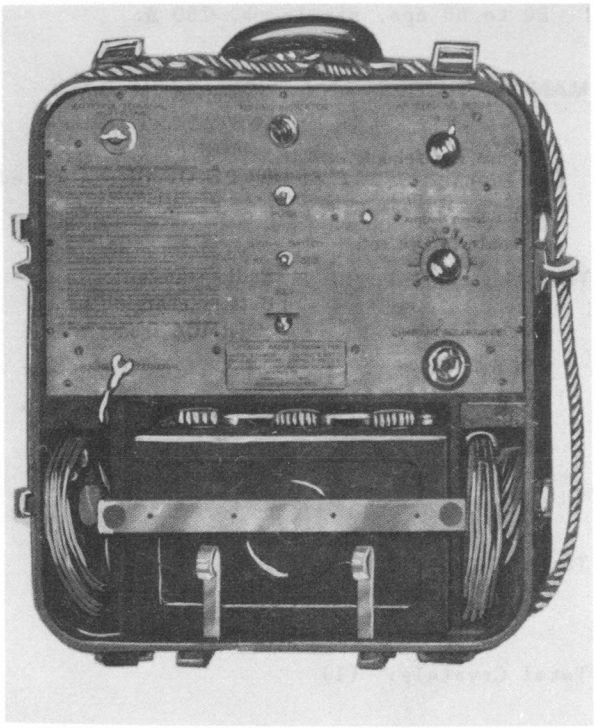
RADIO TRANSMITTING SET AN/SRT-1



Radio Transmitting Set AN/SRT-1

FUNCTIONAL DESCRIPTION

The AN/SRT-1 is a portable fixed-frequency battery-operated lifeboat transmitter. It transmits automatically for a period of two minutes each time the button is pressed and then automatically stops to conserve the battery. The set is housed in a watertight case. During each two minute period, the SOS distress signal is sent 18 times, and long dashes are also sent 6 times to facilitate the taking of bearings by rescue ships. The sending of the above signals does not require an operator, but a hand telegraph key is provided for use by a radio operator in the transmission of A2 messages. The included battery has life of 96 minutes, or is good for 48 of the 2 minute message cycles. This will be sufficient for 48 hours if the unit is used only on the hour, as recommended.

A battery charging panel (Radiomarine Corp of America Model RM-16) consisting of an ammeter and current limiting resistors is used to charge the transmitter storage battery from the 115 v, DC ship mains.

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

RELATION TO OTHER EQUIPMENT

The AN/SRT-1 is identical to Radiomarine Corp of America Emergency Transmitter Model ET-8026.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 500 kc international distress frequency.
FREQUENCY CONTROL: Designed for single frequency only.
TYPE OF EMISSION: A1 (automatic keying) or A2 (hand keying).
POWER OUTPUT: 5 W.
RANGE: 50 to 100 mi.
POWER REQUIREMENTS: 6 v storage battery, self-contained.
ANTENNA: Equipment has wire antenna attached for lifeboat use.

MANUFACTURER'S OR CONTRACTOR'S DATA

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

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 1624
Total Tubes: (2)

No Crystals Used.

REFERENCE DATA AND LITERATURE

TM 11-487A: Directory of Signal Corps Radio Communication Equipment.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

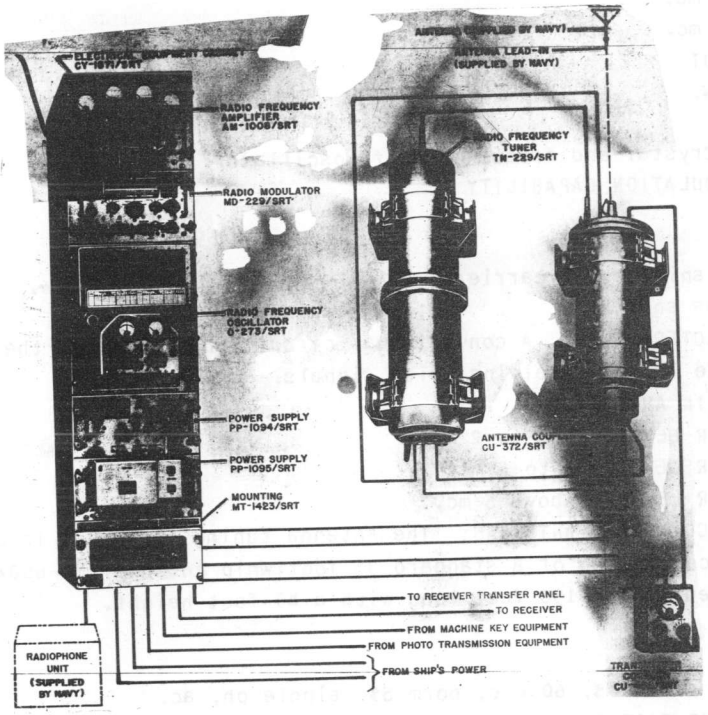
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/SRT-1 including:	13-1/2 x 15-13/16 x 21-11/16	60
1	Battery Charging Panel (RMCA Model RM-16)		

11 July 1962		5820-669-7019		RADIO TRANSMITTING SET AN/SRT-14,-14A
Cog Service: USN	FSN:	5820-501-3056 W/S 5820-642-7763 5820-665-2125 W/S		Functional Class:
	USA	USN		USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone and Radio Company.



Radio Transmitting Set AN/SRT-14, -14A

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/SRT-14 and AN/SRT-14A have all controls necessary for accomplishing the transmission of any one of five different services at a nominal 100 watt output level. The frequency range of 0.3 to 26 mc, in steps of 10 cycles, is covered in six tuning bands. All frequency selection and tuning are manually accomplished at the site of the transmitter. The set is so constructed as to permit remote control and operation by means of a standard Navy 6 wire control system.

Frequency band selection is a function of setting up a frequency in the RFO and of tuning in the RFA, both of which are manual operations.

The AN/SRT-14 and -14A radio transmitting sets are equipped for selecting any one of five modes of transmission.

Radio Transmitting Set AN/SRT-14A is a nonmagnetic version of the AN/SRT-14. The nonmagnetic version differs from the standard type only in the material used for cabinet panels.

Data on this sheet reflects the following field changes: FC 1, 2, 4, 5, 6, 7, 8, and 9.

AN/SRT-14, -14A RADIO TRANSMITTING SET

TECHNICAL CHARACTERISTICS:

TYPE OF EMISSION: CW telegraphy, frequency-shift telegraphy, facsimile (picture), voice.

FREQUENCY RANGE

- BAND 1: 0.3 to 0.8 mc.
- BAND 2: 0.8 to 2 mc.
- BAND 3: 2 to 5 mc.
- BAND 4: 5 to 11 mc.
- BAND 5: 11 to 19 mc.
- BAND 6: 19 to 26 mc.

NOMINAL CARRIER OUTPUT

- A1, F1, F4: 100 W.
- A3: 67 W.

FREQUENCY CONTROL: Crystal and frequency-shift oscillator.

TYPE EMISSION AND MODULATION CAPABILITY

- A1: 100%.
- A3: 100%.
- F1: Porm 500 cps shift about carrier.
- F4: 0 to P2000 cps shift.

SQUELCH CIRCUIT CHARACTERISTICS: A conventional circuit that cuts off the audio amplifier when the microphone is not receiving voice signals.

HARMONIC ATTENUATION IN AMPLIFIER

- 40 DB BELOW CARRIER LEVEL: 0.3 to 2 mc.
- 50 DB BELOW CARRIER LEVEL: 2 to 5 mc.
- 60 DB BELOW CARRIER LEVEL: Above 5 mc.

CHARACTERISTICS OF RECOMMENDED ANTENNAS: The antenna tuning equipment is capable of tuning an antenna system consisting of a standard 35 foot whip antenna (NT-66047) or a single wire antenna between 60 and 130 feet long with a 40 foot height.

POWER REQUIREMENTS

- PRIMARY POWER
  - VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, single ph, ac.
  - CURRENT AND POWER FACTOR
    - START: 15 amp, 0.92 pf.
    - STANDBY: 7.9 amp, 0.92 pf.
- OVEN HEATER POWER
  - VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, single ph, ac.
  - CURRENT AND POWER FACTOR: 0.8 amp, 1.0 pf.

HEAT DISSIPATION OF 100 W TRANSMITTER GROUP AND MOUNTING: 1,600 W max.

INSTALLATION

- TRANSMITTER: Bolted to foundation deck in main radio room. Mounting dimensions 16-1/8 in. x 24 in.
- TRANSMITTER COUPLER: Bolted to bulkhead in main radio room. Mounting dimensions 8-11/16 in. x 5 in.
- RF TUNER: Bolted to bulkhead. Mounting dimensions 26-1/2 in. x 9-1/2 in.

INTERCONNECTING CABLES

- ANTENNA COUPLER AND RF TUNER: 5 ft.
- TRANSMITTER BAY AND ANTENNA COUPLER: 500 ft.
- TRANSMITTER BAY AND TRANSMITTER COUPLER: 12 ft.
- TRANSMITTER BAY AND REMOTE RADIOPHONE UNIT: 1,000 ft.

OPERATORS: 1 required.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(To suit ship's requirements) Remote Radiophone Unit NT-23500; (1) Antenna; (1) Carbon Handset H-51/U; (1) Dynamic Handset H-52/U; (1) Hand Key NT-26012; (6) RF Test Cable; (2) Power Test Cable.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	For Radio Transmitting Set AN/SRT-14A			
1	Transmitter Group OA-684/SRT includes:		16 x 26 x 55-3/8	765
1	Radio Frequency Amplifier AM-1008/SRT			
1	Radio Modulator MD-229/SRT			
1	Radio Frequency Oscillator O-275/SRT			
1	Power Supply PP-1094/SRT			
1	Power Supply PP-1095/SRT			
1	Electrical Equipment Cabinet CY-1571/SRT			
1	Mounting MT-1423/SRT		7 x 16 x 24	100
1	Transmitter Coupler CU-402/SRT		7-11/16 x 9-1/4 x 9-7/16	11
1	Radio Frequency Tuner TN-229/SRT		13-3/8 x 16-1/2 x 50	135
1	Antenna Coupler CU-372/SRT		13-3/8 x 16-1/2 x 34-5/8	100
2	Technical Manual			6
1	Installation Kit MK-230/SRT-14			53
1 set	Equipment Spares for Transmitter Group OA-684/SRT			105
1 set	Equipment Spares for Mounting MT-1423/SRT			7
1 set	Equipment Spares for Antenna Coupler CU-372/SRT			2
1 set	Equipment Spares for Radio Frequency Tuner TN-229/SRT			20
	For Radio Transmitting Set AN/SRT-14			
1	Transmitter Group OA-684A/SRT includes:		16 x 26 x 55-3/8	765
1	Radio Frequency Amplifier AM-1008/SRT			
1	Radio Modulator MD-229/SRT			
1	Radio Frequency Oscillator O-275/SRT			
1	Power Supply PP-1094/SRT			

AN/SRT-14, -14A RADIO TRANSMITTING SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Power Supply PP-1095/SRT			
1	Electrical Equipment Cabinet CY-1571A/SRT			
			7 x 16 x 24	100
1	Mounting MT-1423/SRT		7-11/16 x 9-1/4 x 9-7/16	11
1	Transmitter Coupler CU-402/SRT		13-3/8 x 16-1/2 x 50	135
1	Radio Frequency Tuner TN-229/SRT		13-3/8 x 16-1/2 x 34-5/8	100
1	Antenna Coupler CU-372/SRT			6
2	Technical Manual			53
1	Installation Kit MK-231/SRT-14A			105
1 set	Equipment Spares for Transmitter Group OA-684A/SRT			7
1 set	Equipment Spares for Mounting MT-1423/SRT			2
1 set	Equipment Spares for Antenna Coupler CU-372/SRT			20
1 set	Equipment Spares for Radio Frequency Tuner TN-229/SRT			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92121(A): Technical Manual for Radio Transmitting Sets AN/SRT-14, -14A, -15, -15A, -16 and -16A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2 (2) 0B2 (4) 3B28 (1) 4-400A (4) 5R4WGB (2) 6AG5 (1) 6AG7
(8) 6AK6 (1) 6AS7G (1) 6E5 (1) 12AU7 (1) 5651 (29) 5654 (1) 5687
(14) 5725 (4) 5726 (3) 5751 (7) 5814 (3) 5933 (6) 6201

CRYSTALS: (1) 100KC

SEMI-CONDUCTORS: (2) 1N38 (1) 1N34A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	38.2	1,086
1	2.5	20
1	5.9	137
1	6.7	160
1	10 1	201
1	2.0	60
1	1.0	12
1	7.7	130

1.6 AN/SRT-14, -14A: 4

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.9	9
1	0.2	2.5
1	1.3	24

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone and Radio Company	Clifton, New Jersey	NObsr-52021, 1 September 1950	$11,100.00
		NObsr-52622, 14 May 1951	16,660.00

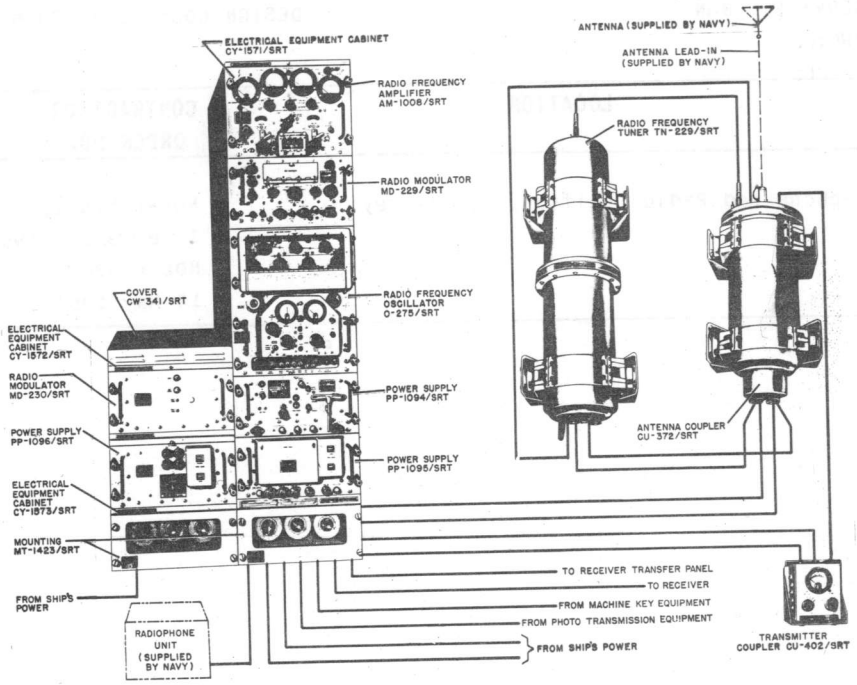
2 July 1962 | 5820-501-4559 / 5820-669-7829 W/S | RADIO TRANSMITTING SET AN/SRT-15, -15A

Cog Service: USN | FSN: 5820-342-9150 | Functional Class:

USA | USN | USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone and Radio Co.



Radio Transmitting Set AN/SRT-15, -15A

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/SRT-15 and AN/SRT-15A have all controls necessary for accomplishing the transmission of any one of five different services at a nominal 100-watt and 500-watt output level. The frequency range of 0.3 to 26 mc, in steps of 10-cycles, is covered in six tuning bands. All frequency selection and tuning are manually accomplished at the site of the transmitter. The set is so constructed as to permit remote control and operation by means of a standard Navy 6-wire control system.

Frequency band selection is a function of setting up a frequency in the RFO and of tuning in the RFA, both of which are manual operations. In the AN/SRT-15 the control circuits are such that operation of the transmitter at the 500-watt level is prevented when bands 1 and 2 are selected.

The AN/SRT-15 and 15A radio transmitting sets are equipped for selecting any one of five modes of transmission. Each of the five services can be operated at either the high or low power levels.

AN/SRT-15, -15A RADIO TRANSMITTING SET

Radio Transmitting Set AN/SRT-15A is a nonmagnetic version of the AN/SRT-15. The nonmagnetic version differs from the standard type only in the material used for cabinet panels.

Data on this sheet reflects the following field changes: FC1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

TECHNICAL CHARACTERISTICS:

TYPE OF EMISSION: CW telegraphy, frequency-shift telegraphy, facsimile (picture), voice.

FREQUENCY RANGE

- BAND 1: 0.3 to 0.8 mc.
- BAND 2: 0.8 to 2 mc.
- BAND 3: 2 to 5 mc.
- BAND 4: 5 to 11 mc.
- BAND 5: 11 to 19 mc.
- BAND 6: 19 to 26 mc.

NOMINAL CARRIER OUTPUT

- A1, F1, F4: 100 W, 500 W.
- A3: 67 W, 333 W.

FREQUENCY CONTROL: Crystal and frequency-shift oscillator.

TYPE EMISSION AND MODULATION CAPABILITY

- A1: 100%.
- A3: 100%.
- F1: Porm 500 cps shift above carrier.
- F4: 0 to P2000 cps shift.

SQUELCH CIRCUIT CHARACTERISTICS: A conventional circuit that cuts off the audio amplifer when the microphone is not receiving voice signals.

HARMONIC ATTENUATION IN AMPLIFIER

- 40 DB BELOW CARRIER LEVEL: 0.3 to 2 mc.
- 50 DB BELOW CARRIER LEVEL: 2 to 5 mc.
- 60 DB BELOW CARRIER LEVEL: Above 5 mc.

CHARACTERISTICS OF RECOMMENDED ANTENNAS: The antenna tuning equipment is capable of tuning an antenna system consisting of a standard 35 foot whip antenna (NT-66047) or a single wire antenna between 60 and 130 feet long with a 40 foot height.

POWER REQUIREMENTS

PRIMARY POWER

VOLTAGE: 110 v, porm 10%, 60 cyc, porm 5%, single ph, ac.

CURRENT AND POWER FACTOR

- START: 15 amp, 0.92 pf.
- STANDBY: 7.9 amp, 0.92 pf.
- OPERATE (A1): 13.4 amp, 0.90 pf.
- OPERATE (A3): 13.6 amp, 0.92 pf.

OVEN HEATER POWER

VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, single ph, ac.

CURRENT AND POWER FACTOR: 0.8 amp, 1.0 pf.

BOOSTER POWER

VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, 3 ph, ac; or 440 v porm 10%, 60 cyc, porm 5%, 3 ph, ac.

CURRENT AND POWER FACTOR (220 V INPUT)

START: 14.5 amp, 0.82 pf.

STANDBY: 0.8 amp, 0.98 pf.
OPERATE (A1): 14.7 amp, 0.82 pf.
OPERATE (A3): 15.1 amp, 0.77 pf.

CURRENT AND POWER FACTOR (440 V INPUT)

START: 7.2 amp, 0.82 pf.
STANDBY: 0.4 amp, 0.98 pf.
OPERATE (A1): 7.4 amp, 0.82 pf.
OPERATE (A3): 7.6 amp, 0.77 pf.

HEAT DISSIPATION

100 W TRANSMITTER GROUP AND MOUNTING: 1600 W max.
RADIO MODULATOR-POWER SUPPLY (BOOSTER): 1,900 W max.

INSTALLATION

TRANSMITTER: Bolted to foundation deck in main radio room. Mounting dimensions 32-3/32 in. x 24 in.
TRANSMITTER COUPLER: Bolted to bulkhead in main radio room. Mounting dimensions 8-11/16 in. x 5 in.
R. F. TUNER: Bolted to bulk head. Mounting dimensions 26-1/2 in. x 9-1/2 in.

INTERCONNECTING CABLES

ANTENNA COUPLER AND R. F. TUNER: 5 ft.
TRANSMITTER BAY AND ANTENNA COUPLER: 500 ft.
TRANSMITTER BAY AND TRANSMITTER COUPLER: 12 ft.
TRANSMITTER BAY AND REMOTE RADIOPHONE UNIT: 1000 ft.

OPERATORS: 1 required.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(To suit ship's requirements) Remote Radiophone Unit NT-23500, (1) Antenna; (1) Carbon Handset H-51/U; (1) Dynamic Handset H-52/U; (1) Hand Key NT-26012; (6) R. F. Test Cable; (2) Power Test Cable.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Technical Manual			6
1	Installation Kit MK-232/SRT-15			100
1 Set	Equipment Spares for Transmitter Group OA-684/SRT			105
2 Set	Equipment Spares for Mounting MT-1423/SRT			7
1 Set	Equipment Spares for Antenna Coupler CU-372/SRT			2
1 Set	Equipment Spares for Radio Frequency Tuner TN-229/SRT			20
1 Set	Equipment Spares for Radio Modulator-Power Supply OA-685/SRT			90

AN/SRT-15, -15A RADIO TRANSMITTING SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Equipment Spare Transformer (T-1502) For Radio Transmitting Set AN/SRT-15A			80
1	Transmitter Group OA-684A/SRT includes:		16 x 26 x 55-3/8	765
1	Radio Frequency Amplifier AM-1008/SRT			
1	Radio Modulator MD-229/SRT			
1	Radio Frequency Oscillator O-275/SRT			
1	Power Supply PP-1094/SRT			
1	Power Supply PP-1095/SRT			
1	Electrical Equipment Cabinet CY-1571A/SRT			
2	Mounting MT-1423/SRT For Radio Transmitting Set AN/SRT-15		7 x 16 x 24	100
1	Transmitter Group OA-684/SRT includes:		16 x 26 x 55-3/8	765
1	Radio Frequency Amplifier AM-1008/SRT			
1	Radio Modulator MD-229/SRT			
1	Radio Frequency Oscillator O-275/SRT			
1	Power Supply PP-1094/SRT			
1	Power Supply PP-1095/SRT			
1	Electrical Equipment Cabinet CY-1571/SRT			
2	Mounting MT-1423/SRT		7 x 16 x 24	100
1	Transmitter Coupler CU-402/SRT		7-11/16 x 9-1/4 x 9-7/16	11
1	Radio Modulator-Power Supply OA-685/SRT includes:		16 x 18-1/4 x 26	350
1	Radio Modulator MD-230/SRT			
1	Power Supply PP-1096/SRT			
1	Electrical Equipment Cabinet CY-1572/SRT			
1	Electrical Equipment Cabinet CY-1573/SRT			
1	Radio Frequency Tuner TN-229/SRT		13-3/8 x 16-1/2 x 50	135
1	Antenna Coupler CU-372/SRT		13-3/8 x 16-1/2 x 34-5/8	100
1	Transmitter Coupler CU-402/SRT		7-11/16 x 9-1/4 x 9-7/16	11
1	Radio Modulator-Power Supply OA-685A/SRT includes:		16 x 18-1/4 x 26	350
1	Radio Modulator MD-230/SRT			
1	Power Supply PP-1096/SRT			
1	Electrical Equipment Cabinet CY-1572A/SRT			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Equipment Cabinet CY-1573A/SRT			
1	Radio Frequency Tuner TN-229/SRT		13-3/8 x 16-1/2 x 50	135
1	Antenna Coupler CU-372/SRT		13-3/8 x 16-1/2 x 34-5/8	100
2	Technical Manual			6
1	Installation Kit MK-233/SRT-15A			100
1 set	Equipment Spares for Transmitter Group OA-684A/SRT			105
2 sets	Equipment Spares for Mounting MT-1423/SRT			7
1 set	Equipment Spares for Antenna Coupler CU-372/SRT			2
1 set	Equipment Spares for Radio Frequency Tuner TN-229/SRT			20
1 set	Equipment Spares for Radio Modulator-Power Supply OA-685A/SRT			90
1	Equipment Spare Transformer (T-1502)			80

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92121(A): Technical Manual for Radio Transmitting Sets AN/SRT-14, -14A, -15, -15A, -16, -16A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) OA2 (4) OB2 (4) 3B28 (1) 4-400A (2) 4D21 (4) 5R4WGB (2) 6AG5
(1) 6AG7 (8) 6AK6 (1) 6AS7G (1) 6E5 (1) 12AU7 (1) 5651 (29) 5654
(1) 5687 (14) 5725 (4) 5726 (3) 5751 (7) 5814 (3) 5933 (6) 6201
(6) 55346

CRYSTALS: (1) 100KC

SEMI-CONDUCTORS: (2) 1N38 (1) 1N34A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	38.2	1,086
1	2.5	20
2	5.9	137
1	6.7	160
1	10.1	201
1	12.3	407
1	2.5	12

AN/SRT-15, -15A RADIO TRANSMITTING SET

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.8	68
1	2.8	52
1	7.7	130
2	0.9	9
1	0.2	2.5
1	1.3	24
1	2.9	106
1	2.3	88

PROCUREMENT DATA

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

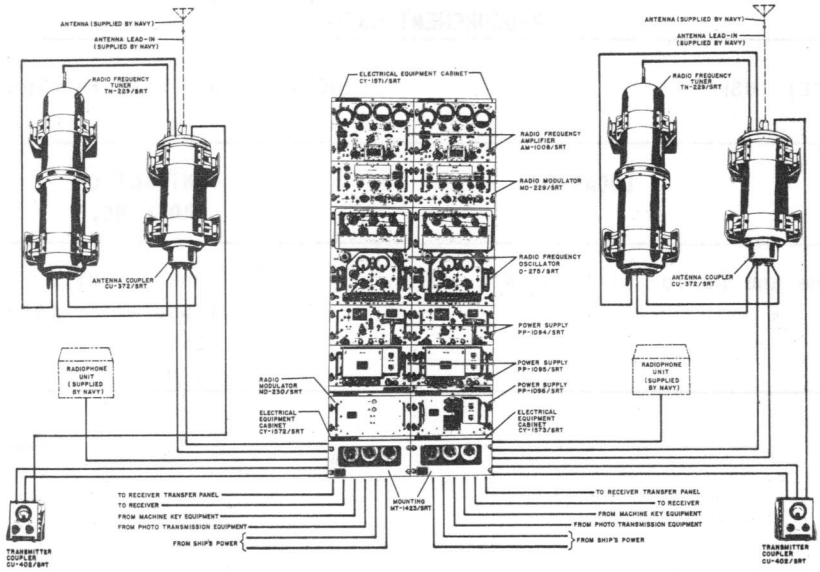
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COXT
Federal Telephone and Radio Company	Clifton, New Jersey	NObsr-52021, 1 September 1950 NObsr-52622, 14 May 1951	$26,500.00

11 September 1962		5820-642-7760 5820-665-2278 W/S 5820-642-7765 5820-665-2306 W/S	RADIO TRANSMITTING SET AN/SRT-16, -16A
Cog Service: USN	FSN:		Functional Class:

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone and Radio Company.



Radio Transmitting Set AN/SRT-16, -16A

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/SRT-16 and AN/SRT-16A have all controls necessary for accomplishing the transmission of any one of five different services at a nominal 100 watt and 500 watt output level. The frequency range of 0.3 to 26 mc, in steps of 10 cycles, is covered in six tuning hands. All frequency selection and tuning are manually accomplished at the site of the transmitter. The set is so constructed as to permit remote control and operation by means of two standard Navy 6 wire control systems.

Frequency band selection is a function of setting up a frequency in the RFO and of tuning in the RFA, both of which are manual operations. In the AN/SRT-16 and -16A the control circuits are such that operation of the transmitter at the 500 watt level is prevented when bands 1 and 2 are selected.

The AN/SRT-16 and -16A radio transmitting sets are equipped for selecting any one of five modes of transmission. Each of the five services can be operated at either the high or low power levels.

Radio Transmitting Set AN/SRT-16A is a nonmagnetic version of the AN/SRT-16. The nonmagnetic version differs from the standard type only in the material used for cabinet panels.

Data on this sheet reflects the following field changes: FC 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

TECHNICAL CHARACTERISTICS:

TYPE OF EMISSION: CW telegraphy, frequency-shift telegraphy, facsimile (picture), voice.

FREQUENCY RANGE

- BAND 1: 0.3 to 0.8 mc.
- BAND 2: 0.8 to 2 mc.
- BAND 3: 2 to 5 mc.
- BAND 4: 5 to 11 mc.
- BAND 5: 11 to 19 mc.
- BAND 6: 19 to 26 mc.

NOMINAL CARRIER OUTPUT

- A1, F1, F4: (2) 100 W or 100 W and 500 W.
- A3: (2) 67 W or 67 W and 333 W.

FREQUENCY CONTROL: Crystal and frequency-shift oscillator.

TYPE EMISSION AND MODULATION CAPABILITY

- A1: 100%.
- A3: 100%.
- F1: Porm 500 cps shift above carrier.
- F4: 0 to P2000 cps shift.

SQUELCH CIRCUIT CHARACTERISTICS: A conventional circuit that cuts off the audio amplifier when the microphone is not receiving voice signals.

HARMONIC ATTENUATION IN AMPLIFIER

- 40 DB BELOW CARRIER LEVEL: 0.3 to 2 mc.
- 50 DB BELOW CARRIER LEVEL: 2 to 5 mc.
- 60 DB BELOW CARRIER LEVEL: Above 5 mc.

CHARACTERISTICS OF RECOMMENDED ANTENNAS: The antenna tuning equipment is capable of tuning an antenna system consisting of a standard 35 foot whip antenna (NT-66047) or a single wire antenna between 60 and 130 feet long with a 40 foot height.

POWER REQUIREMENTS

PRIMARY POWER

VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, single ph, ac.

CURRENT AND POWER FACTOR

- START: 30 amp, 0.92 pf.
- STANDBY: 15.8 amp, 0.92 pf.
- OPERATE (A1): 26.8 amp, 0.90 pf.
- OPERATE (A3): 27.2 amp, 0.92 pf.

OVEN HEATER POWER

VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, single ph, ac.

CURRENT AND POWER FACTOR: 16 amp, 1.0 pf.

