March 1957

## RADIO TELEPHONE TRANSMITTING EQUIPMENT

Radio-Transmitters

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:	12-3/4 X 20-1/4 X 28-1/4	170		
	Radio Frequency Unit 33R-1	(4-, c-, a1) & 400ET-00	110		
	Modulator and Power Supply 421A-1	(P-WET) ELONGY-UND			
	(50 to 60 cps) or 421A-2 (50 to 60 and 25 cps)				
1	Operators Desk Set 223F-5	· 2. (D), · (2)			
1	Power Line Connector Cord 65J-1				
1	Receiver Connector 365N808				
1	Set of Equipment Spare Parts				

#### UNCLASSIFIED

December 1956

## RADIO TELEPHONE TRANSMITTING EQUIPMENT



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				NAME AND NOMENCLATURE		WEIGHT (lbs.)
1	Cabinet Assembly	RO\OMA BEUT		The first second second	and a state		
1	Panel Assembly		a the second		Edit of the		
21 (2	R.F. Assembly		10.00				
221 (2)	Modulator Unit		1. 1. A. A. A.				
1	Power Supply		1.				
1	Filter Unit						
E1 (1	Microphone						
2	Mounted Crystals						
2	Output Cables				a hall the second		
1	Oscillator Coil						

UNCLASSIFIED

TCA

UNCLASSIFIED April 1958

## 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

fange 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 equip-

ment spares.

#### TUBE AND/OR CRYSTAL COMPLEMENT

		TCB		
(3) 6L6G		집에는 문서	(2)	5Z3
(2) 6C8G			(2)	1852
(2) 80			(2)	120
(1) 6R7G			(1)	6X5
( = )			(1)	4B24
(2) 866A			iii	OD3
(1) 813			(1)	6J7G
(4) 6F8G			(1)	0310
(2) 6F6G				
Total Tubes:	(27)			

April 1958

Radio-Transmitters

## TCB, TCB-1, -2

# RADIO TRANSMITTING EQUIPMENT

Model	TCB	Radio	Telegraph	and	Telephone
Trans	mitt	ing Eq	uipment.		Children of the

	TCB-1,-2		
(1) 010		(3)	6F6G
(1) 813		(3)	6J5
(1) 807		(2)	5U4G
(1) 837			805
(1) 6X5			6Q7G
(1) 6SJ7		(1)	3B22
(1) 6C8G			866A
(1) 6R7G			
(1) 6F8G			
Total Tubes: (	25)		
(30) Quartz Cry	stals		
Total Crystals:	(30)		

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.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSI PROCUREMENT COGNIZANCE	HIPS TCB-1 S-500-2366 TCB-2 EN28/4448- 42/SHIPS	
STOCK NO.		

NAVSHIPS 95302: Technical Manual for Navy

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

	EQUIPMENT SUPPLIED DATA					
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)			
1 1 1 1 1 1 1	TCB Transmitter 16E-1 Station Control Unit 176L-2 Operator's Control Unit 177E-2 Desk Set 223F-4 Set of Accessories and Equipment Spares TCB-1 Transmitter 16E-5 (110 v, 60 cps operation) or 16E-6 (110 v, 25 cps operation) Operator's Control Unit 177G-4 (110 v, 60 cps operation) or 117G-5(110 v, 25 cps operation) Desk Set 223G-3 (110 v, 60 cps operation) or 223G-6 (110 v, 25 cps	$16-1/2 \times 21-1/2 \times 61-3/4$ $6-1/4 \times 10-1/2 \times 12-1/4$ $8-3/4 \times 10 \times 19$ $6 \times 7-1/2 \times 9$ $24 \times 24 \times 78$ $10 \times 10-1/2 \times 19$ $6 \times 7-1/2 \times 9$	502 11.75 38 5.75 952 950 53 5.7			
1	operation) Set of Accessories and Equipment Spares					

April 1958

Radio-Transmitters

# RADIO TRANSMITTING EQUIPMENT

TCB, TCB-1, -2

QUANTITY	NAME AND NOMEN	Treas	JPPLIED D	OVERALL DIMENSIONS	WEIGH
EQUIPT	that depays of albell 1-997	CLATORE		(inches)	(lbs.)
	TCB-2	tennist PIESVAN	683	20	
ada <b>1</b>			0109	24 × 24 × 78	952
1	Operator's Control Unit 177G-2	t and t	133222 - 36-64	$10 \times 11 - 1/4 \times 19$	53
1	Desk Set 223G-3			6 × 7-1/2 × 9	5.75
1	Set of Accessories and				10.00
	Equipment Spares Container			1 (25) Provenska	otal isto 301 Quirte
					taval (ava

UNCLASSIFIED April 1958

Radio-Transmitters

## 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.

### UNCLASSIFIED

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 Al: 1000 W. A2, A3: 600 W. FREOUENCY 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			
atal '	T.L	(00)		

Total Tubes: (39)

		TCC-1	
		(4)	833A
6R7GT		(1)	813
6F8G		(1)	837
6J5WGT		(1)	84/6Z4
807		(1)	6SJ7
6J7GT		(2)	OC3W
02.0		(4)	83
5U4G		(1)	6F6GT
3B28		(2)	6Q7GT
Tubes:	(37)	098 1990	605 D
	6R7GT 6F8G 6J5WGT 807 6J7GT 6L7G 5U4G	<ul> <li>6R7GT</li> <li>6F8G</li> <li>6J5WGT</li> <li>807</li> <li>6J7GT</li> <li>6L7G</li> <li>5U4G</li> <li>3B28</li> </ul>	6C8G       (4)         6R7GT       (1)         6F8G       (1)         6J5WGT       (1)         807       (1)         6J7GT       (2)         6L7G       (4)         5U4G       (1)         3B28       (2)

#### UNCLASSIFIED April 1958

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	
	6C8G		(1)	5U4G	
	6SJ7		(1)	813	
(1)	837		(8)	3B28	
	6R7GT		(2)	6Q7GT	
(4)					
Total '	Tubes:	(34)			
(50	) Quart	z Crystal	S		
		s: (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.

. awol .	SHIPPING DATA						
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (Ibs.)			
24 2 20 2	TCC-1 Radio Transmitting Equipment Equipment Spares TCC-3 or TCC-4 Radio Transmitting Equipment Equipment Spares	213.4 19.6 267.09 4.80		4068 378 3523 370			

1	EQUIPMENT SU	PPLIED DATA	
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (Ibs.)
	TCC, TCC-2	na sha ta 12 Al i 12 Al i na sha sha a	th one. Ne se
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 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1	Set of Equipment Spares		
1	Power and Modulator Bay 1021-1 or 1021-2 ( cps power source)	for 25 24 X 24 X 78	1000
1	Autotune RF Bay 1014-1 or 1014-2 (for 25 c source)	ps power 24 X 24 X 78	600
1	operator's Control Unit 177G-1 or 177G-3 (	10 X 10-1/2 X 19	
1	Desk Set 223G-1 or 223G-5 (for 25 cps powe	r source) 5-1/8 X 5-1/2 X 7-1/2	5.7

#### UNCLASSIFIED

April 1958

## RADIO TRANSMITTING EQUIPMENT

TCC, TCC-1,-2,-3,-4

	EQUIPMENT SUPPLIED D	ATA	
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1 2	Frequency Converter 231N500 (25 to 60 cps, for 25 cps power source) Bay Dust Covers 38M1 and 38M2	16 X 26-1/2 X 66 2 X 24 X 78	2360 40
1 1 1 1	Set of Accessories Set of Equipment Spares TCC-3, -4 Power and Modulator Bay 1021-5 Autotune RF Bay 1014-5 Operator's Control Unit 177G-5 Dock Set 2236-3	24 X 24 X 78 24 X 24 X 78 10 X 10-1/2 X 19 5-1/8 X 5-1/2 X 7-1/2	1000 600 53 5.7
1 1 2 1 1	Desk Set 223G-3 Frequency Converter 231N500 (25 to 60 cps, for 25 cps power source) Bay Dust Covers 38M-1 and 38M-2 Set of Accessories Set of Equipment Spares	16 X 26-1/2 X 66 2 X 24 X 78	2360 40

#### THEMAILOR FERIO OF NOTAHE

Equipment Boscoved Amé nou Guppet i A gairing repipment, fragment mémourin scripment, an repigment neutphones, falagrap are, o Éjeuristanetion elre or asble so retenna constitution.

CLLERICAL AND MICHANICAL CHARACTERISTIC

PREGUEREE HANGE: 350 to 9050 ko in 3 bonda. Pri<sup>m</sup>BLOSCE CONTROLL Manner daadi) soor. PRESENTE II, V. 42. POPER OUBERT

(30) 10 400 κC) 33 N, 41, 12, 20 N, 43, 300 R, 1300 RC, 240 N, 41, 42; 35 W, 43, 1510, 70, 9650 RC; 1259/, 43, 42, 42; 40 K, 43 ΒΥΠΝΟ ΔΑΓΑ: Beiny keying, 30 mpm.

UNCLASSIFIED

VICTIONAL MERCERITION

(19) Marka (GE-1 and 2 constrained not or constraint types of annull or or the contor constraint expension of the constraint constraint apparentiate of the constraint of or straint apparentiate of the constraint of or constraint and the constraint of the expension of the constraint of the constraint constraint after oper constraint of the constraint constraints.

No. W.W. WER-1 and 2 and 1 is the trad under their source conjugates as a could that the 'suppose a conject transfer unit which "E-2 the properties and "second which is diminant or or other ord."

vold changen in effect at time of .iou (23 April 1436).

#### April 1958

RADIO TRANSMITTING EQUIPMENT



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

#### UNCLASSIFIED April 1958

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
(1) 843
(2) 1616
(1) 801A
(1) 5Z3
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 D	ATA		
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKEE (lbs.)
	TCE-1 Transmitter-Rectifier NT-52151 including:	13.12	24 X 27 X 35	164
1 NDISW (1)	(1) Plug in Tuning Unit Motor-Generator NT-21635 (32 v DC) or NT-21524 (120 v DC) or NT-21636 (120 v DC) or	4.56 4.56 4.56	16 X 17 X 29 16 X 17 X 29 16 X 17 X 29 16 X 17 X 29 16 X 17 X 29	200 200 200 200
1 1	NT-21637 (230 v DC) or NT-21638 (115/230 v AC) Magnetic Controller NT-21418 (32 v DC) or NT-21419 (120 v DC) or NT-21558 (230 v DC) or NT-21420 (115/230 v AC)	4.56 4.56 4.86 4.86 4.86 3.35	16 X 17 X 29 17 X 19 X 29 17 X 19 X 26 17 X 19 X 26 17 X 19 X 26 14 X 18 X 25	200 112 112 112 63 26
1 1	Set of Tubes Set of (5) Plug in Tuning Units including: (5) Tuning Unit Containers NT-47124 Spare Parts Box or	2.81 12.86 5.60	13 X 17 X 22 19 X 30 X 39 15 X 19 X 34	185

### UNCLASSIFIED

1.6 TCE: 2

UNCLASSIFIED April 1958

Radio-Transmitters

# RADIO TRANSMITTING EQUIPMENT

TCE, TCE-1, -2

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1 1*	Spare Parts Box (115 v AC only)	4.08	14 X 18 X 28	134
	Remote Control Unit NT-23245	1.17		19
1*	Control Transfer Unit NT-23346	1.09	8 X 15 X 16	12
	NOTE: *Optional Equipment.	un ago i	08 of 006 . 7 021 TUTO 0 80	TABEPS
	REFERENCE DATA AND LITERATURE		75 v 100	12 45
	TCE-2			
1	Transmitter-Rectifier NT-52151-AS including:	ATAC	CIVERS'S OR CONTRACTOR'S	ANUPAN
	(1) Plug in Tuning Unit			
1	Motor-Generator NT-21636 (115 v DC) or	4.56	16 X 17 X 29	000
	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	200
	NT-21558 (230 v DC) or	4.86	17 X 19 X 26	100
	NT-21420 (115 v, 1 ph) or	4.86	17 X 19 X 26	112
	NT-21846 (208 v, 3 ph) or	4.86	17 X 19 X 26	50
	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	100
1	Set of (5) Plug in Tuning Units including:	12.86	19 X 30 X 39	26
	(5) Tuning Unit Containers NT-47226			234
	(1) Remote Control NT-23245 or			
	(1) Remote Control NT-23305			
1	Spare Parts Box	66		

EQUIPMENT SUPPLIED DATA						
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)			
	PS X 71 X 62 68.5	1 20 4 20 4 20 20 20 20 20 20 20 20 20 20 20 20 20				
1	TCE Transmitter-Rectifier NT-52129	to (the pitch transmission				
1	Set of Plug in Tuning Units consisting of:	14-15/16 X 17-3/32 X 24-1/8	58			
	Range A NT-47150	8-1/2 × 9-1/2 × 10-13/16	1.1			
	Range B NT-47151	8-1/2 X 9-1/2 X 10-13/16 8-1/2 X 9-1/2 X 10-13/16	15			
	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 8-1/2 X 9-1/2 X 10-13/16	14			
	Range E NT-47153	$8-1/2 \times 9-1/2 \times 10-13/16$ $8-1/2 \times 9-1/2 \times 10-13/16$	14			
	Range F NT-47154		13			
5	Plug in Tuning Unit Containers NT-47124	8-1/2 X 9-1/2 X 10-13/16 9-11/16 X 10-7/8 X 12	15 5			

