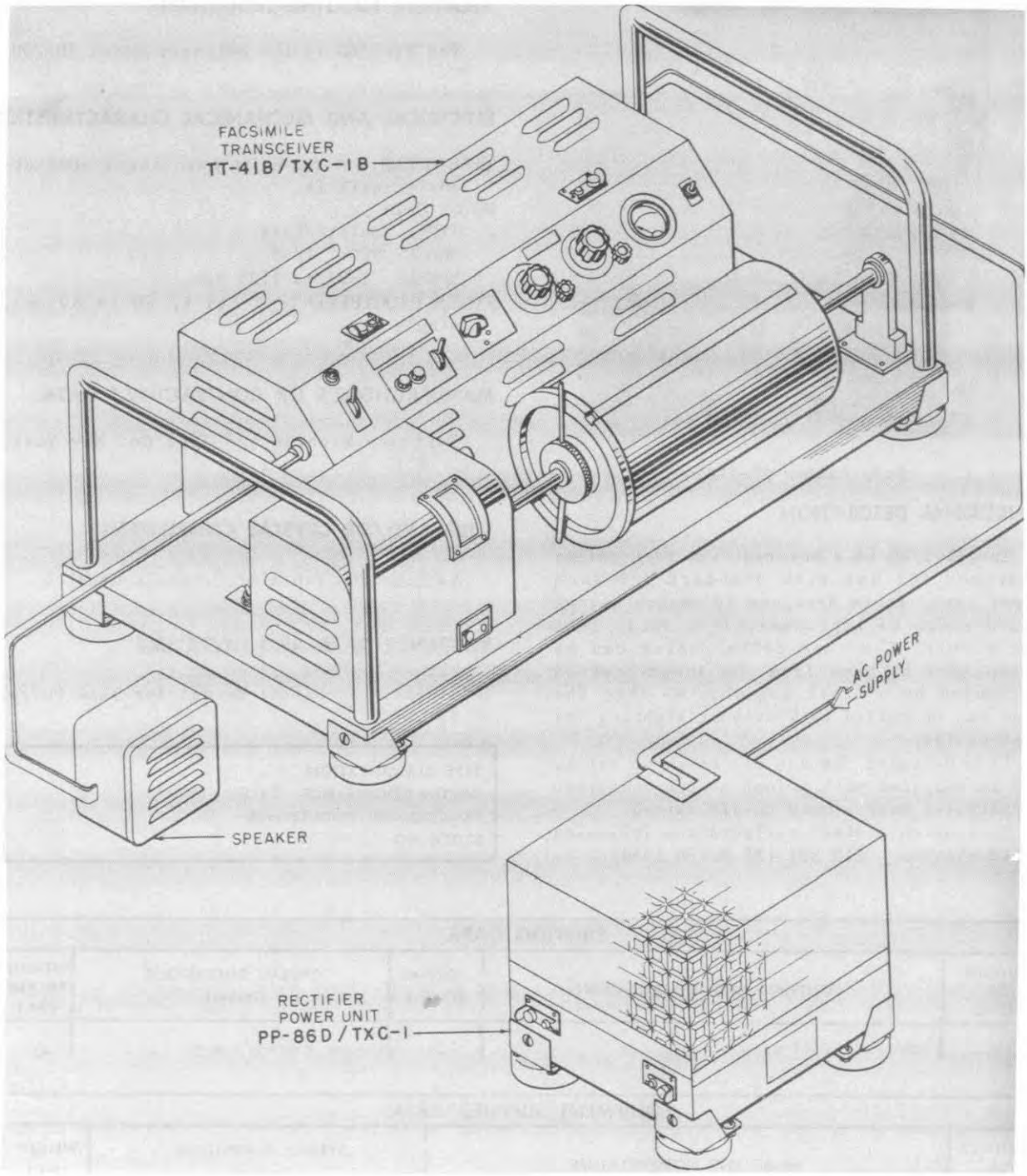
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Tape Puller TT-2/FG	2.9	15-1/4 X 15-1/2 X 21	45

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tape Puller TT-2/FG	7-1/2 X 13-1/2 X 15-1/2	21
1	Foot Switch		
1	Set of Equipment Spares		

FACSIMILE TRANSCEIVER TT-41/TXC-1B,-41A/TXC-1B, -41B/TXC-1B



Facsimile Transceiver TT-41B/TXC-1B and Rectifier Power Unit PP-86D/TXC-1

Radio-Auxiliary

TT-41/TXC-1B,-41A/TXC-1B, FACSIMILE TRANSCEIVER -41B/TXC-1B

April 1958

FUNCTIONAL DESCRIPTION

The TT-41/TXC-1B, TT-41A/TXC-1B, and TT-41B/TXC-1B are electromechanical-optical facsimile sets of the revolving drum type for the transmission and reception of page copy over voice communication channels, either wire or radio. They can be used on shipboard or shore based installations for the transmission of maps, photographs, sketches, and printed or handwritten text. Colored copy may be transmitted but all reproduction is in black, white, and intermediate shades of gray. Received copy is recorded either directly on chemically treated paper or photographically in either negative or positive form.

The major differences in these equipments are: The equipments will transmit or receive a page of copy 12 by 18 inches in 20 minutes at regular speed, however the TT-41A/TXC-1B and TT-41B/TXC-1B may operate at half speed or in 40 minutes; the TT-41B/TXC-1B employs a vacuum tube in the first signal amplifier which eliminates the necessity of selected tubes to obtain a lower noise level and less microphonics; the TT-41B/TXC-1B has a potentiometer added to eliminate the hum pattern caused by the addition of the RF filter in Rectifier Power Unit PP-86D/TXC-1; the TT-41B/TXC-1B has design features in its power supply to eliminate radio interference.

Rectifier Power Units PP-86A/TXC-1, PP-86C/TXC-1, and PP-86D/TXC-1 are supplied with Facsimile Transceivers TT-41/TXC-1B, TT-41A/TXC-1B, and TT-41B/TXC-1B respectively.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied (FOR PARTICULAR APPLICATIONS): (1) Radio Receiver, (1) Radio Transmitter, (1) Radio Modulator MD-168/UX, (1) Frequency Shift Converter CV-172/U, (1) Keyer Adapter KY-44 ( )/FX, (1) Frequency Shift Keyer KY-58/GRT or KY-75/SRT, Photographic Equipment as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

COPY DATA
- TYPE: Page.
- SIZE: 12 by 18-11/16 in. max.

TYPE RECORDING: Direct or photographic positive or negative.

DRUM SPEED
- ROTATION
  - TT-41/TXC-1B: 60 rpm.
  - TT-41A/TXC-1B, -41B/TXC-1B: 60 rpm or 30 rpm.
- LATERAL MOVEMENT
  - TT-41/TXC-1B: 12.5 inches in 20 minutes.
  - TT-41A/TXC-1B, -41B/TXC-1B: 12.5 inches in 20 or 40 minutes.
- CONTROL: Synchronous motor controlled by 1800 cps fork oscillator.

SCANNING DATA
- SIZE OF SPOT: 0.01 by 0.01 inches.
- LINES: 96 per inch.

FREQUENCY DATA
- CARRIER: 1800 cps.
- BAND LIMITS: 900 to 2700 cps.
- CONTROL: Tuning fork.
- STABILITY: Synchronizing signal adjustable to one part in 32400 between 0 to 49 deg C.

SIGNAL LEVEL
- INPUT: -45 to 0 dbm.
- OUTPUT: 0 and/or +26 dbm.

POWER REQUIREMENTS: 100 to 130 v, 50 to 65 cps, single ph, 250 W at 115 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

Times Facsimile Corp, New York, N.Y.
- Contract NObsr-52042, dated 6 October 1950 (TT-41B/TXC-1B).
- Approximate Cost: $3250.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

TT-41/TXC-1B

(1) 1B59/R1130B	(1) 1645
(3) 6AC5GT	(4) 7C5
(1) 7C7	(4) 7L7
(2) 7N7	(1) 884

Total Tubes: (17)

TT-41A/TXC-1B

(1) 1B59/R1130B	(3) 1635
(1) 5651WA	(1) 5652
(4) 7C5	(1) 7C7
(4) 7L7	(4) 7N7
(1) 884	

Total Tubes: (20)

TT-41B/TXC-1B

(1) 1B59/R1130B	(3) 1635
(1) 5651WA	(1) 5652
(1) 5879	(4) 7C5

FACSIMILE TRANSCEIVER TT-41/TXC-1B,-41A/TXC-1B, -41B/TXC-1B

(4) 7L7 (4) 7N7
(1) 884

Total Tubes: (20)

PP-86A/TXC-1, -86C/TXC-1, -86D/TXC-1
(1) 5Z3 (2) 7C5
(1) 7L7 (1) 7N7
(1) 7S7 (1) 5651

Total Tubes: (7)

No Crystals.

Nomenclature Cards for Facsimile Transceivers TT-41/TXC-1B, TT-41A/TXC-1B, and TT-41B/TXC-1B.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-F-263
STOCK NO.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91068A: Technical Manual for Facsimile Transceiver TT-41B/TXC-1B and Rectifier Power Unit PP-86D/TXC-1.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Facsimile Transceiver TT-41B/TXC-1B	12.7	21 X 23-1/2 X 44-1/2	192
1	Rectifier Power Unit PP-86D/TXC-1	2.8	15 X 17-1/2 X 18-1/2	71
1	Recording Paper Timefax ND	2.2	12 X 14 X 22-1/2	85
1	Set of Equipment Spares and Accessories	3.5	11 X 17 X 33	110

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TT-41B/TXC-1B		
1	Facsimile Transceiver TT-41B/TXC-1B	12-1/4 X 17-13/16 X 34-5/8	70
1	Rectifier Power Unit PP-86D/TXC-1	8 X 10-5/16 X 12	30
10	Package of Recording Paper Timefax ND		7.5
1	Set of Equipment Spares	9 X 15 X 30	80
2	Technical Manual NAVSHIPS 91068A	1 X 9 X 11-1/2	
1	Set of Accessories		

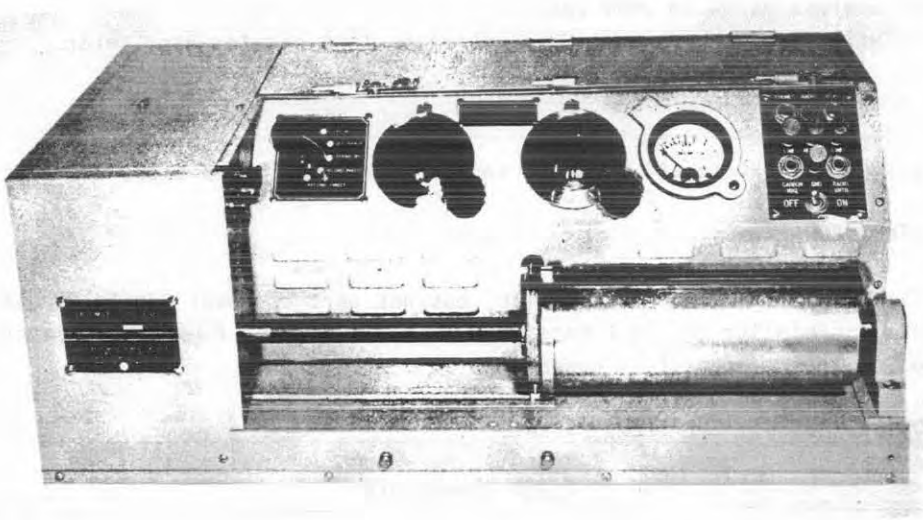
23 July 1962 FACSIMILE-TRANSCEIVER TT-66/TXC

Cog Service: USN FSN: Functional Class:

USA USN USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Times Facsimile Corporation, (80130).



Facsimile-Transceiver TT-66/TXC

FUNCTIONAL DESCRIPTION:

The Facsimile Transceiver TT-66/TXC is designed as an electromechanical optical facsimile set of the revolving drum type for the transmission and reception of page copy. It is used for transmission of maps, photographs, sketches and printed or hand-written text over regular voice-communication channels, either wire or radio.

No field changes in effect at time of preparation (3 January 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Transportable.
TYPE OF EQUIPMENT: Rotating drum.
TYPE OF FUNCTION: Transmit or receive.
TYPE OF COPY: Page copy.
TYPE OF RECORDING: Direct, or photographic either positive or negative.

TT-66/TXC FACSIMILE-TRANSCEIVER

MAXIMUM SIZE OF COPY: 7 x 8-1/2 in.
SIZE OF SCANNING SPOT: 1/100 in.
SPEED OF DRUM
ROTATION: 45 and 90 rpm.
LATERAL MOVEMENT: 7 inches in 7 minutes at 90 rpm.
SCANNING LINES PER INCH: 96.
INDEX OF COOPERATION: 264.
AUDIO CARRIER FREQUENCY: 1800 cps.
TYPE OF MODULATION: Amplitude Modulated (AM).
FREQUENCY BANDWIDTH: 1200 cps max.
FREQUENCY BAND LIMITS: 1200 to 2400 cps.
DRUM SPEED CONTROL: Synchronous motor controlled by 1800 cps for oscillator.
SIGNAL LEVELS
INPUT FOR RECEPTION: 45 to 0 dbm.
OUTPUT FOR TRANSMISSION: 0 to P25 dbm.
OPERATING POWER RQMT: 100 to 130 v ac, 50 to 70 cps, single ph, 3 amps; 250 W at 115 v ac.

RELATION TO OTHER EQUIPMENT:

The TT-66/TXC is designed to be used with, but not part of Power Supply PP-86A/TXC-1.
The TT-66/TXC is similar to Sig C Facsimile Transceiver FX-1-B except designed for 2 speed operation, not equipped for battery operation.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Facsimile Transceiver TT-66/TXC		Approx 10 x 12-3/8 x 22-1/8	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91854: Technical Manual for Facsimile Transceiver TT-66A/TXC and Rectifier Power Unit PP-86D/TXC-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (4) 7L7 (3) 7N7 (5) 7C5 (2) 12AU7 (3) 1635 (1) 5651 (1) 884

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

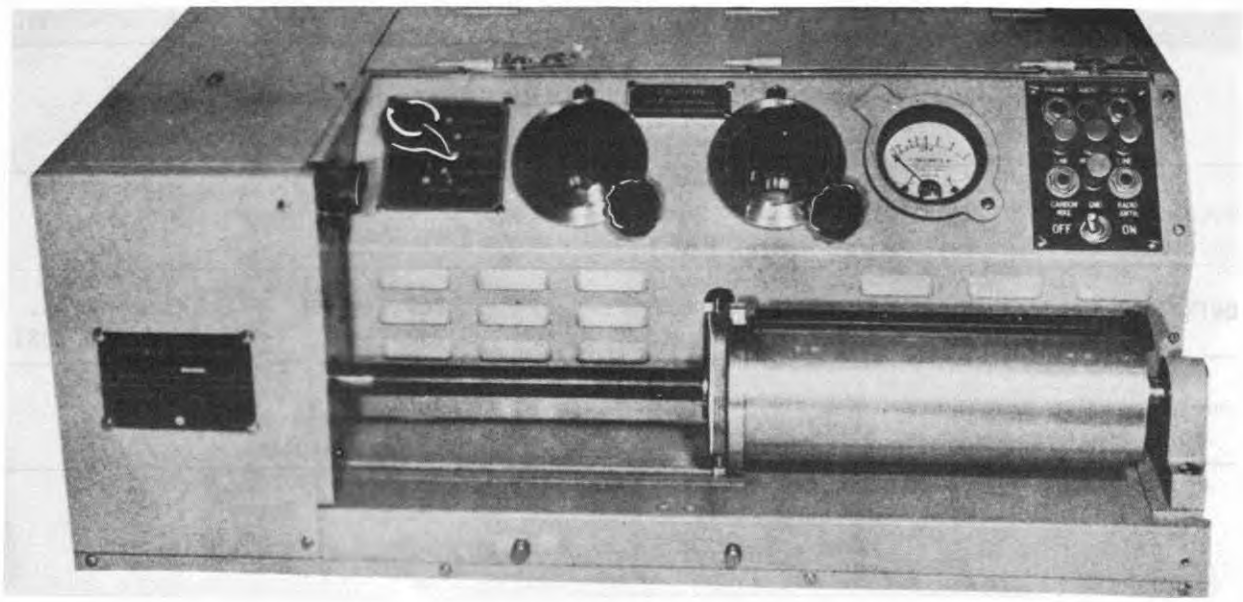
DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Times Facsimile Corp. Model CRA	New York, New York	NObsr-42445	

February 1960

Radio-Auxiliary

FACSIMILE TRANSCEIVER TT-66A/TXC



Facsimile Transceiver TT-66A/TXC

FUNCTIONAL DESCRIPTION

Facsimile Transceiver TT-66A/TXC is used to transmit still pictures (photographs), printed text, maps or other copy over an electrical communication system, similar to that used for telephony.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EQUIPMENT: Rotating drum.
FUNCTIONS: Transmit or receive.
TYPE OF COPY: Page copy.
MAXIMUM SIZE OF COPY: 7 X 8-1/2 in.
SIZE OF SCANNING SPOT: 1/100 in.
TYPE OF RECORDING: Direct, or photographic; positive or negative.
SPEED OF DRUM
ROTATION: 45 and 90 rpm.
LATERAL MOVEMENT: 7 in. in 7 min. (at 90 rpm).
SCANNING LINES PER INCH: 96.
INDEX OF COOPERATION: 264.
AUDIO CARRIER FREQUENCY: 1800 cps.
TYPE OF MODULATION: AM.
FREQUENCY BANDWIDTH: 1200 cps max.
FREQUENCY BAND LIMITS: 1200 to 2400 cps.
DRUM SPEED CONTROL: Synchronous motor controlled by 1800 cps fork oscillator.
SIGNAL LEVELS
INPUT (FOR RECEPTION): -45 to 0 dbm.
OUTPUT (FOR TRANSMISSION): 0 to +25 dbm.

MANUFACTURER'S OR CONTRACTOR'S DATA

Times Facsimile Corp., New York, N. Y.
Model FX-1C.
Contract NObsr-52690.
Approximate Cost: $3610.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 7C5	(1) 7C7	(4) 7L7
(3) 7N7	(3) 1635	(1) 5651
(1) 5652	(1) 884	(1) 12AU7

Total Tubes: (19)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91854: Technical Manual for FACSIMILE TRANSCEIVER TT-66A/TXC and Rectifier Power Unit PP-86D/TXC-1.

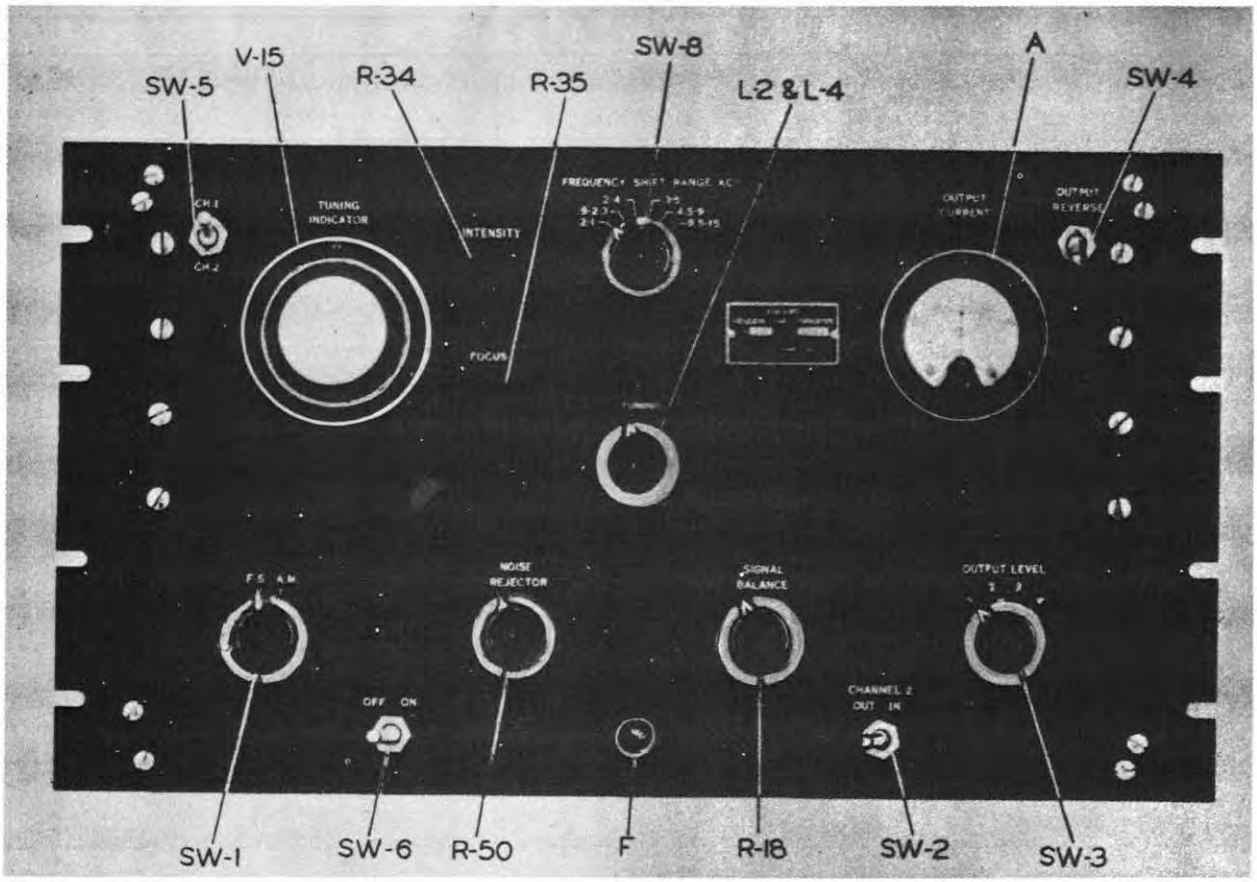
TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

TT-66A/TXC FACSIMILE TRANSCEIVER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Facsimile Transceiver TT-66A/TXC		

FREQUENCY SHIFT CONVERTER TYPE 5-C, Series B



Frequency Shift Converter Type 5-C, Series B

FUNCTIONAL DESCRIPTION

The type 5-C, Series B is designed to combine and convert the output of two diversity receivers into polar or neutral Keyed DC. The input may be either frequency shift or make-break signals. The output can be used either directly or through relays to drive teletypewriters, ink recorders, or transmitters.

The equipment is compact and rugged in design with the front panel carrying all controls necessary for its operation. The unit is designed for standard 19 inch relay rack mounting and the panel is 10-1/2 inches high. It is provided with a dust cover which is removed by pulling straight back. The terminal strip and polar neutral switch are mounted on the subpanel and are accessable when the dust cover is removed.

No field changes in effect at time of preparation (21 February 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT IMPEDANCE: 500 or 5000 ohms.

INPUT SIGNAL LEVEL: -15 db to +20 db, 6 milliwatt reference.

INPUT FREQUENCIES: 500 to 5000 cps on make-break Keying; 200 to 15,000 cycles spread on frequency shift keying.

KEYING SPEEDS: 500 wpm, on make-break Keying; 250 wpm on frequency shift Keying.

OUTPUT LEVEL: 0.65 amp, neutral; .45 amperes polar. Remains constant at any preset level. Will not reflect input variations until minimum input requirement is exceeded.

OUTPUT IMPEDANCE: 100 to 100,000 ohms.

Radio-Auxiliary

TYPE 5-C, Series B FREQUENCY SHIFT CONVERTER

POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 150 W.

(4) 6Y6

(2) 5Y3

Total Tubes: (17)

MANUFACTURER'S OR CONTRACTOR'S DATA

H.O. Boehme, Inc., New York, N.Y.
Contract NObsr-71064, dated 17 October 1955.
Approximate Cost: $730.000 with equipment spares.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92660: Technical Manual for Frequency Shift Converted - Boehme Type 5-C. Series B.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6J6
(4) 6AL5
(2) 6AK6
(1) 2AP1

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Frequency Shift Converter Type 5-C, Series B		20 x 26 x 31	157

EQUIPMENT SUPPLIED DATA

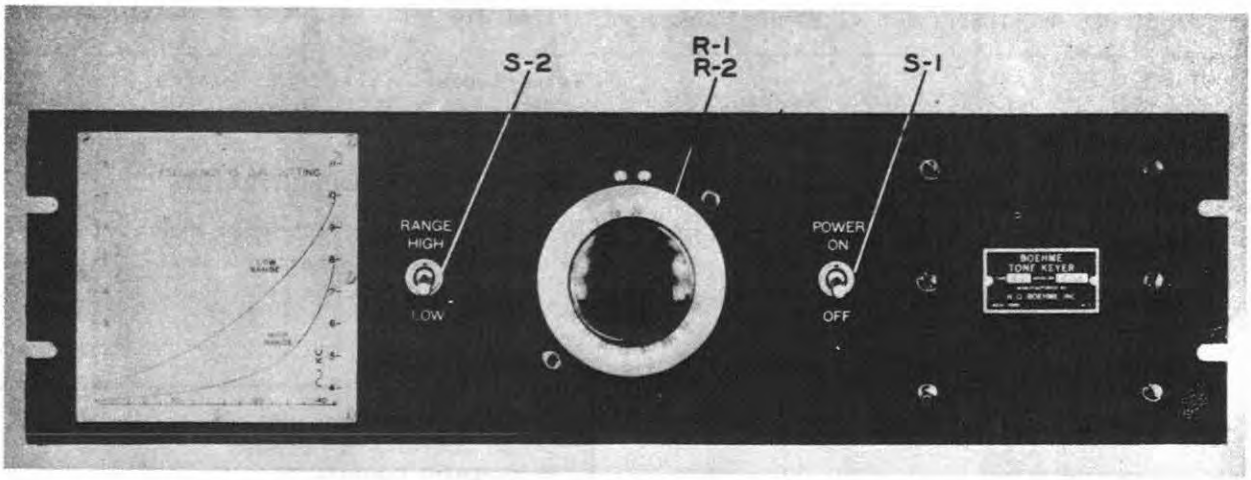
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Frequency Shift Converter Type 5-C, Series B.	10-1/2 x 15 x 19	67

October 1957

Radio-Auxiliary

TONE KEYER

TYPE-6-E, SERIES B



Tone Keyer Type-6-E, Series B

FUNCTIONAL DESCRIPTION

The type 6-E Series B(Boehme) is a device which accepts polar or neutral square wave DC pulses at its input terminals and produces similar pulses of Keyed tone suitable for long lines transmission.

The equipment is designed primarily for use with any Boehme signal converter but is readily adaptable for use with many other control sources. Its construction permits mounting in a standard 19 in. relay rack.

No field changes in effect at time of preparation (21 February 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 500 to 5000 cps.
HARMONIC CONTENT: 4%.
OUTPUT LEVEL: +4 db, 6 mw reference.
FREQUENCY STABILITY: ± 0.1% as line voltage. varies ±10%.
AMPLITUDE STABILITY: ± 0.2 db as line voltage varies ±10%.
OUTPUT IMPEDANCE: 500, 333, 250, 200, 125 or 50 ohms.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph.
KEYING SOURCE SIGNAL.
MARKING: 20 v DC negative w/respect to ground.
SPACING: 0 volts or positive DC with respect to ground.

MANUFACTURER'S OR CONTRACTOR'S DATA

H. O. Boehme, Inc., New York, N.Y.
Contract NObsr-71064, dated 17 October 1955.
Approximate Cost: $415.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OA2	(1) 5Y3GT
(1) 6J6	(2) 6SN7GT

Total Tubes: (5)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92661: Technical Manual for Tone Keyer Boehme Type 6-E, Series B.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

TYPE-6-E, SERIES B TONE KEYER

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Tone Keyer–6–E, Series B	6.7	16 X 22 X 33	80

EQUIPMENT SUPPLIED DATA

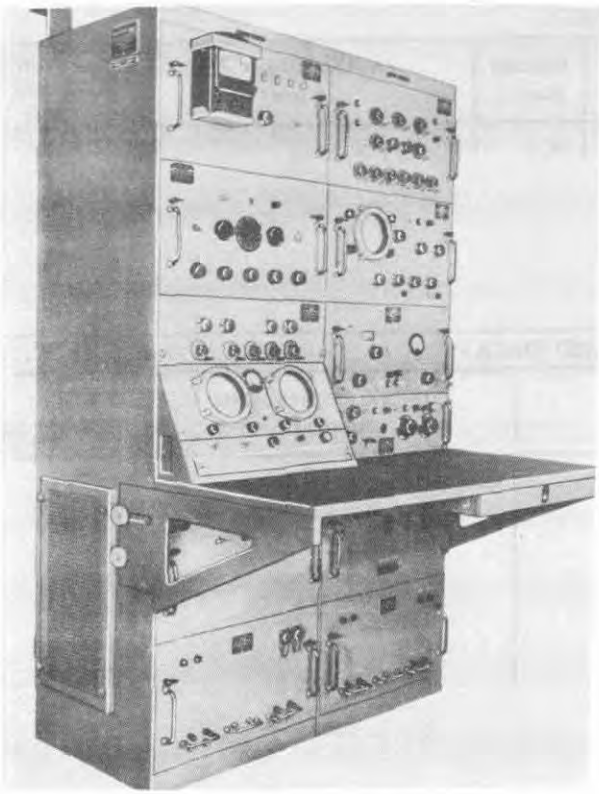
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tone Keyer – 6–E series B consisting of: Power Supply Stabilized audio frequency Tone Generator Electronic phase inverter Push–pull Keyed audio Amplifier Keyer Tube	5–7/32 X 10 X 19	19

August 1957

Radio-Auxiliary

LORAN TIMER

UE-1



Loran Timer UE-1

FUNCTIONAL DESCRIPTION

The UE-1 is designed to control the pulses generated by the transmitter, spacing them with absolute uniformity and with precisely timed reference to the pulses received from a second transmitter located several hundred miles away. Several functions, performed by the various units of the Timer, are coordinated to accomplish this purpose.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE
- RECEIVER: 1700 to 2000 kc.
- TIMING CIRCUIT: 3.6 cps total adjustment of 100 kc.

TYPE FREQUENCY CONTROL
- RECEIVER: Conventional oscillator.
- PULSE RATE AND TIMING: Standard 100 kc crystal.

TRANSMITTER EXCITATION PULSE OUTPUT
- POLARITY: Positive.
- BASE WIDTH: 7 to 8 usec.
- TIME RISE: 2 to 3 usec.
- WIDTH AT 90% AMPLITUDE: 1.5 to 4 usec.
- OUTPUT LEVEL: 15 to 25 v and 3 to 5 v.
- PULSE RECURRENCE: 20, 25 and 33-1/3 cps.
- SYNCHRONISM STABILITY: Within 1 usec.
- OUTPUT IMPEDANCE: 50 ohms.

DISCRIMINATOR BLANKING PULSE OUTPUT
- LENGTH: 2700 usec.
- RISE TIME: 3 usec.
- DECAY TIME: 300 usec.
- POLARITY: Positive.
- AMPLITUDE: 110 v.
- IMPEDANCE: 1000 ohms.

POWER FACTOR: 95%.

OPERATING POWER: 115 v, ±5 v, single ph. 55 to 65 cps.

POWER REQUIRED: 1160 W operating, 575 W stand-by.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co., Bridgeport, Conn.
Contract NXss 26592, dated 26 March 1943.
Contract NXss 88826, dated 11 January 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(1)	OA3	(3)	OC3
(1)	OD3	(2)	2X2
(3)	5CP1	(6)	5U4G
(1)	5Y3-GT	(9)	6AC7
(4)	6AG7	(3)	6H6
(12)	6H6-GT	(4)	6J5
(3)	6J5-GT	(6)	6L6GA
(7)	6SG7	(4)	6SJ7
(7)	6SJ7-GT	(5)	6SL7-GT
(44)	6SN7W	(6)	6V6GT
(6)	6Y6G	(1)	2050

Total Tubes: (138)

(1) 100 kc
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,427A-IB: Technical Manual for Loran Timer UE-1.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

LORAN TIMER

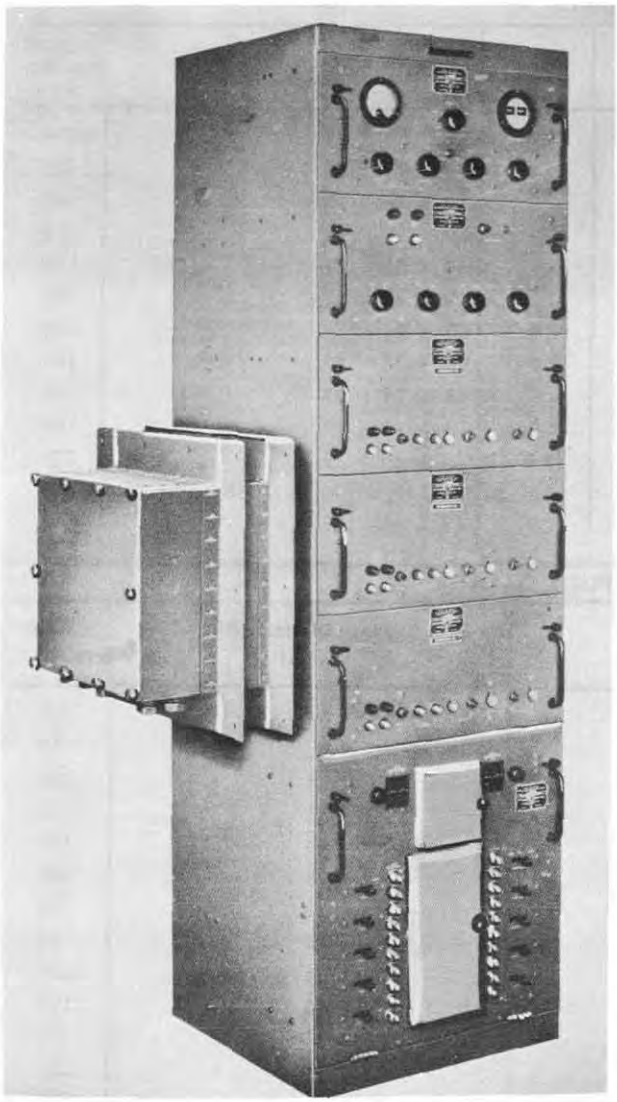
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Main Frame (cabinet)	89	32 X 53 X 83	1096
1	Main Frame Shelf	14	16 X 29 X 52	145
1	Bias Power Supply Unit NT-20278	9	19 X 26 X 32	246
1	High Voltage Power Supply NT-20279	9	19 X 26 X 32	253
1	Frequency Divider NT-35045	9	19 X 26 X 32	206
1	Time Delay-Sweep Unit NT-35046	9	19 X 26 X 32	190
1	Test Oscilloscope NT-60078	9	19 X 26 X 32	206
1	Radio Receiver NT-46239	9	19 X 26 X 32	206
1	Main Power Supply NT-20277	9	19 X 26 X 32	240
1	Automatic Synchronizer NT-50176	9	19 X 26 X 32	188
1	Synchronization Indicator NT-55144	16	28 X 30 X 33	293
1	Crystal Oscillator NT-35044	14	22-1/2 X 30-1/2 X 35	283
1	Synchronization Control Unit NT-23417	8	17 X 26 X 32	211

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Main Frame (cabinet)	20 X 48 X 75	734
1	Main Frame Shelf		58
1	Bias Power Supply Unit NT-20278	15-3/4 X 23 X 26	193
1	High Voltage Power Supply NT-20279	15-3/4 X 23 X 26	200
1	Frequency Divider NT-35045	15-3/4 X 23 X 26	147
1	Test Oscilloscope NT-60078	15-3/4 X 23 X 26	162
1	Time Delay-Sweep Unit NT-35046	15-3/4 X 23 X 26	140
1	Radio Receiver NT-46239	15-3/4 X 23 X 26	167
1	Main Power Supply NT-20277	15-3/4 X 23 X 26	187
1	Automatic Synchronizer NT-55144	15-3/4 X 23 X 26	138
1	Synchronization Indicator NT-55144	23-1/4 X 26 X 27	217
1	Crystal Oscillator NT-35044	13-3/4 X 23 X 26	152
1	Synchronization Control Unit NT-23417	13-3/4 X 23 X 26	158

LORAN SWITCHING EQUIPMENT



Loran Switching Equipment UM

FUNCTIONAL DESCRIPTION

The Model UM is employed in transmitting stations of the loran system to correlate the major station equipments and to perform the auxiliary functions of shielding and of discriminating between local and remote pulses. The three distinct functions performed by the Loran Switching Equipment are "Selective Switching, Isolation", and "Discrimination" (Electronic Switching).

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: A complete Loran System.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER FACTOR DATA: Depends upon the load connected to the equipment. The Model UM alone or the timers are rated at 95% pf.

POWER SOURCE: 115 v ±5 v, 55 to 65 cps, single ph. (Facilities are provided for 2 incoming supply lines).

POWER REQUIRED: All powers delivered to the equipment within the shielded room must enter through the Model UM. Total power depends upon the shielded room load. Model UM alone consumes 600 W approx (with space heaters on). Each times consumes from 790 to 1160 W, depending upon the model used.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co., Bridgeport, Conn.
Contract NXsr-81395, dated 30 Dec 1944.
Contract NXsr-88826, dated 11 Jan 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) OC3/VR105	(3) 6SL7WGT
(3) OD3/VR150	(3) 6L6WGB
(3) 2C26A	(6) 6SG7Y
(3) 5U4G	(6) 6Y6G
(6) 6AC7WA	(3) 807
(3) 6H6	

Total Tubes: (42)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,745: Technical Manual for Loran Switching Equipment Navy Model UM.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

LORAN SWITCHING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Loran Switching Equipment Model UM	217.8	61 X 62 X 99	2465
5	Sets of Equipment Spares	4.02	17-5/16 X 18-7/64 X 28-39/64	150

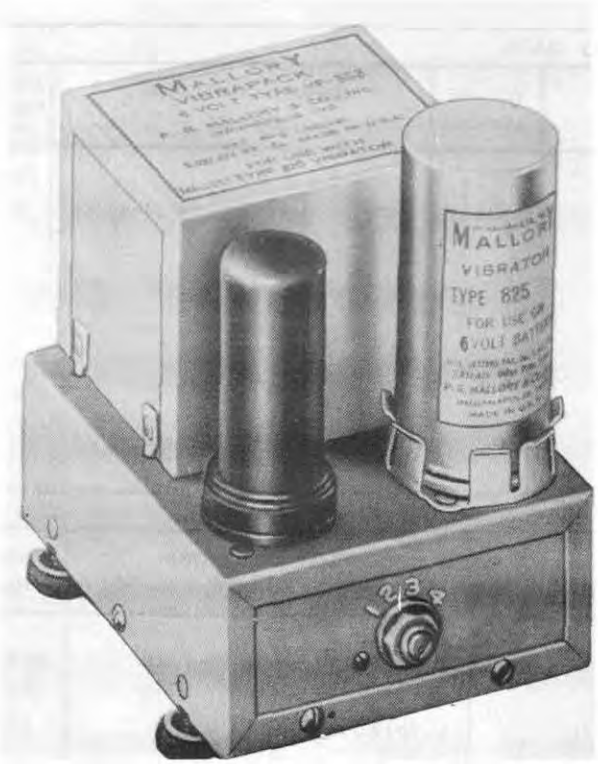
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Loran Switching Equipment Model UM consisting of:	20 X 36-13/16 X 77-5/16	630
1	Cabinet NT-10473	20 X 36-13/16 X 77-5/16	305
1	Excitation Switching Unit NT-24471	9-39/64 X 19-1/2 X 22	30
1	Discriminator Switching Unit NT-23483	9-39/64 X 20-5/16 X 22	35
3	Discriminator Unit NT-50247	9-39/64 X 20-5/16 X 22	75
1	Power Distribution Panel NT-23482	5 X 22 X 22	35
5	Sets of Equipment Spares	15 X 15 X 24	130

September 1956

VIBRAPACK

VP-553



Vibrapack VP-553

FUNCTIONAL DESCRIPTION

The Mallory type VP-553 Vibrapack is a conversion device for changing low voltage direct current to high voltage direct current for operating electronic apparatus. It is used in applications such as vehicles, small boats, airplanes and in remote areas where AC power sources are not available. It converts 6 volt battery power to the nominal output voltage of 125, 150, 175 or 200 v DC necessary to operate certain radio receivers, transmitters, public address amplifiers and other electronic equipment. A four position switch is provided to permit the selection of one of the nominal output voltages.

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

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

RELATION TO OTHER EQUIPMENT

Similar to VP-554 except for the type of rectifier tube used and over-all dimensions. It differs from the VP-F558 in input voltage and dimensions.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT VOLTAGE: 6.3 v DC nominal from external battery.
OUTPUT VOLTAGE: 125, 150, 175, 200 v DC.
MAX OUTPUT CURRENT: 100 ma.
TYPE OF RECTIFICATION: Full wave tube type.
FILTERING: RF for vibrator hash only. External hum filtering required.