BOOSTER POWER

VOLTAGE: 110 v porm 10%, 60 cyc, porm 5%, 3 ph, ac; or 440 v porm 10%, 60 cyc, porm 5%, 3 ph, ac.

CURRENT AND POWER FACTER (220 V INPUT)

START: 14.5 amp, 0.82 pf.

STANDBY: 0.8 amp, 0.98 pf.
OPERATE (A1): 14.7 amp, 0.82 pf.
OPERATE (A3): 15.1 amp, 0.77 pf.
CURRENT AND POWER FACTOR (440 V INPUT)
START: 7.2 amp, 0.82 pf.
STANDBY: 0.4 amp, 0.98 pf.
OPERATE (A1): 7.4 amp, 0.82 pf.
OPERATE (A3): 7.6 amp, 0.77 pf.

HEAT DISSIPATION

100 W TRANSMITTER GROUP AND MOUNTING: 1600 W max.
RADIO MODULATOR-POWER SUPPLY (BOOSTER): 1900 W max.

INSTALLATION

TRANSMITTER: Bolted to foundation deck in main radio room. Mounting dimensions 32-3/32 in. x 24 in.
TRANSMITTER COUPLER: Bolted to bulkhead in main radio room. Mounting dimensions 8-11/16 in. x 5 in.
RF TUNER: Bolted to bulkhead. Mounting dimensions 26-1/2 in. x 9-1/2 in.

INTERCONNECTING CABLES

ANTENNA COUPLER AND RF TUNER: 5 ft.
TRANSMITTER BAY AND ANTENNA COUPLER: 500 ft.
TRANSMITTER BAY AND TRANSMITTER COUPLER: 12 ft.
TRANSMITTER BAY AND REMOTE RADIOPHONE UNIT: 1000 ft.

OPERATORS: 1 required.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(To suit ships requirements) Remote Radiophone Unit NT-23500; (2) Antenna; (2) Handset, Carbon H-51/U; (2) Handset, Dynamic H-52/U; (2) Handkey NT-26012; (6) RF Test Cable; (2) Power Test Cable.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	RADIO TRANSMITTING SET AN/SRT-16			
2	Transmitter Group OA-684/SRT		16 x 26 x 55-3/8	765
	includes:			
2	Radio Frequency Amplifier AM-1008/SRT			
2	Radio Modulator MD-229/SRT			
2	Radio Frequency Oscillator O-275/SRT			
2	Power Supply PP-1094/SRT			
2	Power Supply PP-1095/SRT			
2	Electrical Equipment Cabinet CY-1571/SRT			

AN/SRT-16, -16A RADIO TRANSMITTING SET

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Mounting MT-1423/SRT		7 x 16 x 24	100
2	Transmitter Coupler CU-402/SRT		7-11/16 x 9-1/4 x 9-7/16	11
1	Radio Modulator-Power Supply OA-685/SRT includes:		16 x 18-1/4 x 26	350
1	Radio Modulator MD-230/SRT			
1	Power Supply PP-1096/SRT			
1	Electrical Equipment Cabinet CY-1572/SRT			
1	Electrical Equipment Cabinet CY-1573/SRT			
2	Radio Frequency Tuner TN-229/SRT		13-3/8 x 16-1/2 x 50	135
2	Antenna Coupler CU-372/SRT		13-3/8 x 16-1/2 x 34-5/8	100
2	Technical Manual			6
1	Installation Kit MK-234/SRT-16			90
2 sets	Equipment Spares for Transmitter Group OA-684/SRT			105
2 sets	Equipment Spares for Mounting MT-1423/SRT			7
2 sets	Equipment Spares for Antenna Coupler CU-372/SRT			2
2 sets	Equipment Spares for Radio Frequency Tuner TN-229/SRT			20
1 set	Equipment Spares for Radio Modulator Power Supply OA-685/SRT			90
1	Equipment Spare Transformer (T-1502)			80
	RADIO TRANSMITTING SET AN/SRT-16A			
2	Transmitter Group OA-684A/SRT includes:		16 x 26 x 55-3/8	765
2	Radio Frequency Amplifier AM-1008/SRT			
2	Radio Modulator MD-229/SRT			
2	Radio Frequency Oscillator O-275/SRT			
2	Power Supply PP-1094/SRT			
2	Power Supply PP-1095/SRT			
2	Electrical Equipment Cabinet CY-1571A/SRT			
2	Mounting MT-1423/SRT		7 x 16 x 24	100
2	Transmitter Coupler CU-402/SRT		7-11/16 x 9-1/4 x 9-7/16	11
1	Radio Modulator-Power Supply OA-685A/SRT includes:		16 x 18-1/4 x 26	350
1	Radio Modulator MD-230/SRT			
1	Power Supply PP-1096/SRT			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Equipment Cabinet CY-1572A/SRT			
1	Electrical Equipment Cabinet CY-1573A/SRT			
2	Radio Frequency Tuner TN-229/SRT		13-3/8 x 16-1/2 x 50	135
2	Antenna Coupler CU-372/SRT		13-3/8 x 16-1/2 x 34-5/8	100
2	Technical Manual			6
1	Installation Kit MK-235/SRT-16A			90
2 sets	Equipment Spares for Transmitter Group OA-684A/SRT			105
2 sets	Equipment Spares for MT-1423/SRT			7
2 sets	Equipment Spares for Antenna Coupler CU-372/SRT			2
2 sets	Equipment Spares for Radio Frequency Tuner TN-229/SRT			20
1 set	Equipment Spares for Radio Modulator-Power Supply OA-685A/SRT			90
1	Equipment Spare Transformer (T-1502)			80

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92121(A): Technical Manual for Radio Transmitting Sets AN/SRT-14, -14A, -15, -15A -16, -16A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 0A2 (6) 0B2 (8) 3B28 (2) 4-400A (2) 4D21 (8) 5R4WGB (4) 6AG5
(2) 6AG7 (16) 6AK6 (2) 6AS7G (2) 6E5 (2) 12AU7 (2) 5651 (58) 5654
(2) 5687 (28) 5725 (8) 5726 (6) 5751 (14) 5814 (6) 5933 (12) 6201
(6) 55343

CRYSTALS: (2) 100KC

SEMI-CONDUCTORS: (4) 1N38 (2) 1N34A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
2	38.2	1086
2	2.5	20
2	5.9	137
2	6.7	160
2	10.1	201
2	12.3	407

AN/SRT-16, -16A RADIO TRANSMITTING SET

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.5	12
1	2.0	65
1	2.0	45
2	7.7	130
2	0.9	9
2	0.2	2.5
2	1.3	24
1	2.9	106
1	2.3	88

PROCUREMENT DATA

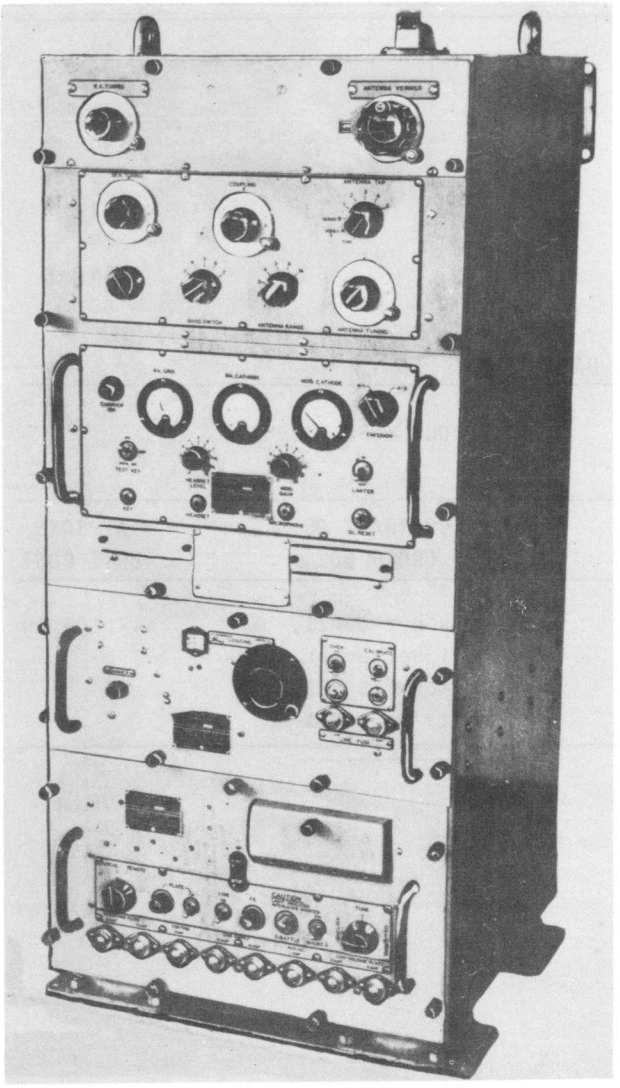
PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone and Radio Company	Clifton, New Jersey	NObsr-52021, 1 September 1950 NObsr-52622, 14 May 1951	$47,200.00

January 1958

TRANSMITTING SET, RADIO AN/SRT-17(XN-1)



Transmitting Set, Radio AN/SRT-17(XN-1)

FUNCTIONAL DESCRIPTION

The AN/SRT-17(XN-1) is intended for general purpose use aboard ship and at shore installations under widely varying climatic conditions. It provides a complete radio transmitting facility with the exception of antenna, power source, keying and phone equipment. The equipment is designed for operation into an antenna having a radio frequency resistance between 5 and 1800 ohms and a reactance from +2000 to −2000 ohms.

The transmitter may be operated from a remote location with the use of a standard "6 wire" remote unit. A telephone jack is also provided for use with a receiver monitor/headset.

No field changes in effect at time of preparation (30 April 1957).

RELATION TO OTHER EQUIPMENT

Similar to but not interchangeable with Radio Transmitting Set AN/URT-12.

Equipment Required but not Supplied: (1) Suitable Antenna, Keying and phone equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

EMISSION: CW and voice.
FREQUENCY RANGE: 2 to 30 mc.
NUMBER OF BANDS: 9.
FREQUENCY CONTROL: Master oscillator.
POWER OUTPUT
A1 EMISSION: 100 W.
A3 EMISSION: 75 W.
POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cycle, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corp of America, New York, N. Y.
Contract NObsr-63313.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 5R4WGXB	(1) 5R4WGB
(2) 3B28	(3) 12AX7
(1) 12AT7WA	(4) 4-65A
(4) 6AG7	(1) 807
(1) 6BG6G	(1) 6AQ5W
(2) 5814A	(2) OA2WA

Total Tubes: (24)
(1) CR-18/U
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

Technical Manual for Radio Transmitting Set AN/SRT-17(XN-1).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

AN/SRT-17(XN-1) TRANSMITTING SET, RADIO

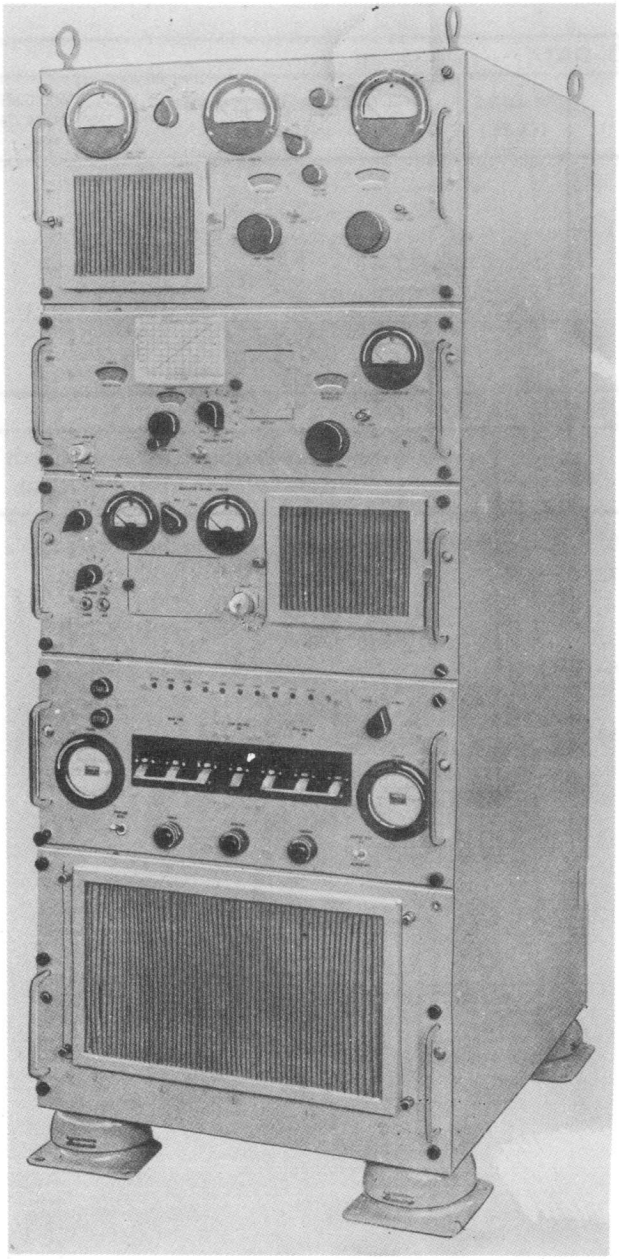
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set Incl 2 Technical Manuals and test cables AN/SRT-17(XN-1)			
1	Set of Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/SRT-17(XN-1) C/O	21-1/2 X 23 X 48	418
	(1) Electrical Equipment Cabinet CY-1778(XN-1)/SRT-17	20-1/8 X 21-1/2 X 48	
	(1) Power Supply PP-1294(XN-1)/SRT-17	11 X 19-5/8 X 20	
	(1) Radio Frequency Oscillator O-332(XN-1)/SRT-17	7-7/8 X 9-7/8 X 19-5/8	
	(1) Radio Transmitter T-557(XN-1)/SRT-17	9-5/8 X 20-1/4 X 24-1/8	
	(1) Set of Spares		
	(2) Technical Manuals		4
	(1) Set of Test Cables		10

RADIO TRANSMITTING SET AN/SRT-18(XN-2)



Radio Transmitting Set AN/SRT-18(XN-2)

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

RELATION TO OTHER EQUIPMENT

The AN/SRT-18(XN-2) is similar to the AN/SRT-18(XN-1) except for minor electrical and mechanical changes.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.
POWER OUTPUT: 100 W modulated.
EMISSION: A3.
POWER SOURCE REQUIRED: 440 v, 60 cps, three ph.
CONTROL: Crystal.

MANUFACTURER'S OR CONTRACTOR'S DATA

Air Associates, Inc., Orange, N.J.
Contract NObsr-64774, dated 31 May 1955.
Approximate Cost: $30,221.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 4X-150A	(6) 6136/6AU6WA
(1) OB2WA	(3) 5YWGTA
(6) 3B28	(1) 6135
(4) OA2WA	(3) 6080WA
(1) 5703	(1) 6CL6
(4) 5726	(4) 6201
(8) 5814A	(1) 5933
(2) 5894	(3) 5R4WGA

Total Tubes: (52)

(1) 1N67	(2) 1N21A

Total Crystals: (3)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92741: Manuscript of Technical Manual for Radio Transmitting Set AN/SRT-186(XN-2).

FUNCTIONAL DESCRIPTION

The AN/SRT-18(XN-2) is composed of five rack mounted units. These are the RF Amplifier, Oscillator-Multiplier, Modulator, Control Indicator and the Power Supply. It is designed to be operated by itself or in conjunction with a 1000 Watt amplifier or with an external power source.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-T-1904
STOCK NO.

AN/SRT-18(XN-2) RADIO TRANSMITTING SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/SRT-18(XN-2) consisting of:	19-5/8 x 27-5/8 x 50-7/16	
1	Amplifier, Radio Frequency Unit 1		
1	Oscillator-Multiplier Unit 2		
1	Modulator Unit 3		
1	Control-Indicator Unit 4		
1	Power Supply Unit 5		
1	Rack Unit 6		

October 1957

Radio-Transmitters

TRANSMITTING SET, RADIO AN/SRT-20(XN-1)

FUNCTIONAL DESCRIPTION

The AN/SRT-20(XN-1) generates a high power radio frequency signal in the frequency range of 225 to 400 megacycles. The minimum power output of the transmitter for any frequency in its range, is 1000 watts of r-f carrier plus 500 watts of side band component when modulation is applied to r-f carrier.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: Interconnecting cable as required, Antenna and transmission line, necessary hardware and supplies and distilled water for the cooling system.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.
TUNING: Continuous.
TYPE OF EMISSION: A3.
POWER OUTPUT: 1000 w carrier plus 500 w side band.
INPUT DRIVING POWER REQUIRED: 100 w carrier plus 50 w sideband.
OUTPUT IMPEDANCE: 52 ohms, coaxial.
INPUT IMPEDANCE: 52 ohms, coaxial.
HARMONIC RADIATION: 80 db down, minimum.
SIGNAL DISTORTION: 15% or less at 95% modulation, 10% or less at 80% modulation.

MANUFACTURER'S OR CONTRACTOR'S DATA

Air Associates, Inc., Orange, N. J.
Contract NObsr-63383.

TUBE AND/OR CRYSTAL COMPLEMENT

(10) 3B28 (3) OA2WA (1) 6182 (2) 6AU6WA

Total Tubes: (18)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92295, Technical Manual for Transmitting Set, Radio AN/SRT-20(XN-1).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitting Set, Radio AN/SRT-20(XN-1) c/o (1) Transmitter Set, Radio AN/SRT-18(XN-1 or XN-2) (1) Control, Power Supply (1) Power Supply (1) Power Supply (1) Amplifier, Radio Frequency		

April 1958

Radio-Transmitters

RADIO TRANSMITTING SET AN/SRT-21

FUNCTIONAL DESCRIPTION

The AN/SRT-21 is designed to be used for radio communication.

No field changes in effect at time of preparation (8 July 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A2, A3 and F1 type of emission.

TYPE OF FREQUENCY CONTROL: Crystal frequency control and master oscillator frequency control.

POWER OUTPUT: 125 W A1 emission, 125 W A2 emission, 30 W A3 emission and 30 W F1 emission.

NUMBER OF BANDS: 2 band.

OPERATING FREQUENCY RANGE

BAND ONE: 300 to 535 kc.

BAND TWO: 1.7 to 26 mc.

OPERATING POWER RQMT: 115 or 230 v, 50 to 60 cps, 1 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Air Associates Inc., Orange, N.J.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) OA2WA
(2) 12AT7WA
(2) 4-65A
(1) 5R4WGB
(1) 5726-6AL5W
(4) 5763
(3) 6AU6WA
(3) 6C4WA
(3) OB2WA
(4) 3B28
(2) 4E27A
(3) 5725-6AS6W
(1) 5727-2D21W
(2) 5814A
(1) 6CL6
(2) 6336

Total Tubes: (42)

(4) 1N34A

Total Crystals: (4)

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/SRT-21 for Radio Transmitting Set.

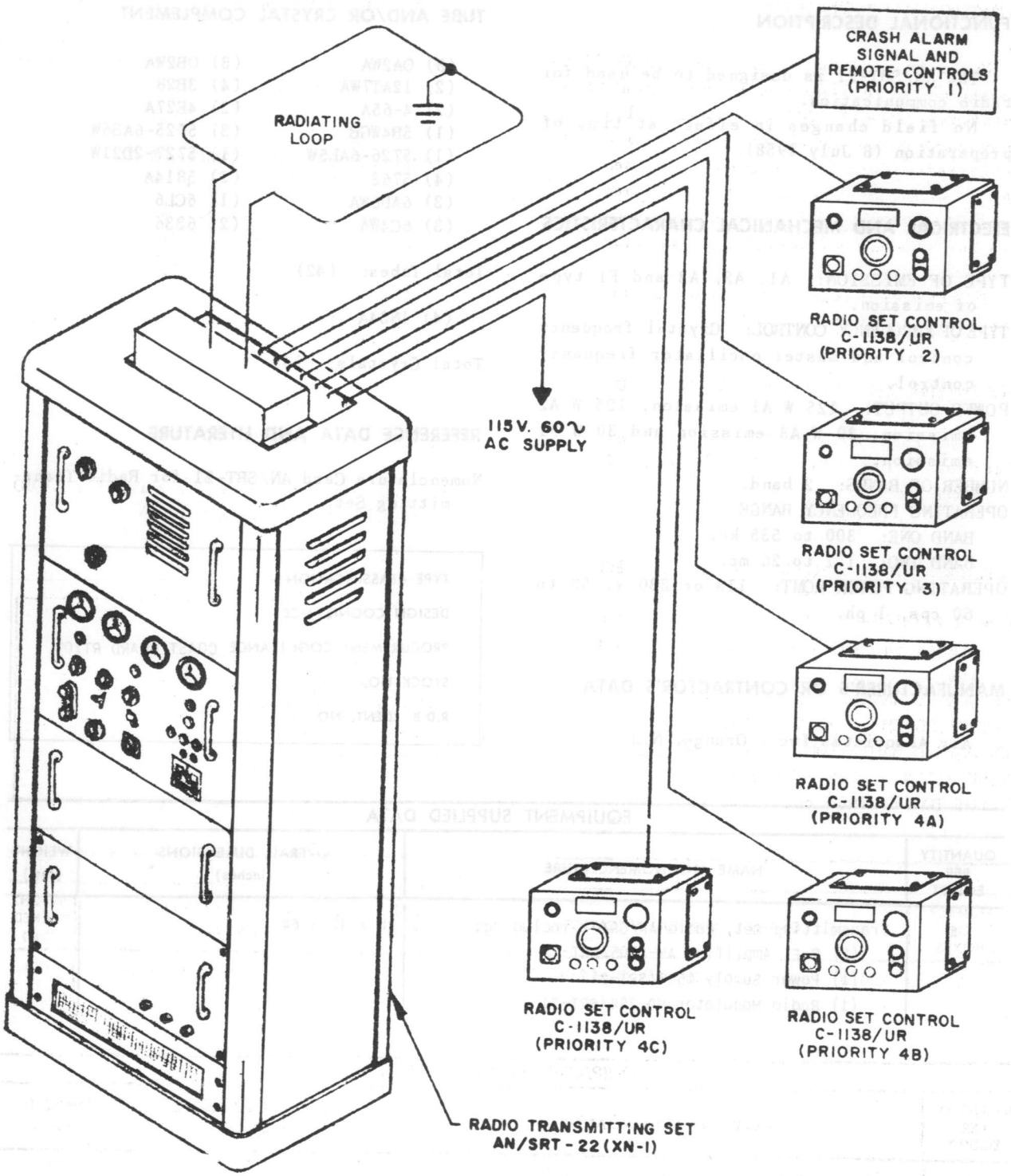
TYPE CLASSIFICATION	
DESIGN COGNIZANCE	
PROCUREMENT COGNIZANCE	COAST GUARD RT103
STOCK NO.	
R.D.B. IDENT. NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitting Set, Radio AN/SRT-1 including: (1) R.F. Amplifier AM-1505/SRT-21 (1) Power Supply 1553/SRT-21 (1) Radio Modulator MD-284/SRT-21	24 X 30 X 64	

RADIO TRANSMITTING SET

Radio-Transmitter
AN/SRT-22(XN-1)



Radio Transmitting Set AN/SRT-22(XN-1)

Radio-Transmitters

February 1960

AN/SRT-22(XN-1) RADIO TRANSMITTING SET

FUNCTIONAL DESCRIPTION

Radio Transmitting Set AN/SRT-22(XN-1) is designed to provide equipment, capable of supplying 300 W of 100% Class A-3 (Telephone) modulated radio frequency power into a magnetic radiating loop antenna for disseminating information from various operational control stations to flight deck personnel employing the use of helmet type portable receivers.

No field changes in effect at time of preparation (21 December 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Crash Alarm; (as req'd) Radio Set Control C-1138/UR; (1) Technical Manual NAVSHIPS 92243.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v, 50 to 60 cy, single ph, 400 W (standby), 1300 W (operate).
FREQUENCY RANGE: 65 to 100 kc.
OUTPUT POWER: 300 W, ±10%.
UNDESIRED RADIATION: -60 db min.
MODULATION: 100%, Class A-3.
PILOT TONE: 1000 cps (±100 cps.

MANUFACTURER'S OR CONTRACTOR'S DATA

Remler Co, Ltd, San Francisco, California.
Contract NObsr-71534.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 100TH
(2) 5814A
(2) 6080WA
(2) 3B28
(7) 5687WA
(1) 6AF6G
(2) 5R4WGA
Total Tubes: (20)

75KC

REFERENCE DATA AND LITERATURE

NAVSHIPS 93436: Technical Manual for RADIO TRANSMITTING SET AN/SRT-22(XN-1).

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

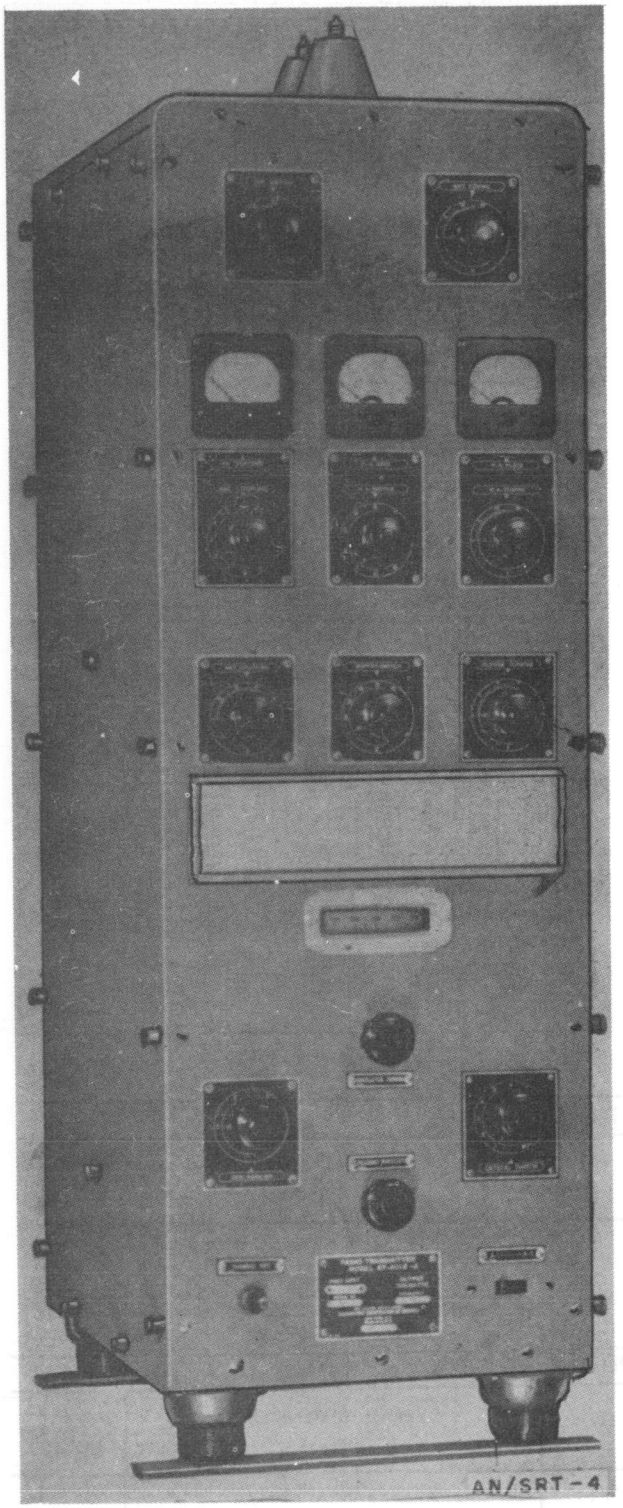
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/SRT-22(XN-1)	34	24-1/4 X 31-3/4 X 76-1/2	740

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/SRT-22(XN-1) includes:	16-1/8 X 22-3/8 X 71-1/4	575
2	Technical Manual NAVSHIPS 93436	3/8 X 9 X 11-1/2	

RADIO TRANSMITTING SET AN/SRT-3



Radio Transmitting Set AN/SRT-3, 4

FUNCTIONAL DESCRIPTION

The AN/SRT-3 (RMCA model 8010-E) is a medium power, intermediate frequency radiotelegraph transmitter designed primarily for marine installation. It contains simplified controls for rapid selection of eight pretuned operating frequencies.

The complete transmitter is housed in an aluminum cabinet, the construction of which provides mechanical rigidity and adequate ventilation.

It may be used both as a main and emergency transmitter by the addition of an emergency power panel and a small dynamotor. It is designed as a companion installation for the RMCA model ET-8019-E high frequency transmitter (AN/SRT-4).

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 0.35 to 0.515 mc.
QUANTITY OF CRYSTALS: 0 to 8 (each preset frequency may use MO or a crystal).
PRESET FREQUENCIES: 8.
ANTENNA: Ship's antenna.
TYPE MODULATION: CW or MCW.
FREQUENCY CONTROL: MO or crystal.
POWER OUTPUT
MCW: 300 W.
CW: 200 W.
RANGE: Medium.
INSTALLATION: Fixed on shipboard
POWER SOURCE REQUIRED
DC MOTOR GENERATOR: 115 v or 230 v DC, 1300 W.
AC MOTOR GENERATOR: 220 or 440 v, 60 cps, 3 phase, 4-1/2 amp.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

AN/SRT-3 RADIO TRANSMITTING SET

REFERENCE DATA AND LITERATURE

TM11-487A: Directory of Signal Corp Equipments, Radio Communication Equipment, page 35.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter	17-3/8 x 28-3/4 x 44-3/4	200
1	Motor Generator	9-3/4 x 14-1/8 x 27-3/4	225
1	Motor Starter CR-4052Y1		
1	Line Filter (Wilcox-Gay dwg 25-2200)		

RADIO TRANSMITTING SET AN/SRT-3A

FUNCTIONAL DESCRIPTION

The AN/SRT-3A is designed for shipboard operation and communication.