UNCLASSIFIED

1.6 TCE: 3

# TCE, TCE-1, -2

# RADIO TRANSMITTING EQUIPMENT

UNCLASSIFIED April 1958

EQUIPMENT	CLIDDITED	DAIA
ENTIPMENT	JUPPLIED	DAIA

QUANTITY	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
EQUIPT		Sange MT-u7154-48	1.5
1	set of Tubes	10-1/2 X 12-1/2 X 26-1/2	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 25-1/8	157
	NT-21415 (120 v DC) or	$10-1/2 \times 12-1/2 \times 21-1/2$	145
	NT-21416 (115 V, 1 ph)	$12-1/4 \times 13-1/2 \times 20-1/2$	60
1	Magnetic Controller NT-21417 (24 V DC)	12-1/4 X 13-1/2 X 20-1/2	60
036	NT-21418 (32 V DC) or	$12-1/4 \times 13-1/2 \times 20-1/2$ $12-1/4 \times 13-1/2 \times 20-1/2$	60
	NT-21419 (120 V DC) or		30
	NT-21420 (115 v, 1 ph)	8-1/2 X 11 X 17	
1	Spare Parts Box		
1	TCE-1	TO LOD I A CALL TARA A	58
	Transmitter-Rectifier NT-52151	16 X 17-1/8 X 25-1/8	
1	Set of Plug in Tuning Units consisting of:	8-1/2 X 9-3/8 X 10-13/16	15
1	set of Plug in luning units consistently and	a leides), szirc-ur touquo, proma	
	Range A NT-47150	Alemote control st-21306 (serial )	14
	Range B NT-47151	- 201 E Profile Rids	14
	Range C NT-47155		14
	Range D NT-47152		13
	Range E NT-47153		15
	Range F NT-47154	9-11/16 X 10-7/8 X 12	5
5	Plug in Tuning Unit Containers NT-47124	9-11/10 × 10 // 0 × ==	3.
1	set of Tubes	12-1/2 X 14 X 28	160
1	Notor-Cenerator NT-21635 (32 V DC) or	12-1/2 X 14 X 20 12-1/2 X 12-1/2 X 26-5/8	160
1		12-1/2 x $12-1/2$ x $26-1/2$	160
	NT-21524 (120 v DC) Serial NO. 1 to 120 c. NT-21636 (120 v DC) All remaining Serial Nos. (	$12-1/2 \times 14 \times 20-1/2$	160
	NT-21637 (230 v DC) or		160
	NT-21638 (115/230 V. 1 ph)	12-3/8 X 14 X 22-3/4	60
	Magnetic Controller NT-21418 (32 v DC) or	12-1/4 × 13-1/2 × 20-1/2	60
1	NT-21419 (120 V DC) or	12-1/4 × 13-1/2 × 20-1/2	60
	NT-21558 (230 V DC) or	12-1/4 X 13-1/2 X 20-1/2	
	NT-21558 (230 V 00) 01	8-1/2 X 11 X 17	30
	NT-21420 (115 v, 1 ph)		
1	Spare Parts Box	5-3/8 X 6 X 6-1/16	5
1*		3-3/16 X 7 X 9	5.
1*	Control Transfer Unit		
	NOTE: *Optional Equipment.		
	TCE-2	16 X 17-1/8 X 25-1/8	10:
1	Transmitter-Rectifier NT-52151-AS		
1		8-1/2 X 9-3/8 X 10-13/16	2
-	Range A NT-47150-AS	8-1/2 X 9-3/8 X 10-13/16	2
	Range B NT-47151-AS	8-1/2 × 9-3/8 × 10-13/16	2
	Range C NT-47155-S	8-1/2 X 9-3/8 X 10-13/16	2
	Range D NT-47152-AS	8-1/2 X 9-3/8 X 10-13/10	2
	Range E NT-47153-AS	8-1/2 X 9-3/8 X 10-13/16	1 4

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Radio-Transmitters

# RADIO TRANSMITTING EQUIPMENT

TCE, TCE-1, -2

QUANTITY	EQUIPMENT SUPPLIED	DATA	
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	THUCH
5	Plug in Tuning Unit Containers NT-47226	0 11/11 11 11	21.5
1	Set of Tubes	Contraction in the second file 1010M	6.25
1	Motor Generator NT-21636 (115 v DC) or	12-1/2 X 14 X 26-1/2	3.5
	NT-21637 (230 v DC) or	$12-1/2 \times 14 \times 26-1/2$ $12-1/2 \times 14 \times 26-1/2$	160
60	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	160 160
1	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 NT-21847 (440 v, 3 ph)	9-5/8 X 14-1/2 X 15-1/2	60
1	Remote Control NT coort (a to	9-5/8 X 15-1/2 X 17-1/2	60
1	Remote Control NT-23245 (Serial No. 1 to 1245) or 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) Spare Parts Box	3-9/16 X 5-3/16 X 5-7/16	3
		Selfaine o Heinige	1
		etog in funing unit Containers #1	

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UNCLASSIFIED August 1957

## RADIO TRANSMITTING EQUIPMENT



#### ICF 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 30,14° 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		6J7G
(1) 6R7G		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.

#### UNCLASSIFIED August 1957

Radio-Transmitters

## **RADIO TRANSMITTING EQUIPMENT**

PER EQUIPT         NAME AND NOMENCLATURE         (inches)         (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		EQUIPMENT SU	JPPLIED DATA	
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       5-3/4         1       Hand Set 997N19*       5       6 x 7-1/2 x 9       5-3/4         1       Set of Equipment Spares       5-3/4       7-1/2 x 9       5-3/4         NOTE:       *Collins Mfg Co. type numbers.       5       7-1/2 x 9       5-3/4		NAME AND NOMENCLATURE		WEIGHT (Ibs.)
TRANSPORT TO TOTAL PROPERTY AND TOTAL P	1 1 1	Station Control Unit 176L-1* Operator's Control Unit 177E-1* Desk Set 223F-4* Hand Set 997N19* Set of Equipment Spares	5-1/2 X 7-3/4 X 9 8-3/4 X 10 X 19	502 11 38 5-3/4
	NOTE:	*Collins Mfg Co. type numbers.		
		• • • • • • • • • • • • • • • •		

RADIO TELEGRAPH TRANSMITTING EQUIPMENT

TCG,TCG-1,-2



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 ope-

ration 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.

## 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

(7)	869B	
(2)	851	
(1)	837	
(2)	893A	
	(2) (1)	<ul> <li>(7) 869B</li> <li>(2) 851</li> <li>(1) 837</li> <li>(2) 893A</li> </ul>

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)	WEIGH (Ibs.)		
	TCG		1.		
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	HOITSTOCK LAS	CONTRACTOR IN		
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*		1.12		

## TCG,TCG-1,-2

### RADIO TELEGRAPH TRANSMITTING EQUIPMENT

#### EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	daid 101 1	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1 1	Air water Cooling Equipment* Sleet Melting Equipment*		vite and is to be used at It will provide continuous	ная ворол Продовл
	TCG-2		and the second se	leges i
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*		Ci D-C line keying at any s	hpuld,bM
1	Tank and Circulating Equipment NT-10171*		38 X 51-1/2 X 67-3/8	1500
1	Antenna Tuning Equipment*		ld changes in effect at its	5 8 O.

#### NOTE: \*Not supplied for all installations.

TVH CLASSIFICATION (HAVY) DESIGN COOMIZANCE ILLYY BUSHIPS PROCUREMENT COOMIZANCE STOCK HO.

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#### June 1961

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 ROMT: 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.

95 <sub>6</sub> (	EQUIPMENT SUPPLIED D	ATA	
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Telegraph Transmitting Equipment		

Radio-Transmitters

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.

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Radio-Transmitters

Total Crystals: (1)

## TCJ, TCJ-1 RADIO TELEGRAPH TRANSMITTING EQUIPMENT

## TUBE AND/OR CRYSTAL COMPLEMENT

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.

and the	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 × 25 × 52-3/8	285
1	Motor-generator Set NT-21765	$11-1/4 \times 14-1/8 \times 34-15/16$	265
1	Magnetic Controller Unit NT-21629 Additional Equipment for Shore Operation	8-13/16 × 19-15/16 × 20-7/8	40
1	Land Line Control Unit NT-23269	15-3/4 × 24 × 42-1/8	160
1	Power Transfer Switch NT-24092	$9-1/4 \times 12-1/4 \times 16$	14
1	Duplicate Motor-generator Set NT-21765	11-1/4 × 14-1/8 × 34-15/16	320
1	Duplicate Magnetic Controller Unit NT-21629	8-13/16 x 19-15/16 x 20-7/8	40

TCJ, TCJ-1 TCJ-1 (Ship Operation) (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 Cotal Tubes: (9) Total Tubes: (12) (1) NT40128(200KC)

## REFERENCE DATA AND LITERATURE

April 1958

April 1959

Radio-Transmitter

TCJ-2

## RADIO TRANSMITTING EQUIPMENT



2

1 Radio Transmitter Unit

2 Magnetic Controller Unit

3 Motor Generator Set



3

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.,  $3\Omega\Omega-600$  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.

April 1959

## Radio-Transmitter

### TCJ-2

#### RADIO TRANSMITTING EQUIPMENT

#### ELECTRICAL AND MECHANICAL CHARACTERISTICS

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SL7W
 (1) 6SR7

(2) 813

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).

#### REFERENCE DATA AND LITERATURE

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

#### MANUFACTURER'S OR CONTRACTOR'S DATA

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

TYPE CLASSIFICATION

STOCK NO.

(3) 6SK7

(2) 807

(1) 837

(1) 6SN7W

Total Tubes: (11)

Total Crystals: (1)

(1) Navy Type 40128

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	T Wagnett Concerns to	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	12 X 18 X 36	391		
cold with 3	Spare Parts for Magnetic Controller with	a set a l'anna ann an anna anna	adden be		
s condition	Transmitter Spares	a called a second of the	at here medd		
2	chest Microphone		1.001.010.0000		

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### RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters

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 apremium. 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 Won 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).
- MICRÓPHONE 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 6F8G	TCK, 1, 2,	3,5 T(	CK-4,-6	TCK - 7
	6K8	1		1	
	6 SC7	1		1	
	6SJ7	1		1	1
	6SK7WA	î		1	2
	6 SQ7	1		1	1
	807	1		î	î
	813	2		2	2
	836			6	
	837	2		2	2
	6 SL7 WGT				1
	6 SN7 WGTA				1
	Total Tubes:	(11)		(17)	(11)
	200KC	1		1	1
]	Total Crystal	s: (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 COGNI	ZANCE
STOCK NO.	

