

11 April 1966

Cog Service: USN

FSN:

RADIO SET AN/SRC-17

Functional Class:

USA

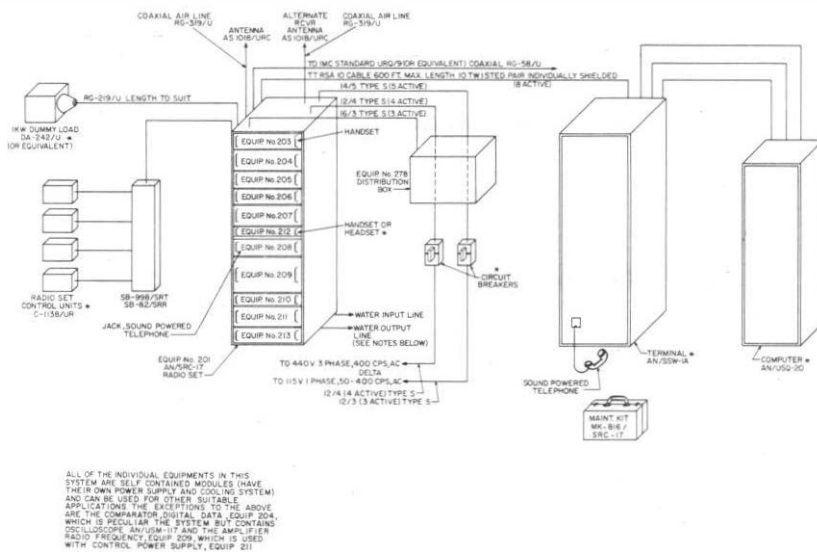
USN

USAF

TYPE CLASS:

Used by

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



16-004875

RADIO SET AN/SRC-17

FUNCTIONAL DESCRIPTION:

The Radio Set AN/SRC-17 is an integral part of the Navy Tactical Data System and provides the receiving and transmitting system for ship-to-ship, ship-to-air, and ship-to-shore as well as point-to-point communication-data links. The radio set consists of a transmitter, receiver, and digital data comparator which monitors the radio set operation.

No field changes in effect at time of preparation (11 February 1966).

RELATION TO OTHER EQUIPMENT:

Radio Set AN/SRC-17 is an improved version of Radio Sets AN/SRC-17(XN-1), AN/SRC-17(XN-2) and AN/SRC-17(XN-3). All these radio sets are the same except for the major difference listed in Table 1-3.

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## RADIO SET AN/SRC-17

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### EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Electronics Installation and Maintenance Book NAVSHIPS 900,000; (1) Handbook for Electronics Circuits NAVSHIPS 900,000-102; (1) Headset CW-49507, 6 Connector Plug UG-154/U; (1) Handset H-169/U, 3-Adapter UG-216B/U; (1) Dummy Load DA-242/U; 1-Cable Coaxial MSCA-14; (1) Instruction Book for Dummy Load DA-242/U; (1) Electronic Multimeter (VTVM) AN/USM-116; (1) Instruction Book for Electronic Multimeter AN/USM-116; (2) Cable, Coaxial RG-219/U; (1) Connector Plug UG-880/U (1) Cable, Coaxial RG-319/U, 1-Connector Plug MS-3106E-14S-7P; (1) Cable, Coaxial RG-58/U, 1-Connector Plug MS-3108E-16S-8S.