MANUFACTURER'S OR CONTRACTOR'S DATA

P.R. Mallory and Co. Inc., Indianapolis, Ind.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6X5 or 6ZY5G
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

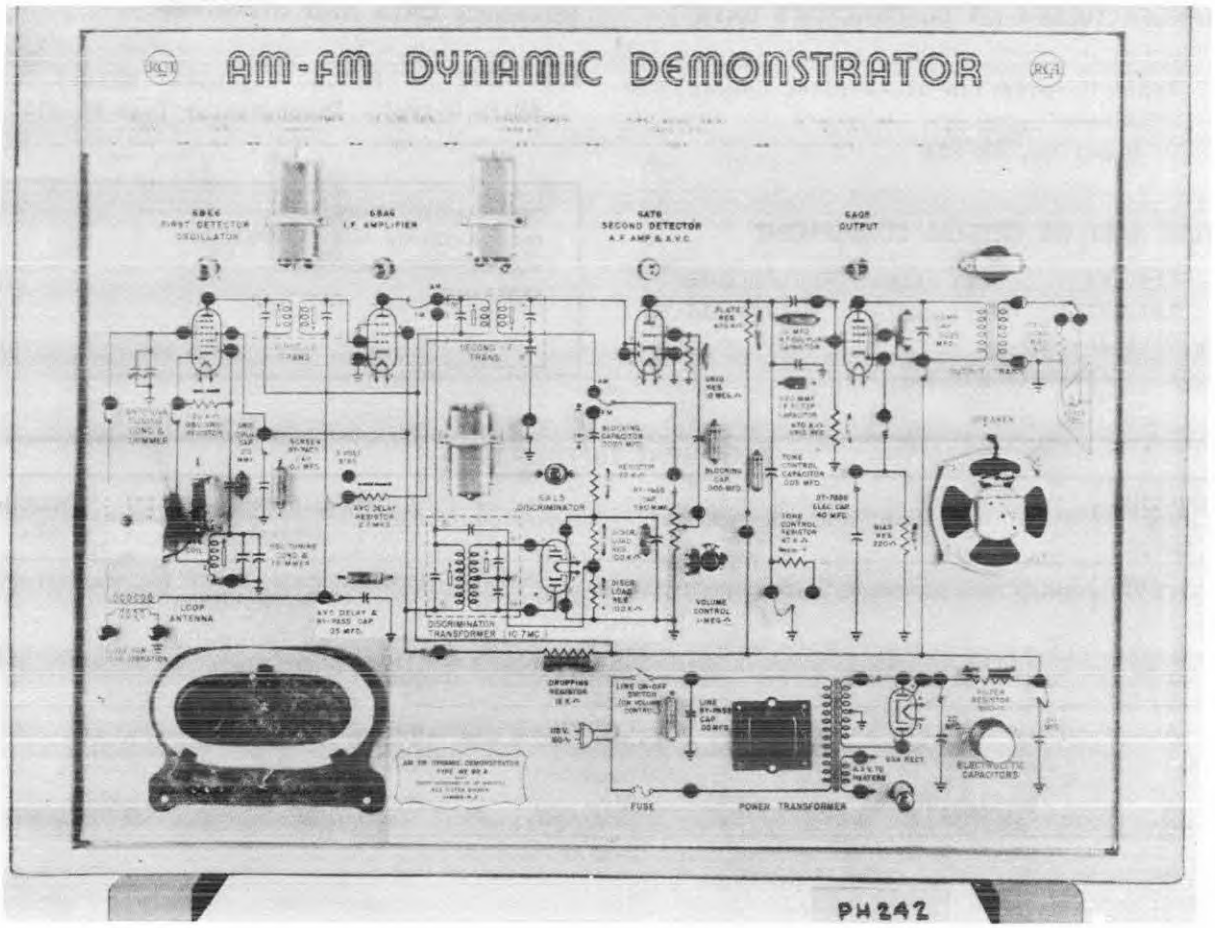
Engineering Data for Mallory Vibrapack. Part VP-553.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Vibrapack – VP-553	4-9/64 X 4-1/2 X 5-9/64	4-3/4

DYNAMIC DEMONSTRATOR



AM-FM Dynamic Demonstrator WE-82A

FUNCTIONAL DESCRIPTION

The WE-82A is a complete operative six tube superheterodyne radio receiver expanded on a plane surface so all circuits and parts are accessable for study. It's arrangement is such as to form a working schematic circuit diagram for use as a training aid in the study of radio theory and circuit analysis. Facilities are provided to make or break operating circuits and to produce part failures artificially.

No field changes in effect at time of preparation (12 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

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

TYPE OF RECEPTION: AM. Discriminator action may be demonstrated by feeding the output of a signal generator directly into the discriminator.

FREQUENCY RANGE: 550 to 1600 kc.

UNDISTORTED POWER OUTPUT: 1 w.

LOUDSPEAKER

TYPE: PM-dynamic.

IMPEDANCE: 4 ohm voice coil.

DIA. OF CONE: 5 in.

WE-82A

DYNAMIC DEMONSTRATOR

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corporation of America, Camden, New Jersey
Model No. WE-82A

REFERENCE DATA AND LITERATURE

I.B.-4082-1: R.C.A. Technical Manual for AM-FM Dynamic Demonstrator Type WE-82A.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

TUBE AND/OR CRYSTAL COMPLEMENT

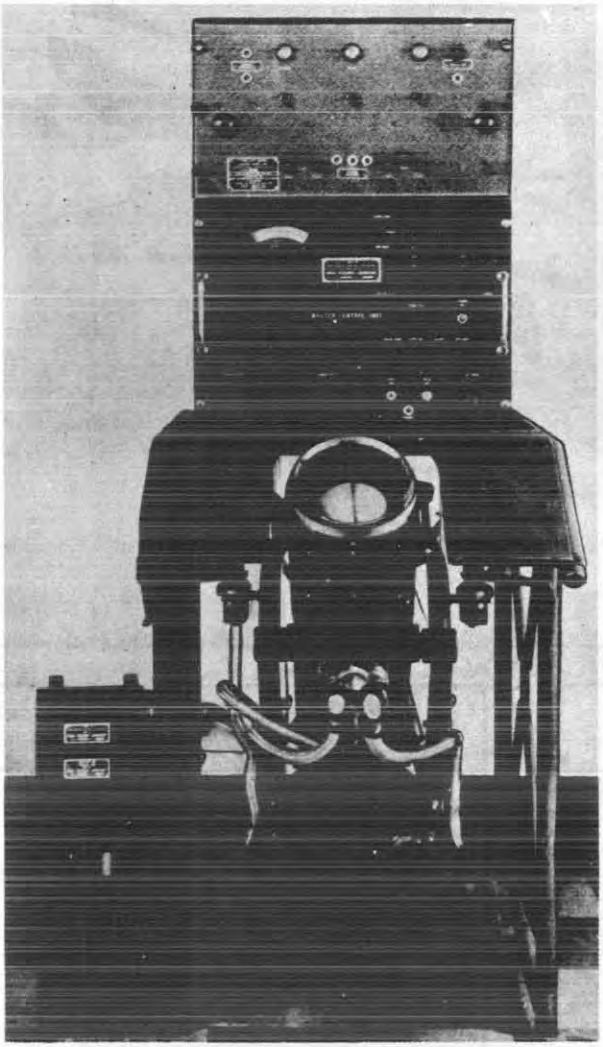
(1) 6X4	(1) 6AQ5	(1) 6BA6
(1) 6AT6	(1) 6BE6	(1) 6AL5

Total Tubes (6)
NOTE: Tubes are not supplied

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AM-FM Dynamic Demonstrator Model 82-A		

REMOTE CONTROL EQUIPMENT XDO



Control Station Assembly XDO

FUNCTIONAL DESCRIPTION

The Model XDO consists of all units, parts and components necessary to convert a Navy Model DAU, DAJ or DAJ-a Radio Direction Finder for operation with the control and bearing indicating equipment divorced from the radio receiver and goniometer and separated by any distance up to a maximum of 15 miles.

It has been designed to be fitted to the Model DAJ-a equipments with the very minimum of alterations or modifications to them, and is also adaptable to other equipments employing a DAU Receiver, Navy Type 46243, and a spinning goniometer and Automatic Bearing Indicator.

No field changes in effect at time of preparation (3 June 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Cable as required, mounting boxes for load coils as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v ±10%, 58 to 62 cps, single ph for control and remote sites.

MANUFACTURER'S OR CONTRACTOR'S DATA

Naval Research Laboratory, Washington, D.C. BuShips Problem S1431.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) OA2WA	(1) 6SK7WA
(2) 5Y4WGTB	(1) 5726/6AL5
(2) 5R4WGB	(3) 5814A/12AU7
(1) 6AG7	(2) 5933WA/807
(1) 6SH7	(1) 6080/6AS7

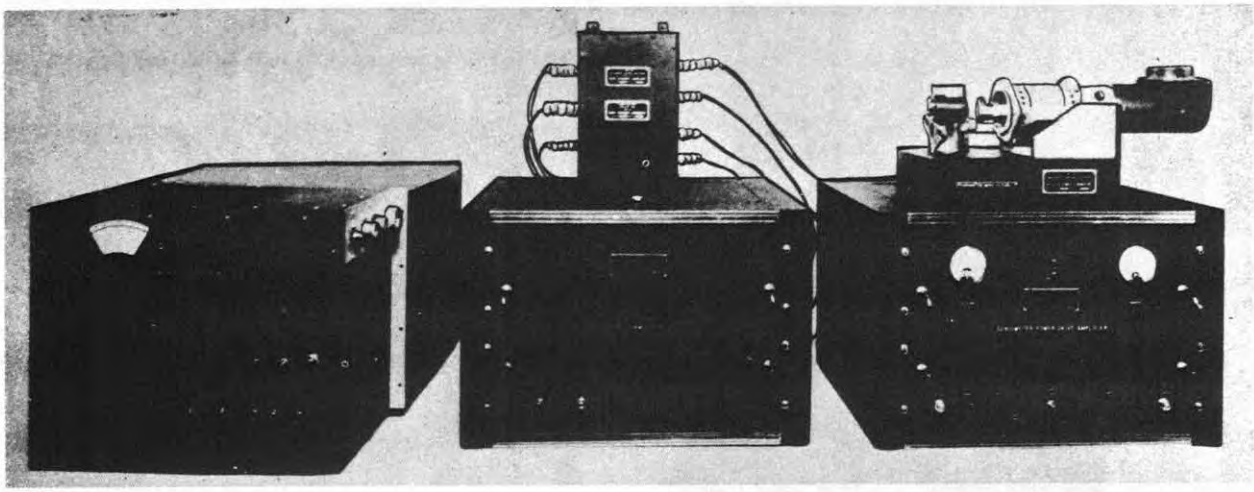
Total Tubes: (19)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92960: Technical Manual for Remote Control Equipment Model XDO.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

XDO REMOTE CONTROL EQUIPMENT



Remote Station Units XDO

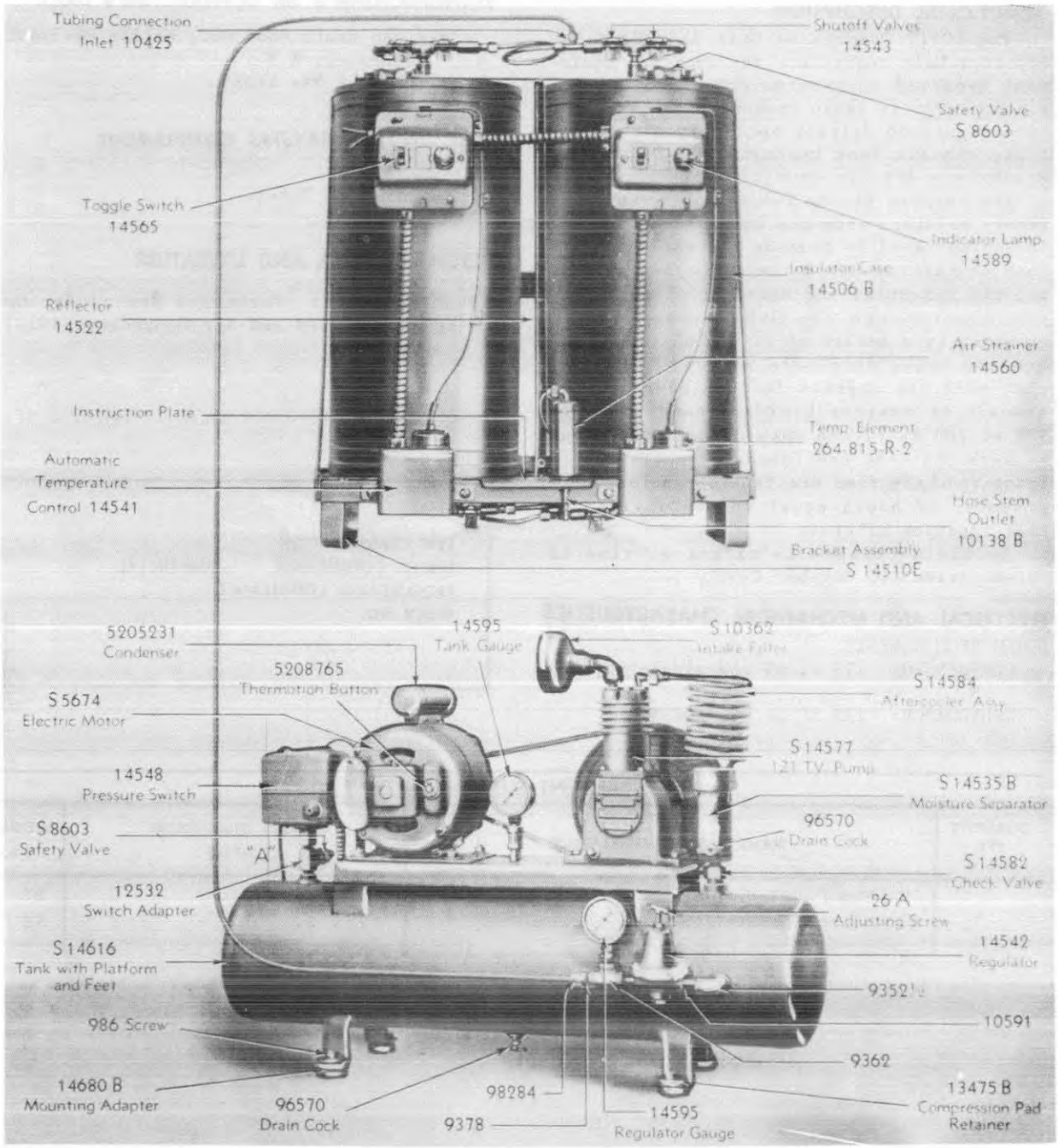
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Master Control Unit	14-5/8 x 19 x 20	94
1	Alternator Assembly, 40 cycle	4-7/8 x 5-3/4 x 5-7/8	1
1	Junction Box, Control Station	3-1/2 x 9 x 15-1/4	6
1	Remote Control Adapter	11-3/4 x 14 x 17	60
1	Goniometer Drive Assembly	8-1/4 x 8-5/8 x 12	14
1	Goniometer Power Drive Assembly	14 x 21-1/2 x 21-3/4	126
1	Servo Amplifier	14 x 21-1/2 x 21-3/4	83
1	Cathode Follower	5-7/8 x 6-1/2 x 7-1/8	1.5
1	Junction Box, Remote Station	3-1/2 x 9-3/4 x 15-1/4	6
1	Set of Miscellaneous Modification Parts		
1	Set of Equipment Spares		
15	Video Line Load Coil		
16	Interconnecting Cable		

June 1957

COMPRESSOR UNIT
DEHYDRATOR UNIT

Radio-Auxiliary
10117
10118



Compressor Unit 10117

Dehydrator Unit 10118

Radio-Auxiliary

June 1957

10117
10118

COMPRESSOR UNIT
DEHYDRATOR UNIT

FUNCTIONAL DESCRIPTION

The 10117 Compressor Unit and 10118 Dehydrator Unit constitute the complete equipment required to provide dry clean air for air pressure in radio transmission lines and is designed to deliver necessary air to replace the air lost through leakage, and to maintain a dry air condition in the lines.

The purpose of the Dehydrator Unit is to remove moisture from the compressed air. This is accomplished by passing the air through a tank containing Silica Gel. The Silica Gel. absorbs and holds the moisture. The path of the air through the Dehydrator Tank is governed by a series of baffle plates. There are two tanks which are used alternately, each unit can operate for ten hours continuously at ambient humidity conditions of 95% at 100°F. If the rate of use of dry air is such that the compressor operates only a fraction of the time one tank can be used for a number of hours equal to ten divided by that fraction of time.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS

COMPRESSOR: 115 v, 60 cps single ph, 335 W.

DEHYDRATOR: 115 AC or DC, 600 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

American Brake Shoe Co., Kellog Division, Rochester, N.Y.
Contract NXs 11389.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

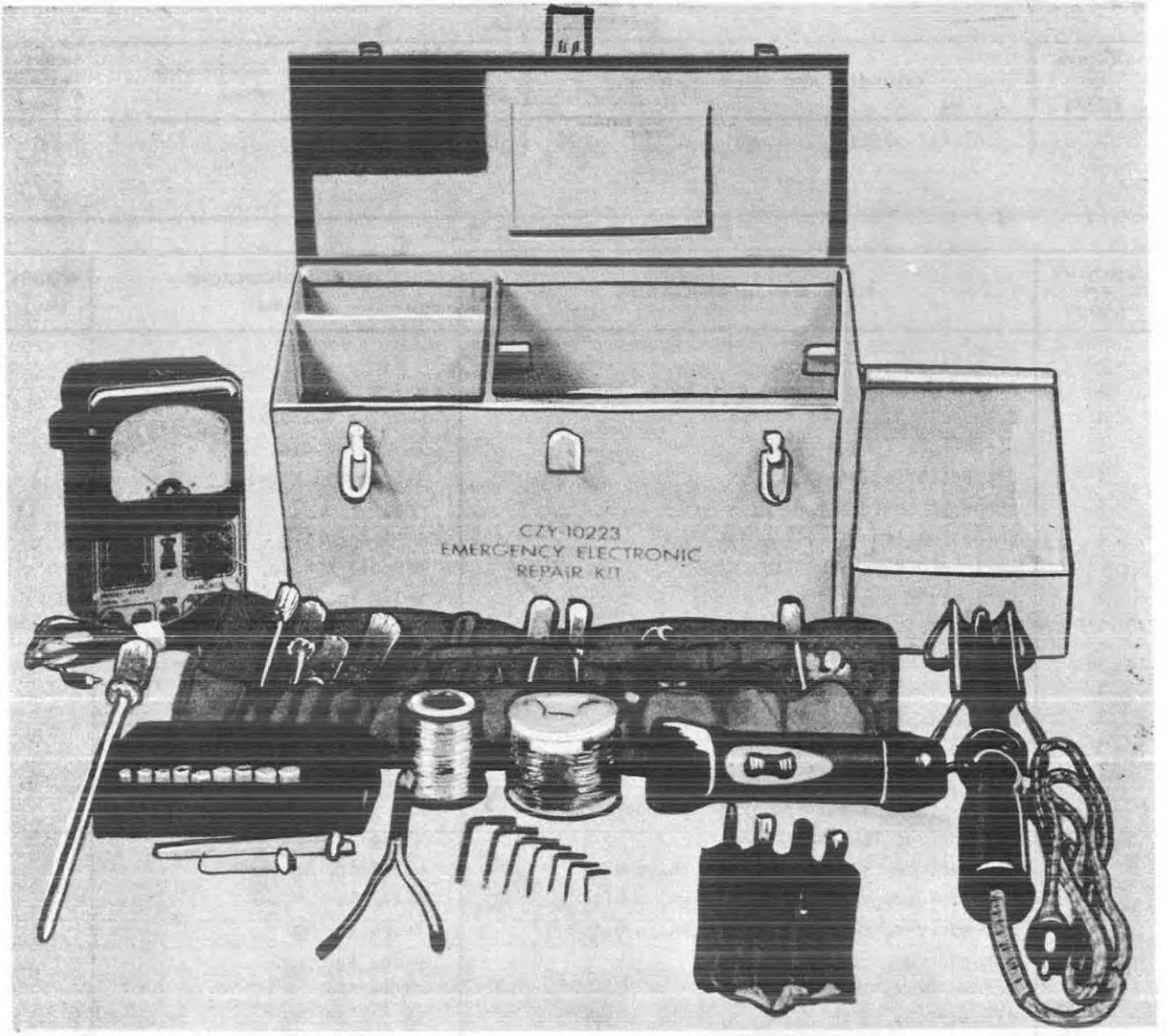
NAVSHIPS 95364: Technical Manual for Dehydrator 10118 and Air Compressor 10117.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Compressor Unit NT-10117	12 x 21 x 30	82
1	Dehydrator Unit NT-10118	12 x 20 x 27	98

TOOL KIT



Tool Kit 10223

FUNCTIONAL DESCRIPTION

The 10223 is a general purpose, emergency electronic repair kit consisting of various tools, hook-up wire, test lamp, volt-ohm-milliammeter and other accessories necessary for minor electronic repair work. All components are contained in a steel carrying case having a hinged lid, two trunk fasteners, a hasp and carrying handle.

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

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

U.S. Marines Corp Electronics Catalog, T/A Descriptive Section Tool Kit 10223.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

Radio-Auxiliary

10223 TOOL KIT

March 1957

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Tool Kit 10223	2.3		55

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Tool Kit 10223 c/o		
1	Reference Book, Allied Radio Data Handbook	9 X 6	
1	Case	6-1/2 X 7-1/2 X 17	
1	Flashlight TL-122 c/o	2-3/8 in. dia	
2	Dry Batteries BA-30	1-5/16 dia X 2-1/4	
2	Lamps (1 spare)		
1	Soldering Iron TL-117 c/o	12-1/4 in. lg	
	1 Soldering Iron Tip	3/8 dia X 4 in. lg	
1	Test Light	5-3/4 in. lg	
1	Meter, Multimeter 60077 includes batteries and test leads	2-1/8 X 3-1/16 X 5-7/16	
1	Pliers TL-60, diagonal cutting	6 in. lg	
1	Pliers TL-369/U, duck bill	6 in. lg	
1	Pliers TL-13, w/cutters	6 -1/2 in. lg	
1	Pliers TL-126, chain needle nose	6-1/2 in. lg	
1	Rule, steel, 1/32" and 1/64" graduations	6 X 3/4	
1	Screwdriver TL-464/U	4" lg	
1	Screwdriver, slot drive, 1/8 in. w bit	4-3/8 in. lg	
1	Screwdriver, slot drive, 1/8 in. w bit	6 in. lg	
1	Screwdriver, slot drive, 1/4 in. w bit	7-1/4 in. lg	
1	Screwdriver, TL-360	9 in. lg	
1	Screwdriver, 1/8 in. w bit	11 in. lg	
1	Screwdriver, slot drive, 5/16 in. w bit	15-7/8 in. lg	
1	Screwdriver, Phillips Drive	5-1/2 in. lg	
1	Screwdriver, Phillips Drive	8-1/2 in. lg	
1	Socket Wrench Set, 13 items in steel box	1-1/2 X 4 X 6	
1	Handle, for hinged socket wrench	5-3/4 in. lg	
1	Handle, for socket wrench, 1-1/16 in. dia	6 in. lg	
1	Socket Wrench, 1/4 in. sq. drive, 6 point 3/16 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 6 point, 7/32 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 6 point, 1/4 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 8 point, 1/4 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 6 point		

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	9/32 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 12 point, 5/16 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 8 point, 5/16 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 12 point, 11/32 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 8 point, 3/8 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 12 point, 3/8 in. opening		
1	Socket Wrench, 1/4 in. sq. drive, 12 point, 7/16 in. opening		
1	50 ft spool of 40/60 lead-tin solder		
1	Aligning Tool Kit c/o		
1	Alignment tool, combination, screwdriver and 1/4 in. hex wrench	6 in. lg	
1	Combination screwdriver and alligator wrench	6 in. lg	
1	Combination screwdriver and 1/4 in. hex side wrench	6 in. lg	
1	Alignment tool w/screwdriver tip on each end	7 in. lg	
25 ft	Wire, JAN WL1(7)20C2		
25 ft	Wire, JAN WL1(7)20C4		
25 ft	Wire, JAN WL1(7)20C5		
25 ft	Wire, JAN WL1(7)20C0		
1	1/16 in. Allen set screw wrench	2-1/16 in. lg	
1	5/64 in. Allen set screw wrench	2-3/16 in. lg	
1	3/32 in. Allen set screw wrench	2 in. lg	
1	1/8 in. Allen set screw wrench	3-3/4 in. lg	
1	5/32 in. Allen set screw wrench	4-1/8 in. lg	
1	3/16 in. Allen set screw wrench	4-1/2 in. lg	
1	7/32 in. Allen set screw wrench	3 in. lg	
1	Double open end wrench, 5/16 in. and 13/32 in. openings	4-1/2 in. lg	
1	Wrench TL-477/U	4-3/4 in. lg	
1	Double open end wrench, 1/2 in. and 9/16 in. openings	9/32 X 1-3/8 X 5-3/4	
1	Double end adjustable cresent wrench max opening 9/16 in. and 13/16 in.	29/64 X 1-3/4 X 6-1/4	
1	Double open end wrench, 19/32 and 11/16 in. openings	7-1/4 in. lg	

June 1957

Radio-Auxiliary

SPLICING KIT

10351

FUNCTIONAL DESCRIPTION

The 10351 facilitates the splicing and installation of solid dielectric coaxial cables, RG-8/U, RG-11/U, RG-17/U and RG-19/U and the armored versions thereof, RG-10/U, RG-12/U, RG-18/U and RG-20/U for use with certain radar and radio equipments. Slip-on sleeve type conductor joiners for the RG-8/U and RG-11/U and female-threaded sleeve conductor joiners for RG-17/U and RG-19/U cables are included. Two injection guns are also included, one for the dielectric and one for the jacket, thus eliminating the necessity of cleaning the injection gun between dielectric and jacket molding.

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

RELATION TO OTHER EQUIPMENT

Similar to 10352, 10353, 10353-S and 10424 except for changes in material and tools supplied.

Equipment Required but not Supplied: (1) File, (1) pair 10 amp soldering tongs or gasoline torch, (1) soldering iron, (1) hacksaw, (1) bottle of carbon tetrachloride or cyclohexanone and standard electrician tools.

MANUFACTURER'S OR CONTRACTOR'S DATA

W.D. Cashin Company, South Boston, Massachusetts.
Contract NXsr 95985.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

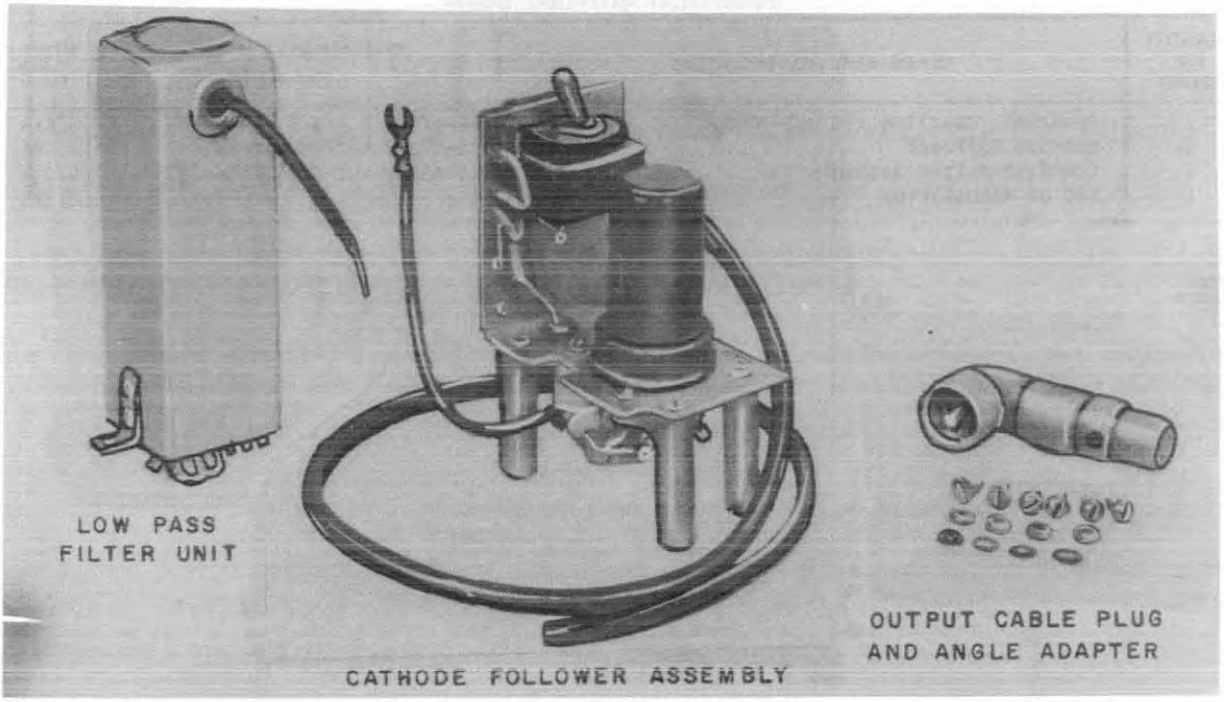
NAVSHIPS 900597: Technical Manual for Splicing Kits Navy Types 10351, 10352, 10353, 10353S, 10454.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Dielectric Trimmer for -17/U, -18/U		
1	Dielectric Trimmer for -19/U, -20/U		
4	Heat Indicating Crayons		
3	Jacket Molds 10355, 10329, 10289		
1	10-32 die		
1	1/4-28 die		
1	Die Handle		
2	6" C clamps		
2	Injection Gun Screws 10287		
100	Inner Conductor Joiners		
2	Injection Gun Adapters		
10 ft	Copper Foil	2 X 0.004	
100 ft	Copper Wire	28 gauge	
10	Polyethylene Sticks	5/8 X 8 lg	
10	Vinyl Sticks or Cinyl Tape	5/8	
2	Technical Manuals		

PANORAMIC COUPLING KIT



Panoramic Coupling Kit NT-CQS-10563 Complete Set

FUNCTIONAL DESCRIPTION

The Navy Type 10563 consists of two assemblies intended to adapt any Radio Receiving Equipment RBB/RBC Series for use with Panoramic Adaptor Units RBU/RBV. When installed in the receiver it provides the means for feeding signals to the panoramic adaptor unit, prevents interaction between receiver and adaptor unit, and minimizes interference from local transmitters.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Receiving equipment and panoramic adaptor unit.

MANUFACTURER'S OR CONTRACTOR'S DATA

National Electrical Machine Shops Inc, Washington, D.C.

Contract NXsr 91944 dated 2 April 1945.
Approximate Cost: $30.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6AB7
Total Tubes: (1)

No Crystal Used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91449: Technical Manual for Panoramic Coupling Kit Navy Type CQS-10563.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	16KH(RE)
STOCK NO.	
R.D.B. IDENT. NO.	

Radio-Auxiliary

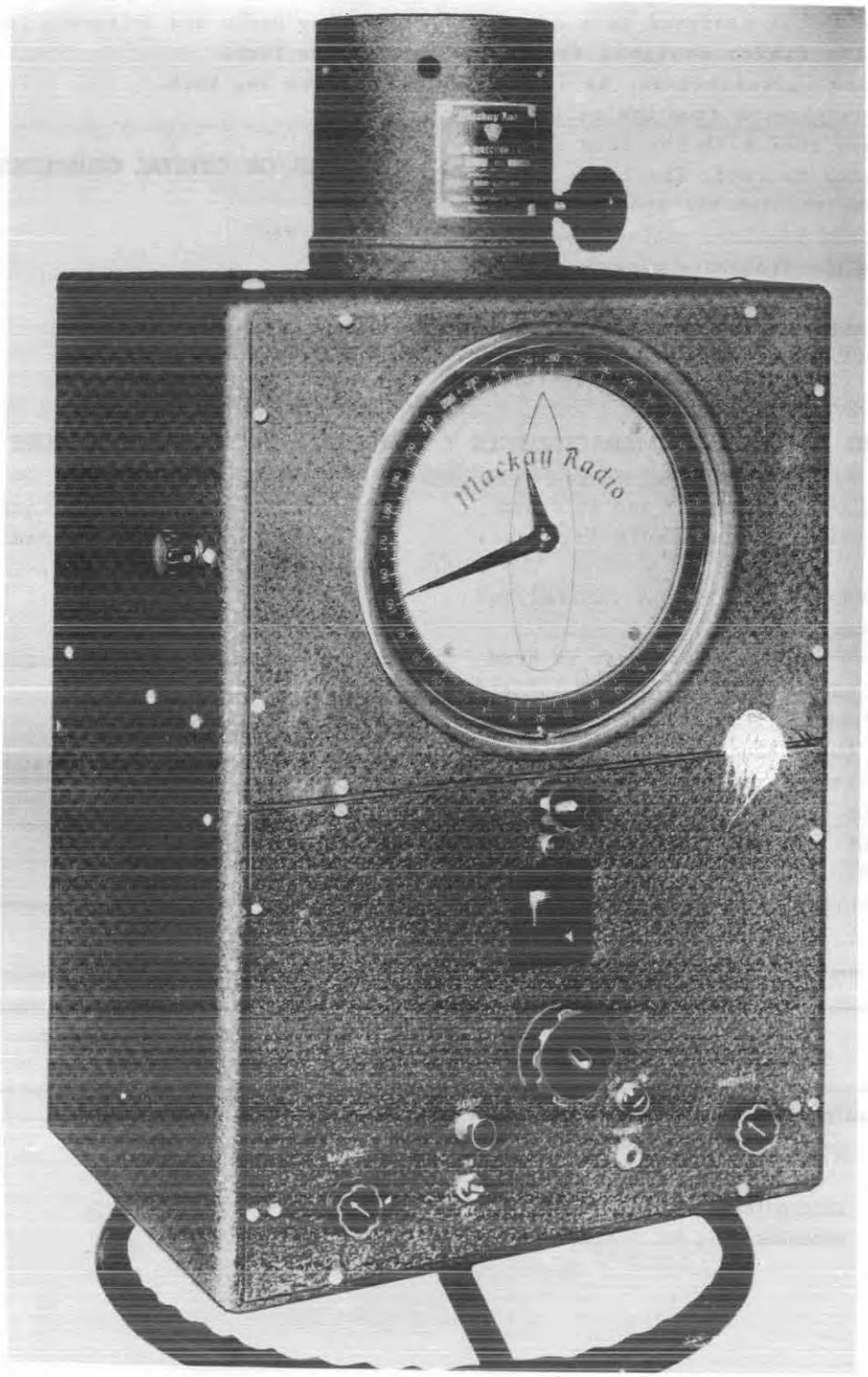
10563 PANORAMIC COUPLING KIT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Panoramic Coupling Kit CQS-10563	2-1/2 X 4 X 6	0.813
1	Cathode Follower	1-7/8 X 3-7/32 X 4-7/16	0.386
1	Low Pass Filter Assembly	1-13/32 X 2-5/16 X 5-1/32	0.219
1	Set of Accessories		0.583

Radio-Auxiliary

RADIO DIRECTION FINDER SET 106A



Radio Direction Finder Set Type No. 106A

106A RADIO DIRECTION FINDER SET

FUNCTIONAL DESCRIPTION

The Model-106A is designed as a compact Radio Direction Finder designed for both land and marine installations. It is constructed for suspension from the ceiling or the pilot house roof with the loop and its pedestal mounted on roof. The lower end of pedestal passes through the roof to support the indicator and receiver cabinet assembly. It operates in the frequency range of 255 to 550 kilocycles (KC).

No field changes in effect at time of preparation (5 April 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A0, A1, A2 and A3 types.
TYPE OF RECEIVER: Tuned Radio Frequency type.
TYPE OF CONTROL: Interlocking control and signal system.
SENSITIVITY: 6 mw (good intensity in headphones) is obtained from a signal induced into the loop of less than 1 microvolt, throughout the frequency range.
TYPE OF PRESENTATION: Audio type.
NUMBER OF BANDS: 1 band.
FREQUENCY RANGE: 255 to 550 kc.
OPERATING POWER RQMT: 6 and 45 v DC, internal batteries.

MANUFACTURER'S OR CONTRACTOR'S DATA

Mackay Radio and Telegraph Co., New York, New York.
Type No. 106A.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 6SK7 (4) 6J5

Total Tubes: (8)

No Crystals used.

REFERENCE DATA AND LITERATURE

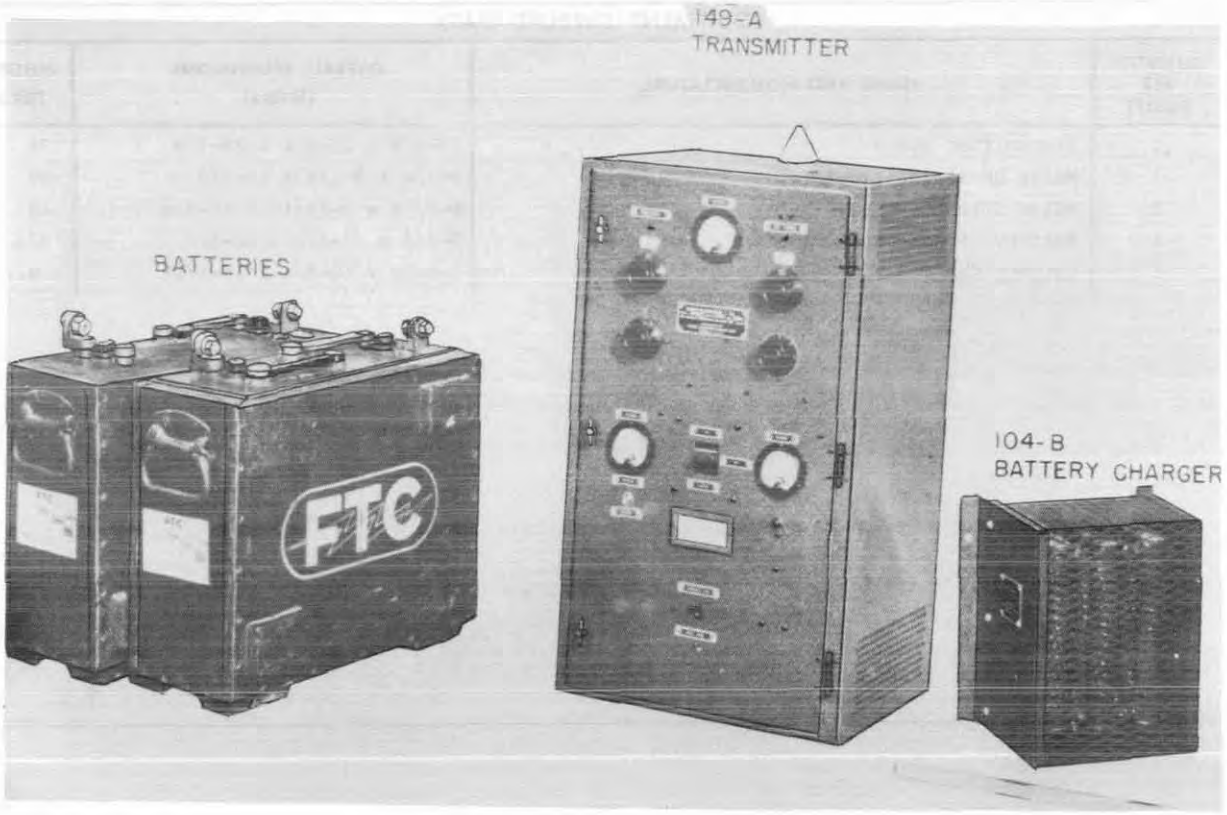
Mackay Radio and Telegraph Company Catalog Library Copy #00927 for Radio Direction Finder Set Type No. 106A.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Direction Finder-Set Type 106A Including:		
1	Receiver-Indicator Mackay Radio Co. Type No. 2B		
1	Loop Antenna Mackay Radio Co. Type No. 3A		
1	Handwheel Dwg No. F-6155-2		

RADIO TRANSMITTER 149-A



Radio Transmitter 149-A

FUNCTIONAL DESCRIPTION

The 149-A is a radio telegraph unit for use on shipboard. It is battery operated and of the MCW type. It provides telegraphic communication on five predetermined frequencies in the range of 350 to 500 kc. Generally, the predetermined frequencies are 375, 400, 425, 468, and 500 kc and anyone of the five can be selected quickly by the frequency dial which is equipped with five detent stops.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 375, 400, 425, 468 and 500 kc.
RANGE: 100 to 50 miles.
POWER OUTPUT: 25 W.
OUTPUT IMPEDANCE: 4 ohms.
OPERATING POWER: 12 v DC.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 801
Total Tubes: (4).

REFERENCE DATA AND LITERATURE

TM11-822: Technical Manual for Radio Transmitter 149-A.

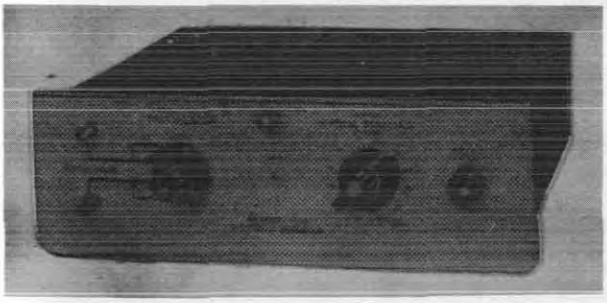
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

149-A RADIO TRANSMITTER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter 149-A	12-1/8 x 15-3/4 x 28-7/8	76
1	Motor Generator 114-A	8-1/4 x 9-1/8 x 11-1/8	49
1	Motor Generator 132-A	8-7/16 x 8-15/16 x 11-1/8	48
1	Battery (single unit)	9-1/2 x 17-1/2 x 20-1/2	174
1	Battery Charger 104-B	7-5/32 x 10-3/4 x 11-1/16	9.75

RADIO FREQUENCY AMPLIFIER 151B



Radio-Frequency Amplifier Model 151B

FUNCTIONAL DESCRIPTION

The Model 151B is designed as a plug-in type High Gain Amplifier.

