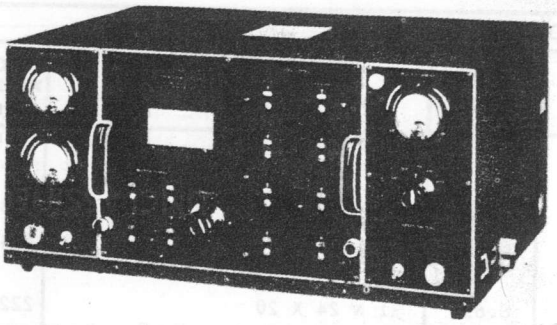
RADIO TELEPHONE TRANSMITTING EQUIPMENT

TCA-1



Radio Transmitter Equipment TCA-1

FUNCTIONAL DESCRIPTION

The Model TCA-1 is a low power, general purpose radio telephone transmitter designed primarily for table mounting in air station control towers.

It features rapid selection of four pretuned channels in the frequency range of 3000 to 9050 kc and is designed to work into an unbalanced antenna or transmission line having an impedance of 70 go 600 ohms resistive and up to 1000 ohms reactive.

It is designed to operate from a 50 to 60 cycle power source or a 50 to 60 cycle and 25 cycle power source.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 3000 to 9050 kc.
NUMBER OF CHANNELS: 4 preset channels
CONTROL: Crystal.
TYPE OF EMISSION: A3.
POWER OUTPUT: 15 W.
RESPONSE(AF): Uniform within 3 db from 500 to 2500 cps; down 30 db or more at 60 and 5000 cps.
AMPLITUDE DISTORTION(AF): 6% rms max. at any modulation level.
RESIDUAL NOISE LEVEL: 40 db or more below 100% modulation.
POWER REQUIREMENTS: 110 to 115 v, 2.3 amp, 50 to 60 cps or 25 cps, single ph, 200 W, 75% pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Contract NOs-81551, dated 10 February 1941.
Approximate Cost: fl750.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5U4G (1) 6L6G (1) 6J5G (4) 807
Total Tubes: (8)
(2) Operating Crystals

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95301: Technical Manual for Navy Model TCA-1 Radio Telephone Transmitting Equipment

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Model TCA-1 consisting of: Radio Frequency Unit 33R-1 Modulator and Power Supply 421A-1 (50 to 60 cps) or 421A-2 (50 to 60 and 25 cps)	12-3/4 X 20-1/4 X 28-1/4	170
1	Operators Desk Set 223F-5		
1	Power Line Connector Cord 65J-1		
1	Receiver Connector 365N808		
1	Set of Equipment Spare Parts		

December 1956

RADIO TELEPHONE TRANSMITTING EQUIPMENT

TCA

Radio Telephone Transmitting Equipment TCA

FUNCTIONAL DESCRIPTION

The TCA is designed for voice communication requiring a rapid change of frequency on any one of four pre-selected frequencies in the range of 3000 to 10,000 kilocycles by the manipulation of a single switch. The audio frequency response and harmonic content are held to such values as will give high quality transmission for the service for which designed.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 3000 to 10000 kc.
CHANNELS: 4.
FREQUENCY CONTROL: Crystal.
EMISSION: A3.
POWER OUTPUT: 15 W.
FREQUENCY RESPONSE: Within 2 db from 500 to 2500 cps with sharp cut-off below 500 cps and above 2500 cps, and down 30 db at 60 cps and 5000 cps.
POWER REQUIREMENTS: 110 v, 50 or 60 cps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Corp., Cedar Rapids, Iowa.
Contract NOs-66284, dated 22 April 1939.
Approximate Cost: $750.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6L6G (1) 807 (1) 6C5G (2) 5Z3
Total Tubes: (7)
(2) Crystals
Total Crystals: (2)

REFERENCE DATA AND LITERATURE

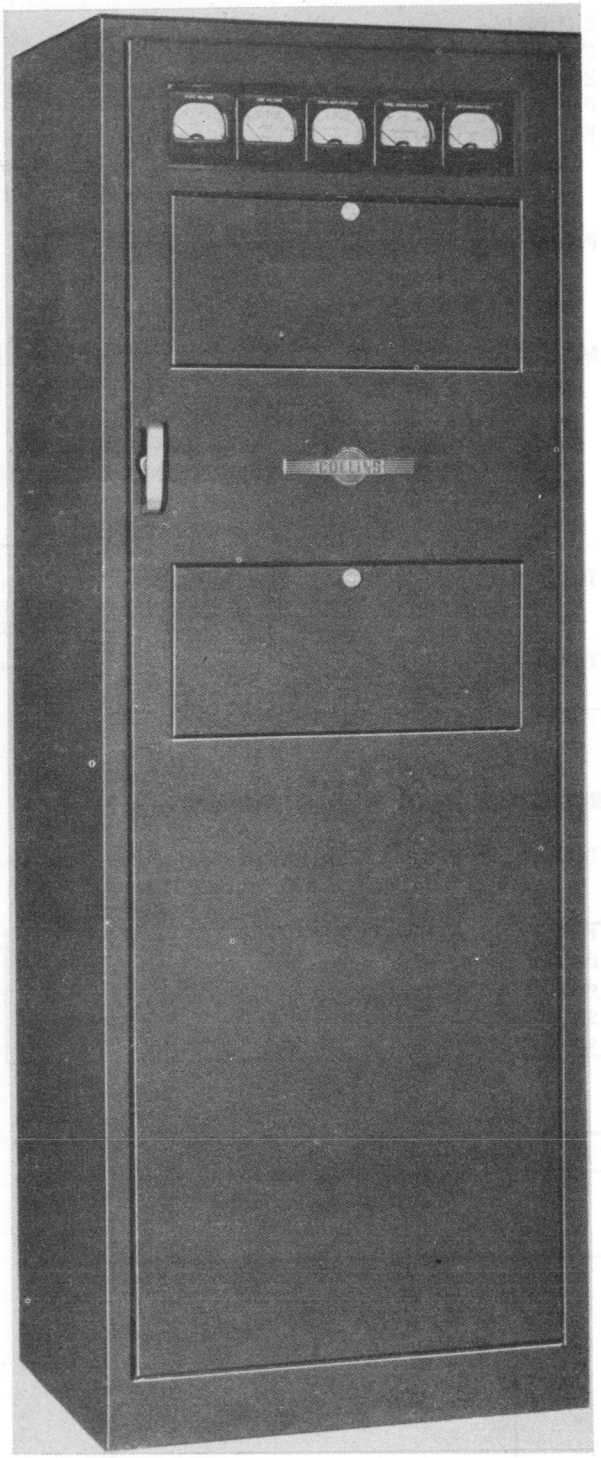
Technical Manual for Radio Telephone Transmitting equipment for model TCA.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Cabinet Assembly		
1	Panel Assembly		
1	R.F. Assembly		
1	Modulator Unit		
1	Power Supply		
1	Filter Unit		
1	Microphone		
2	Mounted Crystals		
2	Output Cables		
1	Oscillator Coil		

RADIO TRANSMITTING EQUIPMENT TCB, TCB-1, -2



Radio Transmitting Equipment TCB

FUNCTIONAL DESCRIPTION

The Navy Model TCB, TCB-1 and TCB-2 are designed for A1, A2 or A3 type emission at shore installations. They provide rapid dial selection of type of emission and of any one of 10 preselected frequencies. Operation may be from the front panel or by means of a remote control unit.

The TCB, TCB-1 and TCB-2 are similar in operation but the TCB differs in frequency range and output power.

No field changes in effect at time of preparation (22 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3.
FREQUENCY RANGE
TCB: 1500 to 15000 kc, 10 preset channels.
TCB-1, -2: 1500 to 12000 kc, 10 preset channels.
POWER OUTPUT
TCB: 150 W.
TCB-1,-2: 75 W.
POWER INPUT: 1000 W max, 0.85 pf.
FREQUENCY CONTROL: Crystal.
POWER REQUIREMENTS
TCB, TCB-2: 110 v, 60 cps, single ph.
TCB-1: 110 v, 25 or 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
TCB: Contract NOs-66284 dated 22 April 1939.
TCB-1: Contract NOs-81551 dated 10 February 1941.
TCB-2: Contract NXss-7663 dated 23 November 1942.
Approximate Cost: $3000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

TCB

(3) 6L6G
(2) 6C8G
(2) 80
(1) 6R7G
(2) 866A
(1) 813
(4) 6F8G
(2) 6F6G
(2) 5Z3
(2) 1852
(2) 120
(1) 6X5
(1) 4B24
(1) OD3
(1) 6J7G
Total Tubes: (27)

Radio-Transmitters

TCB, TCB-1, -2 RADIO TRANSMITTING EQUIPMENT

TCB-1,-2

(1) 813
(1) 807
(1) 837
(1) 6X5
(1) 6SJ7
(1) 6C8G
(1) 6R7G
(1) 6F8G
Total Tubes: (25)
(30) Quartz Crystals
Total Crystals: (30)

(3) 6F6G
(3) 6J5
(2) 5U4G
(2) 805
(2) 6Q7G
(1) 3B22
(4) 866A

Model TCB Radio Telegraph and Telephone Transmitting Equipment.

NAVSHIPS 95303: Technical Manual for Navy Model TCB-1 Radio Telegraph and Telephone Transmitting Equipment.

NAVSHIPS 95304: Technical Manual for Navy Model TCB-2 Radio Telegraph and Telephone Transmitting Equipment.

NAVSHIPS 95302: Technical Manual for Navy

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE TCB-1 S-500-2366
TCB-2 EN28/4448-42/SHIPS

STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
12	Radio Transmitting Equipment TCB, TCB-1 or TCB-2			1889
2	Equipment Spares			320

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCB		
1	Transmitter 16E-1	16-1/2 x 21-1/2 x 61-3/4	502
1	Station Control Unit 176L-2	6-1/4 x 10-1/2 x 12-1/4	11.75
1	Operator's Control Unit 177E-2	8-3/4 x 10 x 19	38
1	Desk Set 223F-4	6 x 7-1/2 x 9	5.75
1	Set of Accessories and Equipment Spares		
	TCB-1		
1	Transmitter 16E-5 (110 v, 60 cps operation) or 16E-6 (110 v, 25 cps operation)	24 x 24 x 78 24 x 24 x 78	952 950
1	Operator's Control Unit 177G-4 (110 v, 60 cps operation) or 117G-5(110 v, 25 cps operation)	10 x 10-1/2 x 19	53
1	Desk Set 223G-3 (110 v, 60 cps operation) or 223G-6 (110 v, 25 cps operation)	6 x 7-1/2 x 9	5.75
1	Set of Accessories and Equipment Spares		

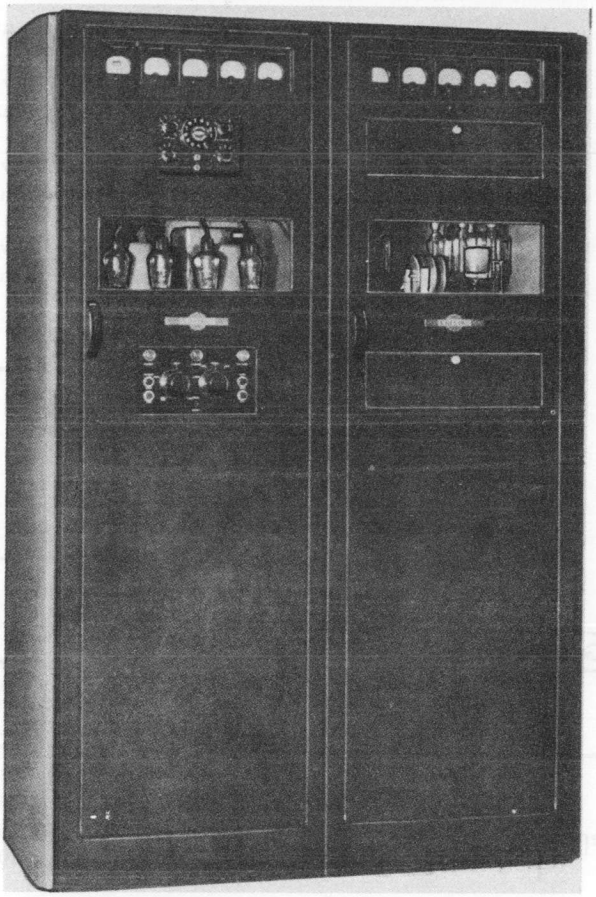
RADIO TRANSMITTING EQUIPMENT

TCB, TCB-1, -2

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCB-2		
1	Transmitter 16E-5	24 x 24 x 78	952
1	Operator's Control Unit 177G-4	10 x 11-1/4 x 19	53
1	Desk Set 223G-3	6 x 7-1/2 x 9	5.75
1	Set of Accessories and Equipment Spares		

RADIO TRANSMITTING EQUIPMENT TCC, TCC-1,-2,-3,-4



Radio Transmitting Equipment TCC-4

FUNCTIONAL DESCRIPTION

The TCC, TCC-1 thru 4 radio transmitters are designed for A1, A2 or A3 type emission at shore installations. They provide rapid dial selection of type of emission and of any one of 10 preselected frequencies. Operation may be from the front panel or by means of a remote control unit.

The equipments comprising the TCC series are all similar in operation. The TCC and TCC-2 differ from the rest of the series in that the frequency range extends from 2 to 20 mc instead of 2.0 to 18.1 mc.

No field changes in effect at time of preparation (23 April 1958).

RELATION TO OTHER EQUIPMENT

The TCC Series equipments have been superseded by the TDH Series Radio Transmitting Equipments of higher output power.

Equipment Required but not Supplied: (As required) Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3.
FREQUENCY RANGE
TCC, TCC-2: 2 to 20 mc, 10 preset channels.
TCC-1,-3,-4: 2.0 to 18.1 mc, 10 preset channels.
POWER OUTPUT
A1: 1000 W.
A2, A3: 600 W.
FREQUENCY CONTROL: Crystal.
POWER REQUIREMENTS
TCC, TCC-2: 220 v, 50 to 60 cps, 3 ph, 4.5 kw max.
TCC-1,-3,-4: 220 v, 60 cps (25 cps with frequency changer included), 3 ph, 4.5 kw max.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Contract NOs-66284 dated 22 April 1939 (TCC).
Contract NOs-74981 dated 29 June 1940 (TCC-1,-2).
Contract NOs-81551 dated 10 February 1941 (TCC-3).
Contract NXss-7662 dated 23 November 1942 (TCC-4).
Approximate Cost: $11500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

TCC, TCC-2

(1) 837	(2) 6C8G
(4) 83	(2) 6AC7WA
(1) 6R7GT	(4) 833A
(2) 80	(8) 3B28
(1) 813	(1) OD3W
(2) 6X5WGT	(1) 807
(6) 6F8G	(1) 6J7GT
(3) 6L6WGB	

Total Tubes: (39)

TCC-1

(1) 6C8G	(4) 833A
(1) 6R7GT	(1) 813
(2) 6F8G	(1) 837
(1) 6J5WGT	(1) 84/6Z4
(3) 807	(1) 6SJ7
(1) 6J7GT	(2) OC3W
(1) 6L7G	(4) 83
(2) 5U4G	(1) 6F6GT
(8) 3B28	(2) 6Q7GT

Total Tubes: (37)

Radio-Transmitters

TCC, TCC-1,-2,-3,-4 RADIO TRANSMITTING EQUIPMENT

	TCC-3, -4
(4) 6J5WGT	(1) 6F6GT
(1) 6X5WGT	(4) 833A
(1) 6F8G	(3) 807
(1) 6C8G	(1) 5U4G
(1) 6SJ7	(1) 813
(1) 837	(8) 3B28
(1) 6R7GT	(2) 6Q7GT
(4) 83	

Total Tubes: (34)
(50) Quartz Crystals
Total Crystals: (50)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95305: Technical Manual for Navy Model TCC Radio Telegraph and Telephone Transmitting Equipment.
NAVSHIPS 95306: Technical Manual for Navy Model TCC-1 Radio Telegraph and Telephone Transmitting Equipment.
NAVSHIPS 95307: Technical Manual for Navy Model TCC-2 Radio Telegraph and Telephone Transmitting Equipment.
NAVSHIPS 95308: Technical Manual for Navy Model TCC-3 Radio Telegraph and Telephone Transmitting Equipment.
NAVSHIPS 900214: Technical Manual for Navy Model TCC-4 Radio Telegraph and Telephone Transmitting Equipment.

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.)
24	TCC-1 Radio Transmitting Equipment	213.4		4068
2	Equipment Spares	19.6		378
20	TCC-3 or TCC-4 Radio Transmitting Equipment	267.09		3523
2	Equipment Spares	4.80		370

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCC, TCC-2		
1	Power Bay 1006-6	24 X 24 X 78	990
1	Autotune RF Bay 1007-6	24 X 24 X 78	580
1	Station Control Unit 176L-2	6-3/8 X 11-1/2 X 12-1/4	12
1	Operator's Control Unit 177E-2	8-3/4 X 10 X 19	38
1	Desk Set 223F-4	6 X 7-1/2 X 9	5.75
2	Bay Dust Covers 38M-1 and 38M-2	3-1/2 X 22 X 78	40
1	Set of Accessories		
1	Set of Equipment Spares		
	TCC-1		
1	Power and Modulator Bay 1021-1 or 1021-2 (for 25 cps power source)	24 X 24 X 78	1000
1	Autotune RF Bay 1014-1 or 1014-2 (for 25 cps power source)	24 X 24 X 78	600
1	Operator's Control Unit 177G-1 or 177G-3 (for 25 cps power source)	10 X 10-1/2 X 19	
1	Desk Set 223G-1 or 223G-5 (for 25 cps power source)	5-1/8 X 5-1/2 X 7-1/2	5.75

RADIO TRANSMITTING EQUIPMENT TCC, TCC-1,-2,-3,-4

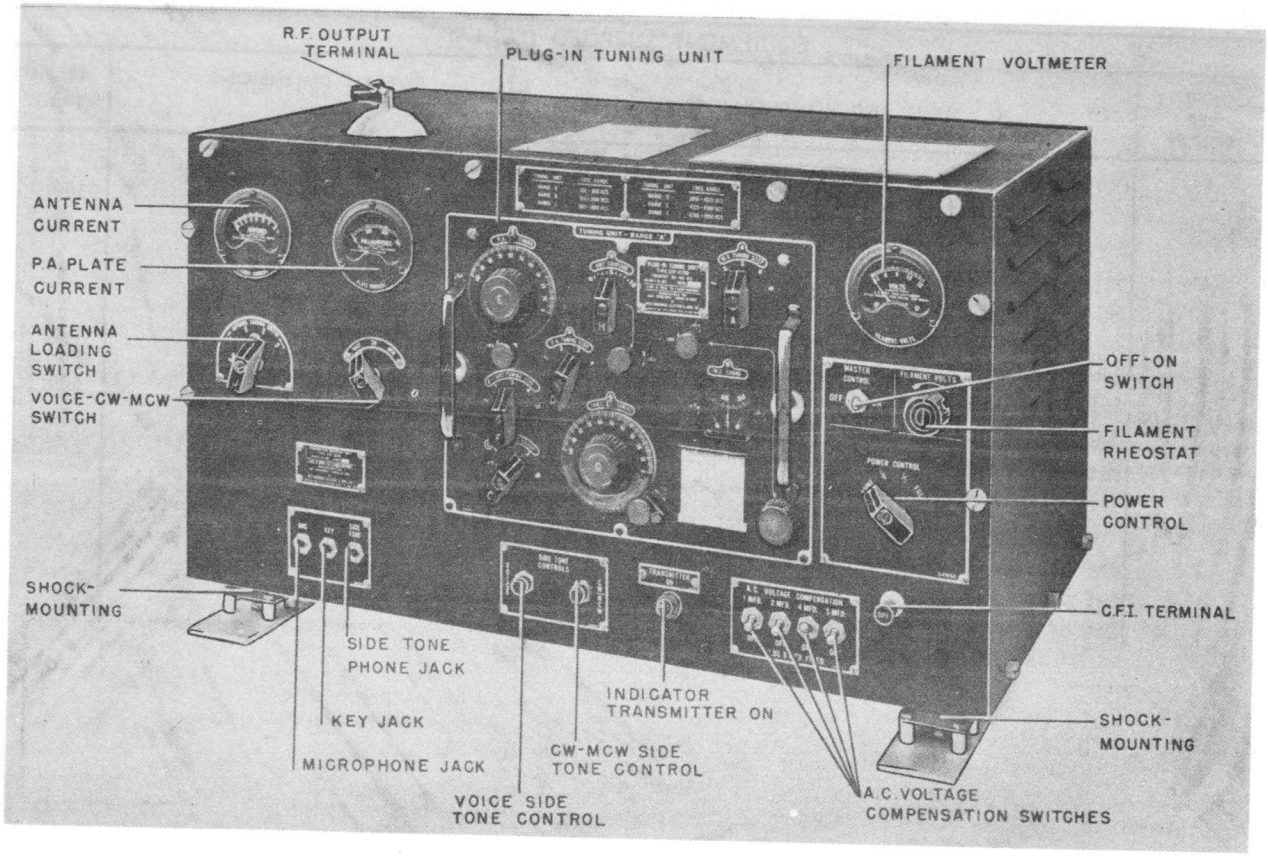
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Frequency Converter 231N500 (25 to 60 cps, for 25 cps power source)	16 X 26-1/2 X 66	2360
2	Bay Dust Covers 38M1 and 38M2	2 X 24 X 78	40
1	Set of Accessories		
1	Set of Equipment Spares		
	TCC-3, -4		
1	Power and Modulator Bay 1021-5	24 X 24 X 78	1000
1	Autotune RF Bay 1014-5	24 X 24 X 78	600
1	Operator's Control Unit 177G-5	10 X 10-1/2 X 19	53
1	Desk Set 223G-3	5-1/8 X 5-1/2 X 7-1/2	5.75
1	Frequency Converter 231N500 (25 to 60 cps, for 25 cps power source)	16 X 26-1/2 X 66	2360
2	Bay Dust Covers 38M-1 and 38M-2	2 X 24 X 78	40
1	Set of Accessories		
1	Set of Equipment Spares		

Radio-Transmitters

RADIO TRANSMITTING EQUIPMENT

TCE, TCE-1, -2



Transmitter-Rectifier Unit NT-52151

FUNCTIONAL DESCRIPTION

The TCE, TCE-1 and 2 are intended for use on certain types of small surface craft. When used in conjunction with suitable receiving apparatus, these equipments will provide communication by telegraph or telephone over a frequency range of 350 to 9050 kc. Receiving equipment and frequency measuring equipment are necessary for a complete installation.

The TCE, TCE-1 and 2 are identical except for power source requirements, and that the TCE-1 employs a control-transfer unit while the TCE-2 incorporates modifications which allow elimination of this unit.

No field changes in effect at time of preparation (23 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Receiving equipment, frequency measuring equipment, microphone, headphones, telegraph key, and interconnection wire or cable and antenna installation.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 350 to 9050 kc in 3 bands.
FREQUENCY CONTROL: Master oscillator.
EMISSION: A1, A2, A3.
POWER OUTPUT
350 TO 800 KC: 85 W, A1, A2; 30 W, A3.
800 TO 1500 KC: 100 W, A1, A2; 35 W, A3.
1500 TO 9050 KC: 125 W, A1, A2; 40 W, A3.
KEYING DATA: Relay keying, 30 wpm.

Radio-Transmitters

TCE, TCE-1, -2 RADIO TRANSMITTING EQUIPMENT

POWER REQUIREMENTS

TCE: 24, 32, 120 v DC, or 115 v 60 cps single ph.

TCE-1: 32, 120, 230 v DC, or 115, 230 v 60 cps single ph.

TCE-2: 115, 230 v DC; or 115 v 60 cps single ph; or 208, 440 v, 60 cps 3 ph.

GENERATOR OUTPUT: 120 v, 600 to 800 cps and 12 to 15 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric & Mfg. Co, Baltimore, Md.

Contract NOs-59779, dated 23 March 1938. (TCE)

Contract NOs-74703, dated 26 June 1940. (TCE-1)

Contract NXs-1851, dated 12 March 1942. (TCE-2)

Contract NXs-1851 (Suppl.), dated 12 March 1942. (TCE-2).

Approximate Cost: $3300.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 803
(2) 1616
(1) 5Z3
(1) 843
(1) 801A

Total Tubes: (6)

No Crystals used.

REFERENCE DATA AND LITERATURE

IB 5970: Technical Manual for Model TCE Radio Transmitting Equipment.

NAVSHIPS 95309: Technical Manual for Model TCE-1 Radio Transmitting Equipment.

NAVSHIPS 95310: Technical Manual for Model TCE-2 Radio Transmitting Equipment.

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.)
	TCE-1			
1	Transmitter-Rectifier NT-52151 including: (1) Plug in Tuning Unit	13.12	24 X 27 X 35	164
1	Motor-Generator NT-21635 (32 v DC) or	4.56	16 X 17 X 29	200
	NT-21524 (120 v DC) or	4.56	16 X 17 X 29	200
	NT-21636 (120 v DC) or	4.56	16 X 17 X 29	200
	NT-21637 (230 v DC) or	4.56	16 X 17 X 29	200
	NT-21638 (115/230 v AC)	4.56	16 X 17 X 29	200
1	Magnetic Controller NT-21418 (32 v DC) or	4.86	17 X 19 X 29	112
	NT-21419 (120 v DC) or	4.86	17 X 19 X 26	112
	NT-21558 (230 v DC) or	4.86	17 X 19 X 26	112
	NT-21420 (115/230 v AC)	3.35	14 X 18 X 25	63
		2.81	13 X 17 X 22	26
1	Set of Tubes	12.86	19 X 30 X 39	185
1	Set of (5) Plug in Tuning Units including: (5) Tuning Unit Containers NT-47124	5.60	15 X 19 X 34	174
1	Spare Parts Box or			

RADIO TRANSMITTING EQUIPMENT TCE, TCE-1, -2

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Spare Parts Box (115 v AC only)	4.08	14 X 18 X 28	134
1*	Remote Control Unit NT-23245	1.17	12 X 13 X 13	19
1*	Control Transfer Unit NT-23346	1.09	8 X 15 X 16	12
	NOTE: *Optional Equipment.			
	TCE-2			
1	Transmitter-Rectifier NT-52151-AS including: (1) Plug in Tuning Unit			
1	Motor-Generator NT-21636 (115 v DC) or	4.56	16 X 17 X 29	200
	NT-21637 (230 v DC) or	4.56	16 X 17 X 29	200
	NT-21638 (115/230 v AC) or	4.56	16 X 17 X 29	200
	NT-21927 (208 v, 3 ph) or	4.56	16 X 17 X 29	200
	NT-21607 (440 v, 3 ph)	4.56	16 X 17 X 29	200
1	Magnetic Controller NT-21873 (115 v DC) or	4.57	16 X 19 X 26	100
	NT-21558 (230 v DC) or	4.86	17 X 19 X 26	112
	NT-21420 (115 v, 1 ph) or	4.86	17 X 19 X 26	50
	NT-21846 (208 v, 3 ph) or	4.86	17 X 19 X 26	100
	NT-21847 (440 v, 3 ph)	4.57	16 X 19 X 26	100
1	Set of Tubes	2.81	13 X 17 X 22	26
1	Set of (5) Plug in Tuning Units including: (5) Tuning Unit Containers NT-47226 (1) Remote Control NT-23245 or (1) Remote Control NT-23305	12.86	19 X 30 X 39	234
1	Spare Parts Box			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCE		
1	Transmitter-Rectifier NT-52129	14-15/16 X 17-3/32 X 24-1/8	58
1	Set of Plug in Tuning Units consisting of:		
	Range A NT-47150	8-1/2 X 9-1/2 X 10-13/16	15
	Range B NT-47151	8-1/2 X 9-1/2 X 10-13/16	14
	Range C NT-47155	8-1/2 X 9-1/2 X 10-13/16	14
	Range D NT-47152	8-1/2 X 9-1/2 X 10-13/16	14
	Range E NT-47153	8-1/2 X 9-1/2 X 10-13/16	13
	Range F NT-47154	8-1/2 X 9-1/2 X 10-13/16	15
5	Plug in Tuning Unit Containers NT-47124	9-11/16 X 10-7/8 X 12	5

