

31 July 1962

Cog Service: USN

FSN:

RADIO TRANSMITTING SET AN/WRT-4(XN-1)

Functional Class:

USA

USN

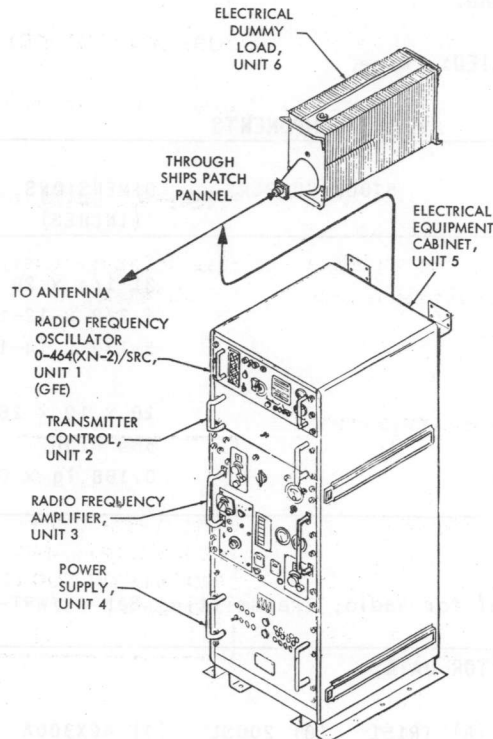
USAF

TYPE CLASS:

Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Hoffman Laboratories Inc., (82260).



Radio Transmitting Set AN/WRT-4(XN-1)

FUNCTIONAL DESCRIPTION:

The Radio Transmitting Set AN/WRT-4(XN-1) is a lightweight, water-cooled, continuous wave (CW) transmitter, having a frequency range of 2 to 32 megacycles (MC) and a power output of one kilowatt (KW). The 2 to 32 mc frequency is transmitted in six (6) separate bands. It is capable of A1 emission, when keyed with a telegraph key, and will function satisfactorily with a voltage standing wave ratio (VSWR) of 4:1 present on the transmission line.

No field changes in effect at time of preparation (29 December 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF ANTENNA: Telescoping whip.
TYPE OF EMISSION: A1 type.
TYPE OF FREQUENCY CONTROL: Synthesizer.
IMPEDANCE: 50 ohms.

AN/WRT-4(XN-1) RADIO TRANSMITTING SET

NUMBER OF CHANNELS: 1 channel.
NUMBER OF BANDS: 6 bands.
VOLTAGE STANDING WAVE RATIO: 4:1.
POWER OUTPUT: 1 kw.
OPERATING FREQUENCY RANGE: 2 to 32 mc.
OPERATING POWER RQMT: 115 v ac, 400 cps, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Transmitter Unit		21-1/4 x 28 x 55-1/4	850
1	Antenna Control		6-3/8 x 12-1/2 x 17	10
1	Interconnecting Box		5-1/2 x 14-1/2 x 16-1/2	50
1	Hydraulic Pumping Unit			800
1	Test Load		10 x 10 x 28	
1	Antenna Unit		384 high	
1	Transmission Line RG-17A/U		0.188 lg x 0.680 dia	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93549: Technical Manual for Radio, Transmitting Set AN/WRT-4(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (5) 0A2WA (5) 0B2WA (8) TR151 (8) 200SL (1) 4CX300A (1) 4CX5000A
(2) 5687WA (1) 57 Type B (1) 5814A (1) 6AN5WA (7) 6AU6WB (2) 6CB6
(1) 6CL6 (1) 6080WA (5) 6336A (12) 66-1635

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N1313 (19) 1N256 (2) 1N38B (5) 1N429 (2) 1N540

TRANSISTORS: (1) 2N335 (5) 2N389

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-R-2653

DESIGN COG: USN, BuShips

1.6 AN/WRT-4(XN-1): 2

RADIO TRANSMITTING SET AN/WRT-4(XN-1)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hoffman Laboratories Inc.	Los Angeles, Calif.	NObsr-72732, 24 June 1957	



20 August 1962
Cog Service: USN FSN:

RADIO, TRANSMITTING SET AN/WRT-4(XN-2)
Functional Class:

USA

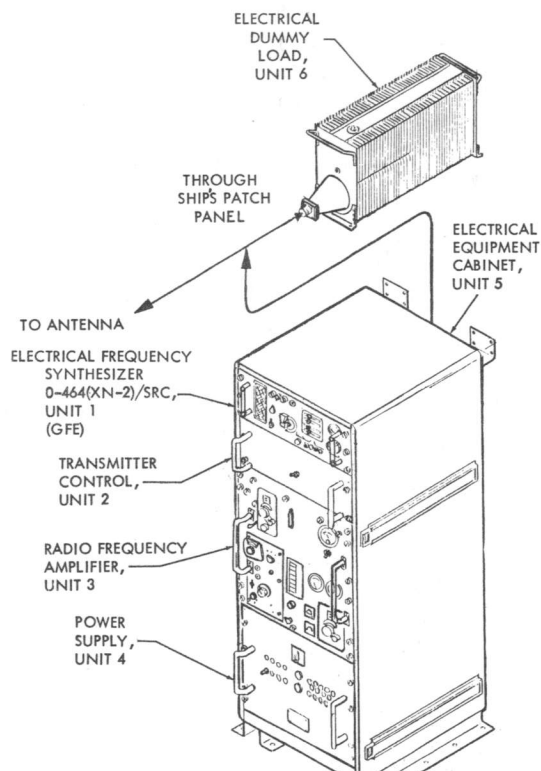
USN

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TYPE CLASS: Pln/Std

Pln/Std

MANUFACTURER'S NAME/CODE NUMBER: Hoffman Electronics Corp., Military Products
Div., (82260).



Radio, Transmitting Set AN/WRT-4(XN-2)

FUNCTIONAL DESCRIPTION:

The Radio, Transmitting Set AN/WRT-4(XN-2) is designed as a lightweight, water-cooled, continuous wave (CW) transmitter, having a frequency range of 2 to 32 megacycles (MC), and a power output of one kilowatt (KW). The 2-32 mc frequency is divided into six (6) separate output bands. This equipment is capable of A1 type emission, when keyed with a telegraph key, and will function satisfactorily with a voltage standing wave ratio (VSWR) of 4:1 present on the transmission line. When used with auxiliary equipment the transmitter is capable of more than 1 kw output for short time intervals.

No field changes in effect at time of preparation.

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Submarine.

AN/WRT-4(XN-2) RADIO, TRANSMITTING SET

TYPE OF EMISSION: A1 type.

VOLTAGE STANDING WAVE RATIO: 4:1.

IMPEDANCE: 50 ohms.

FREQUENCY RANGE: 2 to 32 mc.

ELECTRICAL FREQUENCY SYNTHESIZER 0-464(XN-2)/SRC

BAND ONE: 2 to 4.25 mc, a channel every 125 cycles.

BAND TWO: 4 to 8.5 mc, a channel every 250 cycles.

BAND THREE: 8 to 17 mc, a channel every 500 cycles.

BAND FOUR: 16 to 34 mc, a channel every 1,000 cycles.

BALANCE MODULATOR-DRIVER ASS'Y 1 OF UNIT #3

BAND ONE: 2 to 4 mc, continuously variable.

BAND TWO: 4 to 8 mc, continuously variable.

BAND THREE: 8 to 16 mc, continuously variable.

BAND FOUR: 16 to 24 mc, continuously variable.

BAND FIVE: 24 to 32 mc, continuously variable.

POWER AMPLIFIER, ASS'Y 2 OF UNIT 3

BAND ONE: 2 to 3 mc, continuously variable.

BAND TWO: 3 to 5 mc, continuously variable.

BAND THREE: 5 to 9 mc, continuously variable.

BAND FOUR: 9 to 15 mc, continuously variable.

BAND FIVE: 15 to 26 mc, continuously variable.

BAND SIX: 26 to 32 mc, continuously variable.

TYPE OF FREQUENCY CONTROL: Crystal.

POWER OUTPUT: 1 kw.

OPERATING POWER RQMT: 115 v ac, 400 cps, 3 ph, 7,000 W.

RELATION TO OTHER EQUIPMENT:

The AN/WRT-4(XN-2) is designed to be used with, but not part of Antenna Group AN/WRA-2(XN-2).