No field changes in effect at time of preparation (16 July 1958).

RELATION TO OTHER EQUIPMENT

The AN/SRT-3A is interchangeable with the AN/SRT-3 functionally, mechanically and electrically. Differs only in maintenance parts and components.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1 or A2 type.
NUMBER OF CHANNELS: 8 channels.
TYPE OF CONTROL: Master oscillator frequency controlled convertible to crystal controlled.
POWER OUTPUT: 200 W, and 300 W.
OPERATING FREQUENCY RANGE: 350 to 500 kc.
INDIVIDUAL CHANNEL FREQUENCY
CHANNEL ONE: 355 kc.
CHANNEL TWO: 375 kc.
CHANNEL THREE: 400 kc.
CHANNEL FOUR: 410 kc.
CHANNEL FIVE: 425 kc.
CHANNEL SIX: 454 kc.
CHANNEL SEVEN: 468 kc.
CHANNEL EIGHT: 500 kc.
OPERATING POWER REQUIREMENTS: 115 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

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

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 211W (2) 807
Total Tubes: (5)

Crystal data not available.

REFERENCE DATA AND LITERATURE

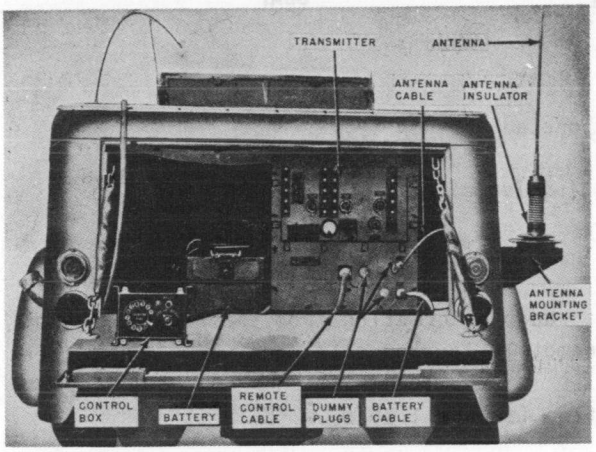
Nomenclature Card AN/SRT-3A for the Radio Transmitting Set.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Radio T-387/SRT-3A		
1	Motor Generator PU-255/SRT-3A		
1	Starter Motor SA-306/SRT-3A		
1	Sig Key J-37		

RADIO SET AN/TRT-1



Radio Set AN/TRT-1

FUNCTIONAL DESCRIPTION

The AN/TRT-1 is designed as a portable, waterproof radio transmitting set; it is housed in a metal container used to propagate a series of coded signals at various frequencies to operate the Radio Set AN/TRR-2. It operates from an external 12 or 24 volts direct current (DC); has a self contained dynamotor, includes whip antenna.

The AN/TRT-1 is a radio transmitter which is used in conjunction with Radio Set AN/TRR-2, a receiver. The two (2) equipments comprise a system for the remote detonation of land and water mines.

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

RELATION TO OTHER EQUIPMENT

The AN/TRT-1 is used to operate Radio Set AN/TRR-2.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF TRANSMITTER: Crystal oscillator. doubler, push-pull amplifier.
TYPE OF SIGNAL: Amplitude modulated.
TYPE OF ANTENNA: Consists of vertical half-wave whip specially designed for operation on 29.5 to 32 mc. Includes Mast Section MS-49 through MS-52.
DISTANCE RANGE
LAND: 8 miles.
WATER: 12 to 20 miles.
AIR: 40 miles.
NUMBER OF CHANNELS: 25 channels.
CHANNEL SPACING: 0.5 mc apart.
OPERATING FREQUENCY RANGE: 28 to 40 mc.
POWER INPUT: 12 v at 38 amperes, 456 W, 24 v at 19 amperes, 456 W.
POWER SUPPLY: 12 v battery through Dynamotor DM-35 or 24 v battery through Dynamotor DM-37.

MANUFACTURER'S OR CONTRACTOR'S DATA

Communication Measurement Laboratory, New York, New York.
Contract Order 908/PHILA-45-08.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SN7GT	(3) 6L6
(2) 829B	(1) OD3/VR150

Total Tubes: (7)

No Crystals used.

REFERENCE DATA AND LITERATURE

TM11-269: Technical Manual for Radio Sets AN/TRT-1 and AN/TRR-2.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter Set AN/TRT-1	11 X 15 X 22	50
1	Self Contained Dynamotor		
1	Antenna (Whip Type)		

8 January 1962 RADIO SET AN/TXT-1

Cog Service: **FSN:** **Functional Class:**

USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Motorola Incorporated.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Radio Set AN/TXT-1 is designed to transmit radar information from the radar set via micro-wave frequencies (4600 to 5000 mc) to the remotely-located data receiver. It provides two-way voice circuits.

No field changes in effect at time of preparation (18 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Transportable ground installation.
TYPE OF ANTENNA: Parabolic type.
TYPE OF EMISSION: F9 type.
TYPE OF TUNING: Continuous tuning.
NUMBER OF BANDS: 1 band.
FREQUENCY RANGE: 4600 to 5000 mc.
POWER OUTPUT: 0.5 W.
OPERATING POWER RQMT: 115 v ac, 400 cps, single ph; 250 v dc; 180 v dc; M105 v dc; M800 v dc; M1200 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/TXT-1 is designed as part of Radar Data Relay Set AN/TXQ-1.
The AN/TXT-1 is designed to be used with, but not part of, Radio Set AN/TXR-1.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Radio Set AN/TXT-1 consists of:			
1	Power Supply Group OA-1244/TXT-1		20-3/4 x 28-1/4 x 30-1/4	
1	Receiver-Transmitter Group OA-1245/TXT-1		20-3/4 x 28-1/4 x 30-1/4	
1	Mast AB-480/T		6 dia x 600 lg	
1	Antenna AS-831/TX			
1	Shelter, Electrical Equipment S-135/T		90 x 90 x 121-3/8	

AN/TXT-1 RADIO SET

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92133: Technical Manual for Radio Sets AN/TXT-1(XN-2) and AN/TXR-1(XN-2). Nomenclature Card for Radio Set AN/TXT-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (16) Raytheon #5703 (1) Raytheon #5702

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

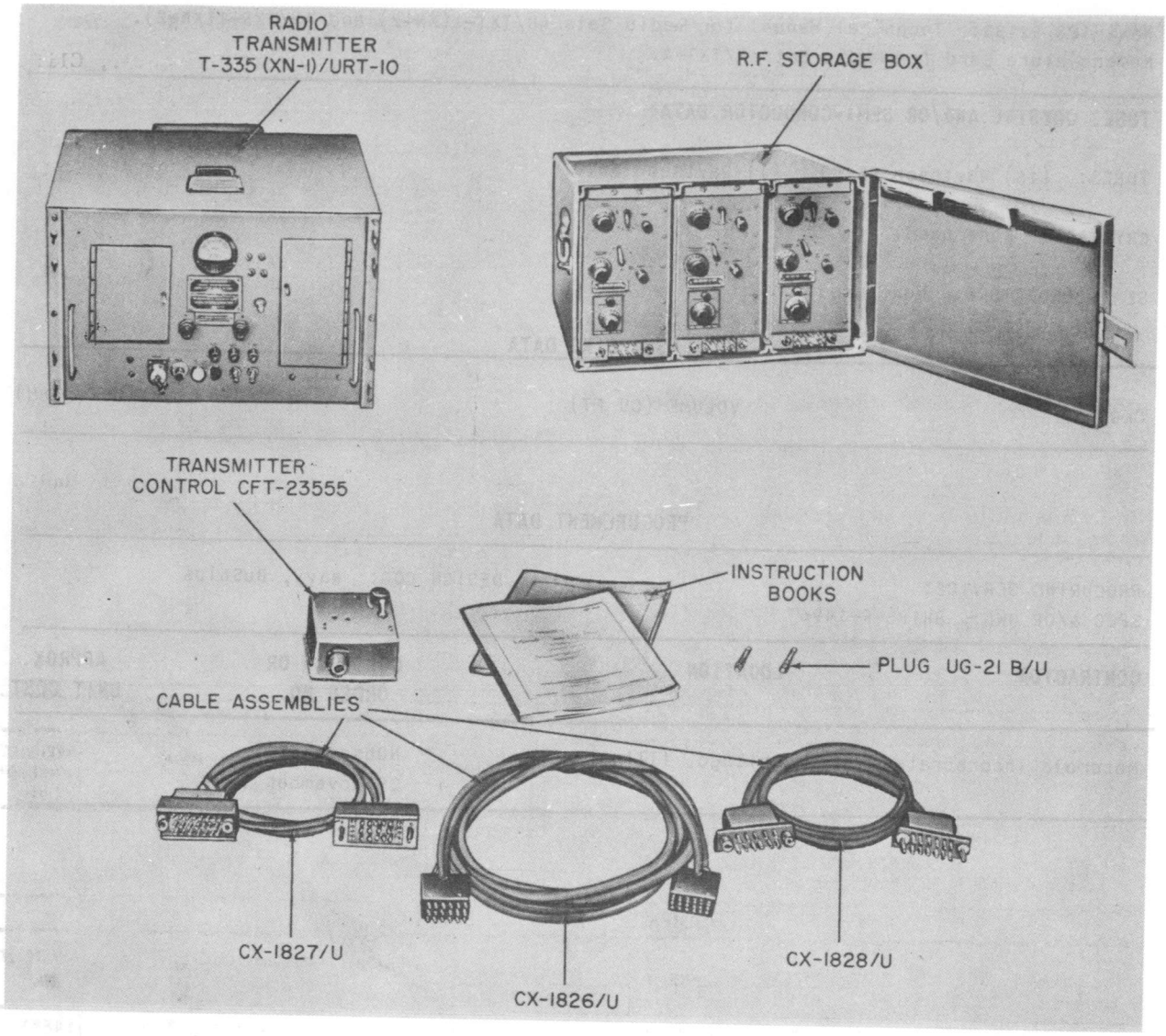
PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG: SHIPS-R-1496

DESIGN COG: Navy, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Motorola Incorporated	Chicago, Illinois	NObsr-64571, 29 November 1954	

RADIO TRANSMITTING SET AN/URT-10(XN-1)



Radio Transmitting Set AN/URT-10(XN-1)

FUNCTIONAL DESCRIPTION

The AN/URT-10(XN-1) is a VHF/UHF transmitter designed for A3 and A2 communications aboard ship or submarine, or at shore stations. A control unit is employed to provide limited remote control up to 5 miles. The transmitter can also be operated from standard shipboard remote control units. Carrier control, audio input to modulator, and receiver monitoring are provided when operating with handset. Two associated amplifier units are employed for monitoring.

Four interchangeable amplifier-oscillator units are provided to cover the frequency range, each employing, crystal-controlled master oscillator control.

The modulator contains special circuits to provide expander, AVC, and clipper-filter action so as to increase the average carrier side-band power under A3 operating conditions. A 1000 cycle-per-second oscillator is included for A2 operation.

No field changes in effect at time of preparation (8 October 1957).

RELATION TO OTHER EQUIPMENT

Radio Transmitting Sets TED, AN/URT-6, -7, and -10 are all similar in purpose. They differ electrically only in their frequency

AN/URT-10(XN-1) RADIO TRANSMITTING SET

determining components; mechanically they are similar.

Equipment Required but not Supplied: Remote Radiophone Unit-23500, (3) Hand Telephone Assembly-51081, or equivalent, (3) Chest Set-51090 or equivalent, (2) Loudspeaker Unit-49546 or equivalent, (2) Audio Amplifier-50210, (16) Crystal Unit CR-24/U, interconnecting cables, and an antenna.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 30 to 400 mc in four ranges.
FREQUENCY CONTROL: Crystal.
EMISSION: A2, A3.
MODULATION CAPABILITY: 100%.
POWER OUTPUT: 30 W between 30 and 115 mc, 15 W between 115 and 400 mc.
AUDIO INPUT: −25 db to +5 db from a 0.006 W reference level.
AUDIO FREQUENCY RESPONSE: Flat within ±3 db, from a 1000 cps reference level from 300 to 3500 cps.
IMPEDANCE
MICROPHONE INPUT: 600 ohms.
ANTENNA OUTPUT: 50 ohms.
FREQUENCY STABILITY: ±0.007.
POWER SOURCE REQUIRED: 115 or 230 v, 50 to 60 cps, single ph, 750 W.
MOUNTING DATA: Either table or relay rack.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Clifton, N. J.
Contract NObsr-52221, dated 11 January 1951.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28	(11) 4X150A	(1) 5686
(2) 6AL5	(1) 6AT6	(1) 6BA6
(4) 12AU7	(7) 12AT7	(2) 807

Total Tubes: (31)

(16) CR-24/U
Total Crystals: (16)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91623: Technical Manual for Radio Transmitting Set AN/URT-10(XN-1).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-10(XN-1)			
1	R.F. Storage Box			
1	Set of Equipment Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter T-335(XN-1)/URT-10 incl	13-23/32 X 16-1/2* X 19*	146**
	1 Amplifier-Oscillator AM-634(XN-1)/URT	5 X 10 X 14-1/2	30
	1 Amplifier-Oscillator AM-635(XN-1)/URT	5 X 10 X 14-1/2	30
	1 Amplifier-Oscillator AM-636(XN-1)/URT	5 X 10 X 14-1/2	30
	1 Amplifier-Oscillator AM-637(XN-1)/URT	5 X 10 X 14-1/2	30
	1 Electrical Equipment Cabinet CY-1126/URT	13-3/4 X 14-13/16* X 19*	
	1 Power Supply PP-773/URT	12-7/32 X 16-1/4 X 19	
	1 Radio Modulator MD-163/URT	4 X 9-31/32 X 14-3/8	
1	R.F. Storage Box	10-5/8 X 14-3/4 X 18-5/8	
1	Transmitter Control -23555	3-5/16 X 4-7/16 X 5-13/16	4.0
1	Cable Assembly CX-1826/U		
1	Cable Assembly CX-1827/U		
1	Cable Assembly CX-1828/U		
2	Connector Plugs UG-21B/U	13/16 X 13/16 X 1-3/4	0.03
1	Set of Repair Parts		
2	Technical Manuals NAVSHIPS 91623	1/2 X 8-1/2 X 11	2 est.

NOTE: *Two inch variation, dependent upon location of terminal box.
**Includes only one amplifier-oscillator.

TRANSMITTING SET, RADIO AN/URT-11(XN-1)

FUNCTIONAL DESCRIPTION

The AN/URT-11(XN-1) is designed for radio telephone communication in the 225 to 400 megacycle frequency range. It is designed for installation on ships, submarines, or at shore stations where space is at a premium. It provides for remote operation by use with a Control, Radio Set C-1138( ).

No field changes in effect at time of preparation (13 August 1957).

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Microphone, (1) Handset, (1) Antenna, (1) Radio Set Control C-1138( ).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.
NOMINAL CARRIER OUTPUT: 100 W.
TYPE EMISSION: A3.
MODULATION CAPABILITY: 100%.
TYPE FREQUENCY CONTROL: Crystal or master oscillator.
FREQUENCY STABILITY: 0.01%.
IMPEDANCE DATA
MICROPHONE INPUT: 200 ohms.
LINE INPUT: 600 ohms.
ANTENNA OUTPUT: 50 ohms.
AUDIO INPUT VOLTAGE: -25 to +5 db from a 6 mw reference level (0.1 to 3.4 v).
AUDIO FREQUENCY RESPONSE: Flat within ±1db from a 1000 cps reference at 300 to 3500 cps, -50 db at 5000 cps and over.
INPUT TO CLIPPING STAGE: Normally held 20 ± 2 db above clipping level by action of AVC circuit for variations in input of -25 to +5 db from 6 mw reference level.
AMBIENT TEMPERATURE RANGE: -28 to +65 deg C.
HEAT DISSIPATION: 1400 W.
POWER REQUIREMENTS: 440 v, 60 cps, 3 ph, 600 W standby, 1500 W operating, 89% pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Clifton, N.J.
Contract NObsr-63226, dated 9 February 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

(6) 3B28
(6) 4X150A
(1) 12AT7WGA
(1) 5651
(1) 5670
(1) 5726
(1) 5749
(2) 5751
(4) 5814
(1) 5933WA
(1) 6080

Total Tubes: (26)

(3) 1N69
(10) CR-24/U

Total Crystals: (13)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93007: Manuscript Copy of Technical Manual for Transmitting Set, Radio AN/URT-11(XN-1).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE SHIPS-T-789
STOCK NO.

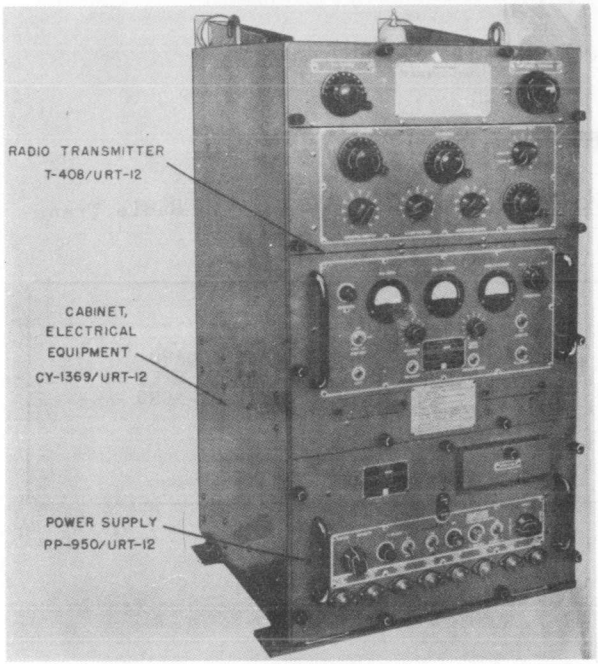
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-11(XN-1)	20.6	26 x 28-1/2 x 48	460
1	Set of Equipment Spares			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-11(XN-1)	18-7/8 x 19 x 40	400
2	Technical Manual NAVSHIPS 93007		
1	Set of Equipment Spares		

RADIO TRANSMITTING SET AN/URT-12



Radio Transmitting Set AN/URT-12

FUNCTIONAL DESCRIPTION

The AN/URT-12 is designed for use on Coast Guard vessels and at Coast Guard radio communication shore stations under widely varying climatic conditions. It provides a complete radio transmitting facility with the exception of antenna power source, channel frequency crystals, keying and microphone equipment.

The AN/URT-12 is capable of continuous operation on Continuous Wave (A-1 emission) or Voice (A-3 emission) with nominal output of 100 watts for A-1 and 75 watts for A-3, within the frequency range of 2 to 30 megacycles.

Data on this sheet reflects the following field changes: No. 1.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(10) CR-18/U Crystals, (1) Antenna (R.F. output), (1) Remote Control Unit (Similar to N.T. 23423), (1) Set of Remote Control Cables type MHFA-10, MHFA-7, TTHFWA-1-1/2 or equivalent, (1) Automatic Keyer, (1) Frequency Meter, (1) Power Input Cable type DHFA-9 or equivalent, (1) Master Oscillator.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal with provisions for external master oscillator.

TYPE OF EMISSION: Continuous Wave telegraphy (A-1) or Voice modulated (A3).

AUDIO INPUT: 20 db to 0 (0 db=6 mw) into 600 ohm impedance.

AUDIO RESPONSE: 200 to 2500 cycles, flat within ±3 db from the 1000 cycle value.

COMPRESSION: Above 70% modulation, 10 db increase in input results in less than 3 db change in modulation level.

MODULATION CAPABILITY: 100%.

KEYING TYPE: ON-OFF (electron tube).

KEYING SPEED: CW, up to 100 words per minute.

TYPE CONTROL: Local or remote start-stop, phone and keying, manual or automatic.

REMOTE CONTROL UNIT: Standard 6 wire unit similar to N.T. 23423 (not supplied w/ contract).

NOMINAL RADIO FREQUENCY OUTPUT

A-1 EMISSION: 2 to 12 mc 100 watts; 12 to 26 mc, 80 watts; 26 to 30 mc, 60 watts.

A-3 EMISSION: At 95% modulation, 75% of A-1 effective power; includes sideband power when modulated.

SPURIOUS RADIATION: Minimum of 50 db below 100% modulation.

OPERATING TEMPERATURE: -55° C to +90° C (-67° F to +194° F).

FREQUENCY RANGE: 2 to 30 mc.

OPERATING POWER RQMT: 115 v, 50 to 60 cps, 1 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corporation of America, New York, New York.

AN/URT-12 RADIO TRANSMITTING SET

Dwg No. D-50084.
Contract No. TCG-38554 dated, 25 June 1951.
Contract No. TCG-39978 dated, 24 June 1955.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28	(4) 4-65A
(2) 5R4WGY	(1) 6BG6G
(3) 6005/6AQ5W	(1) 807
(2) 12AT7	(3) 12AX7

Total Tubes: (18)

No Crystals Used.

REFERENCE DATA AND LITERATURE

CG-273-30: Technical Manual for Radio Transmitting Set AN/URT-12.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	U.S. COAST GUARD
PROCUREMENT COGNIZANCE	BUSHIPS SPEC SHIPS-T-1080
STOCK NO.	
R.D.B. IDENT. NO.	

SHIPPING DATA

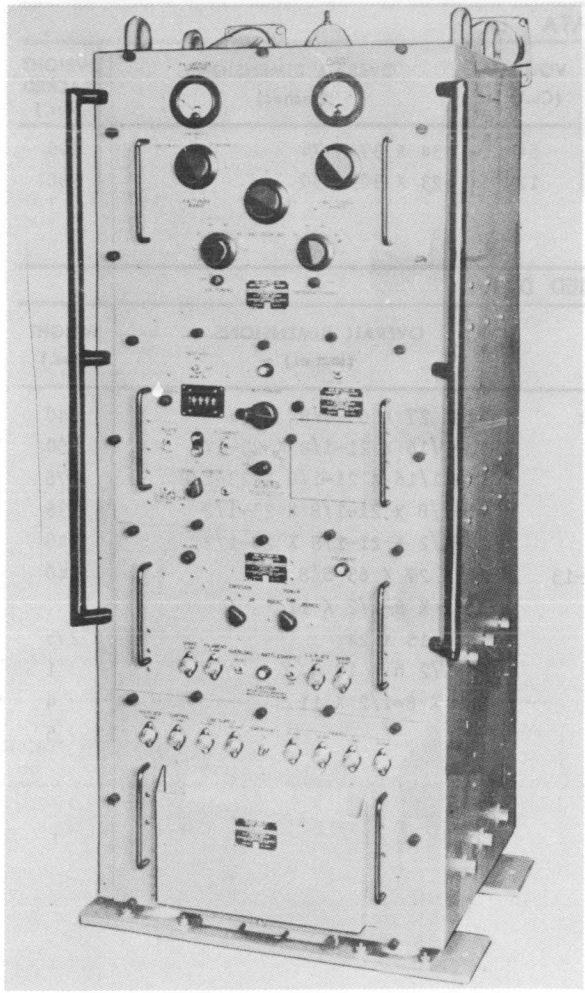
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-12 Including:	27.6	31 X 32 X 48	500
2	Technical Manual and Test Cables, less Crystals			
2	Set of Equipment Spares and Set of Spare Tubes	19.1	22 X 30 X 50	270

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-12 Including:	21-1/2 X 26-7/16 X 38-3/4	324
1	Cabinet Electrical Equipment CY-1369/URT-12	21-1/2 X 24-1/2 X 38-3/4	76
1	Power Supply PP-950/URT-12	10-15/16 X 19-5/8 X 20-1/4	117
1	Radio Transmitter T-408/URT-12	19-5/8 X 20-1/4 X 24-1/8	131
1	Set of Equipment Spares	15 X 15 X 24	185
2	Set of Service Diagram	10 X 13-1/2 W	1
1	Set of Spare Tubes	15 X 15 X 24	10
2	Technical Manual CG-273-30	3/8 X 8-1/2 X 11	4
1	Set of Test Cables		5

Radio-Transmitters

RADIO TRANSMITTING SET AN/URT-13



Radio Transmitting Set AN/URT-13

FUNCTIONAL DESCRIPTION

The AN/URT-13 is intended for use on Coast Guard vessels and at Coast Guard radio communication shore stations under widely varying climatic conditions. It provides a complete radio transmitting facility with the exception of antenna, power source, channel frequency crystals and keying equipment. The transmitter has been designed to operate at ambient temperatures between 0 deg to 55 deg C and in a relative humidity up to 95%.

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

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (As required) Crystal CR-25/U, (1) Antenna. (1) Remote Control Unit 23211, (1) Remote Control Cable MHFA-7, (1) Automatic Keyer, (1) Frequency Meter, (1) Power Cable DHFA-9.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 239 to 556 kc.
TYPE FREQUENCY CONTROL: Crystal or master oscillator.
NUMBER CRYSTAL CHANNELS: 4.
TYPE M O CONTROL: Manual, continuously variable over entire range in three bands.
TYPE EMISSION: A1, A2.
MODULATION FREQUENCY: 1000 cps, −10 to +20%.
MODULATION CAPABILITY: 100%.
KEYING TYPE: On-off (electron tube).
KEYING SPEED
CW: Up to 100 wpm.
MCW: Up to 60 wpm; keys carrier and modulation.
CONTROL: Local or remote start-stop and keying, manual or automatic.
RF OUTPUT: 200 W, 4 ohms, 750 mmf.
SPURIOUS RADIATION: 50 db min. below carrier.
HUM LEVEL: Less than 1% of value equivalent to 100% modulation.
ACCURACY AND STABILITY: Within ±0.02% of desired carrier frequency.
OPERATING TEMPERATURE: 0 deg to 55 deg C.
LINE VOLTAGE: ±10%.
LINE FREQUENCY: ±5%.
OPERATING POWER: 115 or 230 v, 50 or 60 cps, single ph.
HEAT DISSIPATION: 1510 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radiomarine Corporation of America, New York, N.Y.
Contract Tcg-38556, dated 26 June 1951.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28	(3) 12AT7	(2) 807
(4) 813	(2) 5R4WGY	(1) 12AU7
(2) 6AG7	(1) OA2	

Total Tubes: (17)
(4) CR-25/U
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

Technical Manual for Radio Transmitting Set AN/URT-13.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	U. S. COAST GUARD
PROCUREMENT COGNIZANCE	
STOCK NO.	

Radio-Transmitters

AN/URT-13 RADIO TRANSMITTING SET

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-13	54	34 X 37 X 74	990
1	Maintenance Parts Kit	12	23 X 30 X 30	360

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-13 consists of:	24 X 27 X 63-5/8	840
1	Radio Frequency Tuner Assy TN-222/URT-13	18-3/16 X 21-1/8 X 23-1/2	50
1	Amplifier-Oscillator AM-854/URT-13	12-11/16 X 21-1/8 X 23-5/8	75
1	Radio Modulator MD-197/URT-13	11-3/8 X 21-1/8 X 23-1/2	135
1	Power Supply PP-965/URT-13	14-1/2 X 21-1/8 X 23-1/2	340
1	Cabinet, Electrical Equipment CY-1384/URT-13	24 X 27 X 63-5/8	240
1	M. O. Calibration Chart	3/32 X 8-1/2 X 11	
1	Box Maintenance Parts Kit	15 X 15 X 24	275
2	Set Servicing Diagrams	13-1/2 h X 10 w.	1
2	Technical Manual	3/8 X 8-1/2 X 11	4
1	Set Test Cables		5

March 1957

RADIO TRANSMITTING SET AN/URT-14

FUNCTIONAL DESCRIPTION

The AN/URT-14 is designed for general purpose use.

No field changes in effect at time of preparation (22 October 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 535 kc, 4 channels.
TYPE EMISSION: A1, A2, F1.
TYPE CONTROL: Crystal and master oscillator.
POWER OUTPUT: 500 W.
OPERATING POWER: 220 or 440 v, 50 to 60 cps, 3 ph, 5.5 kva.

MANUFACTURER'S OR CONTRACTOR'S DATA

Air Associates, Inc. Orange, New Jersey

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Transmitting Set AN/URT-14.

TYPE CLASSIFICATION
DESIGN COGNIZANCE U. S. COAST GUARD
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-14 consists of:	24 X 36 X 72	
1	RF Oscillator O-396/URT-14		
1	Modulator-Power Supply		
1	Amplifier-Tuner		

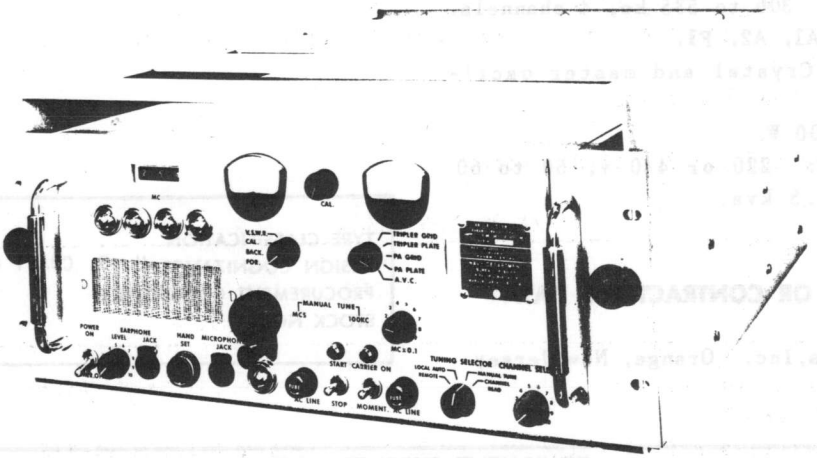
30 July 1962 — RADIO TRANSMITTING SET AN/URT-15(XN-1)

Cog Service: USN FSN: — Functional Class:

USA	USN	USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Manson Laboratories Inc., (93279).