Radio-Transmitters

TCE, TCE-1, -2 RADIO TRANSMITTING EQUIPMENT

EQUIPMENT SUPPLIED DATA

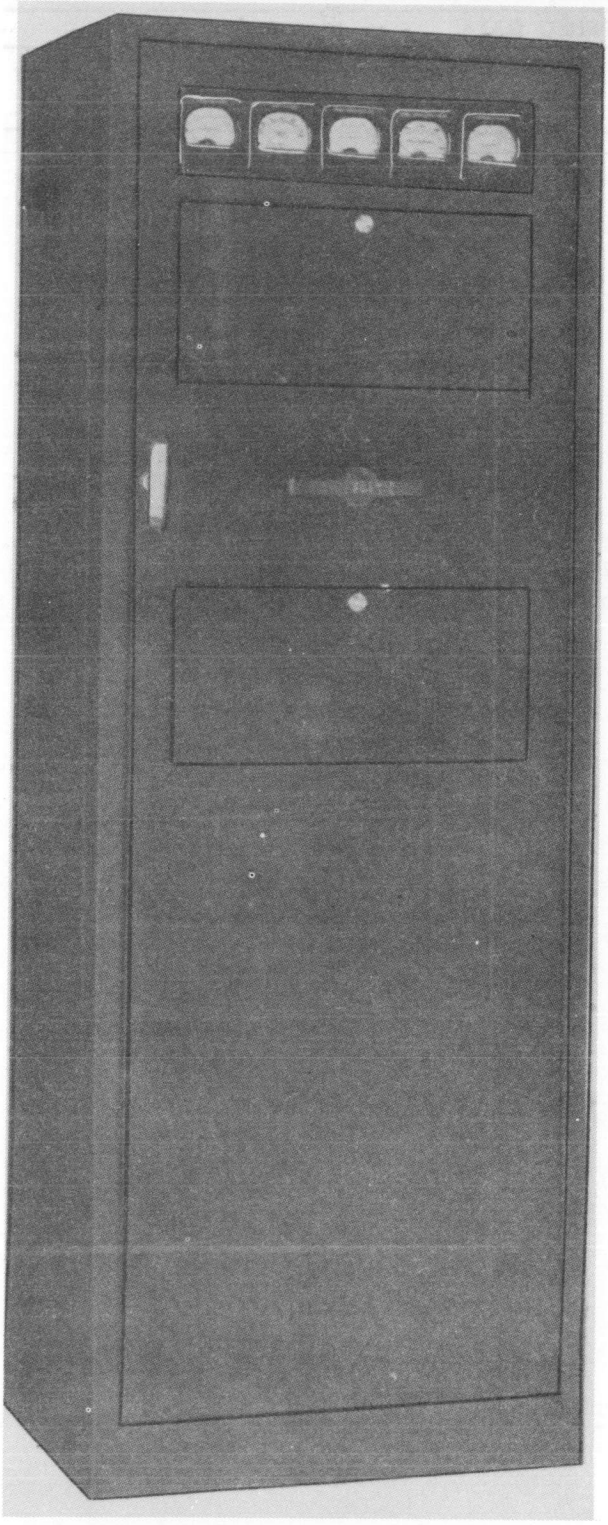
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
			1.5
1	Set of Tubes		157
1	Motor-Generator NT-21413 (24 v DC) or	10-1/2 X 12-1/2 X 26-1/2	157
	NT-21414 (32 v DC) or	10-1/2 X 12-1/2 X 26-1/2	157
	NT-21415 (120 v DC) or	10-1/2 X 12-1/2 X 25-1/8	145
	NT-21416 (115 v, 1 ph)	10-1/2 X 12-1/2 X 21-1/2	60
1	Magnetic Controller NT-21417 (24 v DC)	12-1/4 X 13-1/2 X 20-1/2	60
	NT-21418 (32 v DC) or	12-1/4 X 13-1/2 X 20-1/2	60
	NT-21419 (120 v DC) or	12-1/4 X 13-1/2 X 20-1/2	30
	NT-21420 (115 v, 1 ph)	8-1/2 X 11 X 17	
1	Spare Parts Box		
	TCE-1		
1	Transmitter-Rectifier NT-52151	16 X 17-1/8 X 25-1/8	58
1	Set of Plug in Tuning Units consisting of:	8-1/2 X 9-3/8 X 10-13/16	15
	Range A NT-47150		14
	Range B NT-47151		14
	Range C NT-47155		14
	Range D NT-47152		13
	Range E NT-47153		15
	Range F NT-47154		5
5	Plug in Tuning Unit Containers NT-47124	9-11/16 X 10-7/8 X 12	3.5
1	Set of Tubes		160
1	Motor-Generator NT-21635 (32 v DC) or	12-1/2 X 14 X 28	160
	NT-21524 (120 v DC) Serial No. 1 to 120 or	12-1/2 X 12-1/2 X 26-5/8	160
	NT-21636 (120 v DC) All remaining Serial Nos. or	12-1/2 X 14 X 26-1/2	160
	NT-21637 (230 v DC) or	12-1/2 X 14 X 26-1/2	160
	NT-21638 (115/230 v, 1 ph)	12-3/8 X 14 X 22-3/4	60
1	Magnetic Controller NT-21418 (32 v DC) or	12-1/4 X 13-1/2 X 20-1/2	60
	NT-21419 (120 v DC) or	12-1/4 X 13-1/2 X 20-1/2	60
	NT-21558 (230 v DC) or	12-1/4 X 13-1/2 X 20-1/2	30
	NT-21420 (115 v, 1 ph)	8-1/2 X 11 X 17	
1	Spare Parts Box		5
1*	Remote Control Unit	5-3/8 X 6 X 6-1/16	5.375
1*	Control Transfer Unit	3-3/16 X 7 X 9	
	NOTE: *Optional Equipment.		
	TCE-2		
1	Transmitter-Rectifier NT-52151-AS	16 X 17-1/8 X 25-1/8	101
1	Set of Plug in Tuning Units consisting of:		
	Range A NT-47150-AS	8-1/2 X 9-3/8 X 10-13/16	22
	Range B NT-47151-AS	8-1/2 X 9-3/8 X 10-13/16	21.5
	Range C NT-47155-S	8-1/2 X 9-3/8 X 10-13/16	21
	Range D NT-47152-AS	8-1/2 X 9-3/8 X 10-13/16	21
	Range E NT-47153-AS	8-1/2 X 9-3/8 X 10-13/16	20.5

RADIO TRANSMITTING EQUIPMENT TCE, TCE-1, -2

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	Range F NT-47154-AS	8-1/2 X 9-3/8 X 10-13/16	21.5
5	Plug in Tuning Unit Containers NT-47226	9-11/16 X 10-7/8 X 12	6.25
1	Set of Tubes		3.5
1	Motor Generator NT-21636 (115 v DC) or	12-1/2 X 14 X 26-1/2	160
	NT-21637 (230 v DC) or	12-1/2 X 14 X 26-1/2	160
	NT-21638 (115 v, 1 ph) or	12-3/8 X 14 X 22-3/4	160
	NT-21927 (208 v, 3 ph) or	12-1/2 X 14 X 22-1/4	160
	NT-21607 (440 v, 3 ph)	12-1/2 X 14 X 22-1/4	160
1	Magnetic Controller NT-21873 (115 v DC) or	12-1/4 X 13-1/2 X 20-1/2	60
	NT-21558 (230 v DC) or	12-1/4 X 13-1/2 X 20-1/2	60
	NT-21420 (115 v, 1 ph) or	8-1/2 X 11 X 17	30
	NT-21846 (208 v, 3 ph) or	9-5/8 X 14-1/2 X 15-1/2	60
	NT-21847 (440 v, 3 ph)	9-5/8 X 15-1/2 X 17-1/2	60
1	Remote Control NT-23245 (Serial No. 1 to 1245) or	5-3/8 X 6 X 6-1/16	4.25
1	Remote Control NT-23305 (Serial No. 1246 to 1445)	3-9/16 X 5-3/16 X 5-7/16	3
1	Spare Parts Box		

RADIO TRANSMITTING EQUIPMENT



TCF Transmitter

FUNCTIONAL DESCRIPTION

The model TCF features rapid automatic selection of 10 predetermined crystal frequencies. By means of a Collins autotune motor and telephone dial system, frequency change, choice of emission and starting and shutting down the equipment are accomplished either locally through the use of a station control unit or remotely through the use of an operator's control unit and desk set.

The equipment is designed for shore base operations.

No field changes in effect at time of preparation (7 January 1957).

RELATION TO OTHER EQUIPMENT

Similar in construction to the model TCB but differs in frequency range.

Equipment Required but not Supplied: (2) Telegraph Keys, (2) Volume Indication Meters.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 10,000 to 30,140 kc (automatic rapid choice of any one of ten preselected channels).
POWER OUTPUT: 50 to 75 W.
EMISSION: A1, A2, A3.
FREQUENCY CONTROL: Crystal.
OPERATING CONTROL: Local or remote.
KEYING RATE: 60 words per min.
ANTENNA: Conventional single wire.
POWER SOURCE REQUIRED: 110 v, 60 cps, single ph, 1000 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Mfg Co.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6L6G	(1) 813	(2) C-120
(2) 6C8G	(4) 6F8G	(1) 6X5G
(2) 80	(2) 6F6G	(1) 6J7G
(1) 6R7G	(2) 5Z3	(1) EL3C
(2) 866A	(2) 1852	(1) VR-150/30

Total Tubes: (27)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,116: Catalog of Naval Electronic Equipment dated April, 1946.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

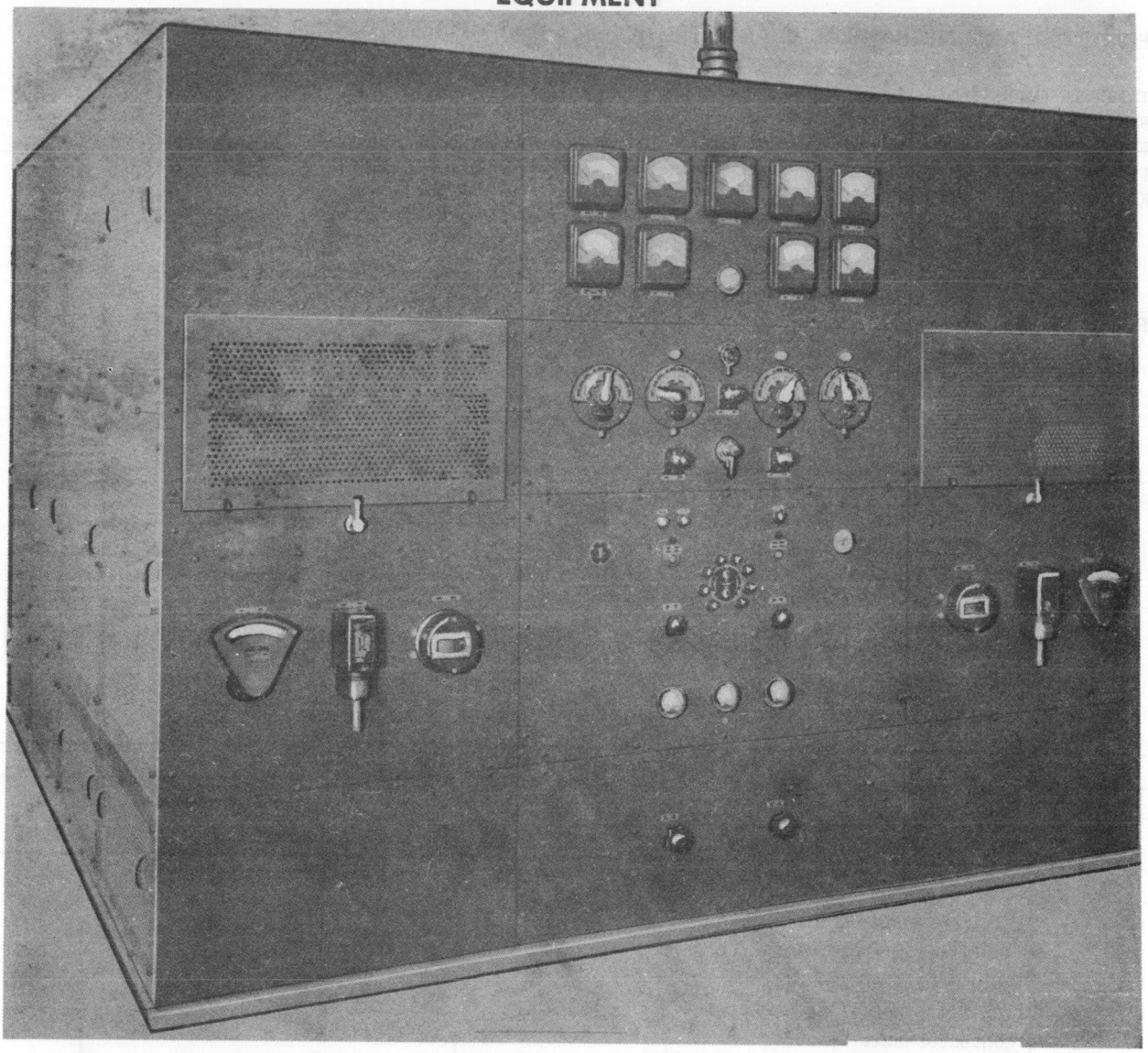
TCF RADIO TRANSMITTING EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter 16E-2*	16-1/2 X 21-1/2 X 61-3/4	502
1	Station Control Unit 176L-1*	5-1/2 X 7-3/4 X 9	11
1	Operator's Control Unit 177E-1*	8-3/4 X 10 X 19	38
1	Desk Set 223F-4*	6 X 7-1/2 X 9	5-3/4
1	Hand Set 997N19*		
1	Set of Equipment Spares		

NOTE: *Collins Mfg Co. type numbers.

RADIO TELEGRAPH TRANSMITTING EQUIPMENT



50-KW Power Amplifier

FUNCTIONAL DESCRIPTION

The TCG, TCG-1 and TCG-2 are designed primarily as high power, low frequency radio telegraph transmitters for shore to ship service. The transmitters are capable of operation at any frequency within the 50 to 150 kc frequency range.

The three transmitters are similar in operation except that the TCG-1 has different power source requirements.

No field changes in effect at time of preparation (28 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (As required) Antennas.

Radio-Transmitters

TCG,TCG-1,-2 RADIO TELEGRAPH TRANSMITTING EQUIPMENT

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1.
FREQUENCY RANGE: 50 to 150 kc.
FREQUENCY CONTROL: Master Oscillator.
POWER OUTPUT: 50 kw.
KEYING DATA
RELAY KEYING: 200 words per minute max.
FACSIMILE (AUDIO) KEYING: 500 words per minute max.
DC LINE KEYING: 500 words per minute max.
POWER REQUIREMENTS
TCG: 230 v, 3 ph, 60 cps, 100 kw.
TCG-1: 440 v, 3 ph, 25 cps, 100 kw.
TCG-2: 230 v, 3 ph, 50 to 60 cps, 100 kw.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co., Schenectady, N.Y.
Contract NOs-77907 dated 21 October 1940 (TCG, TCG-1).
Contract NOs-77907 dated 21 October 1940 (TCG-2).
Approximate Cost: $163600.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 4B27
(8) 872A
(2) 803
(2) 6L6
(2) 807
(1) 84/6Z4
(4) 3B28
(7) 869B
(2) 851
(1) 837
(2) 893A
Total Tubes: (32)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95311: Technical Manual for Navy Model TCG and TCG-1 Radio Telegraph Transmitting Equipment.
NAVSHIPS 95312: Technical Manual for Navy Model TCG-2 Radio Telegraph Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE RE13A596A
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCG		
1	Exciter NT-52194	50-17/32 X 66-1/8 X 92	1350
1	Amplifier NT-50081	100-5/16 X 120-7/8 X 143-7/16	6275
1	Main Rectifier NT-20111	42 X 74 X 91-3/4	3343
1	Auxiliary Rectifier NT-20121	38-5/8 X 45 X 92	1397
1	Contactor Unit NT-29092	44 X 46 X 65-3/8	1954
1	Main Plate Transformer NT-30458A	44-1/2 X 65-5/8 X 100-3/8	5000
1	Water Cooling Equipment NT-10033*		
1	Air Water Cooling Equipment*		
1	Antenna Tuning Equipment*		
	TCG-1		
1	Exciter NT-52229	50-17/32 X 66-1/8 X 92	1350
1	Amplifier NT-50089	100-5/16 X 120-7/8 X 143-7/16	6275
1	Main Rectifier NT-20115	42 X 74 X 91-3/4	3343
1	Auxiliary Rectifier NT-20127	38-5/8 X 45 X 92	1397
1	Contactor Unit NT-29089	44 X 46 X 65-3/8	1954
1	Main Plate Transformer NT-30597	44-1/2 X 65-5/8 X 100-3/8	5000
3	Stepdown Transformer NT-30595	12-3/8 X 14-3/8 X 31-3/4	640
1	Water Cooling Equipment NT-10273*		

RADIO TELEGRAPH TRANSMITTING EQUIPMENT

TCG,TCG-1,-2

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Air Water Cooling Equipment*		
1	Sleet Melting Equipment*		
	TCG-2		
1	Exciter NT-52194A	50-17/32 X 66-1/8 X 92	2000
1	Amplifier NT-50125	100-5/16 X 120 X 143-7/16	5000
1	Main Rectifier NT-20152	49-1/4 X 74 X 100-5/16	2635
1	Auxiliary Rectifier NT-20121A	38-5/8 X 45 X 92	1392
1	Contactor Unit NT-29174	44 X 46 X 65-3/8	1790
1	Main Plate Transformer NT-30846	40-3/4 X 58-1/2 X 94-1/2	5000
1	Water Cooling Equipment NT-10107*		
1	Tank and Circulating Equipment NT-10171*	38 X 51-1/2 X 67-3/8	1500
1	Antenna Tuning Equipment*		

NOTE: *Not supplied for all installations.

Radio-Transmitters

RADIO TELEGRAPH TRANSMITTING EQUIPMENT TCG-3

FUNCTIONAL DESCRIPTION

The TCG-3 is designed primarily as a high power intermediate frequency transmitter for shore service and is to be used at shore stations. It will provide continuous wave telegraphic operation at all frequencies within the frequency band specified. Three types of keying are employed, namely:

Method A: Relay keying at any speed up to 200 words per minute.

Method B: Facsimile keying at any speed up to 500 words per minute.

Method C: D-C line keying at any speed up to 500 words per minute.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1 type of emission.
RELAY KEYING SPEED: Up to 200 words per minute.
FACSIMILE KEYING SPEED: Up to 500 words per minute.
D-C-LINE KEYING SPEED: Up to 500 words per minute.
NOMINAL POWER OUTPUT: 50 kw.
FREQUENCY RANGE: 50 to 150 kc.
OPERATING POWER RQMT: 230 v, 50 to 60 cps, 3 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co., Schenectady, N. Y.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 3B28	(2) 5Z3	(2) 803
(2) 807	(2) 837	(1) 84-6Z4
(2) 852	(6) 869B	(8) 872A
(2) 893A		

Total Tubes: (31)

Crystal Data not available.

REFERENCE DATA AND LITERATURE

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

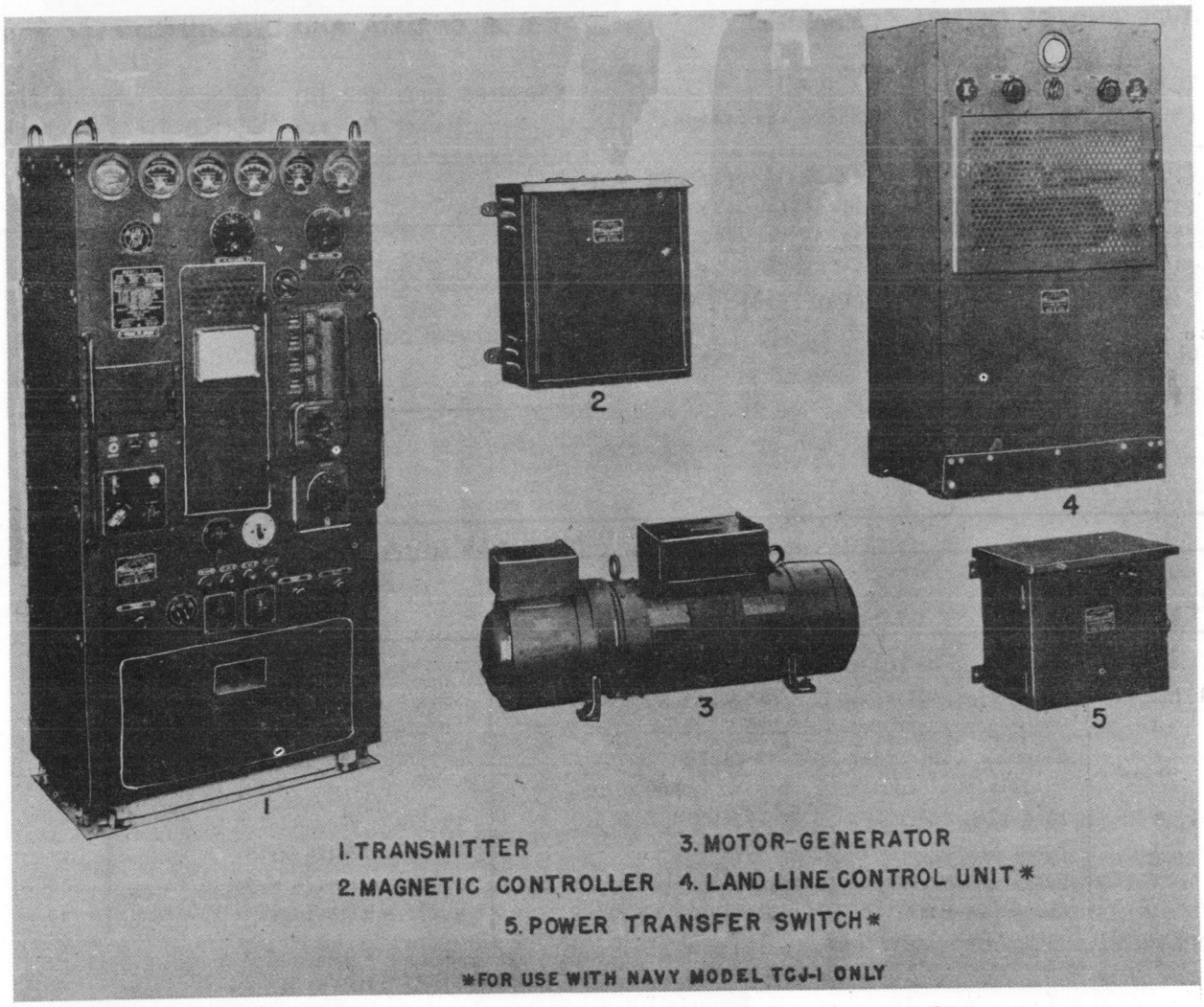
TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Telegraph Transmitting Equipment		

April 1958

RADIO TELEGRAPH TRANSMITTING EQUIPMENT TCJ, TCJ-1



Radio Telegraph Transmitting Equipment TCJ,TCJ-1

FUNCTIONAL DESCRIPTION

The TCJ and TCJ-1 are designed for use in certain types of submarines, destroyers, cruisers or in other applications involving similar radio equipments. The TCJ-1 can also be used for shore station service. These equipments are designed to effect communication with precision, speed, and reliability, without the necessity of preliminary calling and without causing interference with other units of the same frequency band, that is 300 to 600 kc.

No field changes in effect at time of preparation (28 January 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 600 kc.
EMISSION: CW and MCW.
POWER SOURCE REQUIRED: 115 v or 230 v DC or 220 v AC.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co. Schenectady, N.Y.
Contract NOs-97255 dated 9 October 1944.
Approximate Cost: $8200.00 with equipment spares. TCJ.
Approximate Cost: $8200.00 with equipment spares. TCJ-1.

TCJ, TCJ-1 RADIO TELEGRAPH TRANSMITTING EQUIPMENT

April 1958

TUBE AND/OR CRYSTAL COMPLEMENT

TCJ, TCJ-1 (Ship Operation)		TCJ-1 (Shore Operation)	
(1) 6F8G	(1) 807	(1) 5Z3	(1) 6K8
(1) 6SJ7	(2) 813	(1) 6F8G	(3) 807
(1) 6SC7	(2) 837	(1) 6SJ7	(2) 813
(1) 6K8		(1) 6SC7	(2) 837
Total Tubes: (9)		Total Tubes: (12)	

(1) NT40128(200KC)

Total Crystals: (1)

REFERENCE DATA AND LITERATURE

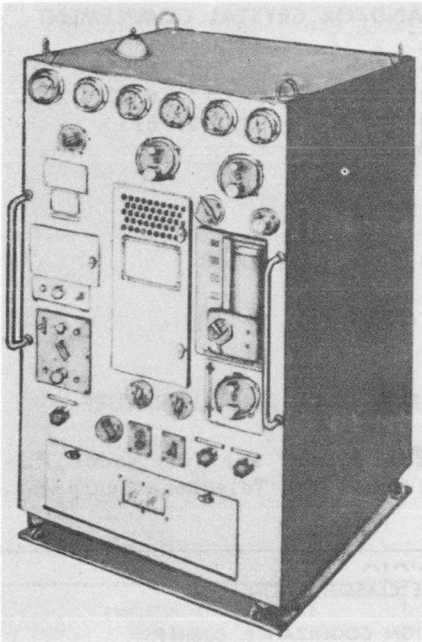
NAVSHIPS-900, 402-1B: Technical Manual for Navy Model TCJ and TCJ-1 Radio Telegraph Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCJ-1 (Ship Operation)		
1	Radio Transmitter Unit - NT-52243	18-1/4 x 25 x 52-3/8	285
1	Motor-generator Set NT-21765	11-1/4 x 14-1/8 x 34-15/16	265
1	Magnetic Controller Unit NT-21629	8-13/16 x 19-15/16 x 20-7/8	40
	Additional Equipment for Shore Operation		
1	Land Line Control Unit NT-23269	15-3/4 x 24 x 42-1/8	160
1	Power Transfer Switch NT-24092	9-1/4 x 12-1/4 x 16	14
1	Duplicate Motor-generator Set NT-21765	11-1/4 x 14-1/8 x 34-15/16	320
1	Duplicate Magnetic Controller Unit NT-21629	8-13/16 x 19-15/16 x 20-7/8	40

RADIO TRANSMITTING EQUIPMENT TCJ-2



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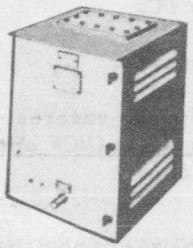

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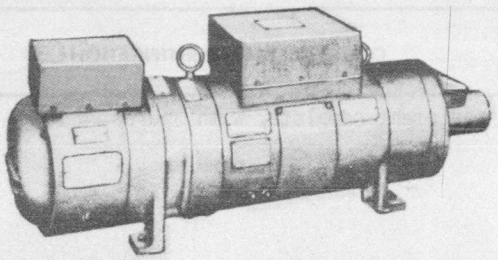
1 Radio Transmitter Unit

2 Magnetic Controller Unit

3 Motor Generator Set



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Radio Transmitting Equipment TCJ-2

FUNCTIONAL DESCRIPTION

The Navy Model TCJ-2 Radio Telegraph and Telephone Transmitting Equipment is designed for use in submarines, destroyers, cruisers or in other applications requiring similar radio equipments. This equipment is designed to effect communication with precision, speed and reliability, without interference with other units of the same frequency band, i.e., 300-600 kilocycles.

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

RELATION TO OTHER EQUIPMENT

The TCJ equipment series includes the TCJ, the TCJ-1 and the TCJ-2 models. The TCJ-2 model differs mainly in that it is the only model in this series designed for phone emission.

TCJ-2 RADIO TRANSMITTING EQUIPMENT

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300-600 kilocycles.
TYPE OF FREQUENCY CONTROL: Master oscillator.
TYPE OF EMISSION: CW-A1, MCW-A2 and Phone-A3.
MODULATION CAPABILITY
MCW-A2: 80%.
PHONE-A3: 75%.
NOMINAL CARRIER OUTPUT
CW-A1: 400 watts.
MCW-A2: 200 watts.
PHONE-A3: 100 watts.
CHARACTERISTICS OF POWER SUPPLY REQUIRED
VOLTAGE: 230 volts DC.
CURRENTS
STARTING: 30 amperes.
STANDBY: 7 amperes.
NORMAL OPERATION: 10 amperes.
MAXIMUM: 11 amperes (MCW operation, 80% modulation).

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co., Schenectady, N.Y.
Contract NXsr-55671, dated 17 February 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 6SK7
(1) 6SN7W
(2) 807
(1) 837
(1) 6SL7W
(1) 6SR7
(2) 813

Total Tubes: (11)

(1) Navy Type 40128

Total Crystals: (1)

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model TCJ-2 Radio Telegraph and Telephone Equipment.