## RADIO TRANSMITTING EQUIPMENT

TCK, TCK-1 THRU -7

NUMBER OF BOXES         CONTENTS AND IDENTIFICATION         VOLUME (G.R.)         OVERALL DIMENSIONS (mcMes)           1         Transmitter NT-21631 Motor-Generator NT-21631 Spare Parts BOX         43.4 B2 X 39 X 60         32 X 39 X 60           1         Motor-Generator NT-21631 Motor-Generator NT-21631 Spare Parts BOX         7.7 B2 X 22 X 34 D2 X 34 X 35 D2 X 34 D2 X 22 X 34 D2 X 22 X 34 D2 X 34 X 35 D2 X 34 D2 X 34 X 45 D2		VOLUME OVERALL DIMENSIONS	VOLUME	OVERALL DIMENSIONS	WEIG
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1Transmitter NT-5214 Magnetic Controller NT-21631 Magnetic Controller NT-21631 Spare Parts Box43.4 T32 X 39 X 60 T 15 X 18 X 491Magnetic Controller NT-21627 Spare Parts Box10.019 X 26 X 35 T 17 X 17 X 28 Spare Parts Box1Spare Parts Box Transmitter NT-5221510.019 X 26 X 35 S 25 X 47 S 91Transmitter NT-52215 Motor-Generator NT-21632 Spare Parts Box TCK, TCK 1 (220/440, 3 ph)30.41Spare Parts Box TCK, TCK 1 (220/440, 3 ph)10.215 X 22 X 34 T X 17 X 28 10.21Spare Parts Box TCK, TCK 1 (220/440, 3 ph)10.215 X 22 X 34 T X 17 X 28 10.21Magnetic Controller NT-21630 Transmitter NT-5221643.4 T 17 X 17 X 28 10.232 X 39 X 60 T 1 X 17 X 28 19 X 22 X 341Spare Parts Box TCK, TCK 1 (220/440, 3 ph)7.115 X 18 X 45 10.21Spare Parts Box (TCK) Spare Parts Box (TCK)43.4 T 17 X 17 X 28 19 X 22 X 341Spare Parts Box (TCK) Spare Parts Box (TCK-1) T Spare Parts Box (TCK-1)10.41Transmitter NT-52216A Magnetic Controller NT-21639 (220 v) Magnetic Controller NT-2163943.4132 X 39 X 60 T 11 S X 18 X 451Magnetic Controller NT-21639 TCK-3 (220/440, 3 ph) Transmitter NT-52215A7.71Stor Tubes Spare Parts Box TCK-3 (220/440, 3 ph)1Transmitter NT-52216A T 17 X 17 X 281Magnetic Controller NT-21639 Spare Parts Box (TCK-5) Spare Parts Box (TCK-5) Spare Parts Box (TCK-5) Spare Parts Box (TCK-5)	BOXES			24807 20 2421	
1Wotor-Generator NT-216317.715 x 18 x 491Magnetic Controller NT-2162710.019 x 26 x 351Spare Parts Box10.215 x 26 x 352Spare Parts Box10.215 x 26 x 341Transmitter NT-522157.715 x 18 x 491Monor-Generator NT-2163210.019 x 26 x 351Motor-Generator NT-2163210.019 x 26 x 351Motor-Generator NT-2163210.115 x 26 x 431Spare Parts Box10.215 x 25 x 471Spare Parts Box10.215 x 25 x 471Spare Parts Box10.215 x 25 x 471Spare Parts Box10.115 x 18 x 481Magnetic Controller NT-21629220 v)15 x 25 x 471Spare Parts Box (TCK)13 x 18 x 451Magnetic Controller NT-21629220 v)4.91Spare Parts Box (TCK)5.915 x 20 x 341Spare Parts Box (TCK)5.915 x 20 x 341Spare Parts Box (TCK)5.915 x 28 x 481Spare Parts Box (TCK)5.915 x 28 x 481Spare Parts Box (TCK)5.915 x 28 x 481Spare Parts Box (TCK)5.915 x 28 x 381Spare Parts Box (TCK-1)11.715 x 28 x 392Spare Parts Box (TCK-1)11.715 x 18 x 491Transmitter NT-522637.115 x 18 x 491Magnetic Controller NT-2163110.019 x		TCK (115 V DC)			510
1Magnetic Controller NT-21627 Set of Tubes10.019 × 26 × 35 4.71Spare Parts Box Spare Parts Box Transmitter NT-5221510.119 × 26 × 35 4.71Transmitter NT-226310.11Magnetic Controller NT-2162810.11Spare Parts Box Spare Parts Box10.21Spare Parts Box Spare Parts Box10.21Spare Parts Box TCK, TCK-1 (220/440, 3 ph)10.21Spare Parts Box TCK, TCK-1 (220/440, 3 ph)1Transmitter NT-52216 Magnetic Controller NT-2163910.21Magnetic Controller NT-21639220 v) 4.91Magnetic Controller NT-21630 (440 v) (TCK)1Spare Parts Box (TCK) 11Spare Parts Box (TCK) 1 <td< td=""><td>1</td><td></td><td></td><td></td><td>540</td></td<>	1				540
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Spare Parts Box (TCK-1)	11.7	15 X 28 X 48	212
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1Motor Generator NT-21633 Magnetic Controller NT-21629 (220 v) Magnetic Controller NT-21630 (440 v)7.115 x 18 x 45 4.91Set of Tubes Spare Parts Box TCK-3, TCK-5 (115 v DC)4.9 $13-1/2 x 23-1/2 x 27$ 4.91Set of Tubes Spare Parts Box TCK-3, TCK-5 (115 v DC)4.0 $13-1/2 x 23-1/2 x 27$ 4.91Set of Tubes Transmitter NT-52214A4.7 $17 x 17 x 28$ 5.21Motor-Generator NT-21631A Magnetic Controller NT-21627 Set of Tubes4.3.4 $32 x 39 x 60$ 7.71Spare Parts Box (TCK-3) Spare Parts Box (TCK-5) Spare Parts Box (TCK-5) Transmitter NT-52215A 1 $7.7$ $15 x 18 x 49$ $1.2-1/4 x 18-1/8 x 28-5/8$ 1Spare Parts Box TCK-3 (220, 3 ph) $7.7$ $15 x 18 x 49$ $1.2 x 23 x 39 x 60$ 1Transmitter NT-52216A Motor-Generator NT-21632A Spare Parts Box TCK-3 (220, 3 ph) $7.7$ $15 x 18 x 45$ $1.2 x 23 y x 60$ 1Transmitter NT-52216A Motor Generator NT-21632A Spare Parts Box TCK-3 (220, 3 ph) $7.7$ $15 x 18 x 45$ $1.7 x 17 x 28$ $5.2$ 1Transmitter NT-52216A Motor Generator NT-21633A Magnetic Controller NT-21632A Spare Parts Box TCK-3 (220, 3 ph) $43.4$ $7.7$ $32 x 39 x 60$ $7.7 15 x 18 x 45$ 1Transmitter NT-52216A Magnetic Controller NT-21633A Magnetic Controller NT-21633A $1.1 5 x 18 x 45$ $43.4$ $1.5 x 18 x 45$ 1Transmitter NT-52216A $1.1 5 x 18 x 45$ $7.7 17 x 17 x 28$ $1.2 x 23 - 1/2 x 27 11.7 x 17 x 281Transmitter NT-52216A1.1 5 x 18 x 457.7 17 x$	1		43.4	32 X 39 X 60	550
1Magnetic Controller NT-21629 (220 v) Magnetic Controller NT-21630 (440 v)4.9 $13-1/2 \times 23-1/2 \times 27$ $13-1/2 \times 23-1/2 \times 27$ 1Set of Tubes Spare Parts Box TCK-3,TCK-5 (115 v DC)4.7 $17 \times 17 \times 28$ 1Spare Parts Box TCK-3,TCK-5 (115 v DC)7.7 $15 \times 21 \times 39$ 1Transmitter NT-52214A Motor-Generator NT-21631A43.4 $32 \times 39 \times 60$ 1Magnetic Controller NT-21627 Set of Tubes4.7 $17 \times 17 \times 28$ 1Spare Parts Box (TCK-3) Spare Parts Box (TCK-5) TCK-3 (220 v DC) $10.0$ $19 \times 26 \times 35$ 1Spare Parts Box (TCK-5) TCK-3 (220, 3 ph) $32 \times 39 \times 60$ 1Transmitter NT-52216A Motor Generator NT-21632A Spare Parts Box TCK-3 (220, 3 ph) $7.7$ $15 \times 18 \times 49$ 1Magnetic Controller NT-21629 Spare Parts Box TCK-3 (220, 3 ph) $32 \times 39 \times 60$ $32 \times 39 \times 60$ 1Transmitter NT-52216A Motor Generator NT-21633A Spare Parts Box TCK-3 (220, 3 ph) $7.7$ $15 \times 18 \times 49$ 1Magnetic Controller NT-21629 (220 v) $4.9$ $13-1/2 \times 23-1/2 \times 27$ 1Set of Tubes Spare Parts Box TCK-4, TCK-6 (110/220, 1 ph) $7.7$ $17 \times 17 \times 28$ 1Transmitter NT-5216A Magnetic Controller NT-21629 (220 v) $4.9$ $13-1/2 \times 23-1/2 \times 27$ 1Set of Tubes Spare Parts Box TCK-4, TCK-6 (110/220, 1 ph) $7.7$ $17 \times 17 \times 28$			7.1	15 X 18 X 45	380
1Magnetic Controller NT-21630 (140 v)4.9 $13-1/2 \times 23-1/2 \times 27$ 1Set of Tubes4.7 $17 \times 17 \times 28$ 1Spare Parts Box7.1 $15 \times 21 \times 39$ 1Spare Parts Box5.2 $15 \times 18 \times 33$ 1Transmitter NT-52214A43.4 $32 \times 39 \times 60$ 1Magnetic Controller NT-21631A7.7 $15 \times 18 \times 49$ 1Magnetic Controller NT-2162710.0 $19 \times 26 \times 35$ 1Set of Tubes $4.7$ $17 \times 17 \times 28$ 2Spare Parts Box (TCK-3) $5.2$ $17-1/4 \times 18-1/8 \times 28-5/8$ 3Spare Parts Box (TCK-5) $5.2$ $17-1/4 \times 18-1/8 \times 28-5/8$ 1Spare Parts Box (TCK-5) $3.5$ $12-1/4 \times 18-1/8 \times 28-5/8$ 1Spare Parts Box $TCK-3$ (220, 3 ph) $7.7$ $15 \times 18 \times 49$ 1Transmitter NT-52216A $7.7$ $15 \times 18 \times 49$ 1Magnetic Controller NT-21628 $4.7$ $17 \times 17 \times 28$ 1Spare Parts Box $TCK-3$ (220, 3 ph) $12 \times 19 \times 160$ 1Transmitter NT-52216A $10.0$ $19 \times 26 \times 35$ 1Magnetic Controller NT-21629 (220 v) $4.9$ $13-1/2 \times 23-1/2 \times 27$ 1Set of Tubes $5.2$ $17-1/4 \times 18-1/8 \times 28-5/8$ 1Magnetic Controller NT-21629 (220 v) $4.9$ $13-1/2 \times 23-1/2 \times 27$ 1Set of Tubes $5.2$ $17-1/4 \times 18-1/8 \times 28-5/8$ 1Spare Parts Box $TCK-4, TCK-6$ ( $110/220, 1$ ph) $13-1/2 \times 23-1/2 \times 27$			4.9	$13-1/2 \times 23-1/2 \times 27$	90
1       Set of Tubes       4.7       17 X 17 X 28         1       Spare Parts Box       7.1       15 X 18 X 33         1       Transmitter NT-52214A       43.4       32 X 39 X 60         1       Magnetic Controller NT-21631A       7.7       15 X 18 X 33         1       Magnetic Controller NT-21631A       7.7       15 X 18 X 49         1       Magnetic Controller NT-21627       10.0       19 X 26 X 35         1       Spare Parts Box (TCK-3)       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box (TCK-5)       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box (TCK-5)       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box (TCK-5)       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52215A       7.7       15 X 18 X 49         1       Magnetic Controller NT-21632A       7.7       15 X 18 X 49         1       Magnetic Controller NT-21628       4.7       17 X 17 X 28         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52216A       7.1       15 X 18 X 45         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27		Magnetic controller NT-21620 (100 v)		13-1/2 × 23-1/2 × 27	90
1Spare Parts Box TCK-3,TCK-5 (115 v DC)7.115 x 21 x 39 15 x 18 x 331Spare Parts Box TCK-3,TCK-5 (115 v DC) $32 x 39 x 60$ 1Transmitter NT-52214A $32 x 39 x 60$ 1Magnetic Controller NT-21631A $7.7$ 1Set of Tubes $10.0$ 1Spare Parts Box (TCK-3)1Spare Parts Box (TCK-5)1Spare Parts Box (TCK-5)1Spare Parts Box (TCK-5)1Transmitter NT-52215A1Motor-Generator NT-21632A1Motor-Generator NT-21632A1Motor Generator NT-21632A1Transmitter NT-52216A1Transmitter NT-52216A1Transmitter NT-52216A1Transmitter NT-52216A1Magnetic Controller NT-21633A1Magnetic Controller NT-21629 (220 v)1Set of Tubes1Spare Parts Box1Transmitter NT-52216A1Transmitter NT-52216A1Magnetic Controller NT-21629 (220 v)1Set of Tubes1Spare Parts Box1Transmitter NT-21629 (220 v)1Set of Tubes1TCK-4, TCK-6 (110/220, 1 ph)					15
1Spare Parts Box TCK-3, TCK-5 (115 v DC)5.215 x 18 x 331Transmitter NT-52214A43.432 x 39 x 601Motor-Generator NT-21631A7.715 x 18 x 491Magnetic Controller NT-2162710.019 x 26 x 351Spare Parts Box (TCK-3)5.217-1/4 x 18-1/8 x 28-5/81Spare Parts Box (TCK-5)5.217-1/4 x 18-1/8 x 28-5/81Spare Parts Box (TCK-5)5.217-1/4 x 18-1/8 x 28-5/81Spare Parts Box (TCK-5)5.217-1/4 x 18-1/8 x 28-5/81Transmitter NT-52215A7.715 x 18 x 491Magnetic Controller NT-216287.715 x 18 x 491Magnetic Controller NT-2162890.019 x 26 x 351Spare Parts Box7.715 x 18 x 491Magnetic Controller NT-216284.717 x 17 x 281Transmitter NT-52216A7.115 x 18 x 451Motor Generator NT-21633A7.115 x 18 x 451Magnetic Controller NT-21629 (220 v)4.913-1/2 x 23-1/2 x 271Set of Tubes5.217-1/4 x 18-1/8 x 28-5/81Spare Parts Box7.415 x 18 x 451Magnetic Controller NT-21629 (220 v)4.913-1/2 x 23-1/2 x 271Set of Tubes5.217-1/4 x 18-1/8 x 28-5/81Spare Parts Box7.717 x 17 x 281Spare Parts Box7.717 x 17 x 281Spare Parts Box7.715 x 18 x 451 <td></td> <td></td> <td></td> <td></td> <td>95</td>					95
1OperationTCK-3, TCK-5 (115 v DC)1Transmitter NT-52214A $43.4$ $32 \times 39 \times 60$ 1Motor-Generator NT-21631A $7.7$ $15 \times 18 \times 49$ 1Magnetic Controller NT-21627 $10.0$ $19 \times 26 \times 35$ 1Set of Tubes $4.7$ $17 \times 17 \times 28$ 1Spare Parts Box (TCK-5) $3.5$ $12-1/4 \times 18-1/8 \times 28-5/8$ 2Spare Parts Box (TCK-5) $3.5$ $12-1/4 \times 18-1/8 \times 28-5/8$ 1Spare Parts Box (TCK-5) $3.5$ $12-1/4 \times 18-1/8 \times 28-5/8$ 1Transmitter NT-52215A $7.7$ $15 \times 18 \times 49$ 1Magnetic Controller NT-21632A $7.7$ $15 \times 18 \times 49$ 1Magnetic Controller NT-21628 $4.7$ $17 \times 17 \times 28$ 2Spare Parts Box $TCK-3$ (220, 3 ph) $11$ $15 \times 18 \times 45$ 1Transmitter NT-52216A $43.4$ $32 \times 39 \times 60$ 1Transmitter NT-52216A $43.4$ $32 \times 39 \times 60$ 1Motor Generator NT-21633A $43.4$ $32 \times 39 \times 60$ 1Motor Generator NT-21633A $43.4$ $32 \times 39 \times 60$ 1Magnetic Controller NT-21629 (220 v) $4.7$ $15 \times 18 \times 45$ 1Spare Parts Box $TCK-4, TCK-6$ (110/220, 1 ph) $1-1/4 \times 18-1/8 \times 28-5/8$					92