No field changes in effect at time of preparation (12 July 1960).

RELATION TO OTHER EQUIPMENT

The Model 151B is designed to be used with 150A/AR Oscilloscopes.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT DATA
EXCITATION: 2 mv.
IMPEDANCE: 1 megohm.
SENSITIVITY: 5.0 mv/cm.
FREQUENCY RANGE: 0 to 10 mc.
OPERATING POWER RQMT: 115 v ac, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hewlett Packard Co., Palo Alto, Calif.
Contract NObsr-81065.
Approximate Cost $200.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 12AU7 (4) 6BQ7A (1) 6U8
Total Tubes: (6)
No Crystals used.

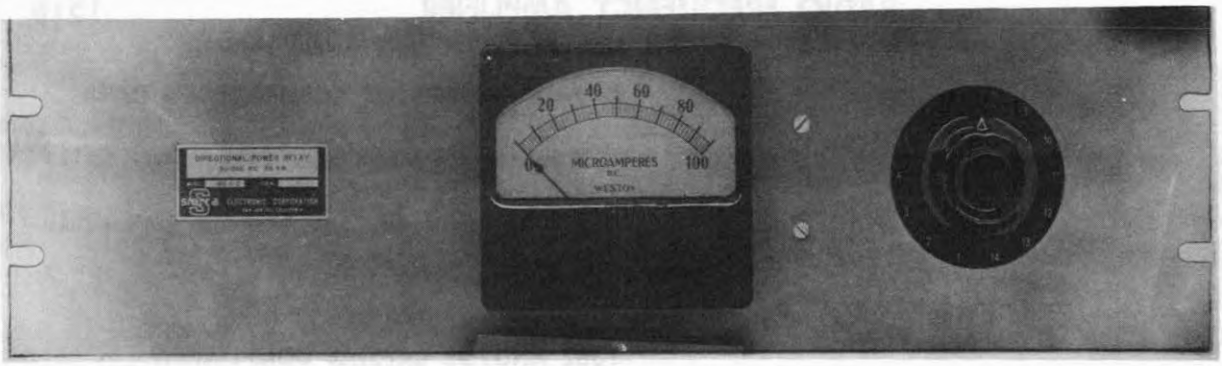
REFERENCE DATA AND LITERATURE

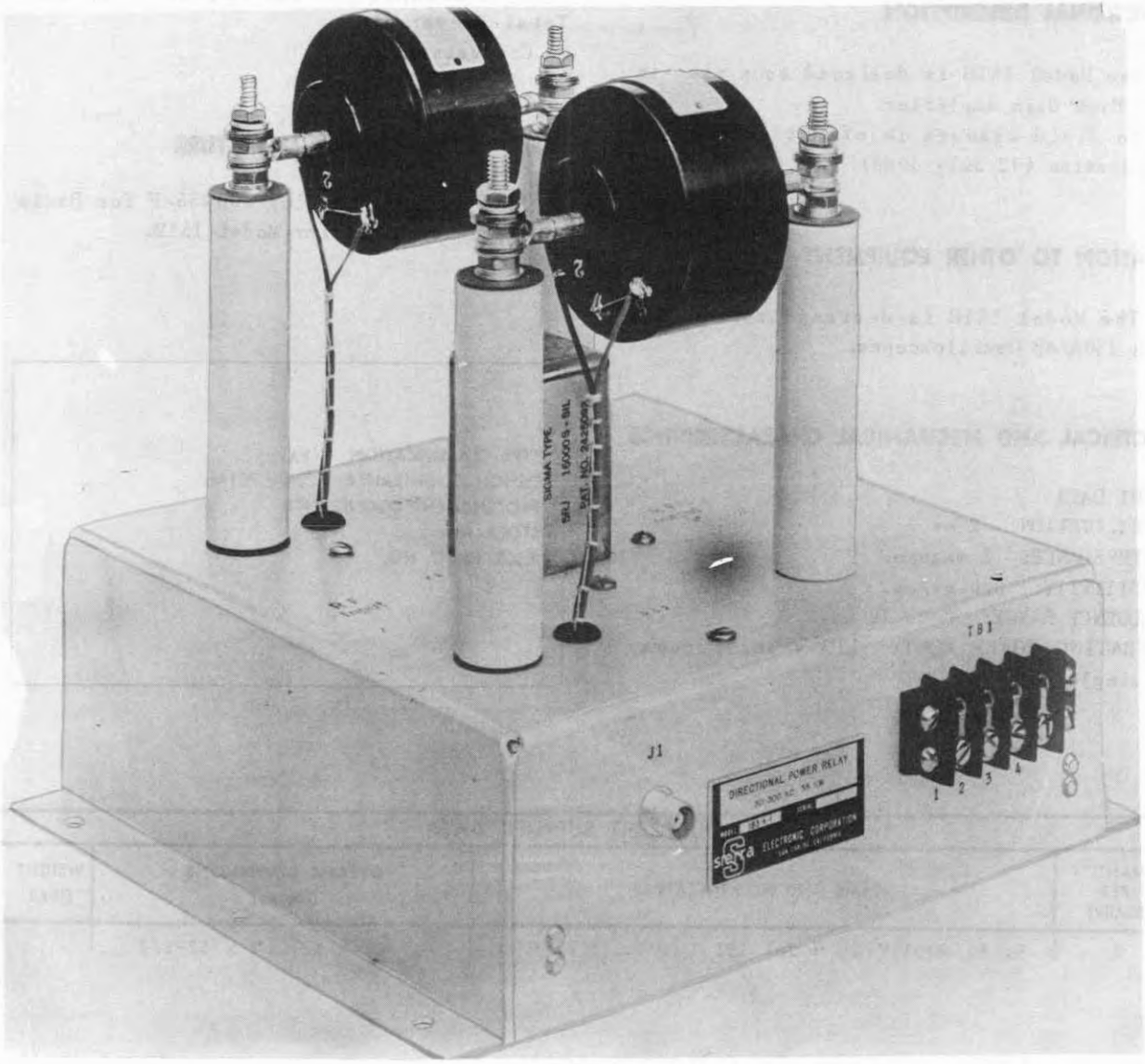
Hewlett Packard Catalog #00255-F for Radio Frequency Amplifier Model 151B.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (Inches)	WEIGHT (lbs.)
1	R. F. Amplifier Model 151	4 x 12-1/4 x 12-1/2	





Directional Power Relay 183A

183A DIRECTIONAL POWER RELAY

September 1956

FUNCTIONAL DESCRIPTION

The Model 183A (Sierra Electronic Corp.) is a relay which is sensitive to the direction of flow of radio frequency power. It responds to deviations from a predetermined vectorial relation between voltage and current in a balanced transmission line. This nominal relation between voltage and current has been designed to equal the characteristic impedance of a 600 ohm transmission line, where the power does not exceed 55 kw and the standing wave ratio does not exceed two to one.

No power is required other than that derived from the radio frequency power in the transmission line.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 600 kc.
MAXIMUM POWER: 55 kw.
MAXIMUM VSWR: 2.
CHARACTERISTIC IMPEDANCE: 600 ohm.
PRESENTATION: 0 to 100 ua DC, cw.

MANUFACTURER'S OR CONTRACTOR'S DATA

Sierra Electronic Corporation, San Carlos, California

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 1N34A
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92748: Technical Manual for Directional Power Relay. Model 183A.

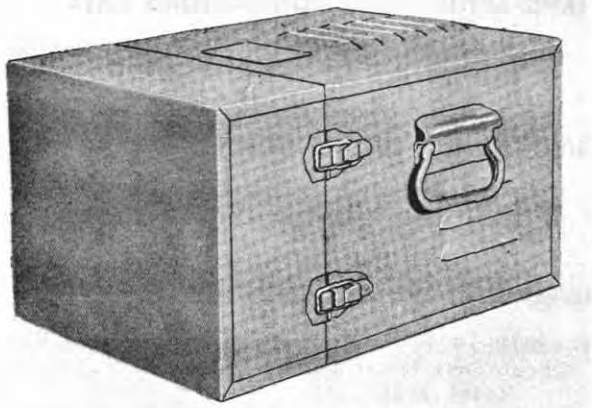
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Directional Power Relay Model 183A consisting of:		
1	(2) Directional Couplers and their associated circuitry, including the sensitive relay and terminal facilities Model 183A-1.	9 X 9-1/2 X 10-1/2	7
1	Microammeter and sensitivity control Model 183A-2.	4 X 5-1/4 X 19	3

BATTERY CHARGER

20145



Battery Charger 20145

FUNCTIONAL DESCRIPTION

The NT-20145 Battery Charger is designed to charge from one to three storage batteries simultaneously. Charging cable of several types are supplied to provide connections between the charger and the batteries. All connections to the charger and all control adjustments are made on the front panel of the battery charger. The charging rate is variable and is adjusted and indicated on this panel. Condensed operating instructions are printed on this panel and all controls and connections are clearly marked.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

BATTERY APPLICATION: 4 and 6 v storage batteries.
POWER SOURCE: 12, 24, 40, 110 v DC, 110 or 220 v AC.
MAX OUTPUT VOLTAGE: 6 v.
MAX OUTPUT CURRENT: 10 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electronic Laboratories, Indianapolis, Indiana
Contract NXsr-64181 dated 7 June 1944
Approximate Cost: $80.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Battery Charger for NT-20145.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

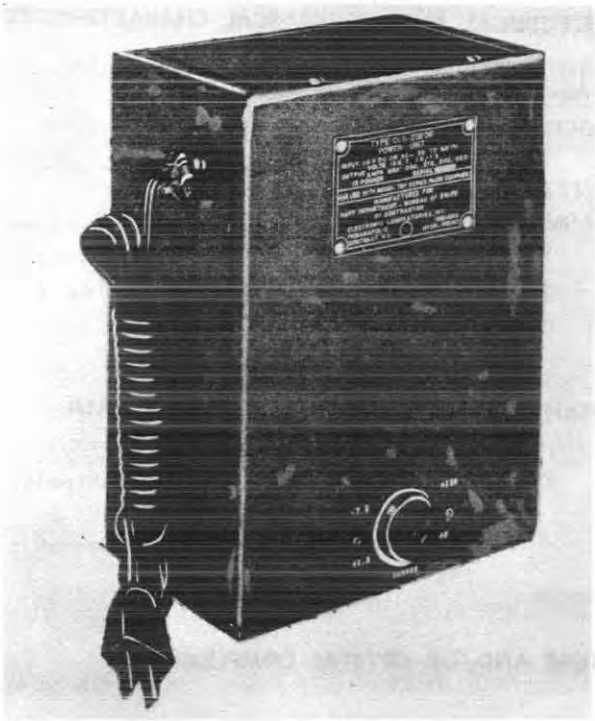
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Battery Charger NT-20145 consisting of:	9 X 10-3/4 X 14-5/8	55
1	Low-Voltage-Input Cable		
1	High-Voltage-Input Cable		
3	Output Cable		
3	Adapter Cable		
2	Technical Manual		
1	Set Spare Parts	9-3/8 X 16 X 25-1/4	110

March 1957

POWER UNIT

20206



Power Unit 20206

FUNCTIONAL DESCRIPTION

The 20206 Power Unit converts either 115 v DC or 115 v AC, single phase, 50 to 60 cycles, to the proper voltages for operating the model TBY Series Transmitting and Receiving Equipment. It is equipped with a receptacle which automatically makes the electrical connection to the Transmitter-Receiver Unit when the power unit is strapped to the bottom of the Transmitter-Receiver Case.

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

RELATION TO OTHER EQUIPMENT

Interchangeable both mechanically and electrically with the NT-19018 Battery which is normally supplied with the model TBY Series Transmitting and Receiving Equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 115 v DC or 115 v, 50 to 60 cps, single phase.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electronics Laboratories, Inc.
Indianapolis, Indiana
Contract NXsr-46067 dated 13 January 1944.
Contract NXsr-76119 dated 4 September 1944.
Approximate Cost: $10.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) CK1005
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

Technical Manual for Power Unit for 20206.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

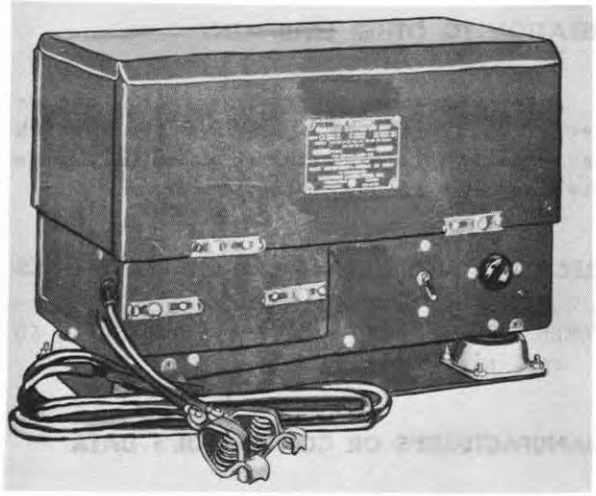
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Unit NT-20206 consisting of:	4-7/16 X 6-9/16 X 9-3/8	15
1	Input Cable		
2	Technical Manuals		
1	Set Spare Parts	9-3/8 X 10 X 25-1/4	70

June 1957

Radio-Auxiliary

VIBRATOR CONVERTER UNIT

20207



Vibrator Converter Unit 2027

FUNCTIONAL DESCRIPTION

The 20207 may be used to operate radio or amplifier equipment (including radiophonograph or amplifier - turntable combinations) or any other radio equipment using a small motor, if the power factor of the motors involved is corrected by a proper shunt capacitance. This correction need not be applied if the motor is so small that the over-all power factor is in excess of 95%. The unit has also been designed to eliminate radio frequency noise over a frequency range of 200 kc to 20 mc.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT: 12 or 24 v DC.
OUTPUT: 117 v 60 cps, single ph
75, 100, 125, 150, 175 W.
EFFICIENCY: 75%.
LOAD POWER FACTOR: 95 to 100% (a load of lower power factor requires that Capacity be added across the load to bring its power factor to unity.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electronic Laboratories Inc., Indianapolis Indiana.
Contract NXss 20168, dated 26 December 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for 20207 Vibrator Converter Unit.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

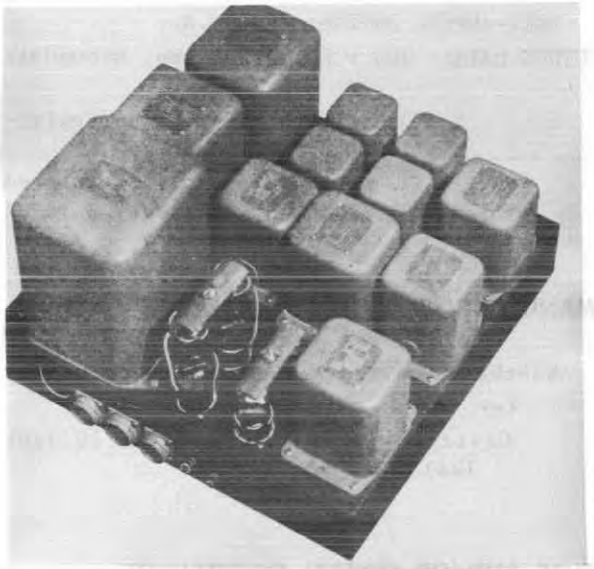
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Vibrator Converter Unit NT-20207	8-15/16 x 9-1/2 x 13-13/16	41

February 1960

Radio-Auxiliary

RECTIFIER POWER UNIT 20218



Rectifier Power Unit COL-20218

INPUT VOLTAGE: 115 v A.C.
INPUT FREQUENCY: 50 to 60 cy.
PHASE: Single.
OUTPUT DATA: 400 v DC, 0.200 amp, unregulated.
225 v DC, 0.120 amp, unregulated.
12 v DC, 0.9 amp, unregulated
12.6 v AC, 3.5 amp, unregulated

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Part No. 409M-5.
Contract NXsr-35035, dated 10 August 1943.
Contract NXsr-39205, dated 15 November 1943.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5R4GY (2) 6X5GT

Total Tubes: (4)

No Crystals used.

FUNCTIONAL DESCRIPTION

Rectifier Power Unit 20218 is designed for operation with TCS radio transmitter and receiver equipment. It is designed to provide two high voltage sources, both rectified and filtered, one low voltage source, rectified but unfiltered, and one low voltage A.C. source.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT DATA

REFERENCE DATA AND LITERATURE

NAVSHIPS 95371: Technical Manual for RECTIFIER POWER UNIT COL-20218.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, 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	Rectifier Power Supply 20218			

EQUIPMENT SUPPLIED DATA

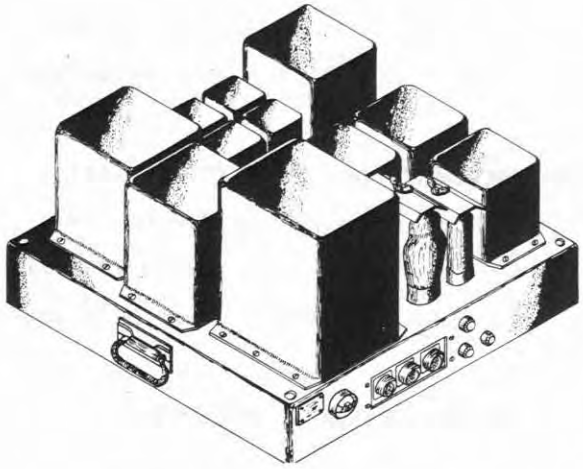
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Supply 20218	10-1/8 X 16-1/4 X 17-1/4	88

February 1960

Radio-Auxiliary

RECTIFIER POWER UNIT

20218-A



Power Supply Unit, 20218A

FUNCTIONAL DESCRIPTION

Rectifier Power Unit 20218-A is designed for operation with TCS radio transmitter and receiver equipment. It is designed to provide two high voltage sources, both rectified and filtered, one low voltage source, rectified but unfiltered, and one low voltage A.C. source.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT DATA

INPUT VOLTAGE: 115 v A.C. Nominal (RMS). Taps for 105-110-115-120-125 v A.C.

INPUT FREQUENCY: 50 to 60 cy.

PHASE: Single.

VOLT-AMPERE RATING: 204 V.A.

OUTPUT DATA: 400 v DC, 0.200 amp, unregulated

225 v DC, 0.120 amp, unregulated

12 v DC, 1.225 amp, unregulated

12.6 v AC, 3.9 amp, unregulated

MANUFACTURER'S OR CONTRACTOR'S DATA

Northeastern Engineering, Inc., Manchester, N. H.

Contract NObsr-43388, dated 10 June 1949.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5R4GY (2) 6X5

Total Tubes: (4)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91453: Technical Manual for RECTIFIER POWER UNIT Type CBEQ-20218-A.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-P-16307A (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	Rectifier Power Supply	3.555	14 X 19-1/2 X 22-1/2	124

20218-A RECTIFIER POWER UNIT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Supply 20218-A	10-1/8 X 16-11/16 X 17-1/4	94

June 1961

Radio-Auxiliary

RECTIFIER POWER SET

20218-B

Rectifier Power Unit 20218-B

FUNCTIONAL DESCRIPTION

Rectifier Power Unit 20218-B is designed for operation with TCS radio transmitter and receiver equipment. It is designed to provide two high voltage sources, both rectified and filtered, one low voltage source, rectified but unfiltered, and one low voltage A.C. source.

No field changes in effect at time of preparation (1 February 1961).

Radio-Auxiliary

20218-B RECTIFIER POWER SET

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT DATA
INPUT VOLTAGE: 115 v ac nominal (RMS). Taps for 105-110-115-120-125 v ac.
INPUT FREQUENCY: 50 to 60 cyc.
PHASE: Single.
VOLTAGE-AMPERE RATING: 300 va.
OUTPUT DATA: 400 v dc, 0.200 amp, unregulated; 225 v dc, 0.120 amp, unregulated; 12 v dc, 1.225 amp, unregulated; 12.6 v ac, 3.9 amp, unregulated.

MANUFACTURER'S OR CONTRACTOR'S DATA

Transdyne Corp., Albertson, N. Y.
Contract NObsr-75323.
Approximate unit cost $200.75.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5R4GY (2) 6X5GT
Total Tubes: (4)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93425: Technical Manual for RECTIFIER POWER UNIT Type CCSM-20218-B.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: MIL-P-16307A (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	Rectifier Power Supply 20218-B	3.875	15 x 21 x 21	95

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Supply 20218-B	10-1/2 x 16-11/16 x 17-1/4	88

March 1957

POWER SUPPLY

20291

FUNCTIONAL DESCRIPTION

The Navy Type 20291 is designed for general radio use and is specifically designed to operate a motor driven tuning unit. It is used to supply low voltage DC power from an AC source and will deliver its rated output under full load. It is a full-wave metallic rectifier type power supply intended for mounting under a table or on a bulkhead, and its only control is the on-off switch.

No field changes in effect at time of preparation (3 October 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Input cable.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OUTPUT: 28 v DC, 2 amps.
POWER REQUIREMENTS: 110 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

P.R. Mallory and Co, Inc., Indianapolis, Ind.
Contract NXsr 46926.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95373: Technical Manual for Rectifier Power Unit Type CMA-20291.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

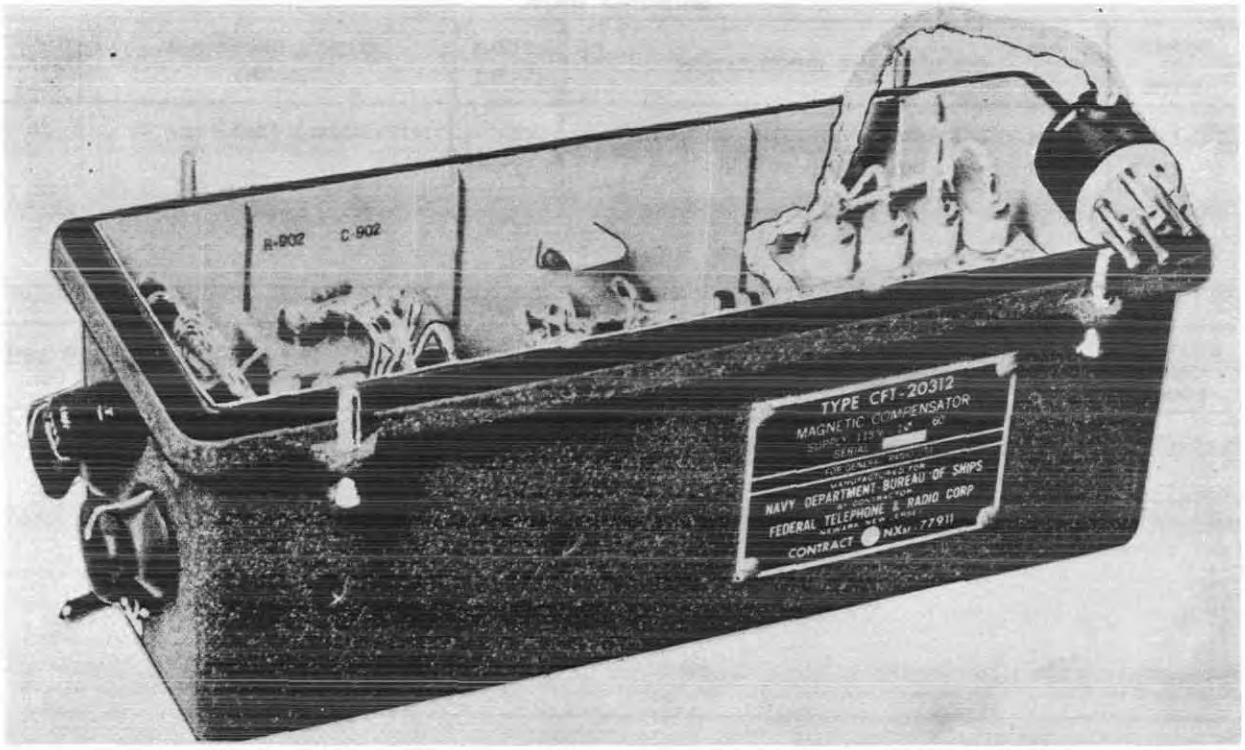
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Unit NT-20291	10-1/16 x 10-1/8 x 12-1/8	

March 1957

MAGNETIC COMPENSATOR

20312



Magnetic Compensator 20312

FUNCTIONAL DESCRIPTION

The 20312 is an electrical device for attachment to and used with 55092, 55092-A, and 55084 Automatic Bearing Indicators. It is designed to neutralize the effects of residual magnetism in the automatic bearing indicator deflection coil yoke by creating a bucking field. The unit mounts on the underside of the indicator and replaces the normal bottom cover.

No field changes in effect at time of preparation (31 August 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Automatic Bearing Indicator NT-55092, 55092-A or 55084.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v ±10%, 60 cps, *single phase.*
CURRENT
STARTING: 115 ma.
OPERATING: 50 ma (normal).
MAX: 60 ma (125 v input).

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corporation, Newark, N.J.
Contract: NXsr-77911 dated 3 October 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6H6
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,756: Technical Manual for *Magnetic Compensator Navy Type 20312.*

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

20312 MAGNETIC COMPENSATOR

March 1957

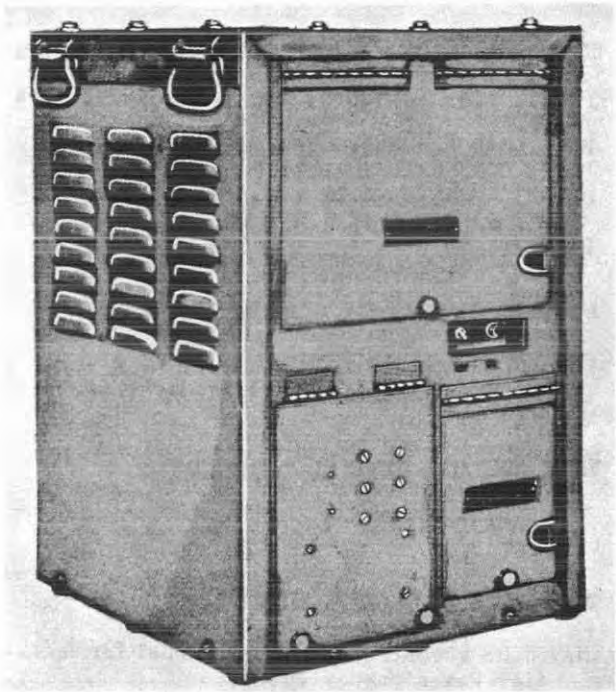
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Magnetic Compensator NT-20312 including:	1	7-1/4 X 14 X 16-3/4	25
1	Set of Equipment Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Magnetic Compensator NT-20312 including:	6-1/4 X 6-3/8 X 13-7/8	
1	Set of Equipment Spares		

RECTIFIER POWER UNIT



Rectifier Power Unit 20341

FUNCTIONAL DESCRIPTION

The 20341 operates from two different input voltages, and provides three different output voltages, the theory of operation is essentially the same for all combinations of input and output voltages. Different taps on the power transformer are used for the different voltages.

Under all operating conditions, the unit may be roughly divided into two circuits, the power circuit and the regulating circuit.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER: 110 to 220 v, 50 to 60 cps.
OUTPUT VOLTAGE: 7, 14, 28 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electronic Laboratories, Inc., Indianapolis, Indiana.

Contract: NXsr-41070 dated 9 September 1944.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,541-1B: Technical Manual for Rectifier Power Unit Navy Type 20341.

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	Rectifier Power Unit NT-20341	7.78	19-5/8 X 23-1/4 X 28	335
1	Set of Equipment Spares	5.94	18-1/4 X 18;3/8 X 29-1/2	105

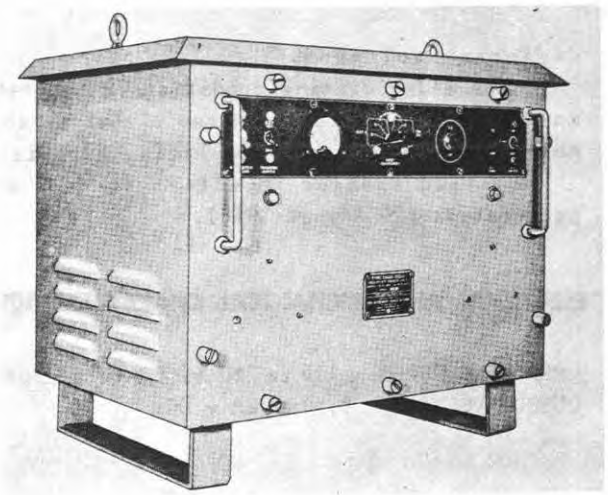
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Unit NT-20341	16-1/2 X 17-5/8 X 24-1/8	263
1	Set of Equipment Spares	15-1/4 X 16-1/8 X 25-1/4	47

March 1957

Radio-Auxiliary

RECTIFIER POWER SUPPLY 20350



Rectifier Power Supply

FUNCTIONAL DESCRIPTION

The 20350 is designed to operate from nominal 115 v, 50 to 60 cycles, single phase alternating current. Variations from 105 volts to 130 v are permitted. The rectifier supplies direct current at 6-1/2, 13 or 26 volts, not simultaneously for the operation of radio and radar equipment requiring up to 500 watts at 13 volts and at 26 volts or 250 watts at 6-1/2 volts.

The equipment is provided with a voltmeter and suitable switches to control the output voltage to the correct value needed for the radio or radar equipment to be operated from it. The percent of ripple in the output is less than 2% when measured peak to peak.

The equipment is a complete self-contained unit and requires no external parts.

No field changes in effect at time of preparation (17 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT: 105 to 130 v, 50 to 60 cps, single ph.
FULL LOAD CURRENT: 7 amp.
POWER CONSUMPTION: 660 W.
OUTPUT: 500 W at 26 v DC, or 500 W at 13 v DC, or 250 W at 6.5 v DC.
RIPPLE: 2%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Controls Inc, New York, N.Y.
Contract NXsr 71310, 11 August 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900667: Technical Manual for Rectifier Power Supply 20350.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

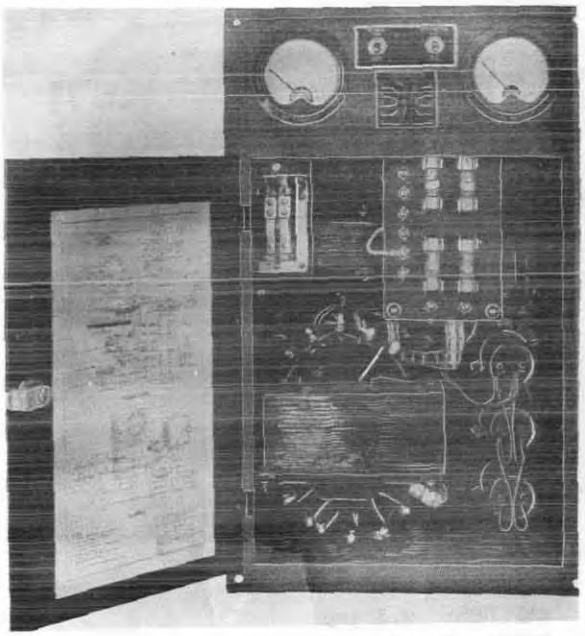
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Rectifier Power Supply NT-20350	8.4		223
1	Set of Spares	1.5		20

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Supply NT-20350	18 X 21 X 24	165
1	Set of Spare Parts		

RECTIFIER POWER UNIT



Rectifier Power Unit 20484

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 105 to 125 v or 210 to 250 v, 50 to 60 cps, single ph.
OUTPUT: 0 to 6 amp DC continuous at 120 v.
TAPS: 12 output taps each of which will raise the voltage approximately 2 v.

MANUFACTURER'S OR CONTRACTOR'S DATA

Power Equipment Co., Detroit, Mich.
Part No. PEC-167F
Contract NSsr 9531

TUBE COMPLEMENT

(1) EL6CF
Total Tubes: (1)

REFERENCE DATA AND LITERATURE

Technical Manual for Rectifier Power Unit-Navy Type CAIU-20484.

FUNCTIONAL DESCRIPTION

The Navy type 20484 is designed to supply filtered DC for the operation of teletype equipment. The rectifier element used is a full wave rare gas type tube that is capable of operating at low ambients. Radio frequency noise is suppressed by means of suitable filters. Control is by means of a tap switch. It is designed to be mounted on a wall.

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

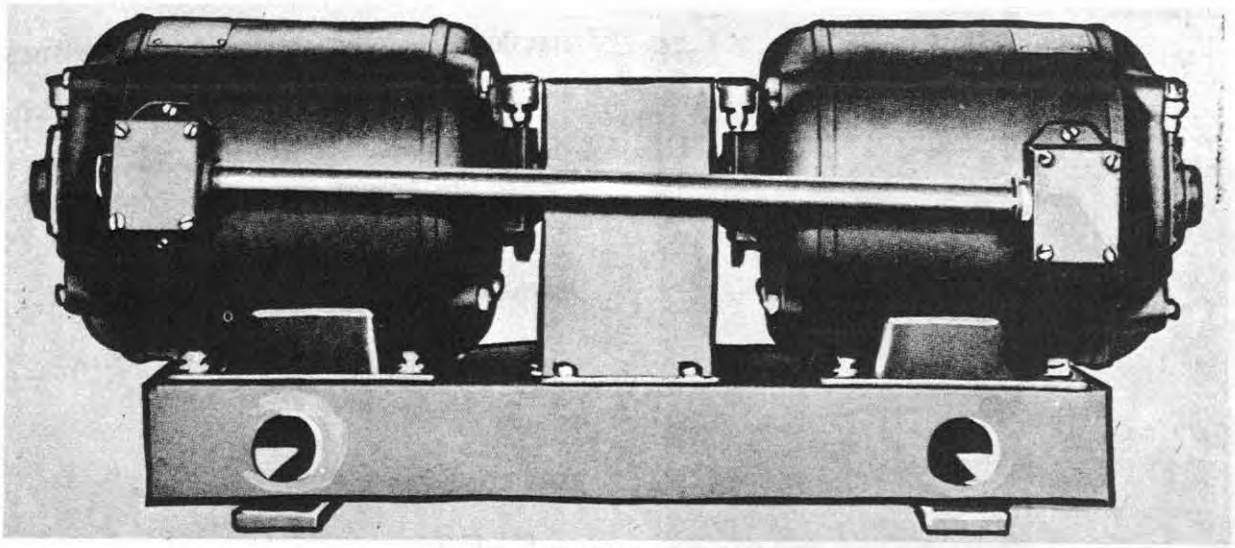
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Rectifier Power Unit-CAIU-20484	12-3/4 X 13-1/2 X 21-3/4	128

MOTOR-GENERATOR SET

211018



Motor-Generator Set 211018

FUNCTIONAL DESCRIPTION

The NT-211018 is designed for operation from the ship's AC power and to supply DC power of a nearly constant voltage for radio transmitting and receiving systems. The motor generator set consists of an AC motor and a DC generator mounted on a common structural steel base with their shafts on a common axis and coupled together with a flexible coupling.

No field changes in effect at time of preparation (28 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE: 115 or 230 v DC.
- FREQUENCY: 60 cps.
- PHASE: Single
- AMPERES: 9.4 or 4.7 (full load).
- HORSEPOWER: 3/4 hp.
- SPEED: 1750 rpm, constant.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50° C.
- TEMPERATURE RISE: 40° C.
- ENCLOSURE: Dripproof.
- COOLING: Self.

GENERATOR DATA
- KILOWATTS: 1/4 kw.
- VOLTAGE 27 v DC.
- SPEED: 1750 rpm, constant.
- AMPERES: 9.3 amp.
- DUTY: Continuous.
- AMBINET TEMPERATURE: 50° C.
- TEMPERATURE RISE: 40° C.
- ENCLOSURE: Dripproof.
- COOLING: Self.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St. Louis, Mo.
Contract NXss-22953, dated 24 February 1943.
Contract NXss-28262, dated 1 May 1943.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

Technical Manual for Motor-Generator Set Navy Type 211018.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

211018 MOTOR-GENERATOR SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211018 consisting of:	13 X 14 X 29	175
1	Motor NT-211017	8-5/32 X 8-5/8 X 14-1/4	66
1	Generator NT-211016	8-5/32 X 11-7/16 X 13-3/4	58
1	Mounting Bar	2-13/16 X 13 X 22	
1	Set of Equipment Spares		

March 1957

MOTOR-GENERATOR SET

211020

FUNCTIONAL DESCRIPTION

The NT-211020 is a 1/2 kva motor generator which is designed to convert 230 volt DC power from ship's line to 115 volt, 60 cycle, single phase AC power up to its rated capacity for general radio transmitting and receiving devices. The input and output circuits of the set are not filtered. A speed governor is incorporated in the design of the driving motor to hold the frequency of AC output constant at 60±1 cycles per second.

The unit is controlled by a magnetic starter and four push button stations. The starter provides overload protection and is of the automatic reset type. The starter and push button stations are in separate enclosures.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR
- VOLTAGE: 230 v nom (210 to 260 v actual)
- CURRENT: 7.5 AMP.
- SPEED: 1800 RPM.
- HORSEPOWER: 0 75
- OVERLOAD CAPACITY: 25% for 2 hours.
- SPEED CLASSIFICATION: Constant.
- DUTY: Continuous
- ENCLOSURES: Dripproof.
- WINDING: Shunt interpole.
- NAVY SERVICE: Class A.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 40°C.
- INSULATION: Class A.
- METHOD OF COOLING: Self-ventilated.
- SPEED REGULATOR: Centrifugal type.

GENERATOR
- PRIME MOVER: DC motor.
- AMBIENT TEMPERATURE: 50°C.
- INSULATION: Class A.
- ENCLOSURE: Dripproof.
- METHOD OF COOLING: Self-ventilated.
- SIZE: 1/2 kva.
- POWER FACTOR: 85%
- DUTY: Continuous.
- OUTPUT: 115 v,60 cps, single phase.
- EXCITATION: DC source.
- OVERLOAD: 25% for 2 hrs.
- TEMPERATURE RISE: 40°C.

CONTROLLER NT-211244
- ENCLOSURE: NEMA type 1.
- RATING: 75 hp, 230 v DC.
- OPERATION: Magnetic.
- TYPE: Line-start.
- FUNCTION: Motor starting.
- DUTY: Continuous.
- PROTECTION: Overload.
- PERFORMANCE: Semi-automatic.
- SERVICE: Class A.
- AMBIENT: 50°C.
- INSULATION: Class A.
- MOUNTING: Bulkhead.

MASTER SWITCH 24292
- OPERATION: Manual.
- LOCATION: 4 distant.
- SERVICE: Class A.
- AMBIENT: 50°C.
- INSULATION: Class A.
- TYPE: Push button.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Hertner Electric Company, Cleveland, Ohio.
Contract NXsr 44537, dated 8 April 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

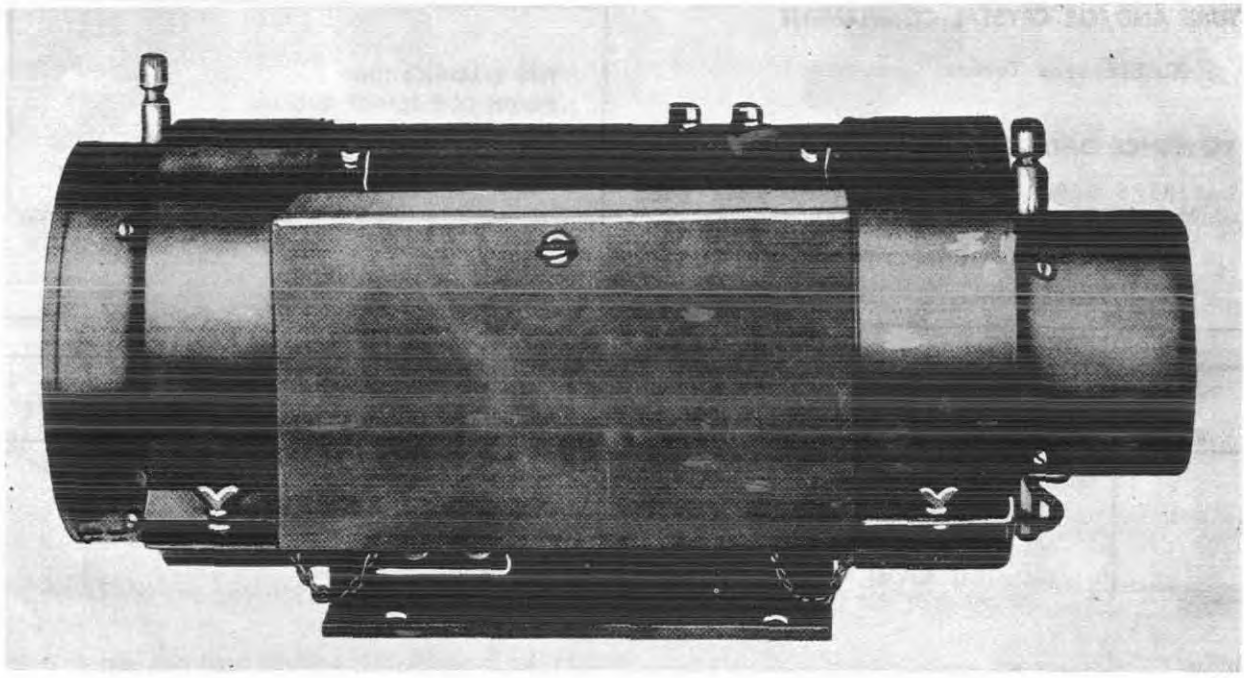
NAVSHIPS 95387: Technical Manual for Motor Generator Set Navy Type 211020.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211020 including:	11-3/8 x 13-3/16 x 25-5/8	160
1	Motor Controller NT-211244	4-11/16 x 6-9/16 x 8-13/16	
4	Distant Push Button NT-24292	3-1/4 x 4-19/32 x 6-1/4	
2	Installation, Operation and Maintenance Instructions		
1	Set of Equipment Spares	6 x 6 x 12	

MOTOR-GENERATOR SET



Motor-Generator Set 211133

FUNCTIONAL DESCRIPTION

The NT-211133 is designed for converting DC power to AC power of a nearly constant voltage and frequency over wide ranges of input voltage and load. Rated output voltage and frequency are automatically maintained by means integral with the machine. No external adjustments of any kind are necessary for loads within the capacity of the unit. A starting controller is not required and is not furnished with this motor-generator set.