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

SHIPPING DATA

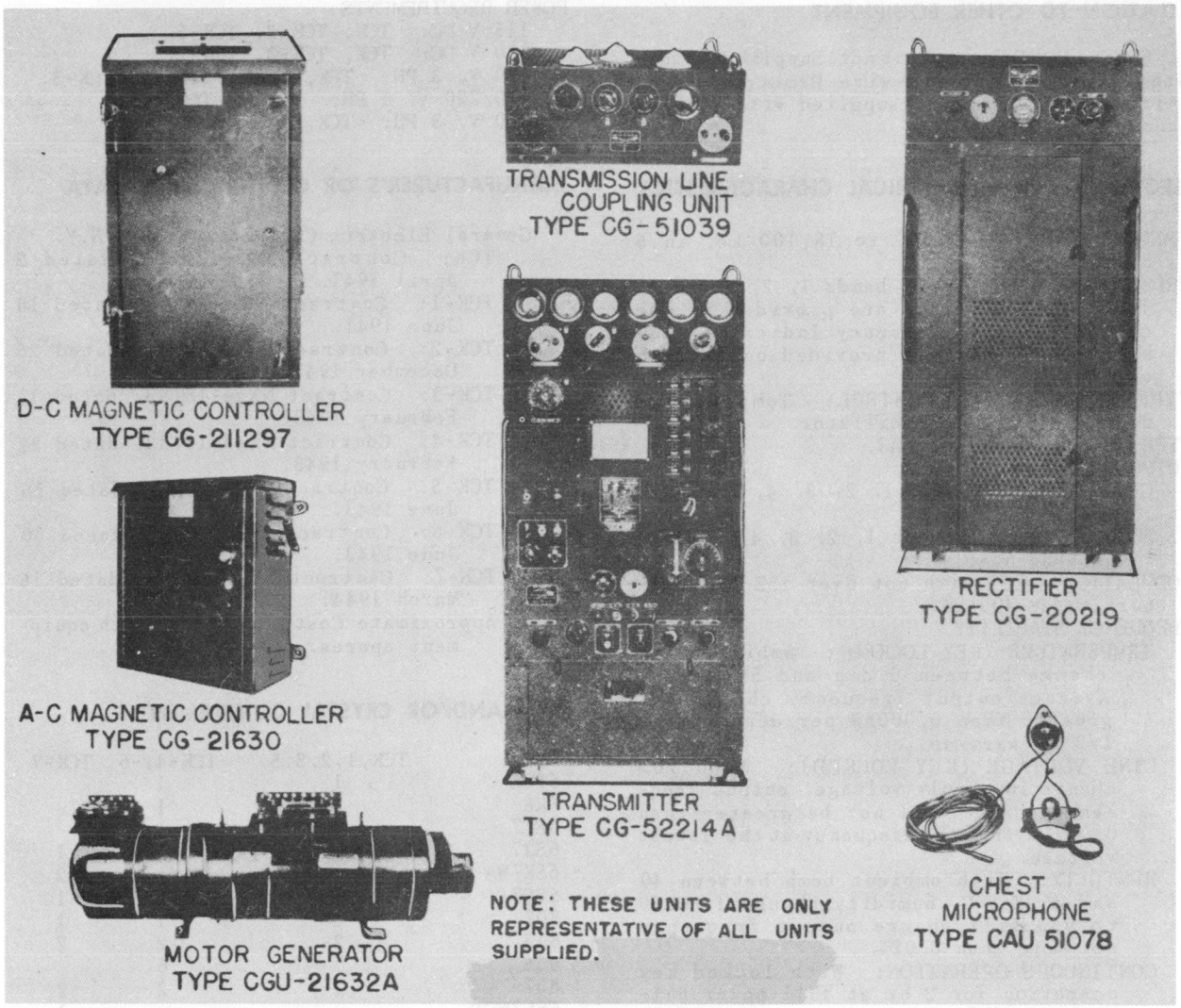
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
11	Equipment Complete, with Spares	97.5		2335

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter, NT-52347	22 X 30 X 5	246
1	Magnetic Controller, NT-211309	15 X 16 X 22	46
1	Motor-Generator Set, NT-21632 Motor Bias Generator and H-V Generator Overhung Generator	12 X 15 X 42	328
3 boxes	Spare Parts for Transmitter	12 X 18 X 36	430
3 boxes	Spare Parts for Motor Generator Spare Parts for Magnetic Controller with Transmitter Spares	12 X 18 X 36	391
2	Chest Microphone		

RADIO TRANSMITTING EQUIPMENT

TCK, TCK-1 THRU -7



Model TCK Equipment Components

FUNCTIONAL DESCRIPTION

The TCK, and TCK-1 thru TCK-7 are used for MF and HF telegraph and telephone transmission at shore installations, particularly at Advanced Bases. The equipments are not limited solely to this application since installation of proper shock mountings adapts the equipment for use on shipboard. The equipment is small in size with a relatively high output, and is for use where space is at a premium. The transmitter may be operated from the front panel or from a remote location by use of a Navy standard four- or six-wire remote control unit.

The Models TCK, TCK-1 thru TCK-7 are similar to each other electrically and mechanically, with the exception of the TCK-4 and TCK-6 which use a rectifier and a transmission line coupling unit. The TCK series equipments are not interchangeable due to minor circuit modifications and differences in power sources required.

Data on this sheet reflects the following Field Changes: F/C 1 for TCK Series, except TCK-6, F/C No. 2 for all TCK-4 and 6 serial No. before 6-24-44, and F/C No. 3 for all TCK-3, 5, 7.

TCK, TCK-1 THRU -7 RADIO TRANSMITTING EQUIPMENT

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Navy Standard four- or six-wire Remote Control Unit. The TCK-2 is not supplied with a microphone.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 to 18,100 kc, in 6 bands.
PRESET FREQUENCIES: On bands 1, 2, 3 and 4, 100 kc check points are provided by use of the Crystal Frequency Indicator; 200 kc check points are provided on bands 5 and 6.
TYPE OF FREQUENCY CONTROL: Temperature controlled master oscillator.
TYPE OF EMISSION: A1, A3.
OUTPUT POWER
- CW: 400 W on bands 1, 2, 3, 4, 5; 300 W on band 6.
- PHONE: 100 W on bands 1, 2, 3, 4, 5; 75 W on band 6.

MODULATION: 75% with not over 15% RMS distortion at 400 cps.
FREQUENCY STABILITY
- TEMPERATURE (KEY LOCKED): Ambient temp change between 0 deg and 50 deg C. Average output frequency change not greater than 0.0005% per deg C after 1/2 hr warm-up.
- LINE VOLTAGE (KEY LOCKED): With 10% change in supply voltage, output frequency change will not be greater than 0.0025% from the frequency at the lowest voltage.
- HUMIDITY: With ambient temp between 40 and 45 deg C, humidity change from 30 to 95% will change output frequency not more than 0.02%.
- CONTINUOUS OPERATION: With locked key operation for 2 hr at full power output and ambient temp between 20 and 30 deg C in the first 5 min. frequency changes not more than 0.004%. For the remainder of the time the frequency will not vary more than 0.004% from the frequency measured at the end of the first 5 min.

IMPEDANCE
- LINE INPUT TO AUDIO UNIT: 500 ohm line at 0 db level (may be reconnected to operate from 200 ohm line).
- MICROPHONE INPUT TO AUDIO UNIT: Designed to match a 70 ohm single button carbon microphone.
- SIDE TONE OUTPUT FROM AUDIO UNIT: Matches a 500 ohm line. Max side tone level is 0 db.
- CRYSTAL FREQUENCY INDICATOR-AUDIO OUTPUT: Matches 3000 ohms (may be reconnected to match 220 ohms).

POWER REQUIREMENTS
- 115 V DC: TCK, TCK-3, TCK-5.
- 230 V DC: TCK, TCK-3, TCK-7.
- 220 V, 3 PH: TCK, TCK-1, TCK-2, TCK-3.
- 110/220 V, 1 PH: TCK-4, TCK-6.
- 440 V, 3 PH: TCK, TCK-2.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co, Schenectady, N.Y.
- TCK: Contract NOs-83834, dated 2 April 1941.
- TCK-1: Contract NOs-87454, dated 18 June 1941.
- TCK-2: Contract TCG-34112, dated 26 December 1941.
- TCK-3: Contract NXss-18783, dated 11 February 1943.
- TCK-4: Contract NXss-18783, dated 22 February 1943.
- TCK-5: Contract TCG-36083, dated 16 June 1943.
- TCK-6: Contract TCG-36083, dated 30 June 1943.
- TCK-7: Contract NXsr-53304, dated 16 March 1944.
- Approximate Cost: $9578.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

Type	TCK,1,2,3,5	TCK-4,-6	TCK-7
6F8G	1	1	
6K8	1	1	
6SC7	1	1	
6SJ7	1	1	1
6SK7WA	1	1	2
6SQ7	1	1	1
807	1	1	1
813	2	2	2
836		6	
837	2	2	2
6SL7WGT			1
6SN7WGTA			1
Total Tubes:	(11)	(17)	(11)
200KC	1	1	1
Total Crystals:	(1)	(1)	(1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,210: Technical Manual for Radio Telegraph and Telephone Transmitting Equipment TCK Series.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

RADIO TRANSMITTING EQUIPMENT

TCK, TCK-1 THRU -7

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	TCK (115 v DC)			
1	Transmitter NT-52214	43.4	32 X 39 X 60	540
1	Motor-Generator NT-21631	7.7	15 X 18 X 49	430
1	Magnetic Controller NT-21627	10.0	19 X 26 X 35	145
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	8.2	19 X 22 X 34	250
1	Spare Parts Box	10.2	15 X 25 X 47	240
1	Spare Parts Box	5.9	15 X 20 X 34	120
	TCK (230 v DC)			
1	Transmitter NT-52215	43.4	32 X 39 X 60	545
1	Motor-Generator NT-21632	7.7	15 X 18 X 49	430
1	Magnetic Controller NT-21628	10.0	19 X 26 X 35	145
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	8.2	19 X 22 X 34	250
1	Spare Parts Box	10.2	15 X 25 X 47	240
1	Spare Parts Box	5.9	15 X 20 X 34	120
	TCK,TCK-1 (220/440, 3 ph)			
1	Transmitter NT-52216	43.4	32 X 39 X 60	550
1	Motor-Generator NT-21633	7.1	15 X 18 X 45	380
1	Magnetic Controller NT-21629 (220 v)	4.9	13-1/2 X 23-1/2 X 27	90
1	Magnetic Controller NT-21630 (440 v)(TCK)	4.9	13-1/2 X 23-1/2 X 27	90
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box (TCK)	8.2	19 X 22 X 34	250
1	Spare Parts Box (TCK)	10.2	15 X 25 X 47	240
1	Spare Parts Box (TCK)	5.9	15 X 20 X 34	120
1	Spare Parts Box (TCK-1)	9.3	15 X 28 X 38	147
1	Spare Parts Box (TCK-1)	11.7	15 X 28 X 48	212
	TCK-2 (220/440, 3 ph)			
1	Transmitter NT-52216A	43.4	32 X 39 X 60	550
1	Motor Generator NT-21633	7.1	15 X 18 X 45	380
1	Magnetic Controller NT-21629 (220 v)	4.9	13-1/2 X 23-1/2 X 27	90
1	Magnetic Controller NT-21630 (440 v)	4.9	13-1/2 X 23-1/2 X 27	90
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	7.1	15 X 21 X 39	95
1	Spare Parts Box	5.2	15 X 18 X 33	92
	TCK-3,TCK-5 (115 v DC)			
1	Transmitter NT-52214A	43.4	32 X 39 X 60	540
1	Motor-Generator NT-21631A	7.7	15 X 18 X 49	430
1	Magnetic Controller NT-21627	10.0	19 X 26 X 35	145
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box (TCK-3)	5.2	17-1/4 X 18-1/8 X 28-5/8	155
1	Spare Parts Box (TCK-5)	3.5	12-1/4 X 15 X 40-5/8	150
1	Spare Parts Box (TCK-5)	5.2	17-1/4 X 18-1/8 X 28-5/8	200
	TCK-3 (230 v DC)			
1	Transmitter NT-52215A		32 X 39 X 60	545
1	Motor-Generator NT-21632A	7.7	15 X 18 X 49	430
1	Magnetic Controller NT-21628	10.0	19 X 26 X 35	145
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	5.2	17-1/4 X 18-1/8 X 28-5/8	155
	TCK-3 (220, 3 ph)			
1	Transmitter NT-52216A	43.4	32 X 39 X 60	550
1	Motor Generator NT-21633A	7.1	15 X 18 X 45	380
1	Magnetic Controller NT-21629 (220 v)	4.9	13-1/2 X 23-1/2 X 27	90
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	5.2	17-1/4 X 18-1/8 X 28-5/8	155
	TCK-4,TCK-6 (110/220, 1 ph)			
1	Transmitter NT-52299 including: Transmission Line Coupling Unit NT-51039	47.7	32 X 39 X 72-1/2	575
1	Rectifier NT-20219	47.5	34 X 38-1/2 X 62-3/4	525

TCK, TCK-1 THRU -7 RADIO TRANSMITTING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	7.1	15 X 21 X 39	195
	TCK-7 (230 v DC)			
1	Transmitter NT-52345	43.4	32 X 39 X 60	550
1	Motor-Generator NT-21632A	7.7	15 X 19 X 49	415
1	Magnetic Controller NT-211297	3.6	15-1/2 X 16 X 25	95
1	Set of Tubes	4.7	17 X 17 X 28	15
1	Spare Parts Box	3.5	12-1/4 X 15-1/8 X 40-5/8	130
4	Spare Parts Box	5.2	17-1/4 X 18-1/8 X 28-5/8	134

NOTE: 1 Microphone for TCK, 1, 3, 4, 5, 6 and 7 packed with Equipment spares.
1 Microphone Circuit Filter for TCK, TCK-1 packed with Transmitter Unit.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCK (115 v DC)		
1	Transmitter NT-52214	18-1/4 X 25 X 52-5/16	275
1	Motor-Generator NT-21631	11-1/4 X 14-1/8 X 41-15/16	370
1	Magnetic Controller NT-21627	13-11/16 X 19-7/16 X 29-3/16	130
1	Microphone NT-51006A	2-3/4 X 3-1/4 X 3-3/8	1
1	Microphone NT-51016A	2-1/2 X 5-1/4 X 9-3/4	2
1	Microphone Circuit Filter NT-53087	5-3/16 X 7-7/16 X 9-3/32	9
1	Set of Tubes		3
1	Spare Parts Box		95
1	Spare Parts Box		150
1	Spare Parts Box		85
	TCK (230 v DC)		
1	Transmitter NT-52215	18-1/4 X 25 X 52-5/16	280
1	Motor-Generator NT-21632	11-1/4 X 14-1/8 X 41-15/16	370
1	Magnetic Controller NT-21628	13-11/16 X 19-7/16 X 29-3/16	130
1	Microphone NT-51006A	2-3/4 X 3-1/4 X 3-3/8	1
1	Microphone NT-51016A	2-1/2 X 5-1/4 X 9-3/4	2
1	Microphone Circuit Filter NT-53087	5-3/16 X 7-7/16 X 9-3/32	9
1	Set of Tubes		3
1	Spare Parts Box		95
1	Spare Parts Box		150
1	Spare Parts Box		85
	TCK, TCK-1 (220/440, 3 ph)		
1	Transmitter NT-52216	18-1/4 X 25 X 52-5/16	285
1	Motor-Generator NT-21633	11-1/4 X 14-1/8 X 38-1/4	320
1	Magnetic Controller NT-21629 (220 v)	8-13/16 X 19-15/16 X 20-7/16	40
1	Magnetic Controller NT-21630 (TCK) (440 v)	8-13/16 X 19-15/16 X 20-7/16	40
1	Microphone NT-51006A (TCK)	2-3/4 X 3-1/4 X 3-3/8	1
1	Microphone NT-51016A	2-1/2 X 5-1/4 X 9-3/4	2
1	Microphone Circuit Filter NT-53087	5-3/16 X 7-7/16 X 9-3/32	9
1	Set of Tubes		3
1	Spare Parts Box (TCK)		95
1	Spare Parts Box (TCK)		150
1	Spare Parts Box (TCK)		85
1	Spare Parts Box (TCK-1)		82
1	Spare Parts Box (TCK-1)		161

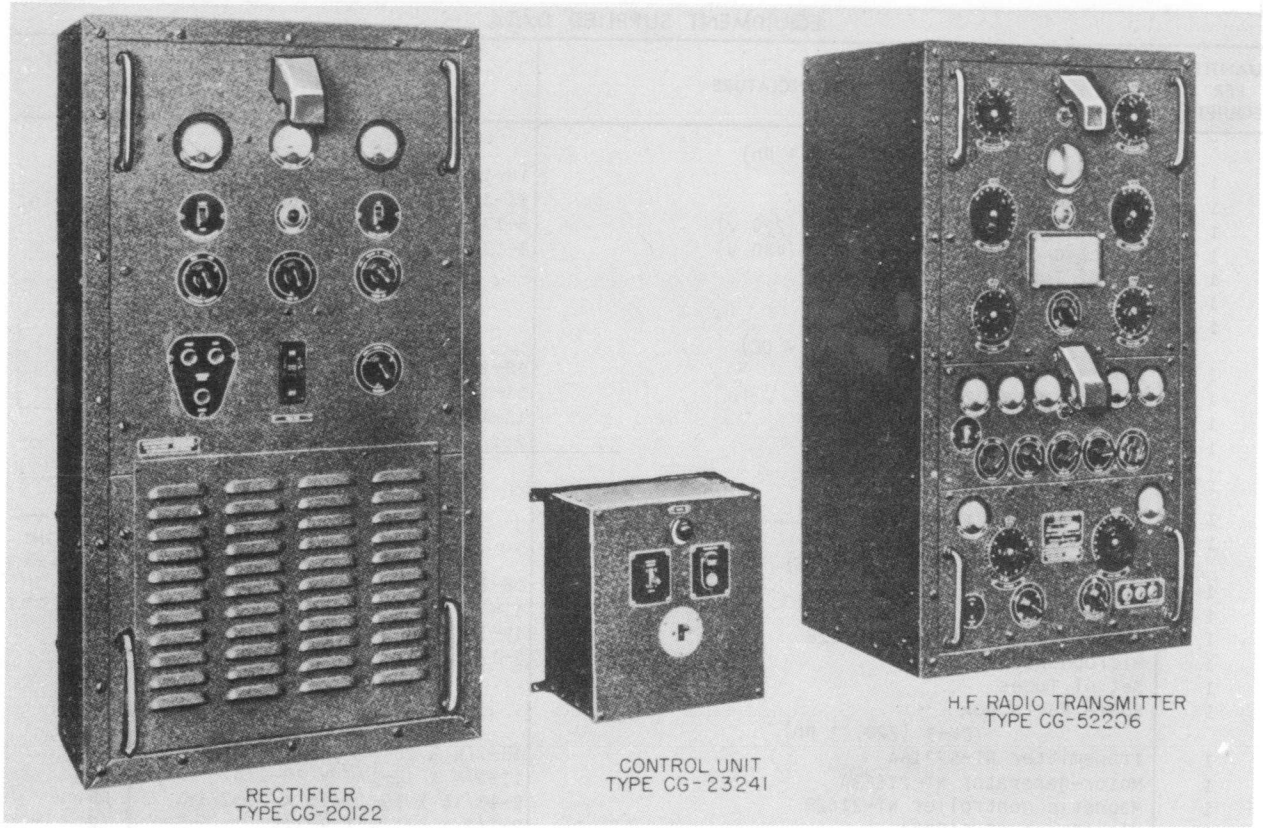
RADIO TRANSMITTING EQUIPMENT

TCK, TCK-1 THRU -7

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCK-2 (220/440, 3 ph)		
1	Transmitter NT-52216A	18-1/4 X 25 X 52-5/16	285
1	Motor-Generator NT-21633	11-1/4 X 14-1/8 X 38-1/8	320
1	Magnetic Controller NT-21629 (220 v)	8-13/16 X 19-15/16 X 20-7/16	40
1	Magnetic Controller NT-21630 (440 v)	8-13/16 X 19-15/16 X 20-7/16	40
1	Set of Tubes		3
1	Spare Parts Box		95
1	Spare Parts Box		92
	TCK-3,TCK-5 (115 v DC)		
1	Transmitter NT-52214A	18-1/4 X 25 X 52-5/16	275
1	Motor-Generator NT-21631A	11-1/4 X 14-1/8 X 41-15/16	370
1	Magnetic Controller NT-21627	13-11/16 X 19-7/16 X 29-3/16	130
1	Microphone NT-51044A	2-1/2 X 5-1/4 X 9-3/4	2
1	Set of Tubes		3
1	Spare Parts Box (TCK-3)		105
1	Spare Parts Box (TCK-5)		105
1	Spare Parts Box (TCK-5)		150
	TCK-3 (230 v DC)		
1	Transmitter NT-52215A	18-1/4 X 25 X 52-5/16	280
1	Motor-Generator NT-21632A	11-1/4 X 14-1/8 X 41-15/16	370
1	Magnetic Controller NT-21628	13-11/16 X 19-7/16 X 29-3/16	130
1	Microphone NT-51044A	2-1/2 X 5-1/4 X 9-3/4	2
1	Set of Tubes		3
1	Spare Parts Box		105
	TCK-3 (220, 3 ph)		
1	Transmitter NT-52216A	18-1/4 X 25 X 52-5/16	285
1	Motor-Generator NT-21633A	11-1/4 X 14-1/8 X 38-1/4	320
1	Magnetic Controller NT-21629	8-13/16 X 19-15/16 X 20-7/16	40
1	Microphone NT-51044A	2-1/2 X 5-1/4 X 9-3/4	2
1	Set of Tubes		3
1	Spare Parts Box		105
	TCK-4,TCK-6 (110/220, 1 ph)		
1	Transmitter NT-52299	18-1/4 X 25 X 52-5/16	290
1	Rectifier NT-20219	16 X 24-13/16 X 51-25/32	375
1	Transmission Line Coupling Unit NT-51039	11-15/16 X 16-3/32 X 25	65
1	Microphone NT-51044A	2-1/2 X 5-1/4 X 9-3/4	2
1	Set of Tubes		3
1	Spare Parts Box		148
	TCK-7 (230 v DC)		
1	Transmitter NT-52345	18-1/4 X 25 X 52-5/16	285
1	Motor-Generator NT-21632A	11-1/4 X 14-1/8 X 41-15/16	345
1	Magnetic Controller NT-211297	10-5/8 X 11-9/16 X 17-5/16	46
1	Microphone NT-51078	2-5/8 X 5-1/4 X 10-3/8	2.25
1	Set of Tubes		3
1	Spare Parts Box		85
4	Spare Parts Box		90

RADIO TRANSMITTING EQUIPMENTS TCM,1,2



Radio Transmitting Equipments TCM, 1,2

FUNCTIONAL DESCRIPTION

The TCM,TCM-1 and TCM-2 are designed primarily for either shore or shipboard installation wherever a compact medium-powered radio transmitter is required. The equipments are constructed to provide efficient, reliable, and rapid communication.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (TCM) (1) Hand Microphone NT-51006-A, (1) Chest Microphone NT-51016A, (1) Set Cables. (TCM-1) (1) Set Cables (TCM-2) (1) Chest Microphone NT 51016-A, (1) Set Cables.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 to 18,100 kc.
TYPE EMISSION: A1, A2, A3.
POWER OUTPUT
CW (A1): 125 W.
MCW(A2): 30 W.
PHONE(A3): 30 W.
POWER SOURCE REQUIRED: 115 v, single ph, 60 cps.

Radio Transmitters

TCM,1,2 RADIO TRANSMITTING EQUIPMENTS

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co, Schenectady, N.Y.
(TCM) Contract Nos 48078, dated 4 Jan 1941.
Approximate Cost: $2500.00 with equipment spares.
(TCM-1) Contract 98843, dated 11 February 1942.
Approximate Cost: $3930.00 with equipment spares.
(TCM-2) Contract NXs-15910, dated 1 June 1943
Approximate Cost: $3930.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 803 (4) 836 (4) 837
Total Tubes: (10)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,401: Technical Manual for Radio Transmitting Equipments TCM, TCN, TCU, TCM-1, TCN-1, TCU-1, TCM-2, and TCU-2.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

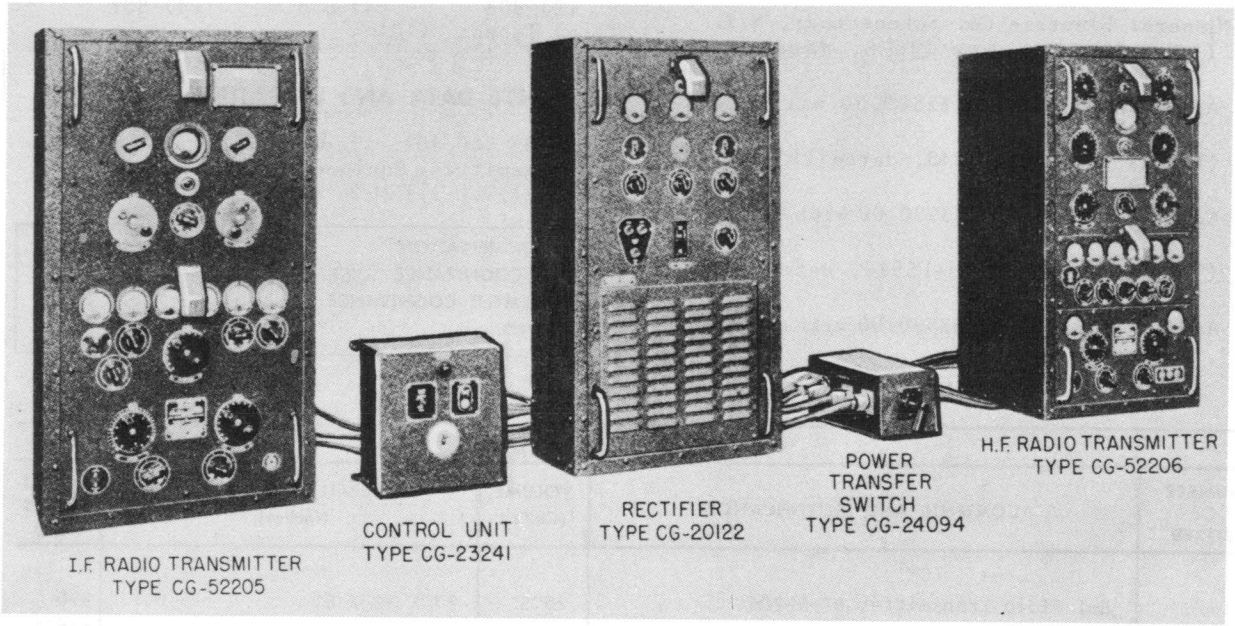
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	TCM			
1	H-f Radio Transmitter NT-52206	25.5	27 X 32 X 51	390
1	Rectifier NT-20122	25.5	27 X 32 X 51	389
1	Control Unit-NT-23241	17.63	28 X 32 X 34	45
1	Spare Parts	9.75	16 X 27 X 39	205
1	10 Tubes	17.63	28 X 32 X 34	50
TCM				
-1 -2				
1 1	H-f Radio Transmitter NT-52206	25.5	27 X 32 X 51	359
1 1	Rectifier NT-20122	25.5	27 X 32 X 51	359
1 1	Control Unit-NT-23241	17.63	28 X 32 X 34	40
1	Hand Microphone NT-510064	Sp/Pts		Sp/Pts
1	Hand Microphone NT-51004-C	Sp/Pts		Sp/Pts
1	Chest Microphone NT-51046	Sp/Pts		Sp/Pts
1 1	Spare Parts	9.75	16 X 27 X 39	205
1 1	10 Tubes	17.63	28 X 32 X 34	50

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT		NAME AND NOMENCLATURE		OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TCM	TCM-1	TCM-2			
1	1	1	H.F Radio Transmitter NT-52206	18-3/4 X 20-1/2 X 36-3/4	200
1	1	1	Rectifier NT-20122	14-3/4 X 20-1/2 X 36-3/4	259
1	1	1	Control Unit NT-23241	9 X 11-1/2 X 12-3/8	35
	1		Hand Microphone NT-51006A		
		1	Hand Microphone NT-51004C		
	1		Chest Microphone NT-51046		
1	1	1	Case Spare Parts		105
10	10	10	Tubes		7

RADIO TRANSMITTING EQUIPMENTS TCN,TCN-1



Radio Transmitting Equipments TCN, TCN-1

FUNCTIONAL DESCRIPTION

The TCN and TCN-1 are designed primarily for either shore or shipboard installation wherever a compact medium-powered radio transmitter is required. The equipments are constructed to provide efficient, reliable, and rapid communication.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (TCN) (1) Hand Microphone NT 51006-A, (1) Chest Microphone NT 51016-A, (1) Set Cables. (TCN-1) (1) Set Cables.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 2000 kc and 2000 to 18100 kc.

TYPE EMISSION: A1, A2, A3.

POWER OUTPUT

CW (A1): 125 W.

MCW (A2): 30 W.

PHONE (A3): 30 W.

POWER SOURCE REQUIRED: 115 v, 50 to 62 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co, Schenectady, N.Y.

(TCN) Contract Nos 48078, dated 4 January 1941.

(TCN-1) Contract Nos 98843, dated 11 February 1942.

Approximate Cost: $6270.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(7) 837 (4) 803 (4) 836

Total Tubes: (15).

TCN,TCN-1 RADIO TRANSMITTING EQUIPMENTS

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,401: Technical Manual for Radio Transmitting Equipments TCM,TCM-1, TCM-2, TCN,TCN-1, TCU, TCU-1, TCU-2.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	TCN			
1	H-f Radio Transmitter NT-52206	25.5	27 X 32 X 51	390
1	I-f Radio Transmitter NT-52205	25.5	27 X 32 X 51	307
1	Rectifier NT-20122	25.5	27 X 32 X 51	389
1	Control Unit NT-23241	17.63	28 X 32 X 34	45
	Power Transfer Switch NT-24094	Sp/Pts		Sp/Pts
2	Spare Parts	9.75	16 X 27 X 39	390
1	15 Tubes	17.63	28 X 32 X 34	160
	TCN-1			
1	H-f Radio Transmitter NT-52206	25.5	27 X 32 X 51	359
1	I-f Radio Transmitter NT-52205	25.5	27 X 32 X 51	278
1	Rectifier NT-20122	25.5	27 X 32 X 51	359
1	Control Unit-NT-23241	17.63	28 X 32 X 34	40
	Power Transfer Switch NT-24094			
*	6-Shock Mountings	Sp/Pts	Spare Parts	Sp/Pts
	1 Hand Microphone NT-51006A	Sp/Pts	Spare Parts	Sp/Pts
	1 Chest Microphone NT-51046	Sp/Pts	Spare Parts	Sp/Pts
2	Cases Spare Parts	19.5	16 X 27 X 39	372
1	15 Tubes	17.63	28 X 32 X 34	160

*Shock Mountings to be used only where necessary.