Radio Transmitting Set AN/URT-15(XN-1)

FUNCTIONAL DESCRIPTION:

The Radio, Transmitting Set AN/URT-15(XN-1) is designed to transmit 15 watts of amplitude-modulated (AM) signal in the frequency range of 225 to 400 megacycles (MC). The transmitter has 1750 channels, each separated by 100 kilocycles (KC). Any one of ten (10) preselected channels can be automatically tuned and ready for transmission within five (5) seconds after selection.

No field changes in effect at time of preparation (13 July 1962).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Ship and shore.
TYPE OF EMISSION: A3 type.
TYPE OF FREQUENCY CONTROL: Crystal controlled synthesizer.
AUDIO INPUT IMPEDANCE: 600 ohms.

AN/URT-15(XN-1) RADIO TRANSMITTING SET

OUTPUT IMPEDANCE: 50 ohms.
PERCENT MODULATION: 95% screen modulated.
MODULATION DISTORTION: 10% maximum.
CLIPPING: 16 to 20 db.
FREQUENCY RANGE: 225 to 400 mc.
NUMBER OF BANDS: 1 band.
NUMBER OF CHANNELS: 1750 channels.
CHANNEL SPACING: 100 kc each channel.
NUMBER OF PRESET FREQUENCIES
MANUAL TUNING: None.
AUTOMATIC TUNING: 10.
OUTPUT POWER: 10 to 15 W into a 50 ohm load.
AUDIO INPUT DRIVE: 0.15 to 3 volts.
OPERATING POWER RQMT: 115/230 v ac, 50 to 60 cps, single ph, 400 W.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitting Set AN/URT-15(XN-1)		9-1/8 x 19 x 25-3/8	120
2	Technical Manual NAVSHIPS 93535		1 x 9-1/8 x 11-1/2	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93535: Technical Manual for Radio, Transmitting Set AN/URT-15(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0A2WA (3) 12AT7WB (2) 5636 (1) 5675 (1) 5726-6AL5W (1) 5840 (1) 5896 (3) 6AU6WB (1) 6CL6 (1) 6U8A (1) 6005-6AQ5W (1) 6021 (1) 6442-Z1911 (2) 6816

CRYSTALS: (1) 1MC (1) 14700.00KC (1) 14733.33KC (1) 14766.66KC (1) 14800.00KC (1) 14833.33KC (1) 14866.67KC (1) 14900.00KC (1) 14933.33KC (1) 14966.67KC (1) 15000.00KC

SEMI-CONDUCTORS: (4) TM7 (1) 1N137A (5) 1N307 (16) 1N540 (4) 1N649 (1) 1N661

TRANSISTORS: (1) 2N383

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	14.0	218

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-T-2331

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Manson Laboratories Inc.	Stamford, Conn.	Nobsr-71545, 22 August 1956	

April 1958

Radio-Transmitters

RADIO TRANSMITTING SET AN/URT-17

FUNCTIONAL DESCRIPTION

The AN/URT-17 is a communication transmitter designed for mobile, shore, and shipboard installation for point-to-point, ground-air, and ship-shore transmission in the 2 to 32 megacycle frequency range. It is designed to provide radio telephone, telegraph, frequency shift, and facsimile operation. Frequency shift may be used by the addition of Technical Material Corporation Model XFK Frequency Shift Exciter and the addition of Modulator-Power Supply Group AN/URA-23 provides single sideband suppressed carrier, single sideband with carrier, and double sideband with or without suppressed carrier.

No field changes in effect at time of preparation (12 June 1958).

RELATION TO OTHER EQUIPMENT

The AN/URT-17 is the Technical Material Corporation Model GPT-750.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 2 to 32 mc.
POWER OUTPUT
CW AND FS: 1000 W.
VOICE: 750 W.
FREQUENCY CONTROL: Crystal or master oscillator.
NOISE LEVEL: Better than 40 db down.
FREQUENCY RESPONSE: Uniform within ±1.5 db from 100 to 5000 cps.
POWER REQUIREMENTS: 115 or 230 v, 50 to 60 cps, single ph, approx 2600 W, 87% pf.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Technical Material Corp, Mamaroneck, N.Y.
Contract NObsr-75117, dated 3 February 1958.
Approximate Cost: $5500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 4-250A	(1) 6146
(1) 6BF5	(2) 6AH6
(2) 12AT7	(2) OA2
(3) 12AU7	(2) 6C4
(1) 6BE6	(1) 4HTF4
(2) 872A	(1) 6X4
(2) 5R4GY	(2) OB2

Total Tubes: (24)

No Crystal Data available.

REFERENCE DATA AND LITERATURE

174C: Sales Service Bulletin of Technical Material Corporation for Radio Transmitter Model GPT-750.
Nomenclature Card for Radio Transmitting Set AN/URT-17.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE COMMERCIAL
STOCK NO.

EQUIPMENT SUPPLIED DATA

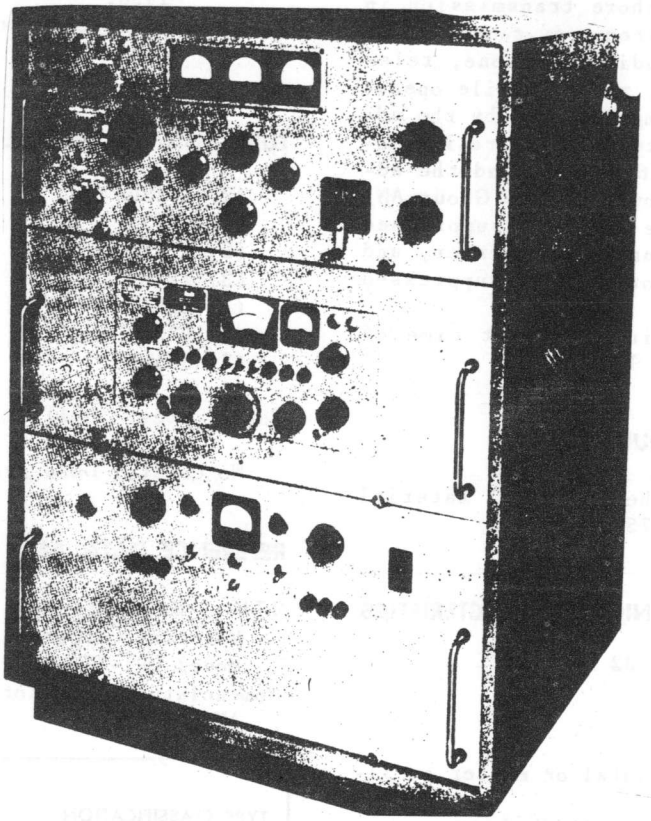
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-17 consisting of: Amplifier-Oscillator AM-1703/URT-17 Power Supply PP-1768/URT-17 Electrical Equipment Cabinet CY-2190/URT-17 Cabinet Mounted Electrical Equipment Drawer MT-1855/URT-17	27-7/8 x 35-5/8 x 46-7/8	695
1	Set of Equipment Spares		
1	Microphone		
2	Technical Manual		

30 July 1962 RADIO TRANSMITTING SET AN/URT-17A

Cog Service: USN FSN: 5820-681-9875 Functional Class:

USA	USN	USAF
TYPE CLASS: Used by	Used by	

MANUFACTURER'S NAME/CODE NUMBER: Technical Material Corp., (82679).



Radio Transmitting Set AN/URT-17A

FUNCTIONAL DESCRIPTION:

The Radio Transmitting Set AN/URT-17A is designed for radio telephone, telegraph, frequency shift and facsimile operation on all frequencies within the range of 2 to 32 megacycles (MC). This transmitter will provide 1000 watts output CW or FS, 750 watts output radio telephone and 750 watts output PEP Single Sideband for continuous commercial service.

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

TECHNICAL CHARACTERISTICS:

OUTPUT DATA

TYPE OF EMISSION: A1 type.

POWER OUTPUT: 1000 W max.

TYPE OF EMISSION: A2 type.

POWER OUTPUT: 750 W max.
TYPE OF EMISSION: A3 type.
POWER OUTPUT: 500 W max.
TYPE OF EMISSION: A3a type.
POWER OUTPUT: 500 W peak envelope power.
TYPE OF EMISSION: A3b type.
POWER OUTPUT: 500 W peak envelope power.
TYPE OF EMISSION: F1, F3 and F4 types.
POWER OUTPUT: 750 W max for each type of emission.
FREQUENCY RANGE: 2 to 32 mc.
NUMBER OF BANDS: 4 bands.
NUMBER OF CHANNELS: 3 channels.
TYPE OF FREQUENCY CONTROL: Crystal or master oscillator.
OPERATING POWER RQMT: 115 v ac, 50 to 60 cps, single ph; 230 v ac, 50 to 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/URT-17A is electrically and mechanically interchangeable with the AN/URT-17 except for mechanical improvements in the component supplied.

The AN/URT-17A is designed as part of AN/URA-23A, C-2749/URT and CU-658/UR.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitting Set AN/URT-17A consists of:			
1	Amplifier-Oscillater AM-2271/URT-17A		14-5/8 x 22-3/4 x 31-3/16	
1	Cabinet, Electrical Equipment CY-2660/URT-17A		25 x 32-13/16 x 49-7/8	
1	Drawer, Electrical Equipment Cabinet MT-2193/URT-17A		14 x 19-1/2 x 31-3/16	
1	Power Supply PP-2396/URT-17A		15-3/4 x 22-7/16 x 31-3/16	

REFERENCE DATA AND LITERATURE:

TMC Catalog no. 227 and 174C for Radio. Transmitting Set AN/URT-17A (Model GPT-750(D)-2. TMC Technical Manual no. IN-197 for Radio Transmitting Set AN/URT-17A (Model GPT-750(D)-2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (7) 0A2WA (2) 0B2WA (2) 12AT7WB (3) 12AU7 (2) 4B32 (2) 5D22 (3) 5R4WGB (1) 5750-6BE6W (1) 6AB4 (1) 6AH6WA (1) 6BF5 (1) 6CL6 (1) 6C4WA (1) 6X4WA (1) 6146

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N1084 (2) 1N303

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Technical Material Corp. Model GPT-750(D)-2	Mamaroneck, New York	NObsr-75654	

30 July 1962

Cog Service: USN FSN: 5820-725-4824

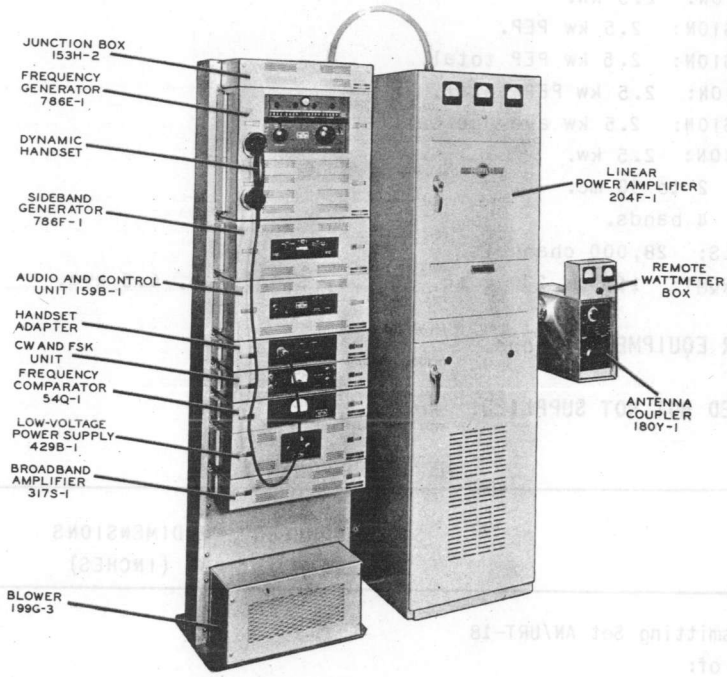
RADIO, TRANSMITTING SET AN/URT-18

Functional Class:

USA	USN	USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Collins Radio Company, (13499).



Radio, Transmitting Set AN/URT-18

FUNCTIONAL DESCRIPTION:

The Radio, Transmitting Set AN/URT-18 is designed as a manually tuned single-sideband transmitter for operation in the 2 to 30 megacycle (MC) high-frequency range. It delivers 2.5 kilowatts peak envelope power or 2.5 kilowatts power continuously. The AN/URT-18 incorporates provisions for including compatible AM (carrier reinserted), CW or FSK operation. The frequency range of 2 to 30 megacycles is covered in four bands; the desired operating frequency being set to one kilocycle increments on a direct-reading frequency counter.

No field changes in effect at time of preparation (15 March 1962).

TECHNICAL CHARACTERISTICS:

TYPES OF EMISSION: A1, A3a, A3b, A9, A9a, F1.
DISTORTION: 35 db below PEP output (3rd order distortion).
CARRIER SUPPRESSION: 45 db below PEP output.

UNDESIRED SIDEBAND SUPPRESSION: 40 db below PEP output.
AUDIO INPUTS
USB LINE: M38 to P8 dbm into 600 ohms balanced.
LSB LINE: M38 to P8 dbm into 600 ohms balanced.
MICROPHONE: Standard high-impedance dynamic with push-to-talk switch.
HANDSET: High-impedance dynamic, noise-cancelling type with push-to-talk switch.
R.F. OUTPUT IMPEDANCE: 50 ohms unbalanced.
POWER OUTPUT
A1 TYPE EMISSION: 2.5 kw.
A3a TYPE EMISSION: 2.5 kw PEP.
A3b TYPE EMISSION: 2.5 kw PEP total.
A9 TYPE EMISSION: 2.5 kw PEP total.
A9a TYPE EMISSION: 2.5 kw average carrier power.
F1 TYPE EMISSION: 2.5 kw.
FREQUENCY RANGE: 2 to 30 mc.
NUMBER OF BANDS: 4 bands.
NUMBER OF CHANNELS: 28,000 channels.
OPERATING POWER RQMT: 115 or 230 v ac, 60 cps, single ph, 6.5 kva.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio, Transmitting Set AN/URT-18 consists of:			
1	Amplifier-Converter Modulator AM-2373/URT		6-7/8 x 6-7/8 x 19	
1	R.F. Amplifier AM-2374/URT		20 x 22-1/4 x 70	
1	R.F. Amplifier AM-2372/URT		3-1/2 x 7 x 19	
1	Amplifier-Control AM-2371/URT		6-7/8 x 7 x 19	
1	Control Power-Supply C-2691/URC		3-1/2 x 7 x 19	
1	Antenna Coupler CU-791/URT		8-7/8 x 11-5/8 x 16-11/16	
1	Converter-Monitor CU-730/URC		3-1/2 x 7 x 19	
1	Converter-Oscillator CV-731/URC		6-7/8 x 15-9/16 x 19	
1	Cooler, Air Electronic Equipment HD-347			
1	Handset H-169/U			
1	Interconnecting Box J-1007/U		3-1/2 x 7 x 19	
1	Maintenance Kit MK-447/URC-32			
1	Rack Electrical Equipment MT-2251/U		20 x 20-1/2 x 70	
1	Power Supply PP-2154/UR		5-1/8 x 7 x 19-7/8	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93541: Technical Manual for Radio, Transmitting Set AN/URT-18.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) DT4-17 (1) HD2123 (3) 2160 (8) J213 (1) OB2WA (1) 12AT7WB (1) 12AU7
(2) 4B32 (2) 4CX1000A (7) 5636 (3) 5654-6AK5W (1) 5670 (1) 5726-6AL5W
(6) 5749-6BA6W (2) 5750-6BE6W (2) 5763 (3) 5814A (2) 5840 (4) 5899
(2) 6CL6 (1) 6021 (2) 6146

CRYSTALS: None used.

SEMI-CONDUCTORS: (14) 1N1084 (2) 1N1086 (12) 1N1088 (1) T1650C0 (1) 1N1361A
(1) 1N152 (6) 1N1695 (12) 1N198 (6) 1N251 (4) 1N315 (13) 1N457
(2) 1N93 (2) 1N458 (2) 1N60

TRANSISTORS: (2) 2N1154 (7) 2N117 (5) 2N118 (8) 2N128 (1) 2N274 (3) 2N45
(1) 2N527 (3) 2N540A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN
DESIGN COG: USN, BuShips
SPEC &/OR DWG: Collins Commercial Spec 204J-1

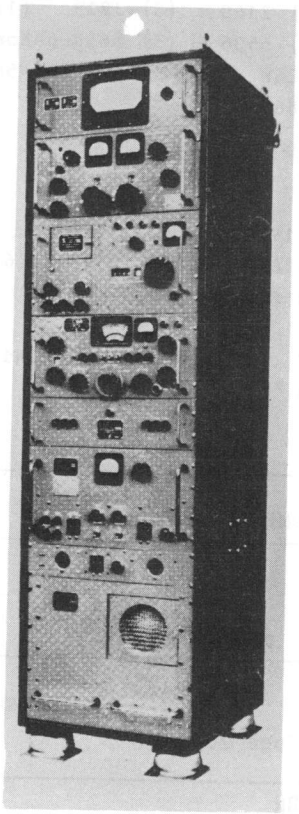
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Collins Radio Company	Cedar Rapids, Iowa	Nobsr-81039, 18 January 1960	

29 August 1962
Cog Service: FSN: 5820-799-8437 TRANSMITTING SET, RADIO AN/URT-19(V)
Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: The Technical Materiel Corporation.



Transmitting Set, Radio AN/URT-19(V)

FUNCTIONAL DESCRIPTION:

The Transmitting Set, Radio AN/URT-19(V) is designed as a rugged, compact, single side band transmitter operating in the frequency range of 2 to 32 megacycles (MC). This transmitter is versatile, easy to install, operate and maintain. The drawers are slide-out, tip-over type and the cabinet is semi-pressurized and has a filtered, forced air system for heat dissipation, and is suitable for fixed plant, mobile, and marine operation.

No field changes in effect at time of preparation (20 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Fixed plant, mobile and marine operation.
TYPE OF EMISSION: AM, CW, FS, ISB, DSB, SSB.
TYPE OF FREQUENCY CONTROL: Crystal and master oscillator.
NUMBER OF BANDS: 4 bands.

AN/URT-19(V) TRANSMITTING SET, RADIO

NUMBER OF CHANNELS: 2 channels.
SIGNAL DISTORTION RATIO: 40 db down from full PEP output.
HARMONIC SUPPRESSION
  SECOND: At least 40 db down from full PEP output.
  THIRD: At least 50 db from full PEP output.
UNWANTED SIDEBAND REJECTION: 1000 cycles single tone, 60 db down.
CARRIER INSERTION: M55 db to full output.
AUDIO RESPONSE (Each Sideband)
  ONE: Flat within plus or minus 1.5 db, 350 to 3300 cycles.
  TWO: Flat within plus or minus 1.5 db, 350 to 7500 cycles.
AUDIO INPUT
  HIGH IMPEDANCE CRYSTAL OR DYNAMIC MIKE: 500000 ohms.
  BALANCED IMPEDANCE: 600 ohms.
  UNBALANCED IMPEDANCE: 600 ohms.
KEYING SPEEDS: 1000 wpm.
OUTPUT IMPEDANCE
  AN/URA-27: 50, 70, or 650 ohm.
  SWR-1K: 50 or 70 ohms unbalanced.
FREQUENCY RANGE: 2 to 32 mc.
POWER OUTPUT: 1000 W.
OPERATING POWER RQMT: 115/230 v ac, 50 to 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/URT-19(V) is the same as Technical Materiel Corporation's Model SBT-1K (Transmitting Set, Radio).

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Transmitting Set, Radio AN/URT-19(V) consists of:			
1	Cabinet, Electrical Equipment CY-3004/URT-19(V)		20-5/8 x 22-1/2 x 75	
1	Amplifier-Power Supply Group AN/URA-36			
1	Oscillator, Radio Frequency O-330A/FR		10-1/2 x 16 x 19	
1	Panel, Power Distribution SB-1114/UR		3-1/2 x 4 x 19	
1	Indicator, Standing Wave Ratio IM-166/URT		8-1/2 x 19-3/4 x 20-1/2	
1	Antenna Coupler Group AN/URA-27			

TRANSMITTING SET, RADIO AN/URT-19(V)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Modulator-Power Supply Group AN/URA-23A			
1	Modulator-Power Supply Group AN/URA-28			
1	Converter, Electrical Frequency C-2749A/URT		10-1/2 x 16 x 19	

REFERENCE DATA AND LITERATURE:

Technical Materiel Corporation Catalog ESO Copy No. 3692-S for Transmitting Set AN/URT-19(V).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTOR: Data not available.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

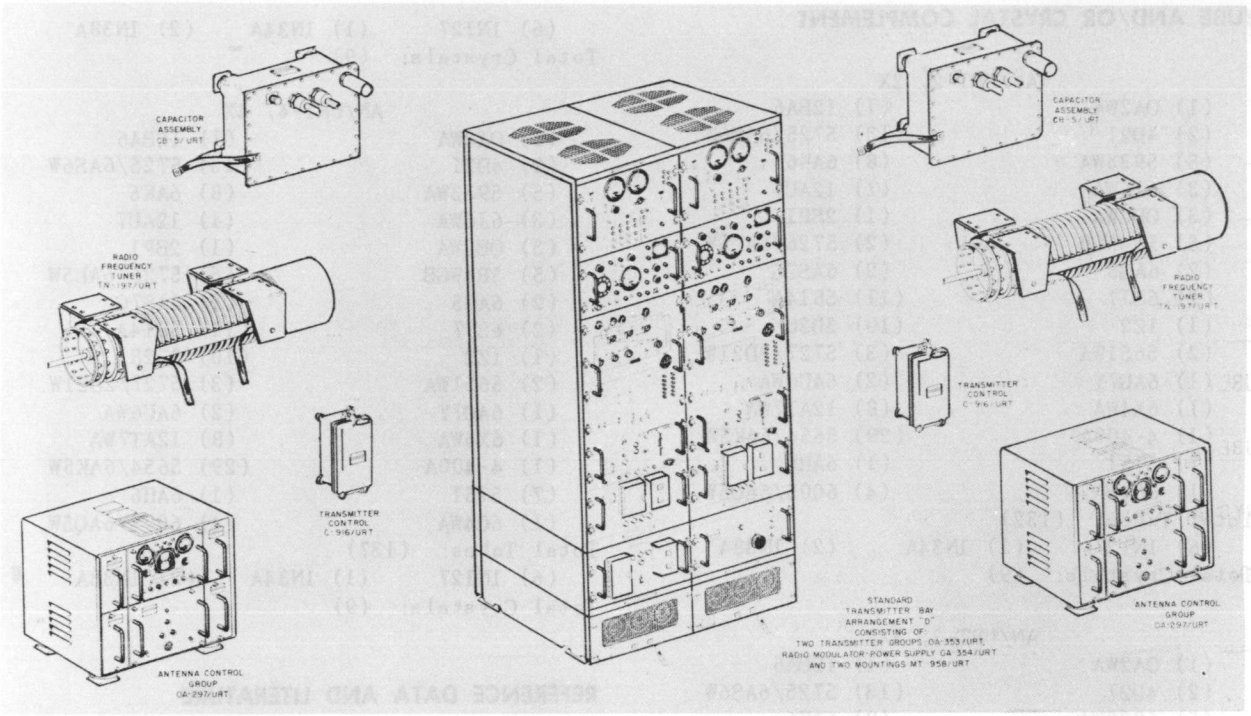
DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
The Technical Materiel Corporation Model SBT-1K	Mamaroneck, N. Y.	NObsr-81394, 24 May 1960	$7,054.00

April 1958

Radio-Transmitters

RADIO TRANSMITTING SET AN/URT-2, 2X, 3, 3X, 4, 4X



Radio Transmitting Set AN/URT-4

FUNCTIONAL DESCRIPTION

The Models AN/URT-2, 3, and 4 are used for radio transmission in the frequency range of 300 kc to 26 mc. The AN/URT-2 has a power output of 100 W. The AN/URT-3 has a power output of 100 W in the 300 kc to 26 mc and 500 W on the 2 to 26 mc range. The AN/URT-4 consists of one AN/URT-2 and one AN/URT-3 and may be operated simultaneously, one unit at 100 W and the other unit at 500 W or at 100 W. The transmitters are designed to operate into either a 35 foot vertical or "L" type wire antenna, and may operate in conjunction with a remote control system and are associated with standard low, medium, and high frequency receivers such as Radio Receiving Sets AN/SRR-11, -12, and -13. The AN/URT-2, 3, and 4 are identical with the AN/URT-2X, 3X, and 4X, except the latter are designed for a 400 cps power source.

Data on this sheet reflects the following field changes: FC No. 10, 11, 12.

RELATION TO OTHER EQUIPMENT

The AN/URT-2, and -2X replaces Radio Transmitting Equipments TDE and TDZ. The AN/URT-3 and 3X replace Radio Transmitting Equipments TBA, TBK, TBL, TBM, and TCK.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 kc to 26 mc.
FREQUENCY CONTROL: Crystal-controlled synthesizer.
CHANNELS: 10 preset and manual.
EMISSION: A1, A3, F2, F4.
POWER OUTPUT
- AN/URT-2, 2X: 100 W.
- AN/URT-3, 3X: 100 W, 500 W.
- AN/URT-4, 4X: 100 W, 500 W or 100 W.

POWER SOURCE REQUIRED
- AN/URT-2: 115 v, 1 ph, 60 cps, 1000 W.
- AN/URT-2X: 115 v, 1 ph, 400 cps, 1000 W.
- AN/URT-3, 4: 115 v, 1 ph, 60 cps, 220/440 v, 3 ph, 60 cps, 1800 W.
- AN/URT-3X, 4X: 115 v, 1 ph, 400 cps, 220/440 v, 3 ph, 400 cps, 1800 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Clifton, N.J.
Contract NObsr-43409, dated 12 Aug 1949.
Approximate Cost w/equipment spares.
- AN/URT-2: $19000 with equip spares.
- AN/URT-3: $27667 with equip spares.
- AN/URT-4: $48783 with equip spares.

AN/URT-2, 2X, 3, 3X, 4, 4X — RADIO TRANSMITTING SET

TUBE AND/OR CRYSTAL COMPLEMENT

AN/URT-2, 2X

(1) OA2WA	(1) 12BA6
(2) 4D21	(13) 5725/6AS6W
(5) 5933WA	(8) 6AK6
(3) 6J6WA	(1) 12AU7
(3) OB2WA	(1) 2BP1
(5) 5R4WGB	(2) 5726/6AL5W
(2) 6AG5	(2) 6AS7G
(2) 6SJ7	(11) 5814A
(1) 1Z2	(10) 3B28
(2) 5651WA	(3) 5727/2D21W
(1) 6AG7Y	(2) 6AU6WA
(1) 6X4WA	(8) 12AT7WA
(1) 4-400A	(29) 5654/6AK5W
(7) 5751	(1) 6AH6
(1) 6C4WA	(4) 6005/6AQ5W

Total Tubes: (132)

(6) 1N127 (1) 1N34A (2) 1N38A

Total Crystals: (9)

AN/URT-3, 3X

(1) OA2WA	(1) 12BA6
(2) 4D21	(13) 5725/6AS6W
(5) 5933WA	(8) 6AK6
(3) 6J6WA	(1) 12AU7
(3) OB2WA	(1) 2BP1
(5) 5R4WGB	(2) 5726/6AL5W
(2) 6AG5	(2) 6AS7G
(2) 6SJ7	(11) 5814A
(1) 1Z2	(10) 3B28
(2) 5651WA	(3) 5727/2D21W
(1) 6AG7Y	(2) 6AU6WA
(1) 6X4WA	(8) 12AT7WA
(1) 4-400A	(29) 5654/6AK5W
(7) 5751	(1) 6AH6
(1) 6C4WA	(4) 6005/6AQ5W

Total Tubes: (133)

(6) 1N127 (1) 1N34A (2) 1N38A

Total Crystals: (9)

AN/URT-4, 4X

(1) OA2WA	(1) 12BA6
(2) 4D21	(13) 5725/6AS6W
(5) 5933WA	(8) 6AK6
(3) 6J6WA	(1) 12AU7
(3) OB2WA	(1) 2BP1
(5) 5R4WGB	(6) 5726/6AL5W
(2) 6AG5	(2) 6AS7G
(2) 6SJ7	(11) 5814A
(1) 1Z2	(10) 3B28
(2) 5651WA	(3) 5727/2D21W
(1) 6AG7Y	(2) 6AU6WA
(1) 6X4WA	(8) 12AT7WA
(1) 4-400A	(29) 5654/6AK5W
(7) 5751	(1) 6AH6
(1) 6C4WA	(4) 6005/6AQ5W

Total Tubes: (137)

(6) 1N127 (1) 1N34A (2) 1N38A

Total Crystals: (9)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91833(A): Technical Manual for Radio Transmitting Sets AN/URT-2, AN/URT-3 and AN/URT-4.

NAVSHIPS 92877: Technical Manual for Radio Transmitting Sets AN/URT-2X, AN/URT-3X and AN/URT-4X.