1Transmitter NT-52214A Motor-Generator NT-21631A43.4 Magnetic Controller NT-21631A32 X 39 X 60 To X 15 X 18 X 491Magnetic Controller NT-21627 Spare Parts Box (TCK-3) Spare Parts Box (TCK-5)43.4 To X 17 X 287.7 To X 17 X 281Spare Parts Box (TCK-5) TCK-3 (230 v DC)1.7 $-1/4$ X 18 $-1/8$ X 28 $-5/8$ 1Transmitter NT-52215A Motor-Generator NT-21632A Spare Parts Box TCK-3 (220, 3 ph)7.7 To X 17 X 281Transmitter NT-52216A Motor Generator NT-21633A7.7 To X 17 X 281Transmitter NT-52216A Motor Generator NT-21633A7.7 To X 17 X 281Transmitter NT-52216A Motor Generator NT-21633A7.1 To X 17 X 281Transmitter NT-52216A Motor Generator NT-21633A43.4 To X 17 X 281Spare Parts Box TCK-4, TCK-6 (110/220, 1 ph)32 X 39 X 601Transmitter NT-52216A Magnetic Controller NT-21629 (220 v) Set of Tubes Spare Parts Box TCK-4, TCK-6 (110/220, 1 ph)32 X 39 X 60	1	Spare Parts Box	5.2	10 × 10 × 33	12
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1Magnetic Controller NT-2162710.019 X 26 X 351Spare Parts Box (TCK-3)17 X 17 X 281Spare Parts Box (TCK-5)5.21Spare Parts Box (TCK-5)3.51Transmitter NT-52215A $7.7$ 1Magnetic Controller NT-21632A $7.7$ 1Magnetic Controller NT-21628 $7.7$ 1Transmitter NT-52216A $7.7$ 1Spare Parts Box $7.7$ 1Transmitter NT-21633A1Magnetic Controller NT-21629 (220 v)1Set of Tubes2Spare Parts Box1TCK-4, TCK-6 (110/220, 1 ph)	1	Transmitter NT-52214A			540
1Magnetic Controller NT-21632A4.717 x 17 x 281Spare Parts Box (TCK-3) $3.5$ $1.7-1/4$ x $18-1/8$ x $28-5/8$ 1Spare Parts Box (TCK-5) $3.5$ $1.2-1/4$ x $15$ x $40-5/8$ 1Spare Parts Box (TCK-5) $3.5$ $1.2-1/4$ x $15$ x $40-5/8$ 1Transmitter NT-52215A $3.2$ x $39$ x $60$ 1Motor-Generator NT-21632A $7.7$ $15$ x $18$ x $49$ 1Magnetic Controller NT-21628 $1.7-1/4$ x $18-1/8$ x $28-5/8$ 2Spare Parts Box $7.7$ $15$ x $18$ x $49$ 1Transmitter NT-52216A $1.7-1/4$ x $18-1/8$ x $28-5/8$ 1Transmitter NT-52216A $1.7-1/4$ x $18-1/8$ x $28-5/8$ 1Magnetic Controller NT-21633A $4.7$ 1Spare Parts Box $1.5$ x $18$ x $45$ 1Magnetic Controller NT-21629 (220 v) $4.7$ 1Set of Tubes $3.2$ x $39$ x $60$ 1Spare Parts Box $7.1$ 1Spare Parts Box $7.1$ 1Spare Parts Box $7.1$ 1Spare Parts Box $7.1$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ 1 $7.7$ <	1				430
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1       Spare Parts Box (TCK-3)         1       Spare Parts Box (TCK-5)         1       Spare Parts Box (TCK-5)         1       Spare Parts Box (TCK-5)         1       TCK-3 (230 v DC)         1       Transmitter NT-52215A         1       Motor-Generator NT-21632A         1       Magnetic Controller NT-21628         2       X 39 X 60         1       Transmitter NT-52215A         1       Motor-Generator NT-21632A         1       Magnetic Controller NT-21628         2       X 39 X 60         1       Transmitter NT-52216A         1       Motor Generator NT-21633A         1       Magnetic Controller NT-21629 (220 v)         1       Set of Tubes         1       Spare Parts Box         1       Transmitter NT-52216A         1       Motor Generator NT-21633A         1       Magnetic Controller NT-21629 (220 v)         1       Set of Tubes         1       Spare Parts Box         1       TCK-4, TCK-6 (110/220, 1 ph)			4.7		15
1       Spare Parts Box (TCK-5) Spare Parts Box (TCK-5) TCK-3 (230 v DC)       3.5       12-1/4 X 15 X 40-5/8 5.2         1       Spare Parts Box (TCK-5) TCK-3 (230 v DC)       3.5       12-1/4 X 15 X 40-5/8 5.2         1       Motor-Generator NT-52215A Magnetic Controller NT-21632A       32 X 39 X 60         1       Magnetic Controller NT-21628       7.7       15 X 18 X 49         1       Spare Parts Box       10.0       19 X 26 X 35         1       Transmitter NT-52216A       1.7-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52216A       1.7-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52216A       43.4       32 X 39 X 60         1       Transmitter NT-52216A       43.4       32 X 39 X 60         1       Motor Generator NT-21633A       43.4       32 X 39 X 60         1       Motor Generator NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8			5.2	17-1/4 X 18-1/8 X 28-5/8	155
1       Spare Parts Box (TCK-5) TCK-3 (230 v DC)       5.2       17-1/4 x 18-1/8 x 28-5/8         1       Motor-Generator NT-52215A       32 x 39 x 60         1       Motor-Generator NT-21632A       7.7       15 x 18 x 49         1       Magnetic Controller NT-21628       10.0       19 x 26 x 35         1       Set of Tubes       17-1/4 x 18-1/8 x 28-5/8         1       Transmitter NT-52216A       1.7       17 x 17 x 28         1       Transmitter NT-52216A       43.4       32 x 39 x 60         1       Transmitter NT-52216A       43.4       32 x 39 x 60         1       Motor Generator NT-21633A       43.4       32 x 39 x 60         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 x 23-1/2 x 27         1       Set of Tubes       5.2       17-1/4 x 18-1/8 x 28-5/8         1       Spare Parts Box       5.2       17-1/4 x 18-1/8 x 28-5/8         1       Spare Parts Box       5.2       17-1/4 x 18-1/8 x 28-5/8	100	spare Parts Box (TCK-5)	3.5	12-1/4 X 15 X 40-5/8	150
1       TCK-3 (230 v DC)         1       Transmitter NT-52215A         1       Motor-Generator NT-21632A         1       Magnetic Controller NT-21628         1       Spare Parts Box         1       TCK-3 (220, 3 ph)         1       Transmitter NT-52216A         1       TCK-3 (220, 3 ph)         1       Transmitter NT-52216A         1       Motor Generator NT-21633A         1       Motor Generator NT-21633A         1       Magnetic Controller NT-21629 (220 v)         1       Set of Tubes         1       Spare Parts Box         1       TCK-3 (220, 3 ph)         1       Transmitter NT-52216A         1       Motor Generator NT-21633A         1       Magnetic Controller NT-21629 (220 v)         1       Set of Tubes         1       Spare Parts Box         1       TCK-4, TCK-6 (110/220, 1 ph)		spare Parts Pox (TCK-5)		17-1/4 X 18-1/8 X 28-5/8	200
1       Transmitter NT-52215A       32 X 39 X 60         1       Motor-Generator NT-21632A       15 X 18 X 49         1       Magnetic Controller NT-21628       10.0         1       Set of Tubes       17 X 17 X 28         1       Transmitter NT-52216A       17-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52216A       13 X 18 X 45         1       Motor Generator NT-21633A       43.4         1       Motor Generator NT-21629 (220 v)       13-1/2 X 23-1/2 X 27         1       Set of Tubes       13-1/2 X 23-1/2 X 27         1       Spare Parts Box       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box       17-1/4 X 18-1/8 X 28-5/8	155	TCK=2 (230 V DC)	0.12	xus and	
1       Motor-Generator NT-21632A       7.7       15 X 18 X 49         1       Magnetic Controller NT-21628       10.0       19 X 26 X 35         1       Spare Parts Box       17 X 17 X 28       17-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52216A       43.4       32 X 39 X 60         1       Motor Generator NT-21633A       7.1       15 X 18 X 45         1       Motor Generator NT-21633A       43.4       32 X 39 X 60         1       Motor Generator NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27         1       Set of Tubes       9       13-1/2 X 23-1/2 X 27         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8	- 28			22 Y 30 Y 60	545
1       Magnetic Controller NT-21628       10.0       19 X 26 X 35         1       Spare Parts Box       17 X 17 X 28         1       Transmitter NT-52216A       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Motor Generator NT-21633A       43.4       32 X 39 X 60         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27         1       Spare Parts Box       4.7       17 X 17 X 28         2       Spare Parts Box       7.1       15 X 18 X 45         3       10.0       19 X 26 X 35       17 X 17 X 28         1       Motor Generator NT-21633A       7.1       15 X 18 X 45         1       Spare Parts Box       10.0       19 X 26 X 35         1       Motor Generator NT-21633A       7.1       15 X 18 X 45         1       Spare Parts Box       1.7       17 X 17 X 28         5.2       17-1/4 X 18-1/8 X 28-5/8       5.2       17-1/4 X 18-1/8 X 28-5/8			77		430
1       Set of Tubes       4.7       17 X 17 X 28         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Transmitter NT-52216A       43.4       32 X 39 X 60         1       Motor Generator NT-21633A       7.1       15 X 18 X 45         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27         1       Set of Tubes       5.2       17-1/4 X 18-1/8 X 28-5/8         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8					145
1       Spare Parts Box       5.2       17-1/4 × 18-1/8 × 28-5/8         1       Transmitter NT-52216A       43.4       32 × 39 × 60         1       Motor Generator NT-21633A       7.1       15 × 18 × 45         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 × 23-1/2 × 27         1       Spare Parts Box       5.2       17-1/4 × 18-1/8 × 28-5/8         1       Motor Generator NT-21629 (220 v)       4.9       13-1/2 × 23-1/2 × 27         1       Spare Parts Box       5.2       17-1/4 × 18-1/8 × 28-5/8         1       Spare Parts Box       5.2       17-1/4 × 18-1/8 × 28-5/8					
1       TCK-3 (220, 3 ph)         1       Transmitter NT-52216A         1       Motor Generator NT-21633A         1       Magnetic Controller NT-21629 (220 v)         1       Set of Tubes         1       Spare Parts Box         1       TCK-4, TCK-6 (110/220, 1 ph)	1				15
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Spare Parts Box	5.2	1/-1/4 X 18-1/8 X 28-5/8	155
1       Transmitter NT-52216A       43.4       32 X 39 X 60         1       Motor Generator NT-21633A       7.1       15 X 18 X 45         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27         1       Set of Tubes       4.7       17 X 17 X 28         1       Spare Parts Box       TCK-4.TCK-6 (110/220, 1 ph)       5.2       17-1/4 X 18-1/8 X 28-5/8		TCK-3 (220, 3 ph)		Trari sabar - The another and	
1       Motor Generator NT-21633A       7.1       15 X 18 X 45         1       Magnetic Controller NT-21629 (220 v)       4.9       13-1/2 X 23-1/2 X 27         1       Set of Tubes       1.7       17 X 17 X 28         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8	1		43.4	32 X 39 X 60	550
1       Magnetic Controller NT-21629 (220 v)         1       Set of Tubes         1       Spare Parts Box         1       TCK-4.TCK-6 (110/220, 1 ph)			7.1	15 X 18 X 45	380
1       Set of Tubes       4.7       17 X 17 X 28         1       Spare Parts Box       5.2       17-1/4 X 18-1/8 X 28-5/8		Magnetic Controller NT-21629 (220 v)		13-1/2 X 23-1/2 X 27	90
1         Solv of Hallow           1         Spare Parts Box           1         TCK-4, TCK-6 (110/220, 1 ph)   5.2 17-1/4 X 18-1/8 X 28-5/8					15
TCK-4,TCK-6 (110/220, 1 ph)		Set of Tubes			155
Transmitter NT-52299 including: 47.7 32 X 39 X 72-1/2	1	spare Parts BUX	5.2		
1 ITransmitter NT-52299 Including: 4/-/ 32 X 29 X /2-1/2	80	ICK-4, ICK-6 (110/220, 1 ph)		22 X 20 X 72-1/2	575
	1	Transmitter NT-52299 including:	4/./	22 A 27 A 12-112	015
Transmission Line Coupling Unit NT-51039 Rectifier NT-20219 47.5 34 X 38-1/2 X 62-3/4				an y an ela y ca alu	525