### TECHNICAL CHARACTERISTICS:

FREQUENCY COVERAGE: 225 to 400 mc in 100 kc steps.  
BANDS: One.  
CHANNELS: 1750.  
TYPES OF FREQUENCY CONTROL: Synthesizer or Crystal.  
STABILITY: 5 parts in  $10^7$  per day.  
TYPES OF EMISSION AND RECEPTION: A-3 (telephony, AM), F-3 (telephony, FM), F-1 (telegraphy, FSK).  
MODULATION: A-3, 95%, F-1: 0 to 5 kc  $\pm$  20 kc deviation, F-3: 300 to 3000 cps,  $\pm$  10 kc deviation.  
TRANSMITTER OUTPUT POWER: FM/FSK, 500 watts, AM: 250 watts.  
PERCENT MODULATION: 95%.  
PERCENT DISTORTION: 7%.  
OUTPUT IMPEDANCE: 50 ohms.  
HARMONIC AND SPURIOUS ATTENUATION: 60 db below carrier.  
DUTY CYCLE: Continuous at full rated output throughout environmental range.  
BANDWIDTH: 1-MC (low-end), 2 mc (high end).  
TRANSMITTER COOLING: watts and air.  
RECEIVER-SENSITIVITY: 2  $\mu$ a for 20 db quieting.  
RECEIVER-SELECTIVITY: 1% bandwidth at 3 db points, 4% bandwidth at 40 db points.  
RECEIVER-SELECTIVITY: FM-80 kc at 3 db, 160 kc at 100 db, AM-20 kc at 3 db, 50 kc at 100 db.  
IMAGE REJECTION: 100 db minimum.  
NOISE FIGURE: 12 db maximum.  
POWER REQUIREMENTS: 400 v ac, 400 cps, three ph, 5 amp, 115 v ac, 50 to 400 cps, single ph, 15 amp.  
WATER REQUIREMENTS: Flow rate 1 GPM min., purity distilled maximum contamination of 0.065 equivalent of sea water; Pressure: 100 lbs per sq. in. gage maximum, 5 lbs per sq. in gage normal.  
HEAT DISSIPATION: 400 watts.  
AMBIENT ENVIRONMENT  
TEMPERATURE: - 0 deg C to + 50 deg C (32 deg F to 122 deg F).  
HUMIDITY: 0% to 95% rh.

RADIO SET AN/SRC-17

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/SRC-17 includes:	2F5820-066-4593	22 x 24-13/16 x 72	1119
1	Rack Electrical Equip- ment: MT-2718/SRC-17		22 x 22 x 72	329
1	Keyer Frequency Shift KY-510/SRC-17		3-1/2 x 17-1/2 x 22	34.5
1	Comparator Digital Data CM-296/SRC-17		7-1/2 x 17-1/2 x 22	64.5
1	Radio Receiver R-122B/SRC-17		5-1/8 x 17-1/2 x 22	70.0
1	Synthesizer-Electrical Frequency 0-1178/SRC-17		5-1/4 x 17-1/2 x 22	68.0
1	Amplifier Frequency Multiplier AM-3017/SR		7 x 17-1/2 x 22	119.5
1	Amplifier Radio Frequency AM-2072/SR		7 x 17-1/2 x 22	120.5
1	Amplifier Radio Frequency AM-3018/SRC-17		12-1/4 x 17-1/2 x 22	121.0
1	Duplexer CU-950/SRC-17		3 x 17-1/2 x 22	48.0
1	Control Power Supply C-3723/SRC-17		7-1/4 x 17-1/2 x 22	133.0
1	Modulator Radio Transmitter MD-556/SRC-17		3-1/2 x 17-1/2 x 22	66.0
1	Filter Unit, Water Purification MX-6123/SRC-17		5-1/4 x 17-1/2 x 22	35.0
1	Distribution Box J-2235/SRC-17		5-1/8 x 9 x 12	20.0
1	Maintenance Kit MK-816/SRC-17		3-11/32 x 16-1/2 x 20-1/2	31.0
1	Maintenance Standards Book NAVSHIPS 95947.42		9-1/2 x 11-1/2	
1	Maintenance Standards Book NAVSHIPS 96869.42		9-1/2 x 11-1/2	
1	Maintenance Standards Book NAVSHIPS 95868.42		9-1/2 x 11-1/2	
1	Maintenance Standards Book NAVSHIPS 95871.42		9-1/2 x 11-1/2	
1	Maintenance Standards Book NAVSHIPS 95948.42		9-1/2 x 11-1/2	