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.)
	AN/URT-2, -2X			
1	Transmitter Group OA-353/URT			
1	Mounting MT-958/URT			
1	RF Tuner TN-197/URT			
1	Antenna Control Group OA-297/URT			
1	Capacitor Assy CB-5/URT			
	Transmitter Control C-916/URT			
	Pressurization Kit			
	Installation Material			

RADIO TRANSMITTING SET AN/URT-2, 2X, 3, 3X, 4, 4X

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	(2) Technical Manuals Vacuum Tube 4-400A			
1	Test Cables Storage Case; Test Cables Set (Transmitter Group)			
1	Set of Equipment Maintenance Parts			
	AN/URT-3, -3X			
1	Transmitter Group OA-353/URT			
2	Mounting MT-958/URT			
1	Radio Modulator Power Supply OA-354/URT			
1	RF Tuner TN-197/URT			
1	Antenna Control Group OA-297/URT			
1	Capacitor Assy CB-5/URT			
	Transmitter Control C-916/URT			
	Pressurization Kit			
	Cover CW-287/URT-3			
	Installation Material			
	(2) Technical Manuals			
	Vacuum Tube 4-400A			
1	Test Cables Storage Case; Test Cables Set (Transmitter Group and Booster)			
1	Set of Equipment Maintenance Part			

Method A	Method B	AN/URT-4, 4X		
2	2	Transmitter Group OA-353/URT		
2	0	Mounting MT-958/URT		
0	1	Mounting MT-958/URT Power Supply PP-707/URT Cabinet CY-994/URT		
0	1	Mounting MT-958/URT Radio Modulator MD-149/URT Cabinet CY-993/URT		
1	0	Radio Modulator-Power Supply OA-354/URT		
2	2	RF Tuner TN-197/URT		
2	2	Antenna Control Group OA-297/URT		
1	1	Capacitor Assy CB-5/URT (2) Transmitter Control C-916/URT (2) Pressurization Kit Installation Material Technical Manual (2) Vacuum Tube 4-400A (2)		
1	1	Test Cables Storage Case; Test Cables Set (Transmitter Group and Booster)		
1	1	Equip Maintenance Spares		

AN/URT-2, 2X, 3, 3X, 4, 4X — RADIO TRANSMITTING SET

EQUIPMENT SUPPLIED DATA

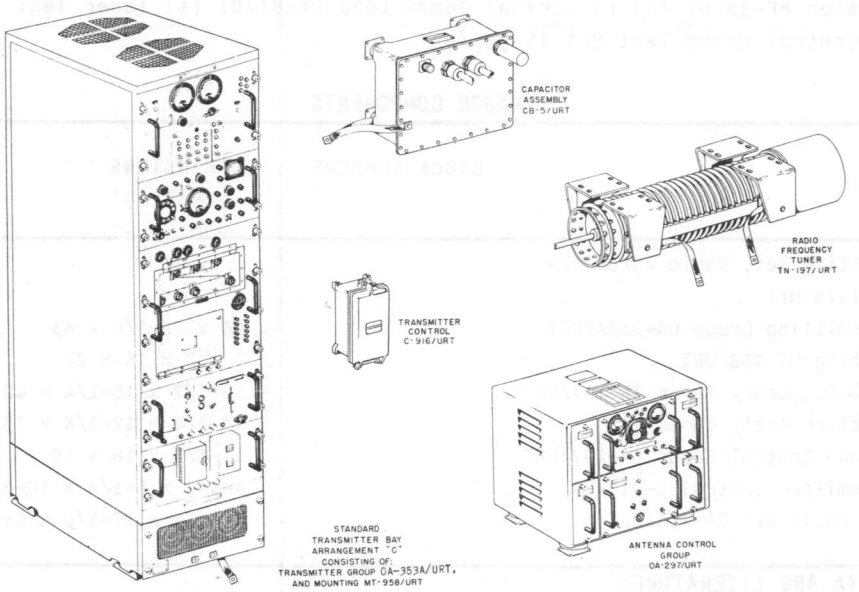
QUANTITY PER EQUIPT			NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/URT-					
2	3	4			
2X	3X	4X			
1	1	2	Transmitter Group OA-353/URT c/o	16 X 26-1/4 X 55-1/2	765
			Radio Frequency Amplifier AM-519/URT		97
			Low Level Radio Modulator MD-143/URT		91
			RF Oscillator O-153/URT		135
			LV Power Supply PP-667/URT		89
			MV Power Supply PP-668/URT		123
			Transmitter Group Cabinet CY-992/URT		230
1	2	2	Mounting MT-958/URT	7-1/2 X 16 X 24	100
0	1	1	Radio Modulator-Power Supply OA-354/URT c/o	16 X 20 X 26-1/8	325
			High Level Radio Modulator MD-149/URT		85
			High Voltage Power Supply PP-707/URT		111
			High Level Radio Modulator Cabinet CY-993/URT		66
			High Voltage Power Supply Cabinet CY-994/URT		63
0	1	0	Cover CW-287/URT-3	2-1/2 X 16 X 24-1/2	12
1	1	1	RF Tuner TN-197/URT	13-1/2 X 15-1/4 X 48	165
1	1	2	Capacitor Assy CB-5/URT	10-1/4 X 12-3/4 X 15	25
1	1	2	Ant Control Group OA-297/URT c/o	17-1/2 X 18 X 19	128
			(1) Control Indicator C-915/URT		25
			(1) Power Supply PP-708/URT		34
			(2) Electronic control Preamplifier AM-556/URT		3.5 ea
			(2) Electronic Control Amplifier AM-555/URT		7 ea
			(1) Ant Control Group Cabinet CY-1047/URT		48
1	1	2	Transmitter Control C-916/URT	4-3/4 X 5-1/4 X 10-3/4	5.3
1 set	0	0	Test Cable Set (Transmitter Group) w/storage Case OA-466/URT	15-1/4 X 17-1/4 X 36-1/2	159
0	1 set	1 set	Test Cable Set (Transmitter Group and Booster) w/storage case OA-494/URT	15-1/4 X 17-1/4 X 36-1/2	167
1 set	0	0	Equipment Spare Parts	15-1/2 X 16-1/4 X 44	140
0	1 set	0	Equipment Spare Parts	15-1/2 X 16-1/4 X 44	140
0	0	1 set	Equipment Spare Parts	15-1/2 X 16-1/4 X 44	140
1	1	1	Installation Materials		
			Pressurizing Kit c/o regulator and 10 ft Neoprene hose w/attached fittings		
			Technical Manuals		

5 January 1962 — TRANSMITTING SET, RADIO AN/URT-2A

Cog Service:	FSN:		Functional Class:
	USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone & Radio Corporation, A Div. of IT & T.



Radio Transmitting Set AN/URT-2A

FUNCTIONAL DESCRIPTION:

The Transmitting Set, Radio AN/URT-2A is designed to provide radio-frequency energy at any frequency from 0.3 to 26 megacycle(s) (MC) for the transmission of voice, facsimile or telegraph communication.

No field changes in effect at time of preparation (19 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Fixed, floor-mounted.
TYPE OF EMISSION: A1, A3, F1, F4.
TYPE OF FREQUENCY CONTROL: Crystal.
NUMBER OF BANDS: 6 bands.
FREQUENCY RANGE: 0.3 to 26 mc.
STEPS: 10 kc.

AN/URT-2A TRANSMITTING SET, RADIO

POWER OUTPUT: 100 W.
OPERATING POWER RQMT: 110 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/URT-2A is electrically and mechanically interchangeable with AN/URT-2 except that it differs in equipment supplied.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Voltmeter ME-88/U; (1) Electrical Dummy Load DA-91/U; (1) Tuner Test Set TS-803/URT; (1) Antenna Control Group Test Set TS-804/URT.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Transmitting Set, Radio AN/URT-2A consists of:			
1	Transmitting Group OA-353A/URT		16 x 26-1/4 x 63	Approx 765
1	Mounting MT-958/URT		7-1/2 x 16 x 24	100
1	Radio Frequency Tuner TN-197/URT		13-1/2 x 15-1/4 x 48	165
1	Capacitor Ass'y CB-5/URT		10-1/4 x 12-3/4 x 15	25
1	Antenna Control Group OA-297/URT		17-1/2 x 18 x 19	128
1	Transmitter Control C-916/URT		4-3/4 x 5-1/4 x 10-3/4	5.3
1	Test Cable Set OA-466/URT		15-1/4 x 17-1/4 x 36-1/2	159

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91833(A): Technical Manual for Transmitting Sets, Radio AN/URT-2, AN/URT-3, AN/URT-4 and AN/URT-2A, -3A, -4A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2WA (2) 0B2WA (1) 1Z2 (8) 12AT7WA (1) 12BA6 (1) 2BP1 (4) 3B28
(1) 4-400A (2) 4D21 (5) 5R4WGB (2) 5651WA (29) 5654-6AKSW (13) 5725-6AS6W
(6) 5726-6AL5W (3) 5727-2021W (7) 5751 (12) 5814A (5) 5933WA (2) 6AG5
(1) 6AG7Y (1) 6AH6 (8) 6AK6 (2) 6AS7G (2) 6AU6WA (1) 6C4WA (3) 6J6
(2) 6SJ7Y (1) 6X4WA (2) 6005-6AQ5W

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips

SPEC &/OR DWG:

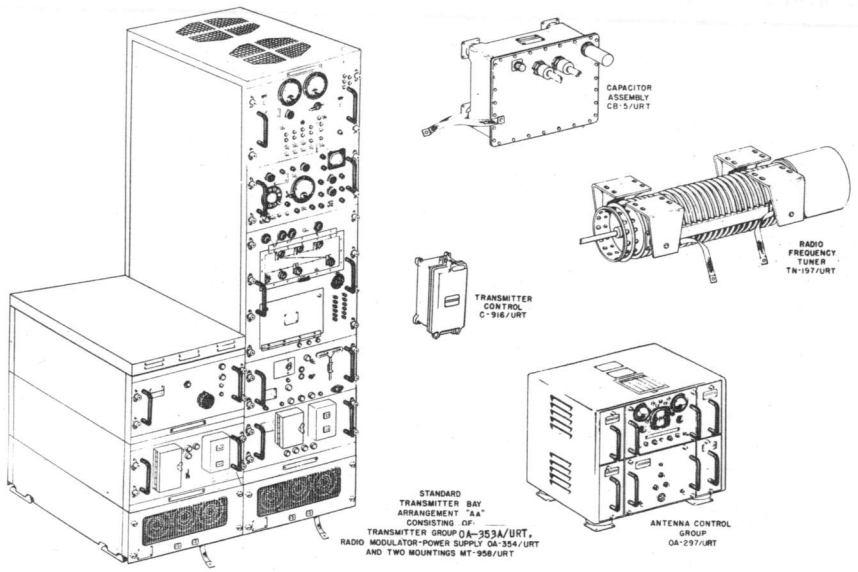
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone & Radio Corp., A Div. of IT & T Pt/Dwg no. NL-83312-14D	Clifton, N.J.	NObsr-52021, 1 August 1950	

5 January 1962

Cog Service:	FSN:	TRANSMITTING SET, RADIO AN/URT-3A Functional Class:
USA	USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone & Radio Co., A Div. of IT & T.



Radio Transmitting Set AN/URT-3A

FUNCTIONAL DESCRIPTION:

The Transmitting Set, Radio AN/URT-3A is designed to provide radio-frequency energy at any frequency from 0.3 to 26 megacycle(s) (MC) for the transmission of voice, facsimile or telegraph communication.

No field changes in effect at time of preparation (20 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Fixed, floor-mounted.
TYPE OF EMISSION: A1, A3, F1, F4.
TYPE OF FREQUENCY CONTROL: Crystal.
NUMBER OF BANDS: 6 bands.
FREQUENCY RANGE: 0.3 to 26 mc.
NOMINAL FREQUENCY RANGE: 2 to 26 mc.

AN/URT-3A TRANSMITTING SET, RADIO

FREQUENCY RANGE IN STEPS OF: 10 kc.
POWER OUTPUT: 100 W or 500 W.
OPERATING POWER RQMT: 110 v ac, 60 cps, single ph, 100 W; 220 or 440 v ac, 60 cps, 3 ph, 500 W; 115 or 230 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/URT-3A is electrically and mechanically interchangeable with AN/URT-3, except that it differs in equipment supplied.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Voltmeter ME-88/U; (1) Electrical Dummy Load DA-91/U; (1) Tuner Test Set TS-803/URT; (1) Antenna Control Group Test Set TS-804/URT.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Transmitting Set, Radio AN/URT-3A consists of:			
1	Transmitter Group OA-353A/URT		16 x 26-1/4 x 63	Approx 765
2	Mounting MT-958/URT		7-1/2 x 16 x 24	100
1	Radio Modulator-Power Supply PA-354/URT		16 x 20 x 26-1/8	325
1	Radio Frequency Tuner TN-197/URT		13-1/2 x 15-1/4 x 48	165
1	Capacitor Ass'y CB-5/URT		10-1/4 x 12-3/4 x 15	25
1	Antenna Control Group OA-297/URT		17-1/2 x 18 x 19	128
1	Transmitter Control C-916/URT		4-3/4 x 5-1/4 x 10-3/4	5.3
1	Test Cable Set OA-494/URT		15-1/4 x 17-1/4 x 36-1/2	167

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91833(A): Technical Manual for Transmitting Set, Radio AN/URT-2, AN/URT-3 and AN/URT-4 and AN/URT-2A, -3A, -4A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2WA (2) 0B2WA (1) 1Z2 (8) 12AT7WA (1) 12BA6 (1) 2BP1 (4) 3B28
(1) 4-400A (2) 4D21 (5) 5R4WGB (2) 5651WA (29) 5654-6AK5W (13) 5725-6AS6W
(6) 5726-6AL5W (3) 5727-2D21W (7) 5751 (12) 5814A (5) 5933WA (2) 6AG5
(1) 6AG7Y (1) 6AH6 (8) 6AK6 (2) 6AS7G (2) 6AU6WA (1) 6C4WA (3) 6J6
(1) 6X4WA (2) 6005-6AQ5W

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: Navy BuShips

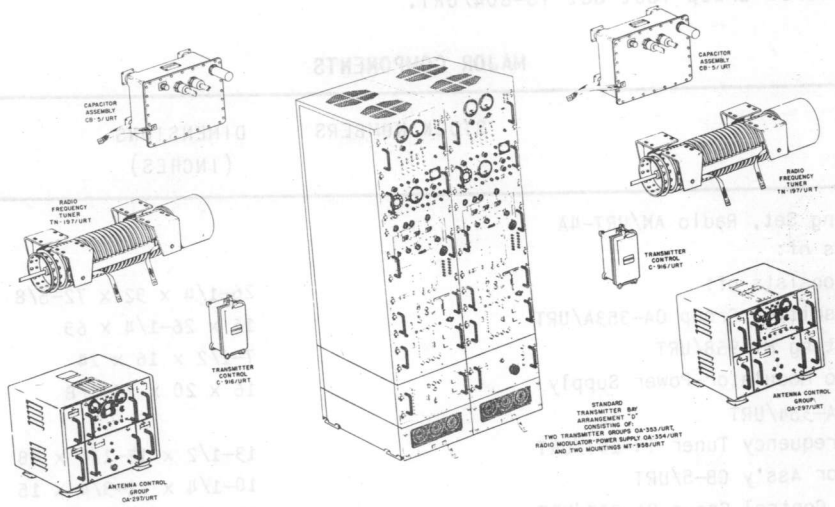
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone & Radio Co., A Div. of IT & T Pt/Dwg no. NL-83313-16D	Clifton, N. J.	NObsr-64710, 29 April 1955	

5 January 1962 TRANSMITTING SET, RADIO AN/URT-4A

Cog Service:	FSN:	Functional Class:
	USA USN	USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone & Radio Co., A Div. of IT & T.



Radio Transmitting Set AN/URT-4A

FUNCTIONAL DESCRIPTION:

The Transmitting Set, Radio AN/URT-4A is designed to provide radio-frequency energy at any frequency from 0.3 to 26 megacycle(s) (MC) for the transmission of voice, facsimile or telegraph communication.

No field changes in effect at time of preparation (20 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Fixed, floor-mounted.
TYPE OF EMISSION: A1, A3, F1, F4.
TYPE OF FREQUENCY CONTROL: Crystal.
NUMBER OF BANDS: 6 bands.
FREQUENCY RANGE: 0.3 to 26 mc.
NOMINAL FREQUENCY RANGE: 2 to 26 mc.

AN/URT-4A TRANSMITTING SET, RADIO

FREQUENCY RANGE IN STEPS OF: 10 kc.
POWER OUTPUT: 100 W or 500 W.
OPERATING POWER RQMT: 110 v ac, 60 cps, single ph, 100 W; 220 or 440 v ac, 60 cps, 3 ph, 500 W; 150 or 230 v dc.

RELATION TO OTHER EQUIPMENT:

The AN/URT-4A is electrically and mechanically interchangeable with AN/URT-4, except that it differs in equipment supplied.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Voltmeter ME-88/U; (1) Electrical Dummy Load DA-91/U; (1) Tuner Test Set TS-803/URT; (1) Antenna Control Group Test Set TS-804/URT.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Transmitting Set, Radio AN/URT-4A consists of:			
1	Ass'y consists of:		26-1/4 x 32 x 72-5/8	
2	Transmitter Group OA-353A/URT		16 x 26-1/4 x 63	Approx 765
2	Mounting MT-958/URT		7-1/2 x 16 x 24	100
1	Radio Modulator-Power Supply OA-354/URT		16 x 20 x 26-1/8	325
2	Radio Frequency Tuner TN-197/URT		13-1/2 x 15-1/4 x 48	165
2	Capacitor Ass'y CB-5/URT		10-1/4 x 12-3/4 x 15	25
2	Antenna Control Group OA-297/URT		17-1/2 x 18 x 19	128
2	Transmitter Control C-916/URT		4-3/4 x 5-1/4 x 10-3/4	5.3
1	Test Cable Set OA-494/URT		15-1/4 x 17-1/4 x 36-1/2	167

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91833(A): Technical Manual for Transmitting Sets, Radio AN/URT-2, AN/URT-3, AN/URT-4 and AN/URT-2A, -3A, and -4A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2WA (2) 0B2WA (1) 1Z2 (6) 12AT7WA (1) 12AU7 (1) 12AX7 (1) 12BA6
(1) 2BP1 (10) 3B28 (1) 4-400A (2) 4D21 (5) 5R4WGB (2) 5651WA
(31) 5654-6AK5W (13) 5725-6AS6W (6) 5726-6AL5W (3) 5723-2D21W (4) 5751
(12) 5814A (5) 5933WA (2) 6AG5 (1) 6AG7Y (1) 6AH6 (8) 6AK6 (2) 6AS7G
(2) 6AU6WA (1) 6C4WA (3) 6J6 (2) 6SJ7Y (1) 6X4WA

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

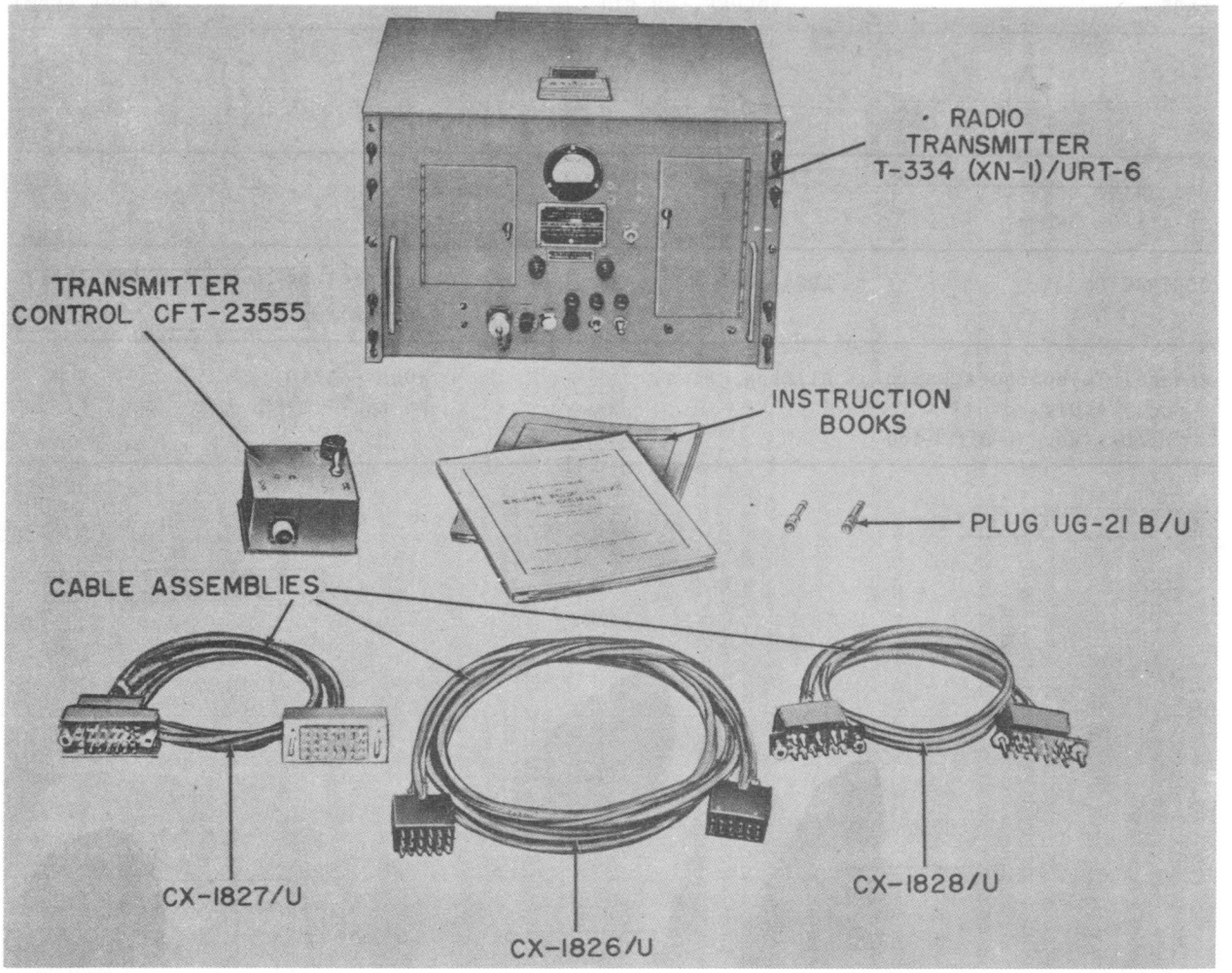
PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone & Radio Co., A Div. of IT & T Pt/Dwg no. NL-83314-16D	Clifton, N. J.	NObsr-64710, 29 April 1955	



Radio Transmitting Set AN/URT-6(XN-1)

FUNCTIONAL DESCRIPTION

The AN/URT-6(XN-1) is employed for radiotelephone and modulated continuous wave transmission in the 60 to 80 megacycle frequency range. It may be mounted on a table or a standard 19 inch relay rack on ships, submarines, and at shore stations. A control unit provides limited control of the equipment from a remote point, and is intended primarily for use at shore installations and on small ships. Remote operation is also provided from standard shipboard remote units.

The modulator, in addition to the conventional speech amplifying and modulating circuits, contains special circuits to provide expander, AVC, and clipper-filter action to increase the average carrier side-band power under voice-modulated operating conditions. A 1000 cycle oscillator is included for modulated continuous-wave operation.

No field changes in effect at time of preparation (23 December 1957).

RELATION TO OTHER EQUIPMENT

The AN/URT-6(XN-1) replaces the transmitting section of VHF Radio Transmitting and Receiving Equipment Navy Model TBS.

Equipment Required but not Supplied: (1) Remote Radiophone Unit NT-23500, (3) Hand Telephone Assembly NT-51081 or equivalent, (3) Chestset NT-51090 or equivalent, (2) Loudspeaker Unit NT-49546 or equivalent, (2) Amplifier Unit NT-50210, (1) Antenna, (1) Set of Crystal Units CR-24/U, Interconnecting Cables as Required.

Radio-Transmitters

AN/URT-6(XN-1) RADIO TRANSMITTING SET

April 1958

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 60 to 80 mc.
FREQUENCY CONTROL: Crystal oscillator.
POWER OUTPUT: 30 W.
EMISSION: A2, A3.
MODULATION CAPABILITY: 100%.
FREQUENCY STABILITY: ±0.01%.
AUDIO DATA
INPUT VOLTAGE: -25 db to +5 db from a 0.006 W reference level (0.1 to 3.4 v).
FREQUENCY RESPONSE: Flat within ±3 db at a 1000 cps reference level from 300 to 3500 cps.
FREQUENCY FILTER: Flat within ±2 db at a 1000 cps reference level, -50 db at 5000 cps and over.
INPUT TO CLIPPING STAGE: Normally 20 ±5 db above clipping level for input of -25 to +5 db from a 0.006 W reference level.
POWER REQUIREMENTS: 115 or 230 v ±10%, 50 to 60 cps ±5%, single ph, 750 W, 85% pf.
HEAT DISSIPATION: 700 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Clifton, N. J.
Contract NObsr-52221, dated 11 January 1951.

Approximate Cost: $12,250.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 4X150A	(2) 3B28
(2) 6AL5W/5726	(1) 6AT6
(1) 6BA6W/5749	(3) 12AT7WA
(4) 12AU7	(2) 807

Total Tubes: (18)

(1) 1N21B	(4) CR-24/U

Total Crystals: (5)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91576: Technical Manual for Radio Transmitting Set AN/URT-6(XN-1).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE MIL-R-15591(SHIPS)
STOCK NO.

EQUIPMENT SUPPLIED DATA

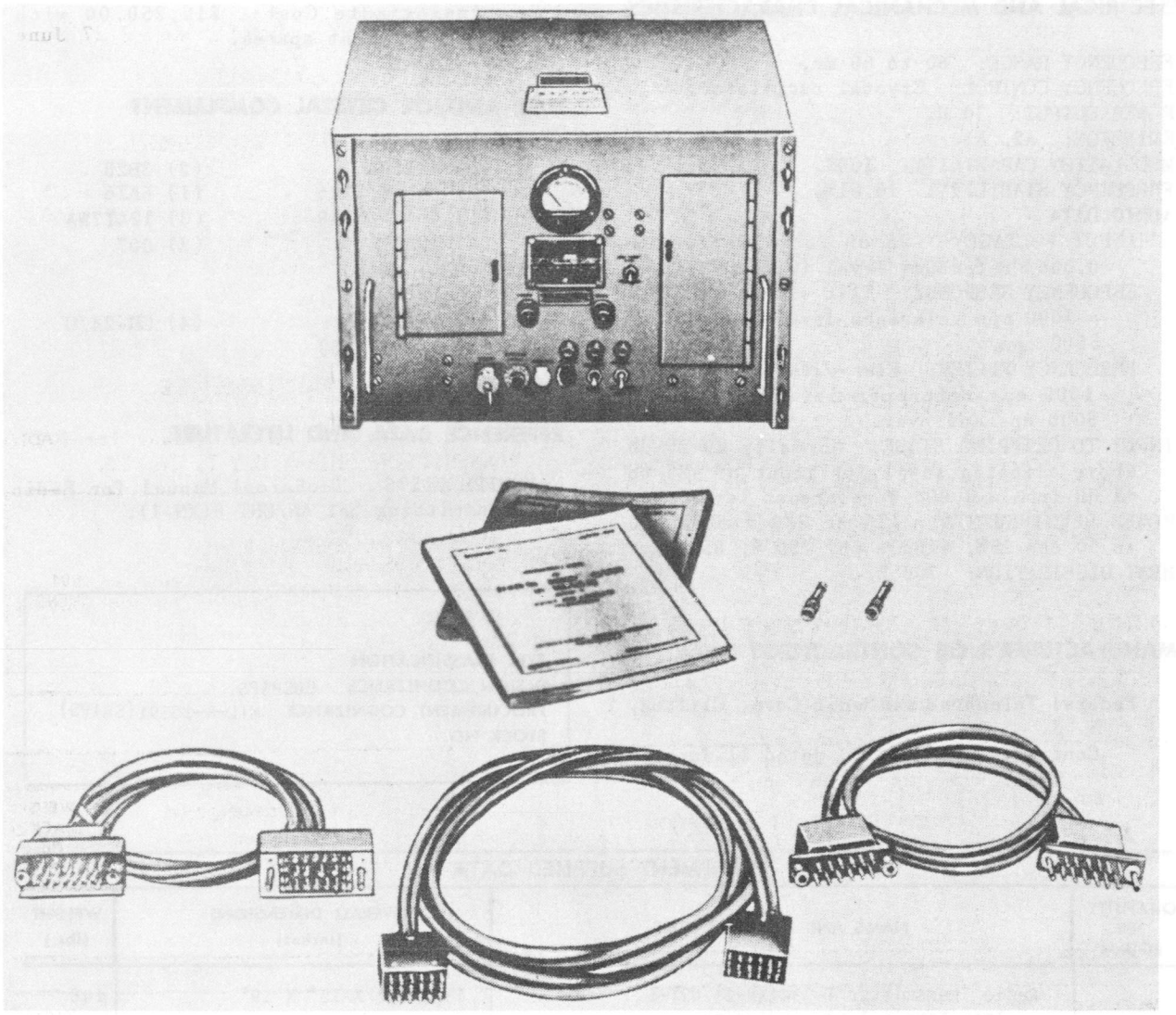
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter T-334(XN-1)/URT-6 less Terminal Box including: (1) Amplifier-Oscillator AM-633(XN-1)/URT (1) Electrical Equipment Cabinet CY-1126/URT (1) Power Supply PP-773/URT (1) Radio Modulator MD-163/URT	13-23/32 X 15* X 19*	146
1	Transmitter Control NT-23555	3-5/16 X 4-7/16 X 5-13/16	4
1	Cable Assembly CX-1826/U	96 lg	1.75
1	Cable Assembly CX-1827/U	36 lg	1.5
1	Cable Assembly CX-1828/U	36 lg	1
2	Connector Plug UG-21B/U	13/16 X 13/16 X 1-3/4	0.03
2	Technical Manual NAVSHIPS 91576	1/2 X 8-1/2 X 11	2
1	Set of Equipment Spares		

NOTE: *-Add two inches to dimension dependent upon location of terminal box.

