

April 1958

Radio-Transceivers

VHF RADIO TRANSMITTING AND RECEIVING EQUIPMENT

TBS, TBS-1 THRU -8



VHF Radio Transmitting and Receiving
Equipment TBS, TBS-1 thru -8

OUTPUT IMPEDANCE: 600 ohms.
POWER OUTPUT: 2 W.
CIRCUIT TYPE: Superheterodyne.
SENSITIVITY: 6 mw output with 5 uv input.
POWER SOURCE REQUIRED: 110 v, 1 ph, 60
cps, 110 W.

TRANSMITTER

FREQUENCY RANGE: Single channel in the
60 to 80 mc band.
EMISSION: A2, A3.
FREQUENCY CONTROL: Crystal.
AF INPUT IMPEDANCE: 600 ohms.
POWER OUTPUT: 50 W.
MODULATION: 100%.
POWER SOURCE REQUIRED: 120/230 v DC; 220/
440 v, 3 ph, 60 cps, 1000 W.
POWER SUPPLY EQUIPMENT: Motor-Generator
Set.

ANTENNA: Vertical, quarter-wave.

MOUNTING DATA: Shock mounted for bulk-
head, shelf, or table mounting of
combined units.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Div, Radio Corp of America,
Camden, N.J.
TBS: Contract NOs-60613, dated 16 May
1938.
TBS-1: Contract NOs-70095, dated 18
December 1939.
TBS-2: Contract NOs-70095 Supplement,
dated 6 April 1941.
TBS-3: Contract NOs-1736, dated 10
October 1942.
TBS-5: Contract NXss-18747, dated
August 1943.
TBS-6: Contract NXsr-36725, dated
25 August 1943.
TBS-8: Contract NXsr-51552, dated 11
March 1944.
General Electric Co, Schenectady, N.Y.
TBS-4: Contract NXss-17599, dated 2
December 1942.
TBS-7: Contract NXsr-38310, dated June
1944.
Approximate Cost: \$6,000 with equip-
ment spares.

FUNCTIONAL DESCRIPTION

The TBS, TBS-1 thru -8, operating on any
frequency in the 60 to 80 megacycle range are
fixed tuned and crystal controlled and will
provide radio communication between small
surface craft for a distance up to ten miles.
Remote operation is possible from two control
units that may be located as desired, on the
vessel.

Data on this sheet reflects the following
Field Changes: No. 1, 2 and 3 (21 April
1958).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: In-
terconnecting Cables, Telegraph Key w/leads
and Telephone Headset.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEIVER

FREQUENCY RANGE: Single channel in the 60
to 80 mc band.
RECEPTION: A2, A3.
FREQUENCY CONTROL: Crystal.
RF INPUT IMPEDANCE: 70 ohms.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 2A3	(5) 6D6
(1) 6Y6G	(1) 84/6Z4
(1) 5Z3	(1) 6F7

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REFERENCE DATA AND LITERATURE

(1) 75
(1) 6A6
(2) 807
(1) 6J5
Total Tubes: (24)

(1) 956
(1) 6F8G
(2) 6C6
(4) 808

NAVSHIPS 900590: Technical Manual for Radio
Transmitting and Receiving Equipment TBS
Thru TBS-8.

(2) Quartz
Total Crystals: (2)

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter, Receiver, and Stand	15.6	33 X 27 X 30	300
1	Motor-Generator	3.1	24 X 13 X 12	190
1	Accessories	4.6	34-1/2 X 18 X 13	62
2	Tubes	3.9	34 X 13-1/2 X 12	57
1	Equipment Spares	7.2	28 X 29-1/2 X 18	212
1	Motor-Generator Spares	2.7	23 X 13 X 12	93
1	Antenna	6.6	67 X 27 X 9	120
1	Transmission Line and Kit	4.4	43 X 37 X 7	86

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter CG-52093 (TBS-4,-7) CRV-52093 (TBS-1,-2,-3,-5,-6) CRV-52093A (TBS-8)	10-1/2 X 23-1/2 X 17-1/4 10-1/2 X 23-1/2 X 17-1/4	75 75
1	Radio Receiver CG-46068 (TBS-4) CRV-46068 (TBS-1,-2,-3) CRV-46068A (TBS-7) (TBS-5,-6) CRV-46068B (TBS-8)	8-3/4 X 25-13/16 X 16-7/8 8-3/4 X 16-7/8 X 25-13/16 8-3/4 X 16-7/8 X 25-13/16	45 45 45
1	Motor Generator Set 21300* (TBS) or 21300A** (TBS-1,-2,-3) or 21301*** (TBS-3,-4) CG-21302**** (TBS-1,-2,-3,-5) CG-21745** (TBS-3,-4,-5) CG-211127* (TBS-7,-8) CG-211129**** (TBS-6,-7) CG-211130** (TBS-6,-7,-8)	8-9/16 X 11-3/8 X 23-7/8 8-9/16 X 11-3/8 X 19-3/8 8-9/16 X 19-3/8 X 11-3/8 8-9/16 X 23-13/16 X 11-3/8 10-13/16 X 23-13/16 X 10-15/16 10-13/16 X 19-3/8 X 10-15/16 10-13/16 X 23-13/16 X 10-15/16	131 110 110 120 120 131 125
1	Magnetic Controller CG-21319* (TBS-4,-7) CRV-21319* (TBS-1,-2,-3,-5,-8) CG-21320***** (TBS-7) CRV-21320***** (TBS-1,-2,-3,-5,-6) CG-21804** (TBS-4,-7)	17-1/4 X 14-1/2 X 7-3/4 15-1/8 X 10-5/8 X 7-1/4 17-1/4 X 14-1/2 X 7-3/4	45 34 45

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QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	CRV-21804** (TBS-3,-5,-6,-8) Control Unit CG-23135 (TBS-4,-7)	5-15/16 X 10-7/16 X 7-1/4	9
1	CRV-23135 (TBS-1,-2,-3,-5,-6,-8) Loudspeaker CRV-49101 (TBS-1,-2)	5 X 11-1/8 dia 5 X 11-1/8 dia	21 21
2	CRV-49155 (TBS-3,-5) CMX-49155 (TBS-4,-6,-7,-8) Handset CRV-51019 (TBS-1,-2,-3,-5,-6)		1.5
1	CYH-51019 (TBS-4,-7) CRV-51019A (TBS-8) Chest Set CRV-51018 (TBS-1,-2,-3,-5,-6)		1.5 1.4
1	CYH-51018 (TBS-4,-7) CRV-51018A (TBS-8) Antenna, Surface Type CRV-66015 (TBS-1,-2,-3,-5,-6,-8)	104	46
1	CPD-66015 (TBS-4,-7) Antenna, Submarine Type CRV-66016 (TBS-1,-2,-3)	104	46
1	Transmission Line Surface Vessels (TBS Series) Submarines (TBS Series)	120 ft long x 3/8 dia 80 ft long x 3/8 dia	
1	Line Transformer CAT-30445***** (TBS-1,-2,-3,-5,-6,-7)	7-3/8 X 4-1/2 X 4	16.4
1	Set of Accessories and Spares		

*For 120 v DC operation.

**For 230 v DC operation.

***For 220 v AC operation.

****For 440 v AC operation.

*****For 220/440 v AC operation.