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## TCK, TCK-1 THRU -7

## RADIO TRANSMITTING EQUIPMENT

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGH PACKEE (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)		trought in post-sense-holody	
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 × 15-1/8 × 40-5/8	130
4	Spare Parts Box	A 100	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.

QUANTITY						
PER	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGH (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 × 3-1/4 × 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	<ul> <li>March and a start type of startbowl</li> </ul>	95			
\ 1	Spare Parts Box	and a present part that a straight of	150			
1	Spare Parts Box		85			
80	TCK (230 ∨ DC)		00			
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 1	Magnetic Controller NT-21628	13-11/16 X 19-7/16 X 29-3/16	130			
1	Microphone NT-51006A	2-3/4 × 3-1/4 × 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	Sharfit - Million provide the second	150			
1	Spare Parts Box		85			
Sec. 1	TCK, TCK-1 (220/440, 3 ph)	12. State 10. State 10. State 11. St	00			
1	Transmitter NT-52216	18-1/4 X 25 X 52-5/16	285			
1	Motor-Generator NT-21633	11-1/4 × 14-1/8 × 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 × 5-1/4 × 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	A REAL PROPERTY AND A REAL PROPERTY.	3			
1	Spare Parts Box (TCK)	1.2.1.1.1.268	3 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			

April 1958

April 1958

Radio-Transmitters

## 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)		205	
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 40	
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		
1	Set of Tubes		3 95	
1	Spare Parts Box		95	
1	Spare Parts Box 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		3 105	
ī	Spare Parts Box (TCK-3)			
1	Spare Parts Box (TCK-5)		105	
1	Spare Parts Box (TCK-5)		150	
	TCK-3 (230 V DC)		000	
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 × 5-1/4 × 9-3/4	2	
1	Set of Tubes		105	
1	Spare Parts Box TCK-3 (220, 3 ph)		285	
1	Transmitter NT-52216A	18-1/4 X 25 X 52-5/16		
1	Motor-Generator NT-21633A	11-1/4 X 14-1/8 X 38-1/4	320 40	
1	Magnetic controller NT-21629	8-13/16 x 19-15/16 x 20-7/16	2	
1	Microphone NT-51044A	2-1/2 X 5-1/4 X 9-3/4	3	
1	Set of Tubes		105	
1	Spare Parts Box TCK-4,TCK-6 (110/220, 1 ph)	1.1.1.2200		
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 × 5-1/4 × 9-3/4	2	
1	Set of Tubes		3	
1	Spare Parts Box TCK-7 (230 v DC)	NORTHING	and the state of the	
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	- FILLER TIELEND I TANDERIL HE	3	
1	Spare Parts Box	to transatter is contrad. The	85	
4	Spare Parts Box		90	

UNCLASSIFIED August 1957

### RADIO TRANSMITTING EQUIPMENTS

Radio Transmitters TCM,1,2





#### FUNCTIONAL DESCRIPTION

The TCM, TCM-1 and TCM-2 are designed primarily for either shore or shipboard installation wherever a compact mediumpowered 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.

August 1957

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	CONTENTS AND IDENTIFICATION VOLUME (Cu.Ft.)		WEIGH PACKEE (lbs.)
		ТСМ			
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	-2	2398 Earl: 5109-5 44 , A2 , A3 , POwels outprist		and manager and	
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	1.8	Hand Microphone NT-510064	Sp/Pts	estimator and charless	Sp/Pts
-	1	Hand Microphone NT-51004-C	Sp/Pts	() is a coller differ of	Sp/Pts
1	-	Chest Microphone NT-51046	Sp/Pts	LEON CONTRACTOR	Sp/Pts
1	1	Sparo 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		- tra e l	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
TCM 1 1 1	TCM-1 1 1 1	TCM-2 1 1 1	H.F Radio Transmitter NT-52206 Rectifier NT-20122 Control Unit NT-23241 Hand Microphone NT-51006A		18-3/4 X 20-1/2 X 36-3/4 14-3/4 X 20-1/2 X 36-3/4 9 X 11-1/2 X 12-3/8	200 259 35
1 10	1 1 10	1 1 10	Hand Microphone NT—51004C Chest Microphone NT—51046 Case Spare Parts Tubes		and the sub-	105 7

### UNCLASSIFIED

1.6 TCM: 2

June 1957

### RADIO TRANSMITTING EQUIPMENTS

Radio-Transmitters 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).

### UNCLASSIFIED

3

June 1957

Radio-Transmitters

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 (Ibs.)		
	TCN CONTRACTOR					
1	H-f Radio Transmitter NT-52206	25.5	27 X 32 X 51	390		
0.1	1-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		
inter of	Control Unit NT-23241	17.63	28 X 32 X 34	45		
	Power Transfer Switch NT-240.94	Sp/Pts		Sp/Pts		
2	Spare Parts	9.75	16 X 27 X 39	390		
aldasi <b>i</b> ∶d	15 Tubes TCN-1	17.63	28 X 32 X 34	160		
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		Provide the second second second	Sec.		
*	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 WEIGHT OVERALL DIMENSIONS QUANTITY NAME AND NOMENCLATURE (lbs.) PER (inches) EQUIPT 18-3/4 X 20-1/2 X 36-3/4 200 H-f Radio Transmitter NT-52206 1 18-3/4 X 20-1/2 X 36-3/4 175 I-f Radio Transmitter NT-52205 1 259 Rectifier NT-20122 14-3/4 X 20-1/2 X 36-3/4 1 25 6-1/4 X 10 X 18-3/4 1 Power Transfer Switch NT-24094 35 9 X 11-1/2 X 12-3/8 Control Unit NT-23241 1 190 Cases Spare Parts 2 18 Tubes 15 169 18-3/4 X 20-1/2 X 36-3/4 1 H-f Radio Transmitter NT-52206 146 18-3/4 X 20-1/2 X 36-3/4 I-f Radio Transmitter NT-52205 1 229 14-3/4 X 20-1/2 X 36-3/4 1 Rectifier NT-20122 6-1/4 X 10 X 18-3/4 15 Power Transfer Switch NT-24094 1 30 Control Unit NT-23241 9 X 11-1/2 X 12-3/8 1 \*6 Sp/Pts Spare Parts Shock Mountings Sp/Pts Spare Parts 1 Hand Microphone NT-51006A Sp/Pts Spare Parts Chest Microphone NT-51046 1 186 Cases Spare Parts 2 Tubes 15

\*Shock Mountings to be used only when necessary.

#### UNCLASSIFIED

1.6 TCN: 2

TCR

## RADIO TELEPHONE TRANSMITTING EQUIPMENT



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.

#### 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.

- 'OWER 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)	6L6WGB
(2) 3B28	(1)	813
(6) 83	(2)	811
(6) 1624	(1)	
Total Tubes: (22)		
(6) R2		
Total Crystals: (6)		

#### **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

OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
41 × 73 29 × 52	900 185 5 <b>7</b> 5

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

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April 1959

### RADIO TRANSMITTING EQUIPMENT

TCT



Transmitter Model ICI

FUNCTIONAL DESCRIPTION

The Navy Type TCT Radio Transmitting

UNCLASSIFIED

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

FREOUENCY 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 REOUIREMENTS 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)	OD3₩	(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 Tu	ubes: (2	20)			

April 1959

## Radio-Transmitter TCT

## RADIO TRANSMITTING EQUIPMENT

No Crystals Used.

### REFERENCE DATA AND LITERATURE

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

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

QUANTITY	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (Ibs.)
EQUIPT		01 X 26 X 79	825
1	Radio Transmitter	24 X 26 X 78	010
3	Remote Cables		
1	Telegraph Key		Sec. Sharts
1	Remote Control Unit		1. S.
1	Tool Kit		
1	Portable Field Antenna Assembly		
June 1957

# RADIO TRANSMITTING EQUIPMENTS



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).			

# UNCLASSIFIED

Radio-Transmitters

TCU,1,2

Radio-Transmitters

TCU,1,2

# **RADIO TRANSMITTING EQUIPMENTS**

UNCLASSIFIED

June 1957

#### 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.

OVERALL DIMENSIONS (inches) 27 X 32 X 51 27 X 32 X 51	WEIGH PACKEI (Ibs.) 207
	307
	307
	1 501
	000
	389 45
16 X 27 X 39	195
	50
27 X 32 X 51	2.7
	359
	40
	195
	50
	27 X 32 X 51 28 X 32 X 34 16 X 27 X 39

	EQUIPMENT SUPPLIED DATA						
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE		OVERALL DIMENSIONS (inches)	WEIGHT (Ibs.)			
os la abi is ingenitariad	TCU I-F Radio Transmitter NT-52205	1. 1835 (1946) 1	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	175 2.59			
1	Control Unit NT-23241 Case Spare Parts NT-23241	ور ال	9 X 11-1/2 X 12-3/8	35			
9	Tubes TCU-1, TCU-2	da R Tad	Artema a behir a sana Camada arta Camada arta arta	7			
1.740	I-F Radio Transmitter NT-52205 Rectifier NT-20122		18-3/4 X 20-1/2 X 36-3/4	146			
1	Control Unit NT-23241	e) (rzine)	14-3/4 X 20-1/2 X 36-3/4 9 X 11-1/2 X 12-3/8	229 30			
1 9	Case Spare Parts Tubes	1.11.1	n serviceburger (1990) Berlin	93 7			
	a Od 0128 se externedy. esarge ream		500 K 20	late quat			

#### 1.6 TCU: 2

Radio-Transmitters

TCY,TCY-1



PORTABLE EMERGENCY RADIO

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-lare 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 Total Tubes: (2) (1) 6L6

No Crystals used.

# REFERENCE DATA AND LITERATURE

NAVSHIPS 95324: Technical Manual for Navy

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

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

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

	EQUIPMENT SUPPLIED DATA				
QUANTITY	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)		
EQUIPT	(70)) 07	9-3/8 × 16-1/4 × 21-1/4	60		
1	Radio Transmitter NT-52236 (TCY) or NT-52236A (TCY-1)				
1	Antenna Materials				
1	Set of Equipment Spares				

April 1958

# RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters TCZ, TCZ-1, -2



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 opertion 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, (TCZ-1).	dated	29	Jun	e 1944
Contract NXsr-95063 1945 (TCZ-2).	, date	ed	14	April
Approximate Cost: \$3	3100.00	) wi	th e	quip-
ment spares.				

#### TUBE AND/OR CRYSTAL COMPLEMENT

				TCZ			
(3)	12SJ7	(3	3)	1625	(4	4) 3B28*	5
(2)	6V6GTY	(3	2)	811	()	1) 813	
(1)	837						
Total 7	Tubes:	(16)					
		TC	Z-1	1, -2			
(1)	12SA7Y	(1)	1:	2SJ7	(2)	12SL7GT	•
(3)	1625	(4)	31	328*	(2)	6V6GTY	
(2)	811	(1)	8	13	(1)	837	
Total 7	Tubes:	(17)					

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

(1) NT-40127	TCZ
Total Crystals:	(1)
(1) CR-2B/U	TCZ-1,-2
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.)		
1	TCZ-115VAC Radio Transmitter NT-52286 Motor Generator-Rectifier Power Unit	8.65	20 X 22 X 34	135		
0.00	NT-211101	17.0	28 X 31 X 34	445		

April 1958

# RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters

# TCZ, TCZ-1, -2

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	12.6	20 X 31 X 35	145
1	(1) Crystal NT-40127 Set of Equipment Spares	5.8	15 X 19 X 35	142
1	TCZ-115VDC 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	335 120
1	Remote Control Unit NT-23410 including: (1) Antenna Loading Coil NT-47370 (1) Antenna Shunt Capacitor NT-481628	10.7	20 X 30 X 31	120
	<ul> <li>(1) Set of Interconnecting Cables</li> <li>(2) Technical Manual NAVSHIPS 900854</li> <li>(1) Crystal NT-40127</li> </ul>			1.00
1	Set of Equipment Spares TCZ-1	5.8	15 X 19 X 35	142
1 1	Radio Transmitter NT-52286-A Rectifier-Motor Generator Power Unit	12.4	19-3/4 X 31 X 35	194
1	NT-211322 Remote Control Unit NT-23410 including: (1) Quartz Crystal CR-2B/U	18.5 14.6	27 X 31-1/2 X 37-1/2 24 X 31 X 34-1/2	486 194
	<ol> <li>(1) Quart2 Crystal CK-2670</li> <li>(1) Antenna Load Coil NT-47505</li> <li>(1) Antenna Shunt Capacitor NT-481628</li> <li>(1) Set of Interconnecting Cables</li> <li>(2) Technical Manual NAVSHIPS 900481(A)</li> </ol>		The Constants Marine Constants And Constants And Constants	
1	Equipment Spares		16 X 16 X 35	206
1	Equipment Spares		16 X 16 X 35	114
1	Equipment Spares TCZ-2		16 X 19 X 35	195
1 1	Radio Transmitter NT-52286-A Dynamotor Assembly Power Unit		19-3/4 X 31 X 35	194
1	NT-211624 Remote Control Unit NT-23410 including: (1) Quartz Crystal CR-2B/U (1) Antenna Load Coil NT-47505 (1) Antenna Shunt Capacitor		27 X 31-1/2 X 37-1/2 24 X 31 X 34-1/2	376 194
	NT-481628 (1) Set of Interconnecting Cables (2) Technical Manual NAVSHIPS 900481(A)	e 45.		tta y Já
1	Equipment Spares	5.2	16 X 16 X 35	206
1 1	Equipment Spares Equipment Spares	5.2	16 X 16 X 35 16 X 19 X 35	114 195

19463725	EQUIPMENT SUPPLIED	DATA	70
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	TCZ-115VAC Radio Transmitter NT-52286	10-3/4 X 13-1/4 X 23-9/16	66.0

UNCLASSIFIED

1.6 TCZ: 3

Radio-Transmitters

TCZ, TCZ-1, -2

# RADIO TRANSMITTING EQUIPMENT

April 1958

UNCLASSIFIED

QUANTITY OVERVICE OVERVICE OVERVICE					
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGH (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 19			
1	Load Coil Cable	120 19			
1	Remote Control Cable	120 19			
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		
10110-10110-1010-102	TC Z-115VDC		100.0		
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	1.0		
1	Power Cable, Transmitter to Power Unit	10.5 19			
1	Load Coil Cable	120 lg			
1	Remote Control Cable	120 19			
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		
	TC Z-1	10 X 19 X 90	1 100.0		
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	0.0		
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	1.50		
1	Control Cable, Power Unit to Transmitter	11-11/32 lg	0.6		
1	Power Cable, Power Unit to Transmitter	11-9/16 lg	0.5		
1	Power Cable, Transmitter to Load Coil	120 lg	0.6		
1	Control Cable	120 lg	4.0		
2	Technical Manual NAVSHIPS 900481(A)	1 X 8-1/2 X 11	4.0		
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		120.0		
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	0.0		
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	1.50		
1	Control Cable, Power Unit to Transmitter	11-11/32 lg	0.6		
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 19	4.0		
2	Technical Manual NAVSHIPS 900481(A)	1 X 8-1/2 X 11	4.0		
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		

1.6 TCZ: 4

April 1958

TDA

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

UNCLASSIFIED

### RADIOTELEGRAPH TRANSMITTING EQUIPMENT

frequencies, but is so arranged that crystal units may be easily installed.