February 1960

Radio-Transmitters

RADIO TRANSMITTING SET AN/URT-7



Radio Transmitting Set AN/URT-7

FUNCTIONAL DESCRIPTION

Radio Transmitting Set AN/URT-7 is employed for radiotelephone and modulated-continuous-wave (MCW) communications in the VHF range and can be installed on ships, submarines and at shore stations. It can be controlled either locally or remotely.

Data on this sheet reflects the following Field Changes: F.C. 1 and 2.

RELATION TO OTHER EQUIPMENT

This equipment replaces VHF Radio Transmitting Equipment TDQ.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Remote Radiophone Unit NT-23500, Hand Telephone Assy NT-51081, or Chestset NT-51090, Antenna Assy NT-66095, Interconnecting Cables, Crystal Unit CR-24/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 750 W, 115 or 230 v, 50 to 60 cy, single ph, 0.85 pf.

AN/URT-7 RADIO TRANSMITTING SET

FREQUENCY RANGE: 115 to 156 mc.
TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION AND MODULATION: A-2 (MCW) 100%, A-3 (Phone) 100%.
NOMINAL CARRIER OUTPUT: 30 W.
FREQUENCY STABILITY: ±0.007% under any conditions.
IMPEDANCE
MICROPHONE INPUT: 600 ohms.
ANTENNA OUTPUT: 50 ohms.
AUDIO INPUT VOLTAGE: -25 db to +5 db from a 0.006 W reference level (0.1 to 3.4 v).
AUDIO; FREQUENCY RESPONSE: Flat within ±3 db, from a 1,000 cps reference level, from 300 to 3,500 cps.
AUDIO-FREQUENCY FILTER: Flat within ±2 db from a 1,000 cps reference level and -50 db at 5,000 cps and over.
INPUT TO CLIPPING STAGE: Normally held 20 ±5 db above the clipping level by action of the AVC circuit for variations in the input of -25 to +5 db from 0.006 W reference level.
HEAT DISSIPATION: 700 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp, Clifton, New Jersey.
Contract NObsr-52311, dated 27 June 1951.
Contract NObsr-62695.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28 (3) 4X150A (2) 5726/6AL5
(1) 6AT6 (2) 807 (1) 5749/6BA6
(3) 12AT7 (4) 12AU7
Total Tubes: (18)

(4) CR-24/U
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91684: Technical Manual for RADIO TRANSMITTING SET AN/URT-7, 7A, 7B.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-R-15591 (SHIPS)& AMEND 1
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	Radio Transmitting Set AN/URT-7	6.4	19-1/8 X 22-3/8 X 25-7/8	186
1	Equipment Spares	4.6	14-5/8 X 18-7/8 X 29-1/8	115

EQUIPMENT SUPPLIED DATA

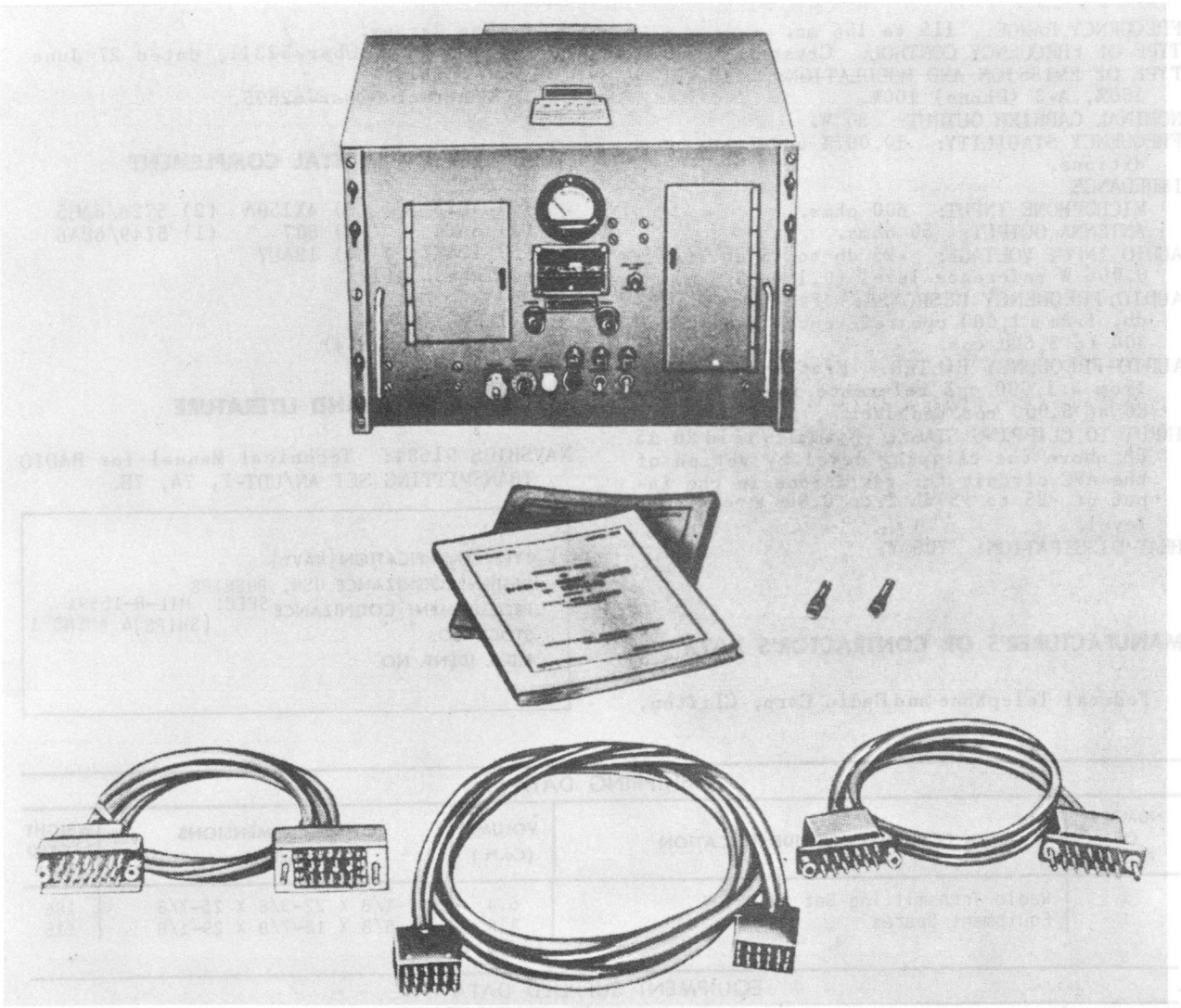
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-7 Includes:		
1	Radio Transmitting T-336/URT-7 Includes:	13-23/32 X 16-1/2* X 19*	146
1	Amplifier-Oscillator AM-638/URT	5 X 9-31/32 X 14-1/2	
1	Electrical Equipment Cabinet CY-1126/URT	13-23/32 X 16-1/2* X 19*	
1	Power Supply PP-773/URT	12-7/32 X 16-1/4 X 19	
1	Radio Modulator MD-163/URT	4 X 9-31/32 X 14-3/8	
1	Cable Assembly, Special Purpose CX-1826/U		1.75
1	Cable Assembly, Special Purpose CX-1827/U		1.5
1	Cable Assembly, Special Purpose CX-1828/U		1
2	Connector, Plug UG-21B/U	13/16 X 13/16 X 1-3/4	0.03
1	Maintenance Parts Kit	12-1/8 X 16-3/8 X 25-1/8	85
2	Technical Manual NAVSHIPS 91684	1/2 X 8-11/16 X 11-1/4	1.25

*Add 2 in. to width or depth, dependent upon location of terminal box.

February 1960

Radio-Transmitters

RADIO TRANSMITTING SET AN/URT-7A



Radio Transmitting Set AN/URT-7A

FUNCTIONAL DESCRIPTION

Radio Transmitting Set AN/URT-7A is employed for radiotelephone and modulated-continuous-wave (MCW) communications in the VHF range and can be installed on ships, submarines, and at shore stations. It can be controlled either locally or remotely.

Data on this sheet reflects the following Field Changes: F.C. 2.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Remote Radiophone Unit NT-23500, Hand Telephone Assy NT-51081 or Chestset NT-51090, Antenna Assy NT-66095, Interconnecting Cables, Crystal Unit CR-24/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 750 W, 115 or 230 v, 50 to 60 cy, single ph, 0.85 pf.
FREQUENCY RANGE: 115 to 156 mc.
TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION AND MODULATION: A-2 (MCW) 100%, A-3 (Phone) 100%.
NOMINAL CARRIER OUTPUT: 30 W.
FREQUENCY STABILITY: ±0.007% under any con-

AN/URT-7A RADIO TRANSMITTING SET

ditions.

IMPEDANCE
MICROPHONE INPUT: 600 ohms.
ANTENNA OUTPUT: 50 ohms.

AUDIO INPUT VOLTAGE: -25 db to +5 db from a 0.006 W reference level (0.1 to 3.4 v).

AUDIO-FREQUENCY RESPONSE: Flat within ±3 db, from a 1,000 cps reference level, from 300 to 3,500 cps.

AUDIO-FREQUENCY FILTER: Flat within ±2 db from a 1,000 cps reference level and -50 db at 5,000 cps and over.

INPUT TO CLIPPING STAGE: Normally held 20 ±5 db above the clipping level by action of the AVC circuit for variations in the input of -25 to +5 db from 0.006 W reference level.

HEAT DISSIPATION: 700 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Rauland-Borg Corp, Chicago, Illinois.
Part No. VM-0441.
Contract NObsr-64523, dated 30 July 1954.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28	(3) 4X150A
(1) 6AT6	(2) 5726/6AL5
(2) 807	(1) 5749/6BA6
(3) 12AT7	(4) 12AU7

Total Tubes: (18)

(4) CR-24/U
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91684: Technical Manual for RADIO TRANSMITTING SET AN/URT-7, 7A, 7B.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: MIL-T-15244A
STOCK NO.	(SHIPS)

SHIPPING DATA

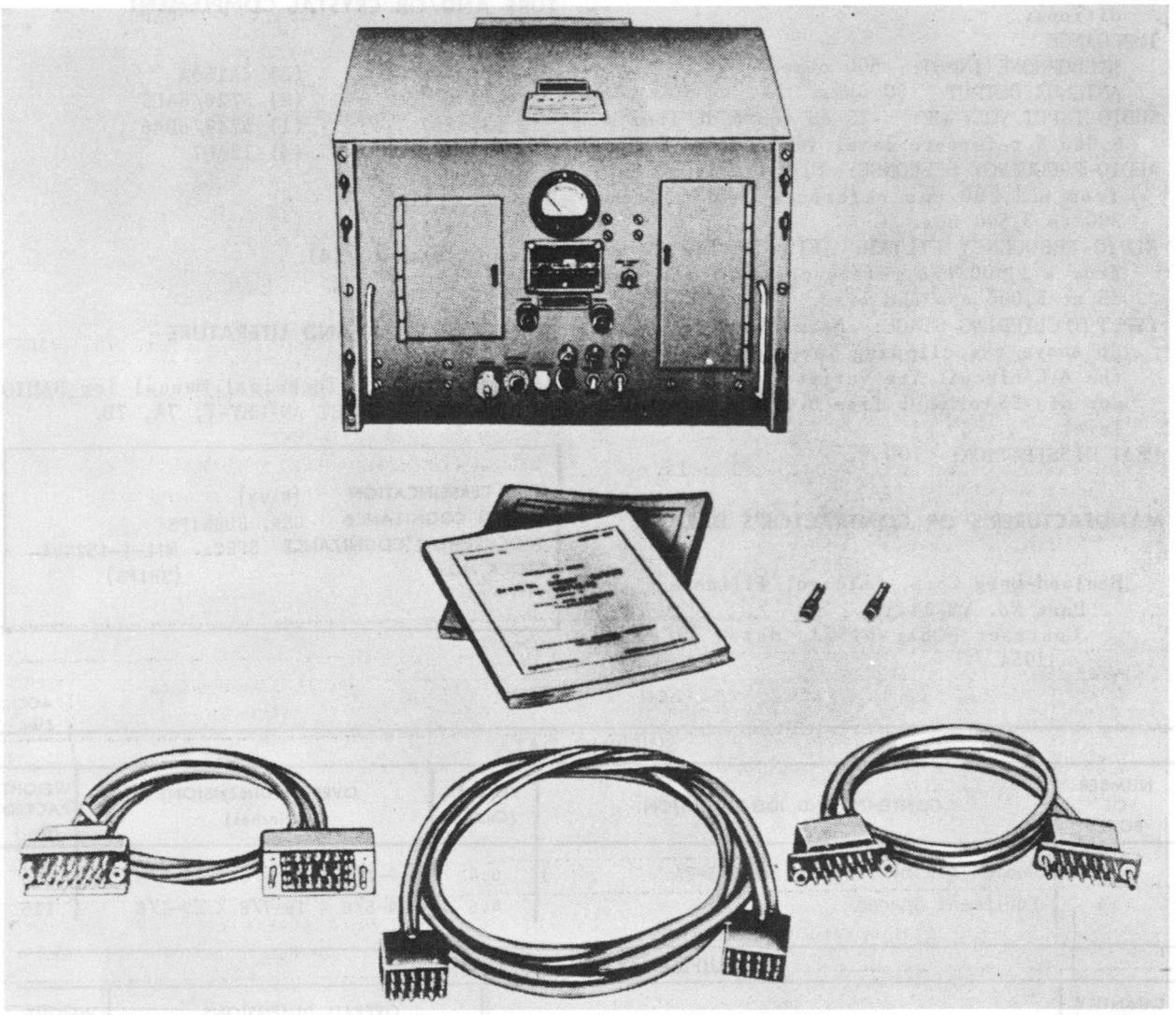
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-7A	6.4	19-1/8 X 22-3/8 X 25-7/8	186
1	Equipment Spares	4.6	14-5/8 X 18-7/8 X 29-1/8	115

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-7A Includes:		
1	Radio Transmitter T-336A/URT-7 Includes:	13-23/32 X 16-1/2* X 19*	146
1	Amplifier-Oscillator AM-638A/URT	5 X 9-31/32 X 14-1/2	
1	Electrical Equipment Cabinet CY-1126A/URT	13-23/32 X 16-1/2* X 19*	
1	Power Supply PP-773A/URT	12-7/32 X 16-1/4 X 19	
1	Radio Modulator MD-163A/URT	4 X 9-31/32 X 14-3/8	
1	Cable Assembly, Special Purpose CX-1826/U		1.75
1	Cable Assembly, Special Purpose CX-1827/U		1.5
1	Cable Assembly, Special Purpose CX-1828/U		1
2	Connector, Plug UG-21B/U	13/16 X 13/16 X 1-3/4	0.03
1	Maintenance Parts Kit	12-1/8 X 16-3/8 X 25-1/8	85
2	Technical Manual NAVSHIPS 91684	1/2 X 8-11/16 X 11-1/4	1.25

*Add 2 in. to width or depth, dependent upon location of terminal box.

RADIO TRANSMITTING SET AN/URT-7B



Radio Transmitting Set AN/URT-7B

FUNCTIONAL DESCRIPTION

Radio Transmitting Set AN/URT-7B is employed for radio telephone and modulated-continuous-wave (MCW) communications in the VHF range and can be installed on ships, submarines and at shore stations. It can be controlled either locally or remotely.

Data on this sheet reflects the following field changes: F.C. 2.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Remote Radiophone Unit NT-51081, Hand Telephone Assy NT-51081 or Chestset NT-51090, Antenna Assy NT-66095, Interconnecting Cables, Crystal Unit CR-24/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 750 W, 115 or 230 v, 50 to 60 cy, single ph, 0.85 pf.
FREQUENCY RANGE: 115 to 156 mc.
TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION AND MODULATION: A-2 (MCW) 100%, A-3 (Phone) 100%.
NOMINAL CARRIER OUTPUT: 30 W.
FREQUENCY STABILITY: 0.007%. under any conditions.
IMPEDANCE

AN/URT-7B RADIO TRANSMITTING SET

MICROPHONE INPUT: 600 ohms.
ANTENNA OUTPUT: 50 ohms.
AUDIO INPUT VOLTAGE: -25 db to +5 db from a 0.006 W reference level (0.1 to 3.4 v).
AUDIO-FREQUENCY RESPONSE: Flat within ±3 db, from a 1,000 cps reference level, from 300 to 3,500 cps.
AUDIO FREQUENCY FILTER: Flat within ±2 db from a 1,000 cps reference level and -50 db at 5,000 cps and over.
INPUT TO CLIPPING STAGE: Normally held 20 ±5 db above the clipping level by action of the AVC circuit for variations in the input of -25 to +5 db from 0.006 W reference level.
HEAT DISSIPATION: 700 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Rauland-Borg Corp., Chicago, Illinois.
Part No. VM-0441-A.
Contract NObsr-64523, dated 30 July 1954.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28 (3) 4X150A
(2) 5726/6AL5 (1) 5749/6BA6
(1) 6AT6 (2) 807
(3) 12AT7 (4) 12AU7
Total Tubes: (18)

(4) CR-24/U
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91684: Technical Manual for RADIO TRANSMITTING SET AN/URT-7, 7A, 7B.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-T-15244A
STOCK NO. (SHIPS)

SHIPPING DATA

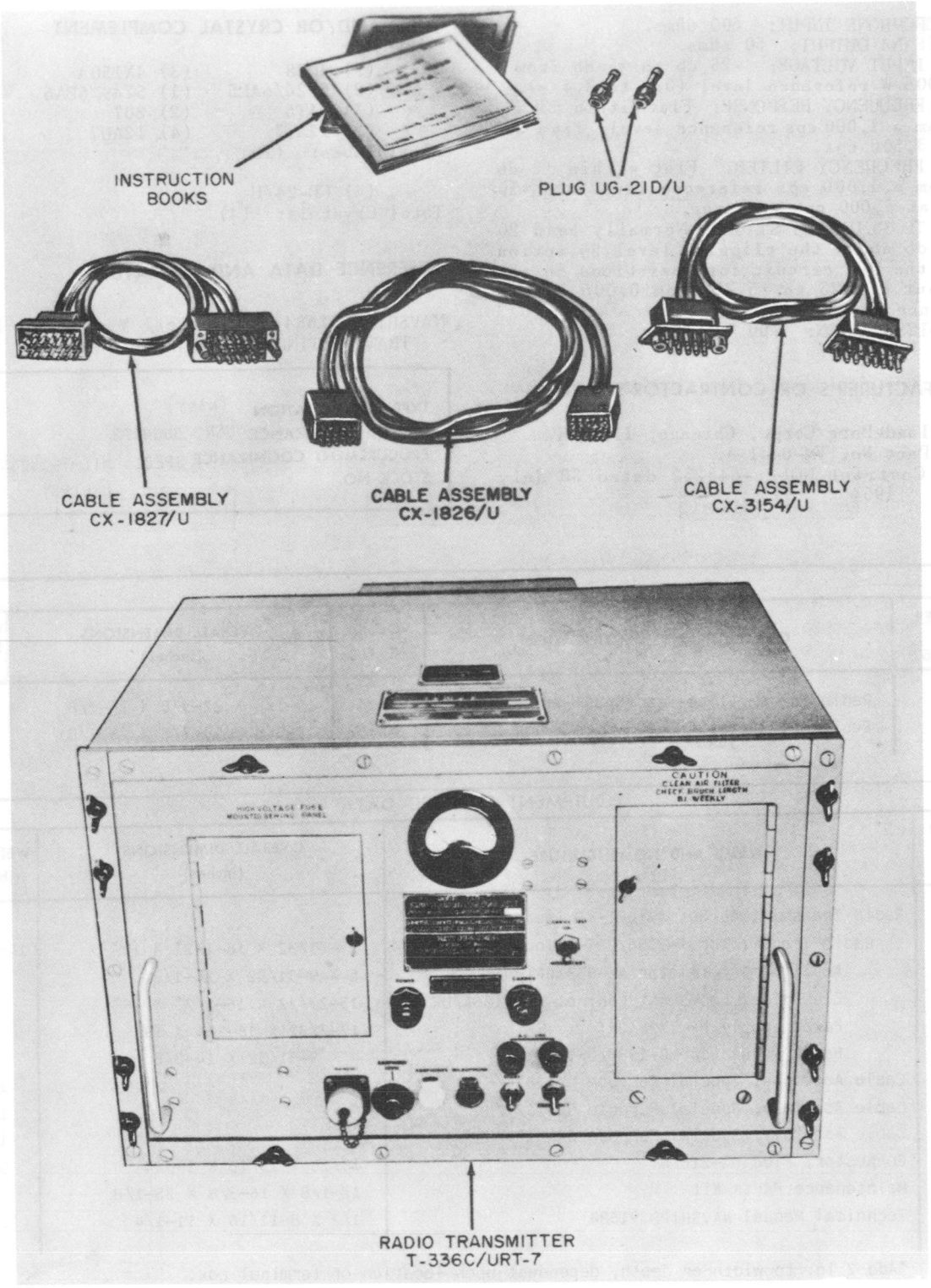
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-7B	6.4	19-1/8 X 22-3/8 X 25-7/8	186
1	Equipment Spares	4.6	14-5/8 X 18-7/8 X 29-1/8	115

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-7B Includes:		
1	Radio Transmitter T-336B/URT-7 Includes:	13-23/32 X 16-1/2* X 19*	146
1	Amplifier-Oscillator AM-638/URT	5 X 9-31/32 X 14-1/2	
1	Electrical Equipment Cabinet CY-1126A/URT	13-23/32 X 16-1/2* X 19*	
1	Power Supply PP-773B/URT	12-7/32 X 16-1/4 X 19	
1	Radio Modulator MD-163B/URT	4 X 9-31/32 X 14-3/8	
1	Cable Assembly, Special Purpose CX-1826/U		1.75
1	Cable Assembly, Special Purpose CX-1827/U		1.5
1	Cable Assembly, Special Purpose CX-3154/U		1
2	Connector, Plug UG-21B/U	13/16 X 13/16 X 1-3/4	0.03
1	Maintenance Parts Kit	12-1/8 X 16-3/8 X 25-1/8	85
2	Technical Manual NAVSHIPS 91684	1/2 X 8-11/16 X 11-1/4	1.25

*Add 2 in. to width or depth, dependent upon location of terminal box.

RADIO TRANSMITTING SET AN/URT-7C



Radio Transmitting Set AN/URT-7C

AN/URT-7C RADIO TRANSMITTING SET

FUNCTIONAL DESCRIPTION

Radio Transmitting Set AN/URT-7C is employed for radiotelephone and modulated-continuous-wave (MCW) communications in the VHF range and can be installed on ships, submarines and at shore stations. It can be controlled either locally or remotely.

No field changes in effect at time of preparation (23 December 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Remote Radiophone Unit NT-23500, Hand Telephone Assy NT-51081, or Chestset NT-51090, Antenna Assy NT-66095, Interconnecting Cables, Crystal Unit CR-24/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 750 W, 115 or 230 v, 50 to 60 cy, single ph, 0.85 pf.
FREQUENCY RANGE: 115 to 156 mc.
TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION AND MODULATION: A-2 (MCW) 100%, A-3 (Phone) 100%.
NOMINAL CARRIER OUTPUT: 30 W.
FREQUENCY STABILITY: ±0.007% under any conditions.
IMPEDANCE
MICROPHONE INPUT: 600 ohms.
ANTENNA OUTPUT: 50 ohms.
AUDIO INPUT VOLTAGE: -25 db to +5 db from a 0.006 W reference level (0.1 to 3.4 v).
AUDIO-FREQUENCY RESPONSE: Flat within ±3 db, from a 1,000 cps reference level, from 300 to 3,500 cps.
AUDIO-FREQUENCY FILTER: Flat within ±2 db from a 1,000 cps reference level and -50 db at 5,000 cps and over.
INPUT TO CLIPPING STAGE: Normally held 20 ±5 db above the clipping level by action of the AVC circuit for variations in the input of -25 to +5 db from 0.006 W reference level.
HEAT DISSIPATION: 700 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Rauland-Borg Corp., Chicago, Illinois.
Part No. VM-0441-B.
Contract NObsr-71142, dated 22 December 1955.
Contract NObsr-71907.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 3B28	(3) 4X150A	(2) 5726/6AL5W
(4) 5814	(1) 6AT6	(1) 5749/6BA6W
(3) 12AT7WA	(2) 807	

Total Tubes: (18)

(4) CR-24/U
Total Crystals: (4)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92832: Technical Manual for RADIO TRANSMITTING SET AN/URT-7C.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-T-15244B (SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-7C	6.4	19-1/4 X 23-1/4 X 25	221
1	Equipment Spares	0.9	7-1/2 X 11-1/4 X 21-1/4	40

RADIO TRANSMITTING SET AN/URT-7C

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/URT-7C Includes:		
1	Radio Transmitter T-336C/URT-7 Includes:	13-23/32 X 16-1/2* X 10*	146
1	Amplifier-Oscillator AM-638C/URT	5 X 10 X 13-3/4	
1	Electrical Equipment Cabinet CY-1126A/URT	15* X 19* X 13-23/32	
1	Power Supply PP-773C/URT	12-7/32 X 14-1/2 X 19	
1	Radio Modulator MD-163C/URT	4 X 10 X 13-3/8	
1	Cable Assembly, Special Purpose CX-1826/U		1.75
1	Cable Assembly, Special Purpose CX-1827/U		1.5
1	Cable Assembly, Special Purpose CX-3154/U		1
2	Connector, Plug UG-21D/U	3/16 X 3/16 X 1-3/4	0.03
1	Maintenance Parts Kit	7-1/2 X 11-1/4 X 21-1/4	40
2	Technical Manual NAVSHIPS 92832	1/2 X 8-11/16 X 11-1/4	1.25

*Add 2 in. to width or depth, dependent upon location of terminal box.

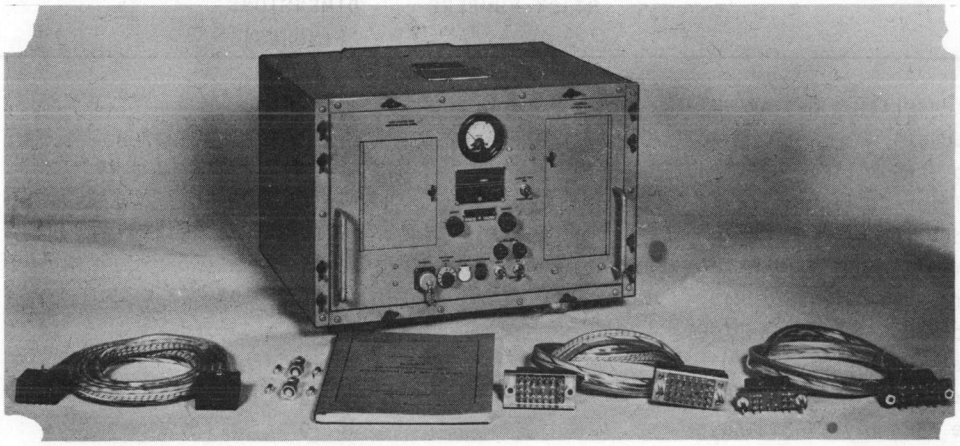
7 September 1962 RADIO TRANSMITTING SET AN/URT-7D

Cog Service: FSN: 5820-713-3939 Functional Class:

USA USN USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Dubrow Development Company.



Radio Transmitting Set AN/URT-7D

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/URT-7D is employed for radio telephone and modulated continuous wave communications at frequencies of 115 to 156 mc. At these frequencies the range is limited to approximately line of sight transmission. This equipment is predominantly used for ship-to-ship and ship-to-shore communications. The transmitter is used in conjunction with remote radio telephone unit Navy Type 23500. Limited control can be obtained using Navy Type 23555.

This equipment may be mounted on a table or may be removed from its cabinet and mounted in a standard 19-inch relay.

No field changes in effect at time of preparation (6 December 1960).

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 or 230 v, 50 to 60 cyc, single ph.