**RADIO SET AN/SRC-17**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Maintenance Standards Book NAVSHIPS 95812.42		9-1/2 x 11-1/2	
1	Maintenance Standards Book NAVSHIPS 95870-42		9-1/2 x 11-1/2	
1	Maintenance Standards Book NAVSHIPS 96136.42		9-1/2 x 11-1/2	
2	Technical Manual NAVSHIPS 95947		9 x 11	
2	Technical Manual NAVSHIPS 95869		9 x 11	
2	Technical Manual NAVSHIPS 95868		9 x 11	
2	Technical Manual NAVSHIPS 95871		9 x 11	
2	Technical Manual NAVSHIPS 95948		9 x 11	
2	Technical Manual NAVSHIPS 95812		9 x 11	
2	Technical Manual NAVSHIPS 95870		9 x 11	
2	Technical Manual NAVSHIPS 96136		9 x 11	
2	Technical Manual NAVSHIPS 95813		9 x 11	
1	Operating Instruction Chart NAVSHIPS 95947.42		8-1/2 x 11	
1	Performance Standard Sheet NAVSHIPS 95947.32		8-1/2 x 11	
1	Variable Attenuator CV-965/SRC-17			
1	Technical Manual for Oscilloscope AN/USM-117			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 95947: Technical Manual for Radio Set AN/SRC-17.

**SHIPPING DATA**

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

PROCURING SERVICE: USN  
SPEC &/OR DWG: U-4001 SHIPS

DESIGN COG: USN, BuShips

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RADIO SET AN/SRC-17

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CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Manson Laboratories, Incorporated	Wilton, Conn.	N0bsr 87289	

13 May 1966

RADIO SET AN/SRC-17(XN-2)

Cog Service: USN FSN:

Functional Class:

USA

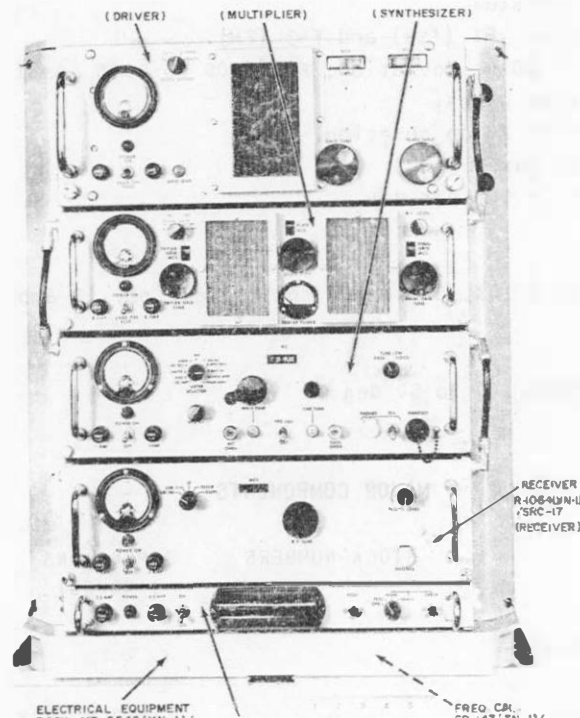
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Manson Laboratories Division of The Hallicrafters Company, (93279).



RADIO SET AN/SRC-17(XN-2)

#### FUNCTIONAL DESCRIPTION:

The Radio Set AN/SRC-17(XN-2) is an integral part of the Navy Tactical Data System and provides the receiving and transmitting system for the communications data link. The radio set consists of a transmitter, receiver, and transmission monitor detector which monitors the Radio Set operation. Voice (fm) and data (fsk) information can be transmitted on a 225 to 400 mc UHF carrier at 100 watts or 1 kw levels. The data information originates in a terminal equipment (computer), and the received data signals are fed to the terminal equipment for evaluation.

No field changes in effect at time of preparation (16 February 1966).

#### RELATION TO OTHER EQUIPMENT:

The AN/SRC-17(XN-2) is an improved version of Radio Set AN/SRC-17(XN-1).

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

- (1) Handset H-169/U; (2) Parker Fittings No. 8-8-FBTX; (2) Elbow Aeroquip Corp. No. 6606-8;
- (2) Hose Aeroquip Corp. No. 666-8; (2) Fitting.