It is designed for a 115 volt directcurrent 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
Al: 160 to 200 W.
A2: 200 W.
EMISSION: Al, A2.
FREQUENCY CONTROL: Master oscillator.
MODULATION: 70%.
KEYING SPEED
Al: 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 Total Tubes: (4) (2) 807

No Crystals.

#### REFERENCE DATA AND LITERATURE

Technical Manual for Model TDA Radiotelegraph Transmitting Equipment.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.

Radio-Transmitters

TDA

# RADIOTELEGRAPH TRANSMITTING EQUIPMENT

April 1958

### EQUIPMENT SUPPLIED DATA

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

# 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 Al (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.

# Radio-Transmitters TDB

# RADIO TELEGRAPH TRANSMITTING EQUIPMENT TRANSMITTING EQUIPMENT

UNCLASSIFIED

March 1957

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

1.6 TDB: 2

TDB-2

# 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: Al 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.

April 1959

Radio-Transmitters

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	<pre>High Frequency Radio Telegraph Transmitting Equipment TDB-2 Including: (1) Transmitter type CRM-52341 (1) Motor-Generator type CG-211137 (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</pre>	14-1/4 X 20-3/4 X 45 10-3/4 X 14-1/8 X 28	135 225		
	<ul><li>(1) Set of Equipment Spares</li><li>(2) Instruction Book TDB-2</li></ul>	1/4 X 8-1/2 X 11			

# TDD,TDD-1,2,3,4

# RADIO TELEPHONE TRANSMITTING EQUIPMENT

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).

# UNCLASSIFIED

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

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

UNCLASSIFIED

December 1956

SHIPPING DATA					
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION		VOLUME OVERALL DIMENSIONS (Cu.Fr.) (inches)		
	TDD, TDD-1, 2, 3		Mindo A		
1	Radio Telephone Transmitter	4.45	17-1/2 X 21 X 21-3/4		
1	Cabinet, Equipment Spares and	A Starte		1946 B. 1946 B. 194	
	Accessories	20.03	23-1/2 X 28 X 54	1.1.1	
	TDD-4		A STATE AND A STAT		
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		
Consistent 1	TDD or TDD-1 consisting of:	and the second	1000 10
	Radio Transmitter NT-52258	14 X 14 X 19	70
	Cabinet	18 X 25-1/2 X 52	120
2- 	Set of Equipment Spares		
	Set of Accessories		
1	Radio Telephone Transmitting Equipment TDD-2		
	consisting of:	anna lande and I fans take and	193-0
	Radio Transmitter NT-52258-A	14 X 14 X 19	70
	Cabinet	18 X 25-1/2 X 52	120
	Set of Equipment Spares	a company and the	
	Set of Accessories	ys Model TDD-5 is off-con-	
1	Radio Telephone Transmitting Equipment TDD-3	dented, for frequency of	
	consisting of:	. Introdu Jorgana da kasar el d	1 - 2893 P -
	Radio Transmitter NT-52258-B	14 X 14 X 19	70
	Cabinet	18 X 25-1/2 X 52	120
	Set of Equipment Spares	I I I TRAFT & SAT BASES AND A	OLEONICE STREET
	Set of Accessories	ri si vine (l. l'isri sell'is	(A.C. 1.0)
1001	Radio Telephone Transmitting Equipment TDD-4	n Breitwiller is Scholoff all the BBR	12 10 14 11
	consisting of:	i e mont no gamiden adu tu	10 10 10
	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

April 1959

### 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.

#### Radio-Transmitters

# 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 (Ibs.)		
11 10	Radio Telephone Transmitter TDD-5	17-5/8 X 22 X 51-3/4	190		

ELCOREAL AND RECHARGER CHARACTERISTICS

UNCLASSIFIED

#### April 1958

#### Radio-Transmitters

#### RADIO TRANSMITTING EQUIPMENT

TDE, TDE-1, -2, -3



Radio Transmitting Equipment IDE, 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 continuouswave, 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  $\pm 10\%$ , 1.2 kw operating, 8.5 kw starting; 220 or 440 v  $\pm 5\%$ , 60 cps, 3 ph, 1.2 kw operating, 4.6 kw starting; 115 or 230 v  $\pm 5\%$ , 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).

Radio-Transmitters

# TDE, TDE-1, -2, -3

# RADIO TRANSMITTING EQUIPMENT

April 1958

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).

### TUBE AND/OR CRYSTAL COMPLEMENT

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

Total Tubes: (8)

No Crystals

#### 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.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.

SHIPPING DATA
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NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGH PACKEE (lbs.)
1	TDE, TDE-1, -2, -3 (115-230 VDC) Radio Transmitter including: Motor-Generator and Rectifier Power Unit	40	27 X 37 X 70	960
1	Remote Control Unit Set of Equipment Spares	6.2	17 X 18 X 35	205
1	TDE, TDE-2(220-440VAC), TDE-1(115-230VAC) Radio Transmitter including: Motor-Generator and Rectifier Power Unit	40	27 X 37 X 70	960
1	Remote Control Unit 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	40	27 X 37 X 70	966
	Remote Control Unit Autotransformer		and the state of the second state of the	
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.)
1 1 1 1 1	TDE (115 VDC) Radio Transmitter NT-52267 Motor-Generator and Rectifier Power Unit NT-21848 Remote Control Unit NT-23305 Equipment Spares Equipment Spares	20-1/2 X 28-1/4 X 39-13/16 19-7/16 X 22-13/16 X 28 3-9/16 X 5-3/16 X 5-7/16 15-1/2 X 15-1/2 X 24-1/4 6-1/4 X 6-3/4 X 15	334 372 3 110 25

# RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters

TDE, TDE-1, -2, -3

# 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
1	TDE (230 VDC) Radio Transmitter NT-52267	$e^{i\mu} d^{\mu} d^{\mu} = -i h e^{i\mu} d^{\mu}$	20
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-23305		372
1	Equipment Spares	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 6-1/4 X 6-3/4 X 15	110
1	Equipment Spares	$6-1/4 \times 6-3/4 \times 10$	25
,	TDE (220-440 VAC)		20
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 Remote Control Unit NT-23305	19-7/16 X 22-13/16 X 28	355
1	Equipment Spares	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
-	TDE-1 (115 VDC)	6-1/4 X 6-3/4 X 15	25
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	
1	Motor-Generator and Rectifier Power Unit NT-21848	19-7/16 X 22-13/16 X 28	334
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	372
1	Equipment Spares	$15-1/2 \times 15-1/2 \times 24-1/4$	110
1	Equipment Spares	6-1/4 X 10 X 15	45
1	TDE-1 (230 VDC) Radio Transmitter NT-52267A		5.18.00.004
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	$15-1/2 \times 15-1/2 \times 24-1/4$ 6-1/4 × 10 × 15	110
	TDE-1 (220-440 VAC)	6-1/4 X 10 X 15	45
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	221
1	Motor-Generator and Rectifier Power Unit NT-21850	19-7/16 X 22-13/16 X 28	334 355
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
-	TDE-1 (115-230 VAC)	6-1/4 X 6-1/4 X 15	25
1	Radio Transmitter NT-52267A	and a view of the	
1	Motor-Generator and Rectifier Power Unit	20-1/2 X 28-1/4 X 39-13/16	334
	NT-211030	19-7/16 X 22-13/16 X 28	
1	Remote Control Unit NT-23381	3-11/16 X 5-1/8 X 5-7/16	360
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	3.5
1	Equipment Spares	6-1/4 X 6-3/4 X 15	110 25
1	TDE-2 (115 VDC) Radio Transmitter NT-52267A		20
1	Motor A	20-1/2 X 28-1/4 X 39-13/16	334
1	Motor-Generator and Rectifier Power Unit NT-21848 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	20-1/2 X 28-1/4 X 39-13/16	334
1	Denote Contrator and Rectifier Power Unit NI-21849	19-7/16 X 22-13/16 X 28	372
1	Faulterent Operation I NT-23381	3-11/16 X 5-1/8 X 5-7/16	3.5
	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			
1   1	Motor-Generator and Rectifier Power Unit NT-21050	20-1/2 X 28-1/4 X 39-13/16	334
1 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 15-1/2 X 15-1/2 X 24-1/4	3.5
1 [	Equipment Spares	6-1/4 X 6-3/4 X 15	110
	TDE-3 (115 VDC)		25

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Radio-Transmitters

# TDE, TDE-1, -2, -3

# RADIO TRANSMITTING EQUIPMENT

April 1958

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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	
201121291	Equipment Spares TDE-3 (230 VDC)	6-1/4 X 10 X 15	45	
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 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 TDE-3 (220-440 VAC)	6-1/4 X 10 X 15	45	
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		
1*	Autotransformer NT-301145	3-1/8 X 5-1/2 X 7	3.5	
1	Equipment Spares	15-1/2 X 15-1/2 X 24-1/2	6.5	
1	Equipment Spares TDE-3 (115-230 VAC)	6-1/2 X 6-3/4 X 15	110 25	
1	Radio Transmitter NT-52267A	20-1/2 X 28-1/4 X 39-13/16	2211	
1	Motor-Generator and Rectifier Power Unit NT-211030	The second second second second second	334	
1	Remote Control Unit NT-23381	19-7/16 X 22-13/16 X 28-1/4	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	
	Ederbinente obares	6-1/4 X 6-3/4 X 15	25	

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

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# RADIO TELEPHONE TRANSMITTING EQUIPMENT





Radio Telephone Transmitting Equipment IDF

#### FUNCTIONAL DESCRIPTION

The TDF radio transmitter for Al, 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 Al 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	(6)	83
(1) 813	(3)	6L6WGB
(2) 811	(2)	6X5WGT
(2) 3B28		
Total Tubes: (22)		
(6) R-2		
Total Crystals: (6)		

# 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.

April 1958

Radio-Transmitters

TDF

# RADIO TELEPHONE TRANSMITTING EQUIPMENT

- ALA	SHIPPING	G DATA	N. OSSCRIPTIGN	HOTOH
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 × 29 × 52	185
2	Set of Equipment Spares	18	21 x 29 x 52	175
	Box 1 Box 2	13	21 × 27 × 51	400

EQUIPMENT SUPPLIED DATA				
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)	
1	Radiotelephone Transmitter	20 x 34 x 61-1/4	690	
	NT-52261 Control Unit NT-23288	8-1/4 × 9-1/4 × 14	16	
2		$5-1/2 \times 7-1/2 \times 9$	5	
2	Hand Telephone Assembly NT—51027	J-1/2 × /-1/2 × /		
1	Set of Accessories	A TO DTHEM EQUIPMENT	SHARE	
1	Set of Equipment Spares		1	

# UNCLASSIFIED

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TDG, TDG-1

### HIGH FREQUENCY RADIO TELEPHONE TRANSMITTER EQUIPMENT

#### FUNCTIONAL DESCRIPTION

The Navy Models TDG and TDG-1 are lowpowered 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	1111263.004
(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 <sup>+</sup>	84 X 26-3/4 X 17	200	

#### Radio-Transmitters

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April 1958

# TDG, TDG-1

# HIGH FREQUENCY RADIO TELEPHONE TRANSMITTER EQUIPMENT

# EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (Ibs.)
1	Outdoor Cabinet CW-10589 <sup>++</sup>	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.

*t*+Mounts one Equipment.

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# RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters 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 Al, 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.