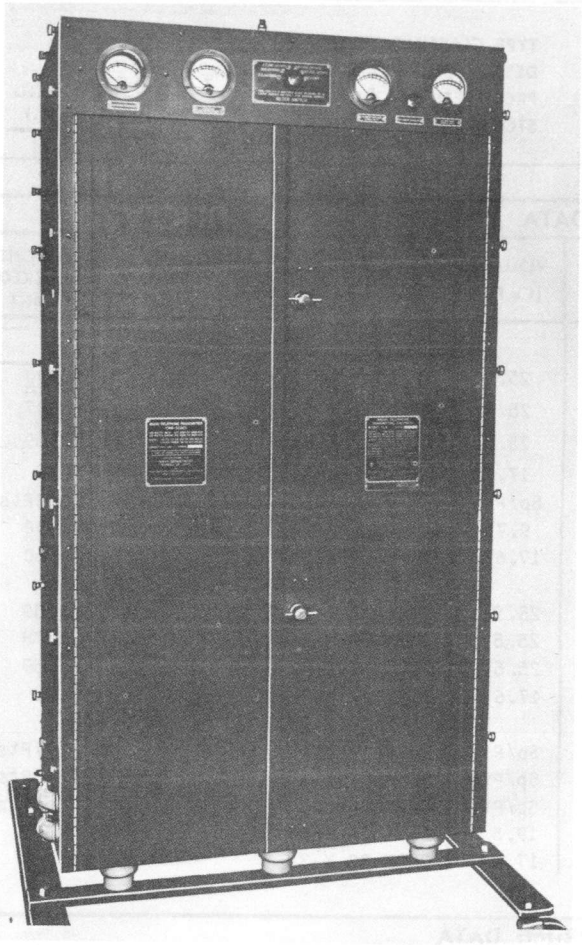
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	H-f Radio Transmitter NT-52206	18-3/4 X 20-1/2 X 36-3/4	200
1	I-f Radio Transmitter NT-52205	18-3/4 X 20-1/2 X 36-3/4	175
1	Rectifier NT-20122	14-3/4 X 20-1/2 X 36-3/4	259
1	Power Transfer Switch NT-24094	6-1/4 X 10 X 18-3/4	25
1	Control Unit NT-23241	9 X 11-1/2 X 12-3/8	35
2	Cases Spare Parts		190
15	Tubes		18
1	H-f Radio Transmitter NT-52206	18-3/4 X 20-1/2 X 36-3/4	169
1	I-f Radio Transmitter NT-52205	18-3/4 X 20-1/2 X 36-3/4	146
1	Rectifier NT-20122	14-3/4 X 20-1/2 X 36-3/4	229
1	Power Transfer Switch NT-24094	6-1/4 X 10 X 18-3/4	15
1	Control Unit NT-23241	9 X 11-1/2 X 12-3/8	30
*6	Shock Mountings	Spare Parts	Sp/Pts
1	Hand Microphone NT-51006A	Spare Parts	Sp/Pts
1	Chest Microphone NT-51046	Spare Parts	Sp/Pts
2	Cases Spare Parts		186
15	Tubes		

*Shock Mountings to be used only when necessary.

RADIO TELEPHONE TRANSMITTING EQUIPMENT

TCR



Radio Telephone Transmitting Equipment TCR

FUNCTIONAL DESCRIPTION

The TCR radio transmitter for A2 or A3 type of emission is designed for use at shore stations for communication with ships or other shore stations. It provides for remote control operation and for switch selection of the type emission and of any one of 6 pretuned frequencies.

No field changes in effect at time of preparation (25 April 1958).

RELATION TO OTHER EQUIPMENT

The TCR has been superseded by Radio Transmitting Equipment TDF of wider frequency range.

Equipment Required but not Supplied: (1) Antenna

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION: A2, A3.
FREQUENCY RANGE: 2000 to 3000 kc, 6 pretuned channels.
FREQUENCY CONTROL: Crystal.
POWER OUTPUT: 125 W.
TYPE KEYING: Relay.
KEYING SPEED: 40 words per minute.
POWER REQUIREMENTS: 105 to 125 v or 210 to 250 v, 50 to 60 cps, single ph. Also power conversion units are supplied to permit operation from a 440 v DC or 220 v, 25 cps, three ph source.
ANTENNA: Quarter wave type with suitable ground system.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corp of America, New York, N.Y.
Contract NOs-87455 dated 18 June 1941.
Approximate Cost: $1650.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6X5WGT
(2) 3B28
(6) 83
(6) 1624
Total Tubes: (22)
(6) R2
Total Crystals: (6)

(2) 6L6WGB
(1) 813
(2) 811
(1) 6L6

REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model TCR Radio Telephone Transmitting Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

TCR RADIO TELEPHONE TRANSMITTING EQUIPMENT

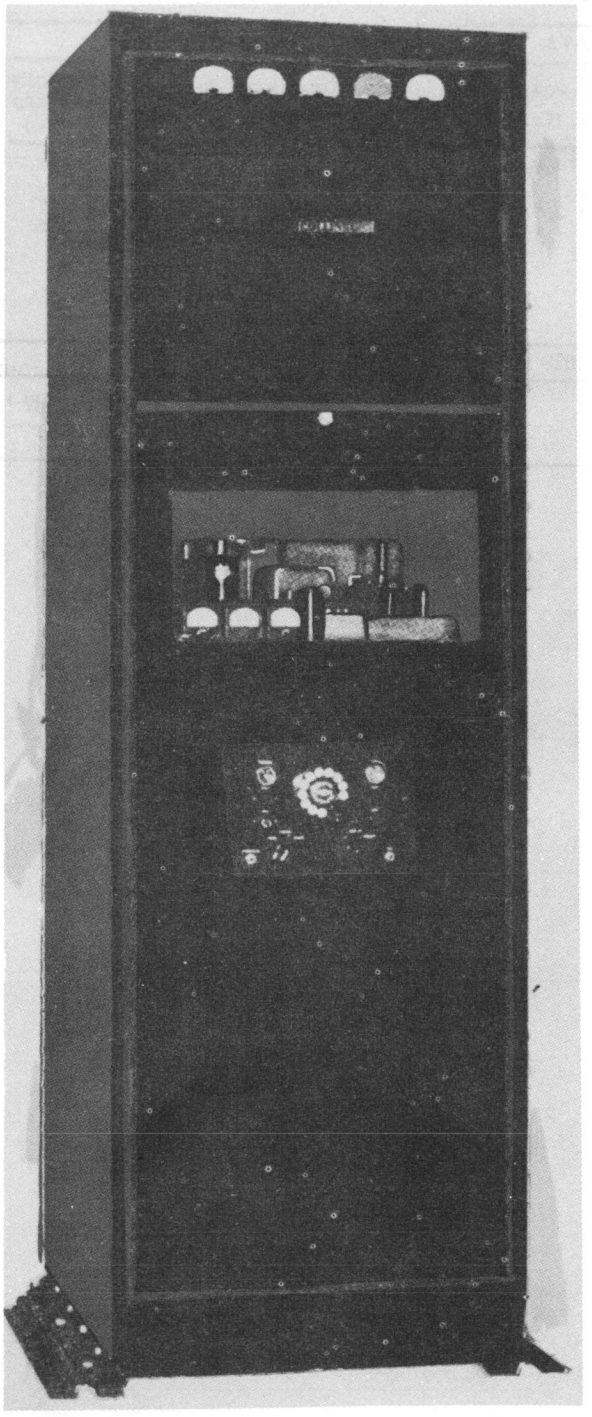
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter	25	29 x 41 x 73	900
1	Equipment Accessories	18	21 x 29 x 52	185
2	Equipment Spares	31		575

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter NT-52207	20 x 34 x 61-1/4	690
2	Control Unit NT-23242	8-1/4 x 9-1/4 x 14	16
2	Hand Telephone Assembly NT-51027	5-1/2 x 7-1/2 x 9	5
1	Set of Accessories		390
1	Set of Equipment Spares		

RADIO TRANSMITTING EQUIPMENT TCT



Transmitter Model TCT

FUNCTIONAL DESCRIPTION

The Navy Type TCT Radio Transmitting Equipment is designed for general purpose communication and is particularly suited for aernautical ground stations or ship to shore stations. Multi-frequency operation on a maximum of ten channels is facilitated by use of the Collins Autotune System. The TCT Radio Transmitter is complete in one unit but provisions are made for remote control, requiring cable and remote control unit.

No field changes in effect at time of preparation (20 August 1958).

RELATION TO OTHER EQUIPMENT

The Navy Type TCT Radio Transmitter is the Collins Type 16EA Transmitter as modified by contract requirement and specifications indent 655.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE
- BAND 1: 375 to 500 kilocycles.
- BAND 2: 2.5 to 20 megacycles.

TYPE OF EMISSION: A1, A2 and A3.
FREQUENCY CONTROL: Master oscillator.
POWER SOURCE REQUIREMENTS: 220-230 volts, 50-60 cps, 1 ph.
INPUT REQUIREMENTS
- KEY UP: 200 watts.
- A1 EMISSION: 0.9 kilowatts.
- A2 EMISSION: 1.2 kilowatts.
- A3 EMISSION: 1.2 kilowatts.

POWER OUTPUT
- 375-500 KILOCYCLES: 60 watts.
- 2.5-10 MEGACYCLES: 135 watts.
- 10-20 MEGACYCLES: 110 watts.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Contract NOs-84521, dated 19 April 1941.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) OD3W	(2) 120	(1) 3B22
(4) 3B28	(1) 5Z3	(2) 6Z5GT
(2) 6F6GT	(1) 6J7GT	(1) 6V6Y
(1) 6X5WGT	(1) 807	(1) 813
(1) 837		

Total Tubes: (20)

Radio-Transmitter

TCT

RADIO TRANSMITTING EQUIPMENT

No Crystals Used.

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

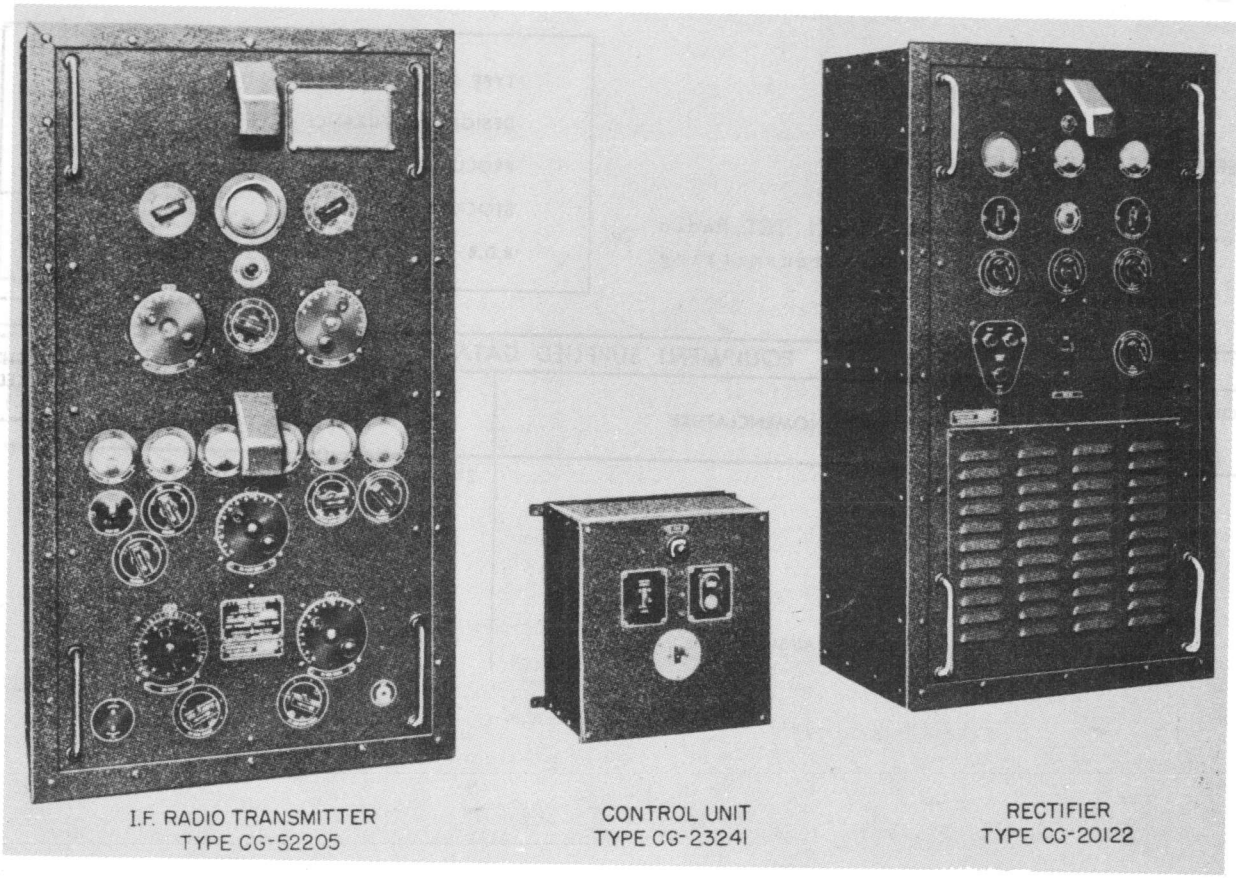
REFERENCE DATA AND LITERATURE

Technical Manual for Navy Model TCT Radio Telegraph and Telephone Transmitting Equipment.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter	24 X 26 X 78	825
3	Remote Cables		
1	Telegraph Key		
1	Remote Control Unit		
1	Tool Kit		
1	Portable Field Antenna Assembly		

RADIO TRANSMITTING EQUIPMENTS TCU,1,2



Radio Telegraph Transmitting Equipments TCU, TCU-1 and TCU-2

FUNCTIONAL DESCRIPTION

The TCU, TCU-1 and TCU-2 are designed primarily for either shore or shipboard installation wherever a compact medium-powered radio transmitter is required. The equipments are constructed to provide efficient, reliable and rapid communication.

Data on this sheet reflects the following field changes, 1 and 2 (12 September 1956).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Set Cables.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 2000 kc.
TYPE EMISSION: A1, A2.
POWER OUTPUT
CW (A1): 125 W.
MCW (A2): 30 W.
POWER SOURCE REQUIRED: 115 v, 50 to 62 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Co. Schenectady, N.Y.
Contract Nos 48078, dated 4 January 1941 (TCU).
Contract Nos 98843, dated 11 February 1942 (TCU-1).
Contract NXs 15910, dated 1 June 1943 (TCU-2).
Approximate Cost: $3500.00 with equipment spares. TCU, TCU-1, TCU-2.

TUBE AND/OR CRYSTAL COMPLEMENT

(7) 837 (4) 803 (4) 836
Total Tubes: (15).

TCU,1,2 RADIO TRANSMITTING EQUIPMENTS

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,401: Technical Manual for Navy Models TCM, TCN, TCU, TCM-1, TCM-2, and TCU-2 Radio Transmitting Equipments.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

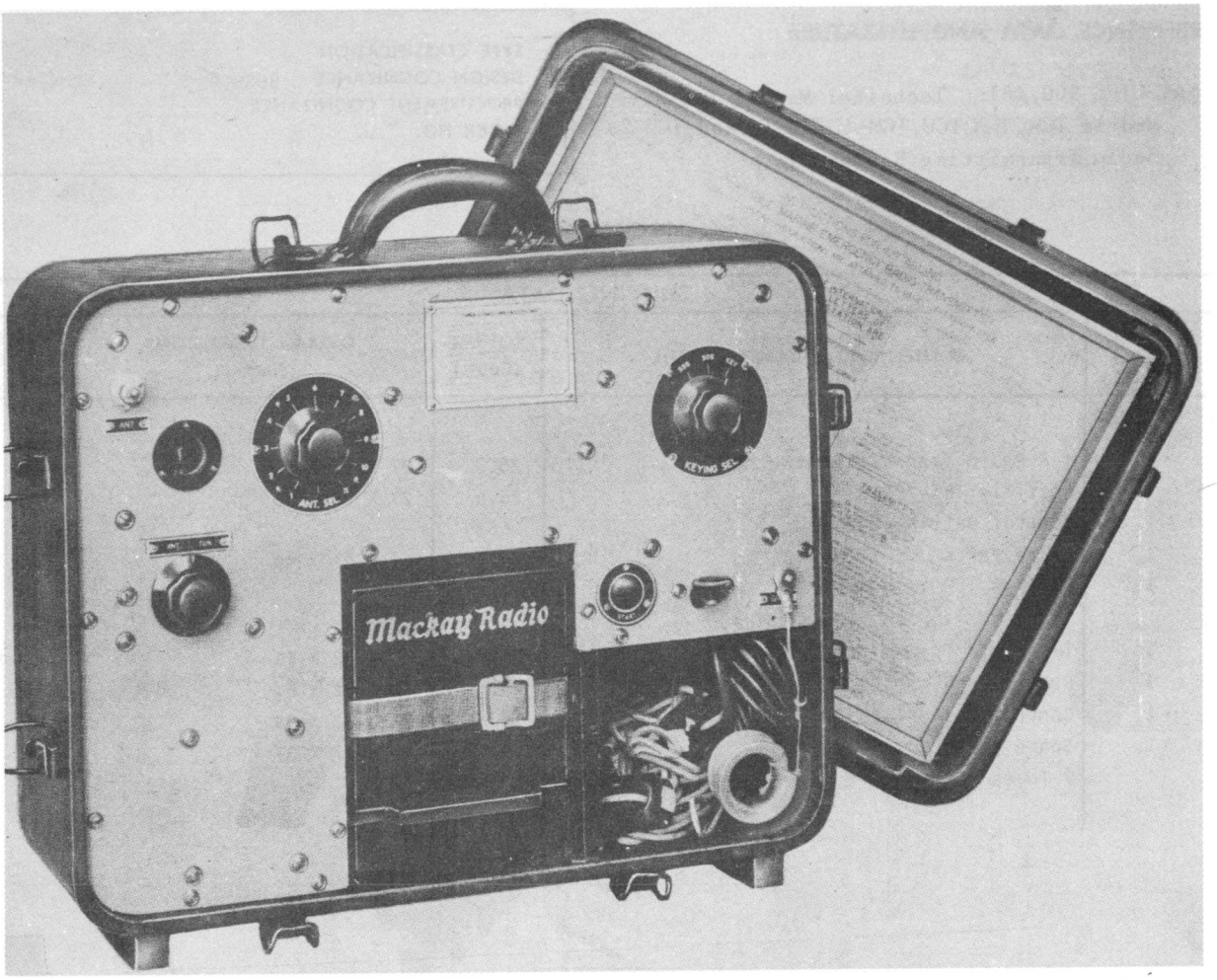
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	TCU			
1	I-F Radio Transmitter NT-52205	25.5	27 X 32 X 51	307
1	Rectifier NT-20122	25.5	27 X 32 X 51	389
1	Control Unit NT-23241	1663		45
1	Spare Parts	9.75	16 X 27 X 39	195
1	9 Tubes	17.63		50
	TCU-1, TCU-2			
1	I-F Radio Transmitter NT-52205	25.5	27 X 32 X 51	2.78
1	Rectifier NT-20122	25.5	27 X 32 X 51	359
1	Control Unit NT-23241	17.63	28 X 32 X 34	40
1	Spare Parts	9.75	16 X 27 X 39	195
1	9 Tubes	17.63		50

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCU		
1	I-F Radio Transmitter NT-52205	18-3/4 X 20-1/2 X 36-3/4	175
1	Rectifier NT-20122	14-3/4 X 20-1/2 X 36-3/4	2.59
1	Control Unit NT-23241	9 X 11-1/2 X 12-3/8	35
1	Case Spare Parts NT-23241		
9	Tubes		7
	TCU-1, TCU-2		
1	I-F Radio Transmitter NT-52205	18-3/4 X 20-1/2 X 36-3/4	146
1	Rectifier NT-20122	14-3/4 X 20-1/2 X 36-3/4	229
1	Control Unit NT-23241	9 X 11-1/2 X 12-3/8	30
1	Case Spare Parts		93
9	Tubes		7

PORTABLE EMERGENCY RADIO TRANSMITTING EQUIPMENT

TCY,TCY-1



Emergency Radio Transmitting Equipment TCY-1

FUNCTIONAL DESCRIPTION

The TCY and TCY-1 are portable emergency radio transmitters designed for operation by untrained persons, and quickly adaptable for use in lifeboats, liferafts, on shipboard or wherever required.

The TCY and TCY-1 are identical except for a slight difference in the carrying cases in which they are housed.

No field changes in effect at time of preparation (28 April 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A2, modulated in excess of 70% at approx 1000 cps.
FREQUENCY: 500 kc ±5%.
FREQUENCY CONTROL: Master Oscillator.
KEYING DATA: Automatic SOS or SSS distress signals interspersed with 10 sec dashes to allow for the taking of radio bearings; manual keying.
DURATION OF OPERATION: 48 periodic operations of approx 2 minutes each or 1-1/2 hr continuous keying.
POWER OUTPUT: 5 W.
POWER REQUIREMENTS: 6 v DC, 90 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Newark, N.J.
Contract NXss-22856.
Contract NXsr-46043.
Approximate Cost: $510.00 with equipment spares.

Radio-Transmitters

TCY,TCY-1

PORTABLE EMERGENCY RADIO TRANSMITTING EQUIPMENT

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6J5 (1) 6L6
Total Tubes: (2)

No Crystals used.

Model TCY, TCY-1 Portable Emergency Radio Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE EN28/2658-43/NSA
STOCK NO. EN28/3210-43/SHIPS
EN28/2944-43/SHIPS

REFERENCE DATA AND LITERATURE

NAVSHIPS 95324: Technical Manual for Navy

SHIPPING DATA

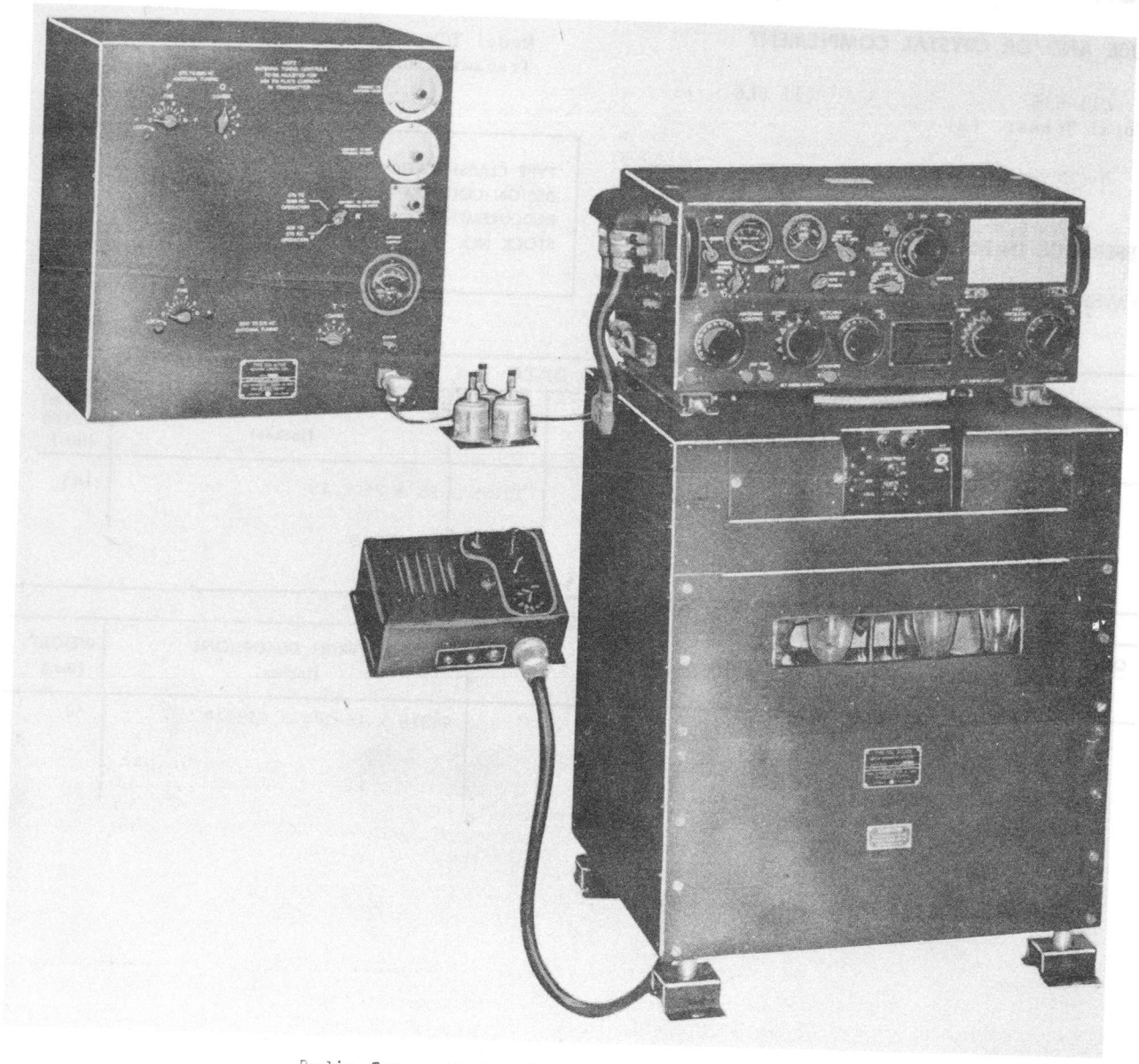
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitter and Spares	18.35	25 X 26 X 49	145

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter NT-52236 (TCY) or NT-52236A (TCY-1)	9-3/8 X 16-1/4 X 21-1/4	60
1	Antenna Materials		
1	Set of Equipment Spares		

April 1958

RADIO TRANSMITTING EQUIPMENT



Radio Transmitting Equipment TCZ,TCZ-1,-2

FUNCTIONAL DESCRIPTION

The Models TCZ, TCZ-1, and TCZ-2 are designed for shipboard installation with continuous-wave, modulated continuous-wave, and voice transmission in the 300 to 600 kilocycle and 2000 to 18100 kilocycle frequency ranges. They permit transmission on any one of 11 preset frequencies and include provisions for remote control.

They are designed to match antennas from 20 to 35 feet in length in the 300 to 600 kilocycle frequency range and the 2000 to 18100 kilocycle frequency range. The Models TCZ-1 and TCZ-2 include an antenna load coil designed to extend their frequency range to include the frequencies from 200 to 1500 kilocycles, and a shunt capacitor to assist in loading the transmitter in the 2000 kilocycle region while using a short antenna.

Radio-Transmitters

TCZ, TCZ-1, -2 RADIO TRANSMITTING EQUIPMENT

April 1958

The Model TCZ includes an antenna load coil to permit the low frequency oscillator to operate over the 200 to 1500 kilocycle range while the actual output of the transmitter is limited to approximately a 300 to 600 kilocycle range, and a shunt capacitor to permit operation in the 2000 to 3000 kilocycle range using a short whip-type antenna.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Microphone, (1) Telegraph Key, (1) Set of Headphones.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE
- TCZ: 300 to 600 kc and 2000 to 18100 kc.
- TCZ-1, -2: 200 to 1500 kc and 2000 to 18100 kc.

FREQUENCY CONTROL: Master oscillator.
POWER OUTPUT: 100 W.
EMISSION: A1, A2, A3.
MODULATION: 90%.
AUDIO FREQUENCY DATA
- RESPONSE: Uniform within 3 db from 300 to 4000 cps.
- DISTORTION: Less than 15% rms at 1000 cps with 90% modulation.

KEYING DATA
- TYPE: Relay.
- SPEED: 30 wpm.

POWER REQUIREMENTS
- TCZ: 115 v, 60 cps, single ph, 4.5 kw or 115 v DC.
- TCZ-1: 110 to 115 v, 50 to 60 cps, single ph, 80% pf, 13.1 amps normal operation voice, 50 amps starting.
- TCZ-2: 115 v,DC, 11.3 amps normal operation voice, 50 amps starting.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Company, Cedar Rapids, Iowa.
Contract NXs-491, dated 9 May 1942 (TCZ).
Contract NXsr-65358, dated 29 June 1944 (TCZ-1).
Contract NXsr-95063, dated 14 April 1945 (TCZ-2).
Approximate Cost: $3100.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

TCZ

(3) 12SJ7	(3) 1625	(4) 3B28*
(2) 6V6GTY	(2) 811	(1) 813
(1) 837		

Total Tubes: (16)

TCZ-1,-2

(1) 12SA7Y	(1) 12SJ7	(2) 12SL7GT
(3) 1625	(4) 3B28*	(2) 6V6GTY
(2) 811	(1) 813	(1) 837

Total Tubes: (17)

NOTE: Used in TCZ(115VAC) and TCZ-1 only.