TECHNICAL CHARACTERISTICS:

FREQUENCY RANGE: 225 to 400 mc in 100 kc steps.  
 BANDS: 1.  
 TYPE OF FREQUENCY CONTROL: Crystal.  
 TYPE OF EMISSION AND RECEPTION: F1 (fsk) and F-3 (FM).  
 MODULATION: F-1, 0 to 5 kc  $\pm$  20 kc deviation; F-3, 300 to 3000 cps  $\pm$  kc deviation.  
 TRANSMITTER OUTPUT POWER: 1000 watts.  
 RECEIVER SENSITIVITY: 2 uv for 20 db quieting.  
 RECEIVER NOISE FIGURE: 12 db max.  
 FREQUENCY STABILITY: 1 part in 10<sup>8</sup> per day.  
 INPUT IMPEDANCE: 50 ohms.  
 OUTPUT IMPEDANCE: 50 ohms.  
 POWER REQUIREMENTS: 115 v ac  $\pm$  10%, 50 to 400 cps, single ph, 13 amp, 440 v ac, 400 cps, 3 ph, 10 amp.  
 HEAT DISSIPATION: 5 kw.  
 AMBIENT TEMPERATURE LIMITATIONS: 0 to 50 deg C.  
 NUMBER OF CHANNELS: 1750.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/SRC-17(XN-2) includes:			
1	Frequency Calibrator FR-147/SRC-17(XN-1)		1-1/2 x 13 x 16	10
1	Electrical Frequency Synthesizer O-730/SRC(XN-2)		5 x 15-1/2 x 20-3/4	60
1	Amplifier Multiplier A-3017(XN-1)SR		5 x 17-1/2 x 20-3/4	95
1	Radio Frequency Amplifier AM-2072(XN-2)SR		7 x 17-1/2 x 20-3/4	100
1	Control-Power Supply C-3723(XN-1)SRC-17		7 x 17-1/2 x 21-3/4	155
1	Radio Frequency Amplifier AM-3018(XN-1)SRC-17		12-1/4 x 17-1/2 x 21-3/4	145
1	Receiver R-1064(XN-1)SRC-17		5-2/16 x 17-1/2 x 20-3/4	50
1	Visual Data Monitor IP-598(XN-1)SRC-17		1-3/4 x 17-1/2 x 20-3/4	25
1	Electrical Equipment Rack MT-2546(XN-1)SRC-17		22-27/32 x 23-5/8 x 28-1/2	60

**RADIO SET AN/SRC-17(XN-2)**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
*1	Electrical Equipment Rack MT-2718(XN-1)/SRC-17		22-27/32 x 23-5/8 x 50-1/4	100
1	Dummy Load DA-242/U		6 x 7 x 12-1/2	5
2	Technical Manual NAVSHIPS 94982		2 x 8-1/2 x 11	
1	Duplexer CU-950(XN-2)/SRC-17 ** - Used for Radio Set (Serial number 5) *** - Optional		1-1/2 x 11 x 17	5

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94982: Technical Manual for Radio Set AN/SRC-17(XN-2), AN/SRC-17(XN-3).

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	13.3	435
1	11.5	375
1	0.5	15

**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/OR DWG: U-3564(SHIPS)

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Manson Laboratories Div. of the Hallicrafters Company	Wilton, Conn.	N0bsr 81527	

419



12 May 1966

RADIO SET AN/SRC-17(XN-3)

Cog Service: USN

FSN:

Functional Class:

USA

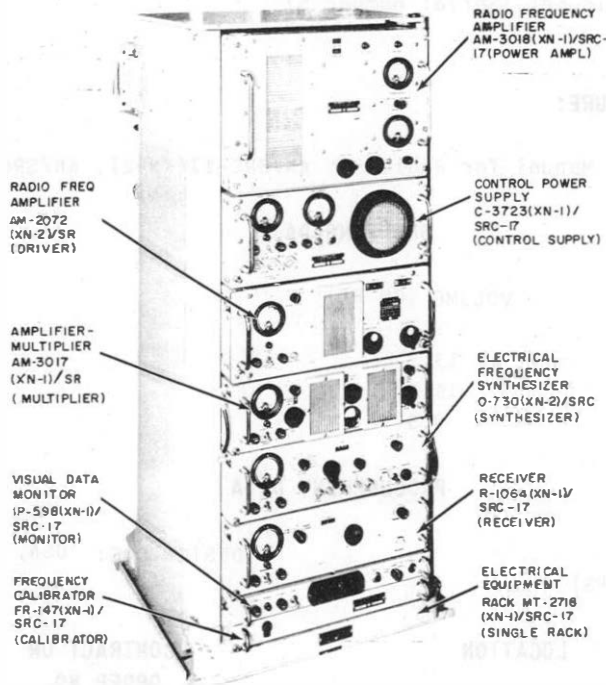
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Manson Laboratories Division of the Hallicrafters Company, (93279).