No field changes in effect at time of preparation (28 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE: 105 to 130 v DC.
- AMPERES: 4.6 amp.
- SPEED: 1800 rpm constant.
- HORSEPOWER: 0.5 hp.
- OVERLOAD CAPACITY: 25% for 2 hr.
- DUTY: Continuous.
- ENCLOSURE: Dripproof.
- AMBIENT TEMPERATURE: +50°C nominal.
- TEMPERATURE RISE: 60°C.
- COOLING: Self.
- SPEED REGULATOR: Centrifugal type.
- FILTER: Each input line.

GENERATOR DATA
- OUTPUT: 115 v AC, 60 cps, single phase, 2.17 amp, 85% pf, 0.25 kva.
- AMBIENT TEMPERATURE: +50°C nominal.
- TEMPERATURE RISE: 60°C.
- COOLING: Self.
- ENCLOSURE: Dripproof.
- DUTY: Continuous.
- OVERLOAD CAPACITY: 25% for 2 hr.
- FILTER: Each output line.

MANUFACTURER'S OR CONTRACTOR'S DATA

Continental Electric Company, Newark, N.J.
Contract NXsr 44560, dated 31 December 1943.

MOTOR-GENERATOR SET

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,475: Technical Manual for Motor Generator Set Navy Type 211133.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Generator Set NT-211133 including:	6.6	16-7/8 X 20-5/8 X 33-1/2	195
1	Disconnect Switch NT-24264			
1	Set of Equipment Spares			
2	Technical Manual NAVSHIPS 900,475			

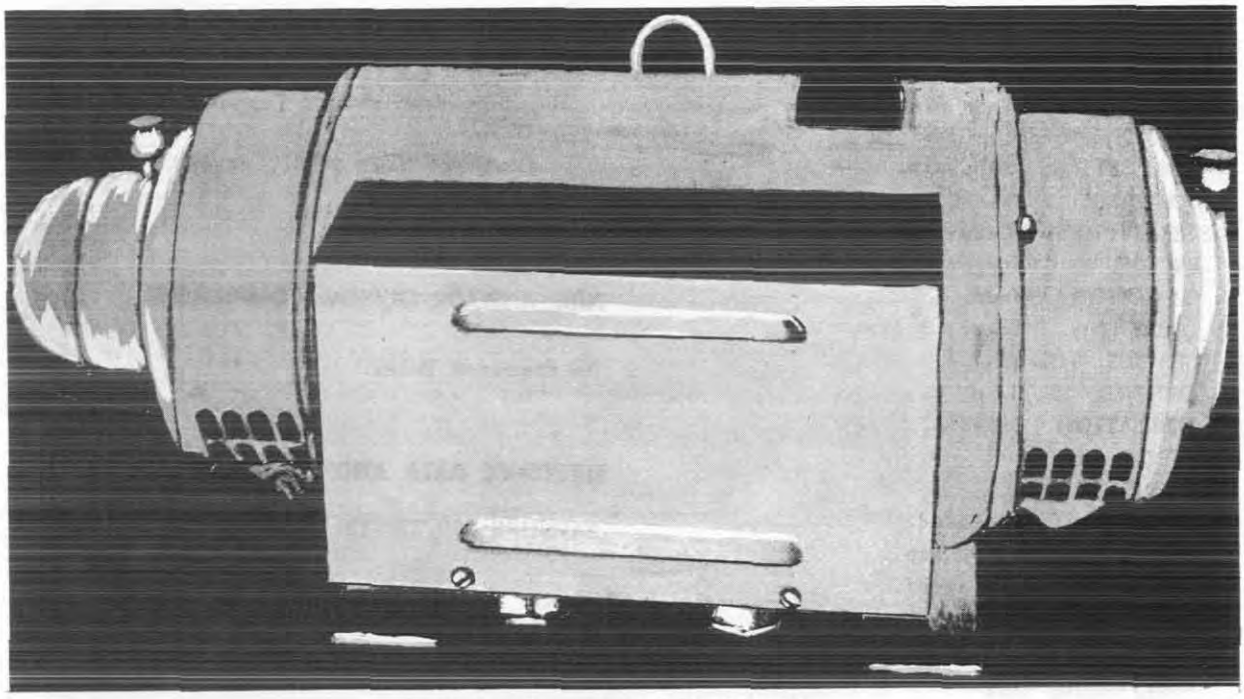
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211133 consisting of:	10-1/2 X 13-7/8 X 22-3/4	132
1	Disconnect Switch NT-24264	6-11/16 X 8-3/8 X 9-9/16	12
2	Technical Manual NAVSHIPS 900,475		
1	Set of Equipment Spares	6 X 6 X 12	15

March 1957

MOTOR-GENERATOR UNIT

211139



Motor-Generator Unit 211139

FUNCTIONAL DESCRIPTION

The NT-211139 is a 1/2 kva motor generator which has been designed to convert 230 volt DC power from ship's line to 115 v, 60 cycle, single phase AC power up to its rated capacity for general radio transmitting and receiving devices. The input and output circuits of the set are filtered so that conducted radio noise does not exceed 5 micro-volts and radiated noise does not exceed 5 micro-volts per meter.

The unit is controlled by a magnetic starter and four push button stations. One of the push buttons is mounted in the cover of the starter and the other three are distant stations. The starter provides overload protection and is of the electrical reset type. Further protection is provided by a fused disconnect switch mounted ahead of starter in DC line.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR
- INPUT POWER REQUIREMENTS: 210 to 260 v DC (230 v DC nom) at 3.7 amp. 800 W.
- STARTING CURRENT: 20 amp.
- SPEED: 1800 rpm.
- HORSEPOWER: 0.75.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- SPEED CLASSIFICATION: Constant.
- DUTY: Continuous.
- ENCLOSURES: Drip proof.
- WINDING: Shunt interpole.
- SERVICE: Class A.
- AMBIENT: 50°C.
- TEMPERATURE RISE: 50°C.
- INSULATION: Class B.
- METHOD OF COOLING: Self-ventilated.
- SPEED REGULATOR: Centrifugal type.
- FILTER: Filter each line.

GENERATOR
- PRIME MOVER: DC motor.
- AMBIENT TEMPERATURE: 50°C.
- INSULATION: Class B.
- ENCLOSURE: Drip proof.
- COOLING: Self-ventilated.
- CAPACITY: 1/2 kva.
- POWER FACTOR: 85%.
- DUTY: Continuous.
- OUTPUT: 115 v, 60 cps, single phase.
- EXCITATION: DC source.
- OVERLOAD: 25% for 2 hrs.
- TEMPERATURE RISE: 50°C.
- FILTER: Filter each line.

CONTROLLER NT-211140
- ENCLOSURE: Drip proof.
- RATING: .75 hp, 230 v DC.
- OPERATION: Magnetic.
- TYPE: Resistant.
- FUNCTION: Motor starting.
- DUTY: Continuous.
- PROTECTION: Overload and low voltage.
- PERFORMANCE: Semi-automatic.

211139 MOTOR-GENERATOR UNIT

SERVICE: Class A.
AMBIENT: 50°C.
INSULATION: Class A.
SHOCKPROOFNESS: Class HI.
LINE SWITCH: Separate.
MOUNTING: Bulkhead.

MASTER SWITCH NT-24299.
ENCLOSURE: Watertight.
OPERATION: Manual.
LOCATION: 1 local, 3 distant.
SERVICE: Class A.
AMBIENT: 50°C.
INSULATION: Class A.
TYPE: Lever.

LINE SWITCH
TYPE: Knife-enclosed.
RATING: 250 v, 30 amp.
ENCLOSURE: Drip proof.
MOUNTING: Bulkhead.
POLES: 2.
POSITIONS: Single Throw (off-on).
CONNECTIONS: Bottom.
SPECIAL FEATURES: Door-opening, circuit breaking operation.
SERVICE: Class A.
SHOCK: Class HI.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Hertner Electric Company, Cleveland, Ohio.
Contract NXsr 44537, dated 31 December 1943.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,320-IB.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

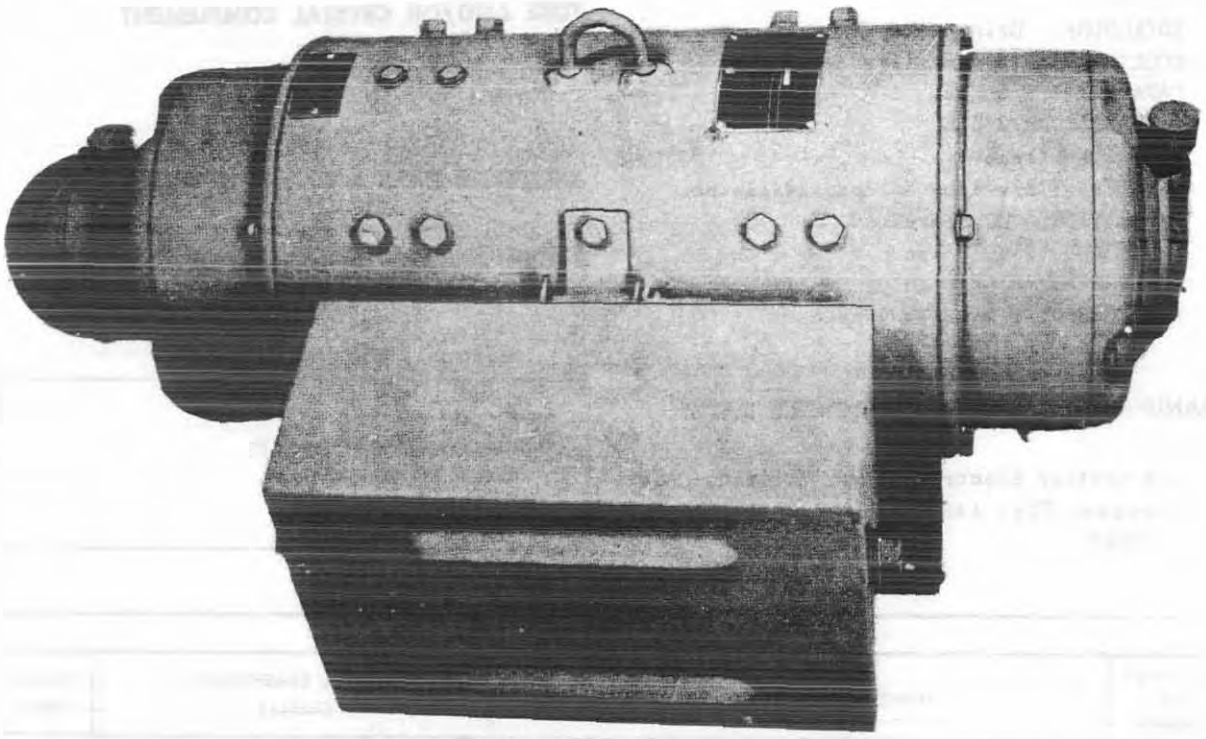
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211139 including:	11-3/8 X 14-1/2 X 25-5/8	160
1	Motor Controller NT-211140	10-3/16 X 11-11/16 X 18-1/2	49
1	Disconnect Switch NT-24264	6-1/16 X 8-3/8 X 9-9/16	10
3	Distant Push Button NT-24299	4-1/4 X 4-7/8 X 8-1/8	6
2	Installation, Operation and Maintenance and Technical Manual		
1	Set Equipment Spares		9

March 1957

MOTOR-GENERATOR UNIT

211141



Motor-Generator Unit 211141

FUNCTIONAL DESCRIPTION

The 211141 is a 1/2 Kva motor generator which has been designed to convert 115 v DC power from ship's line to 115 volt, 60 cycle, single phase AC power up to its rated capacity for general radio transmitting and receiving devices. The input and output circuits of the set are filtered so that conducted radio noise does not exceed 5 micro volts and radiated noise does not exceed 5 microvolts per meter.

The motor generator unit is controlled by a magnetic starter and four push button stations. One of the push buttons is mounted in the cover of the starter and the other three are distant stations. The starter provides overload protection and is of the electrical reset type. Further protection is provided by a fused disconnect switch mounted ahead of starter in DC line.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR

- VOLTAGE: 115 v DC *nom* (105 to 130) actual.
- CURRENT: 7.5 amp.
- HORSEPOWER: .75.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- SPEED CLASSIFICATION: Constant.
- DUTY: Continuous.
- ENCLOSURES: Drip proof.
- WINDING: Shunt interpole.
- NAVY SERVICE: Class A.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 50°C.
- INSULATION: Class B.
- COOLING: Self-ventilated.
- SPEED REGULATOR: Centrifugal type.
- FILTER: PI filter ea line.

GENERATOR

- PRIME MOVER: DC motor.
- AMBIENT TEMPERATURE: 50°C.
- INSULATION: Class B.

211141 MOTOR-GENERATOR UNIT

March 1957

ENCLOSURE: Drip proof.
COOLING: self-ventilated.
CAPACITY: 1/2 kva.
POWER FACTOR: 85%.
DUTY: Continuous.
OUTPUT: 115 v nom, 60 cps, single ph.
EXCITATION: DC Source.
OVERLOAD: 25%, 2 hrs.
TEMPERATURE RISE: 50°C.
FILTER: PI-filter ea line.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,467-1B: Technical Manual for Motor-Generator Unit Navy Type 211141.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Hertner Electric Co., Cleveland, Ohio
Contract NXsr 44537, dated 31 December 1943.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

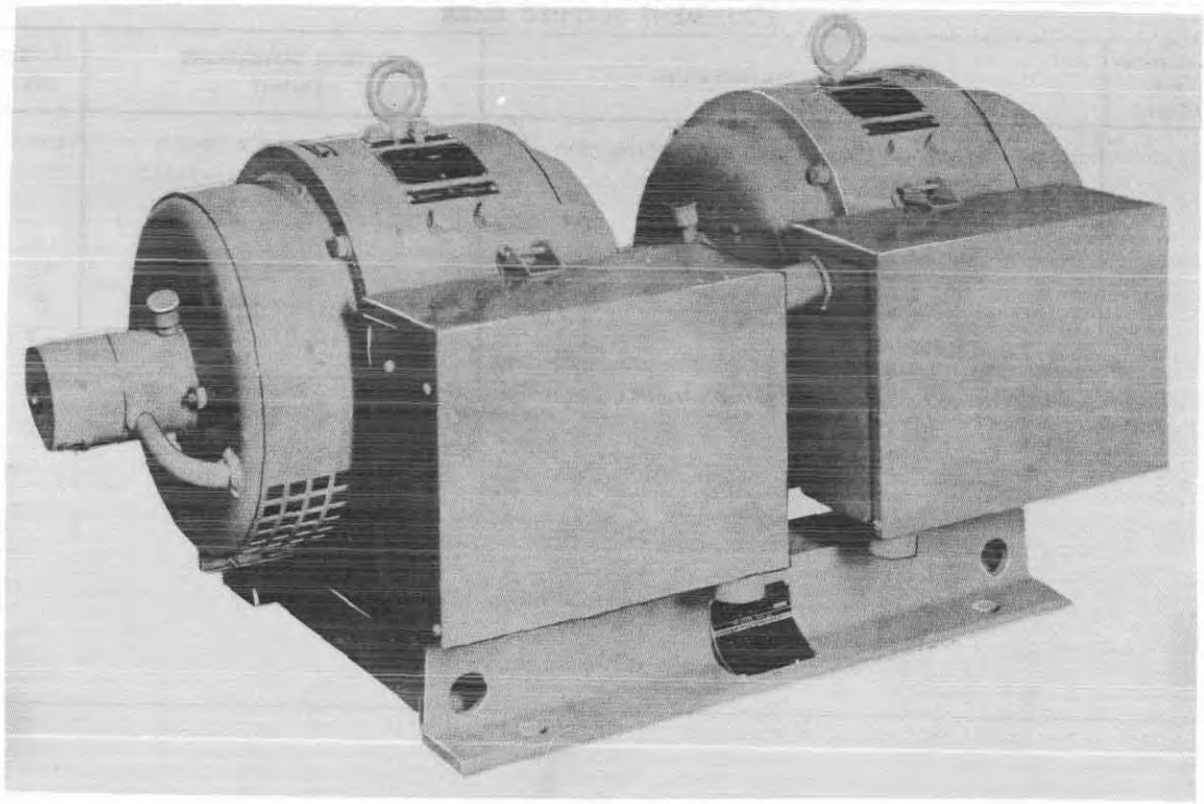
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211141	11-3/8 X 14-1/2 X 25-5/8	160
1	Motor Controller NT-211142	10-3/16 X 11-11/16 X 18-1/2	49
1	Disconnect Switch NT-24264	6-1/16 X 8-3/8 X 9-9/16	10
3	Distant Push Button NT-24299	4-1/4 X 4-7/8 X 8-1/8	6
2	Installation, Operation and Maintenance Technical Manual		
1	Set of Equipment Spares		11

June 1957

Radio-Auxiliary

MOTOR-GENERATOR SET

211147



Motor-Generator Set 211147

FUNCTIONAL DESCRIPTION

The NT-211147 is intended for operation on ship's DC power supply and is to generate AC for general radio use.

No field changes in effect at time of preparation (17 Sept 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR
- VOLTAGE: 115 v DC.
- AMPERE: 14.5 amp.
- SPEED: 1800 rpm.
- HORSE POWER: 1.5.
- OVERLOAD: 25%, 2 hours.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50 deg C.

GENERATOR
- VOLTAGE: 115 v AC.
- FREQUENCY: 60 cps, single ph.
- KILLOWATT CAPACITY: 1 KVA.

METHOD OF COOLING: Self ventilated.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Electric Products Company, Cleveland, Ohio.
Contract: NXsr-LL-44565

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,278 A.I.B: Technical Manual for Motor Generator Set Navy Type 211147.

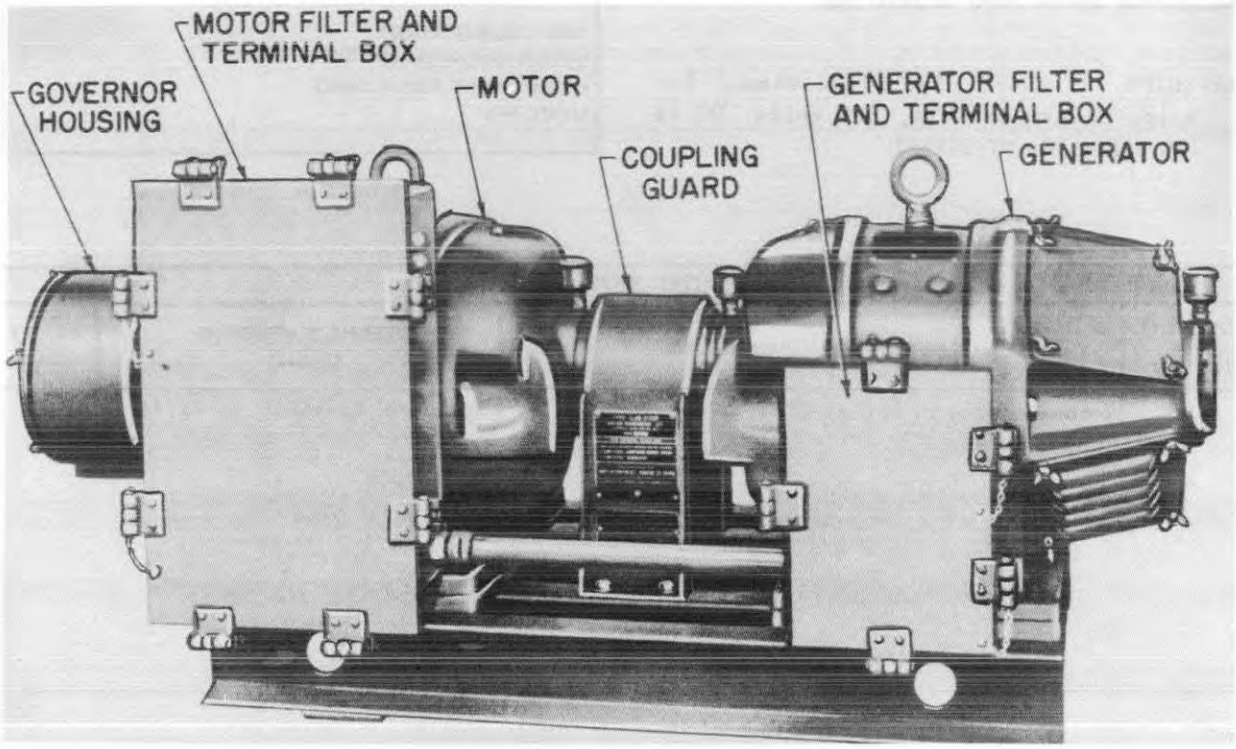
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

211147 MOTOR-GENERATOR SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-211147 consisting of:	18-1/2 X 19-15/16 X 36-3/8	440
1	Motor NT-211148	11-3/4 X 15-5/16 X 18-19/32	
1	Generator NT-211149	11-3/4 X 15-5/16 X 16-3/8	
1	Mounting Base		
1	Motor Controller NT-211215	10-1/2 X 16-1/2 X 20	90
1	Disconnect Switch NT-24264	6-1/16 X 8-3/8 X 9-9/16	10
3	Push Button Station NT-24265	3 X 3-1/8 X 6-1/4	3 ea
1	Set of Equipment Spares	9 X 12 X 18	13

MOTOR-GENERATOR



Motor Generator 211151

FUNCTIONAL DESCRIPTION

The 211151 is intended for converting direct current power from the ships line to alternating current for vacuum tube transmitting and receiving systems.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- DEGREE OF ENCLOSURE: Drip proof and ventilated.
- METHOD OF COOLING: Air.
- SPEED: 1800 rpm.
- DUTY: Continuous.
- VOLTAGE: 230 v DC.
- CURRENT: 7.2 amps.
- HORSEPOWER: 1.75.
- TYPE OF SPEED REGULATOR: Automatic centrifugal contractor type.

GENERATOR
- DEGREE OF ENCLOSURE: Drip proof ventilated.
- METHOD OF COOLING: Air.
- SIZE: 1KVA.
- POWER FACTOR: 0.85
- DUTY: Continuous.
- VOLTAGE: 115 v AC.
- FREQUENCY: 60 cps.
- PHASE: Single.

MANUFACTURER'S OR CONTRACTOR'S DATA

Janette Mfg. Co., Chicago, Ill;
Contract NXsr-44561 dated 13 January 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

ıbes.

Radio-Auxiliary
211151

MOTOR-GENERATOR

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,404IB, Technical Manual for Motor-Generator 1KVA, 230 volts, DC to 115 volts AC; NT-211151.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

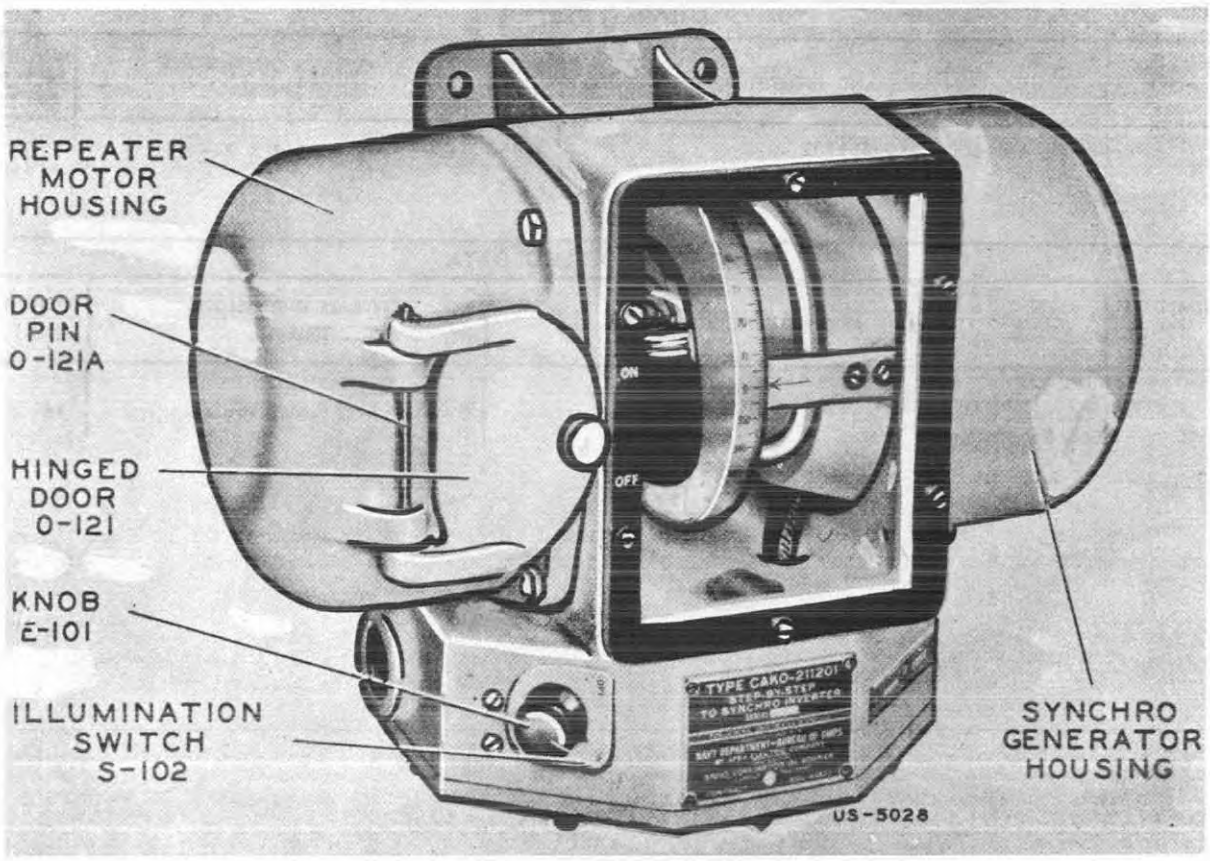
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-211151	18-5/8 X 19-1/2 X 43-13/16	435

March 1957

STEP-BY-STEP TO SYNCHRO INVERTER

211201



Step-by-Step to Synchro Inverter

FUNCTIONAL DESCRIPTION

The 211201 is intended primarily to furnish ship's bearing to added positions aboard ship. These bearings are required to various types of sonar equipments.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE: 115 v, single phase, 60 cps.
POWER CONSUMPTION
WITH 5-G GENERATOR: 6W.
WITH 6-G GENERATOR: 12 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Division of Radio Corporation of America, Camden, New Jersey.
Contract: NXsr-44529 dated 16 December 1943.
Approximate Cost: $2500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Step-by-Step to Synchro Inverter CAKO-211201.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

211201 STEP-BY-STEP TO SYNCHRO INVERTER

March 1957

SHIPPING DATA

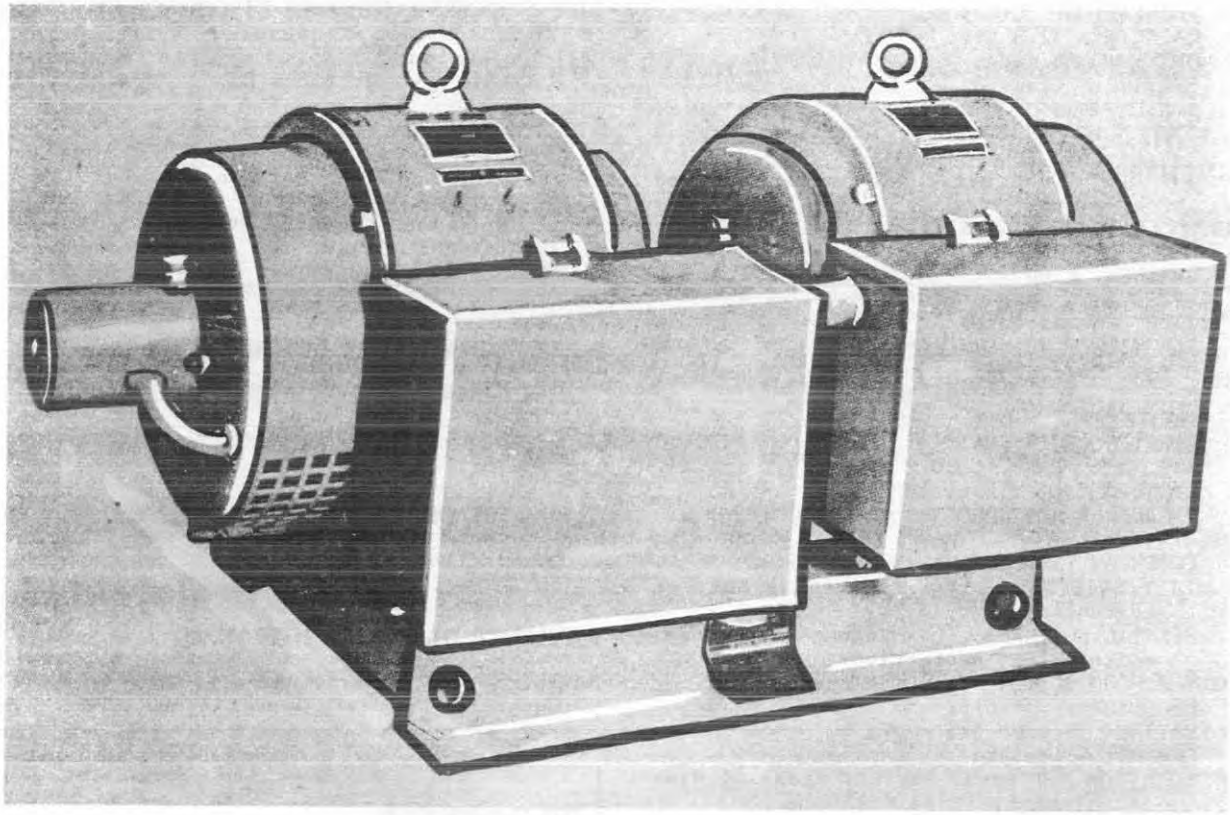
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Gyro-Inverter CAKO-211201	2.65	14-3/4 X 14-1/2 X 21-1/2	76

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Gyro-Inverter CAKO-211201	9-1/8 X 11-3/16 X 16-1/4	36
1	Set Spare Parts		

MOTOR-GENERATOR SETS

211246



Motor Generator Set 211246

FUNCTIONAL DESCRIPTION

The 211246 is intended for operation on ships DC power supply and is to generate alternating current for general radio use.

The motor-generator consists of a direct current motor and an alternating current generator and is direct connected through a flexible coupling and mounted on a structural steel baseplate. The motor is equipped with an automatic speed governor mounted on the end opposite the coupling and is enclosed in a sheet metal drip proof cover. A drip proof sheet metal box containing all the filter systems and condensers with necessary terminals for input DC lines is mounted on the side of the motor frame. The generator is equipped with a sheet metal box containing a filter system and resistor with terminals for AC output. All hand hole openings are covered with drip proof sheet metal covers, which are readily removeable for interior inspection.

No field changes in effect at time of preparation (28 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR 211247
- VOLTAGE: 230 v DC nominal.
- CURRENT: 15.7 amps.
- SPEED: 1800 rpm.
- HORSEPOWER: 4 hp
- OVERLOAD: 25%, 2 hr.
- SPEED CLASSIFICATION: Constant.
- DUTY: Continuous.
- ENCLOSURES: Drip-proof protected
- WINDING: Shunt.
- NAVY SERVICE: Class A.
- AMBIENT TEMPERATURE RANGE: -30°C to +50°C.
- INSULATION: Class B.
- METHOD OF COOLING: Self-ventilated.
- SPEED GOVERNOR: Automatic Centifugal controller type.
- FILTER: Combination RF Choke Coil and capacitors.

GENERATOR 211248.
- PRIME MOVER: DC motor.
- ENCLOSURE: drip-proof semi-enclosed.
- METHOD OF COOLING: Self-ventilated.
- VOLTAGE: 115 v, 60 cps, single phase.

MOTOR-GENERATOR SETS

INSULATION: Class B.
CAPACITY: 2.5 kva.
DUTY: Continuous.
SERVICE: Class A.
AMBIENT TEMPERATURE RANGE: -30°C to +50°C.
FREQUENCY ADJUSTMENT: Automatic speed governor on prime mover
FILTER: Combination RF choke coil and capacitors.

MOTOR CONTROLLER NT-211217
ENCLOSURE: Drip-proof.
RATING: 4 hp.
OPERATION: Magnetic.
TYPE: Resistance.
FUNCTION: Motor starting.
DUTY: Continuous.
PROTECTION: Low voltage, overload.
PERFORMANCE: Semi-automatic.
SERVICE: Class A.
AMBIENT: 50°C (-30°C to +50°C) actual.
INSULATION: Class A.
DEGREE OF SHOCKPROOF: Class HI (high impact).
POWER ON INDICATION: Not required.
LINE SWITCHES: Not required as part of controller.
SPECIAL FEATURES: Low voltage protection and overload protection.

MASTER PUSH BUTTON STATION NT-24265
ENCLOSURE: Drip-proof.
RATING: 5 amp, 345 v DC.
OPERATION: Manual.
LOCATION: 1 local (start, stop), 3 distant (start, stop).
SERVICE: Class A.
AMBIENT: 50°C nominal (-30°C to +50°C) actual.
INSULATION: Class A.
TYPE: Push button (start, stop).

LINE SWITCHES-CONTROLLER DISCONNECT NT-24264
TYPE: KE (knife enclosed) knife spring operated.
RATING: 30 amp, 250 v DC.
ENCLOSURE: Drip-proof.
MOUNTING: As a complete unit.
POLES. 2 poles.
POSITIONS: Off-on (single throw).
CONNECTION: Front.
SHOCK: Class HI (high impact).
INSULATION: Class A.
FUSES: 30 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Electric Products Company, Cleveland, Ohio
Contract NXsr-LL-44565

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,279: Technical Manual for Motor Generator Set Navy Type 211246.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

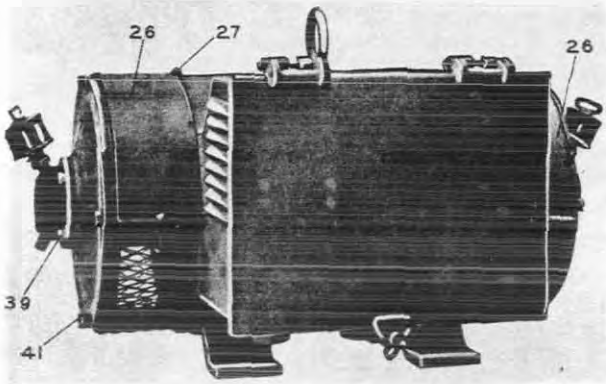
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-211246 consisting of:	20-1/16 x 20-3/4 x 39-3/4	540
1	Motor NT-211247	16-13/16 x 19-1/2 x 20-3/32	
1	Generator NT-211248	16-13/16 x 17-13/16 x 18-7/8	
1	Motor Controller NT-211217	10-1/2 x 16-1/2 x 20	90
1	Disconnect Switch NT-24264	6-1/16 x 16-1/2 x 20	10
3	Push Button Station NT-24265	3 x 3-1/8 x 6-1/4	3
1	Mounting Base		
1	Set of Installation, Operation and Maintenance Instructions		
1	Set of Equipment Spares	9 x 12 x 18	15

March 1957

MOTOR-GENERATOR UNIT

211260



Motor Generator Unit 211260

FUNCTIONAL DESCRIPTION

The NT-211260 is designed for operation from the ships DC power and to supply AC power for the operation of radio equipment. The motor and generator are combined in a single frame with both armatures on a common shaft.

No field changes in effect at time of preparation (28 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE: 105 to 130 v DC.
- HORSEPOWER: 0.65 hp.
- AMPERES: 4.6 (full load).
- SPEED: 1800 rpm; constant.
- DUTY: Continuous.
- ENCLOSURE: Drip proof.
- AMBIENT TEMPERATURE: 50 deg C.
- TEMPERATURE RISE: 60 deg C.
- COOLING: Self.

GENERATOR DATA
- VOLTAGE: 115 v AC.
- KILOVOLT AMPERES: 0.25.
- POWER FACTOR: 0.85.
- FREQUENCY: 60 cps.
- PHASE: Single.
- DUTY: Continuous.
- SPEED: 1800 rpm, constant.
- ENCLOSURE: Drip proof.
- AMBIENT TEMPERATURE: 50 deg C.
- TEMPERATURE RISE: 60 deg C.
- COOLING: Self.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Safety Car Heating and Lighting Co., Inc. New York, N.Y.
Contract: NXsr-48337, dated 3 February 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,286-1B: *Technical Manual for* Motor Generator Unit Navy Type 211260.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

SHIPPING DATA

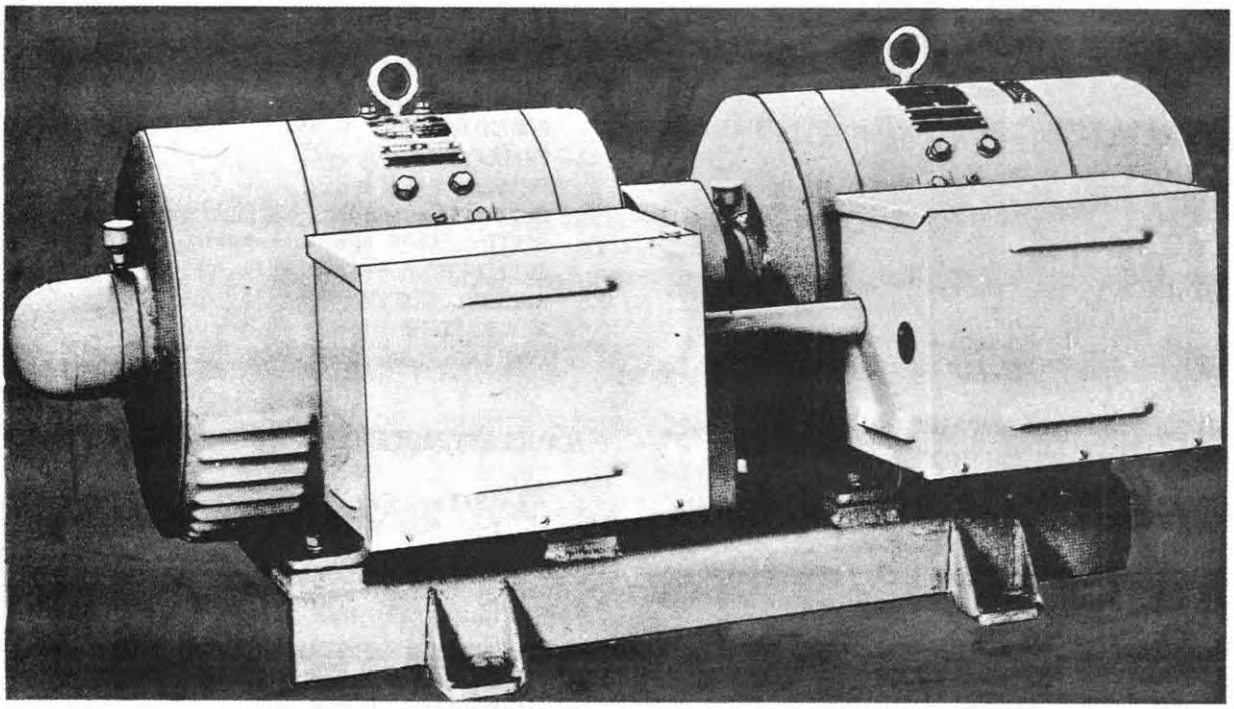
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (Inches)	WEIGHT PACKED (lbs.)
1 1 1	Motor Generator Unit NT-211260 including: Two Pole Switch NT-24264 Set of Equipment Spares			290

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1 1 1	Motor Generator Unit NT-211260 including: Two Pole Switch NT-24264 Set of Equipment Spares	13-5/16 X 15-1/2 X 24-7/8 6-1/16 X 8-3/8 X 9-9/16	200 10

MOTOR-GENERATOR SET

211271



Motor Generator Set 211271

FUNCTIONAL DESCRIPTION

The NT-211271 has been designed to convert 230 volt DC power from Ship's line to 115 v, 60 cycle, single phase AC power up to its rated capacity for general radio transmitting and receiving devices. The input and output circuits of the set are filtered so that conducted radio noise does not exceed 5 microvolts per meter.