TCZ

(1) NT-40127
Total Crystals: (1)

TCZ-1,-2

(1) CR-2B/U
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900854: Technical Manual for Navy Model TCZ Radio Transmitting Equipment.
NAVSHIPS 900481(A): Technical Manual for Radio Transmitting Equipment Navy Models TCZ-1 and TCZ-2.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	RE-9561
STOCK NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	TCZ-115VAC			
1	Radio Transmitter NT-52286	8.65	20 X 22 X 34	135
1	Motor Generator-Rectifier Power Unit NT-211101	17.0	28 X 31 X 34	445

RADIO TRANSMITTING EQUIPMENT TCZ, TCZ-1, -2

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Remote Control Unit NT-23410 including: (1) Antenna Loading Coil NT-47370 (1) Antenna Shunt Capacitor NT-481628 (1) Set of Interconnecting Cables (2) Technical Manual NAVSHIPS 900854 (1) Crystal NT-40127	12.6	20 X 31 X 35	145
1	Set of Equipment Spares TCZ-115VDC	5.8	15 X 19 X 35	142
1	Radio Transmitter NT-52286	8.65	20 X 22 X 34	135
1	Dynamotor Assembly Power Unit NT-211102	17.0	28 X 31 X 34	335
1	Remote Control Unit NT-23410 including: (1) Antenna Loading Coil NT-47370 (1) Antenna Shunt Capacitor NT-481628 (1) Set of Interconnecting Cables (2) Technical Manual NAVSHIPS 900854 (1) Crystal NT-40127	10.7	20 X 30 X 31	120
1	Set of Equipment Spares TCZ-1	5.8	15 X 19 X 35	142
1	Radio Transmitter NT-52286-A	12.4	19-3/4 X 31 X 35	194
1	Rectifier-Motor Generator Power Unit NT-211322	18.5	27 X 31-1/2 X 37-1/2	486
1	Remote Control Unit NT-23410 including: (1) Quartz Crystal CR-2B/U (1) Antenna Load Coil NT-47505 (1) Antenna Shunt Capacitor NT-481628 (1) Set of Interconnecting Cables (2) Technical Manual NAVSHIPS 900481(A)	14.6	24 X 31 X 34-1/2	194
1	Equipment Spares	5.2	16 X 16 X 35	206
1	Equipment Spares	5.2	16 X 16 X 35	114
1	Equipment Spares	6.2	16 X 19 X 35	195
	TCZ-2			
1	Radio Transmitter NT-52286-A	12.4	19-3/4 X 31 X 35	194
1	Dynamotor Assembly Power Unit NT-211624	18.5	27 X 31-1/2 X 37-1/2	376
1	Remote Control Unit NT-23410 including: (1) Quartz Crystal CR-2B/U (1) Antenna Load Coil NT-47505 (1) Antenna Shunt Capacitor NT-481628 (1) Set of Interconnecting Cables (2) Technical Manual NAVSHIPS 900481(A)	14.6	24 X 31 X 34-1/2	194
1	Equipment Spares	5.2	16 X 16 X 35	206
1	Equipment Spares	5.2	16 X 16 X 35	114
1	Equipment Spares	6.2	16 X 19 X 35	195

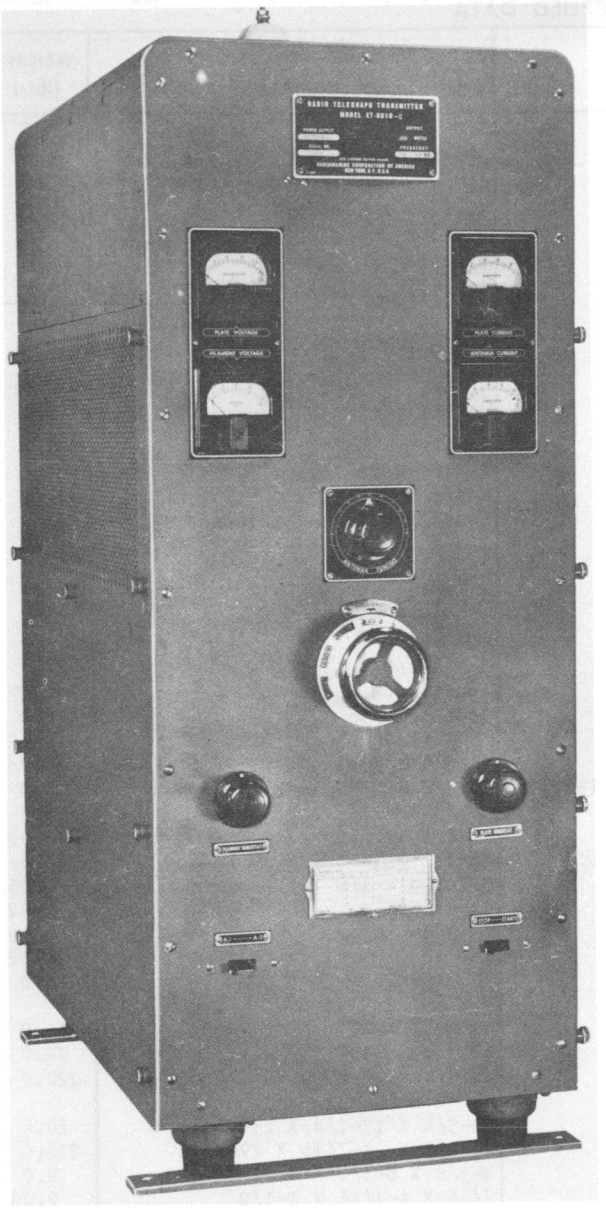
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TCZ-115VAC		
1	Radio Transmitter NT-52286	10-3/4 X 13-1/4 X 23-9/16	66.0

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Motor Generator-Rectifier Power Unit NT-211101	20-1/8 X 23-7/16 X 29-7/16	320.0
1	Remote Control Unit NT-23410	4-3/4 X 6-9/16 X 9-31/32	8.0
1	Antenna Loading Coil NT-47370	10-7/32 X 10-3/4 X 18-5/8	14.5
1	Antenna Shunt Capacitor NT-481628	3-7/8 X 4-1/8 X 5	1.6
1	Control Cable, Transmitter to Power Unit	10.5 lg	
1	Power Cable, Transmitter to Power Unit	10.5 lg	
1	Load Coil Cable	120 lg	
1	Remote Control Cable	120 lg	
2	Technical Manual NAVSHIPS 900854	1 X 8-1/2 X 11	
1	Crystal NT-40127	1-5/16 dia X 2-1/2	0.2
1	Set of Equipment Spares	15 X 19 X 35	100.0
	TCZ-115VDC		
1	Radio Transmitter NT-52286	10-3/4 X 13-1/4 X 23-9/16	66.0
1	Dynamotor Assembly Power Unit NT-211102	20-1/8 X 23-7/16 X 29-7/16	210.0
1	Remote Control Unit NT-23410	4-3/4 X 6-9/16 X 9-31/32	8.0
1	Antenna Loading Coil NT-47370	10-7/32 X 10-3/4 X 18-5/8	14.5
1	Antenna Shunt Capacitor NT-481628	3-7/8 X 4-1/8 X 5	1.6
1	Control Cable, Transmitter to Power Unit	10.5 lg	
1	Power Cable, Transmitter to Power Unit	10.5 lg	
1	Load Coil Cable	120 lg	
1	Remote Control Cable	120 lg	
2	Technical Manual NAVSHIPS 900854	1 X 8-1/2 X 11	
1	Crystal NT-40127	1-5/16 dia X 2-1/2	0.2
1	Set of Equipment Spares	15 X 19 X 35	100.0
	TCZ-1		
1	Radio Transmitter NT-52286-A	10-3/4 X 13-1/4 X 23-9/16	70.0
1	Rectifier-Motor Generator Power Unit NT-211322	20-1/8 X 23-7/16 X 29-7/16	320.0
1	Remote Control Unit NT-23410	4-3/8 X 6-1/2 X 9-31/32	8.0
1	Quartz Crystal CR-2B/U	7/16 X 1-1/16 X 1-1/2	0.03
1	Antenna Load Coil NT-47505	15-1/2 X 18-5/8 X 19-3/4	48.0
1	Antenna Shunt Capacitor NT-481628	3-7/8 X 4-1/8 X 5	1.56
1	Control Cable, Power Unit to Transmitter	11-11/32 lg	0.62
1	Power Cable, Power Unit to Transmitter	11-9/16 lg	0.56
1	Power Cable, Transmitter to Load Coil	120 lg	0.62
1	Control Cable	120 lg	4.0
2	Technical Manual NAVSHIPS 900481(A)	1 X 8-1/2 X 11	
1	Equipment Spares	12 X 12 X 30	166.0
1	Equipment Spares	12 X 12 X 30	74.0
1	Equipment Spares	12-1/4 X 15 X 30	120.0
	TCZ-2		
1	Radio Transmitter NT-52286-A	10-3/4 X 13-1/4 X 23-9/16	70.0
1	Dynamotor Assembly Power Unit NT-211624	20-1/8 X 23-7/16 X 29-7/16	210.0
1	Remote Control Unit NT-23410	4-3/8 X 6-1/2 X 9-31/32	8.0
1	Quartz Crystal CR-2B/U	7/16 X 1-1/16 X 1-1/2	0.03
1	Antenna Load Coil NT-47505	15-1/2 X 18-5/8 X 19-3/4	48.0
1	Antenna Shunt Capacitor NT-481628	3-7/8 X 4-1/8 X 5	1.56
1	Control Cable, Power Unit to Transmitter	11-11/32 lg	0.62
1	Power Cable, Power Unit to Transmitter	11-9/16 lg	0.56
1	Power Cable, Transmitter to Load Coil	120 lg	0.62
1	Control Cable	120 lg	4.0
2	Technical Manual NAVSHIPS 900481(A)	1 X 8-1/2 X 11	
1	Equipment Spares	12 X 12 X 30	166.0
1	Equipment Spares	12 X 12 X 30	74.0
1	Equipment Spares	12-1/4 X 15 X 30	120.0

RADIOTELEGRAPH TRANSMITTING EQUIPMENT



Radiotelegraph Transmitting Equipment TDA

FUNCTIONAL DESCRIPTION

The Model TDA is a compact, medium power transmitter designed for shipboard use in effecting ship-to-shore and ship-to-ship continuous-wave and modulated continuous-wave transmission. It may be pre-tuned to eight frequencies in the 340 to 550 kilocycle band, and employs master-oscillator control of frequencies, but is so arranged that crystal units may be easily installed.

It is designed for a 115 volt direct-current supply, but may be converted to 230 volts direct-current operation.

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

RELATION TO OTHER EQUIPMENT

The Navy Model TDA is the same as Radiomarine Corporation of America Type ET-8010C.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 340 to 550 kc.
POWER OUTPUT
A1: 160 to 200 W.
A2: 200 W.
EMISSION: A1, A2.
FREQUENCY CONTROL: Master oscillator.
MODULATION: 70%.
KEYING SPEED
A1: 100 wpm.
A2: 50 wpm.
POWER REQUIREMENTS: 115 v DC.
ANTENNA REQUIREMENTS
TYPE: Any antenna with 500 to 1500 uuf capacitance and 4 to 10 ohms resistance.

MANUFACTURER'S OR CONTRACTOR'S DATA

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

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 211W (2) 807
Total Tubes: (4)

No Crystals.

REFERENCE DATA AND LITERATURE

Technical Manual for Model TDA Radiotelegraph Transmitting Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

RADIOTELEGRAPH TRANSMITTING EQUIPMENT

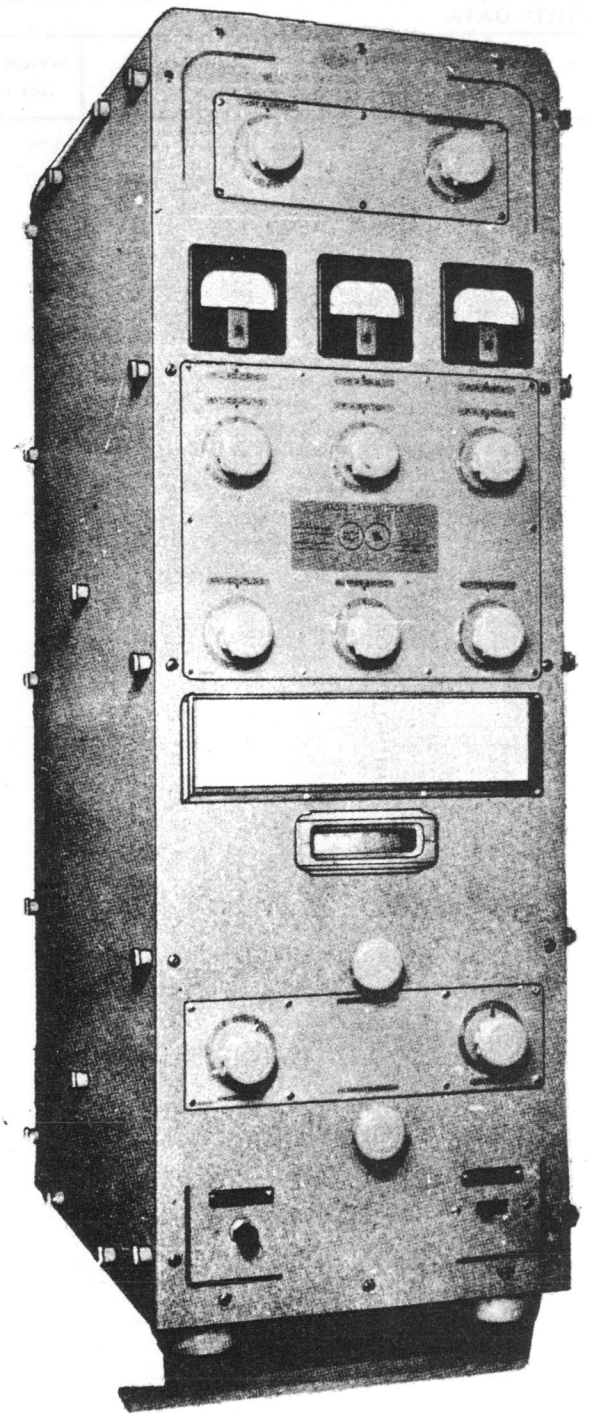
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radiotelegraph Transmitter Type ET-8010-C	17-3/4 x 29 x 45-3/16	175
1	Motor-Generator Type ET-8010	11 x 15 x 28	210
1	Motor Starter General Electric CR-4052-Y1		
1	Telegraph Key Type CQ		
5	Calibration Card		
1	Set of Equipment Spares		

March 1957

RADIO TELEGRAPH TRANSMITTING EQUIPMENT

TDB



Radiotelegraph Transmitter TDB

FUNCTIONAL DESCRIPTION

The TDB is a high-frequency radiotelegraph transmitter designed primarily for marine applications to provide A1 (continuous wave) and A2 (modulated wave) emission in the frequency range of 2000 to 22140 kilocycles. It can be crystal controlled with a maximum of ten quartz crystals that may be installed, and it also has provisions, by means of front panel adjustments, to cover continuously the frequency range for which it is designed.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2000 to 22140 kc in 4 bands.
EMISSION: A1, A2.
POWER OUTPUT(A2): 200 W between 2000 and 17000 kc, 150 W above 17000 kc.
CONTROL: Crystal or dial.
MODULATION DATA (A2)
  FREQUENCY: 500 cycles
  PERCENTAGE: 70%.
FREQUENCY TOLERANCE
  MASTER OSCILLATOR OPERATION: ±.05%.
  CRYSTAL-CONTROL OPERATION: ±.02%.
POWER REQUIREMENTS: 110 or 230 v DC, 1300 W.
  ANTENNA DATA
    TYPE: 30 to 40 ft vertical wire for low frequencies; ships main antenna for higher frequencies.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corporation of America, New York, N.Y.
Approximate Cost: $3000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 807 (2) 813
Total Tubes: (4)

REFERENCE DATA AND LITERATURE

Technical Manual for Radiotelegraph Transmitting Equipment TDB.

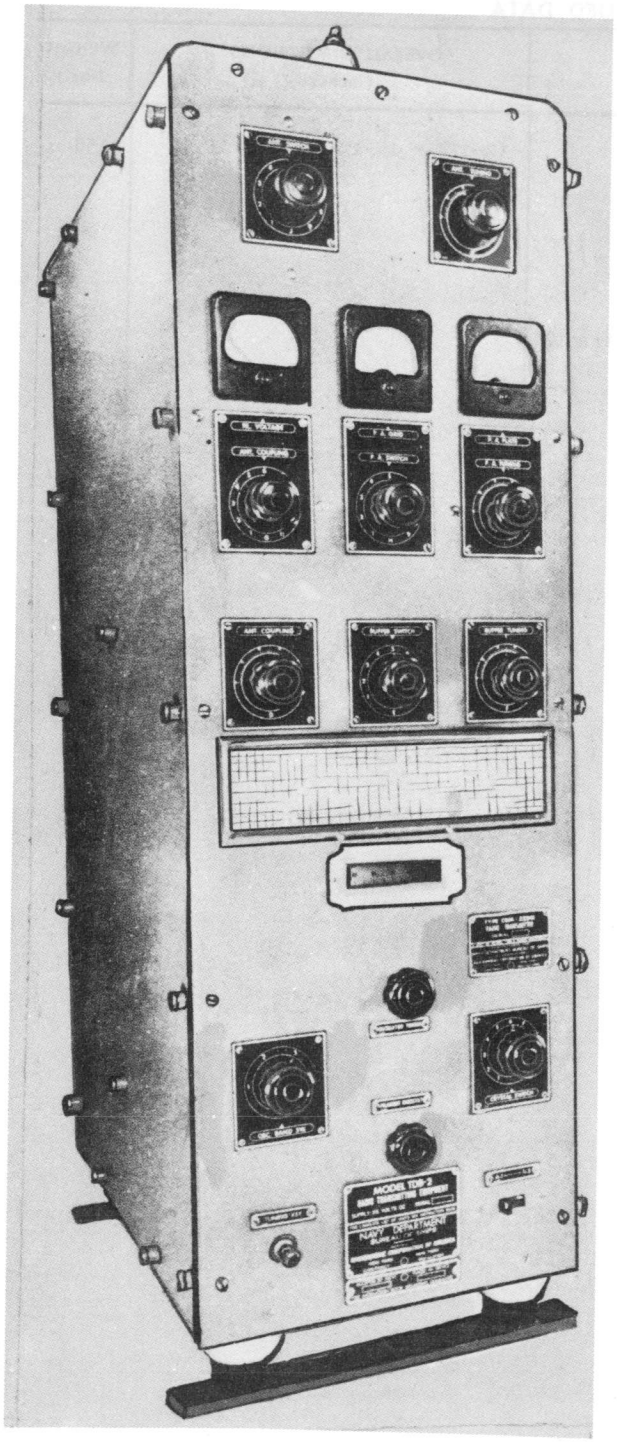
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

TDB RADIO TELEGRAPH TRANSMITTING EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radiotelegraph Transmitter TDB	12-1/4 x 19-1/4 x 45-3/16	150
1	Motor Generator ET-8010		
1	Motor Starter CR-4052-Y1		
1	Control Unit ET-8019		
1	Switch, Antenna Transfer ATS-7		
1	Telegraph Key CQ		
1	Set of Quartz Crystals(as specified in contract)		
1	Filter, Type 20		
1	Set of Vacuum Tubes		
1	Capacitor 9CE6A14		
1	Snubber Bracket		
5	Calibration Card		
1	Set of Spare Parts		

HIGH FREQUENCY RADIO-TELEGRAPH TRANSMITTING EQUIPMENT



Transmitter Unit, TDB-2

FUNCTIONAL DESCRIPTION

The Model TDB-2 Radiotelegraph Equipment comprises a compact medium High Frequency (HF) transmitter and power supply for marine installations. The transmitter is designed to provide A-1 (continuous wave) and A-2 (modulated wave) emission. For A-2 emission, the modulation frequency is 500 cycles, and the modulated percentage is approximately seventy (70) percent. The transmitter is designed to cover a continuous frequency range of 2,000 to 22,140 kilocycles (KC).

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1 and A2 type.
POWER OUTPUT: 150 to 200 W.
POWER UNIT
MOTOR GENERATOR: 1.25 HP, 2500 RPM, 115 v DC, 1200 v, 0.45 amps DC generator, 110 v, 1.5 amps, 500 cycle alternator.
OPERATING FREQUENCY RANGE
BAND ONE: 2000 to 2400 kc.
BAND TWO: 2400 to 3200 kc.
BAND THREE: 3200 to 4200 kc.
BAND FOUR: 4200 to 5600 kc.
OPERATING POWER REQUIREMENTS: 220 v DC, 230 v DC, 1 ph, 50 to 60 cycles and 200 v, 3 ph, 60 cycles differ for transmitter, motor-generator, magnetic controller, control unit and line filter unit (not used for AC supply).

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corporation of America, New York, N.Y.
Contract NXsr-LL-47403, dated 29 January 1944.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) RCA 807 (2) RCA 813
Total Tubes: (4)

No Crystals used.

TDB-2 HIGH FREQUENCY RADIO-TELEGRAPH TRANSMITTING EQUIPMENT

REFERENCE DATA AND LITERATURE

Technical Manual TDB-2 for the High Frequency Radio Telegraph Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

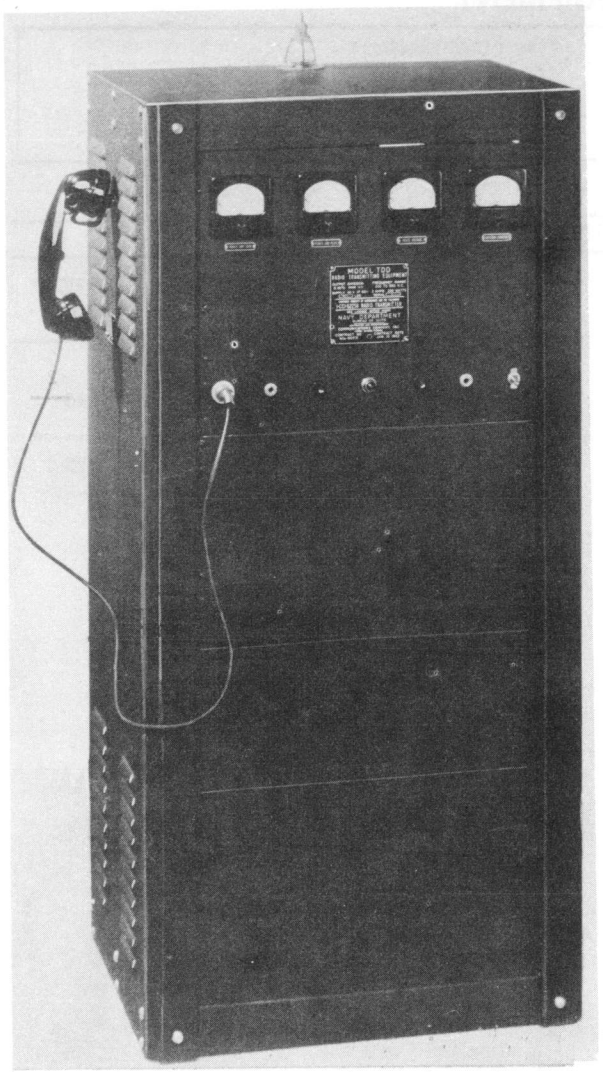
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	High Frequency Radio Telegraph Transmitting Equipment TDB-2 Including:	14-1/4 X 20-3/4 X 45	135
	(1) Transmitter type CRM-52341		
	(1) Motor-Generator type CG-211137	10-3/4 X 14-1/8 X 28	225
	(1) Magnetic Controller type CG-211138		
	(1) Control Unit type CRM-23435		
	(1) Line Filter Unit type CRM-53193		
	(1) Set of Vacuum tubes Including: (2)-807 and (2)-813		
	(1) Telegraph Key type CQ		
	(1) Antenna Transfer Switch CRM-24301		
	(1) Capacitor, Key Contacts No. 9CE6A14		
	(1) Snubber Bracker		
	(5) Calibration Card		
	(1) Set of Equipment Spares		
	(2) Instruction Book TDB-2	1/4 X 8-1/2 X 11	

December 1956

RADIO TELEPHONE TRANSMITTING EQUIPMENT

TDD,TDD-1,2,3,4



Radio Telephone Transmitting Equipment TDD, TDD-1,2,3,4

FUNCTIONAL DESCRIPTION

The TDD, TDD-1, 2, 3 and 4 are low-power transmitters for use in airport traffic control towers. They are crystal controlled and operate in the frequency range of 200 to 550 kilocycles. Provisions are made for connection of a remote telephone or microphone, and a muting relay is employed to prevent feed-back or objectionable interference when a receiver is used in conjunction with the transmitter equipment.

The TDD series are electrically and mechanically interchangeable.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Antenna, Crystals NT-40,000.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 200 to 550 kc in 3 bands.
FREQUENCY CONTROL: Crystal.
EMISSION: A3.
AMPLITUDE MODULATION: 100%.
POWER OUTPUT: 15 W avg.
POWER REQUIREMENTS: 115 v ±10%, 60 cps, single phase, 330 W.
ANTENNA: Single-wire, 100 to 500 ft.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communications Co., Inc., Coral Gables, Florida.
Contract NXsr-38851, dated 11 October 1943. (TDD-2).
Contract NXsr 90765, dated 23 January 1945. (TDD-3).
Starrett Television Corporation, New York, N. Y.
Contract NObsr 52247, dated 2 February 1951. (TDD-4).
Approximate Cost: $1100.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6L6/6L6G
(2) 807
(1) OD3/VR-150-30
(2) 6V6/6V6GT
(1) 6X5/6X5GT
(1) 83/5Z3

Total Tubes: (9)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,271-1B: Technical Manual for Radio Telephone Transmitting Equipment Model TDD-2.
NAVSHIPS 900,271-1B: Technical Manual for Radio Telephone Transmitting Equipment Model TDD-3.
NAVSHIPS 91499: Technical Manual for Radio Telephone Transmitting Equipment Model TDD-4.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-15588(SHIPS)
STOCK NO.

TDD,TDD-1,2,3,4 RADIO TELEPHONE TRANSMITTING EQUIPMENT

December 1956

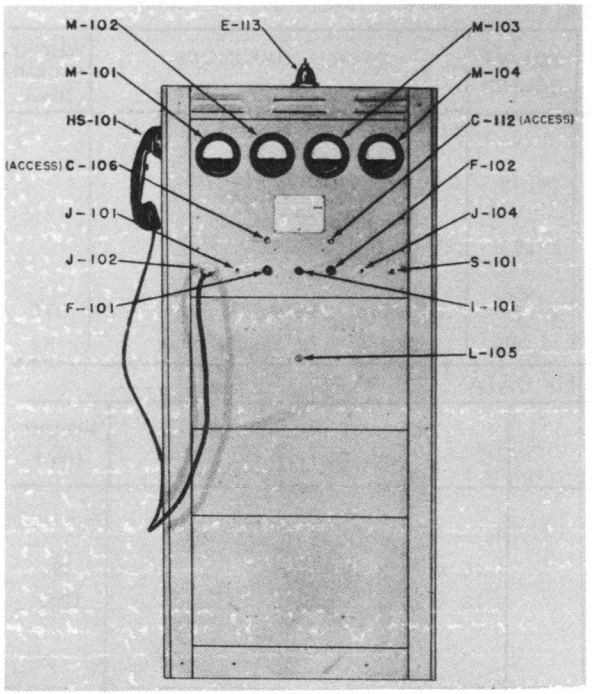
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	TDD,TDD-1,2,3			
1	Radio Telephone Transmitter	4.45	17-1/2 X 21 X 21-3/4	
1	Cabinet, Equipment Spares and Accessories	20.03	23-1/2 X 28 X 54	
	TDD-4			
1	Radio Telephone Transmitter	13.3	18-1/2 X 25-1/2 X 54	370
1	Equipment Spares	1.94	12 X 14 X 20	82

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Telephone Transmitting Equipment TDD or TDD-1 consisting of:		
	Radio Transmitter NT-52258	14 X 14 X 19	70
	Cabinet	18 X 25-1/2 X 52	120
	Set of Equipment Spares		
	Set of Accessories		
1	Radio Telephone Transmitting Equipment TDD-2 consisting of:		
	Radio Transmitter NT-52258-A	14 X 14 X 19	70
	Cabinet	18 X 25-1/2 X 52	120
	Set of Equipment Spares		
	Set of Accessories		
1	Radio Telephone Transmitting Equipment TDD-3 consisting of:		
	Radio Transmitter NT-52258-B	14 X 14 X 19	70
	Cabinet	18 X 25-1/2 X 52	120
	Set of Equipment Spares		
	Set of Accessories		
1	Radio Telephone Transmitting Equipment TDD-4 consisting of:		
	Radio Transmitter NT-52258-C	17-5/8 X 22 X 51-3/4	190
	Set of Equipment Spares and Accessories	9 X 12-3/4 X 18-1/2	62

RADIO TELEPHONE TRANSMITTING EQUIPMENT TDD-5



Radio-Telephone Transmitting Equipment TDD-5

FUNCTIONAL DESCRIPTION

The Navy Model TDD-5 is a self-contained cabinet mounted, low frequency voice transmitter. It is used in airport control operation and has an output of 15 watts. The equipment is especially designed for communication between the airport and aircraft on or near the field. It may be operated either by use of a handset located on the left side of the cabinet or from a remote point by means of a single telephone line.

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

RELATION TO OTHER EQUIPMENT

Similar to Navy Models TDD-1, -2 and -4 except for a difference in frequency range.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Crystal NT-40,000.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 200 to 500 kc, 3 bands.
FREQUENCY CONTROL: Crystal.
MODULATION: Amplitude.
EMISSION: A3.
POWER OUTPUT: 15 W.
ANTENNA: Single-wire, 100 to 500 ft.
PRIMARY POWER REQUIREMENTS: 115 v ±10%, 60 cps, single ph, 330 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Jetronic Industries Inc., Philadelphia, Pennsylvania.
Contract NObsr 64114, dated 1 February 1954.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3W	(1) 5Z3
(2) 6L6	(2) 6V6Y
(1) 6X5WGT	(2) 807

Total Tubes: (9)
(1) NT-40,000
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900123A: Naval List, Electronic Equipment. Technical Manual for Radio Telephone Transmitting Equipment TDD-4.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

TDD-5 RADIO TELEPHONE TRANSMITTING EQUIPMENT

SHIPPING DATA

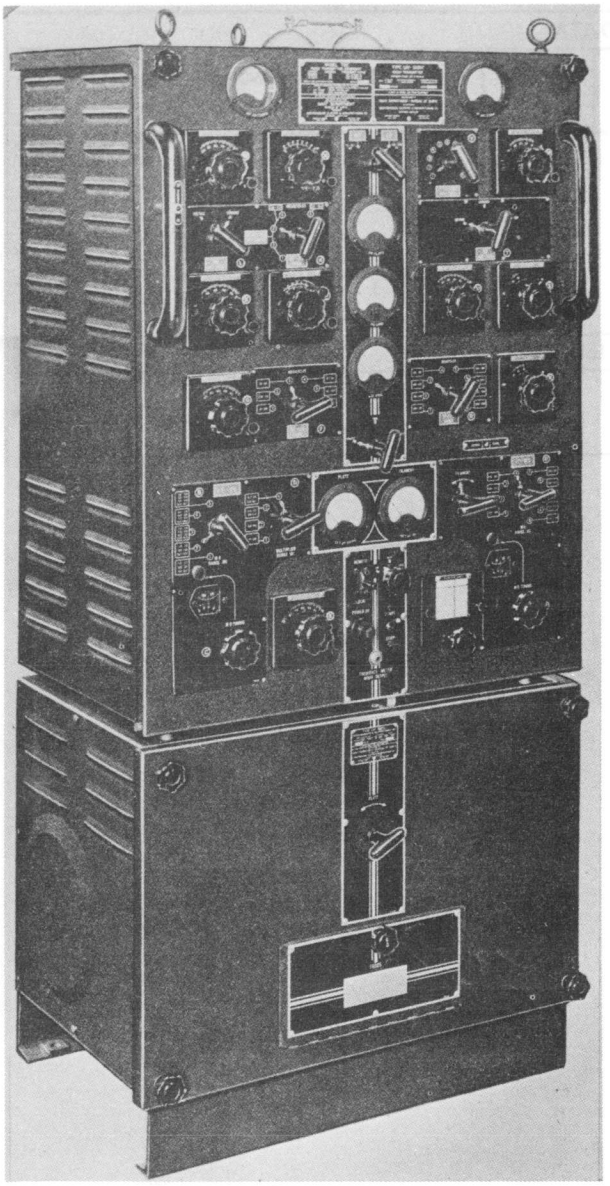
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Telephone Transmitter TDD-5	13.3	18-1/2 X 25-1/2 X 54	370

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Telephone Transmitter TDD-5	17-5/8 X 22 X 51-3/4	190

April 1958

RADIO TRANSMITTING EQUIPMENT TDE,TDE-1,-2,-3



Radio Transmitting Equipment TDE,TDE-1,-2,-3

FUNCTIONAL DESCRIPTION

The Models TDE, TDE-1, TDE-2, and TDE-3 are designed to facilitate rapid installation aboard surface vessels or at shore stations where space is at a premium. The main transmitter and the power unit may be separated into two units to facilitate installation in small quarters.