#### Radio-Transmitters

#### TDH, TDH-2,-3,-4

# RADIO TRANSMITTING EQUIPMENT

KEYING SPEED	
Al: 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	
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)	845₩
(4)	3B28	(6)	872A
(1)	OD3W		
Total "	Tubes: (42	)	

(2) 6	5A8	(1)	6AG7Y
(2) 6	5C8G	(4)	6SJ7
(2) 6	SL7WGT	(2)	6 SN7 WGTA
(1) 6	5X5WGT	(2)	450TL
(2) 7	750TL	(2)	801A
(2) 8	307	(1)	811
(2) 8	313	(2)	845W
(4) 3	3B28	(6)	872A
(1) (	DD3W	(2)	6V6GT
(2) 5	5U4G		
Total Tu	ubes: (42)		

TDH-3, TDH-4

(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 TOH E	N28/4087-42/SHIPS
STOCK NO. TDH-2	EN28/2975-43/SHIPS
TDH-3	EN28/2659-43/SHIPS
ТОН-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-Transmitters TDH, TDH-2,-3,-4

# RADIO TRANSMITTING EQUIPMENT

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (Ibs.)
1	TDH or TDH-2	- 1m - <sup>1</sup> m - 10 - 11	12.2
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 1	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
Q. 9 9 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	2	68
3	Set of Vacuum Tube Spares		38
1	Set of Equipment Spares		

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TDK

# EMERGENCY RADIO TELEGRAPH TRANSMITTER



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

Radio-Transmitters

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 (Ibs.)	
1	Radio Transmitter Unit CRM-52269	20-1/8 × 15-1/8 × 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		1.00	
1	Telegraph Key		1.000.00	
1	Antenna Transfer Switch			
1	Set of Equipment Spares			

# RADIO TRANSMITTING EQUIPMENT

April 1958



Radio Transmitting Equipment IDN

# 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.

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% modu-
      lation; 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 Al 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.

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

Radio-Transmitters

TDN

Radio-Transmitters

March 1957

# RADIO TRANSMITTING EQUIPMENT

TDN-2,3,4



LOCAL CONTROL & KEYER CABINET ASSEMBLY

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 RANG	GE: 2 to 20 mc.	
NUMBER OF PRES	SET FREQUENCIES	
TDN-2: 5.		
TDN-3: 6.		
FREQUENCY CON	TROL: Quartz crystal or c	ol-
	er oscillator.	
TYPES OF EMIS	SION	
TDN-2 AND	TDN-3: A1.	

TDN-4: Al 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**

March 1957

MANUFACTURER'S OR CONTRACTOR'S DATA	TDN-2 (8) OD3W (5) 5Z3	(5) 6J5WGT
Federal Telephone and Radio Corp., Clifton, N.J. Contract NXsr-51522, dated 3 March 1944.	(8) 6SJ7 (16) 6V6GT (4) 83 (10) 450TH (16) 872A (12) 5931 Total Tubes: (110)	(6) 6X5WGT (5) 813 (15) 5933WA
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.	TDN-3 (8) OD3W (6) 5Z3 (8) 6SJ7 (16) 6V6GT (4) 83 (12) 450TH (16) 872A (12) 5931 Total Tubes: (119)	<ul> <li>(6) 6J5WGT</li> <li>(7) 6X5WGT</li> <li>(6) 813</li> <li>(18) 5933WA</li> </ul>

#### TUBE AND/OR CRYSTAL COMPLEMENT

TDN-4				
(8) OD3W	(5)	5Z3	(4)	6C5
(5) 6J5W	GT (2)	6N7	(8)	6SJ7
(16) 6V6	GT (6)	6X5WGT	(6)	83
(14) 450	TH (5)	813	(16)	872A
(12) 593	1 (19	) 5933WA		
Total Tubes:	(126)			

# REFERENCE DATA AND LITERATURE

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

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

# SHIPPING DATA

-	NUMBER OF BOXES		CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1						
2	3	4		and a start		
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			
	0.000	12:1	Rectifier Power Unit and 3			an an an
			Transmitters)	26	15 X 48 X 61	270
1			Back Panel Assembly (for 1	1 1 1 1		101
			Rectifier Power Unit and 2	6-0-7 F	and the second	
			Transmitters	21	15 X 48 X 50	223
		1	Back Panel Assembly (for 1	1		1
			Rectifier Power Unit 3			
			Transmitters, and 1 Modulator	30	15 X 48 X 72	321
		1	Back Panel Assembly (for 1		attend to the process of the	and the part
			Rectifier Power Unit and	1 ( A & A & A & A & A & A & A & A & A & A	<ul> <li>Head in the distribution</li> </ul>	1 10 100
			2 Transmitters and 1	a sina ang	al construction of them."	0.04
		1.03	Modulator	26	15 X 48 X 61	273
1			Tracks (for 1 Rectifier, and	20		
1			2 Transmitters	1.25	3 X 10 X 68	114
1	1	1	Tracks (for 1 Rectifier, and	1.25		114
	1	-	3 Transmitters or 2			
			Transmitters and 1			
				1 50	1 × 10 × 60	139
	1		Modulator	1 1.50	4 X 10 X 68	1 129

#### 1.6 TDN-2: 2

March 1957

# RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters

TDN-2,3,4

			SHIPPING D	VOLUME	OVERALL DIMENSIONS	WEIGH
NUMBER OF BOXES			CONTENTS AND IDENTIFICATION	(Cu.Ft.)	(inches)	PACKED (lbs.)
TDN-						
2	3	4	Base Channels, Tie Plates, Ground Strips,			1
	1	1	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
			Base Channels, Tie Plates, Ground strips, Antenna Contacts (for 1 Rectifier	_	t ot het nig t Seter blief of ot	
		1	and 2 Transmitters) Base Channels, Tie Plates, Ground Strips,	3.5	8 X 18 X 50	75
	1	1	Antenna Contacts for 1 Rectifier, and 3 Transmitters) or 2 Transmitters and		- philacharl (13, 503) - marcharl (13, 503)	
			1 Modulator) Base Channels, Tie Plates. Ground Strips,	4.25	8 X 23 X 40	100
1		1	Antenna Contacts (for 1 Rectifier, 3 Transmitters, and 1 Modulator)	5.25	8 X 28 X 50	125
	2	2	side Panels	36	11 X 37 X 76	296
	1	1	Master Oscillator Cabinet including:	29	24 X 26 X 40	585
	is da		R. F. Oscillators NT-35059(4) Oscillator Power Supply		angan ing ang ang ang ang ang ang ang ang ang a	
			NT-20323 Patchboard Panel NT-23472		and the states of	
			Patchboard Panel NT-23511 Transmitter Connector			
1	1	1	Panels RE-23F-226B Local control and Keyer	34	26 X 27 X 82	510
	(		Cabinet including: Selector Control Unit	1924		
	51.95		Operator's Control Unit Keying Units			144.0
1	adt)		Local Control and Keyer Cabinet including:	34	26 X 27 X 82	515
			Selector Control Unit NT-23464			
			Operator's Control Unit NT-23465		- and a second shall	
	277 Å. 20 S		Keying Units NT-23466 Keyer Power Supply NT-20322		n for each ann ann an ann an ann an Real e Reiseadh ann an Airtean an Airtean	
1	948 19.8		Local Control and Keyer Cabinet including:	34	26 X 27 X 82	525
	385		Selector Control Unit Operator's Control Unit	at the	and the second second	
	193		Keying Units Keyer Power Supply			
	164	1	including:	34	26 X 27 X 82	515
	ees		Selector Control Unit Operator's Control Unit			
			Keying Units Keyer Power Supply	Bevoltione Inters au	and and a second se	
	26.1 19		Local Control Switch Panel NT-23470		) 1.1903 (1114) 1.1669 (101 (1199 (1197 (1197	
			1)		The second secon	
# TDN-2,3,4

# RADIO TRANSMITTING EQUIPMENT

March 1957

	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGH PACKEE (lbs.)
11	-		(105.)
11			-
Remote Control Cabinet including: Operator's Control Unit Remote Control Switch	7	20 X 24 X 25	135
1 Wye-Delta Primary Switch including: Main Line Switch	17	19 X 21 X 29	115
1 Flameproof Switch Board Wire (600 ft) including: Coaxial Cable RC-59/U with Connector	2.5	10 X 20 X 20	1 25
1 Set Operating Tubes	44		2 65
		-	250
1 Equipment Spares (less Tubes)	38		235 1370
Equipment Spares (less tubes) Equipment Spares (less tubes)	46		1270
1 Spare Tubes	88		530
Spare Tubes Spare Tubes	82		500 470
	Remote Control Switch Panel NT-23471 Wye-Delta Primary Switch including: Main Line Switch Auxiliary Line Switch Flameproof Switch Board Wire (600 ft) including: Coaxial Cable RC-59/U with Connector Set Operating Tubes Set Operating Tubes Set Operating Tubes Set Operating Tubes 1 Equipment Spares (less Tubes) Equipment Spares (less tubes) Equipment Spares (less tubes) 1 Spare Tubes Spare Tubes	Remote Control Switch Panel NT-2347111Wye-Delta Primary Switch including: Main Line Switch171Flameproof Switch Board Wire (600 ft) including: Coaxial Cable RC-59/U with Connector2.51Set Operating Tubes Set Operating Tubes Set Operating Tubes441Set Operating Tubes Set Operating Tubes381Equipment Spares (less tubes) Equipment Spares (less tubes)461Spare Tubes Spare Tubes88	Remote Control Switch Panel NT-2347111Wye-Delta Primary Switch including: Main Line Switch Auxiliary Line Switch1719 X 21 X 291Flameproof Switch Board Wire (600 ft) including: Coaxial Cable RC-59/U with Connector2.510 X 20 X 201Set Operating Tubes Set Operating Tubes Lequipment Spares (less Tubes) Equipment Spares (less tubes)441Spare Tubes Spare Tubes381Spare Tubes Spare Tubes44