A speed governor is incorporated in the design of the driving motor to hold frequency of the output constant 60 ±1 cycles per second. It is designed for rated power factor of 85 percent, and at any power factor between 70 and 100 percent, the output voltage will not decrease or increase, respectively more than 1/2 volt for each one percent change in power factor.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE: 230 v DC nom, 210 to 260 v DC actual.
- CURRENT: 23 amps.
- SPEED: 1800 rpm.
- RATING: 5 hp.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- SPEED: Constant.
- DUTY: Continuous.
- WINDING: Shunt interpole.
- ENCLOSURES: Drip proof.
- TEMPERATURE DATA: 50 deg C ambient, 50 deg C rise.
- COOLING METHOD: Self-ventilated.
- SPEED REGULATOR: Centrifugal type.
- FILTER: Each line.

GENERATOR DATA
- OUTPUT: 115 v nom, 60 ±1 cps, single ph.
- RATING: 4.0 kva.
- POWER FACTOR: 85%
- DUTY: Continuous.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- COOLING METHOD: Self-ventilated.
- ENCLOSURE: Drip proof.
- TEMPERATURE DATA: 50 deg C ambient, 50 deg C rise.
- FILTER: Each line.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Hertner Electric Company, Cleveland, Ohio.
Contract NXsr 51539, dated 8 March 1944.

211271 MOTOR-GENERATOR SET

March 1957

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,401-1B: Technical Manual for Motor Generator Set Navy Type 211271.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211272 consisting of: Motor NT-211272 Generator NT-211273	20-1/2 X 23-1/2 X 45-1/2	695
1	Motor Controller NT-211282	10-1/2 X 16-1/2 X 20	90
1	Disconnect Switch NT-24323	7 X 10-7/16 X 11-5/8	17
3	Distant Push Button NT-24265	3 X 3-1/8 X 6-1/4	3
2	Technical Manual NAVSHIPS 900,401 IB		
2	Spare Parts Manual NAVSHIPS 900,401 SP		
1	Set Equipment Spares		13.5

MOTOR-GENERATOR SET

FUNCTIONAL DESCRIPTION

The NT-211336 is designed for operation from the ship's AC power and to supply DC power of a nearly constant voltage for radio transmitting and receiving systems. The motor generator set consists of a AC motor and a DC generator mounted on a common structural steel base with their shafts on a common axis and coupled together with a flexible coupling.

No field changes in effect at time of preparation (28 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- HORSEPOWER: 3/4 hp.
- VOLTAGE: 115 or 230 v.
- FREQUENCY: 60 cps.
- PHASE: Single.
- AMPERES (FULL LOAD): 9.4 or 4.7 amp.
- SPEED: 1750 rpm, constant.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 40°C.
- ENCLOSURE: Drip proof.
- COOLING: Self.

GENERATOR DATA
- KILOWATTS: 0.25 kw.
- VOLTAGE: 27 v DC.
- AMPERES: 9.3 amp.
- SPEED: 1750 rpm, constant.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE: RISE: 40°
- ENCLOSURE: Drip proof.
- COOLING: Self.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St. Louis, Mo.
Contract NXsr-55672, dated 8 April 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

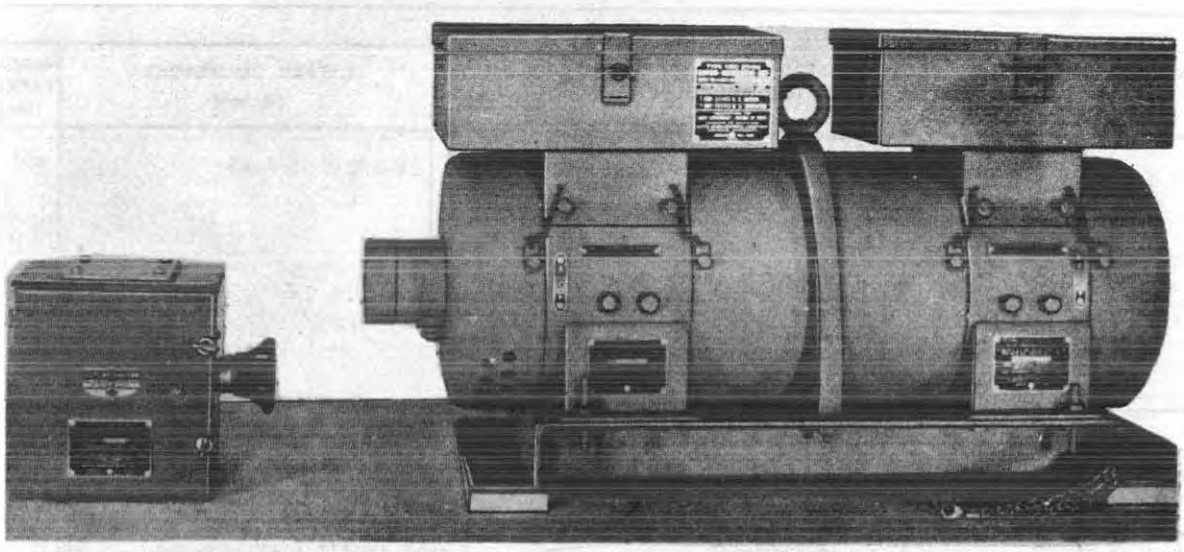
NAVSHIPS 900,558: Technical Manual for Motor-Generator Set Navy Type 211336.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-211336 consisting of:	13 X 14 X 29	175
1	Motor NT-211335	8-3/16 X 12-3/4 X 13-3/8	66
1	Generator NT-211334	8-3/16 X 12-3/4 X 12-7/8	58
1	Mounting Bar		
1	Set of Equipment Spares		

MOTOR GENERATOR SET



Motor Generator Set 211414

FUNCTIONAL DESCRIPTION

The NT-211414 has been designed to operate from ship's 115 v DC power line supplying either 13 or 26 v up to the rated output of 500 w for general radio transmission and receiving devices. Both the input side and the output side have been filtered so that the conducted and radiated radio noise is reduced to a very low degree. A mechanical contactor type speed regulator has been incorporated into the design of this motor-generator set. The function of this regulator is to hold the speed of the driving motor approximately constant with any intermittent varying of the ship's DC supply voltage from 105 to 130 v.

No field Changes in Effect at Time of Preparation (29 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

GENERATOR
VOLTAGE: 13 or 26 v DC.
AMPERE: 19.2 or 38.4.
WINDING: Compound.
MOTOR
VOLTAGE: 115 v DC.
AMPERE: 9.
HORSEPOWER: 1.
AMBIENT TEMPERATURE: 50 deg C.
OVERLOAD: 25% for 2 hrs.
DUTY: Continuous.
ENCLOSURE: Drip-proof.
TEMPERATURE RISE: 50 deg C.
SPEED: 1800 rpm.

MANUFACTURER'S OR CONTRACTOR'S DATA

Kato Engineering Co., Mankota, Minnesota.
Contract: NXsr-73899 dated 2 Sept 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes:

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,589: Technical Manual for MOTOR GENERATOR SET NT-211414 and Motor Disconnect switch NT-24264.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

MOTOR GENERATOR SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Generator Set CKO-211414 Consisting of (1) Disconnect Switch CAE-24264 Spare Parts		21-1/2 X 23 X 45	407

EQUIPMENT SUPPLIED DATA

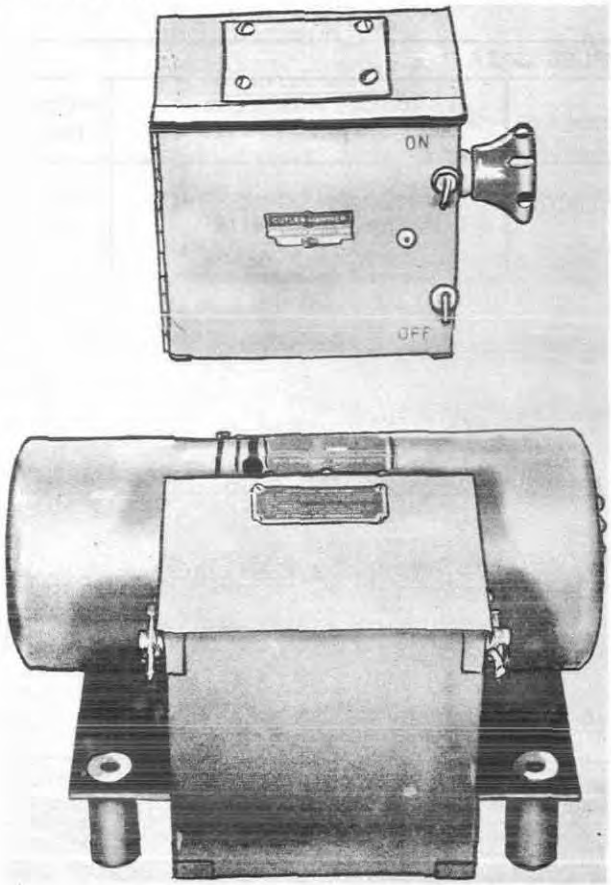
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set CKO-211414 consisting of:	15 X 16-1/2 X 31	255
1	DC Motor and filter CKO-211412		
1	DC Generator CKO-211413		
1	Disconnect Switch CAE-24264	6-1/4 X 8-3/8 X 9-9/16	12
2	Technical Manual including Spare Part List		
	Spare Parts	6-1/8 X 12-5/6 X 12-5/6	25

March 1957

DYNAMOTOR UNIT

Radio Auxiliary

211437



Dynamotor Unit 211437

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DYNAMOTOR
- INPUT: 115 v DC, 7.6 amp or 230 v DC, 3.8 amp.
- OUTPUT: 13 v DC, 38.5 amp; 26 v DC, 19.2 amp.
- DUTY: Continuous.
- TEMPERATURE RISE: 35 deg C.
- SPEED: 5400 rpm.
- EFFICIENCY: 55% nominal, full load

LINE SWITCH
- TYPE: Knife, spring operated.
- VOLTAGE: 250.
- CURRENT: 30 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

Eicor, Incl, Chicago, Ill.
Contract NXsr 76162, dated 16 September 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

NAVSHIPS 900.422: Technical Manual for Dynamotor Unit Navy Type 211437.

FUNCTIONAL DESCRIPTION

The NT-211437 is a self-contained rotary electrical machine, designed to supply DC; either one of two specified voltages for the operation of electronic equipment.

No field changes in effect at time of preparation (17 September 1956).

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	Dynamotor Unit NT-211437 including (1) Line Switch NT-24264 (1) Set of Spare Parts	4.98		142

Radio Auxilliary

211437 DYNAMOTOR UNIT

March 1957

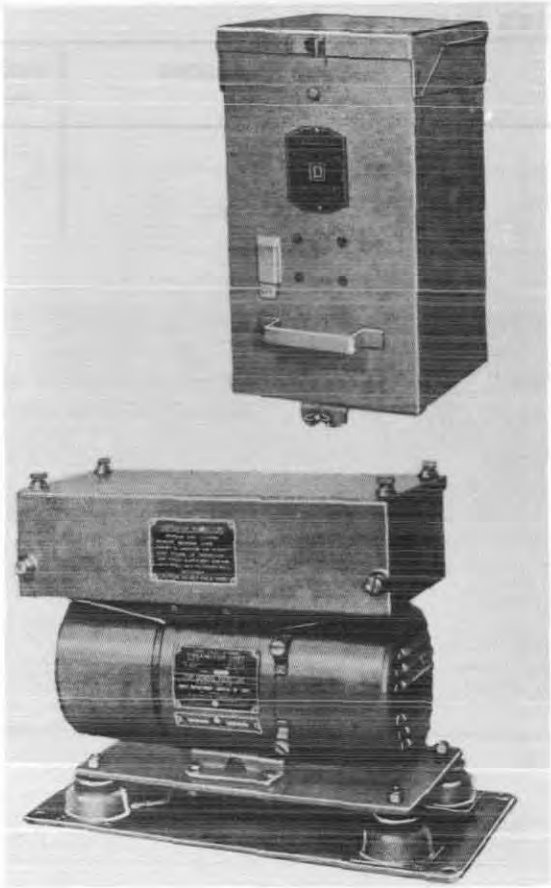
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Dynamotor Unit NT-211437 including:	11-3/16 X 14-1/4 X 14-15/16	61
1	Line Switch NT-24264	6-1/16 X 8-3/8 X 9-9/16	10
1	Set of Spare Parts		

Radio-Auxiliary

DYNAMOTOR UNIT

211444



Dynamotor Unit 211444

No field changes in effect at time of preparation (17 September 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 105 to 130 v DC, 6 amp.
OUTPUT: 13 or 26 v DC, 500 W, (depending on connections of output windings).
SPEED OF DYNAMOTOR: 5200 rpm at full load; 5680 rpm with no load (115 v input).
AMBIENT TEMPERATURE: 60°C (140°F) max.
STARTING TEMPERATURE: -55°C (-67°F) min.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electrolux Corp; Old Greenwich, Conn. Contract NXsr 87760, dated 6 January 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,584: Technical Manual for Dynamotor Unit Navy Type 211444.

FUNCTIONAL DESCRIPTION

The 211444 is designed to transform electrical power supplied by a 105 to 130 volts DC source to 13 or 26 volts DC as required for general radio equipment for operation at either of the two specified low voltages.

RF interference and AC ripple voltage are virtually eliminated by use of three noise filters.

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	Dynamotor Unit NT-211444 including: (1) Line Switch NT-24315 (2) Technical Manual NAVSHIPS 900,584	6.5	16-13/16 X 22-3/4 X 29-1/8	142

211444 DYNAMOTOR UNIT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Dynamotor Unit NT-211444	8 X 11-1/2 X 15	47.8
1	KE Switch NT-24315	6 X 7-1/2 X 14	16.3
1	Set of Spare Parts	1-1/2 X 2-1/2 X 3	

March 1957

MOTOR GENERATOR SET

211574,211575

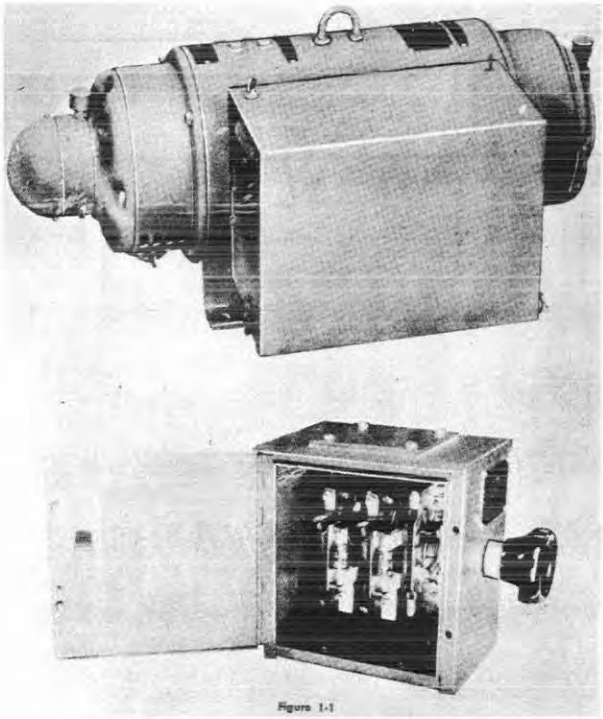


Figure 1-1

Motor Generator Set 211574, 211575

FUNCTIONAL DESCRIPTION

The 211574 and 211575 have been designed to convert DC power from the ships line to 115 volt ±5%, 60 cycles ±1 cycle, single phase, AC power up to the rated capacity 1/2 KVA, 4.35 amperes of the AC generator. The nominal power factor for which the equipment is designed is 85%, but the voltage will not increase or decrease more than 1/2 volt for each one percent change in power factor between the limits of 70 and 100 percent.

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

RELATION TO OTHER EQUIPMENT

Similar to 211139 and 211141, but more effective filters are used in 211574 and 211575 to reduce the noise level of the motor generator set.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE
  - 211574: 105 to 130 v DC.
  - 211575: 210 to 260 v DC.
- CURRENT RATING
  - 211574: 7.5 amp running; 75 amp starting.
  - 211575: 3.7 amp running; 37 amp starting.
- SPEED: 1800 rpm (constant).
- HORSEPOWER: 0.75.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- DUTY: Continuous.
- ENCLOSURES: Drip-proof.
- WINDING: Shunt interpole.
- TEMPERATURE DATA
  - AMBIENT: 50 deg C (122 deg F).
  - RISE: 50 deg C (122 deg F).
- COOLING METHOD: Self-Ventilated.
- SPEED REGULATOR: Centrifugal type.
- FILTER: Each line.

GENERATOR DATA
- OUTPUT: 115 v nom, 60 cps ±1 cps, single ph.
- KILOVOLT AMPERES: 1/2
- POWER FACTOR: 85%.
- DUTY: Continuous.
- OVERLOAD: 25% for 2 hrs.
- TEMPERATURE DATA
  - AMBIENT: 50 deg C (122 deg F).
  - RISE: 50 deg C (122 deg F).
- COOLING METHOD: Self-Ventilated.
- DEGREE OF ENCLOSURE: Drip-proof.
- POLES: 4.
- FILTER: Each line.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bludworth Marine, New York, N.Y.
Contract N5sr 2934, dated 27 April 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900815: Technical Manual for Motor Generator Set 211574, 211575.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

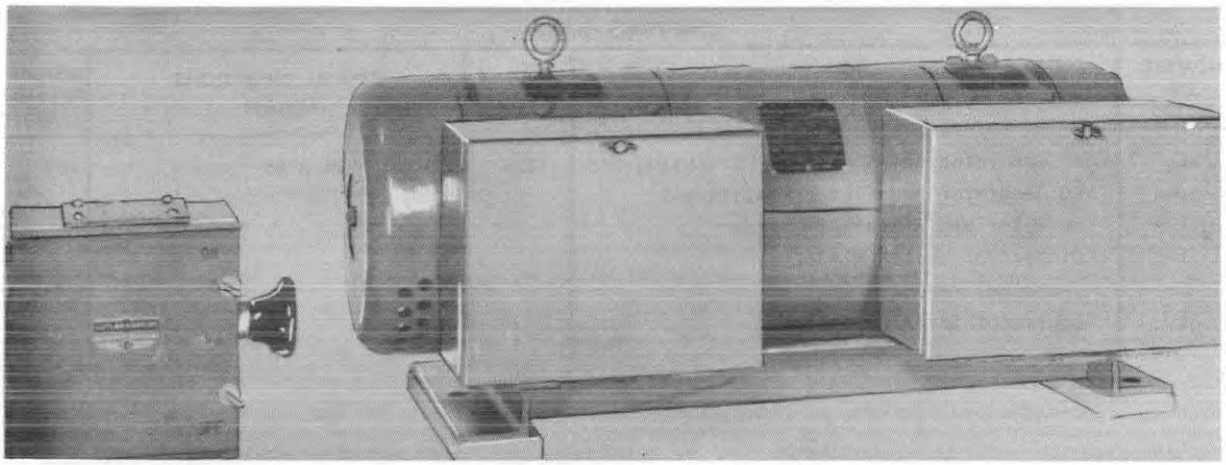
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Generator Set NT-211574 or NT-211575 consisting of: (1) Knife Switch NT-24264-A	9.2	15 X 24 X 44	265
1	Equipment spares	0.65	6 X 7-1/2 X 16	15

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211574 or NT-211575	11-3/8 X 14-1/2 X 25-5/8	160
1	Knife Switch NT-24264-A	6-1/8 X 8-3/8 X 9-5/8	10
1	Equipment Spares	6 X 9 X 12	4.5

MOTOR-GENERATOR SET



Motor Generator Set 211649

FUNCTIONAL DESCRIPTION

The 211649 has been designed to operate from the ships 115 volt or 280 volt AC power line supplying either 13 or 26 volts DC up to the rated output of 500 watts for general radio transmission and receiving devices.

Both the input and output sides have been filtered so that the conducted and radiated radio noise is reduced to a very low degree.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE: 115 or 230 v AC.
- CURRENT: 16.7 amps.
- TYPE: 60 cps repulsion induction.
- SPEED (FULL LOAD): 1725 rpm.
- HORSEPOWER: 1 hp.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- DUTY: Continuous.
- SPEED CLASSIFICATION: Constant within 4%.
- ENCLOSURES: Dripproof.
- TEMPERATURE DATA
  - AMBIENT (MAX): 50 deg C.
  - RISE: 50 deg C.
- COOLING: Self ventilated.
- FILTER: Regulator circuit, one in each line.

GENERATOR DATA
- VOLTAGE: 13 or 26 v DC.
- CURRENT: 19.2 or 38.4 amps.
- TYPE: Compound wound.
- RATING: 500 W.
- SPEED (FULL LOAD): 1725 rpm.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- DUTY: Continuous.
- ENCLOSURE: Dripproof.
- TEMPERATURE DATA
  - AMBIENT (MAX): 50 deg C.
  - RISE: 50 deg C.
- COOLING: Natural ventilation.
- FILTER: 1 in each line.

MANUFACTURER'S OR CONTRACTOR'S DATA

Kato Engineering Company, Mankato, Minnesota.
- Contract: NXsr-73899 dated 2 September 1944.
- Approximate Cost: $400.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900764: Technical Manual for Motor Generator Set 211649.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

211649 MOTOR-GENERATOR SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Generator Set NT-211649 consisting of:	12.9	21-1/2 X 23 X 45	407
1	DC Generator and Filter NT-211413-A			
1	AC Motor and Filter NT-211648			
1	Disconnect Switch NT-24264			
2	Technical Manuals			
1	Equipment Spare Parts Box			

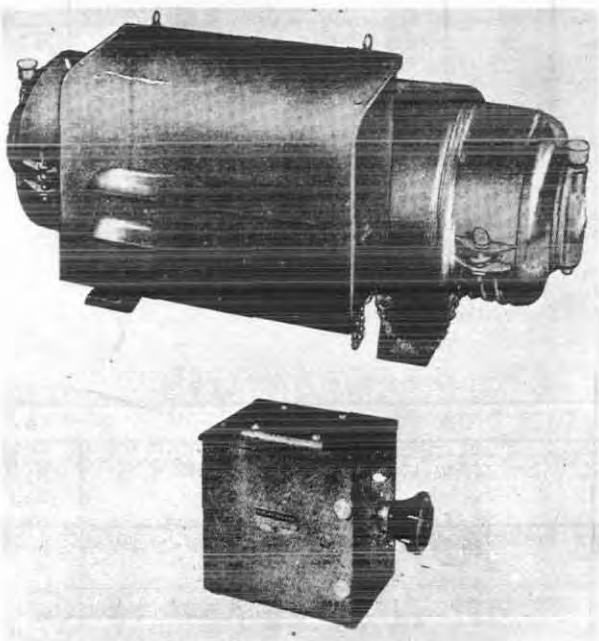
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211649 consisting of:	15 X 16-1/2 X 31	255
1	DC Generator and Filter NT-211413-A		
1	AC Motor and Filter NT-211648		
1	Disconnect Switch NT-24264	6-1/4 X 8-3/8 X 9-9/16	12
2	Technical Manuals		
1	Equipment Spare Parts	6-3/8 X 12-3/4 X 13-1/2	25

March 1957

MOTOR-GENERATOR SET

211761,211762



Motor Generator Set

FUNCTIONAL DESCRIPTION

The 211761 and 211762 have been designed to convert DC power from the ships line to 115 volts ±5 percent, 60 cycles ±2 cycles, single phase, AC power up to the rated capacity 1/2 KVA, 4.32 amperes of the AC generator. The nominal power factor for which the equipment is designed is 85 percent, but the voltage will not increase or decrease more than 1/2 volt for each one percent change in power factor between the limits of 70 and 100 percent.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- VOLTAGE
  - 211761: 115 v DC nom, 105 to 130 v DC actual.
  - 211762: 230 v DC nom, 210 to 260 v DC actual.
- CURRENT
  - 211761: 9 amps running, 75 amps starting.
  - 211762: 4.5 amps running, 37 amps starting.
- SPEED: 1800 rpm.
- HORSEPOWER: 1.0.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- SPEED: 1800 rpm.
- HORSEPOWER: 1.0.
- OVERLOAD CAPACITY: 25% for 2 hrs.
- SPEED CLASSIFICATION: Constant.
- DUTY: Continuous.
- ENCLOSURES: Dripproof.
- WINDING: Compound Interpole.
- TEMPERATURE DATA
  - AMBIENT: 50 deg C (122 deg F).
  - RISE: 50 deg C (122 deg F).
  - COOLING METHOD: Self-ventilated.
  - SPEED REGULATION: Inherent.
  - FILTER: 53172 in each line.

GENERATOR DATA
- OUTPUT: 115 v, 60 cps ± cps, single ph.
- RATING: 1/2 kva.
- POWER FACTOR: 85%.
- OVERLOAD: 25% for 2 hrs.
- DUTY: Continuous.
- POLES: 4.
- TEMPERATURE DATA
  - AMBIENT: 50 deg C (122 deg F).
  - RISE: 50 deg C (122 deg F).
  - COOLING METHOD: Self-ventilated.
  - ENCLOSURE: Dripproof.
  - FILTER: 53172 in each line.

MANUFACTURER'S OR CONTRACTOR'S DATA

Bludworth Marine, New York, N. Y.
- Contract: N5sr-2934, dated 27 April 1945.
- CONTRACT: N5sr-5904, dated 1 June 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900847: Technical Manual for Motor Generator Set 211761, 211762.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

211761,211762 MOTOR-GENERATOR SET

March 1957

SHIPPING DATA

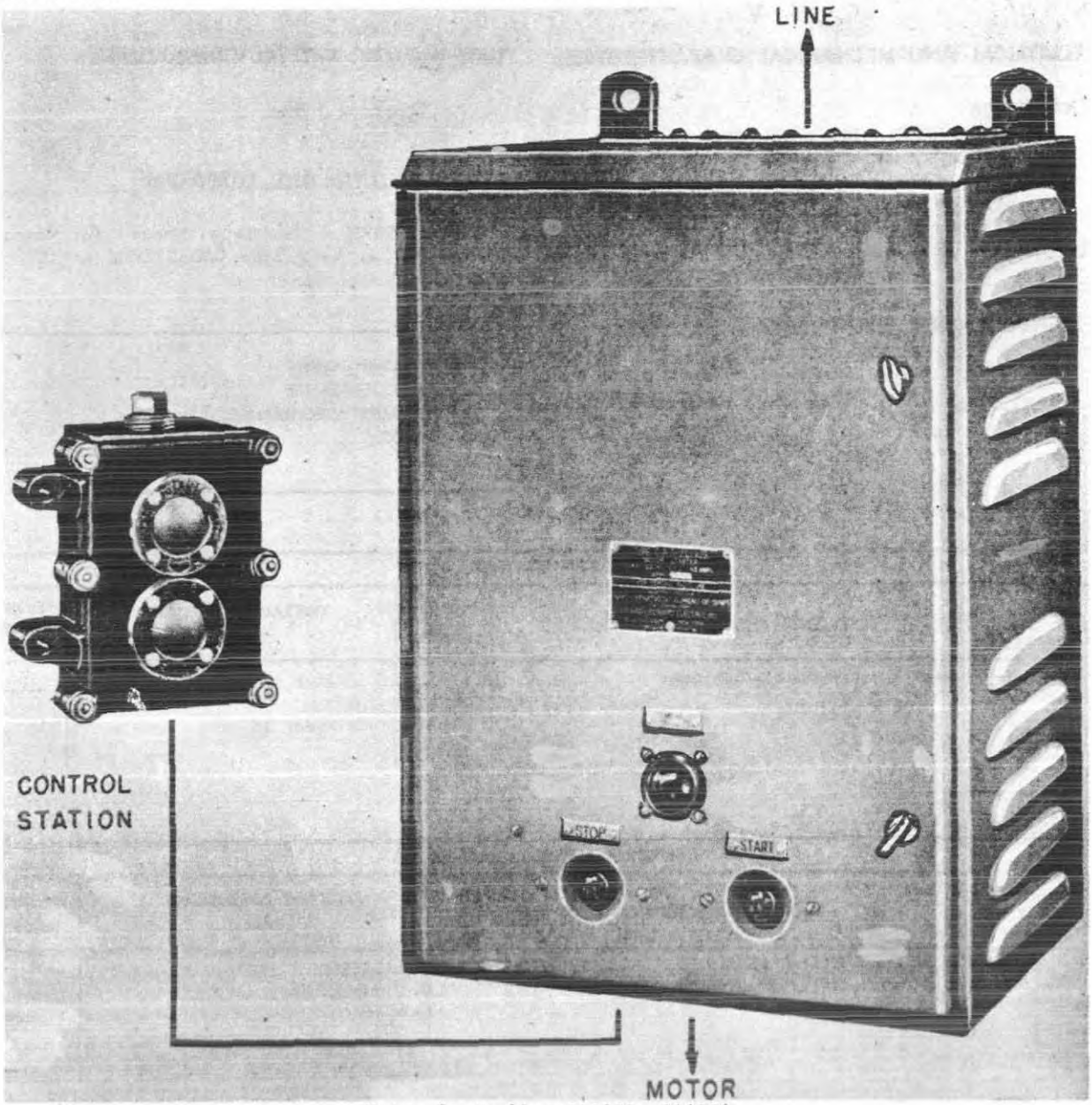
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Generator SET NT-211761 or NT-211762 consisting of: (1) Knife Switch NT-24264-A	9	18 X 20-1/8 X 45-3/4	267
1	Equipment Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-211761 or NT-211762	13 X 15 X 24-3/8	185
1	Knife Switch NT-24264-A	7 X 9-1/2 X 11	10
1	Equipment Spares	6 X 6 X 12	14

March 1957

MOTOR CONTROLLER



Motor Controller 211928, 211929

FUNCTIONAL DESCRIPTION

The NT-211929 for 1 horsepower, 230 volts, 4.5 amperes and NT-211928 for 1 horsepower, 115 volts, 9 amperes is used to provide a means for starting and accelerating the motor of on Motor-Generator set. A push-button station in the door of the controller is provided for local control and a separate station for remote control. The controller uses the series relay type of acceleration and provides overload and low voltage protection. The two types of controllers are identical except for voltage rating. The local and remote control stations are also identical except that the remote station does not provide for emergency run and is contained in a waterproof phenolic enclosure whereas the local control station is contained within the controller enclosure operable through the door of the enclosure.

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

Radio Auxiliary

211928,211929 MOTOR CONTROLLER

March 1957

ELECTRICAL AND MECHANICAL CHARACTERISTICS

NT 211928
POWER SOURCE: 115 v, 9 amp.
HORSEPOWER: 1.
NT 211929
POWER SOURCE: 230 v, 4.5 amp.
HORSEPOWER: 1.
MOUNTING: bulkhead.

MANUFACTURER'S OR CONTRACTOR'S DATA

Ward Leonard Electric Co, Mount Vernon, New York.
Contract NObsr 30062, dated 24 June, 1946.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900980: Technical Manual for Motor Controller Navy Type CAO-211928 and CAO-211929 Motor Generator.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

SHIPPING DATA

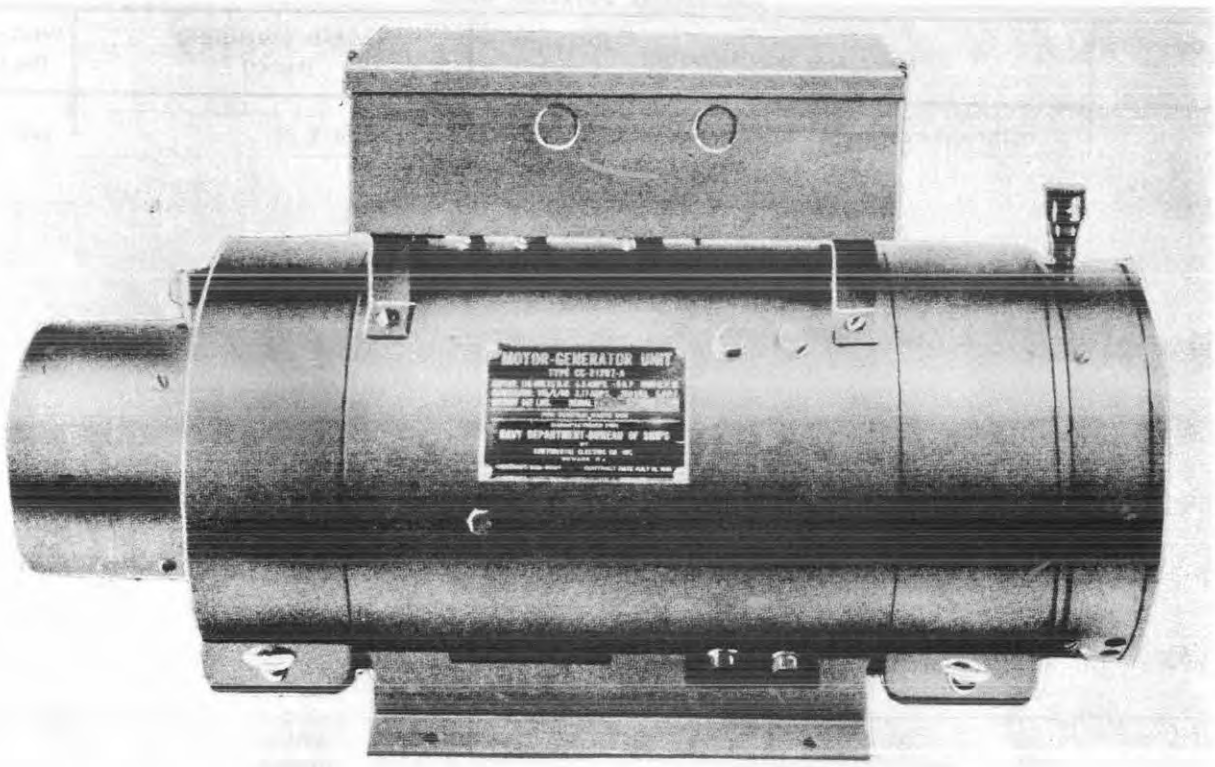
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Controller NT-211928 or NT-211929	11300 cu in.	28.5 X 18 X 22	126
1	Spare parts	1080 cu in.	8 X 9 X 15	15

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Controller	12-5/16 X 14-9/32 X 22-1/2	60
1	Control Station	4 X 5-7/8 X 6-5/16	
1	Set of Spares		

March 1957

MOTOR-GENERATOR SET



Motor Generator Type CC-21207-A

FUNCTIONAL DESCRIPTION

The 21207-A is a sturdy and reliable, entirely self-contained unit for converting direct current of a steady or fluctuating input voltage to an alternating current of a nearly constant voltage and frequency over wide ranges of input and load. It is of the two bearing type and the armature is equipped with grease lubricated ball bearings which require a minimum of attention.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

DC MOTOR
HORSEPOWER: 0.5.
SPEED: 1800 rpm.
POWER: 115 v DC, 4.6 amp.
AC GENERATOR
OUTPUT: 0.250 kw.
POWER: 115 v, 60 cps, single phase, 1 power factor, 2.17 amp.
TEMPERATURE RISE: 50 deg C for continuous duty.

MANUFACTURER'S OR CONTRACTOR'S DATA

Continental Electric Company, Inc., Newark, N.J.
Contract: NOs-89124 dated 15 July 1941.

REFERENCE DATA AND LITERATURE

Technical Manual for Motor-Generator Set Navy Type 21207-A.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

21207-A MOTOR-GENERATOR SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-21207-A	9 X 12-3/4 X 23	142

March 1957

MOTOR-GENERATOR SET

FUNCTIONAL DESCRIPTION

The NT 21431 is used for converting direct current into single phase, 60 cycles, alternating current. The set consists of a 1 horsepower motor with an automatic speed regulator to maintain constant speed with motor voltage variation from 90 to 130 volts.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT: 180 to 260 v DC.
OUTPUT: 0.5 kva, 115 v 60 cps, single ph, 4.35 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electric Specialty Co. Stanford Conn.

Contract NOs 70252.

TUBE AND/OR CRYSTAL COMPLEMENT

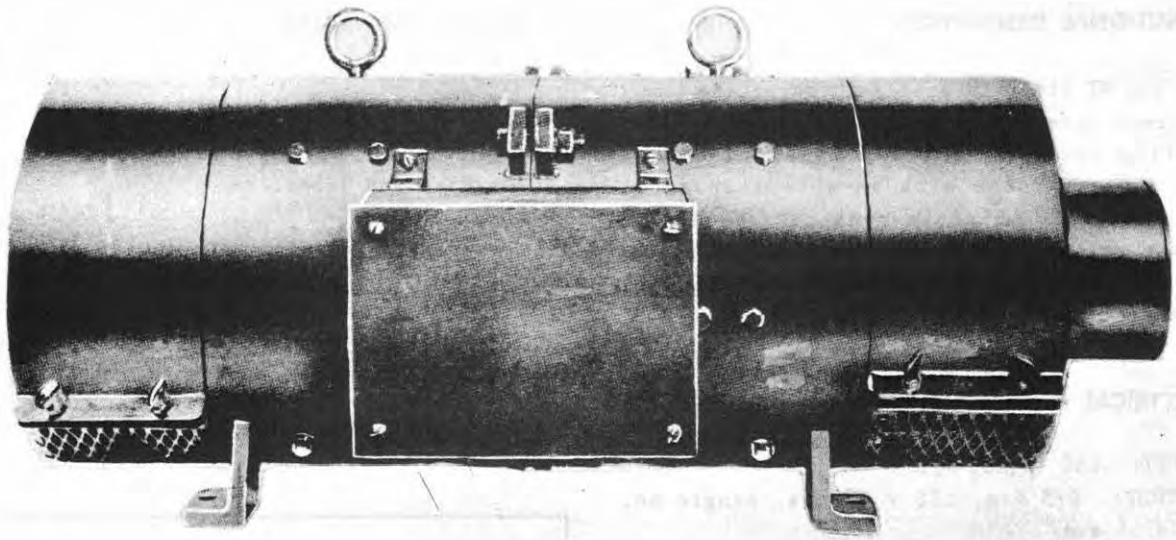
No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Motor Generator Set NT 21431.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

MOTOR-GENERATOR SET



Motor-Generator Set 21523

FUNCTIONAL DESCRIPTION

The 21523 is an entirely self contained unit sturdy and reliable for converting direct current of a steady or fluctuating input voltage to an alternating current of a nearly constant voltage. The machine is dripproof and self-ventilated, with semi enclosing covers. It is of the two bearing type and the armature is equipped with grease lubricated ball bearings which require a minimum of attention.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

D.C. MOTOR
HORSEPOWER: 5
SPEED: 1800 rpm.
POWER INPUT: 230 v DC, 20 amp.
A.C. GENERATOR
RATED KVA: 2.5.
POWER OUTPUT: 115 v, 60 cps, single ph, 21.8 amp.
POWER FACTOR: 0.80.

MANUFACTURER'S OR CONTRACTOR'S DATA

Continental Electric Co. Inc., Newark, N.J.
Contract NOs-82124, dated 15 July 1941.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Motor-Generator Set Navy Type 21523.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

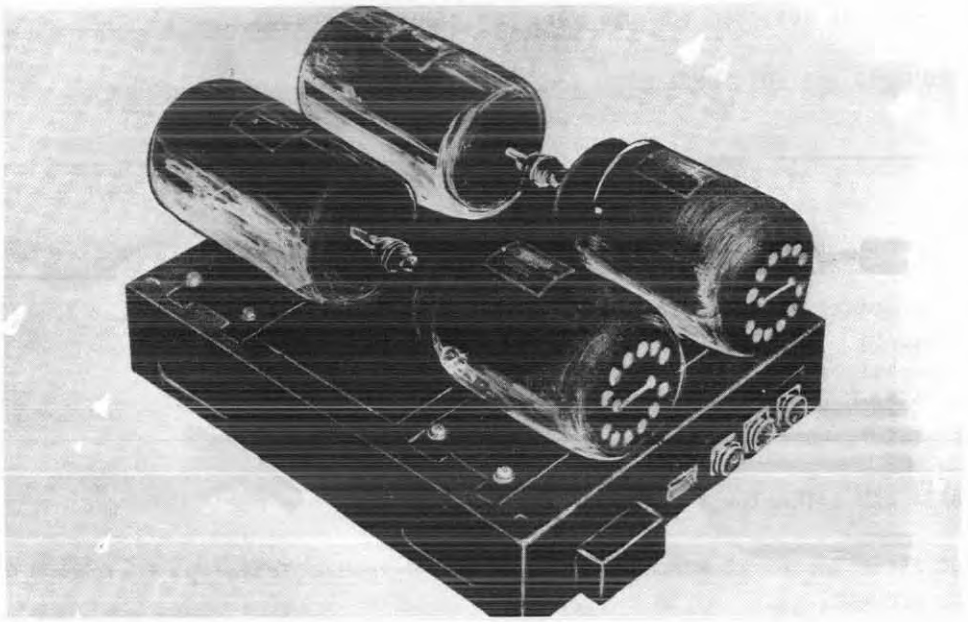
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-21523	15 X 17-1/4 X 37-5/8	480

29 December 1961	6125-635-1525	MOTOR GENERATOR ASSEMBLY 21826
Cog Service:	FSN: 6125-643-2129 W/S	Functional Class:
USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Co.