They are designed to transmit continuous-wave, modulated continuous-wave, or voice modulation over the 300 to 18100 kilocycle frequency range. The output frequency is continuously variable, and they are readily matched into practically any size of antenna. They can be controlled and keyed using either the remote control unit supplied or the Navy standard four wire or six wire remote control system.

The Model TDE series are similar in design and operation, differing mainly in the type of power unit supplied. Field changes modified the equipments to permit the use of a hand microphone at the transmitter for the purpose of making tests and adjustments at the transmitter without resorting to a control unit and to permit local operation of the transmitter.

Data on the sheet reflects the following field changes. FC-1 thru-3 (6 November 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Telegraph Key, (1) Handset or Wirephone and Headphone, (1) Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 18100 kc.
POWER OUTPUT
CW: 125 W.
MCW: 35 W.
VOICE: 30 W.
EMISSION: A1, A2, A3.
FREQUENCY CONTROL: Master oscillator.
KEYING SPEED: 100 wpm max.
POWER REQUIREMENTS: 115 or 230 v DC ±10%, 1.2 kw operating, 8.5 kw starting; 220 or 440 v ±5%, 60 cps, 3 ph, 1.2 kw operating, 4.6 kw starting; 115 or 230 v ±5%, 60 cps, single ph, 1.2 kw operating, 4.6 kw starting.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric and Mfg Co, Baltimore, Md.
Contract NXs-3179, dated 30 June 1942 (TDE).
Contract NXs-20802, dated 1 June 1943 (TDE-1).

TDE,TDE-1,-2,-3 RADIO TRANSMITTING EQUIPMENT

Contract NXss-33634, dated 30 June 1943 (TDE-2).
Contract NXsr-38682, dated 6 October 1943 (TDE-2).
Farnsworth Television and Radio Corp, Fort Wayne, Ind.
Contract NXss-33636, dated 30 June 1943 (TDE-3).

REFERENCE DATA AND LITERATURE

NAVSHIPS 900389: Technical Manual for Navy Models TDE, TDE-1, TDE-2 Radio Telegraph and Telephone Transmitting Equipment.
NAVSHIPS 95328: Technical Manual for Navy Model TDE-3 Radio Telegraph and Telephone Transmitting Equipment.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5U4G (2) 801A (2) 803
(2) 807 (1) 837

Total Tubes: (8)

No Crystals

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.)
	TDE, TDE-1, -2, -3 (115-230 VDC)			
1	Radio Transmitter including: Motor-Generator and Rectifier Power Unit Remote Control Unit	40	27 X 37 X 70	960
1	Set of Equipment Spares TDE, TDE-2(220-440VAC), TDE-1(115-230VAC)	6.2	17 X 18 X 35	205
1	Radio Transmitter including: Motor-Generator and Rectifier Power Unit Remote Control Unit	40	27 X 37 X 70	960
1	Set of Equipment Spares TDE-1,-3(220-440VAC), TDE-3(115-230VAC)	6.2	17 X 18 X 35	185
1	Radio Transmitter including: Motor-Generator and Rectifier Power Unit Remote Control Unit Autotransformer	40	27 X 37 X 70	966
1	Set of Equipment Spares	6.2	17 X 18 X 35	185

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TDE (115 VDC)		
1	Radio Transmitter NT-52267	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21848	19-7/16 X 22-13/16 X 28	372
1	Remote Control Unit NT-23305	3-9/16 X 5-3/16 X 5-7/16	3
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
1	Equipment Spares	6-1/4 X 6-3/4 X 15	25

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Equipment Spares	6-1/4 X 6-3/4 X 10	20
	TDE (230 VDC)		
1	Radio Transmitter NT-52267	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21849	19-7/16 X 22-13/16 X 28	372
1	Remote Control Unit NT-23305	3-9/16 X 5-3/16 X 5-7/16	3
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
1	Equipment Spares	6-1/4 X 6-3/4 X 15	25
1	Equipment Spares	6-1/4 X 6-3/4 X 10	20
	TDE (220-440 VAC)		
1	Radio Transmitter NT-52267	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21850	19-7/16 X 22-13/16 X 28	355
1	Remote Control Unit NT-23305	3-9/16 X 5-3/16 X 5-7/16	3
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
1	Equipment Spares	6-1/4 X 6-3/4 X 15	25
	TDE-1 (115 VDC)		
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21848	19-7/16 X 22-13/16 X 28	372
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 x 15-1/2 X 24-1/4	110
1	Equipment Spares	6-1/4 X 10 X 15	45
	TDE-1 (230 VDC)		
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit-NT-21849	19-7/16 X 22-13/16 X 28	372
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
1	Equipment Spares	6-1/4 X 10 X 15	45
	TDE-1 (220-440 VAC)		
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21850	19-7/16 X 22-13/16 X 28	355
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1*	Autotransformer NT-301145	3-1/8 X 5-1/2 X 7	6.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	110
1	Equipment Spares	6-1/4 X 6-1/4 X 15	25
	TDE-1 (115-230 VAC)		
1	Radio Transmitter NT-52267A		
1	Motor-Generator and Rectifier Power Unit NT-211030	20-1/2 X 28-1/4 X 39-13/16	334
1	Remote Control Unit NT-23381	19-7/16 X 22-13/16 X 28	360
1	Equipment Spares	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	110
	TDE-2 (115 VDC)	6-1/4 X 6-3/4 X 15	25
1	Radio Transmitter NT-52267A		
1	Motor-Generator and Rectifier Power Unit NT-21848	20-1/2 X 28-1/4 X 39-13/16	334
1	Remote Control Unit NT-23381	19-7/8 X 22-13/16 X 28	372
1	Equipment Spares	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	110
	TDE-2 (230 VDC)	6-1/4 X 10 X 15	45
1	Radio Transmitter NT-52267A		
1	Motor-Generator and Rectifier Power Unit NT-21849	20-1/2 X 28-1/4 X 39-13/16	334
1	Remote Control Unit NT-23381	19-7/16 X 22-13/16 X 28	372
1	Equipment Spares	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
	TDE-2 (220-440 VAC)	6-1/4 X 10 X 15	45
1	Radio Transmitter NT-52267A		
1	Motor-Generator and Rectifier Power Unit NT-21850	20-1/2 X 28-1/4 X 39-13/16	334
1	Remote Control Unit NT-23381	19-7/16 X 22-13/16 X 28-1/4	355
1	Equipment Spares	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
	TDE-3 (115 VDC)	6-1/4 X 6-3/4 X 15	25

TDE,TDE-1,-2,-3 RADIO TRANSMITTING EQUIPMENT

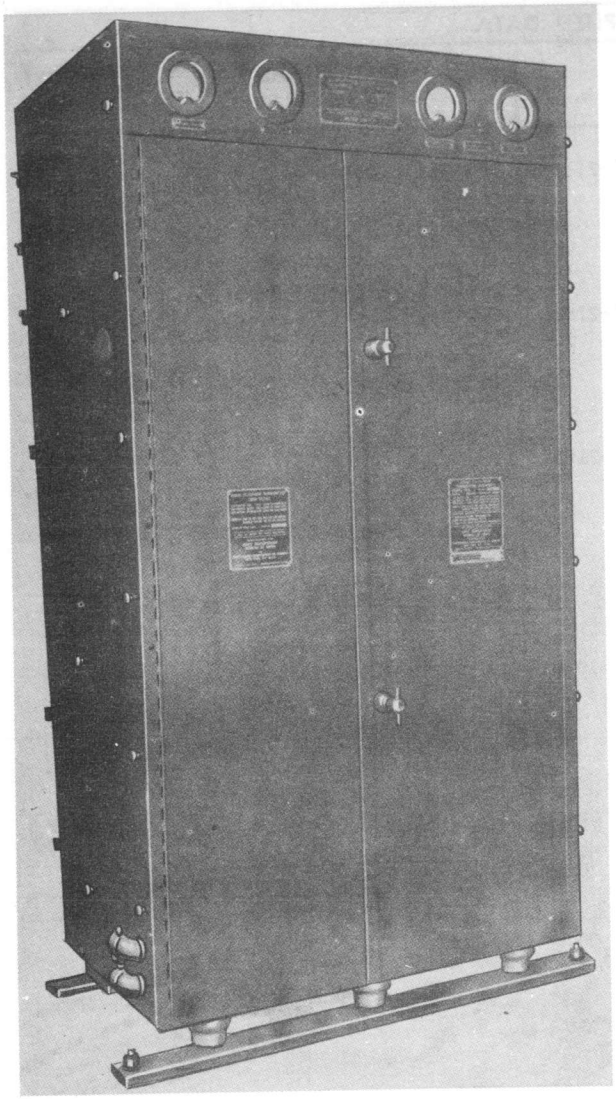
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21848	19-7/16 X 22-13/16 X 28-1/4	372
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/4	110
1	Equipment Spares	6-1/4 X 10 X 15	45
	TDE-3 (230 VDC)		
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21849	19-7/16 X 22-13/16 X 28	372
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	110
1	Equipment Spares	6-1/4 X 10 X 15	45
	TDE-3 (220-440 VAC)		
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21850	19-7/16 X 22-13/16 X 28	355
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1*	Autotransformer NT-301145	3-1/8 X 5-1/2 X 7	6.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	110
1	Equipment Spares	6-1/2 X 6-3/4 X 15	25
	TDE-3 (115-230 VAC)		
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-211030	19-7/16 X 22-13/16 X 28-1/4	360
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	110
1	Equipment Spares	6-1/4 X 6-3/4 X 15	25

NOTE: *-For 208 v, 60 cps, 3 ph installation only.

RADIO TELEPHONE TRANSMITTING EQUIPMENT

TDF



Radio Telephone Transmitting Equipment TDF

FUNCTIONAL DESCRIPTION

The TDF radio transmitter for A1, A2 or A3 type of emission is designed for use at shore stations for communication with ships or other shore stations. It provides for remote control operation and for switch selection of the type emission and of any one of 6 pretuned frequencies.

No field changes in effect at time of preparation (25 April 1958).

RELATION TO OTHER EQUIPMENT

The TDF is similar to Radio Telephone Transmitting Equipment TCR but has greater frequency range and provides for A1 emission.

Equipment Required but not Supplied: (1) Antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION: A1, A2, A3.
FREQUENCY RANGE: 2000 to 9400 kc, 6 pretuned channels.
FREQUENCY CONTROL: Crystal.
POWER OUTPUT: 125 W.
TYPE KEYING: Relay.
KEYING SPEED: 40 words per minute.
POWER REQUIREMENTS: 105 to 125 or 210 to 250 v, 50 to 60 cps, single ph.
ANTENNA REQUIREMENTS: Quarter wave type with suitable ground system.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corp of America, New York, N.Y.
Contract NXs-9542 dated 8 September 1942.
Approximate Cost: $3000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(6) 1624
(1) 813
(2) 811
(2) 3B28
Total Tubes: (22)
(6) R-2
Total Crystals: (6)

(6) 83
(3) 6L6WGB
(2) 6X5WGT

REFERENCE DATA AND LITERATURE

NAVSHIPS 95329: Technical Manual for Navy Model TDF Radio Telephone Transmitting Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

TDF RADIO TELEPHONE TRANSMITTING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitter	25	29 x 41 x 73	900
1	Set of Accessories	18	21 x 29 x 52	185
2	Set of Equipment Spares			
	Box 1	18	21 x 29 x 52	175
	Box 2	13	21 x 27 x 51	400

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radiotelephone Transmitter NT-52261	20 x 34 x 61-1/4	690
2	Control Unit NT-23288	8-1/4 x 9-1/4 x 14	16
2	Hand Telephone Assembly NT-51027	5-1/2 x 7-1/2 x 9	5
1	Set of Accessories		
1	Set of Equipment Spares		

HIGH FREQUENCY RADIO TELEPHONE TRANSMITTER EQUIPMENT

TDG, TDG-1

FUNCTIONAL DESCRIPTION

The Navy Models TDG and TDG-1 are low-powered VHF radio transmitters suitable for short-distance point-to-point communication. The transmitters are suitable for multichannel telegraph transmission using voice-frequency tones, for voice transmission, or for combinations of voice and telegraph transmissions derived from suitable subcarrier demodulation equipment. The equipments are designed for rack mounting in an outdoor or indoor cabinet. In the latter case, two transmitting equipments may be used in the same cabinet. The equipments are designed to be located at a point close to their antenna systems and are connected to the system by a 7/8 inch nitrogen-filled, low-loss, concentric transmission line.

No field changes in effect at time of preparation (23 April 1958).

RELATION TO OTHER EQUIPMENT

The TDG and TDG-1 are used in conjunction w/the High Frequency Radio Receiving Equipment Model RBQ, in a Radio Link System.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SUPPLY EQUIPMENT: Rectifier power unit.
FREQUENCY RANGE: 132 to 156 mc.
TYPE OF EMISSION: A2, A3.
NOMINAL POWER OUTPUT: 12 W.
FREQUENCY CONTROL: Crystal.
POWER SOURCE REQUIRED: 115 v ±10%, 1 ph, 60 cps, 390 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, New York, N.Y.
Contract NXs-149, dated 9 Sep 1942 (TDG).
Contract NXsr-83392, dated 15 Feb 1945 (TDG-1).
Approximate Cost: $1650.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

TDG

(2) 5U4G	(1) 6N7
(1) 832	(1) 6H6
(1) 6V6GTY	(2) 6L6
(1) 829B	(1) 6J5
(1) 807	

Total Tubes: (11)

TDG-1

(1) 5R4WGB	(1) 6N7
(1) 832A	(1) 6H6
(1) 6V6GTY	(1) 6J5GT
(1) 807	(2) 6L6
(1) 829B	

Total Tubes: (10)
No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 95330: Technical Manual for Navy TDG and TDG-1 Radio Transmitting Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter CW-52255*	15-3/4 X 19 X 10	43
	CW-52366**	15-3/4 X 19 X 10	43
1	Rectifier Power Unit CW-20143	8-3/4 X 19 X 11-1/4	75
1	Broad Band Portable Antenna CW-66157**	40 X 40 X 20	65
1	Spare Parts Panel CW-10568	3-1/2 X 19 X 5	3
1	Indoor Cabinet CW-10604†	84 X 26-3/4 X 17	200

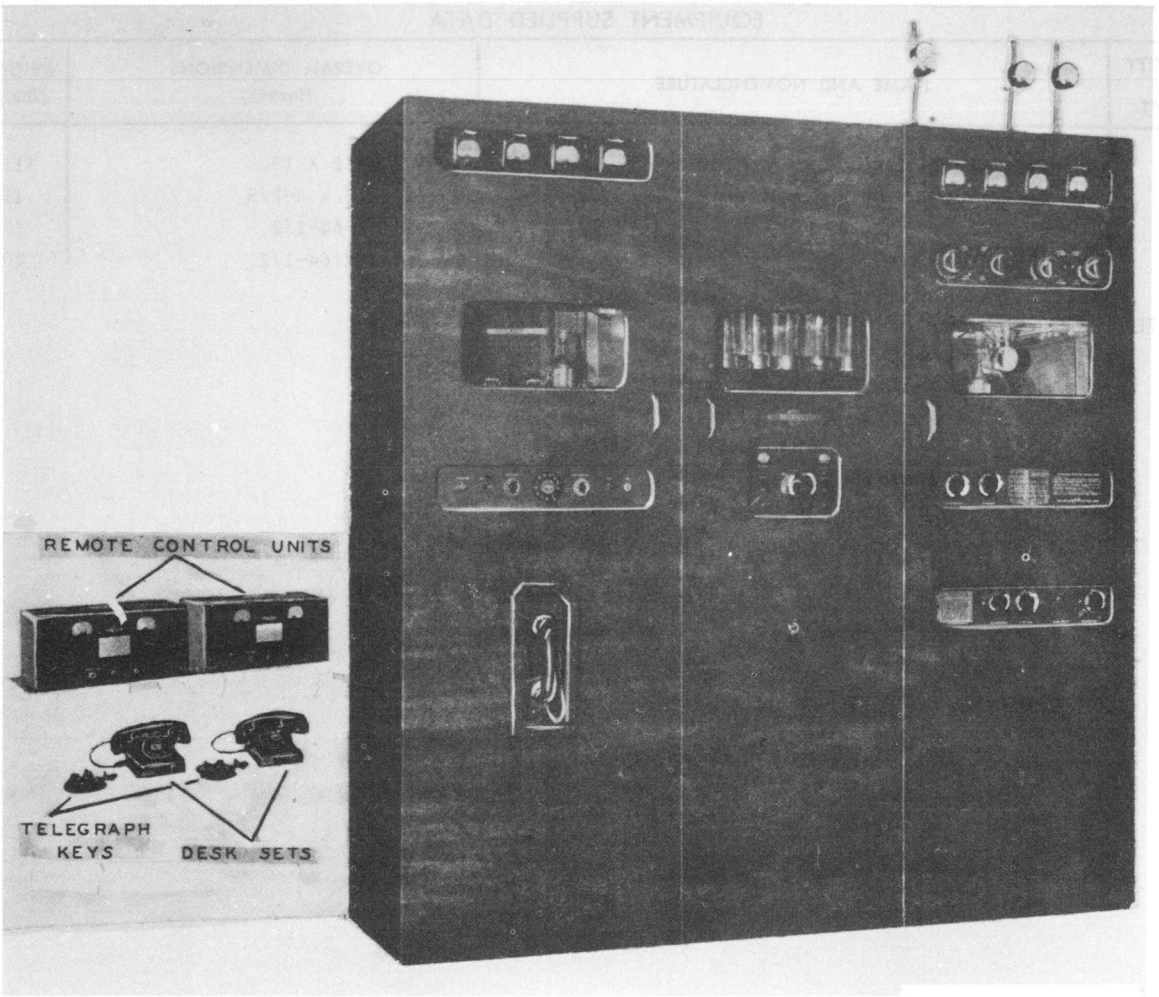
TDG, TDG-1 HIGH FREQUENCY RADIO TELEPHONE TRANSMITTER EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Outdoor Cabinet CW-10589††	64-1/2 X 32 X 18	311
1	Heater Panel for Outdoor Cabinet CW-634378	3-1/2 X 19 X 4-7/8	11
1	Low-Gain Antenna, 3 db	20 X 41 X 64-1/2	12
1	High-Gain Antenna, 9 db	124 X 41 X 64-1/2	40

NOTE: *TDG Equipment.
**TDG-1 Equipment.
†Mounts two Equipments.
††Mounts one Equipment.

RADIO TRANSMITTING EQUIPMENT TDH, TDH-2,-3,-4



Radio Transmitting Equipment TDH-4

FUNCTIONAL DESCRIPTION

The TDH and TDH-2 thru 4 are primarily intended for land applications involving point to point communication, aeronautical ground stations, and other services requiring operation on a number of readily selected frequency channels. The units are equipped with a telephone dial system which permits the selection of the type of emission and of any one of 11 preselected frequencies. Operation may be at the transmitter or by means of a remote control unit.

The transmitters have a frequency range of 2 to 18.1 mc for A1, A2, or A3 emission.

The TDH, TDH-2 thru 4 are similar electrically and mechanically, differing only in minor modifications.

Data on this sheet reflects the following field changes: FC 1 (TDH, TDH-2, TDH-3, TDG-4).

RELATION TO OTHER EQUIPMENT

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION: A1, A2, A3.
FREQUENCY DATA
RANGE: 2 to 18.1 mc.
CONTROL: Master Oscillator.
RESPONSE: Uniform within 3 db from 150 to 3500 cps.

TDH, TDH-2,-3,-4 RADIO TRANSMITTING EQUIPMENT

KEYING SPEED
A1: 200 words per minute max.
A2: 60 words per minute max.
POWER OUTPUT: 3 kw min 2 to 12 mc, 2.5 kw min 12 to 18.1 mc.
POWER REQUIREMENTS
TRANSMITTER: 230 v, 50 to 60 cps, 3 ph, 9.92 kw max, 0.85 pf.
REMOTE CONTROL UNIT: 115 v, 50 to 60 cps single ph, 52 W, 0.86 pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.
Contract NXss-5515 dated 16 November 1942 (TDH).
Contract NXss-25888 dated 12 March 1943 (TDH-2).
Contract NXss-21717 dated 18 January 1943 (TDH-3).
Contract NXsr-55667 dated 11 April 1944 (TDH-4).
Approximate Cost: $11000.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

TDH, TDH-2

(2) 6A8	(1) 6AG7Y
(2) 6C8G	(4) 6SJ7
(2) 6SL7WGT	(4) 6SN7WGTA
(3) 6X5WGT	(2) 450TL
(2) 750TL	(2) 801A
(2) 807	(1) 811
(2) 813	(2) 845W
(4) 3B28	(6) 872A
(1) OD3W	

Total Tubes: (42)

TDH-3, TDH-4

(2) 6A8	(1) 6AG7Y
(2) 6C8G	(4) 6SJ7
(2) 6SL7WGT	(2) 6SN7WGTA
(1) 6X5WGT	(2) 450TL
(2) 750TL	(2) 801A
(2) 807	(1) 811
(2) 813	(2) 845W
(4) 3B28	(6) 872A
(1) OD3W	(2) 6V6GT
(2) 5U4G	

Total Tubes: (42)

(4) Quartz Crystals
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95331: Technical Manual for Navy Model TDH Radio Telephone and Telegraph Transmitting Equipment.
NAVSHIPS 95332: Technical Manual for Navy Model TDH-2 Radio Telephone and Telegraph Transmitting Equipment.
NAVSHIPS 900904: Technical Manual for Navy Model TDH-3 Radio Telephone and Telegraph Transmitting Equipment.
NAVSHIPS 900798: Technical Manual for Navy Model TDH-4 Radio Telephone and Telegraph Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE TDH EN28/4087-42/SHIPS
STOCK NO. TDH-2 EN28/2975-43/SHIPS
TDH-3 EN28/2659-43/SHIPS
TDH-4 EN28/2679-43/SHIPS

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
22	TDH Radio Transmitting Equipment with Spares	468		5716
22	TDH-2 Radio Transmitting Equipment with Spares	450		6108
22	TDH-3 Radio Transmitting Equipment with Spares	475.9		6002
22	TDH-4 Radio Transmitting Equipment with Spares	521.33		7413

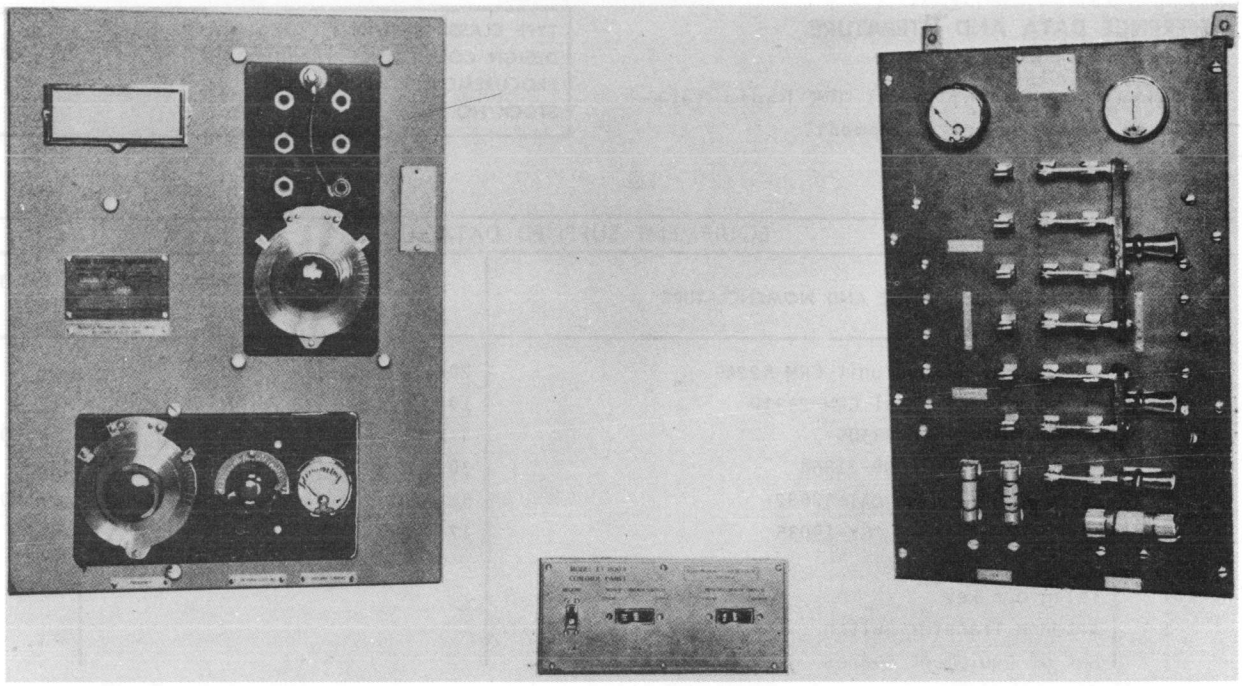
RADIO TRANSMITTING EQUIPMENT TDH, TDH-2,-3,-4

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	TDH or TDH-2		
1	Radio Transmitter NT-52291	28-1/2 X 31 X 95-5/8	775
1	Modulator NT-50129	28-1/2 X 31 X 84	830
1	Rectifier Power Unit NT-20196	25 X 31 X 84	1300
2	Remote Control Unit NT-23351	8-15/16 X 10-1/2 X 19	60
1	Set of Accessories		75
2	Set of Vacuum Tube Spares		36
1	Set of Equipment Spares		
	TDH-3		
1	Radio Transmitter NT-52291	28-1/2 X 31 X 95-5/8	775
1	Modulator NT-50129	28-1/2 X 31 X 84	830
1	Rectifier Power Unit NT-20196	25 X 31 X 84	1300
2	Remote Control Unit NT-23384	8-15/16 X 10-1/2 X 19	54
1	Set of Accessories		65
2	Set of Vacuum Tube Spares		36
1	Set of Equipment Spares		
	TDH-4		
1	Radio Transmitter NT-52343	28-1/2 X 31 X 95-5/8	749
1	Modulator NT-50129	28-1/2 X 31 X 84	830
1	Rectifier Power Unit NT-20196	25 X 31 X 84	1300
2	Remote Control Unit NT-23384	8-15/16 X 10-1/2 X 19	54
1	Set of Accessories		68
3	Set of Vacuum Tube Spares		38
1	Set of Equipment Spares		

EMERGENCY RADIO TELEGRAPH TRANSMITTER

TDK



Emergency Radio Telegraph Transmitter TDK

FUNCTIONAL DESCRIPTION

The TDK is designed to permit emergency telegraph transmission aboard ship, in the intermediate frequency band. Design and construction provide simplified operation and minimum drain from the power supply circuits, together with a high degree of reliability. It may operate from either 110 volt DC shipboard supply, or 12 volt storage battery. The power control panel provides battery charging facilities when connected to shipboard 110 volt DC power supply.

No field changes in effect at time of preparation (23 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Antenna, necessary cables and adaptors.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY
  RANGE: 355 to 500 kc (continuously variable).
  CONTROL: Self-excited oscillator.
  TOLERANCE: 0.3%.
MODULATED FREQUENCY: 700 cps approx.
EMISSION: A2.
OUTPUT: 30 W.
POWER SOURCE REQUIRED: 110 v DC, or 12 v storage battery.
ANTENNA CHARACTERISTICS: The transmitter will resonate antennas varying from 600 to 1500 uuf, and 2 to 12 ohms.
MOUNTING DATA
  TRANSMITTER: Bulkhead mounting by 4 rubber mounts.
  POWER CONTROL PANEL: Bulkhead mounting.
  CONTROL UNIT: Bench mounting.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corp, New York, N.Y.
  Contract NXs-6621 dated 5 June 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 801
Total Tubes: (4)
No Crystal data available.

TDK

EMERGENCY RADIO TELEGRAPH TRANSMITTER

REFERENCE DATA AND LITERATURE

Technical Manual for Model TDK Radio Telegraph Transmitting Equipment.