RADIO SET AN/SRC-17(XN-3)

**FUNCTIONAL DESCRIPTION:**

The Radio Set AN/SRC-17(XN-3), as an integral part of the Navy Tactical Data System (NTDS), provides the communications link for receiving and transmitting data. The radio set is basically an FM transmitter and receiver and consists of eleven separable units.

No field changes in effect at time of preparation (17 February 1966).

**RELATION TO OTHER EQUIPMENT:**

AN/SRC-17(XN-3), is an improved version of Radio Set AN/SRC-17(XN-1).

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Handset H-199/U; (2) Parker Fitting No. 8-BF8TX; (2) Elbow Aeroquip Corp. No. 6606-8; (2) Hose Aeroquip Corp. No. 666-8; (2) Fitting.

1.7 AN/SRC-17(XN-3): 1

**RADIO SET AN/SRC-17(XN-3)**

**TECHNICAL CHARACTERISTICS:**

FREQUENCY RANGE: 225 to 400 mc in 100 kc steps.  
 BANDS: 1.  
 TYPE OF FREQUENCY CONTROL: Crystal.  
 TYPE OF EMISSION AND RECEPTION: F1 (fsk) and F3 (fm).  
 MODULATION: F1, 0 to 5 kc  $\pm$  20 kc deviation, F3, 300 to 3000 cps,  $\pm$  10 kc deviation.  
 TRANSMITTER OUTPUT POWER: 1000 watts.  
 RECEIVER SENSITIVITY: 2 uv for 20 db quieting.  
 RECEIVER NOISE FIGURE: 12 db max.  
 FREQUENCY STABILITY: 1 part in  $10^8$  per day.  
 INPUT IMPEDANCE: 50 ohms.  
 OUTPUT IMPEDANCE: 50 ohms.  
 POWER REQUIREMENTS: 115 v ac  $\pm$  10%, 50 to 400 cps, single ph, 13 amp, 440 v ac, 400 cps, three ph, 10 amp.  
 HEAT DISSIPATION: 5 kw.  
 AMBIENT TEMPERATURE LIMITATIONS: 0 to 50 deg C.  
 NUMBER OF CHANNELS: 1750.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Radio Set AN/SRC-17(XN-3) includes:			
1	Frequency Calibrator FR-147(XN-1)/SRC-17		1-1/2 x 13 x 16	10
1	Electrical Frequency Synthesizer O-730(XN-2)/SRC		5 x 17-1/2 x 20-3/4	60
1	Amplifier-Multiplier AM-3017(XN-1)/SR		5 x 17-1/2 x 20-3/4	95
1	Radio Frequency Amplifier AM-2072(XN-2)/SR		7 x 17-1/2 x 20-3/4	100
1	Control Power Supply C-3723(XN-1)/SRC-17		7-1/4 x 17-1/2 x 21-3/4	155
1	Radio Frequency Amplifier AM-3018(XN-1)/SRC-17		12-1/4 x 17-1/2 x 21-3/4	145
1	Receiver R-1064(XN-1)/SRC-17		5-2/16 x 17-1/2 x 20-3/4	50
1	Visual Data Monitor IP-598(XN-1)/SRC-17		1-3/4 x 17-1/2 x 20-3/4	25
1	Electrical Equipment Rack MT-2718(XN-1)/SRC-17		22-27/32 x 23-5/8 x 50-1/4	100
1	Duplexer CV-950(XN-2)/SRC-17		1-1/2 x 11 x 17	5

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94982: Technical Manual for Radio Set AN/SRC-17(XN-2), AN/SRC-17(XN-3).

421

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT(LBS)
1	23	800
1	0.5	15
1	11.5	375

PROCUREMENT DATA

PROCURING SERVICE: USN  
 SPEC &/OR DWG: U-3564 (SHIPS)

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Manson Laboratories Division of The Hallicrafters Co.	wilton, Conn.	N0bsr 81527	

422