Motor Generator Assembly 21826

FUNCTIONAL DESCRIPTION:

Motor Generator Assembly 21826 utilizes two motors and two generators to supply the voltages necessary for the operation of a transmitter and receiver. It is designed to operate from a 24 volt dc power source.

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

TECHNICAL CHARACTERISTICS:

MOTOR

MAKE: Russel Electric Co.
MODEL: 13400.
TYPE: Compound wound.
SPEED: 3450 rpm.
INPUT VOLTAGE: 24 v dc.

CURRENT RATING: 10.5 amp.
HORSEPOWER: 3/16.

DC GENERATOR 211220-A
MAKE: Russel Electric Co.
MODEL: 13450.
POWER OUTPUT: 425 v dc, 0.180 amp.
RATING: 86 W.
SPEED: 3450 rpm.

DC GENERATOR 211219-A
MAKE: Russel Electric Co.
MODEL: 13475.
POWER OUTPUT: 240 v dc, 0.100 amp; 125 v dc, 4.0 amp.
RATING: 74 W.
SPEED: 3450 rpm.

RELATION TO OTHER EQUIPMENT:

This equipment is designed for use with Radio Set TCS Series.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Motor Generator Ass'y 21826 includes:		12-1/8 x 17-1/2 x 22-1/2	115
2	Motor 211221			
1	Generator, DC 211220-A			
1	Generator, DC 211219-A			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 900,291: Technical Manual for Radio Telephone and Telegraph Equipment TCS-7, -9, -10, -11, and -12.

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	8.7	186.0

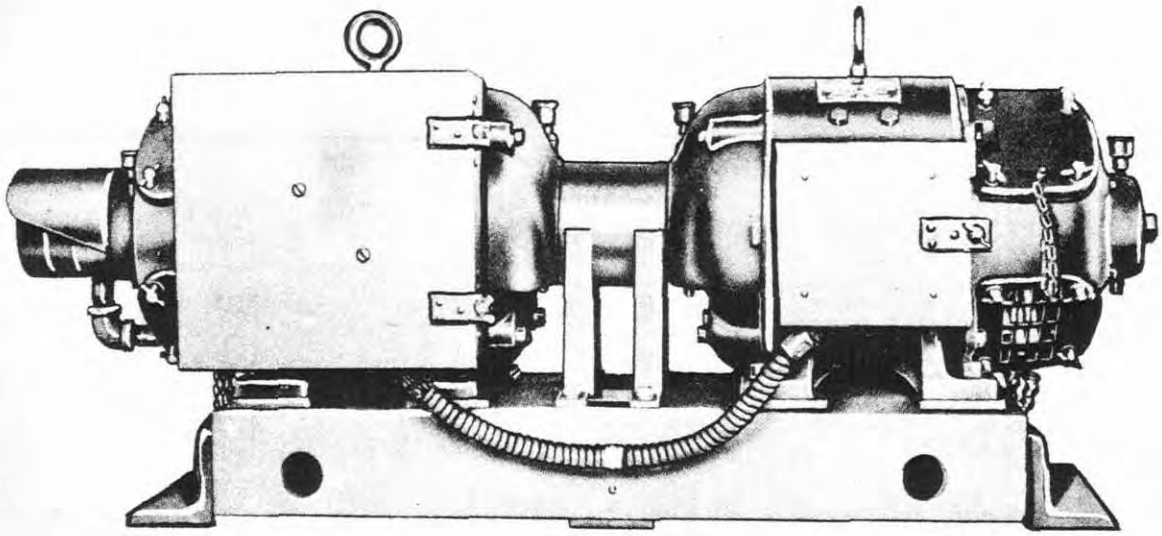
PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Co. Type no. 413C-2 Dwg no. 255E Rev 0	Cedar Rapids, Iowa	NXsr-36727	

MOTOR-GENERATOR SET

21914



Motor Generator Set

FUNCTIONAL DESCRIPTION

The NT-21914 is designed for operation from the ship's DC power and to supply AC power of a nearly constant voltage for radio transmitting and receiving systems. The motor generator set consists of a DC motor and an AC generator mounted on a common structural steel base with their shafts on a common axis and coupled together with a flexible coupling.

The speed of the motor is controlled by a speed regulator mounted on the motor shaft.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- RATED HORSEPOWER: 3 hp.
- VOLTAGE: 105 to 130 v DC.
- RATED SPEED: 1750 rpm, constant.
- AMPERES: 23 amp full load.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 60°C.
- ENCLOSURE: Drip proof.
- COOLING: Self.

GENERATOR DATA
- RATED KILOVOLT AMPERE: 2 kva.
- VOLTAGE: 115 v AC.
- SPEED: 1750 rpm, constant.
- AMPERES: 17.4 amp.
- POWER FACTOR: 85% lag.
- PHASE: Single
- FREQUENCY: 60 cps.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 60°C.

ENCLOSURE: Drip Proof.

COOLING: Self.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St Louis, Mo.
Contract NXs-4481, dated 2 May 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

MOTOR-GENERATOR SET

REFERENCE DATA AND LITERATURE

NAVSHIPS 95381: Technical Manual for Motor Generator Set Navy Type 21914.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

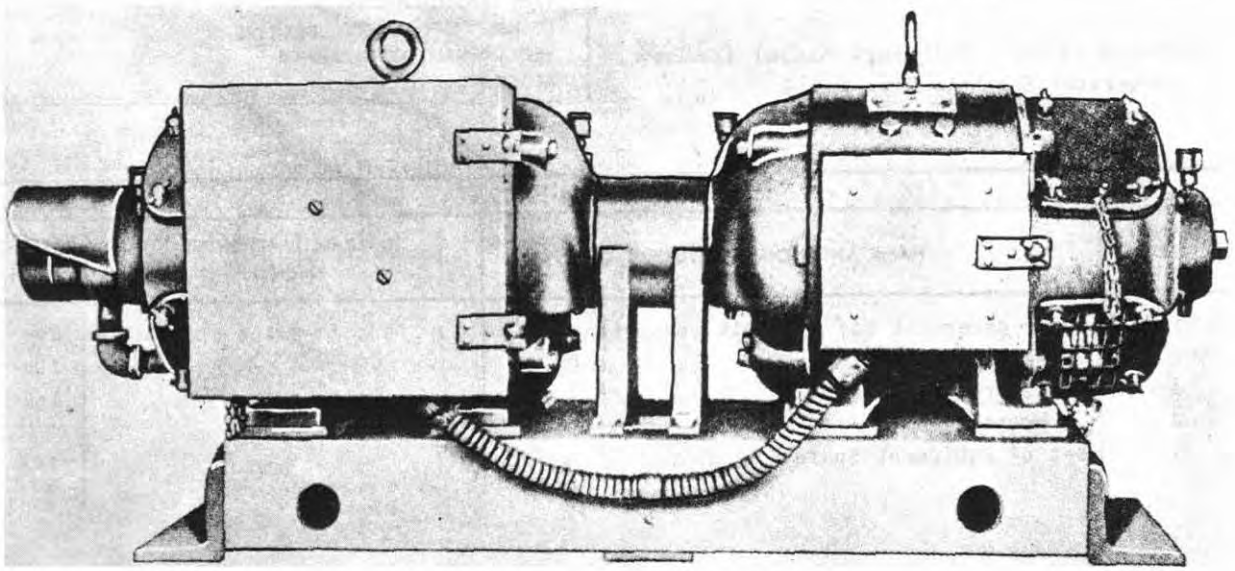
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator Set NT-21914 consisting of:	17-1/8 X 17-3/4 X 42-3/4	493
1	Motor NT-21912		194
1	Generator NT-21913		168
1	Mounting Base		
1	Set of Equipment Spares		106

March 1957

Radio Auxiliary

MOTOR-GENERATOR SET

21917



Motor Generator Set 21917

FUNCTIONAL DESCRIPTION

The 21917 is designed for operation from the ship's DC power and to supply AC power of a nearly constant voltage for radio transmitting and receiving system.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR

HORSEPOWER: 3.
VOLTAGE: 210 to 260 DC.
SPEED: 1750 rpm.
AMPERE FULL LOAD: 11.5 amp.
AMBIENT TEMPERATURE: 50 deg C.
TEMPERATURE RISE: 60 deg C.

GENERATOR

RATED KVA: 2.
VOLTAGE: 115, 60 cps, single phase.
SPEED: 1750 rpm.
AMPERE: 17.4
POWER FACTOR: 85% lag.
AMBIENT TEMPERATURE: 50 deg C.
TEMPERATURE RISE: 60 deg C.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St. Louis, Missouri.
Contract: NXs-4481 dated 2 May 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95382: Technical Manual for Motor-Generator Navy Type 21917.

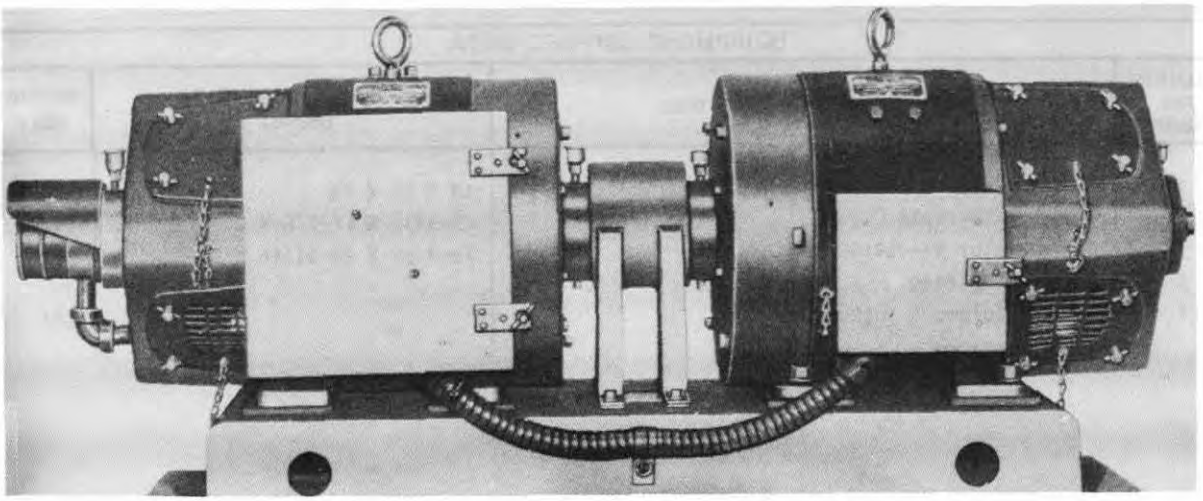
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

21917 MOTOR-GENERATOR SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-21917 consisting of:	18 X 18 X 43	493
1	Motor NT-21915	13-9/32 X 17-7/8 X 22-1/2	194
1	Generator NT-21916	13-9/32 X 14-11/16 X 19-3/4	168
1	Mounting Base		
1	Set of Equipment Spares		106

MOTOR-GENERATOR SETS



Motor Generator Sets 21920, 21920A

FUNCTIONAL DESCRIPTION

The NT 21920, -A are designed for operation from the ship's DC power and provides AC power of a nearly constant voltage for radio transmitting and receiving equipment. The motor generator set consists of a DC motor and an AC generator mounted on a common structural steel base with their shafts on a common axis and coupled together with a flexible coupling.

No field changes in effect at time of preparation (23 August 1956).

RELATION TO OTHER EQUIPMENT

NT 21918A is the same as NT 21918 except use slide wire pot in lieu of field rheostat, and end bells and mtg feet are made of fabricated steel, all components are interchangeable.

NT 21919A is the same as NT 21919 except end bells and mtg feet are made of fabricated steel. Same as NT 21922A except excitation voltage.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- RATED HORSEPOWER: 5 hp.
- VOLTAGE: 105 to 130 v DC.
- RATED SPEED: 1750 rpm.
- AMPERES FULL LOAD: 38 amp.
- DUTY: Continuous.
- SPEED: Constant.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 60°C.
- ENCLOSURE: Drip-proof.
- COOLING: Self.

GENERATOR DATA
- RATED KILOVOLT AMPERES: 4 kva.
- VOLTAGE: 115 v.
- CYCLES: 60 cps.
- PHASE: 1 ph.
- AMPERES: 34.8 amp.
- RATED SPEED: 1750 rpm.
- POWER FACTOR: 85% lag.
- DUTY: Continuous.
- AMBIENT TEMPERATURE 50°C.
- TEMPERATURE RISE: 60°C.
- ENCLOSURE: Drip-proof.
- COOLING: Self.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St. Louis, Mo.
Contract NXs 4481, dated 2 May 1942. (NT 21920)
Contract NXsr 33650 (NT 21920A)

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Motor Generator Set Navy Type 2/920.
NAVSHIPS 900,865: Technical Manual for Motor Generator Set Navy Type 21920A.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

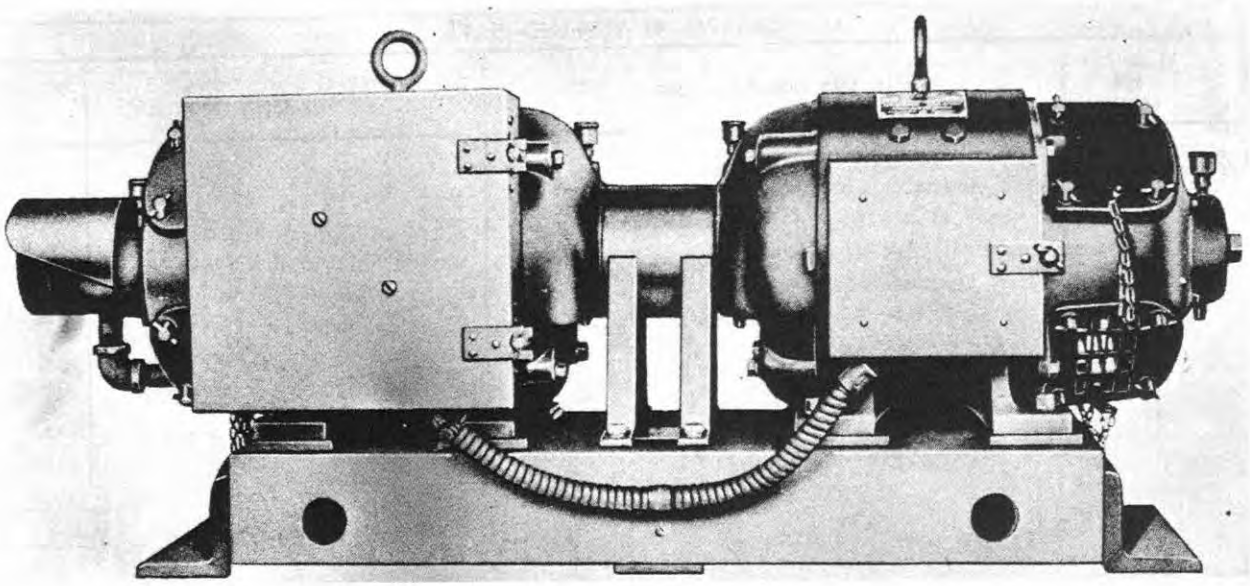
21920, 21920A

MOTOR-GENERATOR SETS

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
21920	21920-A			
1		Motor Generator Set NT-21920 Consisting of:	20 x 21 x 48	695
1		Motor NT-21918	15-1/8 x 20-1/8 x 23-11/32	277
1		Generator NT-21919	15-1/32 x 17-3/8 x 20-15/32	243
1		Set of Equipment Spares		183
	1	Motor Generator Set NT-21920-A Consisting of:	20 x 21 x 48	675
	1	Motor NT-21918A	15-1/8 x 20-1/8 x 23-11/32	227
	1	Generator NT-21919A	15-1/32 x 17-3/8 x 20-15/32	243
	1	Set of Equipment Spares		183

MOTOR-GENERATOR SET



Motor-Generator Set 21923

FUNCTIONAL DESCRIPTION

The NT-21923 is designed for operation from the ship's DC power and to supply AC power of a nearly constant voltage for radio transmitting and receiving systems. The motor generator set consists of a DC motor and an AC generator mounted on a common structural steel base with their shafts on a common axis and coupled together with a flexible coupling.

No field changes in effect at time of preparation (31 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR DATA
- HORSE POWER: 5 hp.
- VOLTAGE: 210 to 260 DC.
- AMPERES: 19 amp (full load).
- SPEED: 1750 rpm, constant.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 60°C.
- ENCLOSURE: Drip proof.
- COOLING: Self.

GENERATOR DATA
- KILOVOLT AMPERES: 4 kva.
- VOLTAGE: 115 v.
- FREQUENCY: 60 cps.
- PHASE: Single.
- AMPERES: 34.8 amp.
- POWER FACTOR: 0.85 log.
- SPEED: 1750 rpm, constant.
- DUTY: Continuous.
- AMBIENT TEMPERATURE: 50°C.
- TEMPERATURE RISE: 60°C.
- ENCLOSURE: Drip proof.
- COOLING: Self.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St. Louis, Missouri.
Contract NXs 4481, dated 2 May 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Technical Manual for Motor-Generator Set Navy Type 21923.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

MOTOR-GENERATOR SET

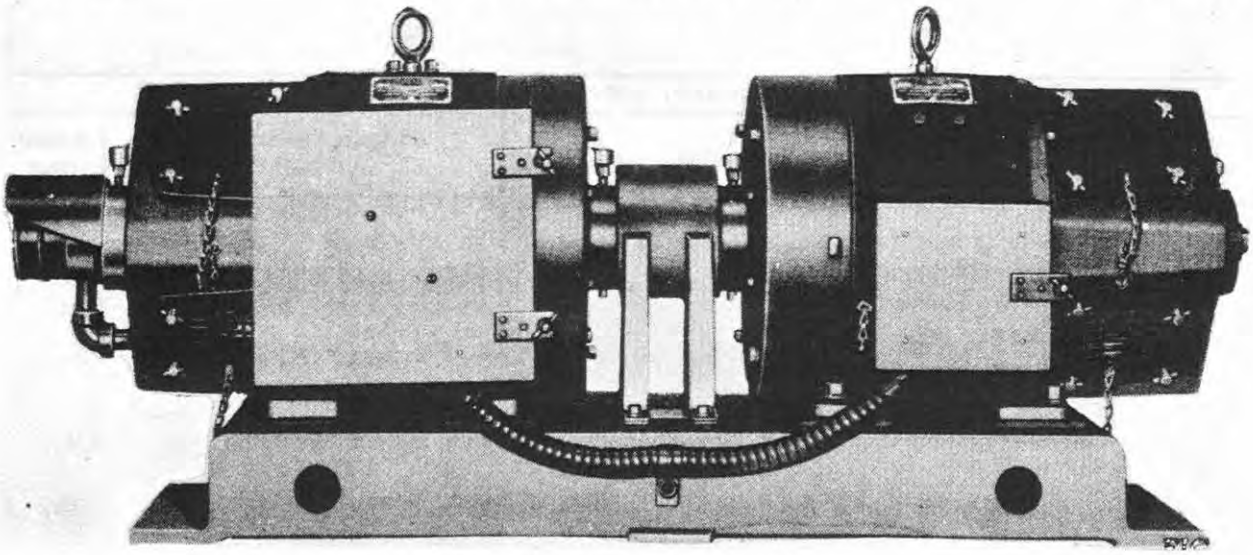
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-21923 consisting of:	20 X 21 X 48	695
1	Motor NT-21921	15-1/8 X 19-5/8 X 24-3/32	277
1	Generator NT-21922	15-1/32 X 17-3/8 X 21-7/32	243
1	Mounting Base		

March 1957

MOTOR-GENERATOR SET

21923A



Motor Generator Set 21923A

FUNCTIONAL DESCRIPTION

The 21923A is designed for operation from the ship's DC power supply AC power of a nearly constant voltage for radio transmitting and receiving systems.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MOTOR
- HORSEPOWER: 5.
- VOLTAGE: 210 to 260 v DC.
- SPEED: 1750 rpm.
- AMPERE FULL LOAD: 19.

GENERATOR
- RATED KVA: 4.
- VOLTAGE: 115 v, 60 cps, single ph, 34.8 amp.
- POWER FACTOR: 0.85 lag.
- SPEED: 1750 rpm.

AMBIENT TEMPERATURE: 50 deg C.
TEMPERATURE RISE: 60 deg C.

MANUFACTURER'S OR CONTRACTOR'S DATA

Century Electric Company, St Louis, Mo.
Contract NXsr 33650.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

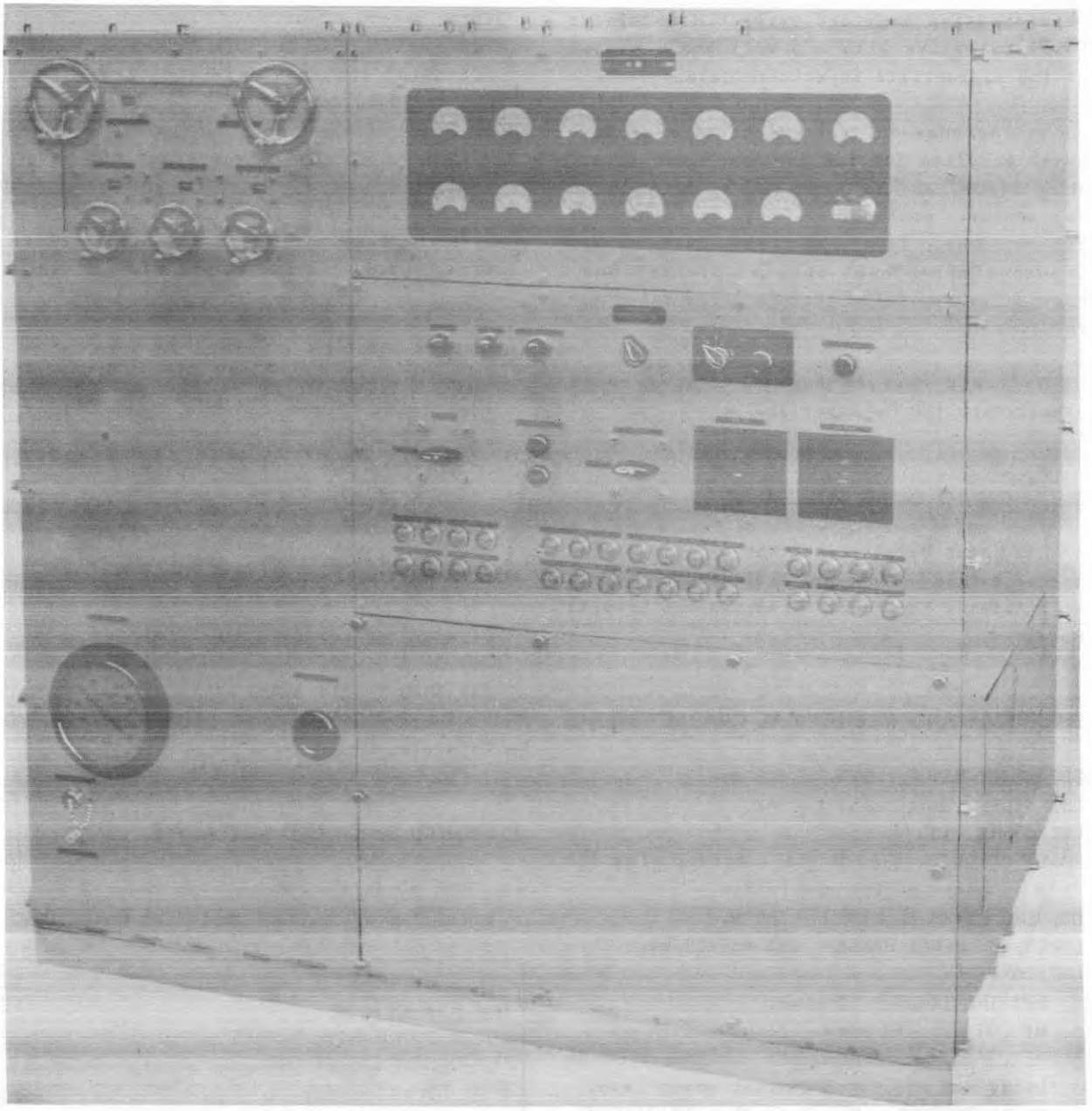
NAVSHIPS 900,849: Technical Manual for Motor-Generator Set Navy Type 21923A.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor-Generator Set NT-21923A Consisting of:	20 X 21 X 40	675
1	Motor NT-21921A	15-1/8 X 19-5/8 X 24-3/32	227
1	Generator NT-21922A	15-1/32 X 17-3/8 X 21-5/32	243
1	Mounting Base		
1	Set of Equipment Spares		183

AMPLIFIER 23A



Amplifier 23A

FUNCTIONAL DESCRIPTION

The Electronic Communications Model 23A is a unit designed for ground station operation at ultra-high frequencies for communications and data transmission. When operated with necessary excitation and primary power, it is capable of feeding high power data and communication signals to a suitable antenna system.

It is capable of accepting an exciting signal of approximately 100 watts and building the output up to a nominal carrier level of 1000 watts modulated or unmodulated. Audio

amplification provided makes the modulator fully operative with a 5 volt audio signal at the appropriate input terminals.

It includes all the necessary secondary power supplies for its operation and accessory items, and is provided with circuits for adequate protection of both the equipment and personnel. It may be truck-installed and transported without special precautions, except for removal of certain large tubes and rectifiers.

No field changes in effect at time of preparation (20 December 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) RF Excitation Source, (1) Audio Source, Suitable Antenna Equipment, Transmission Line as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.
CHANNELS: Continuous tuning.
EMISSION: A3.
POWER OUTPUT: 1000 W nom carrier, plus 320 W sideband during modulation.
DRIVING POWER REQUIRED: 100 W.
INPUT FREQUENCY RANGE: 225 to 400 mc.
IMPEDANCE
DRIVING INPUT: 52 ohms.
RF OUTPUT: 52 ohms.
SPURIOUS SIGNAL RADIATION: At least 60 db below nom modulated carrier power level.
AUDIO DISTORTION: Not more than 3% of modulated power output.
FIDELITY (MODULATED OUTPUT): Flat to within 1.5 db of 1000 cps reference level from 200 to 20000 cps.
AUDIO INPUT DATA
SIGNAL REQUIRED: 5 v rms for 80% modulation.
CIRCUIT IMPEDANCE: 500 ohms.
POWER REQUIREMENTS: 208 v, 60 cps, 3 ph, 4-wire system, 8.3 kva at 95% pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

Electronic Cummunications, Inc, Orange, N.J.
Contract NObsr-71555, dated 26 September 1956.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OA2	(1) 6AL5	(2) 4-1000A
(10) 3B28	(2) 6AU6	(1) GL-6182
(3) 5U4G	(1) 12AU7	

Total Tubes (21)
No Crystals.

REFERENCE DATA AND LITERATURE

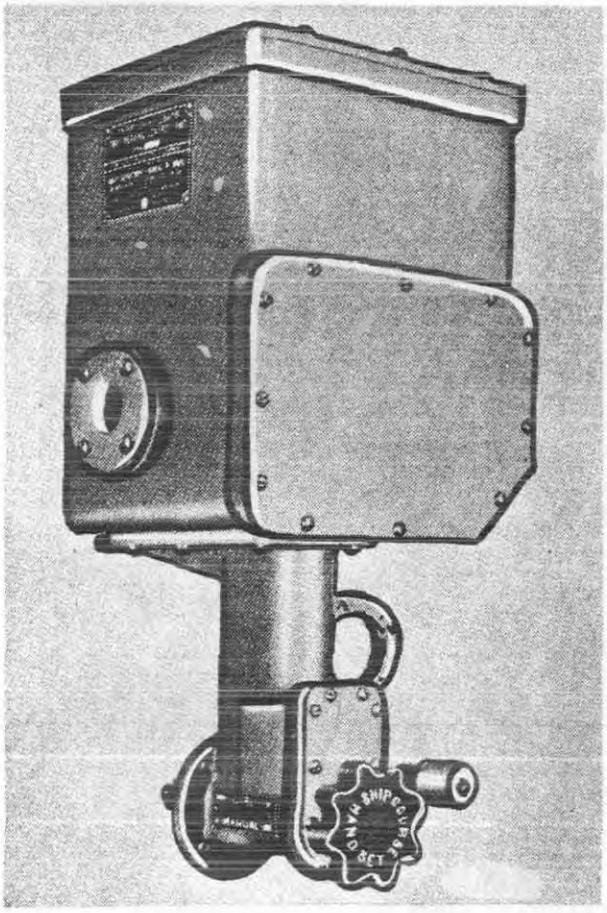
NAVSHIPS 93066(A): Manuscript Copy of Technical Manual for 1 KW Amplifier Model 23A.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Amplifier Model 23A	42-3/4 x 46 x 46-1/2	1600
2	Technical Manual NAVSHIPS 93066(A)		

TRUE BEARING CONTROL UNIT 23408



True Bearing Control Unit

FUNCTIONAL DESCRIPTION

The 23408 is intended for use with the Model YG Homing Beacon Equipment. It provides a mechanical drive for the ship's course compensation dial on the Model YG Antenna Control Unit 232.71 The True Bearing Unit is actuated by the ship's gyro-compass transmitter, so that each change in the ship's course produces automatic compensation at the Antenna Control Unit.

Manual control of the Antenna Control Unit still may be obtained through the "SHIP COURSE HANDSET" Knob. A pilot light on the True Bearing Control Unit indicates which type of operation is in effect.

The unit, as shipped from the factory, must be installed in a vertical position for proper operation but can be adapted for operation in a horizontal position by changing the position of the pressure relief mechanism.

No field changes in effect at time of preparation (31 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

ENCLOSURE: Weatherproof
MOUNTING: On top and side of Model YG Antenna Control Unit 23271.
OPERATION: Manual or automatic.
OPERATING POWER REQUIREMENTS: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Division of Radio Corp of America, Camden, N.J.
Contract NXss-38311, dated 23 September 1943.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

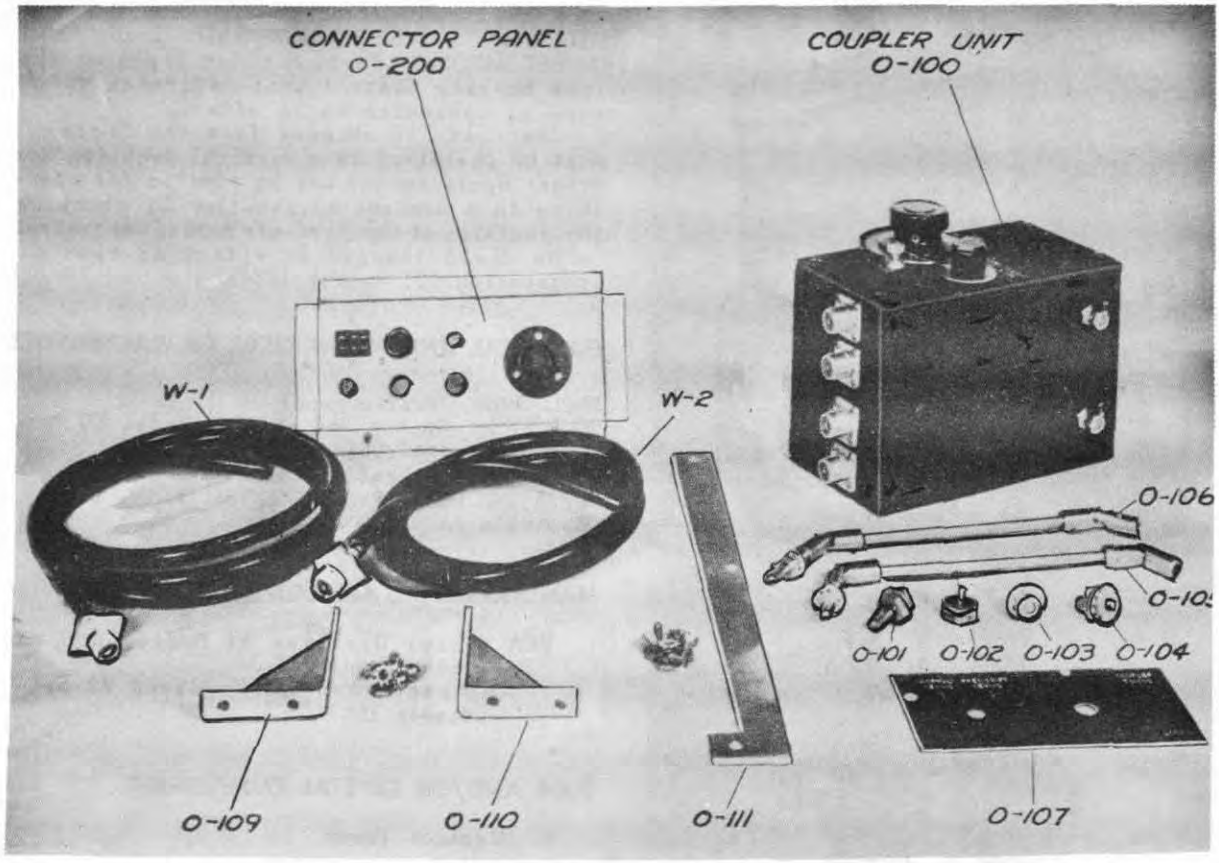
NAVSHIPS 900,397: Technical Manual for True Bearing Control Unit Navy Type 23408.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	*True Bearing Control Unit NT-23408*	7-5/8 X 11-1/2 X 15-7/8	28
1	Set of Equipment Spares	6 X 8-7/8 X 11-7/8	28

FREQUENCY SHIFT TRANSMITTER COUPLING UNIT



Coupler Unit and Accessories 23484

FUNCTIONAL DESCRIPTION

The 23484 is designed to modify the TBK Series Transmitters for frequency shift keying. It provides a means for disconnecting the RF excitation supplied by the master oscillator and a means of feeding RF excitation to the grid circuit of the first intermediate power amplifier from an external frequency shift keyes unit. RF power is fed to the external keyed unit from the master oscillator for optional use as a frequency determining source. A separate connector panel affords a convenient method for making interconnections between the transmitter and the keyer unit.

Transmitters which may be adapted for FSK are Navy Models TBK-8, 10, 12, 14, 17, 19 built by RCA, and TBK-9, 11, 13, 15, 16, 18 and 20 built by Westinghouse. Models prior to the TBK-8 may be adapted for ESK operation with the standard kit; however, minor differences in their construction may require deviation from the installation procedures.

No field changes in effect at time of preparation (31 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OUTPUT CIRCUIT: 2 to 4.525 mc.
INPUT CIRCUIT: 1.8 to 4.352 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Halstead Traffic Communications Corp., New York, N.Y.
Contract No. NXsr 93192, dated 12 February 1954.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

23484 FREQUENCY SHIFT TRANSMITTER COUPLING UNIT

December 1956

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,721: Technical Manual for Frequency Shift Transmitter Coupling Unit Navy Type 23484.

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	Coupler Unit and Accessories NT-23484	3	13 X 19 X 21	56

* Dimensions for Overseas Shipment.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Coupler Unit NT-23484 including:	4-3/8 X 5-3/8 X 7-3/4	
1	Connector Panel	3/4 X 4-1/8 X 8-5/8	
1	Set of Accessories		

INTERPOLATION OSCILLATOR

35131

Interpolation Oscillator, 35131

FUNCTIONAL DESCRIPTION

The 35131 has been designed for use in conjunction with standard frequency equipment to measure the audio-frequency beat tone between a standard 10 kc harmonic and an unknown frequency.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 43 to 48 kc.
OUTPUT VOLTAGE: 7 v across a 20,000 ohm load.
OPERATING POWER: 105 to 125 v or 210 to 250 v, 50 to 60 cps, single phase, 20W.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Radio Company, Cambridge 39, Massachusetts.
Contract NObsr 43099, dated 10 November 1948.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6J7G (2) 6J5G (1) 6X5G
(1) VR-150-30
Total Tubes: (6)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91144(A): Technical Manual for Interpolation Oscillator NT-35131.

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	Interpolation Oscillator CAG-35131 including Accessories	7.3	21 X 21 X 29	105

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Interpolation Oscillator CAG-35131	13 X 14 X 19	58
1	Technical Manual	1/4 X 8-1/2 X 11	
1	Calibration Chart	3/4 X 7 X 10	7 oz.
1*	Line Cord and Plug	1-1/2 x 5-1/4 x 11	12 oz.
4*	Pilot Lamps (6.0 Volt)		
1*	Box of 5 Fuses 1/10 a.		
1*	Box of 5 Fuses 1 a.		
1*	Multipoint Connector		

* Packaged together.

VACUUM-TUBE KEYING UNIT

Vacuum-Tube Keying Unit

FUNCTIONAL DESCRIPTION

The 50059 consists of an amplifier and rectifies designed for line operation of high speed telegraphic ink recorders. Incoming low level sinusoidal signals, keyed at high speed, are amplified and converted to direct current pulses of substantially flat top characteristics suitable for actuating the recorder. The function of this unit is to link automatically the high speed telegraphic incoming signals to ink recorders.

While primarily designed for differential operation of high speed recorders, provision is made for uni-directional operation as is required for operating certain other types of recorders and for vacuum tube keying of radio-telegraph transmitters.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

KEYING SPEED (MAX): 5pp wpm, equivalent to 200 keying cps, max.
SIGNAL INPUT
FREQUENCY: 300 to 10000 cps.
SENSITIVITY: -10 db (with provisions for changing sensitivity)
LINE IMPEDANCE: 600 ohms.
OUTPUT, DIFFERENTIAL OR UNIDIRECTIONAL (UNGROUNDER OR EITHER SIDE GROUNDED): 1600 ohm load, 40 v; 100000 ohm load, 125 v.
OUTPUT VOLTAGE LIMITS
DIFFERENTIAL OPERATION: Voltages of opposite polarity equal within 1 db.
UNI-DIRECTIONAL OPERATION: Min voltage change to be 40 db.
OUTPUT WAVE SHAPE: Essentially flat-topped.
AC ATTENUATION (MAX TONE SIGNAL OR HARMONIC) IN OUTPUT): Less than 60 uv.
POWER REQUIREMENTS: 105 to 125 v, 50 to 60 cps, single ph, 150 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA MFG Co. Inc; Camden, N.J.
Contract NOs-91075, dated 26 August 1941.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Z3	(1) 6C6
(3) 76	(1) 84
(2) 807	

Total Tubes: (8)

REFERENCE DATA AND LITERATURE

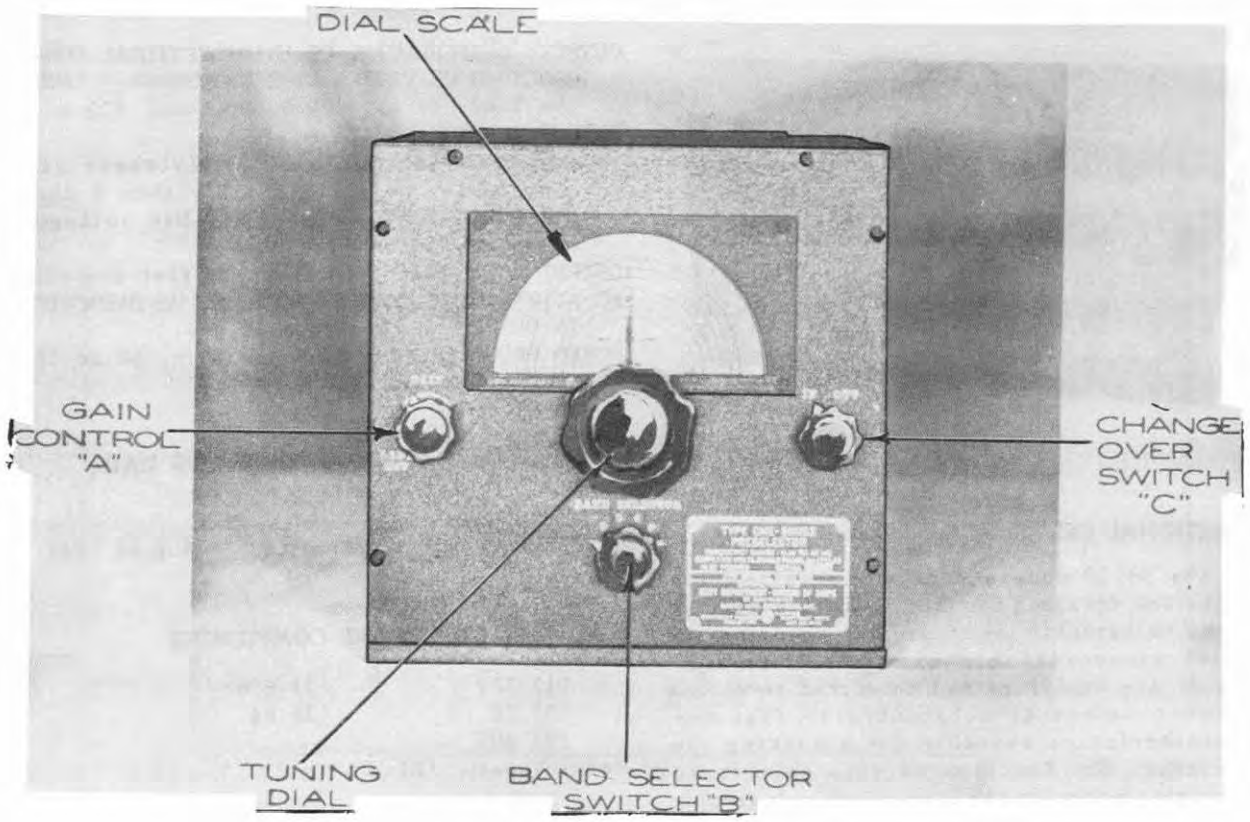
NAVSHIPS 954U5: Technical Manual for Vacuum-Tube Keying Unit Navy Type 50059.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Vacuum-Tube Keying Unit NT-50059	8-3/4 X 16 X 19 X	72

PRESELECTOR 50063



Preselector NT-50063

FUNCTIONAL DESCRIPTION

The NT-50063 is designed to add to the radio frequency amplification and to increase the signal-to-noise radio of receivers operating in the frequency range of 550 kilocycles to 32 megacycles.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 550 kc to 32 mc.
GAIN: 20 to 25 db.
OUTPUT IMPEDANCE: 100 to 300 ohms.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Mfg Engineers, Inc, Peoria, Ill.