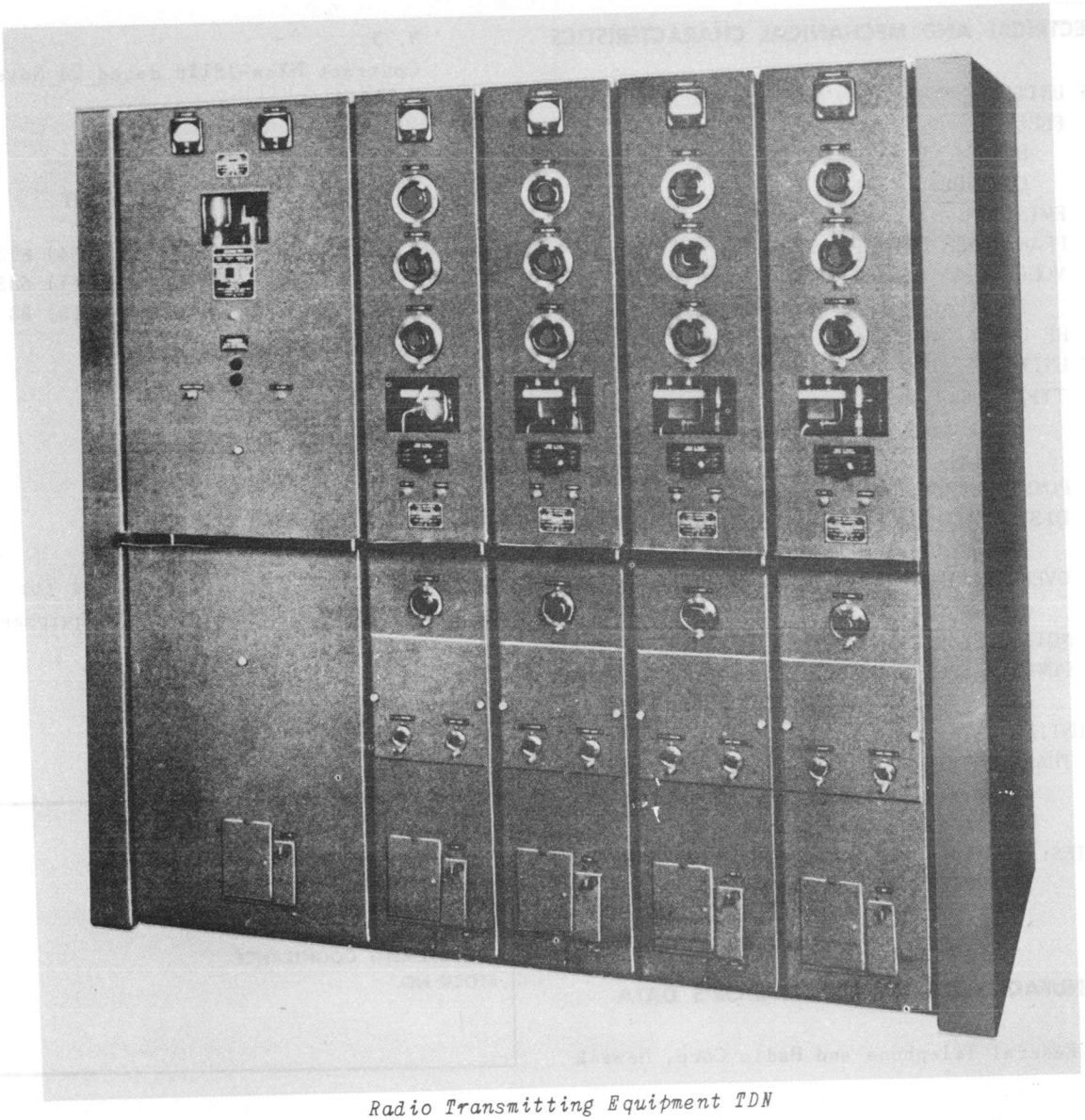
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter Unit CRM-52269	20-1/8 X 15-1/8 X 7-1/2	26
1	Power Control Panel CRM-23310	19 X 12 X 8-3/8	25
1	Control Unit CRM-23309	4 X 9-1/8 X 5	4.50
1	Motor-Generator CBP-21864	30 X 7-3/4 X 9-1/8	130
1	Plate Transformer CAT-30882	5 X 5 X 5-3/4	8.50
2	Storage Batteries CGK-19035	17 X 8 X 21-3/4	
1	Emergency Lamp		
1	Telegraph Key		
1	Antenna Transfer Switch		
1	Set of Equipment Spares		

April 1958

RADIO TRANSMITTING EQUIPMENT



Radio Transmitting Equipment TDN

FUNCTIONAL DESCRIPTION

The TDN is a multi-channel radio telegraph transmitter made up of separate radio frequency units for different channels. The use of separate radio-frequency units makes possible simultaneous operation on several frequencies, and rapid frequency change without using complicated radio frequency switching. Each RF unit is a complete telegraph transmitter, lacking only the power supply to operate independently, and is designed for operation on its own RF line and antenna system. The audio amplifier unit is a complete AF equipment which facilitates A3 transmission throughout the frequency range.

This transmitter is used at aircraft around stations and for general communications. Remote control is possible at distances up to 1/2 mile.

Data on this sheet reflects the following Field Changes. FC No. 3 13 November 1957.

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) RF Unit, Federal Telephone and Radio Corp type No. 169-A, (1) Audio Amplifier Unit type 123-A, ground systems and (4) Antenna Systems.

TDN RADIO TRANSMITTING EQUIPMENT

April 1958

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RF UNIT
- FREQ
  - RANGE: 2 to 20 mc.
  - CONTROL: Xtal.
- EMISSION: A1, A3.
- PEAK POWER OUTPUT: 3 kw.
- MODULATION CAPABILITIES: 100%, with max input of 4 kw from power amplifier.
- RF LINE: 400 to 700 ohms.

AF UNIT*
- TYPE: Balanced speech and power audio amplifier for modulation of single unit.
- POWER OUTPUT: 2 kw.
- DISTORTION: Less than 10% at 95% modulation; less than 5% at 70% modulation.
- OVER-ALL FREQ RESPONSE: 300 to 4000 cps within 3 db.
- NOISE LEVEL: 35 db below 100% modulation.
- POWER SOURCE REQUIRED: 220** v, 50 to 60 cps, 3-ph, 20 kw.

MOUNTING DATA
- TRANSMITTERS AND POWER UNIT: Mounted on rollers and track, and installed in a building on level floors.

NOTES: *Only equip for A1 operation supplied under Contract NXss-18118
**With (4) RF Units in use.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Newark N. J.
Contract NXss-18118 dated 24 November 1942.

TUBE AND/OR CRYSTAL COMPLEMENT

(10) 450TH	(1) 5Z3	(4) 813
(1) 6N7	(2) 6C5	(1) 6J5
(9) 872A	(17) 807	(3) 83

Total Tubes: (48)

No Crystals

REFERENCE DATA AND LITERATURE

NAVSHIPS-95334, Technical Manual for Navy Model TDN Radio Transmitting Equipment.

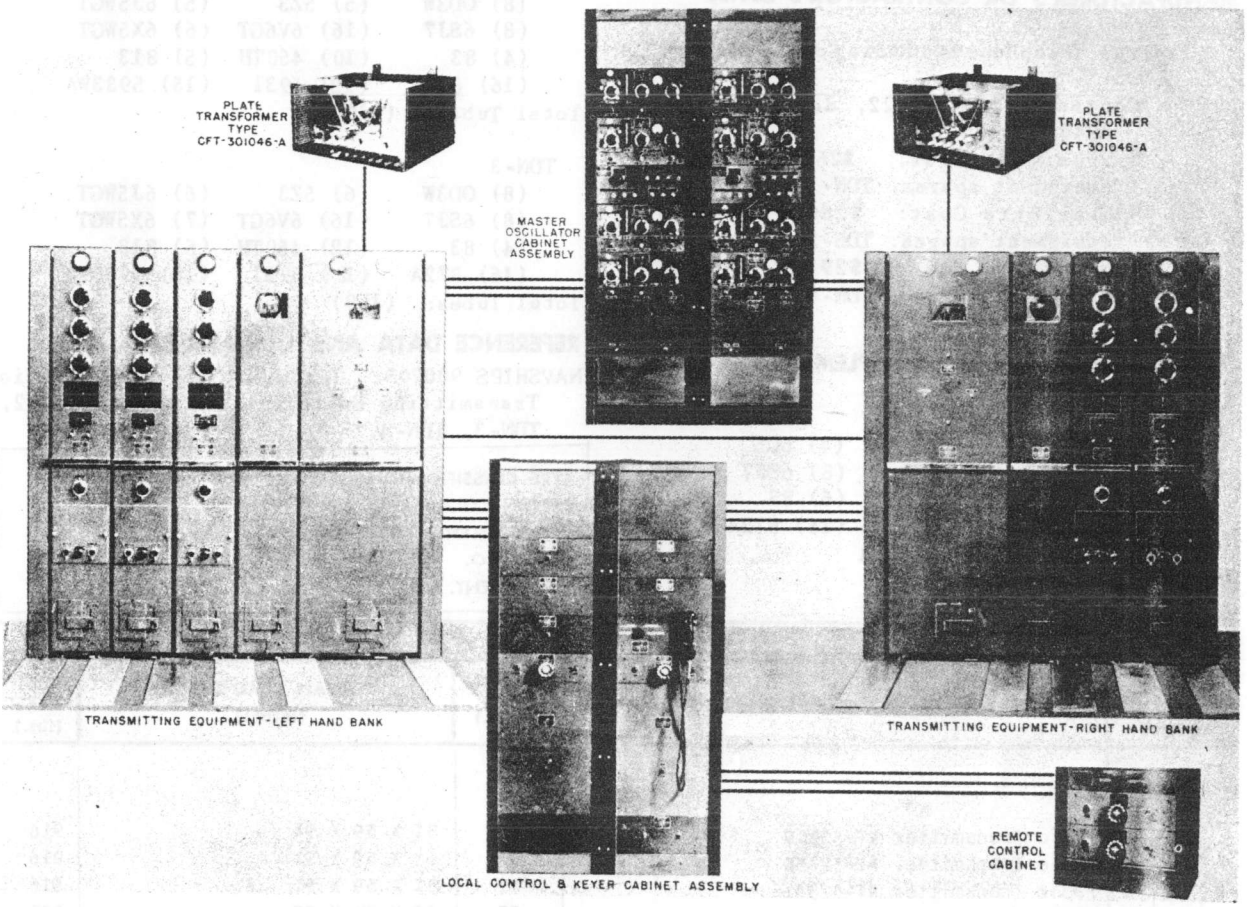
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter -52349	11-1/4 x 34 x 72	
2	Radio Transmitter -52350	11-1/4 x 34 x 72	
1	Radio Transmitter -52351	11-1/4 x 34 x 72	
1	Local Control Unit -23357	4-1/2 x 7 x 19	10
1	Rectifier Power Unit -20208	22-1/2 x 34-1/4 x 71-3/4	
1	Plate Transformer -301046	15-1/4 x 26 x 26-1/2	
1	Set of Miscellaneous Hardware		

March 1957

RADIO TRANSMITTING EQUIPMENT TDN-2,3,4



Radio Transmitting Equipment TDN-2,3,4

FUNCTIONAL DESCRIPTION

The TDN-2 and TDN-3 radio transmitting equipments are complete multi-channel radio and telegraph stations, and the TDN-4 is a complete multi-channel radio, telegraph and telephone station.

Each station is composed of two banks of units which, in conjunction with associated equipment, are capable of operating as complete transmitters, either simultaneously or independently. The stations can be controlled at the transmitter location or from a remote location exceeding a distance of 20 miles.

This equipment is primarily designed for use at shore installations and operate at any desired frequency within a frequency range from 2 to 20 mc.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2 to 20 mc.
NUMBER OF PRESET FREQUENCIES
TDN-2: 5.
TDN-3: 6.
TDN-4: 5.
FREQUENCY CONTROL: Quartz crystal or colpitts master oscillator.
TYPES OF EMISSION
TDN-2 AND TDN-3: A1.
TDN-4: A1 and A3.
NOMINAL POWER OUTPUT: 3 kw for keyed CW or intermittent "Phone" per transmitter.
AUDIO INPUT LEVEL: 25 db below 6 mw.
FREQUENCY RESPONSE: Flat within 3 db between 300 and 4000 cps.
INPUT IMPEDANCE: 500 ohms.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph.

TDN-2,3,4 RADIO TRANSMITTING EQUIPMENT

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Clifton, N.J.
Contract NXsr-51522, dated 3 March 1944.
Approximate Cost: $26100.00 with equipment spares. TDN-2.
Approximate Cost: $28000.00 with equipment spares. TDN-3.
Approximate Cost: $29700.00 with equipment spares. TDN-4.

TUBE AND/OR CRYSTAL COMPLEMENT

TDN-4

(8) OD3W	(5) 5Z3	(4) 6C5
(5) 6J5WGT	(2) 6N7	(8) 6SJ7
(16) 6V6GT	(6) 6X5WGT	(6) 83
(14) 450TH	(5) 813	(16) 872A
(12) 5931	(19) 5933WA	

Total Tubes: (126)

TDN-2

(8) OD3W	(5) 5Z3	(5) 6J5WGT
(8) 6SJ7	(16) 6V6GT	(6) 6X5WGT
(4) 83	(10) 450TH	(5) 813
(16) 872A	(12) 5931	(15) 5933WA

Total Tubes: (110)

TDN-3

(8) OD3W	(6) 5Z3	(6) 6J5WGT
(8) 6SJ7	(16) 6V6GT	(7) 6X5WGT
(4) 83	(12) 450TH	(6) 813
(16) 872A	(12) 5931	(18) 5933WA

Total Tubes: (119)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900709: Technical Manual for Radio Transmitting Equipment for Models TDN-2, TDN-3, TDN-4.

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

SHIPPING DATA

NUMBER OF BOXES			CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
TDN						
2	3	4				
1	1	1	Radio Transmitter NT-52349	97	31 X 59 X 91	916
1	1	1	Radio Transmitter NT-52350	97	31 X 59 X 91	916
1	1	1	Radio Transmitter NT-52351	97	31 X 59 X 91	916
1	1	1	Rectifier Power Unit NT-20208-A	55	28 X 44 X 77	923
		1	Modulator NT-50204	93	31 X 57 X 91	916
1	1	1	Plate Transformers NT-301046-A	13	21 X 31 X 35	846
1	1		Back Panel Assembly (for 1 Rectifier Power Unit and 3 Transmitters)	26	15 X 48 X 61	270
1			Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters	21	15 X 48 X 50	223
		1	Back Panel Assembly (for 1 Rectifier Power Unit 3 Transmitters, and 1 Modulator	30	15 X 48 X 72	321
		1	Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator	26	15 X 48 X 61	273
1			Tracks (for 1 Rectifier, and 2 Transmitters	1.25	3 X 10 X 68	114
1	1	1	Tracks (for 1 Rectifier, and 3 Transmitters or 2 Transmitters and 1 Modulator	1.50	4 X 10 X 68	139

RADIO TRANSMITTING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES			CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
TDN-						
2	3	4				
1	1	1	Base Channels, Tie Plates, Ground Strips, Antenna Contacts (for 1 Rectifier and 2 Transmitters)	3.5	8 X 18 X 50	75
		1	Tracks (for 1 Rectifier, 3 Transmitters, and 1 Modulator	2	5 X 10 X 68	164
1			Base Channels, Tie Plates, Ground Strips, Antenna Contacts (for 1 Rectifier and 2 Transmitters)	3.5	8 X 18 X 50	75
1	1	1	Base Channels, Tie Plates, Ground Strips, Antenna Contacts for 1 Rectifier, and 3 Transmitters)or 2 Transmitters and 1 Modulator)	4.25	8 X 23 X 40	100
		1	Base Channels, Tie Plates. Ground Strips, Antenna Contacts (for 1 Rectifier, 3 Transmitters, and 1 Modulator)	5.25	8 X 28 X 50	125
2	2	2	Side Panels	36	11 X 37 X 76	296
1	1	1	Master Oscillator Cabinet including: R. F. Oscillators NT-35059(4) Oscillator Power Supply NT-20323 Patchboard Panel NT-23472 Patchboard Panel NT-23511 Transmitter Connector Panels RE-23F-226B	29	24 X 26 X 40	585
1	1	1	Local Control and Keyer Cabinet including: Selector Control Unit Operator's Control Unit Keying Units	34	26 X 27 X 82	510
1			Local Control and Keyer Cabinet including: Selector Control Unit NT-23464 Operator's Control Unit NT-23465 Keying Units NT-23466 Keyer Power Supply NT-20322	34	26 X 27 X 82	515
1			Local Control and Keyer Cabinet including: Selector Control Unit Operator's Control Unit Keying Units Keyer Power Supply	34	26 X 27 X 82	525
		1	Local Control and Keyer Cabinet including: Selector Control Unit Operator's Control Unit Keying Units Keyer Power Supply Local Control Switch Panel NT-23470	34	26 X 27 X 82	515

SHIPPING DATA

NUMBER OF BOXES			CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
TDN-						
2	3	4				
1	1		Remote Control Cabinet including: Operator's Control Unit Remote Control Switch Panel NT-23471	7	20 X 24 X 25	135
1	1	1	Wye-Delta Primary Switch including: Main Line Switch Auxiliary Line Switch	17	19 X 21 X 29	115
1	1	1	Flameproof Switch Board Wire (600 ft) including: Coaxial Cable RC-59/U with Connector	2.5	10 X 20 X 20	125
		1	Set Operating Tubes	44		265
1			Set Operating Tubes	41		250
1			Set Operating Tubes	38		235
		1	Equipment Spares (less Tubes)	50		1370
	1		Equipment Spares (less tubes)	46		1270
1			Equipment Spares (less tubes)	44		1240
		1	Spare Tubes	88		530
	1		Spare Tubes	82		500
1			Spare Tubes	76		470

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TDN-					
2	3	4			
2	2	2	Radio Transmitter NT-52349	11-1/4 X 34 X 72	296
2	2	2	Radio Transmitter NT-52350	11-1/4 X 34 X 72	296
1	2	1	Radio Transmitter NT-52351	11-1/4 X 34 X 72	296
2	2	2	Rectifier Power Unit NT-20208-A	22-1/2 X 34 X 72	660
		2	Modulator NT-50204	11-1/4 X 34 X 72	496
2	2	2	Plate Transformer NT-301046-A	18-1/2 X 25-11/16 X 26-1/4	750
1	2		Back Panel Assembly (for 1 Rectifier Power Unit and 3 Transmitters)	10-3/4 X 46-1/2 X 56-1/4	195
1			Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters)	10-3/4 X 45 X 46-1/2	160
		1	Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator)	10-3/4 X 46-1/2 X 67-1/2	233
		1	Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)	10-3/4 X 46-1/2 X 56-1/4	198
1			Tracks (for 1 Rectifier and 2 Transmitters)	1/4 X 7-1/2 X 63-1/2	97
1	2	1	Tracks (for 1 Rectifier, and 3 Transmitters or 2 Transmitters and 1 Modulator)	1/4 X 7-1/2 X 63-1/2	120

EQUIPMENT SUPPLIED DATA

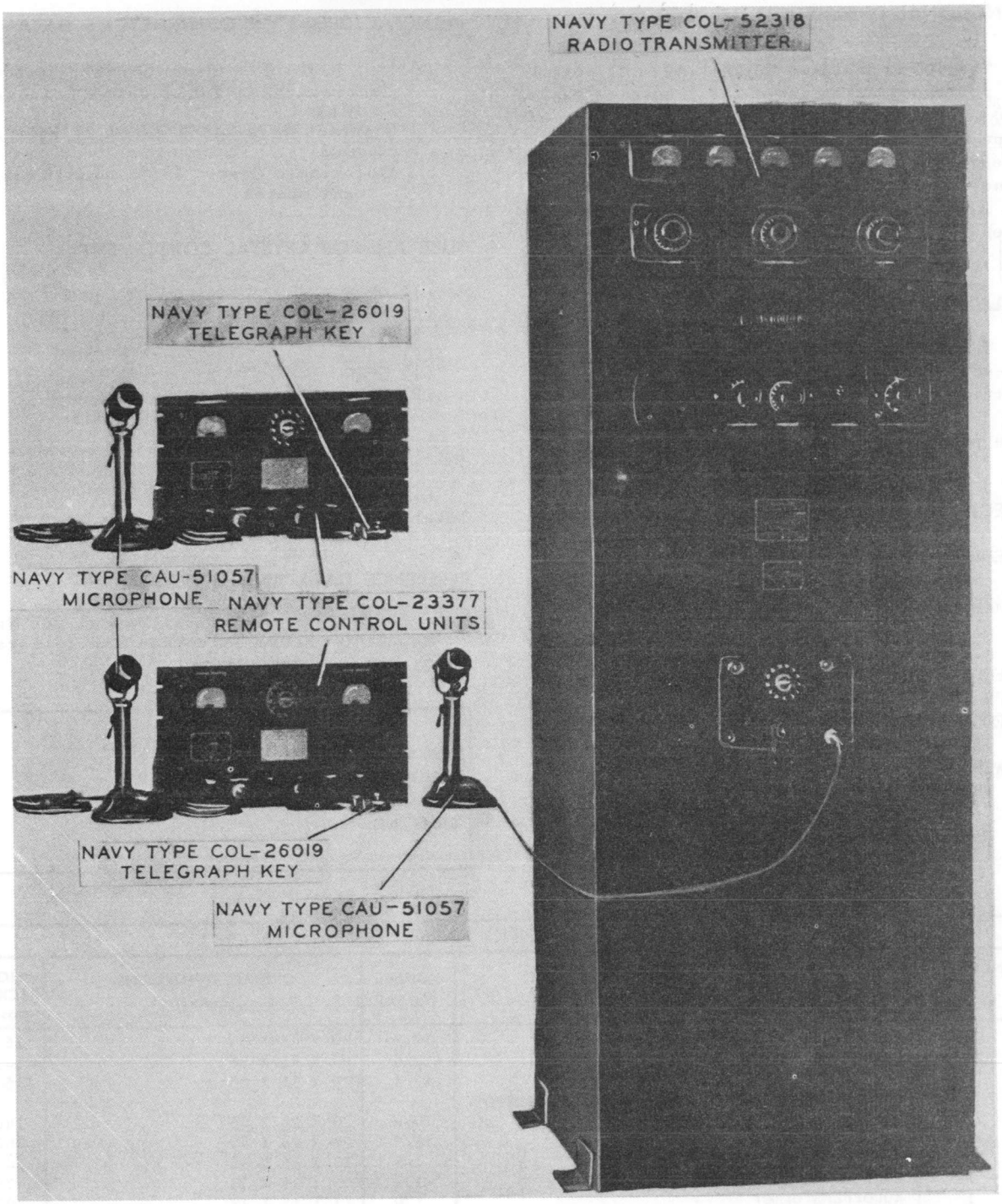
QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TDN-					
2	3	4			
		1	Tracks (for 1 Rectifier, 3 Transmitters and 1 Modulator)	1/4 X 7-1/2 X 63-1/2	143
1			Base Channels, Tie Plates, Ground Strips, Antenna Contacts (for 1 Rectifier and 2 Transmitters)		
1	2	1	Base Channels, Tie Plates, Ground Strips, Antenna Contacts (for 1 Rectifier, and 3 Transmitters or 2 Transmitters and 1 Modulator)		60
		1	Base Channels, Tie Plates, Ground Strips, Antenna Contacts (for 1 Rectifier, 3 Transmitters and 1 Modulator)		75
4	4	4	Side Panels	4-21/34 X 34-1/8 X 72	80
2	2	2	Master Oscillator Cabinet including:	19-5/8 X 22 X 76-3/16	395
4	4	4	R.F. Oscillators NT-35059	8-3/4 X 15-1/4 X 19	40
1	1	1	Oscillator Power Supply NT-20323		
1	1	1	Patchboard Panel NT-23472	4-1/4 X 7 X 19	5
1	1	1	Patchboard Panel NT-23511	4-1/4 X 7 X 19	5
3	3	3	Transmitter Connector Panels RE-23-F-226B	2-7/8 X 3-3/4 X 8-5/8	1
1	1	1	Local Control and Keyer Cabinet including:	20-3/4 X 22 X 76-3/16	320
1	1	1	Selector Control Unit		
1	1	1	Operator's Control Unit		
3	3	3	Keying Units		
1			Local Control and Keyer Cabinet including:	20-3/4 X 22 X 76-3/16	325
			Selector Control Unit NT-23464	15-5/16 X 19 X 24-15/32	115
1			Operator's Control Unit NT-23465	5-7/32 X 9-11/16 X 19	16
1			Keying Units NT-23466	6-19/32 X 6-31/32 X 19	15
2			Keyer Power Supply NT-20322	6-25/32 X 6-31/32 X 19	20
1					
	1		Local Control and Keyer Cabinet including:	20-3/4 X 22 X 76-3/16	335
	1		Selector Control Unit		
	1		Operator's Unit		
	3		Keying Units		
	1		Keyer Power Supply		
		1	Local Control and Keyer Cabinet including:	20-3/4 X 22 X 76-3/16	325
		1	Selector Control Unit		
		1	Operator's Control Unit		
		2	Keying Units		
		1	Keyer Power Supply		
		1	Local Control Switch Panel NT-23470	6 X 6-31/32 X 19	6
			Remote Control Cabinet including:	15-5/8 X 20-1/8 X 21-3/4	75
1	1		Operator's Control Units		
2	2		Remote Control Cabinet including:	15-5/8 X 20-1/8 X 21-3/4	75
		1	Operator's Control Units	3-15/32 X 3-13/16 X 19	4
		2	Remote Control Switch Panel NT-23471	6-5/8 X 12-7/8 X 14-7/8	16
		1		7-1/2 X 16-1/8 X 23-1/4	35
2	2	2	Wye-Delta Primary Switch	4 X 6-1/4 X 7-7/8	4
2	2	2	Main Line Switch		
2	2	2	Auxiliary Switch		
5	6	5	Antenna Contactor (Supplied with Radio Transmitter)		

TDN-2,3,4 RADIO TRANSMITTING EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TDN-					
2	3	4			
5	6	5	Phone-CW Relay (Supplied on back panels)		
1	1	1	Flameproof Switch Board Wire (No. 6, 600 ft.)		
5	6	5	Coaxial Cable RG-59/U (25 ft) with Connector		85
		1	Set Operating Tubes		
	1		Set Operating Tubes		123
1			Set Operating Tubes		108
		1	Equipment Spare Sparts (less tubes)		93
	1		Equipment Spare Parts (less tubes)		1070
1			Equipment Spare Parts (less tubes)		970
		1	Spare Tubes		940
	1		Spare Tubes		246
1			Spare Tubes		216
2	2	2	Technical Manuals	2 X 8-1/2 X 11	186

RADIO TELEPHONE AND TELEGRAPH TRANSMITTING EQUIPMENT



Radio Transmitting Equipment TDO

TDO

RADIO TELEPHONE AND TELEGRAPH TRANSMITTING EQUIPMENT

FUNCTIONAL DESCRIPTION

The TDO is designed for A1, A2 or A3 point-to-point communication in the frequency range 2.0 to 18.1 mc. It provides dial selection of type of emission and of any one of 10 preset frequencies. Operation may be from the front panel or by means of a remote control unit.

No field changes in effect at time of preparation (29 April 1958).

RELATION TO OTHER EQUIPMENT

The TDO is identical to Radio Transmitter BC-460. It is being replaced by Radio Transmitting Set AN/FRT-17.

Equipment Required but not Supplied: Headphones of 500 or more ohms impedance.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2.0 to 18.1 mc, 10 preset channels and one manually tuned channel.

POWER OUTPUT

A1: 400 W.

A2, A3: 250 W.

FREQUENCY CONTROL: Crystal Oscillator.

TYPE OF EMISSION: A1, A2, A3.

FREQUENCY RESPONSE: Uniform within 3 db from 150 to 3500 cps.

POWER REQUIREMENTS

TRANSMITTER: 115 or 230 v, single ph, 60 cps, 1570 W max, 0.85 pf.

REMOTE CONTROL UNIT: 110 v, single ph, 50 to 60 cps, 25 W approx.

MANUFACTURER'S OR CONTRACTOR'S DATA

Collins Radio Co., Cedar Rapids, Iowa.

Contract NXss-20834 dated 5 January 1943.

Contract NXss-24869 dated 27 February 1943.

Approximate Cost: $9578.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) OD3W
(4) 6SN7WGTA
(3) 6X5WGT
(2) 249C
(1) 5U4G
(2) 805
(2) 807
(2) 2A3
(2) 3B28
(2) 6SL7WGT
(4) 6SJ7
(1) 6AG7Y
(2) 6C8G
(2) 6A8GT
(2) 813

Total Tubes: (32)

(1) 200KC

Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95336: Technical Manual for Navy Model TDO Radio Telephone and Telegraph Transmitting Equipment.