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna Group AN/WRA-2(XN-2) or equivalent; (2) Technical Manuals NAVSHIPS 93792 (AN/WRA-2(XN-2)); (1) Technical Manual NAVSHIPS 93463 for 0-464(XN-2)/SRC; (1) Cable RG-17A/U (Bulk); (1) Cable TSGA-40 (Bulk); (1) Cable W13 (Bulk); (1) Telegraph Key.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Dummy Load Unit #6		6-3/8 x 10-3/8 x 28	40
1	Electrical Equipment Cabinet Containing Units 1 thru 4, Unit #5		22-5/8 x 28 x 55-3/8	885
1	Electrical Frequency Synthesizer 0-464(XN-2)/SRC, Unit #1		5 x 18 x 21-1/2	90
1	Transmitter Control Unit #2		7 x 19 x 20-3/4	9-1/2

1.6 AN/WRT-4(XN-2): 2

RADIO, TRANSMITTING SET AN/WRT-4(XN-2)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	R.F. Amplifier Unit #3		19 x 21 x 21-1/2	137
1	Power Supply Unit #4		15-3/4 x 19 x 22-1/2	119-1/2
4	Eye Bolts			
2	Technical Manuals NAVSHIPS 93752		1 x 9 x 11-1/2	2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93752: Technical Manual for Radio, Transmitting Set AN/WRT-4(XN-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (6) 0A2WA (3) 0B2WA (1) 4CX300A (1) 4CX5000A (1) 6AN5WA (5) 6AU6WA
(1) 6CL6 (1) 5687WA (2) 5725 (1) 5814 (1) 6080WA (4) 6336WA (12) 66-1635
(4) 200SL (8) TR151 (2) 3A2Z2-3

CRYSTALS: None used.

SEMI-CONDUCTORS: (4) 1N21 (1) 1N38B (5) 1N256 (5) 1N429 (1) 1N468A (1) 1N470
(2) 1N540 (2) 1N1812A (17) 1N2364A

TRANSISTORS: (1) 2N335 (5) 2N389

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	41.1	1110
1		
1		
1		
1		
1	5.3	75

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hoffman Electronics Corp., Military Products Div.	Los Angeles, California	NObsr-72732, 29 June 1957 NObsr-72827	

RADIO TRANSMITTER

AN/WRT-4

FUNCTIONAL DESCRIPTION

The AN/WRT-4 is a high frequency radio communications transmitting equipment capable of approximately 1 kilowatt (kw) of power on A-1 type of emission. It is primarily intended for installation on a submarine. Included as a part of the equipment is an antenna. The antenna is a telescoping helical retracting type, designed to be installed in a submarine 9 inch retractable mast. The antenna is raised and lowered by hydraulic power. An antenna control unit, separate from the transmitter is provided. Hydraulic power is provided as a separate system from the ship's main hydraulic system. A 50 ohm dummy load and interconnecting box are furnished. When this equipment is installed in surface ships a simulated submarine mast is provided.

No field changes in effect at time of preparation (18 February 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF ANTENNA: Telescoping whip.
TYPE OF EMISSION: A1.
IMPEDANCE: 50 ohms.
TYPE OF FREQUENCY CONTROL: Synthesizer.
NUMBER OF CHANNELS: 1 channel.

OPERATING FREQUENCY RANGE: 2 to 32 mc.
OPERATING POWER REQUIREMENT: 120 v, 400 cps, 3 ph, 21, 7000 watts.

MANUFACTURER'S OR CONTRACTOR'S DATA

Hoffman Laboratories Inc., Los Angeles
54, California.
Contract NObsr-72732, dated 24 June 1957.
Approximate Cost: \$688,575.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 4457 (Rev. 11-56) for Radio Transmitter AN/WRT-4.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-R-2653
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Unit	21-1/4 X 28 X 55-1/4	850
1	Antenna Control	6-3/8 X 12-1/2 X 17	10
1	Interconnecting Box	5-1/2 X 14-1/2 X 16-1/2	50
1	Hydraulic Pumping Unit		800
1	Test Load	10 X 10 X 28	
1	Antenna Unit	384 high	
1	Transmission Line RG-17A/U	0.188 lg X 0.680 dia	