Contract NOs-97767, dated 22 January 1942.
Approximate Cost: $70.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6K7 (1) 80
Total Tubes: (3)
No Crystals Used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95406: Technical Manual for NT-50063 preselector.

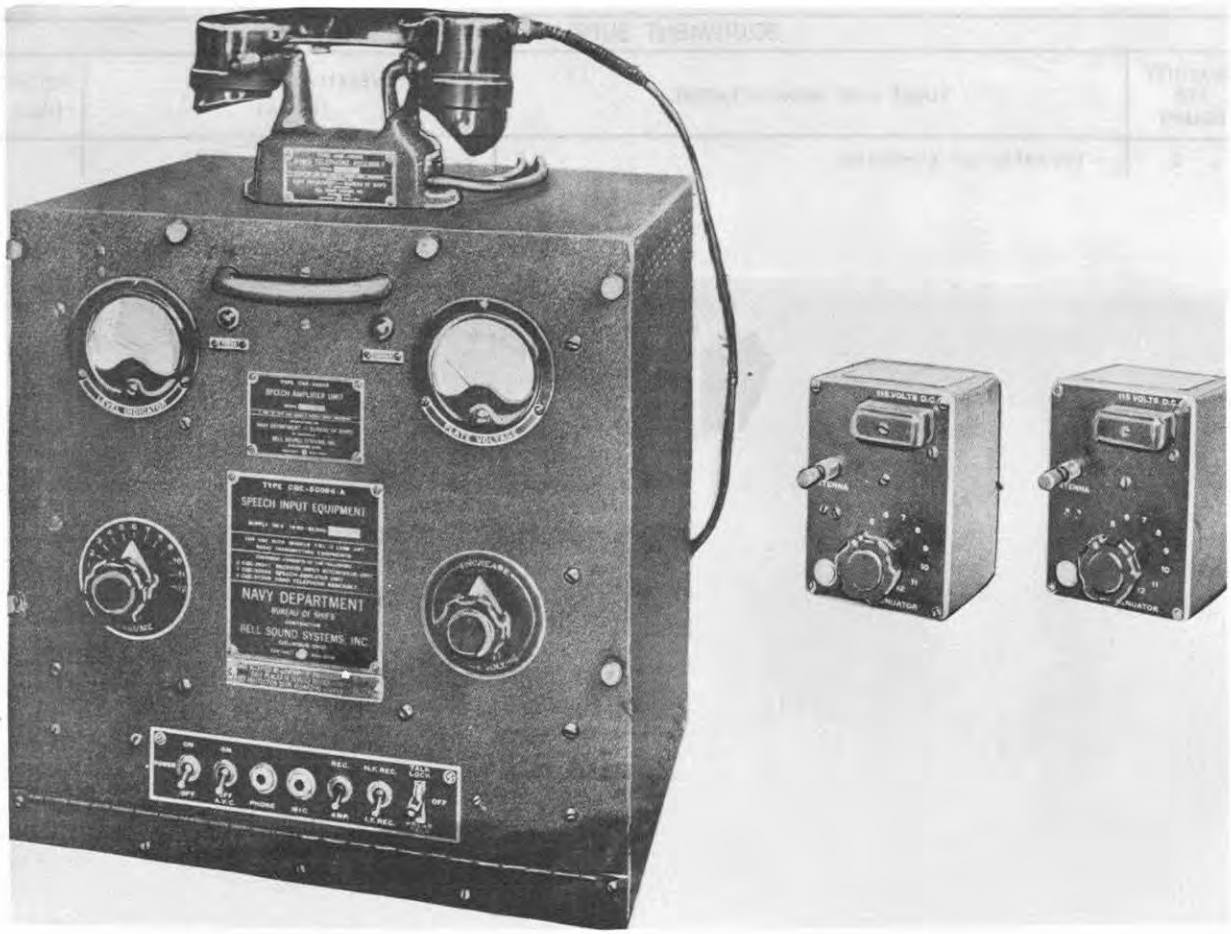
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

50063 PRESELECTOR

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Preselector NT-50063	9-1/4 X 9-1/2 X 10-1/2	

SPEECH INPUT EQUIPMENT 50064,-A



Speech Input Equipment NT-50064-A

FUNCTIONAL DESCRIPTION

The NT-50064 and NT-50064A are designed to operate into Radio Transmitting Equipment of the TBL Series. The attenuators provided make it possible to monitor the strong signal of the associated transmitter while receiving a weak signal on the same frequency from a distant transmitter. Radio Receiving Equipments RAA, RAB, RAG, RAH, RAK, and RAL may be used.

The NT-50064 and NT-50064A are electrically and mechanically interchangeable.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RESPONSE: ±2 db from 300 to 3000 cps.
INPUT IMPEDANCE: 200/600 ohms.
AMPLITUDE DISTORTION: Less than 10%.
AUDIO OUTPUT LEVEL: Modulation up to 85%.
IMPEDANCE OF EARPHONES: 600 ohms at 1000 cps.
IMPEDANCE OF MICROPHONE: 35 to 45 ohms.
OUTPUT POWER: 3 W into 500-ohm load.
RECEIVER INPUT ATTENUATOR: 5 db attenuation each step.
POWER SOURCE REQUIRED: 110 v ±10%, single ph, 60 cps ±5%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corp of America, Camden, N.J.
NT-50064
Contract NOs-58114, dated 14 December 1937.
Contract NOs-60970, dated 2 June 1938.
Contract NOs-74913, dated 29 June 1940.

Radio-Auxiliary

50064,-A . SPEECH INPUT EQUIPMENT

Contract NOs-80642, dated 8 January 1941.
Contract NOs-80642, dated 6 January 1942 (Sup).
Bell Sound Systems Inc., Columbus, Ohio.
NT-50064A
Contract NXsr-41015, dated 13 November 1943.
Approximate Cost: $608.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 2A3 (2) 6D6
(1) 5Z3 (1) 84
Total Tubes: (6)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95407: Preliminary Instructions for Speech-Input Equipment NT-50064.
NAVSHIPS 900491: Technical Manual for Speech Input Equipment NT-50064-A.
NAVSHIPS 903-IB-3: Technical Manual for Speech Input Equipment NT-50064 and NT-50064-A.

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	Speech Input Equipment NT-50064	6.0	18 X 20 X 29	160
1	Speech Input Equipment NT-50064-A	5.2	18 X 20 X 25	145
1	Set of Spare Parts for NT-50064-A	2.65	13-3/4 X 15 X 22-1/4	80

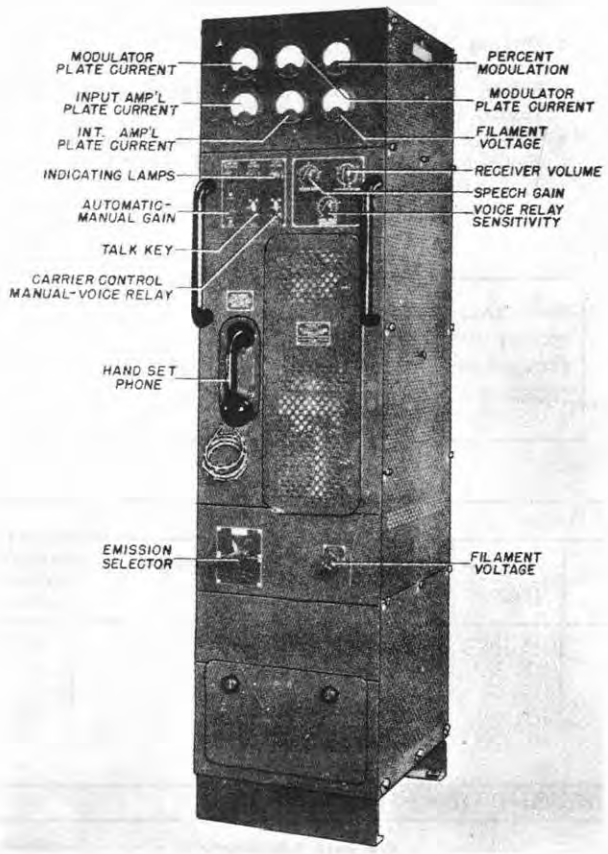
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
50064	50064-A			
1	1	Speech Amplifier Unit NT-50055	15-13/32 X 16 X 16	77
2	1	Hand Telephone Assembly NT-51008	3-3/8 X 5 X 11-3/4	4.75
1	0	Chest Microphone Assembly NT-51011	5-1/2 X 8-1/2 X 7	2
2	2	Receiver Input Attenuator Unit NT-29017	4-1/4 X 4-3/4 X 5-3/4	3.75
1	1	Set of Spare Parts		

March 1957

MODULATOR UNIT

50065-A



Modulator Unit 50065-A

FUNCTIONAL DESCRIPTION

The 50065-A is designed for installation and operation on the same types of vessels as Radio Transmitter 52170, 52171, 52217 or 52218. This unit contains apparatus necessary for taking power from a suitable power supply, rectifier, or motor-generator, and modulating the transmitter by either tone or voice.

The 50065-A is a part of Navy Model TBM Series Transmitting Equipments.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION PROVIDED: CW, MCW or Voice.
KEYING SPEEDS: Up to 100 wpm on CW and 50 wpm on MCW.
SPEECH INPUT: At a 6 mw level from a 600 ohm source, it will be capable of effecting 100% plate modulation of the transmitter with an audio frequency distortion of less than 10%.
POWER SOURCE REQUIRED:
115 v DC ±10% or
230 v DC ±10% or
220 v 60 cps, 3 ph or
440 v, 60 cps, 3 ph or
220 v 60 cps single ph.
MODULATION GAIN: 60 db.
MODULATION FREQUENCY: For MCW, 700 cps obtained from audio oscillator in modulator unit.
AUDIO FREQUENCY RANGE: 100 to 5000 cps from final amplifier.
OUTPUT POWER: 400 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric and Mfg Co., Baltimore, M.D.
Contract NXsr 51573, dated 14 March 1944.
Approximate Cost: $1500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6D6
(3) 807
(1) 1616
(1) 25Z5
(2) 803
Total Tubes: (9)

REFERENCE DATA AND LITERATURE

NAVSHIPS 50065A: Technical Manual for Modulator Unit Navy Type 50065-A.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

50065-A MODULATOR UNIT

March 1957

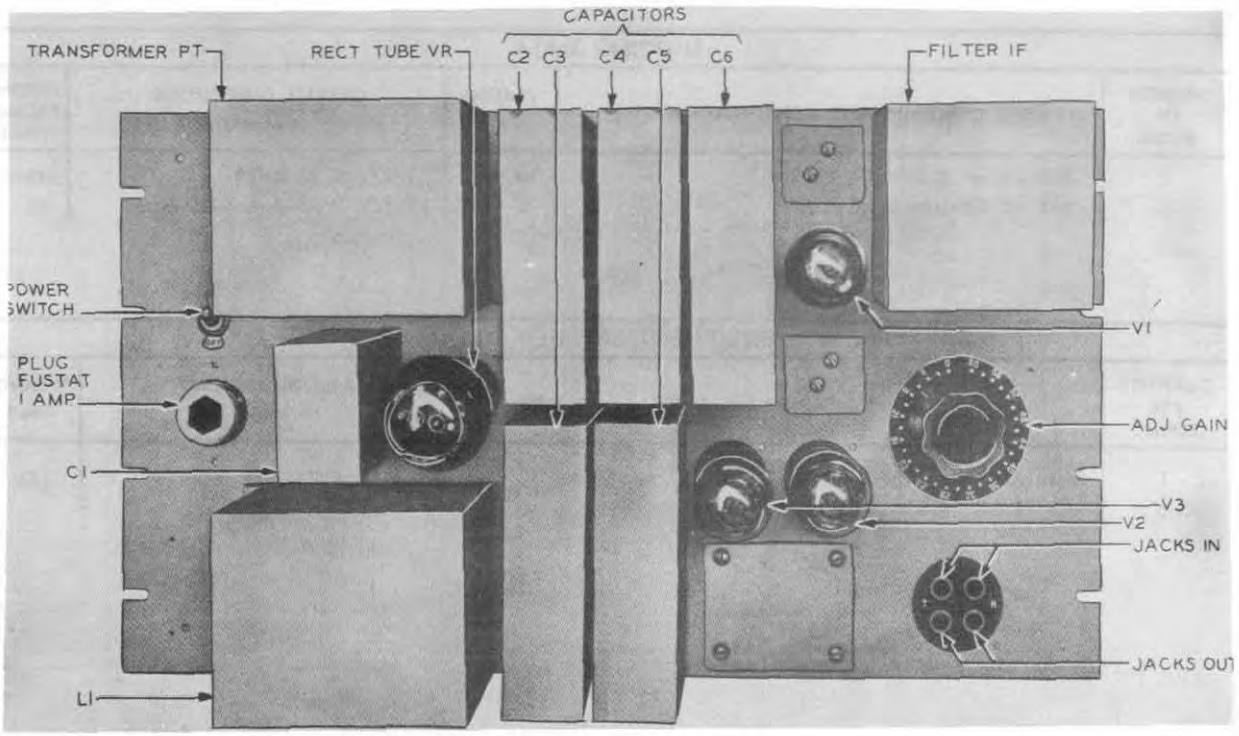
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Modulator Unit NT-50065-A	34.4	24-1/2 X 31 X 79	580
1	Set of Equipment Spares	1.92	12-3/4 X 13-3/4 X 19-3/8	43

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Modulator Unit NT-50065-A	18 X 24 X 72	385
1	Set of Equipment Spares		

LINE AMPLIFIER



Line Amplifier 50101

FUNCTIONAL DESCRIPTION

The 50101 is to raise the energy level in telephone and telegraph communication circuits which are transmitting frequencies in a range of approximately 300 to 10000 cps. It is used as a part of the Carrier Control System Model UN.

The line amplifier is a two-stage vacuum tube amplifier with a self-contained power rectifier circuit.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SUPPLY-PRIMARY SOURCE: 105-125 v, 50-60 cps.
POWER CONSUMPTION: 125 W.
FREQUENCY RANGE: 300 to 10000 cps permissible range.
AMPLIFIER GAIN: Adjustable from −10 db to +50 db.
OUTPUT POWER LEVEL: Maximum permissible single frequency power output +30 dbm.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co. Inc., New York, N.Y.
Contract NXsr 83392.

TUBE COMPLEMENT

(3) JAN6V6GT (1) JAN5R4GY (1) 274-A
Total Tubes: (5)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900591: Technical Manual for Line Amplifier NT 50101.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

50101 LINE AMPLIFIER

SHIPPING DATA

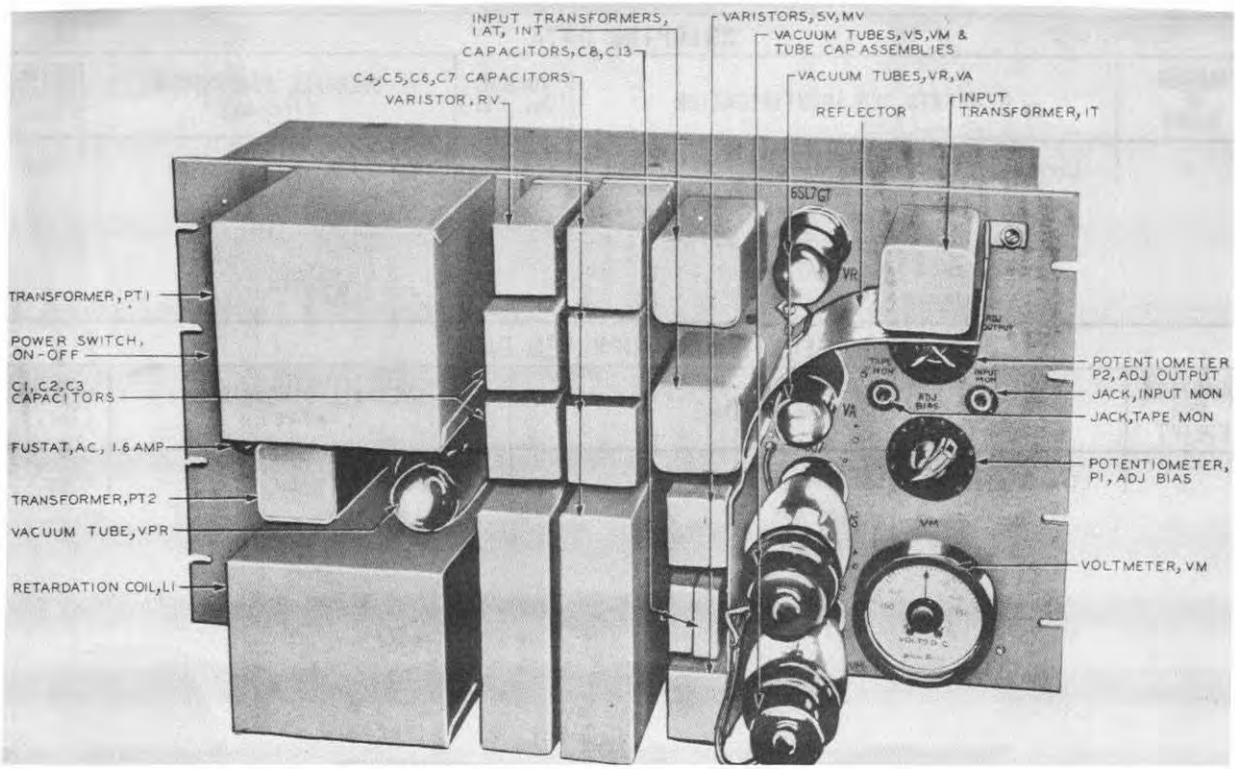
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu. Ft.)	OVER-ALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Line Amplifier 50101	5.8	19 X 23 X 23	130

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVER-ALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Line Amplifier 50101	10 X 10-1/2 X 19	65

DEMODULATOR

50124



Demodulator Panel NT-50124

FUNCTIONAL DESCRIPTION

The NT-50124 is used to convert the modulated carrier current, obtained at the receiving end of a carrier telegraph channel, into pulses of direct current or voltage suitable for operating telegraph recording equipment.

Data on this sheet reflects the following field changes: F/C No. 1 and 2 for NT-50124.

RELATION TO OTHER EQUIPMENT

The direct current signals obtained from the demodulator are suitable for operating a telegraph recorder, teletypewriter arranged for 20 milliampere polar operation, the receiving relay of a teletypewriter repeater (Model PM), a relay-operated keying circuit for a radio transmitter, or for the direct keying of a radio transmitter. The NT-50124 is also part of the UN Carrier Telegraph System.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 425 to 4675 cps with optimum operation above 1000 cps.
RECEPTION: A1.
SIGNAL INPUT: Sine wave carrier, 100% modulated with unbiased telegraph signals.
SIGNAL INPUT LEVEL: From -10 dbm to 0 dbm with optimum level of -6 dbm (Reference level of 0 dbm is equivalent to 1 mw input).
KEYING SPEED
CARRIER FREQUENCIES ABOVE 1000 CPS: Up to 180 dot cps.
CARRIER FREQUENCIES BELOW 1000 CPS: Up to 140 dot cps.
INPUT IMPEDANCE: 500 ohms.
OUTPUT IMPEDANCE: 1800 ohms.
POWER INPUT REQUIREMENTS: 105 to 125 v, single ph, 50 to 60 cps, 100 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, Inc, New York, N.Y.
Contract NXsr-83392, dated 13 February 1945.

Radio-Auxiliary

50124 DEMODULATOR

Approximate Cost: $600.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5R4GY
(1) 6V6GT
(1) 6SC7GT
(2) 807
Total Tubes: (5)
(1) 1N44
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900816: Technical Manual for Demodulator NT-50124 and NT-50103.

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	Demodulator NT-50124	4.6	16 X 20 X 25	125

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Demodulator NT-50124	10 X 10-1/2 X 19	60

INTERPHONE AMPLIFIER

50128,50128A

Interphone Amplifier

FUNCTIONAL DESCRIPTION

The 50128 or 50128A is designed for use in vehicles and craft using the TCS Radio Transmitting and Receiving Equipment having a two to five man crew. This unit permits two-way intercommunication between the crew, and control of the transmitting and receiving functions of the TCS equipment by any of the crew members.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Remote Control Unit 23355, 23366 or 23429, (1) Radio Transmitter and Receiver TCS, (as required) Cables.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER INPUT: 12 to 14 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Magnovox Company, Fort Wayne, Ind
Contract NXss 20701, dated 4 Jan. 1943. 50128.
Contract NXss 24341, dated 1 March 1943. 50128.
Contract NXsr 49686, dated 19 February 1944. 50128A.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 12A6 includes one Spare
Total Tubes: (3)

REFERENCE DATA AND LITERATURE

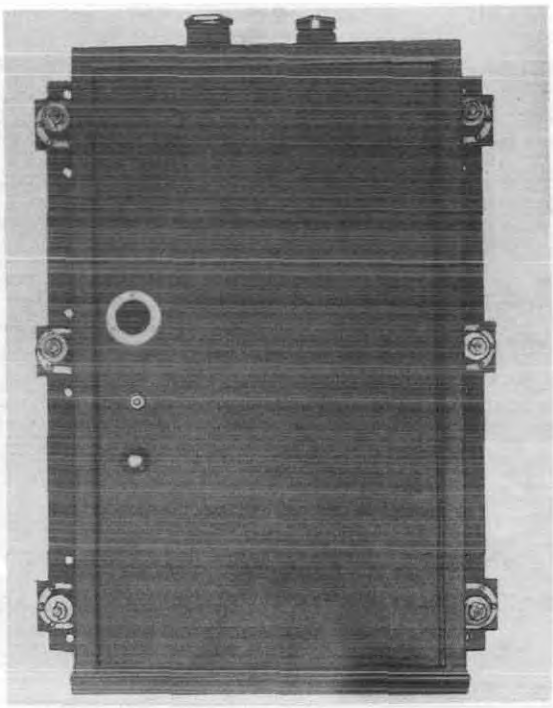
Technical Manual for Interphone Amplifier Navy Type 50128.
NAVSHIPS 95623: Technical Manual for Interphone Amplifier Navy Type 50128-A.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
50128	50128A			
1		Interphone Amplifier NT-50128	7-1/8 X 7-9/16 X 10-3/8	17
	1	Interphone Amplifier NT-50128-A	7-1/8 X 7-9/16 X 10-3/8	17
2		Technical Manual		
	2	Technical Manual NAVSHIPS 95623		
1	1	Set of Equipment Spares		

SYNCHRO AMPLIFIER



Synchro Amplifier 50162A

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SYNCHRO EXCITATION REQUIRED: 115 v, 60 cps.
POWER SUPPLY REQUIREMENTS: 115 v, 60 cps, 1.5 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co., Schenectady, N. Y.
Contract NXSS-30836, dated 1 June 1943.
Approximate Cost: $360.00 with equipment spares

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SQ7GT
(1) 6SL7GT
(1) 6V6GT
(2) 6L6G
(1) 5U4G

Total Tubes: (6)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95413: Technical Manual for Synchro Amplifier Navy Type CG-50162.

FUNCTIONAL DESCRIPTION

The NT-50162A is designed to receive a positioning signal from a one-speed bus and convert it into a corresponding 7G synchro signal at one-speed and a 6G synchro at 36 speed at means of a vacuum tube follow-up circuit. This conversion is desired to increase the capacity of the synchro bus. It may also be used to drive up to 18 5F synchro motors and up to 9 synchro motors.

No field changes in effect at time of preparation (2 July 1956).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

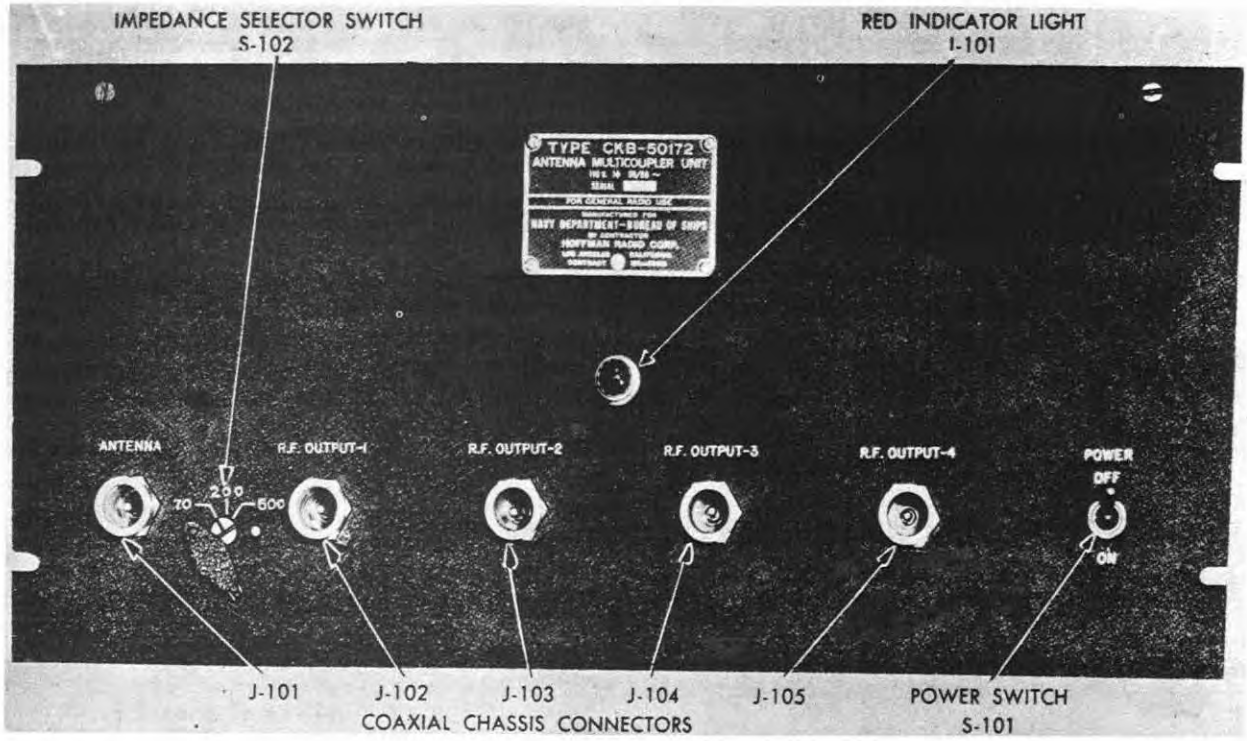
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Synchro Amplifier 50162-A	9-1/2 x 17 x 27-1/4	130.0

March 1957

ANTENNA MULTICOUPLER UNIT

50172



Antenna Multicoupler Unit 50172

FUNCTIONAL DESCRIPTION

The 50172 has an effective range of 4 to 24 mc. A signal within this range which is received by the antenna Multicoupler Units antenna may be coupled to four receivers. Each receiver may then be turned to a different frequency. Consequently, by using the Antenna Coupler Unit, four receivers connected to one antenna may monitor four given frequencies simultaneously.

The interference between frequency channels which results when two or more superheterodyne receivers are connected to one antenna, is reduced to a negligible factor and signal strength is maintained, thus permitting satisfactory reception of frequencies in use.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v, 60 cps, single ph.

IMPEDANCE SELECTION: 70, 200 or 600 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hoffman Radio Corp, Los Angeles, Calif. Contract NXsr-39138, dated 25 October 1943.

TUBE AND/OR CRYSTAL COMPLEMENT

(5) 6AC7/1852 (1) 6X5GTG

Total Tubes: (6)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,226-1B: Technical Manual for Antenna Multicoupler Unit Navy Type 50172.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

50172 ANTENNA MULTICOUPLER UNIT

March 1957

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Multicoupler Unit including: (1) Set of Accessories (1) Set of Equipment Spares	5.1	13-1/2 X 15-1/2 X 40-1/2	130

EQUIPMENT SUPPLIED DATA

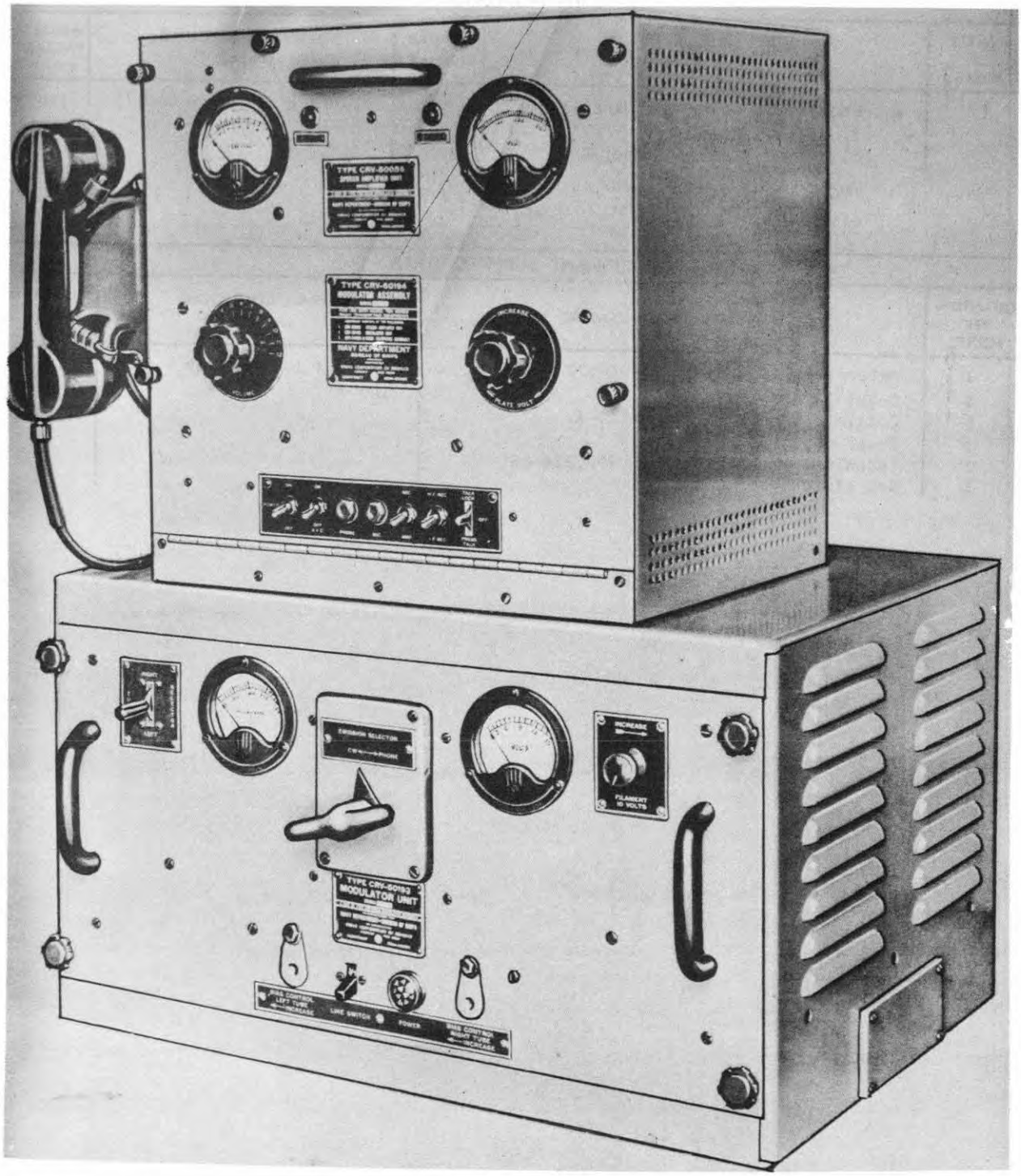
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Multicoupler Unit 50172	8-3/4 X 10-3/8 X 19	22.75
1	Coaxial Cable	100 ft	
5	Coaxial Connector Plug 49121-A		
1	Power Input Plug		
2	Technical Manual NAVSHIPS 900,226-18		
1	Set of Equipment Spares		

April 1958

Radio-Auxiliary

SPEECH INPUT AND MODULATOR EQUIPMENT

50194



Speech Input and Modulator Equipment NT-50194

50194 SPEECH INPUT AND MODULATOR EQUIPMENT

FUNCTIONAL DESCRIPTION

The NT-50194 Modulator Assembly is used for voice-modulating the TBK Series Radio Transmitting Equipment. The amplifier provides two stages of impedance coupled, class A amplification between the microphone of the handset and the input circuit of modulator unit. The unit may be operated as a straight amplifier or with automatic gain control. In addition to supplying amplified audio power to the modulator unit, the amplifier provides circuits for monitoring high frequency or intermediate frequency radio receivers which may be used in conjunction with the transmitting apparatus. A relay is also provided in the amplifier unit for keying the transmitter.

No field changes in effect at time of preparation (6 May 1958).

RELATION TO OTHER EQUIPMENT

The speech-amplifier unit of this equipment, with the telephone assembly, is interchangeable with Speech Input Equipment NT-50064, which is used with Radio Transmitting Equipment TBL.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SPEECH-AMPLIFIER UNIT
- FREQUENCY RESPONSE: 300 to 3000 cps, flat ±3 db.
- AMPLITUDE DISTORTION: Less than 10% rms.
- POWER OUTPUT: 3 W into 500 ohm load.

INPUT IMPEDANCE: 600 or 200 ohsm.

MODULATOR UNIT
- TYPE: Class B.
- EMISSION: A1. A3.
- FREQUENCY RESPONSE: Virtually flat from 250 to 3,500 cps.
- AMPLITUDE DISTORTION: Less than 15% rms.
- POWER OUTPUT: 250 W into 12,500 ohm load.
- INPUT IMPEDANCE: 600 ohms.
- MODULATION: 100%.

HAND TELEPHONE ASSEMBLY
- IMPEDANCE
  - EARPHONES: 600 ohms at 1,000 cps.
  - MICROPHONE: 35 to 45 ohms.

POWER REQUIREMENTS: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Corp of America, Camden, N.J.
- Contract NXsr-65285, dated 15 June 1944.
- Approximate Cost: $987.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6D6 (2) 813 (2) 2A3
(1) 84 (1) 5Z3

Total Tubes: (8)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,778: Technical Manual for Speech Input and Modulator Equipment for TBK Transmitters.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

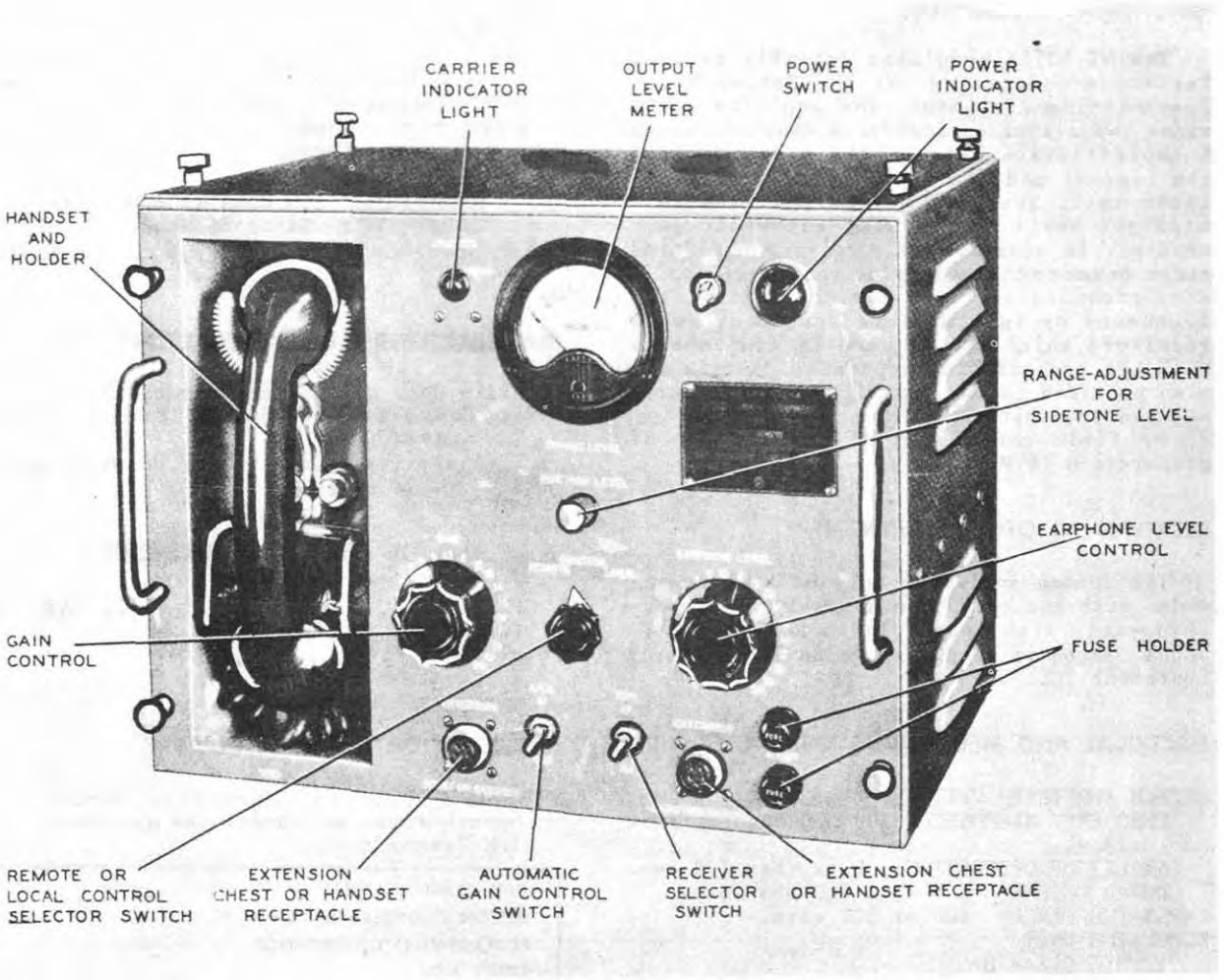
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Speech Amplifier NT-50055 Modulator Unit NT-50193 Hand Telephone Assembly NT-51008-A	17.7	24 X 31 X 41	324
1	Modification Kit			
1	Equipment Spares	5.0	17 X 22 X 23	156

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Speech Amplifier NT-50055	15-13/16 X 16 X 16	75
1	Modulator Unit NT-50193	14-1/2 X 17-1/2 X 24	120
1	Hand Telephone Assembly NT-51008-A	3-3/8 X 5 X 11-3/4	4.75
1	Modification Kit	17 X 23 X 24	75
1	Set of Equipment Spares	15 X 18 X 18	

SPEECH-INPUT EQUIPMENT



Speech-Input Equipment

FUNCTIONAL DESCRIPTION

The 50254 is complete in one major unit, designed to deliver amplified audio frequency power to model TBL-2 and subsequent TBL series transmitting equipment. A 51062 handset assembly is included as part of major unit.

The speech-input equipment is designedto derive audio energy at an input level max of approx 0.006 watt from a 35 ohm microphone or from 200 ohm or 600 ohm audio lines, and to deliver the amplified energy to a 500 ohm load at levels up to 28 decibels (0db =0.006-watt). The equipment can be used as a straight audio amplifier or with fixed compression and limiting characteristics. The normal output level is approximately 1.6 watts into the 500 ohm load. The input and output circuits are ungrounded.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT IMPEDANCE: 600 and 200 ohms.
POWER OUTPUT: 5.5 watts.
PERMITTED OUTPUT LOAD VARIATION: ±10%
AMPLITUDE DISTORTION: 5%.
FREQUENCY RESPONSE: 300 to 3500 cps, ±2 db.
NOISE LEVEL: -50 db below 3.5 watts output.
POWER REQUIREMENTS: 110 v, 60 cps, single ph.