AN/URT-7D RADIO TRANSMITTING SET

FREQUENCY RANGE: 115 to 156 mc.
FREQUENCY CONTROL: Crystal.
TYPE EMISSION: Voice or mcw.
CARRIER POWER: 30 W min.
SIDEBAND POWER: 15 W min.
AUDIO OUTPUT: Voice, 1000 cyc mcw.
FREQUENCY STABILITY: Porm 0.007%.
HEAT DISSIPATION: 725 W max.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

Remote Radiophone Unit 23500, or 23555; Hand Set 51081; Chest Set 51090; Antenna Ass'y 66095; Crystal Unit CR-24/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitting Set AN/URT-7D includes:			
1	Radio Transmitter T-336D/URT-7		13-23/32 x 16-1/2 x 19	34
1	Amplifier-Oscillator AM-638D/URT		5 x 10 x 13-3/4	13
1	Cabinet, Electrical Equipment CY-1126A/URT		13-23/32 x 15 x 19	18
1	Power Supply PP-773D/URT		12-7/32 x 14-1/2 x 19	55
1	Radio Modulator MD-163D/URT		4 x 10 x 13-3/8	26
1	Cable Assembly CX-1826/U		96 lg	1-3/4
1	Cable Assembly CX-1827/U		36 lg	1-1/2
1	Cable Assembly CX-3154/U		36 lg	1
2	Connector, Plug UG-21D/U		13/16 x 13/16 x 1-3/4	0.03
1	Maintenance Parts Kit		7-1/2 x 11-1/4 x 21-1/4	40
2	Technical Manual NAVSHIPS 92832 w/changes 1 and 2		1/2 x 8-11/16 x 11-1/4	1-1/4

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92832: Technical Manual for Radio Transmitting Set AN/URT-7C, and AN/URT-7D. (with changes 1 and 2).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 3B28 (3) 4X150A (2) 5726/6AL5W (1) 5749/6BA6W (2) 5933 (4) 5814A
(1) 6AT6 (3) 12AT7WA

CRYSTALS: (4) CR-24/U

SEMI-CONDUCTORS: (1) 1N21C

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	13	200

PROCUREMENT DATA

PROCURING SERVICE: DESIGN COG: USN, BuShips

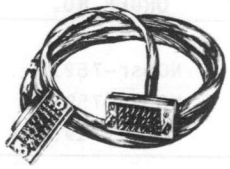
SPEC &/OR DWG: MIL-T-19835(SHIPS) w/Amend 1

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Dubrow Development Company	Burlington, New Jersey	NObsr-75233 NObsr-75839, 14 May 1959	

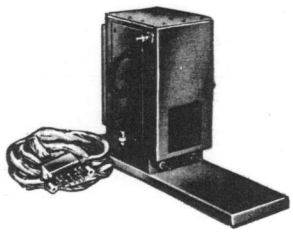
11 September 1962		RADIO TRANSMITTING SET AN/URT-8(XN-1)
Cog Service:	FSN:	Functional Class:
USA	USN	USAF

TYPE CLASS:

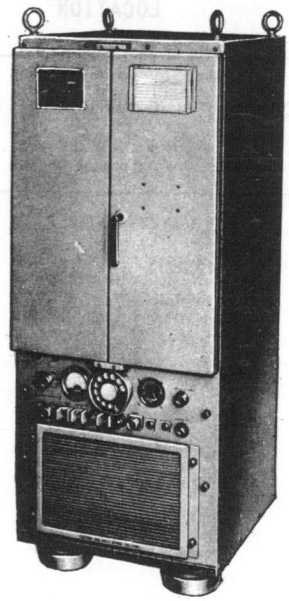
MANUFACTURER'S NAME/CODE NUMBER: Federal Telephone and Radio Corporation.



SPECIAL PURPOSE ELECTRICAL CABLE ASSY. CX-2183(XN-1)/URT



BLOWER-CABLE ASSY. HD-134 (XN-1)/URT



RADIO TRANSMITTER T-394(XN-1)/URT-8

Radio Transmitting Set AN/URT-8(XN-1)

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/URT-8(XN-1) is a very-high-frequency and ultra-high frequency unit designed for shipboard or shore station installation. It is capable for complete remote operation.

No field changes in effect at time of preparation (6 September 1960).

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225 to 400 mc.
NUMBER OF PRESET CHANNELS: 16.
FREQUENCY CONTROL: Crystal.
TYPE MODULATION: AM.
MODULATION: 100%.
TYPE EMISSION: A2, A3.

AN/URT-8(XN-1) RADIO TRANSMITTING SET

OPERATING RANGE: Line-of-sight.
FREQUENCY STABILITY: 0.01%.
AF RESPONSE: Flat within porm 3 db (1,000 cps reference level) from 300 to 3,500 cps.
AUDIO INPUT VOLTAGE: M25 db to P5 db from a 0.006 W reference level (0.1 to 3.4 v).
IMPEDANCE
ANTENNA OUTPUT: 50 ohms.
MICROPHONE INPUT: 600 ohms.
POWER OUTPUT: 15 W, nominal
POWER REQUIREMENTS: 115 or 230 v, 60 cyc, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Remote Control-Indicator NT-2349; (1) Hand Telephone Assy NT-51081, or Chestset NT-52090; (1) Antenna NT-66147, or AT-150/SRC, or AS-390/SRC; (4) Crystals CR-24/U.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitter T-394(XN-1)/URT-8 includes:		17 x 22-1/16 x 44-3/4	405
4	Amplifier-Oscillator Units AM-803(XN-1)/URT		5 x 9-31/32 x 14-1/2	25-1/4
1	Radio Modulator Unit MD-186(XN-1)/URT		4 x 9-31/32 x 14-3/8	14-1/2
1	Special Purpose Electrical Cable Assy CX-2183(XN-1)/URT			
1	Blower-Cable Assy HD-134(XN-1)/URT		5 x 10 x 20-1/2	14-3/4
1	Maintenance Parts Kit			
2	Technical Manual NAVSHIPS 91917		1/2 x 9 x 11-1/2	2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91917: Technical Manual for Radio Transmitting Set AN/URT-8(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (4) 5R4WGY (12) 4X150A (2) 6AL5 (1) 6AT6 (1) 6BA6 (12) 12AT7 (4) 12AU7 (2) 807

CRYSTALS: (4) CR-24/U

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	35	693
1	1.85	44.5

PROCUREMENT DATA

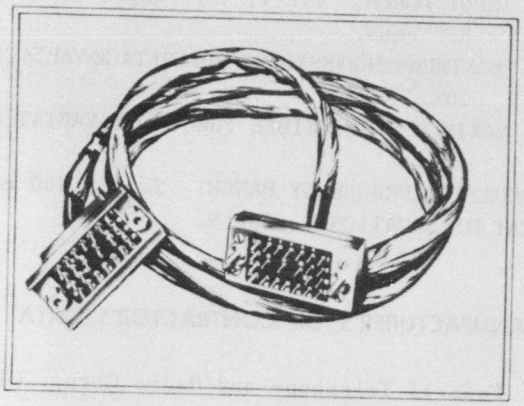
PROCURING SERVICE:

DESIGN COG: USN, BuShips

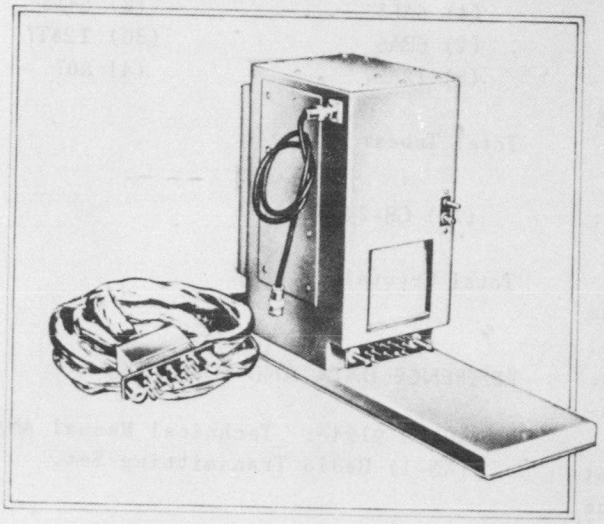
SPEC &/OR DWG: MIL-R-15530(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Federal Telephone and Radio Corporation	Clifton, New Jersey	NObsr-52139, 20 Dec 1950	

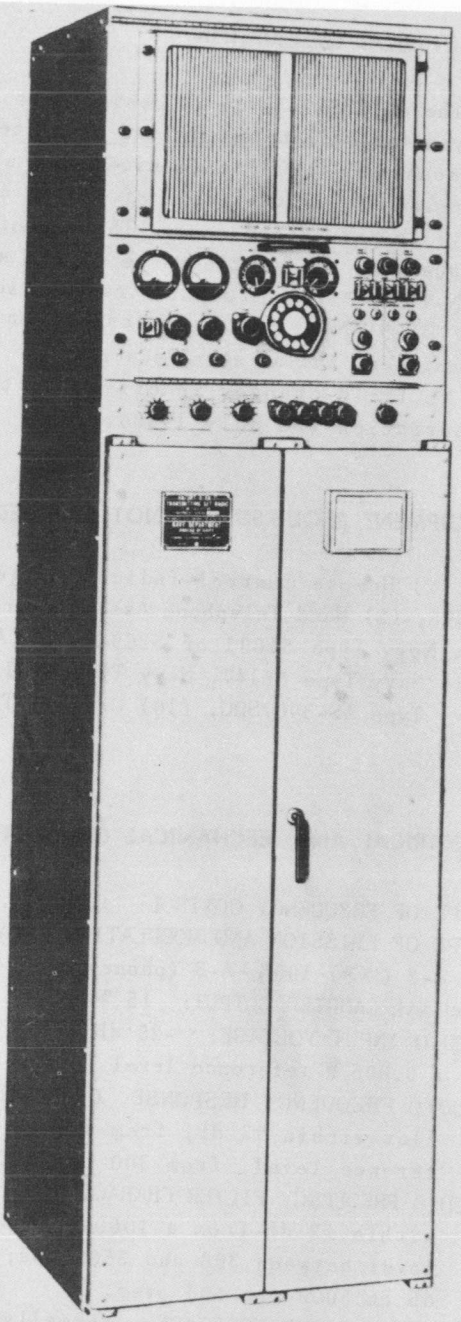
RADIO TRANSMITTING SET AN/URT-9(XN-1)



SPECIAL PURPOSE ELECTRICAL
CABLE ASSY. CX-2183(XN-1)/URT



BLOWER-CABLE ASSY.
HD-134 (XN-1)/URT



RADIO TRANSMITTER T-395
(XN-1)/URT-9

Frontispiece-Radio Transmitting Set AN/URT-9(XN-1)

Radio-Transmitters

AN/URT-9(XN-1) RADIO TRANSMITTING SET

FUNCTIONAL DESCRIPTION

The AN/URT-9(XN-1) is designed to be employed for radiotelephone and modulated continuous-wave (MCW) communications at frequencies within the range of 225 to 400 megacycles-per-second range. The use of these frequencies limits the range of the AN/URT-9(XN-1) to "line-of sight" transmission. The AN/URT-9(XN-1) can be installed on ships, submarines, and at shore stations.

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

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(2) Remote Control-Indicator Navy Type 23496, (2) Hand Telephone Assembly or Chest-set Navy Type 51081 or 52090, (2) Antenna Unit Navy Type 66147, Navy Type AT-150/SRC, Navy Type AS-390/SRC, (10) Crystal Type CR-24/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF FREQUENCY CONTROL: Crystal.
TYPE OF EMISSION AND MODULATION CAPABILITY: A-2 (MCW) 100%, A-3 (phone) 100%.
NOMINAL CARRIER OUTPUT: 15 W.
AUDIO INPUT VOLTAGE: -25 db to +5 db from a 0.006 W reference level (0.1 to 3.4 v).
AUDIO FREQUENCY RESPONSE CHARACTERISTIC: Flat within ±3 db, from a 1000 cps reference level, from 300 to 3500 cps.
AUDIO FREQUENCY FILTER CHARACTERISTIC: Flat within ±2 db from a 1000 cps reference level between 300 and 3500 cps; and -50 db at 5000 cps and over.
INPUT TO CLIPPING STAGE: Normally held 20 ±5 db above the clipping level by action of the AVC circuit for variations in the input of -25 to +5 db from 0.006 W reference level.
FREQUENCY STABILITY: ·0.01% under any conditions or combination of conditions.
POWER SUPPLY
POWER FACTOR: 90%.
INPUT POWER: 115 v, 16.3 amps; or 230 v, 8.2 amps.
MAXIMUM PERMISSIBLE LINE VOLTAGE VARIATION: 10%.
MAXIMUM PERMISSIBLE FREQUENCY VARIATION: ±5%.
OPERATING FREQUENCY RANGE: 225 to 400 mc.
HEAT DISSIPATION: 2500 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Corp., Clifton, N.J.
Contract NObsr-52139, dated 20 December 1950.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 3B28	(30) 4X150A
(4) 6AL5	(2) 6AT6
(2) 6BA6	(30) 12AT7
(8) 12AU7	(4) 807

Total Tubes: (84)

(10) CR-24/U

Total Crystals: (10)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91846: Technical Manual AN/URT-9 (XN-1) Radio Transmitting Set.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	MIL-R-15542
STOCK NO.	
R.D.B. IDENT. NO.	

RADIO TRANSMITTING SET AN/URT-9(XN-1)

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/URT-9	81.54	33-1/4 x 34-3/8 x 90-1/8	1075
1	Blower-Cable Assy HD-134(XN-1)URT	1.85	8-7/8 x 16-3/4 x 21	44.5
1	Special Cable Ass'y CX-2183(XN-1)URT			
1	Set of Equipment Spares AN/URT-9			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitter TS-395(XN-1)URT-9 Incl:	20-1/16 x 20-3/8 x 72	775
	(10) Amplifier-Oscillator AM-803(XN-1)/URT	5 x 9-31/32 x 14-1/2	25-1/4
	(2) Radio Modulator Units MD-186(XN-1)/URT	4 x 9-31/32 x 14-3/8	14-1/2
	(1) Special Purpose Electrical Cable Ass'y CX-2183(XN-1)/URT		3.0
	(1) Blower Cable Ass'y H-134(XN-1)URT	5 x 6 x 10	14-3/4
	(1) Set of Equipment Spares		
	(2) Instruction Book NAVSHIPS 91846	1 x 8-11/16 x 11-1/4	

30 July 1962

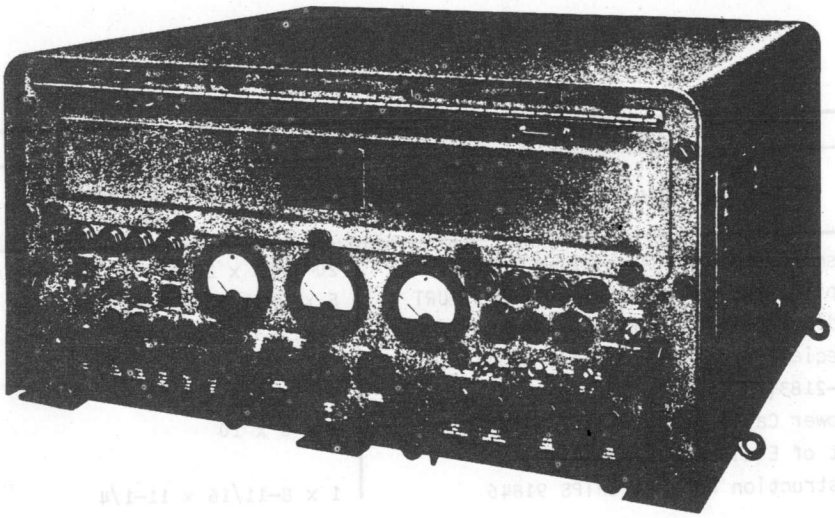
RADIO TRANSMITTING SET AN/URW-14

Cog Service: USN FSN: **Functional Class:**

USA	USN	USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Babcock Radio Engineering Inc.



Radio Transmitting Set AN/URW-14

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/URW-14 is used to transmit flight control information from a ground station control system to an airborne receiver to provide control of target aircraft and missiles. This transmitting set is designed for installation in a ground station, and can function as both the audio coder and control transmitter, or the control transmitter which is modulated by an external coder.

No field changes in effect at time of preparation (8 September 1961).

TECHNICAL CHARACTERISTICS:

OUTPUT FREQUENCY RANGE: 406 to 549 mc in 1 mc increment.
ACCURACY OF FREQUENCY OUTPUT: Controlled within porm 0.005% of center frequency.
RF POWER OUTPUT: 100 W (nominal).
OUTPUT LOAD IMPEDANCE: 52 ohms.

AN/URW-14 RADIO TRANSMITTING SET

NORMAL RF CARRIER DEVIATION: Porm 300 kc.
OSCILLATOR FREQUENCY RANGE: 36.16666 to 60.00000 mc.
MIXER OSCILLATOR CRYSTAL FREQUENCY: 25.4 mc.
MASTER OSCILLATOR FREQUENCY: 6.1 mc.
AUDIO MODULATION FREQUENCY RANGE (20 CHANNELS): 7.5 to 73.95 kc porm 1%.
AMPLITUDE OF INPUT AUDIO MODULATION FREQUENCY: 0.85 to 1.5 v rms per tone across 560 ohms resistive load.
AC POWER REQUIREMENTS: 115 v, 60 cyc, single ph, 10 amps.
DC POWER REQUIREMENTS: 28 v, 140 ma.
EQUIPMENT WARMUP TIME: 10 minutes (max).
ENVIRONMENTAL LIMITATIONS
OPERATING TEMPERATURE: M18 deg F to P150 deg F (M28 deg C to P65 deg C).
NON-OPERATING TEMPERATURE: M80 deg F to P165 deg F (M62 deg C to P75 deg C).
HUMIDITY RANGE: Room ambient up to 95% relative humidity.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Test Harness, Transmitting Set AN/URM-111; (1) Antenna AT-781A/U or AT-948/U; (1) Control, Transmitter C-2802/SRW-4; (1) Control, Transmitter C-2803/SRW-4; (1) Control, Transmitter C-1395/ARW-66; (1) Coder, Audio Frequency (External) KY-133/ARW-66.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitting Set AN/URW-14 includes:		15-5/8 x 29-7/8 x 30-11/16	325
1	Amplifier, Frequency Multiplier AM-2147/URW-14		6-1/4 x 10-1/2 x 21	23
1	Amplifier-Modulator AM-2148/URW-14		5-7/8 x 6-1/2 x 18-1/2	8.50
1	Coder, Audio Frequency KY-281/URW-14		4-5/8 x 10-1/2 x 24-1/2	14.75
1	Power Supply PP-2287/URW-14			
1	Case, Crystal Oven includes:		3 x 9-1/4 x 10-1/2	5
144	Crystal CR-32/U			

REFERENCE DATA AND LITERATURE:

NAVWEPS 16-30URW14-1: Handbook of Operation and Service Instructions with Illustrated Parts Breakdown for Transmitting Set, Radio AN/URW-14.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0A2 (1) 0B2 (1) 4CX250B (7) 6AU6WA (4) 6CB6 (1) 6CL6 (9) 12AT7WA

(2) 5726/6AL5W (1) 5750/6BE6W (1) 5751 (14) 5814WA (1) 5894 (2) 6080
(1) 6360

CRYSTALS: (144) CR-32/U

SEMI-CONDUCTORS: (2) 20380 (50) 20394 (4) 20395 (1) 20483

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

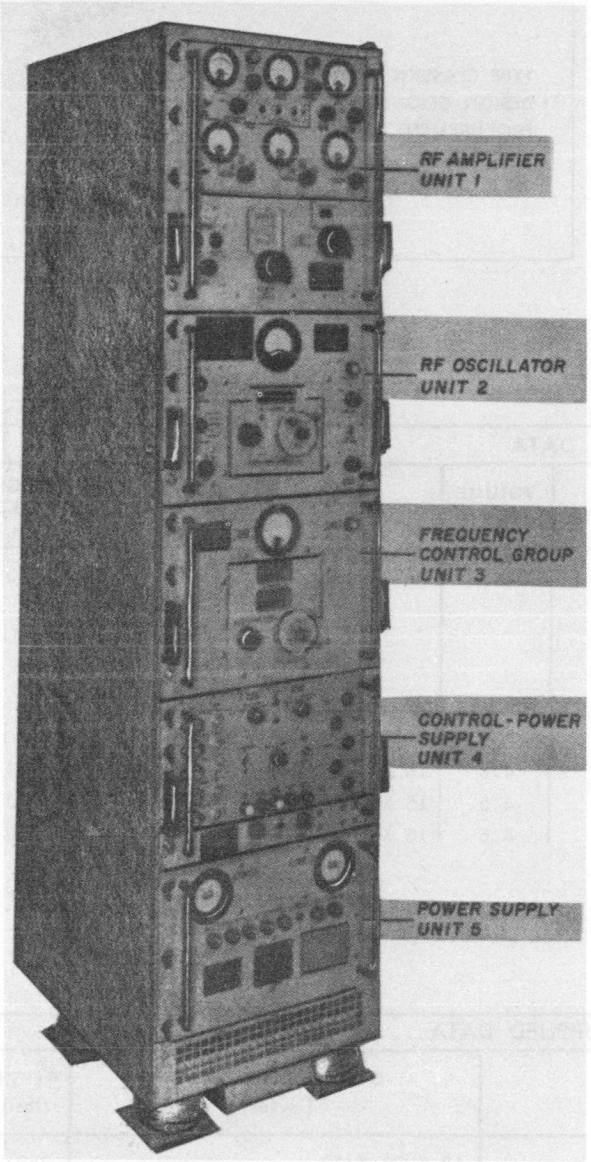
PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-T-21010

DESIGN COG: USN, BuWeps

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Babcock Radio Engineering Co. Part no. 3720.	Costa Mesa, California	NOas-59-8018r	

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



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

FUNCTIONAL DESCRIPTION

The AN/WRT-1(XN-1) is a radio frequency transmitter designed for shipboard use (surface and under surface vessels). The equipment is arranged in five (5) drawer-type units. All units with exception of the bottom drawer, can be rotated, after withdrawl, about a horizontal axis to four locked positions. The transmitter is continuously tunable through the frequency range of 300 to 1500 kilocycles (kc) and is capable of supplying a nominal peak power output of at least 500 watts into a 50-ohm resistive load with a standing-wave ratio of 4:1 or better. However, the radio transmitter is limited to 100 watt operation by the power handling capacity of the antenna tuning system to which it is to be connected.

No field changes in effect at time of preparation (3 April 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna Tuning Group Type AN/SRA-18 provides for manually (remote) matching the antenna to the R.F. output line of Radio Transmitting Set AN/WRT-1(XN-1), (1) Antenna (for R.F. Radiation), (1) Handset (carbon) type H-51/U, Optional Equipment as Required by Particular Installation, (4) Radiophone Unit Type 23500 or equivalent for remote radiotelephone control and operation Telegraph transmission. Teletype writer and Auxiliary Equipment Model 19 or equivalent for FSK operation, Machine Telegraph Equipment for C-W operation.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: Machine or break-in (hand keyed), telegraph (A1), frequency shift keyed teletype (F1) and amplitude-modulated speech (A3).
TYPE OF CONTROL: Frequency control.
FREQUENCY RANGE: 300 kc to 1500 kc.
NUMBER OF BANDS: 12 bands.
OPERATING POWER RQMT: 115 v, 220 v or 440 v, 60 cps ±5%, 2.2 kva.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp., Baltimore, Maryland.
Contract NObsr-71092, dated 25 November 1955.
Approximate Cost: $312,436.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 3B28	(1) 5R4WGB	(7) 6AU6WA
(12) 12AT7WA	(2) OA2WA	(4) 4X150A
(1) 5651WA	(2) 5933WA	(2) 6080WA

Total Tubes: (39)

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

(1) 1N158 (37) 1N198 (2) 1N100
Total Crystals: (40)

REFERENCE DATA AND LITERATURE

NAVSHIPS 92893(A): Technical Manual for Radio Transmitting Set AN/WRT-1(XN-1).

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

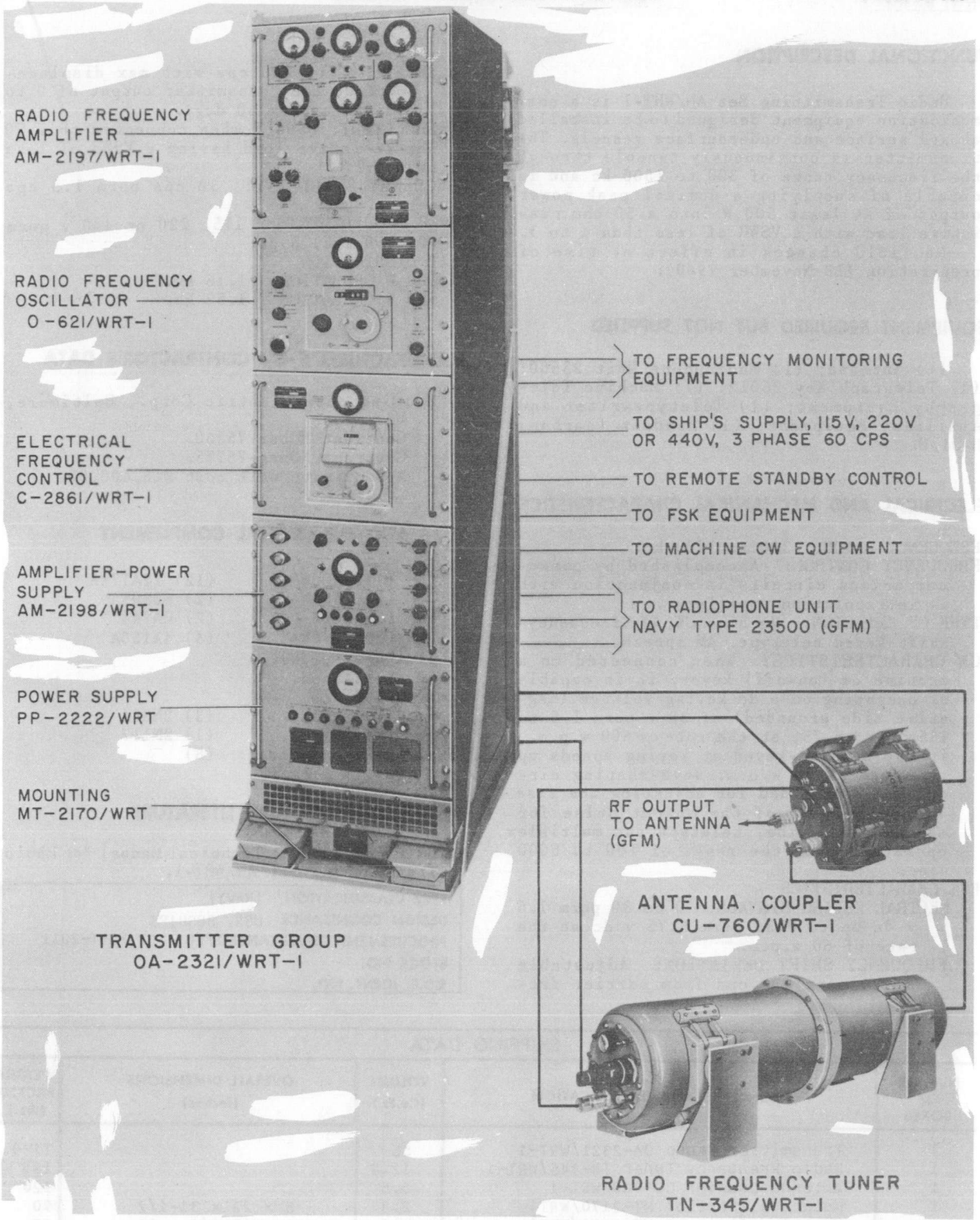
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set Consisting of: 1-Power Supply Unit No. 5 1-Control Power Supply Unit No. 5 1-Frequency Control Group Unit No. 3 1-R.F. Oscillator Unit No. 2 1-R.F. Amplifier Unit No. 1	35.3	20 X 29 X 77	1130
1	Set of Equipment Spares	4.5	15 X 20 X 26	140
1	Set of Equipment Spares	4.5	15 X 20 X 26	140
1	Set of Equipment Spares	4.5	15 X 20 X 26	140

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/WRT-1(XN-1)	18 X 27 X 72	950
1	Connector type AN3106A-32-8P		3/10
1	Connector type AN3106A-24-28P		1/5
1	Connector type UG-88/U		
1	Connector type UG-573/U		1/10
1	Connector type UG-573/U		1/10
1	Connector type UG-572/U		1/10
1	Packing List Maintenance Prints (1 per 2 equipments)	1 X 9 X 12	1
2	Technical Manual Navships 92893	1 X 9 X 12	3
1	Modification Kit (3 sets of line fuses for 115 v, 220 v, and 440 v operation)		
3	Maintenance Parts Kit	15 X 20 X 26	150

RADIO TRANSMITTING SET AN/WRT-1



Radio Transmitting Set AN/WRT-1

Radio-Transmitters

AN/WRT-1 RADIO TRANSMITTING SET

FUNCTIONAL DESCRIPTION

Radio Transmitting Set AN/WRT-1 is a communication equipment designed to be installed aboard surface and undersurface vessels. The transmitter is continuously tunable through the frequency range of 300 to 1500 kc and is capable of supplying a nominal peak power output of at least 500 W into a 50 ohm resistive load with a VSWR of less than 4 to 1.

No field changes in effect at time of preparation (18 November 1960).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna; (1) Radiophone Unit 23500; (1) Telegraph Key 26012; (1) Machine Telegraphy Equipment; (1) Teletypewriter and Auxiliary Equipment; (1) Handset (carbon) H-J1/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 1500 kc.
FREQUENCY CONTROL: Accomplished by phase-comparison circuits in conjunction with an interpolation oscillator.
TYPE OF EMISSION: Machine CW, CW, frequency-shift-keyed teletype, AM speech.
CW CHARACTERISTICS: When connected to a machine cw (on-off) keyer, it is capable of operating on a dc keying voltage (negative side grounded) of 30 v porm 1.5 to 135 v porm 6.75, at the rate of 600 w.p.m., it may be hand-keyed at keying speeds up to a max of 30 w.p.m. wave-shaping circuits are provided for adjusting the rise and decay time of the output pulse for machine cw keying, teletype and multiplex operation over the range of 100 to 5000 usec.
FSK CHARACTERISTICS
NEUTRAL KEYING SIGNALS: 0 to 30 porm 1.5 v dc up to P135 porm 6.75 v dc at the rate of 60 w.p.m.
FREQUENCY SHIFT DEVIATION: Adjustable up to porm 500 cps from carrier frequency.
SWEEP RATE: 200 cps with max displacement at the transmitter output of 0 to 1 radian (approx 60 deg).
POWER OUTPUT: 500 W when connected to a 50 ohm resistive load having a VSWR of less than 4:1.
FREQUENCY STABILITY: 30 cps porm 1.5 cps per mc.
POWER REQUIREMENTS: 115, 220 or 440 v porm 10%, 60 cyc, 3 ph.
HEAT DISSIPATION
100 W OPERATION: 1.16 kw.
500 W OPERATION: 1.52 kw.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp., Baltimore, Md.
Contract NObsr-75360.
Contract NObsr-75775.
Approximate unit cost $18,400.00.