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	Cabinet	78.3	39 X 41 X 84	660
1	Output Network	12.5	20 X 31 X 35	142
1	RF Exciter Unit, CFI Unit	12.5	20 X 31 X 35	164
1	Speech Amplifier Unit and Autotune Control Unit	10.0	20 X 24 X 36	140
1	Power Supply Unit	15.5	24 X 28 X 40	450
1	High Voltage Transformer	1.5	13 X 15 X 15	140
1	Modulation Transformer	1.0	11 X 12 X 13	76
1	Autotransformer	1.0	11 X 12 X 13	82
2	Remote Control Unit	10.7	20 X 30 X 31	140
1	Set of Accessories	10.0	20 X 24 X 36	165
1	Vacuum Tube Spares	8.3	20 X 24 X 30	76
1	Set of Equipment Spares	3.6	15 X 16 X 29	127

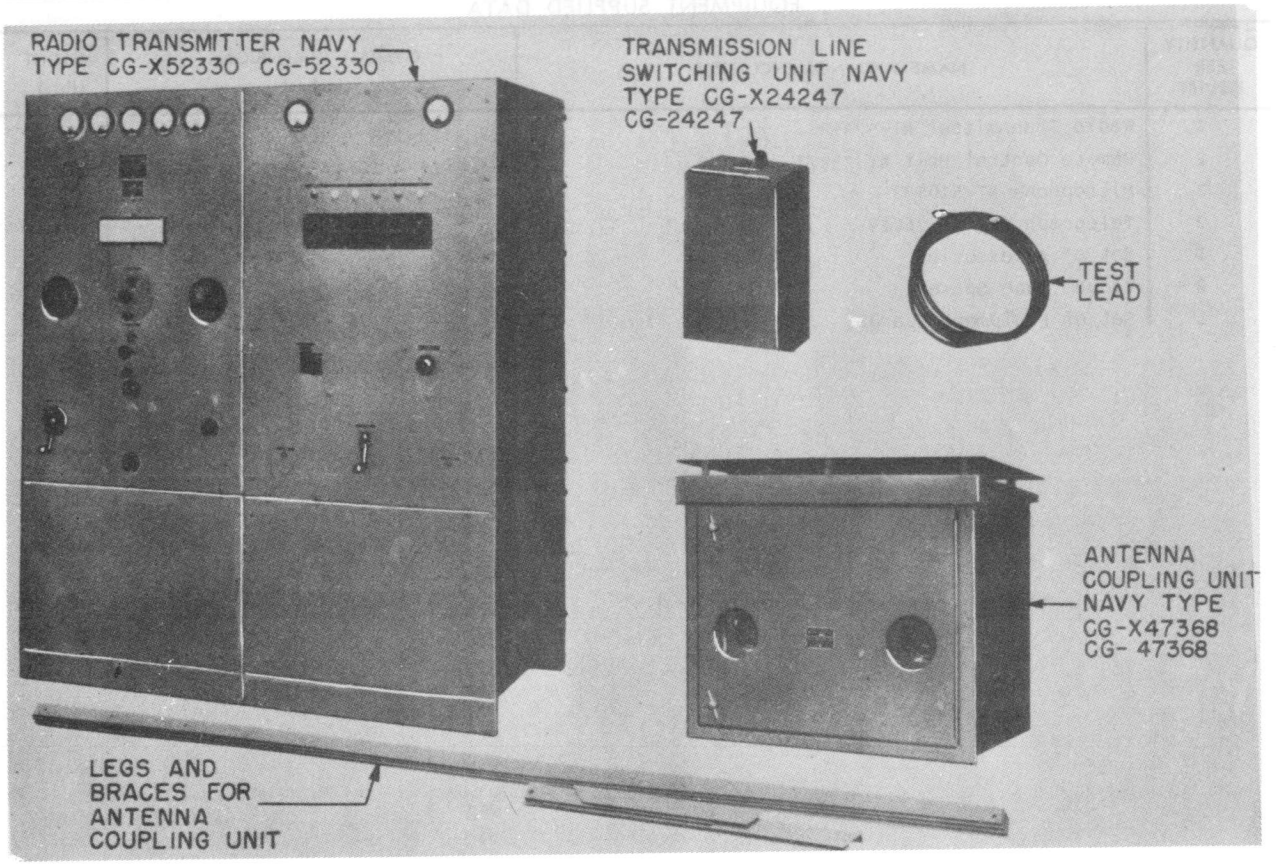
RADIO TELEPHONE AND TELEGRAPH TRANSMITTING EQUIPMENT

TDO

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter NT-52318	28 X 28-1/8 X 80-5/8	1140
2	Remote Control Unit NT-23377	8-15/16 X 10-1/2 X 19	60
3	Microphone NT-51057		
2	Telegraph Key NT-26019		
1	Set of Accessories		92
2	Vacuum Tube Spares		10
1	Set of Equipment Spares		100

LORAN TRANSMITTING EQUIPMENT



Loran Transmitting Equipment TDP-1

FUNCTIONAL DESCRIPTION

The TDP-1 is designed for use in the Loran system of navigation.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1700 to 2000 kc.
FREQUENCY CONTROL: Power Oscillator.
TYPE EMISSION: Pulsed carrier.
PULSE RATE: 20 to 68 per sec.
PULSE WIDTH: 40 usec at half amplitude.
POWER OUTPUT
SINGLE PULSED: 100 kw.
DOUBLE PULSED: 85 kw.
POWER FACTOR: 0.8.
OPERATING POWER: 115 or 230 v, 50 cps, single ph, 4.5 kva.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Electric Company, Schenectady, N.Y.
Contract NXss 33167, dated 28 June 1943.
Contract N5sr 13632, dated 9 November 1945.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 6X5GT	(2) 2050
(4) 3E29	(6) 3B24
(2) 5R4GY	(2) 7C23
(1) 715B	(4) 8020

Total Tubes: (23)

TDP-1 LORAN TRANSMITTING EQUIPMENT

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,263-A: Technical Manual for Loran Transmitting Equipment TDP-1.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitter RH NT-52330	185.5	54 X 56 X 100	2550
1	Radio Transmitter LH NT-52330	185.5	54 X 56 X 100	2550
1	4 Accessories		17 X 30 X 30	170
1	Equipment Spares Chest 1	7.7	16-1/2 X 22-1/2 X 35	150
1	Equipment Spares Chest 2	7.7	16-1/2 X 22-1/2 X 35	150
1	Equipment Spares Chest 3	7.7	16-1/2 X 22-1/2 X 35	158
1	Equipment Spares Chest 4	7.7	16-1/2 X 22-1/2 X 35	167
1	Equipment Spares Chest 5	7.7	16-1/2 X 22-1/2 X 35	218
1	Equipment Spares Chest 6	7.7	16-1/2 X 22-1/2 X 35	205
1	Equipment Spares Chest 7	7.7	16-1/2 X 22-1/2 X 35	210
1	Equipment Spares Chest 8	7.7	16-1/2 X 22-1/2 X 35	200
1	Equipment Spares Chest 9	7.7	16-1/2 X 22-1/2 X 35	210
1	Equipment Spares Chest 10	5.9	20 X 21 X 24	222
1	Equipment Spares Chest 11	7.7	16-1/2 X 22-1/2 X 35-1/2	170
1	Equipment Spares Chest 12	7.7	16-1/2 X 22-1/2 X 35-1/2	120
1	Equipment Spares Chest 13	7.7	16-1/2 X 22-1/2 X 35-1/2	230
1	Equipment Spares Chest 14	7.7	16-1/2 X 22-1/2 X 35-1/2	250
1	Equipment Spares Chest 15	7.7	16-1/2 X 22-1/2 X 35-1/2	210
1	Antenna Coupling Unit NT-47368	31.4	31 X 33 X 53	400
1	Transmission Line Switching Unit NT-24247 2/Test Lead and Accessories	4.1	12 X 21 X 23	70
1	Legs and Braces	1.5	4 X 6 X 108	55
1	Equipment Spares Chest 16	7.7	16-1/2 X 22-1/2 X 35-1/2	205
1	Monitor Oscilloscope Table	15.7	28 X 25-1/2 X 38	270
22	Stock Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Radio Transmitter R.H. NT-52330	26-1/2 X 30-1/2 X 69	875
2	Radio Transmitter L.H. NT-52330	26-1/2 X 30-1/2 X 69	830
1	Accessories		80
1	Equipment Spares Chest 1	15 X 18 X 30	60
1	Equipment Spares Chest 2	15 X 18 X 30	50
1	Equipment Spares Chest 3	15 X 18 X 30	86

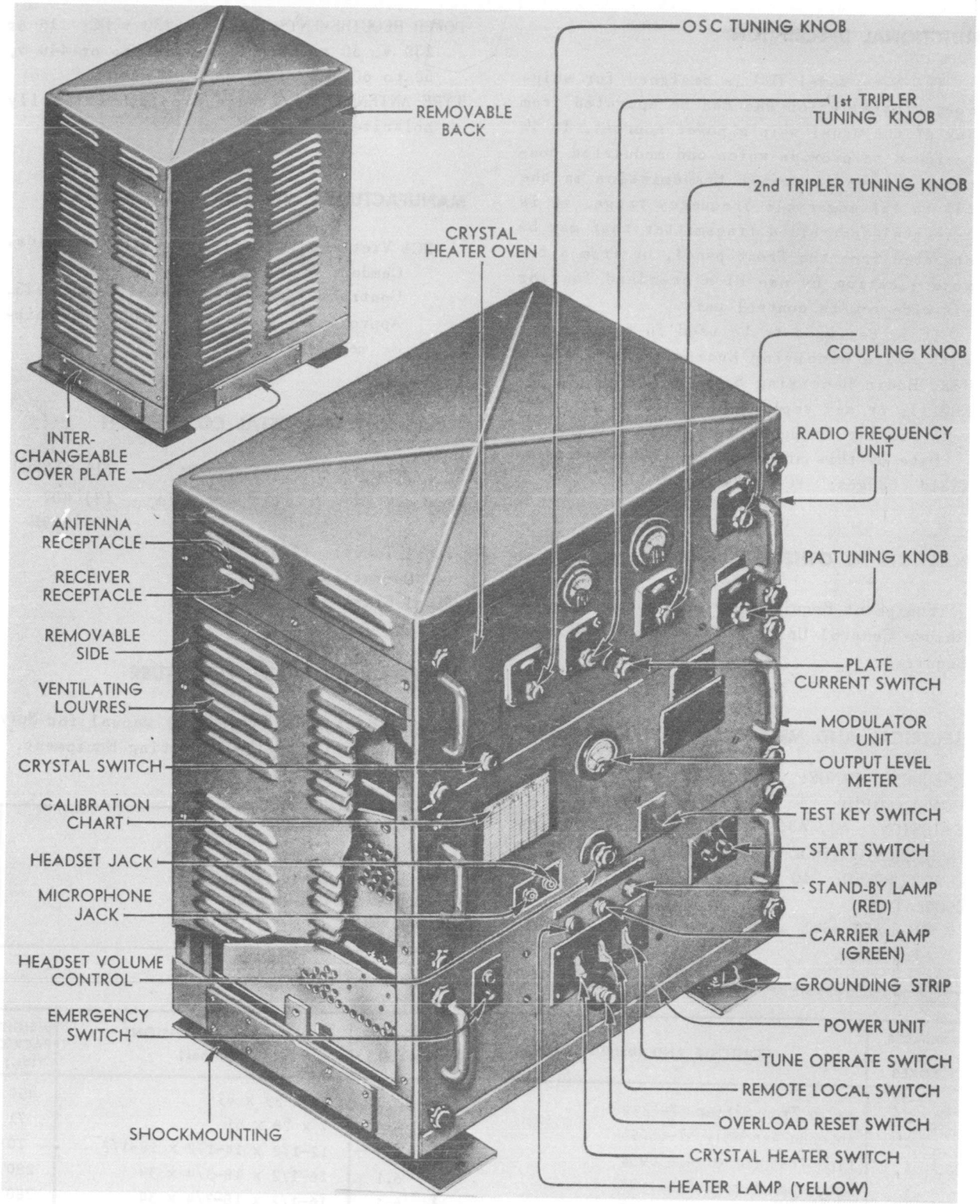
LORAN TRANSMITTING EQUIPMENT TDP-1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Equipment Spares Chest 4	15 X 18 X 30	100
1	Equipment Spares Chest 5	15 X 18 X 30	146
1	Equipment Spares Chest 6	15 X 18 X 30	136
1	Equipment Spares Chest 7	15 X 18 X 30	142
1	Equipment Spares Chest 8	15 X 18 X 30	128
1	Equipment Spares Chest 9	15 X 18 X 30	135
1	Equipment Spares Chest 10	12 X 13 X 16	104
1	Equipment Spares Chest 11	15 X 18 X 30	108
1	Equipment Spares Chest 12	15 X 18 X 30	140
1	Equipment Spares Chest 13	15 X 18 X 30	156
1	Equipment Spares Chest 14	15 X 18 X 30	164
1	Equipment Spares Chest 15	15 X 18 X 30	135
1	Antenna Coupling Unit NT-47368	20 X 28 X 32	185
1	Transmission line switching unit NT-24247 w/Test Lead and Accessories		35
1	Set Legs and Braces		35
1	Equipment Spares Chest 16	15 X 18 X 30	98
	Monitor Oscilloscope Table	18-1/2 X 22-1/2 X 36	142
22	Stock Spares Chest		

RADIO TRANSMITTING EQUIPMENT

TDQ



TDQ Radio Transmitter

TDQ RADIO TRANSMITTING EQUIPMENT

FUNCTIONAL DESCRIPTION

The Navy Model TDQ is designed for ship-board installation and can be operated from any of the usual ship's power sources. It is designed to provide voice and modulated continuous-wave telegraph transmission in the 115 to 156 megacycle frequency range. It is a crystal-controlled transmitter that may be operated from the front panel, or from a remote location by use of a standard four or six-wire remote control unit.

It is designed to be used in conjunction with Radio Receiving Equipment Navy Model RCK, Radio Receiving Sets AN/URR-21 or AN/FRR-11, or any amplitude modulated receiver with similar frequency coverage.

Data on this sheet reflects the following field changes: FC-2 (29 April 1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Remote Control Unit NT-23172 or NT-23211 as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 115 to 156 mc.
POWER OUTPUT: 45 W.
EMISSION: A2, A3.
FREQUENCY CONTROL: Crystal oscillator.
KEYING SPEED: 40 wpm max.
MODULATION
A2: 85% with a 1000 cps tone.
A3: 100%.

POWER REQUIREMENTS: 115 or 230 v DC; 115 or 230 v, 50 to 60 cps, single ph; or 440 v, 50 to 60 cps, 3 ph.
TYPE ANTENNA: 1/2 wave dipole, vertically polarized.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Division, Radio Corp of America, Camden, N.J.
Contract NXss-29644, dated 17 May 1943.
Approximate Cost: $3500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 5R4WGB	(2) 6SK7WA	(1) 6X5WGT
(2) 6J5	(1) 6SN7WGTA	(3) 807
		(3) 829B

Total Tubes: (16)
(4) Operating Crystal
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900474: Technical Manual for Navy Model TDQ Radio Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitter NT-52328	23.0	28 x 33 x 43	450
1	Antenna Assembly NT-66095	5.8	7 x 28 x 51	71
1	Line Transformer NT-30984	1.9	12-1/2 x 14-1/2 x 18-1/2	70
1	Motor Generator NT-211093	6.1	16-1/2 x 18-3/4 x 34	280
1	Motor Generator NT-211092	6.1	16-1/2 x 18-3/4 x 34	280

RADIO TRANSMITTING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Motor Starter NT-211091	7.4	21-1/2 x 23 x 25-3/4	37
1	Motor Starter NT-211090	7.4	21-1/2 x 23 x 25-3/4	37
1	Set of Equipment Spares			

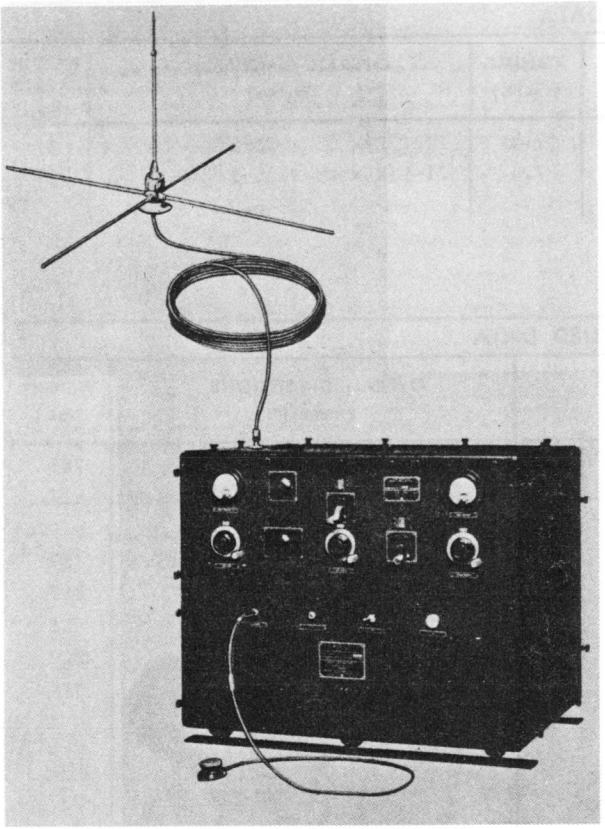
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter NT-52328	18-3/8 x 25-1/4 x 32-1/4	283
1	Antenna Assembly NT-66095	4-3/4 x 24-1/4 x 46-1/2	17
1	Microphone NT-51004C	1-5/16 x 2-1/8 x 2-7/16	0.5
1*	Line Transformer NT-30984	9 x 11 x 13-3/4	57
1**	Motor Generator NT-211093	11-3/4 x 13-3/8 x 27-3/8	210
1**	Motor Starter NT-211091	13 x 17-3/8 x 21	16
1†	Motor Generator NT-211092	11-3/4 x 13-3/8 x 27-3/8	210
1†	Motor Starter NT-211090	13 x 17-3/8 x 21	16
1	Set of Equipment Spares		

NOTE: *-Supplied for 440 volt AC power source.
**-Supplied for 230 volt DC power source.
†- Supplied for 115 volt DC power source.

VHF TRANSMITTING EQUIPMENT

TDT



Transmitting Equipment Model TDT

FUNCTIONAL DESCRIPTION

The Navy Model TDT is a compact semi-portable equipment designed to provide modulated continuous-wave or voice modulated transmission for point-to-point or ground-to-plane use in the 115 to 156 megacycle frequency range. The transmitter proper is self-contained except for the antenna and microphone. It is used with Navy Models RBK and RCK series Radio Receiving Equipments.

No field changes in effect at time of preparation (28 April 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 115 to 156 mc.
CHANNELS: 1.
POWER OUTPUT: 35 W.
FREQUENCY CONTROL: Crystal oscillator.
EMISSION: A2, A3.
KEYING SPEED: 40 wpm.
MODULATION
VOICE: 100%.
TONE (500 OR 1000 CPS): 95%.
AUDIO RESPONSE: Approx ±2 db from 200 to 4000 cps.
OUTPUT IMPEDANCE: 50 ohms, unbalanced.
POWER REQUIREMENTS: 110 to 120 v, 50 to 60 cps, single ph.
POWER CONSUMPTION: Approx 750 W.
TYPE ANTENNA: 1/4 wave vertical telescoping rod with ground plane rods.

MANUFACTURER'S OR CONTRACTOR'S DATA

Aircraft Accessories Corp, Kansas City, Kansas.
Contract NXss-30269, dated 27 May 1943.
Approximate Cost: $1500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) OD3W
(5) 6J5
(2) 829B
(4) 5U4G
(5) 807
Total Tubes: (18)

(1) CR-1
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 95337: Technical Manual for Navy Model TDT VHF Transmitting Equipment.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE 43014-NA
STOCK NO.

TDT VHF TRANSMITTING EQUIPMENT

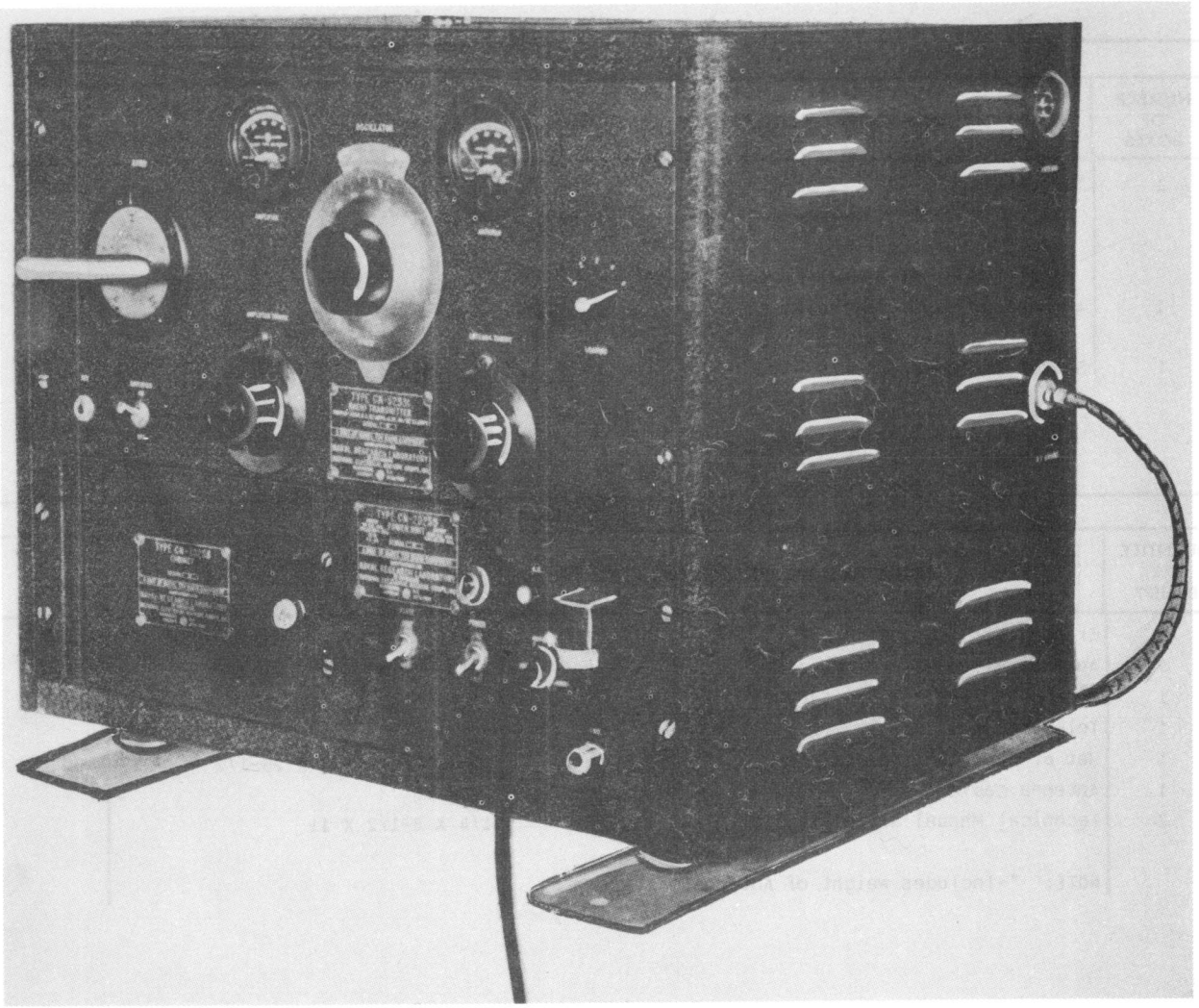
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter NT-52322 including: (1) Microphone Assembly NT-51004C (1) Telegraph Key (2) Technical Manual NAVSHIPS 95337	23.0	28-1/2 X 34-1/2 X 41	470
1	Antenna NT-66091 including: (1) Antenna Cable	2.3	9 X 15 X 30	45
1	Set of Equipment Spares	6.1	15 X 23 X 30-1/2	125

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter NT-52322	26-1/2 X 26-3/4 X 31-1/2	400
1	Antenna NT-66091	28-3/8 X 49-1/2 X 49-1/2	16.5*
1	Microphone Assembly NT-51004C		
1	Telegraph Key		
1	Set of Equipment Spares	10-1/2 X 19-1/2 X 25-1/2	90
1	Antenna Cable	1200 lg	
2	Technical Manual NAVSHIPS 95337	1/4 X 8-1/2 X 11	
	NOTE: *-Includes weight of Antenna Cable.		

RADIO TRANSMITTING EQUIPMENT



Radio Transmitting Equipment TDV

FUNCTIONAL DESCRIPTION

The TDV is designed fundamentally for use in the calibration of high frequency direction finders although the design is such as to make useful as a general utility transmitter where rapidity of frequency changing is desirable, high stability is essential and moderately low power is sufficient. The equipment is semi-portable in nature being housed in a stout wooden carrycase suitable either for the shipping or retention of the equipment in stowage.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 1 to 30 mc.
EMISSION: A1.
POWER OUTPUT: 5 W nominal
ANTENNA: 90 in sectionalized whip.
POWER SOURCE REQUIRED: 115 v, 60 cps, single ph. or 6 v DC at 10 amp.

TDV RADIO TRANSMITTING EQUIPMENT

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6L6
(1) 807
(1) VR-105/30
(2) 6X5GT
(1) 6H6

Total Tubes: (6)

REFERENCE DATA AND LITERATURE

Technical Manual for Model TDV Radio Transmitting Equipment

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

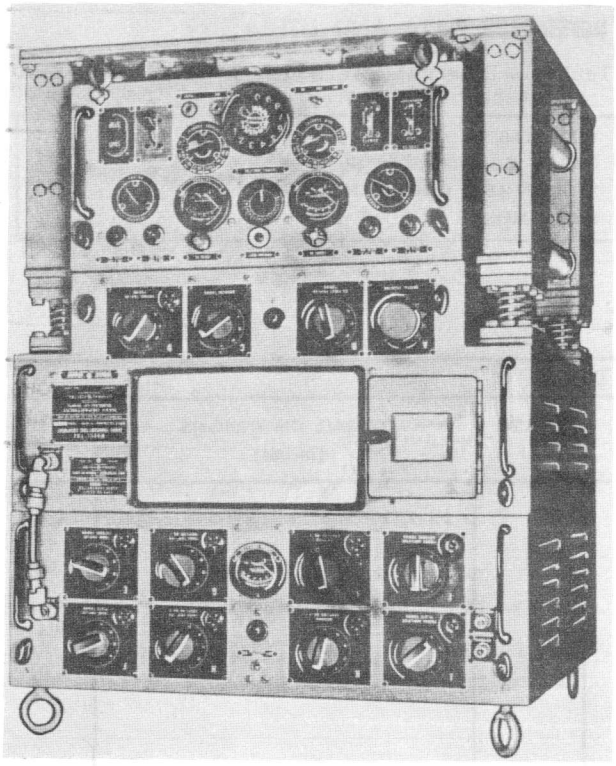
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Cabinet NT-10258		15 x 17-1/8 x 21-3/4	97
1	Radio Transmitter NT-52331			
1	Power Unit NT-20225			
1	Antenna NT-66100			
1	Antenna Extension NT-66101			
1	Wooden Stowage Case NT-10264		20-1/4 x 21 x 27	
2	Power Cables			
1	Antenna Lead			
1	R.F. Ground Lead			
1	Calibration Chart w/holder			
1	Set of Equipment Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter TDV	20-1/4 x 21 x 27	155

RADIO TRANSMITTING EQUIPMENT TDZ-TDZ-a



Radio Transmitting Equipment TDZ-TDZ-a

FUNCTIONAL DESCRIPTION

The TDZ and TDZ-a are used as general communications transmitters on shipboard in vehicular units and at stationary installations. Either of these equipments will provide local or remote selection of any one of ten preset channels in the 225 to 400 megacycle range. The TDZ and TDZ-a are physically and functionally identical. The TDZ-a differs from the TDZ in that it has been converted from 60 cycle to 400 cycle power frequency operation.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Carbon microphone NT-51004C, (1) local headset NT-49015, (1) to (3) additional remote channel selectors if necessary and (1) to (4) Remote Radiophone Units NT-23211A if necessary.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc, 10 preset channels.
TYPE OF EMISSION: A2, A3.
NOMINAL POWER OUTPUT: 30 W.
KEYING DATA: Relay Keying, max speed 40 wpm.
FREQUENCY CONTROL: crystal.
MODULATION: 95% max.
HEAT DISSIPATION.
TRANSMITTER: 875 W Max.
MOTOR ALTERNATOR: 115 V DC, 800 W (key locked) 230 V DC 730 W (keylocked)
POWER SOURCE REQUIRED.
TDZ: 110/220/440V, 50 to 60 cps, single ph. 0.87/0.955/0.99 KVA: 115/230 V DC, 1.6/1.53 KW by use of motor-alternator unit.
TDZ-a: 110 V, 400 cps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Melpar Inc., Alexandria, Virginia
Contract NObsr-43140 dated 13 Dec 1948 (TDZ-a) General Electric Co, Schenectady, N.Y.
Contract NXsr-55652 dated 7 April 1944 (TDZ).
Approximate Cost $8992.00 (TDZ) with equipment spares TDZ-a (not available).

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SG7	(1) 6SN7GT
(2) 6Y6GT/G	(1) 9006
(3) 807	(1) 6H6
(4) 3C23	(2) 6AG7
(1) 829B	(4) 2C39

Total Tubes: (20)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,809, Technical Manual for Navy Model TDZ Radio Transmitting Equipment.
NAVSHIPS 91284, Technical Manual for Radio Transmitting Equipment Navy Model TDZ-a.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

TDZ-TDZ-a RADIO TRANSMITTING EQUIPMENT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitter and Accessories TDZ or TDZ-a		31-1/2 X 33-1/4 X 59-3/4	1000
1	Motor Generator Set and Magnetic Controller Spare Parts			800

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter NT-52342	24-3/4 X 25-11/16 X 32-1/16	760
1	Remote Channel Selector NT-23445	4-7/8 X 6-7/8 X 6-7/8	7
*1	Motor-Generator Set NT-211405#, or NT-211403##	10-1/4 X 13-1/2 X 31-15/16	250
*1	Magnetic Controller NT-21137# or NT-211375##	10-5/8 X 11-9/16 X 17-5/16	48
1	Set of Accessories and spares		

NOTES: *Power conversion equipment for use with DC power source, supplied as a separate shipment by direction of Navy Department, BUSHIPS

#for 115 v DC operation

##for 230 v DC operation