50254 SPEECH-INPUT EQUIPMENT

March 1957

POWER CONSUMPTION: 125 W.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,857 Technical Manual for Speech-Input Equipment Navy Type 50254.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Div. of Radio Corp of America, Camden, N.J.
Contract No. NXSR 65279, dated12, June 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3GTG
(2) 6SJ7
(2) 6V6GTG
(2) 6H6
(2) 6SK7

Total Tubes: (9)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

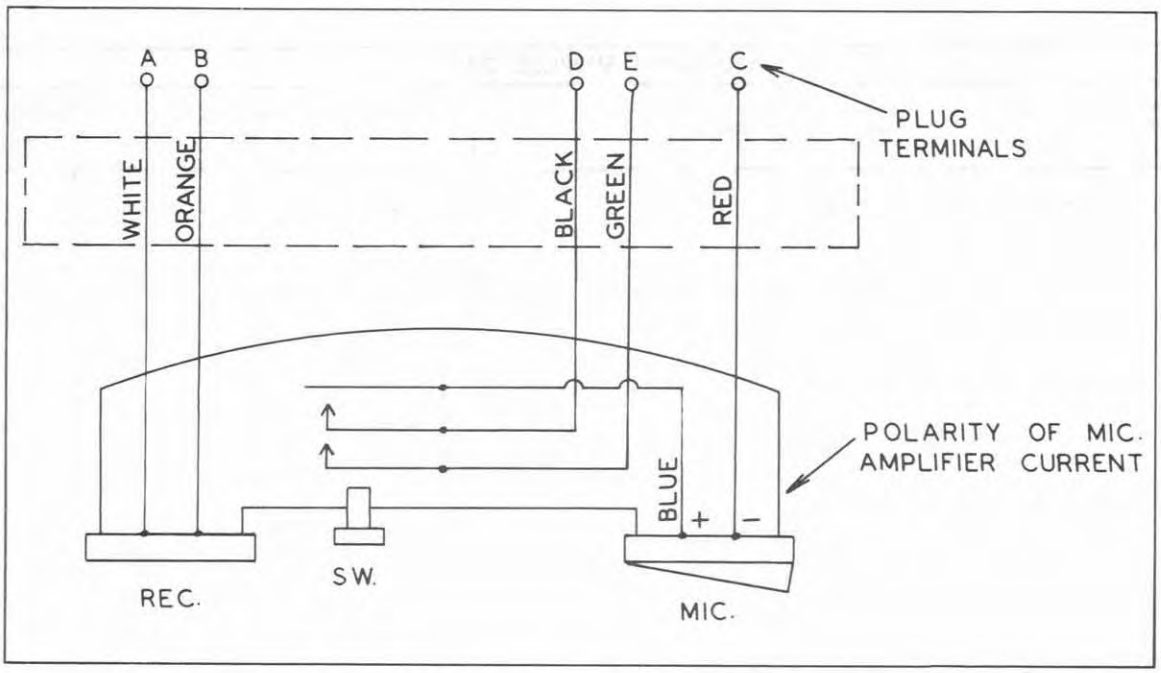
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Speech-Input Equipment NT-50254	12-3/8 X 14-1/4 X 16-1/2	77
1	Set of Equipment Spares		

September 1960

Radio-Auxiliary

HANDSET NT-51007-A WITH DYNAMIC MICROPHONE-HEADPHONE CONVERSION

51007-A MODIFIED



Schematic Diagram of Handset NT-51007A with Dynamic Microphone-Headphone Conversion

51007-A MODIFIED — HANDSET NT-51007-A WITH DYNAMIC MICROPHONE-HEADPHONE CONVERSION

FUNCTIONAL DESCRIPTION

Modified Handset NT-51007A incorporates a dynamic receiver and a dynamic microphone, and features high-quality telephonic speech transmission and reception. It is normally used with Radio Set Control C-1138/UR or at the operating panel of standard Navy Communications Equipment.

RELATION TO OTHER EQUIPMENT

As the result of this field change, the handset's magnetic receiver and carbon microphone are replaced by a dynamic receiver and a dynamic noise-canceling microphone which includes a transistor preamplifier. The unit remains similar in appearance to the standard NT-51007A except that the replacement parts are light gray in contrast to the glossy black replaced parts.

This handset with dynamic microphone and receiver, is equivalent to Handset H-169/U.

No other equipments are required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

When talking with the handset, hold microphone close to mouth and avoid covering the holes on sides of mouthpiece. The holes provide the sound chambers necessary to properly function as an extraneous noise canceling device.

RECEIVER

FREQUENCY RANGE: 100 to 5000 cps.

SENSITIVITY: 110 db re .0002 dynes/sq cm for 1 mw available.

IMPEDANCE: Receiver input impedance 600 ohms.

MICROPHONE

200 to 4000 cps.

35 db re 1 mv for 28 dynes/SQ cm sound input.

MICROPHONE OUTPUT IMPEDANCE:

Designed to operate into a 30 ohm load.

POWER SOURCE REQUIRED: -12 VDC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Roanwell Corporation, New York, New York.

Field Change Kit, Roanwell Part No. 10445, for modification of Handset NT-51007A.

Contract NObsr-75714, dated 4 March 1959.

Approximate Cost: $64.00.

TUBE AND/OR CRYSTAL COMPLEMENT

No Tubes or Crystals used.

Transistors used are not replaceable.

REFERENCE DATA AND LITERATURE

Refer to Field Change Bulletin NAVSHIPS 981138.

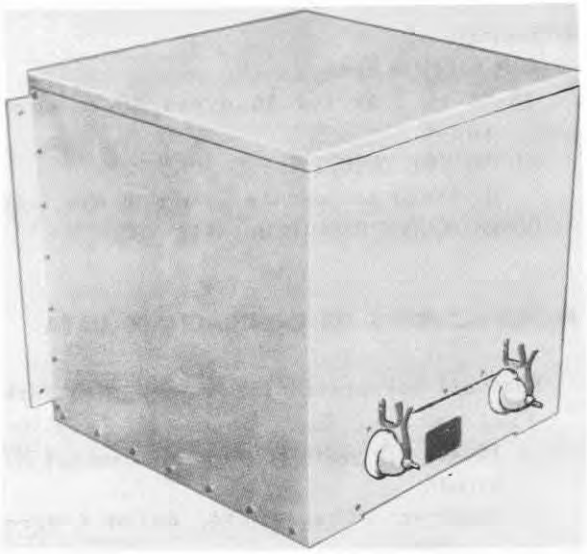
NAVSHIPS 93387: Technical Sheet for NT-51007A.

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

June 1957

Radio-Auxiliary

TRANSMISSION LINE COUPLER 512B-2



Transmission Line Coupler 512B-2

FUNCTIONAL DESCRIPTION

The Model 512B-2 (Collins Radio) is capable of matching up to 3000 watts RF from a 52 ohm unbalanced source to a 300 to 600 ohm balanced load.

It can be located wherever convenient; inside the transmitting room, on an outside wall, on a pole, or on the transmitting tower. Any length of cable may be used at the input end, and any length of balanced transmission line may be used at the output end. The output insulator bowls are equipped with horn gaps for lightning protection.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

IMPEDANCE DATA
INPUT: 52 ohm unbalanced source.
OUTPUT: 300 to 600 ohm balanced load.
SWR: 2 to 1 in frequency range of 2 to 30 mc when terminated by 600 ohm balanced resistive load.
INPUT POWER: 3000 W RF max.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Company, Cedar Rapids, Iowa.
Contract NObsr 71045, dated 26 September 1955.
Approximate Cost: $820.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

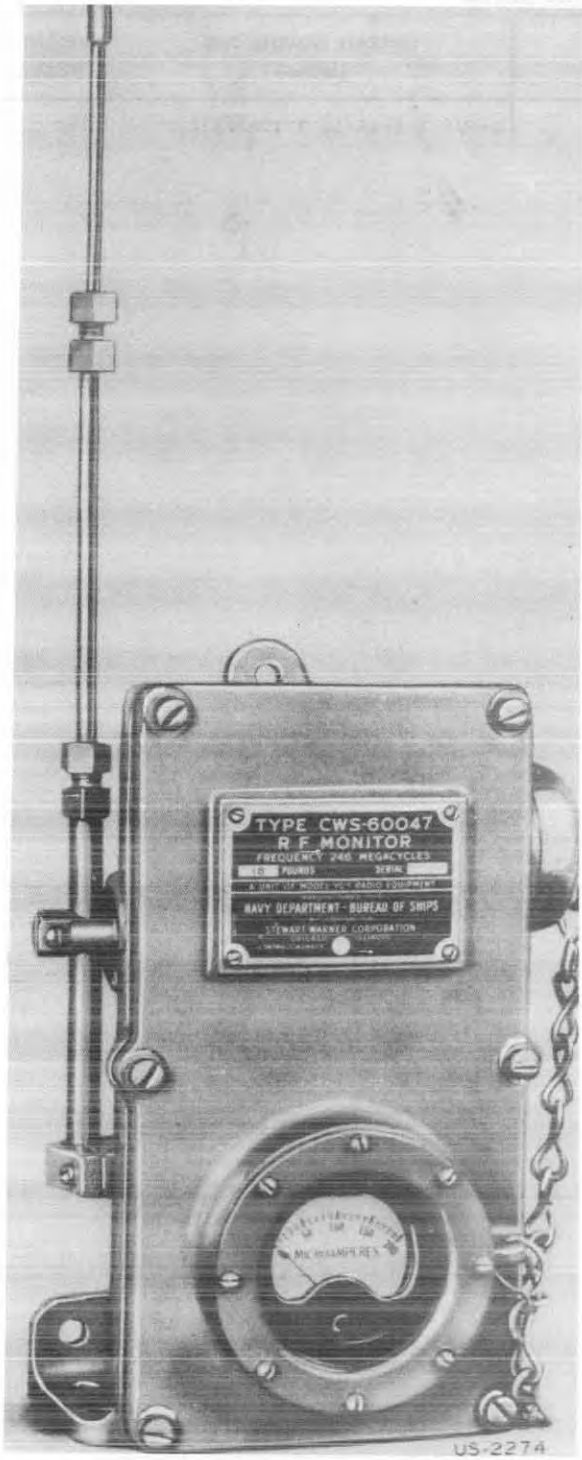
NAVSHIPS 92868: Technical Manual for Model 512B-2 Transmission Line Coupler.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmission Line Coupler Model 512B-2	20-3/4 x 22-7/8 x 23	75
1	Connector UG-154/U		

R.F. MONITOR UNIT



Radio Frequency Monitor Type CWS-60047

FUNCTIONAL DESCRIPTION

The Navy Type 60047 is used with Homing Beacon Equipments YG-1 and YG-2 to permit monitoring of the radiated signal. This unit is intended to monitor a 246 mc signal but may also be tuned for any frequency between 200 and 250 mc.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 200 to 250 mc, normally used on 246 mc.
METER SCALE: 0 to 200 ua.
POWER SOURCE REQUIRED: No external source required.

MANUFACTURER'S OR CONTRACTOR'S DATA

Stewart-Warner Corp, Chicago, Illinois.
Contract NXsr-37841, dated 21 September 1943.
Approximate Cost: $150.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes used.
(1) 559846-1
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95433: Technical Manual for Radio Frequency Monitor Navy Type 60047.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

60047 R.F. MONITOR UNIT

EQUIPMENT SUPPLIED DATA

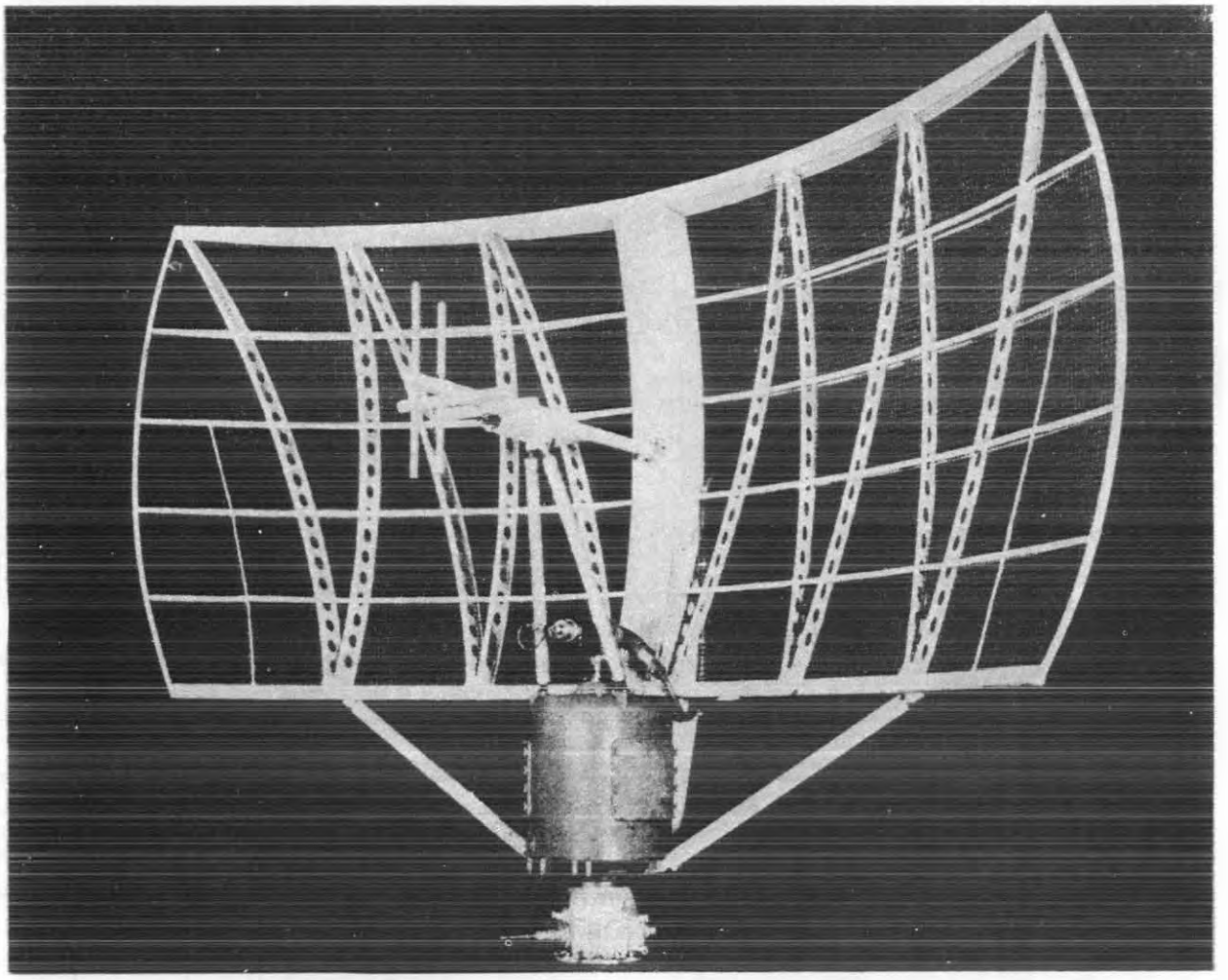
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	RF Monitor Unit Navy Type 60047	4-5/8 X 5-15/16 X 10-9/32*	18

*NOTE: *With antenna fully extended: 18-5/32.*

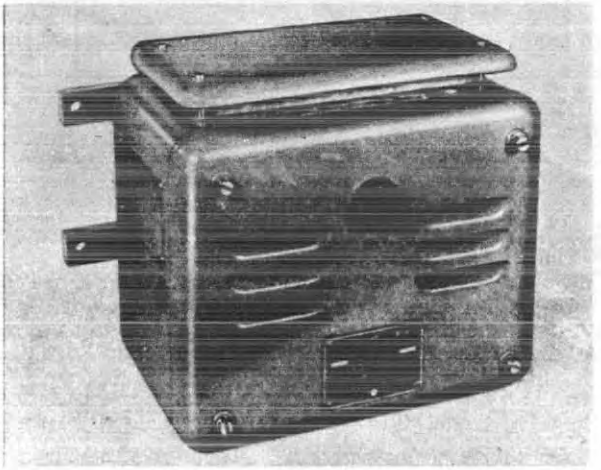
October 1957

ANTENNA ASSEMBLY

Radio-Auxiliary
66ALA,66ALB



CRP-66ALA (Blue-Orange Band) and CRP-66ALB



Rectifier Power Unit CRP-20AEK

FUNCTIONAL DESCRIPTION

The 66ALA and 66ALB are two types of antennas supplied as the SC/SK replacement antenna designed for use with Navy Model SC Radar Equipment. The 66ALA is for use on the blue band, with Mark 3 IFF attachments for the orange band and the 66ALB is for the yellow band, with Mark 3 IFF attachments for the purple band. Except for minor dimensional differences in the dipole array the two assemblies are identical. Unlike the original antenna which use a permanent (Alnico) field drive motor, the SC/SK Replacement Antenna uses a drive motor which requires a 30 volt dc source for its field. This is supplied by a bridge selenium rectifier Power Unit, to be installed near the Transmitter and Receiver-Indicator Units.

No field changes in effect at time of preparation (24 April 1957).

Radio-Auxiliary

66ALA,66ALB ANTENNA ASSEMBLY

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGES
66ALA: 215 to 225 mc.
66ALB: 195 to 205 mc.
ANTENNA TYPE: Dipole array w/parabolic reflector.
TYPE OF FEED: Coaxial Cable.
BEAM WIDTH: 22°.
BEAM HEIGHT: 40°.
SPEED OF ROTATION: 5 rpm.
IMPEDANCE: 50 ohms.
POWER SOURCE REQUIRED: 230 v DC.
MOUNTING: Pedestal.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900731, Technical Manual for Antenna Assembly Navy Types CRP-66ALA and CRP-66ALB.

MANUFACTURER'S OR CONTRACTOR'S DATA

Raytheon Mfg. Co., Waltham, Mass.
Contract NXsr 87763, 11 January 1945 and NObsr 30138 dated 27 June 1946.

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	Pedestal and Braces	58	35 x 41 x 70	860
1	Dipole Assembly and Reflector	1071	63 x 136 x 216	3319
	(1) Rectifier Power Unit 20 AEK	1.3	10-1/2 x 13 x 17	70
	(1) Set of Equipment Spares	4.5	14-1/4 x 18-3/4 x 29-1/2	151
	(1) Set of Equipment Spares	4.5	14-1/4 x 18-3/4 x 29-1/2	118
	(1) Cable	3.2	7-3/4 x 23-1/2 x 31	116
	(1) Rotary Joint Spares			

EQUIPMENT SUPPLIED DATA

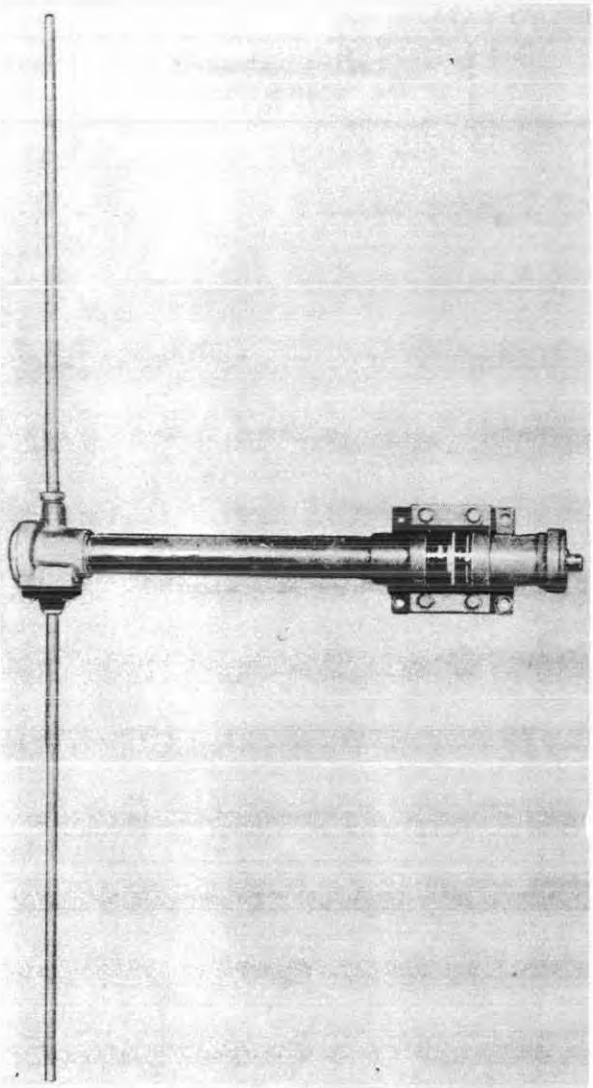
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assembly 66ALA and 66ALB	92 x 142 x 210	735
1	Rectifier Power Unit 20AEK	7-1/2 x 10 x 14	25
1	Set of Equipment Spares		
1	Rotary Joint (Spare)		

October 1957

Radio-Auxiliary

ANTENNA ASSEMBLY

66095



Antenna Assembly 66095

FUNCTIONAL DESCRIPTION

The 66095 is a broadband dipole antenna used for transmitting or receiving radio frequency energy in the frequency range 100 to 156 megacycles. It is unbalanced with respect to ground and has a nominal input impedance of 52 ohms. The radiation pattern is that of a conventional dipole.

No field changes in effect at time of preparation (20 May 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc.
INPUT IMPEDANCE: 52 ohms.

MANUFACTURER'S OR CONTRACTOR'S DATA

Granite State Machine Co., Inc., Manchester, New Hampshire.
Contract NObsr-71604 dated 30 November 1956.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92940, Technical Manual for Antenna Assembly NT-66095.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE NAVY DWG RE66F590G
STOCK NO.

SHIPPING DATA

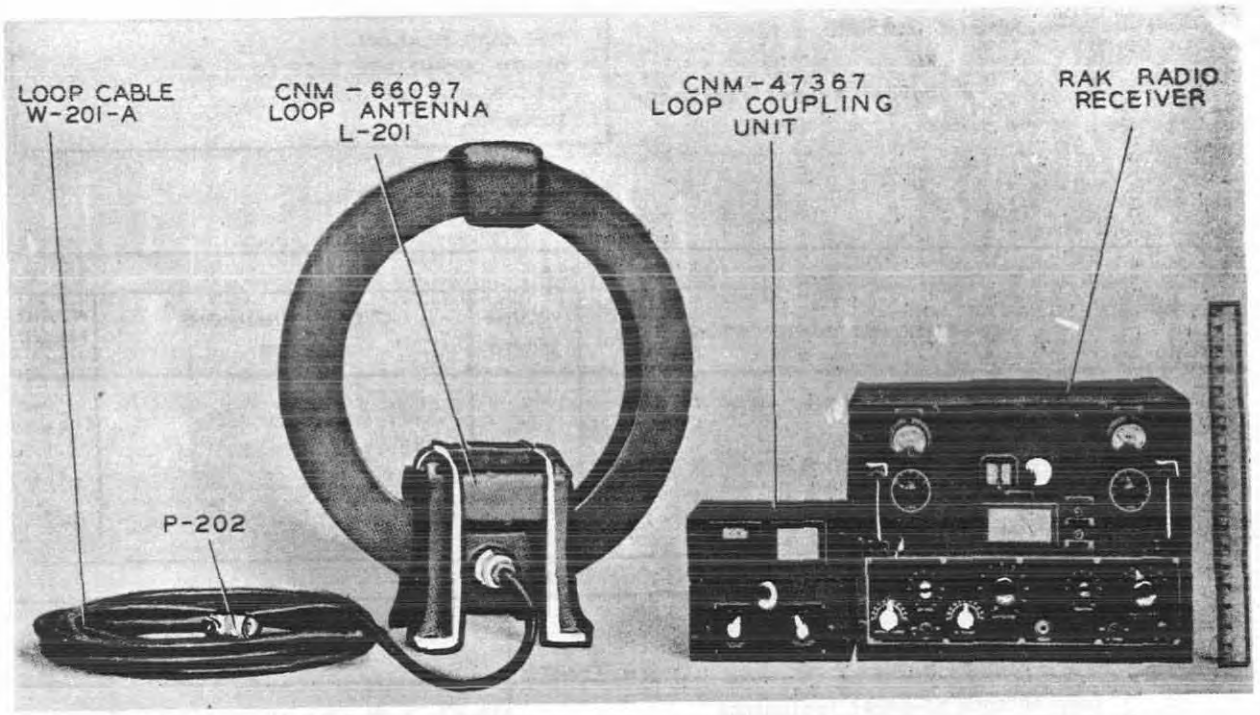
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Antenna Assembly NT-66095	2.5		33

66095 ANTENNA ASSEMBLY

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Antenna Assembly NT-66095	24-1/2 X 47	17

LOOP ANTENNA ASSEMBLY



Loop Antenna Assembly

FUNCTIONAL DESCRIPTION

The NT-66096 is designed for use on submarines in conjunction with Model RAK Radio Receiver. The loop antenna provides an alternate means of signal pickup to the non-directional antenna already provided when reception conditions are poor. A coupling unit, NT-47367, provides an efficient switching arrangement between the loop the non-directional array, and the radio receiver.

The original design of the loop antenna included a removable plug in coupling for the cable where it entered the loop housing. On modified units, the cable is permanently attached to the loop antenna.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

ANTENNA DATA
- TYPE: Loop.
- PRESSURE: 350 psi externally applied water pressure.
- INDUCTANCE: 7.95 ±0.25 mk at 1000 cps.
- TOTAL RESISTANCE OF WINDING: 6.30 ±0.20 ohms.

LOOP COUPLING UNIT
- FREQUENCY BANDS
  - BAND 1: 15 to 25 kc.
  - BAND 2: 25 to 43.5 kc.
  - BAND 3: 43.5 to 77.5 kc.

LOOP CABLE
- LENGTH: 50 ft.
- CAPACITANCE: Approx 20 uuf per ft.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Div, Radio Corp of America, Camden, N.J.
Contract NXss-33177, dated 29 June 1943.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

LOOP ANTENNA ASSEMBLY

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,505: Technical Manual for Loop Antenna Assembly Navy Type 66096.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

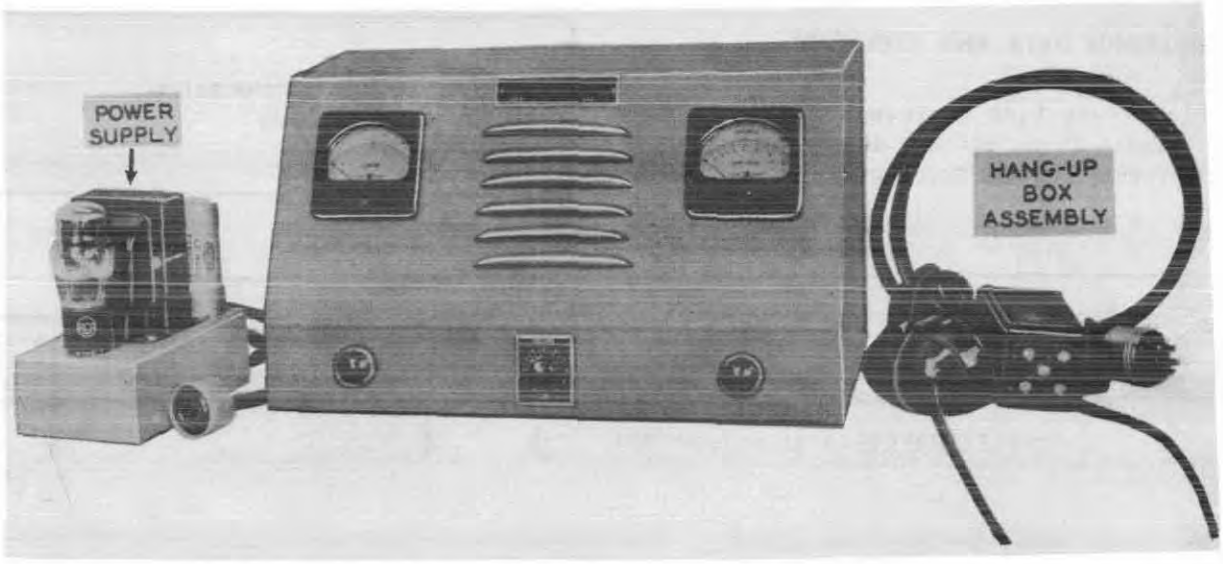
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Loop Antenna NT-66097 including: (1) Loop Cable		12-1/2 X 26 X 30-1/2 50 ft lg	185
1	Loop Coupling Unit NT-47367		13-1/2 X 15 X 15	32
1	Set of Equipment Spares		12-3/4 X 13-1/2 X 17	35

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Loop Antenna NT-66097 including: Loop Cable*	10-3/4 X 24-9/16 dia X 27-5/16 50 ft lg	130 13
1	Loop Coupling UNIT NT-47367	7-17/32 X 8-7/8 X 8-19/32	9
1	Set of Equipment Spares		

*On modified units, the cable is permanently attached to the loop antenna at the factory.

REMOTE CONTROL UNIT



Remote Control Unit 806,-A,-B,-C

FUNCTIONAL DESCRIPTION

The Type 806-A, -B, -C are two wire line control units designed to furnish complete remote control of any of the Link Radio Co's main station sets. The use of these units provides control of all of the functions of transmission and reception over a single pair of telephone or similar type wires at distances up to approximately 10 miles. The 806-A differs from the 806-B in that the 806-B provides automatic squelch and/or muting of one of the receivers whenever the handset is lifted from the hook on the hang-up box assembly and from the 806-C in that the 806-C provides power automatically to the primary circuits of "C" type transmitters whenever the control unit is turned on.

No field changes in effect at time of preparation (28 May 1956).

RELATION TO OTHER EQUIPMENT

These units are similar to the type 886-A, 886-B, 886-C except for separate power supply and the inclusion of Line Level Meter M1 and Carrier Meter M2 characteristic of the 806 series.

Equipment Required but not Supplied: Dipole or Concentric type Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

AUDIO OUTPUT LEVEL: Normal 0 db (0.006 W). Max . +15 db.

FREQUENCY RESPONSE: ±2 db from 200 to 3000 cycles. An M derived low pass filter sharply attenuates frequencies above 3000 cycles.

LINE IMPEDANCE: 500 to 600 ohms.

RECEIVER AMPLIFIER OUTPUT: 2 W into built-in speaker.

CARRIER INDICATOR FREQUENCY RANGE: Tunable to any frequency in the 30 to 42 mc range.

CARRIER INDICATOR SENSITIVITY: Approx. 500 uv in 30 to 42 mc band and approx. 100 uv in the 15 to 2500 kc band.

POWER CONSUMPTION: 65 W.

POWER SOURCE: 115 v AC, 60 cps, single phase.

MOUNTING: Desk or Table Top.

CONTROLS: Microphone gain, receiver amplifier gain, speaker volume, transmitter on-off. In Model 806-B remote receiver squelch operation is provided by contacts in the hang-up box. In 806-C remote filament control of the transmitter is automatically provided whenever the control unit is turned on.

MANUFACTURER'S OR CONTRACTOR'S DATA

Link Radio Corp., New York, N.Y.
Type 806, -A, -B, -C.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6K6GT	(2) 7W7
(1) 7C7	(1) 7F7
(1) 80	

Total Tubes: (7)

REMOTE CONTROL UNIT

REFERENCE DATA AND LITERATURE

Electronic Link Engineers Remote Control Units Types 806 and 886 - Operating Instructions and Service Notes.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Remote Control Unit – Type 806			

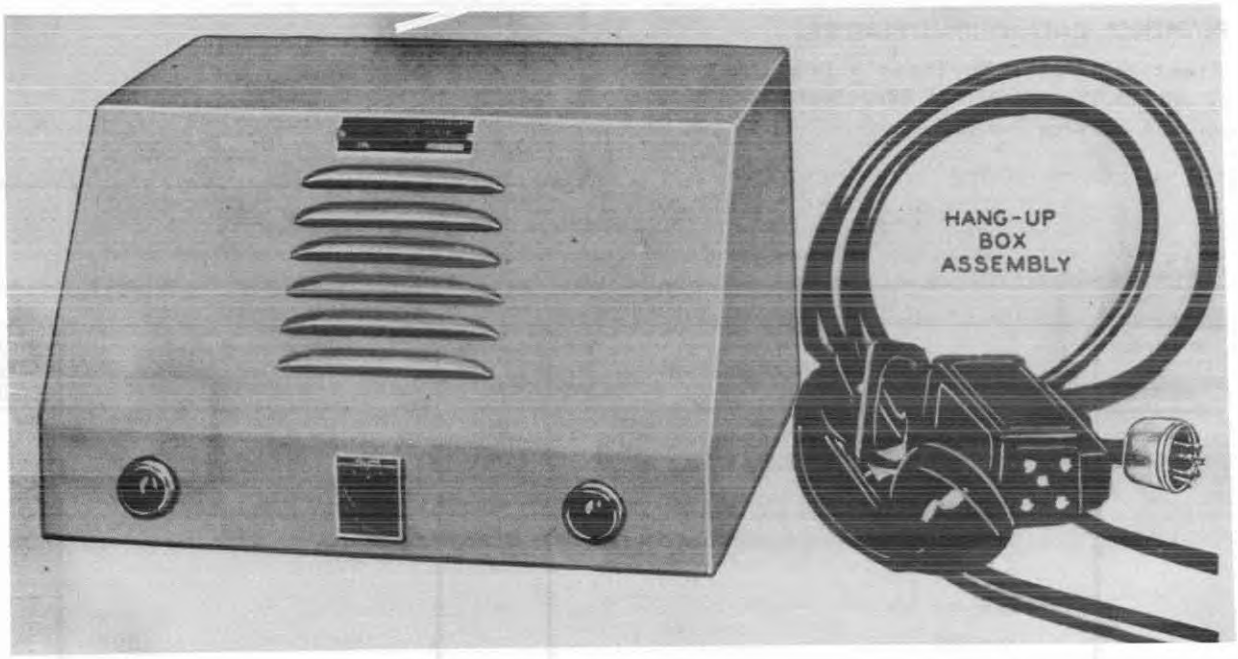
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Console	9 X 9-1/2X 15	
1	Hang-up Box Assembly		
1	Power Supply	4 X 6 X 6	

December 1956

REMOTE CONTROL UNIT

886-A -B,-C



Remote Control Unit 886-A,-B,-C

FUNCTIONAL DESCRIPTION

The type 886-A, 886-B and 886-C (Link Radio Corp) are two-wire line control units designed to furnish complete remote control of any of the LINK main station sets. The use of either of these units provides control of all of the functions of transmission and reception over a single pair of telephone or similar type wires up to approximately 10 miles. A metallic circuit capable of carrying DC voltages up to 100 v at 10 ma is required.

The 886-A,-B,-C are physically the same but differ operationally inasmuch as the 886-B provides for remote receiver squelch control while the 886-C provides for remote filament control in addition to the remote squelch facilities.

No field changes in effect at time of preparation (17 July 1956).

RELATION TO OTHER EQUIPMENT

Similar to the 806-A, B and C except that the 886-A,B and C provide built-in power supplies and omit the Line Level Meter and Carrier Meter.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

AUDIO OUTPUT LEVEL: Normal 0 db, max ±15 db.

FREQUENCY RESPONSE: ±2 db from 200 to 3000 cps; An "M" derived low pass filter sharply attenuates frequencies above 3000 cps.

LINE IMPEDANCE: 500 to 600 ohms.

RECEIVED SIGNAL AMPLIFIER OUTPUT: 2 W into built-in loudspeaker.

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

POWER CONSUMPTION: 45 W.

CONTROLS: Murophone amplifier gain, receiver amplifier gain, speaker volume, transmitter on-off (push to talk button in hand-set).

MANUFACTURER'S OR CONTRACTOR'S DATA

Link Radio Corp. New York, N.Y.
Type 886-A, 886-B, 886-C.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6K6GT (1) 80

Total Tubes (3)

886-A ,-B,-C REMOTE CONTROL UNIT

December 1956

REFERENCE DATA AND LITERATURE

Electronic Link Engineer's Remote Control Units Types 806 and 886, Technical Manual and Service Notes.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Console 886-A or Console 886-B or Console 886-C Hang-Up Box Handset Connecting Cable			

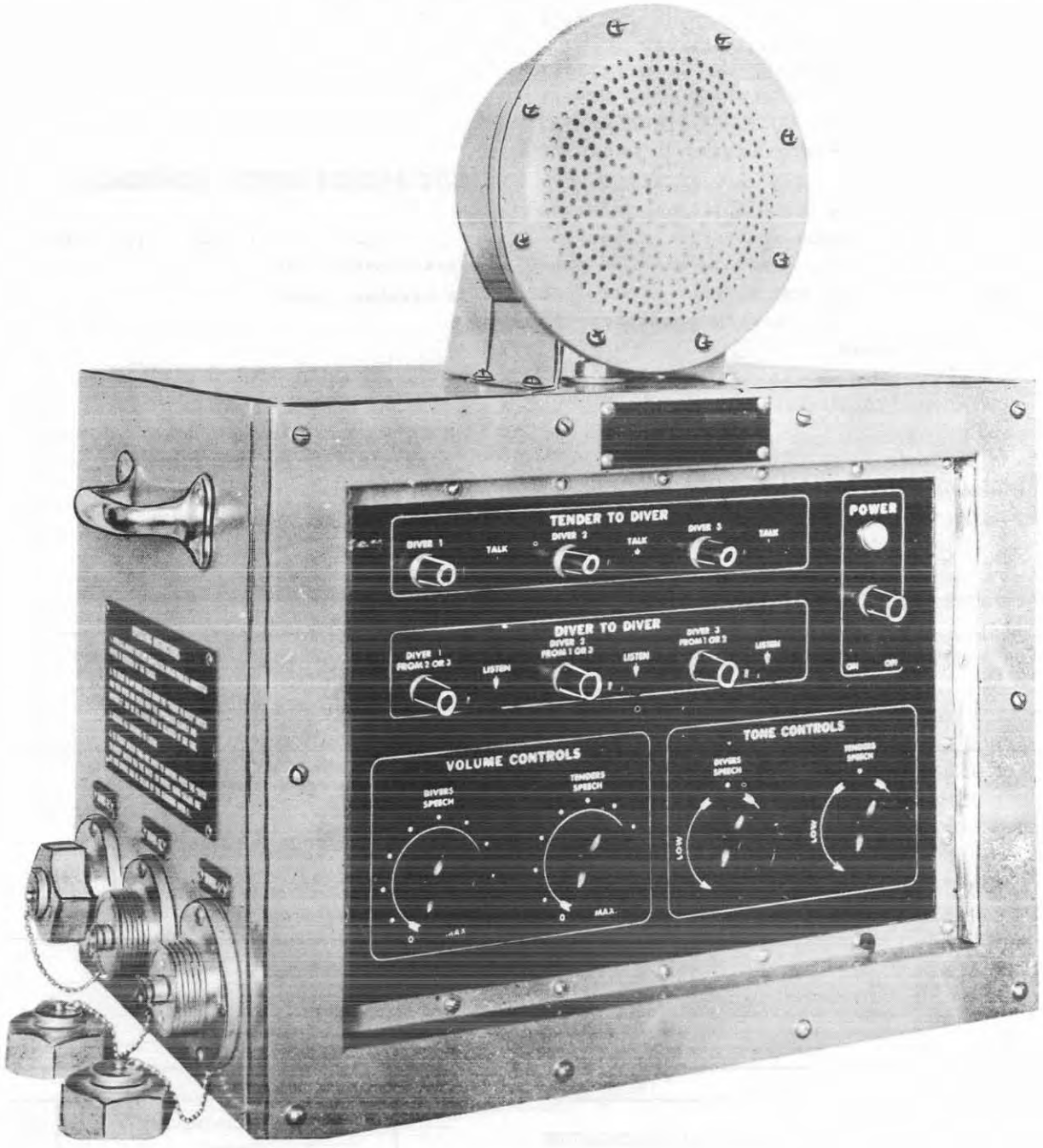
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Console 886-A or		
1	Console 886-B or		
1	Console 886-C		
1	Hang-up Box Assembly		

Radio-Auxiliary

INTERCOMMUNICATION SET

957 (CCGQ)



Intercommunication Set Model 957(CCGQ)

FUNCTIONAL DESCRIPTION

The Intercommunication Set Model 957 (CCGQ) is designed to provide for communication between diver's tender station on the surface and one to three divers. Provision is also made for selective communication between divers, the selection being controlled at the tender's station. Both pick-up and reproduction of speech are obtained through

957(CCGQ) INTERCOMMUNICATION SET

the reproducers, these units being used both as loudspeakers and as microphones.

The system is normally set up for transmission of speech from all connected divers to the tender. Switching facilities are provided on the tender's control panel to select and talk to any one or all divers from the surface station. Additional switches are provided to select interdiver communication. Tone and volume controls are also provided to clarify the speech, both to and from the divers, to suit varying conditions of voice and pressure.

No field changes in effect at time of preparation (20 September 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF USE: Outdoor intercommunication between a diver's tender station on the surface and one to three divers.

TRANSDUCING DEVICE DATA
QUANTITY: 2.
TYPE: Loudspeaker type.

AUDIO OUTPUT: 4 W.
HEAT DISSIPATION (115 V DC): 95 W.
HEAT DISSIPATION (12 V DC): 36.8 W.
HEAT DISSIPATION (115 V DC): 140 W.
NUMBER OF STATIONS ACCOMMODATED: 4 stations.
OPERATING POWER RQMT: 12 v dc, 3.4 amps; 115 v dc, 0.9 amps; 115 v ac, 60 cps, single ph, 144 va at 0.95 power factor lagging.

Guided Radio Corporation, New York, N.Y.
Contract NXss-39978.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 12SC7 (4) 7A5 (1) 5U4G
Total Tubes: (7)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 365-0220: Technical Manual for U.S. Navy Diving Amplifier Equipment Model 957(CCGQ).

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE MIL-I-16421B
STOCK NO. (SHIPS) Class II
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Intercommunication Set Model 957(CCGQ) consists of:		
1	Amplifier, Audio Frequency	20 x 21 x 22-1/4	
3	Loudspeaker, Permanent Magnet		
1	Set of Equipment Spares	6-1/16 x 15-1/8 x 18-1/8	