EQUIPT       (inches)         TDN-       (inches)         2       2 <th>-</th> <th colspan="5">EQUIPMENT SUPPLIED DATA</th>	-	EQUIPMENT SUPPLIED DATA				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		PER		NAME AND NOMENCLATURE		WEIGHT (lbs.)
2       2       2       Radio Transmitter NT-52350 $11-1/4 \times 34 \times 72$ 2         1       2       1       Radio Transmitter NT-52351 $11-1/4 \times 34 \times 72$ 2         2       2       2       Rectifier Power Unit NT-20208-A $22-1/2 \times 34 \times 72$ 2         2       2       2       Plate Transformer NT-301046-A $22-1/2 \times 34 \times 72$ 46         1       2       Plate Transformer NT-301046-A $11-1/4 \times 34 \times 72$ 46         1       2       Plate Transformer NT-301046-A $10-3/4 \times 46-1/2 \times 56-1/4$ 15         1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Modulator)       1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Modulator)       1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Modulator)       1       Modulator) $10-3/4 \times 46-1/2 \times 56-1/4$ 19         1       2       1       Tracks (for 1 Rectifier and 2 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ 19         1		TDN-	DI '			
2       2       2       Radio Transmitter NT-52350 $11-1/4 \times 34 \times 72$ 23         1       2       1       Radio Transmitter NT-52351 $11-1/4 \times 34 \times 72$ 24         2       2       2       Rectifier Power Unit NT-20208-A $22-1/2 \times 34 \times 72$ 26         2       2       2       Plate Transformer NT-301046-A $22-1/2 \times 34 \times 72$ 46         1       2       Plate Transformer NT-301046-A $11-1/4 \times 34 \times 72$ 46         1       2       Plate Transformer NT-301046-A $11-1/4 \times 34 \times 72$ 46         1       2       Plate Transformer NT-301046-A $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 67-1/2$ 16         1       Modulator)       1       Back Panel Assembly (for 1 Rectifier $10-3/4 \times 46-1/2 \times 56-1/4$ 16         1       Modulator)       1 $10-3/4 \times 46-1/2 \times 56-1/4$ 19         1       2       1       Tracks (for 1 Rectifier and 2 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ 19         1       2       1       Tracks (for 1 Rectifier, a	2	2		Radio Transmitter NT-52349	11-1/1 X 31 X 72	2.06
222Rectifier Power Unit NT-20208-A $22-1/2 \times 34 \times 72$ $660$ 222Plate Transformer NT-301046-A $11-1/4 \times 34 \times 72$ $11-1/4 \times 34 \times 72$ 12Back Panel Assembly (for 1 Rectifier Power Unit and 3 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ $150-3/4 \times 46-1/2 \times 56-1/4$ 11Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ $160-3/4 \times 46-1/2 \times 67-1/2$ 11Back Panel Assembly (for 1 Rectifier 	2	2	2			296
222Rectifier Power Unit NT-20208-A $22-1/2 \times 34 \times 72$ 66222Plate Transformer NT-50204 $11-1/4 \times 34 \times 72$ 4612Plate Transformer NT-301046-A $18-1/2 \times 25-11/16 \times 26-1/4$ 7512Back Panel Assembly (for 1 Rectifier Power Unit and 3 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ 1611Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ 161Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ 2311Power Unit and 2 Transmitters and 1 Modulator) $10-3/4 \times 46-1/2 \times 56-1/4$ 19121Tracks (for 1 Rectifier and 2 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ 19121Tracks (for 1 Rectifier, and 3 Transmitters) $1/4 \times 7-1/2 \times 63-1/2$ 9	1	2	1			296
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	2	2			660
222Plate Transformer NT-301046-A $18-1/2 \times 25-11/16 \times 26-1/4$ 7512Back Panel Assembly (for 1 Rectifier Power Unit and 3 Transmitters) Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters) Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 56-1/4$ 161Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ 161Power Unit and 2 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ 231Tracks (for 1 Rectifier and 2 Transmitters) Tracks (for 1 Rectifier, and 3 Transmitters $10-3/4 \times 46-1/2 \times 56-1/4$ 19121Tracks (for 1 Rectifier, and 3 Transmitters) $1/4 \times 7-1/2 \times 63-1/2$ 9			2		$11-1/4 \times 34 \times 72$	4 96
1Does the function Assembly (for 1 Rectifier Power Unit and 3 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ 151Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters) $10-3/4 \times 46-1/2 \times 56-1/4$ 161Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ 161Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator) $10-3/4 \times 46-1/2 \times 67-1/2$ 231Power Unit and 2 Transmitters and 1 Modulator) $10-3/4 \times 46-1/2 \times 56-1/4$ 191Tracks (for 1 Rectifier and 2 Transmitters) $1/4 \times 7-1/2 \times 63-1/2$ 9	2		2		18-1/2 X 25-11/16 X 26-1/4	750
1       Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters)       10-3/4 X 45 X 46-1/2       16         1       Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator)       10-3/4 X 45 X 46-1/2       16         1       Modulator)       10-3/4 X 46-1/2 X 67-1/2       23         1       Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)       10-3/4 X 46-1/2 X 67-1/2       23         1       Tracks (for 1 Rectifier and 2 Transmitters)       10-3/4 X 46-1/2 X 56-1/4       19         1       Tracks (for 1 Rectifier, and 3 Transmitters)       1/4 X 7-1/2 X 63-1/2       9	1	2		Back Panel Assembly (for 1 Rectifier		,
1       Dock Table 1 Assembly (for 1 Rectifier Power Unit and 2 Transmitters)       10-3/4 X 45 X 46-1/2       16         1       Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator)       10-3/4 X 45 X 46-1/2       16         1       Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)       10-3/4 X 46-1/2 X 67-1/2       23         1       Tracks (for 1 Rectifier and 2 Transmitters)       10-3/4 X 46-1/2 X 56-1/4       19         1       Tracks (for 1 Rectifier, and 3 Transmitters)       1/4 X 7-1/2 X 63-1/2       9					$10-3/4 \times 46-1/2 \times 56-1/4$	195
1Back Panel Assembly (for 1 Rectifier Power Unit, 3 Transmitters, and 1 Modulator)10-3/4 X 46-1/2 X 67-1/2231Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)10-3/4 X 46-1/2 X 56-1/4191Tracks (for 1 Rectifier and 2 Transmitters)1/4 X 7-1/2 X 63-1/219	1				_	
1Power unit, 3 Transmitters, and 1 Modulator)10-3/4 X 46-1/2 X 67-1/2231Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)10-3/4 X 46-1/2 X 67-1/2231Tracks (for 1 Rectifier and 2 Transmitters)10-3/4 X 46-1/2 X 56-1/4191Tracks (for 1 Rectifier, and 3 Transmitters)1/4 X 7-1/2 X 63-1/29				Power Unit and 2 Transmitters)	10-3/4 X 45 X 46-1/2	160
11 Modulator)10-3/4 X 46-1/2 X 67-1/2231Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)10-3/4 X 46-1/2 X 67-1/2191Tracks (for 1 Rectifier and 2 Transmitters)1/4 X 7-1/2 X 63-1/2191Tracks (for 1 Rectifier, and 3 Transmitters)1/4 X 7-1/2 X 63-1/219			1			
1Back Panel Assembly (for 1 Rectifier Power Unit and 2 Transmitters and 1 Modulator)10-3/4 X 46-1/2 X 56-1/4191Tracks (for 1 Rectifier and 2 Transmitters)1/4 X 7-1/2 X 63-1/29						1
1Power Unit and 2 Transmitters and 1 Modulator) $10-3/4 \times 46-1/2 \times 56-1/4$ 191Tracks (for 1 Rectifier and 2 Transmitters) $1/4 \times 7-1/2 \times 63-1/2$ 9121 Tracks (for 1 Rectifier, and 3 Transmitters) $1/4 \times 7-1/2 \times 63-1/2$ 9			4		10-3/4 X 46-1/2 X 67-1/2	233
1         1 Modulator)         10-3/4 X 46-1/2 X 56-1/4         19           1         Tracks (for 1 Rectifier and 2 Transmitters)         1/4 X 7-1/2 X 63-1/2         9           1         2         1 Tracks (for 1 Rectifier, and 3 Transmitters)         1/4 X 7-1/2 X 63-1/2         9			1			
1     Tracks (for 1 Rectifier and 2 Transmitters)     1/4 X 7-1/2 X 63-1/2     9       1     2     1     Tracks (for 1 Rectifier, and 3 Transmitters)     1/4 X 7-1/2 X 63-1/2     9					10-2/11 X 116-1/2 X 56-1/11	100
	1			,		
	1	2	1	Tracks (for 1 Rectifier, and 3 Transmitters)	1/4 × /-1/2 × 63-1/2	97
				or 2 Transmitters and 1 Modulator)	$1/\mu \times 7-1/2 \times 63-1/2$	120
						120
			l			

1.6 T DN-2: 4

March 1957

# RADIO TRANSMITTING EQUIPMENT

Radio-Transmitters

TDN-2,3,4

		_	EQUIPMENT SUPPLIED DA	OVERALL DIMENSIONS	WEIGH
QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	(inches)	(lbs.)
Lu		+	2.4500.2014 (		
T	3 I	4			1.0
1	2	1	Tracks (for 1 Rectifier, 3 Transmitters and 1 Modulator) Base Channels, Tie Plates, Ground	1/4 X 7-1/2 X 63-1/2	143
	8		Strips, Antenna Contacts (101 1		
	2	1	Base Channels, Tie Plates, Ground Strips, Antenna Contacts (for 1		
	1		Rectifier, and 3 Transmitters or 2 Transmitters and 1 Modulator) Base Channels, Tie Plates, Ground		60
01	10.47 12	1	Strips, Antenna Contacts (for 1 Rectifier, 3 Transmitters and 1	e langent sjøkre fart. (e Skippens spin - j	75
8	S.	4	Modulator)	4-21/34 X 34-1/8 X 72	80
4 2 4	4 2 1	4 2 4	Master Oscillator Cabinet Including.	19-5/8 X 22 X 76-3/16 8-3/4 X 15-1/4 X 19	40
1 1	1	1 1	Oscillator Power Supply NT-20323 Patchboard Panel NT-23472	$4-1/4 \times 7 \times 19$ $4-1/4 \times 7 \times 19$	5 5
13	1	13	Patchboard Panel NT-23511 Transmitter Connector Panels	2-7/8 × 3-3/4 × 8-5/8	1
1	1	1	RE-23-F-226B Local Control and Keyer Cabinet including:	20-3/4 × 22 × 76-3/16	320
1	1	1	Selector Control Unit		
1 3 1	3	3		20-3/4 X 2 2 X 76-3/16	325
1			including:	15-5/16 X 19 X 24-15/32 5-7/32 X 9-11/16 X 19	11
1 2			Operator's Control Unit NT-23465 Keying Units NT-23466	6-19/32 X 6-31/32 X 19 6-25/32 X 6-31/32 X 19	1 2
1	1		Keyer Power Supply NT-20322 Local Control and Keyer Cabinet	20-3/4 X 22 X 76-3/16	33
	1		including: Selector Control Unit Operator's Unit		
	3		Keying Units Keyer Power Supply		
			Local Control and Keyer Cabinet	20-3/4 X 22 X 76-3/16	32
			1 Selector Control Unit 1 Operator's Control Unit 2 Keying Units		
			1 keyer Power Supply 1 Local Control Switch Panel	6 X 6-31/32 X 19	
1	1		NT-23470 Remote Control Cabinet including:	15-5/8 X 20-1/8 X 21-3/4	
2	1	1	Operator's Control Units Remote Control Cabinet including: Operator's Control Units	15-5/8 X 20-1/8 X 21-3/4	
			1 Remote Control Switch Panel NI-23473	3-15/32 X 3-13/16 X 19 6-5/8 X 12-7/8 X 14-7/8	
2	2 2	2	2 Main Line Switch	7-1/2 X 16-1/8 X 23-1/4 4 X 6-1/4 X 7-7/8	
2		2	5 Antenna Contactor (Supplied with Radio Transmitter)		

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1.6 TDN-2: 5

# TDN-2,3,4

# RADIO TRANSMITTING EQUIPMENT

March 1957

QUANTITY PER NA/ EQUIPT	ER NAME AND NOMENCLATURE		WEIGHT (lbs.)
1     1     Flameproof Sw (No. 6, 600       5     6     5     Coaxial Cable Connector       1     Set Operating Set Operating       1     Equipment Spar Equipment Spar	RG-59/U (25 ft) with Tubes Tubes Tubes Te Sparts (less tubes) e Parts (less tubes) e Parts (less tubes)	2 X 8-1/2 X 11	85 123 108 93 1070 970 940 246 216 186

UNCLASSIFIED April 1958

Radio-Transmitters

TDO

# RADIO TELEPHONE AND TELEGRAPH TRANSMITTING EQUIPMENT



Radio Transmitting Equipment TDO

# RADIO TELEPHONE AND TELEGRAPH TRANSMITTING EQUIPMENT

#### FUNCTIONAL DESCRIPTION

The TDO is designed for A1, A2 or A3 pointto-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	(2)	3B28	
(4)	6 SN7 WGTA	( - /	6SL7WGT	
	6X5WGT	(4)	6SJ7	
(2)	249C	(1)	6AG7Y	
(1)	5U4G	(2)	6C8G	
(2)	805	(2)	6A8GT	
(2)	807	(2)	813	
(2)	2A3			
. 1 .				

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	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	0 10/10 X 10 1/2 X 19	00
2	Telegraph Key NT-26019		
1	Set of Accessories		92
2	Vacuum Tube Spares		March Contractor
1	Set of Equipment Spares		10 100

UNCLASSIFIED April 1958

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June 1957

Radio-Transmitters

TDP-1

# 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

UNCLASSIFIED June 1957

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

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

1.6	TDP-1:	2

June 1957

# LORAN TRANSMITTING EQUIPMENT

# TDP-1

	LOA CORDON HOLES	OVERALL DIMENSIONS	WEIGHT
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	(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	and a been and a black of a	(

April 1958

Radio-Transmitters

# RADIO TRANSMITTING EQUIPMENT

TDQ



TDQ Radio Transmitter

# TDQ

# RADIO TRANSMITTING EQUIPMENT

### FUNCTIONAL DESCRIPTION

The Navy Model TDQ is designed for shipboard 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
(=)	0			(0)	0.07
(2)	6.J.5	(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.

100 M	
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZ	ANCE
STOCK NO.	

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

UNCLASSIFIED April 1958

# RADIO TRANSMITTING EQUIPMENT

TDQ

	SHIPPING	DATA	Contraction and the second states of the	
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGH PACKEE (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			

30 40 60	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 × 2-1/8 × 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 × 13-3/8 × 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 × 13-3/8 × 27-3/8	210
1	Motor Starter NT-211090	13 × 17-3/8 × 21	16
di <b>l</b> po da	Set of Equipment Spares		
	NOTE: *-Supplied for 440 volt AC power source.	A Start To Mark	
	**-Supplied for 230 volt DC power source.		
	†- Supplied for 115 volt DC power source.		

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-aVSHLPR (5.137) Technicel Hanual for Na) Wodel TBT VHE Transmitting Equipment.

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UNCLASSIFIED April 1958

TDT

# VHF TRANSMITTING EQUIPMENT



Transmitting Equipment Model IDT

#### FUNCTIONAL DESCRIPTION

The Navy Model TDT is a compact semiportable equipment designed to provide modulated continuous-wave or voice modulated transmission for point-to-point or ground-toplane use in the 115 to 156 megacycle frequency range. The transmitter proper is selfcontained 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		(4)	5U4G
(5) 6J5		(5)	807
(2) 829B			
1 - 1	(10)		

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	

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 × 49-1/2 × 49-1/2	16.5*
1	Microphone Assembly NT-51004C		
1	Telegraph Key		
1	Set of Equipment Spares	10-1/2 × 19-1/2 × 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.		

UNCLASSIFIED August 1957

# 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. 0

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Radio-Transmitters

TDV

August 1957

Radio-Transmitters

#### TDV

# RADIO TRANSMITTING EQUIPMENT

#### TUBE AND/OR CRYSTAL COMPLEMENT

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

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)	WEIGH PACKEI (lbs.)	
1	Cabinet NT-10258	F	15 × 17-1/8 × 21-3/4	97	
1	Radio Transmitter NT-52331	1.4.8.05			
1	Power Unit NT-20225	1236.34			
1	Antenna NT-66100			1000	
1	Antenna Extension NT-66101	1.20			
1	Wooden Stowage Case NT-10264		20-1/4 × 21 × 27		
2	Power Cables			1	
1	Antenna Lead	1.1.1			
1	R.F. Ground Lead				
1	Calibration Chart w/holder		and the second second second second	12 10 1 26	
1	Set of Equipment Spares			Carl Constant	

EQUIPMENT SUPPLIED DATA					
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	vilas) a stir	OVERALL DIMENSIONS (inches)	WEIGHT (Ibs.)	
1	Radio Transmitter TDV	n ku se s s	20-1/4 × 21 × 27	155	

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1.6 TDV: 2

August 1957

Radio-Transmitters

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 necessarv.

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 Tub	es: (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.

# UNCLASSIFIED August 1957

Radio-Transmitters

#### 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 Motor Generator Set and Magnetic Controller Spare Parts	n siste nor oac ellisen i cestile	31-1/2 X 33-1/4 X 59-3/4	1000 800	

EQUIPMENT SUPPLIED DATA					
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)		
1	Radio Transmitter NT-52342 Remote Channel Selector NT-23445	24-3/4 X 25-11/16 X 32-1/16 4-7/8 X 6-7/8 X 6-7/8	760 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## Set of Accessories and spares	10-5/8 X 11-9/16 X 17-5/16	48		

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