TUBE AND/OR CRYSTAL COMPLEMENT

(7) 6AU6WA	(12) 12AT7WA
(1) 5651WA	(2) 6080WA
(6) 3B28	(2) OA2WA
(2) 5933WA	(4) 4X150A

Total Tubes: (36)
No Crystals used.
SEMI-CONDUCTORS

(1) 2N95	(3) 2N384
(3) 2N119	(1) 2N117

Total Semi-Conductors: (8)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93483(A): Technical Manual for Radio Transmitting Set AN/WRT-1.

TYPE CLASSIFICATION	(NAVY)
DESIGN COGNIZANCE	USN, BUSHIPS
PROCUREMENT COGNIZANCE	SPEC: SHIPS-T-2811
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	Transmitter Group OA-2321/WRT-1	55		1130
1	Radio Frequency Tuner TN-345/WRT-1	12.4		196
1	Antenna Coupler CU-760/WRT-1	6.5		120
1	Mounting (Part of MT-2170/WRT)	2.3	5 x 22 x 31-1/2	90
1	Mounting (Part of MT-2170/WRT)	1.1	5 x 18-1/2 x 21	52
1	Mounting (Part of MT-2170/WRT)	0.6	3-1/2 x 5-3/4 x 61	38
	Equipment Spares	1.65	13-1/4 x 13-1/2 x 18-1/2	

RADIO TRANSMITTING SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/WRT-1 includes:		
1	Transmitter Group OA-2321/WRT-1 c/o	21 x 29-1/2 x 72	1030
1	Radio Frequency Amplifier AM-2197/WRT-1		
1	Radio Frequency Oscillator O-621/WRT-1		
1	Electrical Frequency Control C-2861/WRT-1		
1	Amplifier-Power Supply AM-2198/WRT-1		
1	Power Supply PP-2222/WRT		
1	Mounting MT-2170/WRT		
1	Radio Frequency Tuner TN-345/WRT-1	13-3/8 x 16-15/16 x 48-7/8	120
1	Antenna Coupler CU-760/WRT-1	13-3/8 x 16-15/16 x 22-1/2	80
1	Connector MS-3106B-32-7P		
1	Connector MS-3106B-20-27P		
1	Connector UG-943/U		
1	Connector UG-943A/U		
1	Connector AN-3106E-32-85		
1	Connector AN-3106E-24-285		
1	Mounting MT-2170/WRT		
1	Maintenance Parts Kit		0.07
2	Technical Manual NAVSHIPS 93483(A)	1 x 9 x 12	

April 1959

Radio-Transmitter

TRANSMITTING SET, RADIO AN/WRT-2(XN-1)

FUNCTIONAL DESCRIPTION

The AN/WRT-2(XN-1) Radio Transmitting Set is a high frequency transmitter designed for shipboard use on either surface or undersurface ships. The transmitter may be continuously tuned through its assigned frequency range and is capable of supplying a peak output power of at least 500 watts into a 50 ohm resistive load with a SWR of 4:1 or better.

No field changes in effect at time of preparation (9 June 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY DATA: 1.5 to 30 mc.
TYPE OF EMISSION: A1, A3, F1.
POWER OUTPUT: 500 W.
POWER REQUIREMENTS: 115/220/440 v, 60 cps, 3 ph, 3 kva.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp; Baltimore, Maryland.

Contract NObsr-71092.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) OA2WA	(1) 5R4WGB
(4) WN5051C	(1) 5651WA
(15) 12AT7WA	(12) 6AU6WA
(8) 3B28	(1) 6J6WA
(4) 4X250B	(2) 5933WA
	(1) 6080WA

Total Tubes: (51)

(2) 1N100	(55) 1N198

Total Tubes: (57)

REFERENCE DATA AND LITERATURE

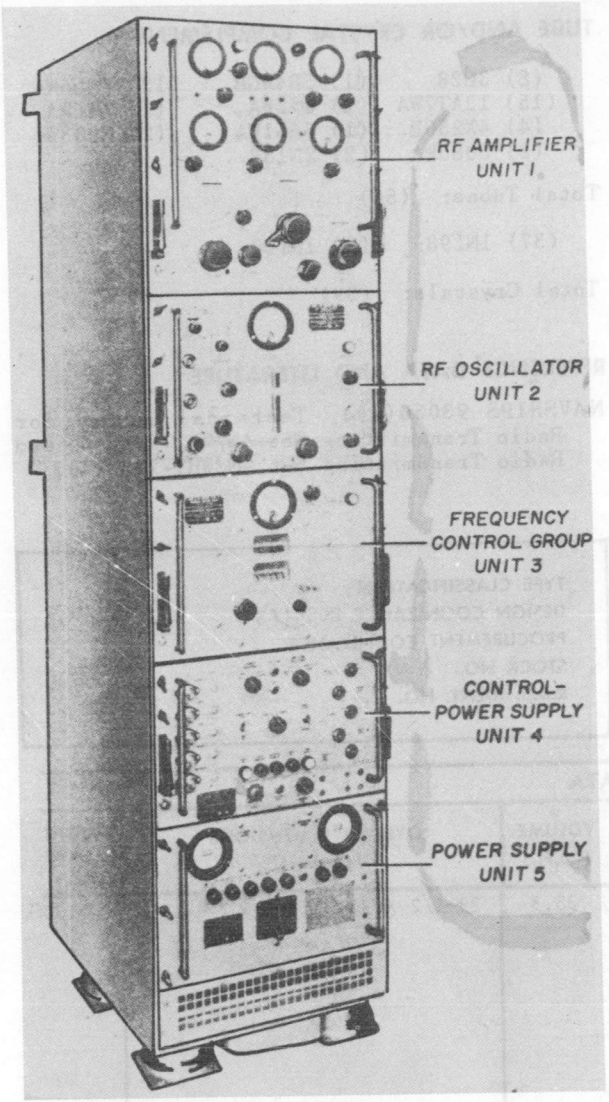
Nomenclature Card for Transmitting Set, Radio AN/WRT-2().

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 Transmitting Set, AN/WRT-2(XN-1)	18 x 24 x 72	950

RADIO TRANSMITTING SET AN/WRT-2(XN-3)



Radio Transmitting Set AN/WRT-2(XN-3)

FUNCTIONAL DESCRIPTION

The AN/WRT-2(XN-3) is designed as a communication unit for installation aboard surface and undersurface vessels. The transmitter is tuneable through the frequency range of 2.0 to 30.0 megacycle (MC) and is capable of delivering a nominal average power output of 500 watts and a peak envelope power of 1000 watts into a 50 ohm resistive load with a standing wave ratio of 4:1 or better.

The Radio Frequency Oscillator, Unit 2 of AN/WRT-2(XN-3) is identical to Radio Frequency Oscillator, Unit 2 of AN/WRT-2(XN-4) except for the addition of a Voice Unit Meter and associated push-button controls on the front panel.

The Frequency Control Group, Unit 3 of AN/WRT-2(XN-4) differs from the Frequency Control Group, Unit 3 of AN/WRT-2(XN-3) in that a one megacycle Crystal Oscillator and a 10:1 frequency divider is used in lieu of a 100 kilocycle crystal oscillator as a standard frequency generator.

The Radio Frequency Amplifier, Unit 1 of AN/WRT-2(XN-4) differs from Radio Frequency Amplifier, Unit 1 of AN/WRT-2(XN-3) in that the first driver amplifier and the mixer circuits are redesigned.

No field changes in effect at time of preparation (15 April 1959).

RELATION TO OTHER EQUIPMENT

The AN/WRT-2(XN-3) is similar in operation to the AN/WRT-2(XN-4); but are not electrically and mechanically interchangeable.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna Tuning Group AN/SRA-18 to provide for manually (remote) matching the antenna to the R.F. output line of Radio Transmitting Set AN/WRT-2(XN-3) or (XN-4), (1) Antenna for R.F. Radiation, (1) Handset (carbon) type H-51/U or equivalent for local voice transmission. OPTIONAL EQUIPMENT AS REQUIRED BY THE PARTICULAR INSTALLATION, (4) Radiophone Unit type C-1138/UR Hand Key N.T. 26012, Teletypewriter (and auxiliary equipment) type TT-47/UG, Machine Telegraph Equipment, Antenna Radio Frequency TN-229/SRT, Antenna Coupler type CU-372/SRT, Retractable Mast Antenna Radio Frequency TN-230/BRT, Fairwater Radio Frequency Tuner TN-248/BRT.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A3, A3a, A3b and F1.
TYPE OF CONTROL: Frequency control in transmitting set is accomplished by phase-comparison circuits in conjunction with interpolation.
POWER OUTPUT
CW OPERATION: 500 W average under locked-key conditions.
FSK OPERATION: 500 W average power.
A3 PHONE EMISSION: 500 W average power w/100% square wave modulation.
SINGLE SIDEBAND (A3a) OPERATION: One kilowatt peak envelope power, two-tone modulation.
INDEPENDENT SIDEBAND (A3b): One kilowatt

AN/WRT-2(XN-3) RADIO TRANSMITTING SET

peak envelope power distributed proportionally between upper and lower side bands.

AMBIENT TEMPERATURE: 0° C to +50° C.

RELATIVE HUMIDITY: Any up to 95%.

FREQUENCY STABILITY: Over a four-hour period, the equipment has a frequency stability of ±1 part in 10^7 parts of nominal operating frequency when operating at 1 kc lock-in points and at nominal line voltage and frequency in an ambient temperature range of +40° F to +90° F and relative humidity of 40 to 90%.

OPERATING POWER RQMT: 115 v, 220 v or 440 v, 60 cps, 3 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp, Baltimore, Maryland.

Contract NObsr-71092, dated 25 November 1955.

Approximate Cost: $312,436.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 3B28	(1) 5R4WGB	(12) 6AU6WA
(15) 12AT7WA	(2) OA2WA	(1) 6J6WA
(4) 4X250B	(1) 5651WA	(2) 5933WA
(2) 6080WA	(2) 2N188	

Total Tubes: (50)

(37) 1N198 (2) 1N100

Total Crystals: (39)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93050(A): Technical manual for Radio Transmitting Set AN/WRT-2(XN-3) and Radio Transmitting Set AN/WRT-2(XN-4).

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

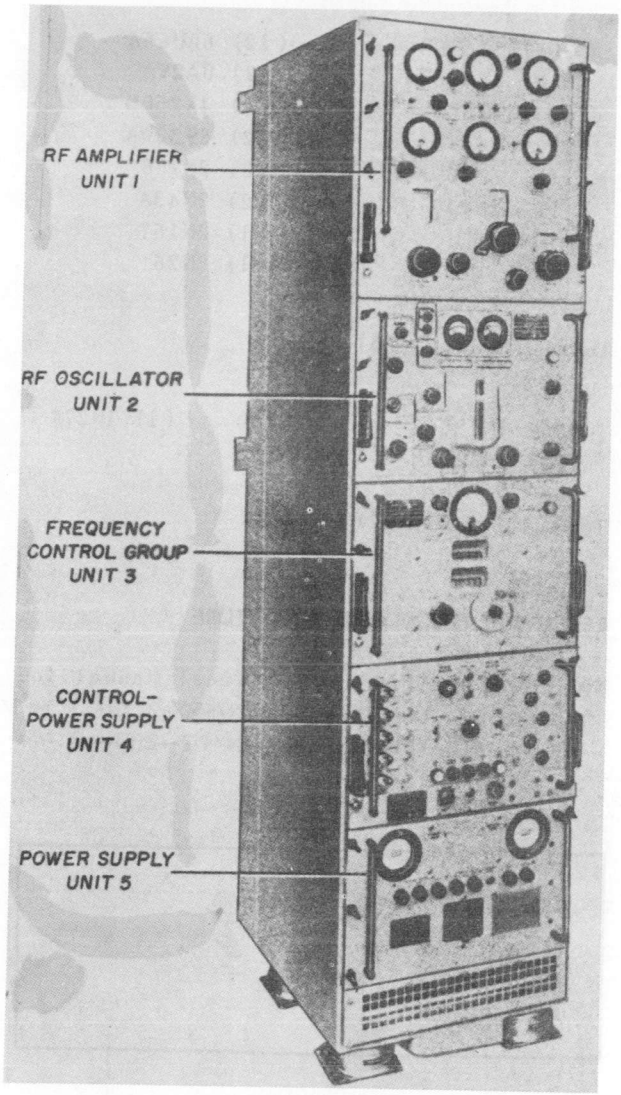
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/WRT-2(XN-3) Incl: (1) R.F. Amplifier Unit 1 of AN/WRT-2 (XN-3) (1) R.F. Oscillator Unit of AN/WRT-2 (XN-3) (1) Frequency Control Group Unit 3 of AN/WRT-2(XN-3) (1) Control Power Supply Unit 4 of AN/WRT-1, 2, (XN-1) (1) Power Supply Unit 5 of AN/WRT-1, 2, (XN-1)	35.3	23-1/2 X 33 X 78-1/2	1130
4	Set of Equipment Spares	4.5	15 X 20 X 26	140

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/WRT-2(XN-3)	18 X 28 X 71-11/16	950
1	Connector AN3106A-32-8P		3/10
1	Connector AN3106A-24-28P		1/5
3	Connector UG-88/U		
2	Connector UG-573/U		1/10
1	Connector UG-572/U		1/10
1	Packing List Maintenance Prints		1
1	Technical Manual NAVSHIPS 95050(A)	1 X 9 X 12	1-1/2
4	Set of Equipment Spares	1 X 9 X 12 15 X 20 X 26	140
1	Modification Kit		1

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



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

FUNCTIONAL DESCRIPTION

The AN/WRT-2(XN-4) is designed as a communication unit for installation aboard surface and undersurface vessels. The transmitter is tuneable through the frequency range of 2.0 to 30.0 megacycles (MC) and is capable of delivering a nominal average power output of 500 watts and peak envelope power of 1000 watts into a 50 ohm resistive load with a standing wave ratio of 4:1 or better.

The Radio Frequency Oscillator, Unit 2 of AN/WRT-2(XN-3) is identical to Radio Frequency Oscillator, Unit 2 of AN/WRT-2(XN-4) except for the addition of a Voice Unit Meter and associated push-button controls on the front panel.

The Frequency Control Group, Unit 3 of AN/WRT-2(XN-4) differs from the Frequency Control Group, Unit of AN/WRT-2(XN-3) in that a one megacycle Crystal Oscillator and a 10:1 frequency divider is used in lieu of a 100 Kilocycle Crystal Oscillator as a Standard Frequency Generator.

The Radio Frequency Amplifier, Unit 1 of AN/WRT-2(XN-4) differs from Radio Frequency Amplifier, Unit 1 of AN/WRT-2(XN-3) in that the first driver amplifier and the mixer circuits are redesigned.

No field changes in effect at time of preparation (15 April 1959).

RELATION TO OTHER EQUIPMENT

The AN/WRT-2(XN-4) is similar in operation as the AN/WRT-2(XN-3); but is not electrically or mechanically interchangeable.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Antenna Tuning Group AN/SRA-18 to provide for manually (remote) matching the antenna to the R.F. output line of Radio Transmitting Set AN/WRT-2(XN-3) or (XN-4), (1) Antenna for R.F. Radiation, (1) Handset (carbon) type H-51/U or equivalent for local voice transmission. OPERATIONAL EQUIPMENT AS REQUIRED BY THE PARTICULAR INSTALLATION, (4) Radiophone Unit type C-1138/UR Hand Key N.T. 26012, Teletypewriter (and auxiliary equipment) type TT-47/UG, Machine Telegraph equipment, Antenna Radio Frequency TN-229/SRT, Antenna Coupler Type CU-372/SRT, Retractable Mast Antenna Radio Frequency TN-230/BRT, Fairwater Radio Frequency Tuner TN-248/BRT.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: A1, A3, A3a, A3b and F-1.
TYPE OF CONTROL: Frequency control in the transmitting set is accomplished by phase-comparison circuits in conjunction with interpolation.
POWER OUTPUT
CW OPERATION: 500 W average under locked-

Radio-Transmitters

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

Key conditions.
FSK OPERATION: 500 W average power.
A3 PHONE EMISSION: 500 W average power w/100% square wave modulation.
SINGLE SIDEBAND (A3a) OPERATION: 1 kilowatt peak envelope power-two-tone modulation.
INDEPENDENT SIDEBAND (A3b): 1 kilowatt peak envelope power, distributed proportionally between upper and lower side bands.
AMBIENT TEMPERATURE: 0° C to ±50° C.
RELATIVE HUMIDITY: Any up to 95%.
FREQUENCY STABILITY: Over a four-hour period, each equipment has a frequency stability of ±1 part in 10^7 parts of nominal operating frequency when operating at 1 kc lock-in points and at nominal line voltage and frequency in ambient temperature range of +40° F to +90° F and relative humidity of 40 to 90%.
OPERATING POWER RQMT: 115 v, 220 v or 440 v, 60 cps, 3 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp., Baltimore, Maryland.
Contract NObsr-63455, dated 29 May 1953.
Approximate Cost: $312,436.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(4) 5670
(8) 3B28
(1) 5R4WGB
(16) 12AT7WA
(1) 6J6WA
(1) 5651WA
(2) 6080WA
(8) 2N119
(1) H6
(2) 3DS1
(12) 6AU6WA
(2) 0A2WA
(4) 4X250B
(2) 5933WA
(2) 2N188
(2) 2N43A
(1) 2N167
(1) 3N26

Total Tubes: (70)

(35) 1N198
(4) 1N429
(2) 1N100
(8) 1N626
(1) 1N277

Total Crystals: (50)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93050(A): Technical Manual for Radio Transmitting Set AN/WRT-2(XN-3) and Radio Transmitting Set AN/WRT-2(XN-4).

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

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Transmitting Set AN/WRT-2(XN-4) Including: (1) R.F. Amplifier Unit 1 of AN/WRT-2 (XN-4) (1) R.F. Oscillator Unit 2 of AN/WRT-2(XN-4) (1) Frequency Control Group Unit 3 of AN/WRT-2(XN-4)	35.3	23-1/2 X 33 X 78-1/2	1130

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

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
4	(1) Control Power Supply Unit 4 of AN/WRT-1,2(XN-1) (1) Power Supply Unit 5 of AN/WRT-1,2(XN-1) Set of Equipment Spares	4.5	15 X 20 X 26	140

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/WRT-2(XN-4)	18 X 28 X 71-11/16	950
1	Connector AN3106A-32-8P		3/10
1	Connector AN3106A-24-28P		1/5
3	Connector UG-88/U		
2	Connector UG-573/U		1/10
1	Connector UG-572/U		1/10
1	Packing List Maintenance Prints	1 X 9 X 12	1
1	Technical Manual NAVSHIPS 95050(A)	1 X 9 X 12	1-1/2

23 April 1962 RADIO TRANSMITTING SET AN/WRT-2

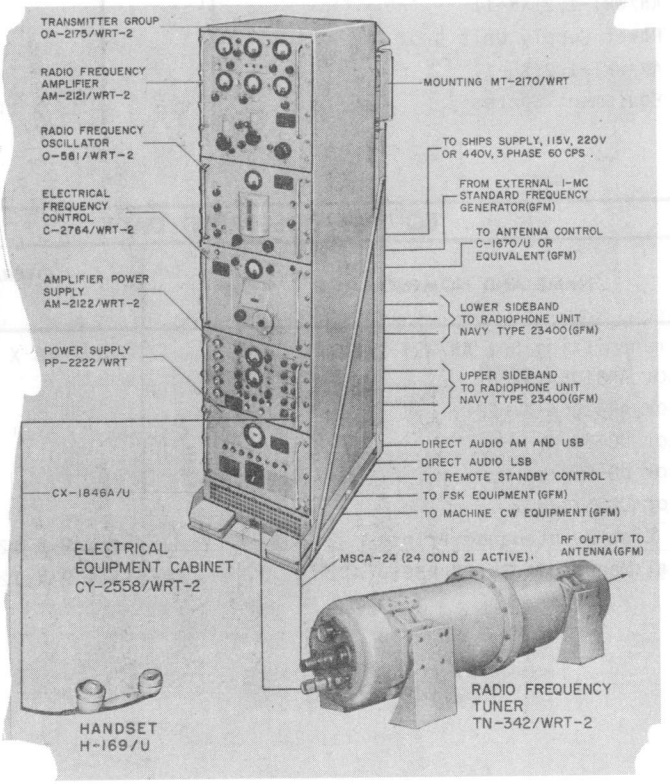
Cog Service: USN FSN: 5820-673-3770 Functional Class:

USA USN USAF

Used by

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Westinghouse Electric Corp., (89661).



Radio Transmitting Set AN/WRT-2

FUNCTIONAL DESCRIPTION:

Radio Transmitting Set AN/WRT-2 is a communication equipment designed to be installed aboard surface and undersurface vessels. The transmitter provides complete frequency coverage in one-kc steps over the frequency range of 2.0 to 30.0. The equipment is capable of delivering a nominal average power output of 500 watts and a peak envelope power (PEP) of 1000 watts into a 50-ohm, non-reactive load, with a voltage standing wave ratio (VSWR) lower than 4 to 1. The transmitter is capable of continuous full load operation under ambient temperature conditions ranging from 0 deg C to plus 50 deg C (32 deg F-122 deg F) and a relative humidity of up to 95 percent. Radio Transmitting Set AN/WRT-2 provides CW, ISB (independent sideband), SSB (single sideband), AM phone, machine (MACH) CW, and FSK (Frequency shift keying) emission. The transmitter can be used for facsimile emission by use of the following government furnished terminal equipment: XCVR, Facsimile 1B - TT-41B/TXC-1B and Radio, Modulator 1B plus T-1 MD-168/UX.

No field changes in effect at time of preparation (21 February 1961).

AN/WRT-2 RADIO TRANSMITTING SET

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 2.0 TO 30 mc, 1 kc steps.
FREQUENCY CONTROL: By phase-comparison circuits in conjunction with an interpolation oscillator.
TYPE OF EMISSION: CW, telegraphy, FSK, AM, SSB, ISB.
CW CHARACTERISTICS: On-off keying up to 600 wpm is provided by a transistor type keyer.
FSK CHARACTERISTICS: is capable of accepting nutral 0 to 30 v (up to 135 v) keying signals with a voltage tolerance of porm 5%.
MODULATION CHARACTERISTICS: 100% with microphone H-51/U. May be modulated from a 600 ohm audio input circuit at a 0.006 W level.
POWER OUTPUT
ISB OPERATION: 1000 W peak envelope power (PEP, four equal tones modulation).
SSB OPERATION: 1000 W peak envelope power (PEP, two equal tones modulation, either upper or lower sideband).
CW OPERATION: 500 W average power under locked key conditions.
FSK OPERATION: 500 W average power.
AM PHONE EMISSION: 500 W average with one sideband and carrier reinsertion.
AMBIENT TEMPERATURE: 0 deg to P50 deg C (32 deg to 122 deg F); relative humidity up to 95%.
FREQUENCY STABILITY: Within one part in 10^8 per day with an ambient temperature from (4.4 deg to 32.2 deg C) P40 deg to P90 deg F and relative humidity of 40 to 90%.
POWER REQUIREMENTS: 115, 220 or 440 v, 60 cyc, 3 ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Antenna NT-66047; (1) Radiophone Unit NT-23400; (1) Telegraph Key NT-26012; (1) Machine Telegraphy Equipment; (1) Teletypewriter (and auxiliary equipment); (1) Antenna Tuning Group AN/BRA-3; (1) Antenna Tuning Group AN/BRA-5; (1) Handset H-51/U; (1) Antenna Control C-1670/U; (1) XCVR Facsimile TT-41B/TXC-1B; (1) Radio Modulator MD-168/UX; (as required) Bulk Cables.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Transmitting Set AN/WRT-2 includes:			
1	Transmitter Group OA-2175/WRT-2 consists of:		21 x 29-1/2 x 72	1030
	Electrical Equipment Cabinet CY-2558/WRT-2			
	Radio Frequency Amplifier AM-2121/WRT-2			
	Radio Frequency Oscillator O-581/WRT-2			
	Electrical Frequency Control C-2764/WRT-2			

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Amplifier Power Supply AM-2122/WRT-2			
	Power Supply PP-2222/WRT			
1	Radio Frequency Tuner TN-342/WRT-2		13-3/8 x 16-15/16 x 48-7/8	135
1	Handset H-169/U			
1	Connector MS/3106B-32-7P			
1	Connector MS/3106B-20-27P			
2	Connector UG-943A/U			
1	Connector 54B7237H04			
1	Connector UG-635/U			
1	Connector AN3106E-32-8S			
1	Connector UG-154/U			
1	Maintenance Parts Kit			
2	Technical Manual NAVSHIPS 93319(A)		1 x 9 x 12	3
1	Mounting MT-2170/WRT			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93319(A): Technical Manual for Radio Transmitting Set AN/WRT-2.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (6) 3B28 (10) 6AU6WA (2) 5933WA (6) 5670 (4) 4CX300A (2) 6080WA
(1) 5651WA (9) 12AT7WA

CRYSTALS: None used.

SEMI-CONDUCTORS: (12) 2N119 (1) 2N95 (7) 2N117 (8) 2N1122 (1) 3N34

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	76	1600
1	14	195
1	1.25	
1	1.65	
1	2.3	
1	0.6	
1	0.6	

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: SHIPS-T-2958

DESIGN COG: USN, BuShips

AN/WRT-2 RADIO TRANSMITTING SET

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Westinghouse Electric Corp.	Baltimore, Md.	NObsr-75360, 30 June 1958 NObsr-75775	

TRANSMITTING SET RADIO AN/WRT-3

FUNCTIONAL DESCRIPTION

The AN/WRT-3 Radio Transmitting Set is a high frequency transmitter designed for shipboard use on either surface or under surface ships.

No field changes in effect at time of preparation (9 June 1958).

RELATION TO OTHER EQUIPMENT

The AN/WRT-3 Radio Transmitting Set is similar to Radio Transmitting Set AN/WRT-2 except for different size and additional peak power of 5 kw PEP for 1 second.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY DATA: 2 to 30 mc.
TYPE OF EMISSION: A1, A3, F1, F4, 3A3.
POWER OUTPUT: 500 W and 1 kw (PEP).
FREQUENCY CONTROL: Crystal type.
IMPEDANCE: 50 ohms.
POWER REQUIREMENTS: 220/440 v, 60 cps, 3 ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telephone and Radio Co, Clifton, New Jersey.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Transmitting Set, Radio AN/WRT-3.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

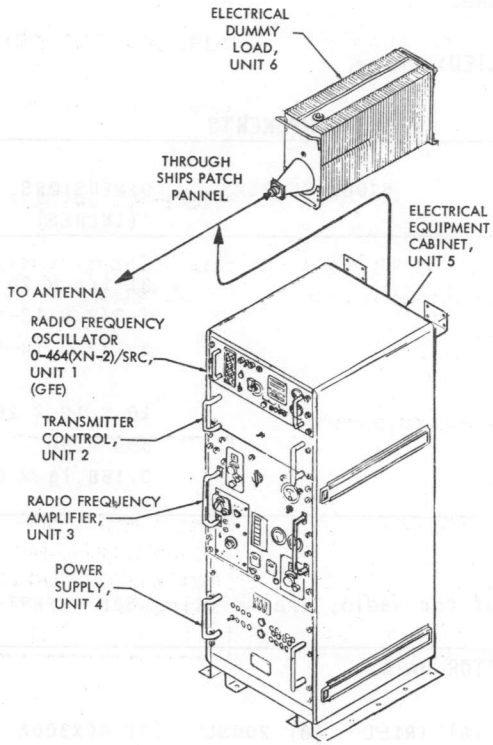
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Transmitting Set AN/WRT-3	16 x 24 x 72	

31 July 1962 — RADIO TRANSMITTING SET AN/WRT-4(XN-1)

Cog Service: USN FSN: 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)

PROCUREMENT DATA

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

DESIGN COG: USN, BuShips

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

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

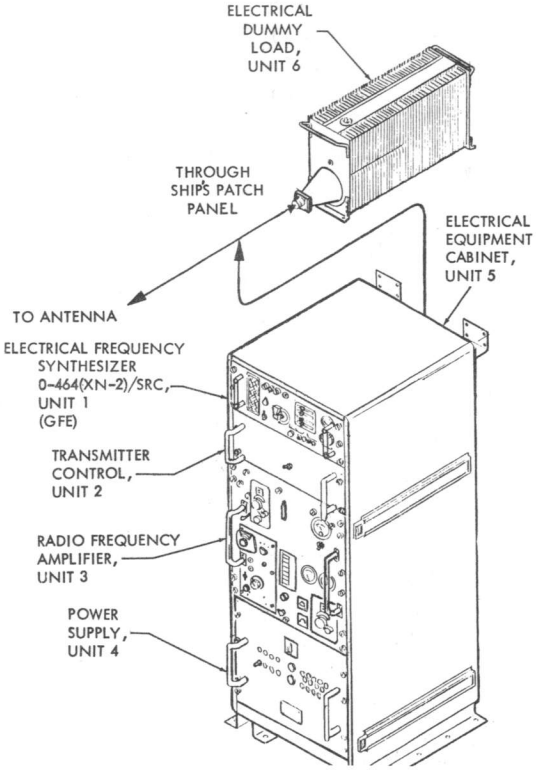
20 August 1962
Cog Service: USN FSN:

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

USA	USN	USAF

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 O-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 O-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 O-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

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) OA2WA (3) OB2WA (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 DESIGN COG: USN, BuShips
SPEC &/OR DWG:

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	