

January 1958

RADIO TRANSMITTING SET**AN/FRT-10****FUNCTIONAL DESCRIPTION**

The AN/FRT-10 is a land based, fixed installation, high power radio transmitter which may be used to convey intelligence as continuous waves, DC teletype, tone teletype, frequency shift keying or facsimile.

Basically, the set consists of two identical exciter units, each having an associated low power rectifier unit and high power rectifier unit and two identical 250 kw power amplifier stages. Switch gear for controlling power and enabling parallel operation of the dual high powered stages, power distribution apparatus, a cooling air system, a frequency and wave shape monitoring system and an antenna system are also included in the equipment. The AN/FRT-10 operates in the frequency range of 100 to 200 kc. Either of the two low power exciter units in which the transmitted signal is generated may be keyed locally from a control console or remotely from external communication lines. In 250 kw operation, only one power amplifier stage is coupled to the antenna. In 500 kw operation, both 250 kw power amplifier stages are connected to the antenna in parallel.

No field changes in effect at time of preparation (2 July 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 200 kc.

NUMBER OF PRESET CHANNELS: 6.

NUMBER OF TUNABLE CHANNELS: 1.

TYPE OF TRANSMITTER: Master Oscillator Power Amplifier.

TYPES OF TRANSMITTED SIGNALS: CW and FSK.

MODULATION: Frequency.

POWER OUTPUT: 500 kw.

POWER SOURCE REQUIRED: 480 and 4160 v, 60 cps, 3-ph and 120 v DC.

MANUFACTURER'S OR CONTRACTOR'S DATA

Westinghouse Electric Corp, Pittsburgh, Pa.

Contract NObsr-43404.

TUBE AND/OR CRYSTAL COMPLEMENT

Total Tubes: (345)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91982, Technical Manual for Radio Transmitting Set AN/FRT-10.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Power Supply PP-658/FRT-10	48-1/4 X 54 X 84	2050
2	Radio Transmitter T-281/FRT-10	48-1/4 X 54 X 84	2300
	Radio Frequency Amplifier AM-513/FRT-10		
2	Left End	48-1/4 X 74-1/4 X 84	3300
2	Center	48-1/4 X 74-1/4 X 84	2700

January 1958

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QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Right End	48-1/4 X 74-1/4 X 84	3300
2	Radio Frequency Tuner TN-189/FRT-10	48-1/4 X 74-1/4 X 84	3000
2	Power Supply PP-657/FRT-10	48-1/4 X 54 X 84	1550
1	Power Control Panel SB-166/FRT-10	20 X 64 X 90-3/8	
1	Power Control Panel SB-165/FRT-10	34 X 64 X 90-3/8	
1	Power Control Panel SB-160/FRT-10	40 X 64 X 90-3/8	
1	Power Control Panel SB-167/FRT-10	20 X 64 X 90-3/8	
1	Power Control Panel SB-164/FRT-10	26 X 64 X 90-3/8	
1	Power Control Panel SB-162/FRT-10	30 X 64 X 90-3/8	1400
1	Power Control Panel SB-163/FRT-10	20 X 64 X 90-3/8	1070
2	Power Control Panel SB-164/FRT-10	26 X 64 X 90-3/8	
1	Power Control Panel SB-159/FRT-10	20 X 64 X 90-3/8	
1	Power Control Panel SB-161/FRT-10	40 X 64 X 90-3/8	
1	Power Control Panel SB-158/FRT-10	34 X 64 X 90-3/8	1488
1	Console C-856/FRT-10	36-9/32 X 44-1/6 X 65-13/16	450
2	Blower HD-93/U	67-1/4 X 99-5/8 X 105-7/8	2430
2	Alternating Current Motor PD-35/U	27-7/8 X 34-1/2 X 42-7/8	1530
2	Motor Starter SA-322/U	15 X 19 X 44	150
1	Air Louver Control	9-1/2 X 16 X 34	40
1	Inclined Air Louver	8 X 42 X 105	90
1	Horizontal Air Louver	8 X 42 X 84	70
40	Air Filters	2 X 20 X 20	15
2	Cooling Radiator	9-1/2 X 15-1/2 X 17	25
2	Solenoid Valve	2-3/4 X 2-3/4 X 8-3/4	4-3/4
2	Variable Power Transformer TF-141/U	80-1/2 X 96-1/2 X 110-1/2	18000
2	Power Distribution Transformer TF-143/U	24-1/8 X 29-3/8 X 42-1/6	1450
2	Power Distribution Transformer TF-142/U	14-3/4 X 16-3/8 X 22-1/8	210
4	Current Transformer TF-144/U	7-7/16 X 10 X 22	45
2	Direct Current Power Filter F-106/U	37 X 55 X 86-3/8	2600
2	Direct Current Power Filter F-107/U	37 X 55 X 65-5/8	1100
2	Reactor MX-1181/U	25-3/16 X 25-3/16 X 40	1000
6	Reactor MX-1182/U	5-5/8 X 6-3/8 X 10-7/8	20
2	Reactor MX-1536/FRT-10	19-1/8 X 19-5/8 X 28-1/8	600
4	Box Switch SA-245/U	7-3/4 X 11-9/16 X 16-3/4	25
1	Dehydrator HD-94/U and Manifold	16 X 21 X 24	115
2	Electrical Load Dummy DA-46/FRT-10	48 X 48-1/4 X 73	550
2	Electrical Load Dummy DA-47/U	72 X 206 X 216	2850
16	Electrical Load Dummy DA-48/U	19 X 36-1/4 X 82	320
2	Electrical Load Dummy DA-49/U	19 X 36-1/4 X 82	260
2	Indicator Panel ID-306/FRT-10	4 X 36 X 72	110
4	Radio Frequency Transmission Line CG-719/U	8-1/8 dia X 240	135
10	Radio Frequency Transmission Line CG-720/U	5-3/16 dia X 240	50
6	Radio Frequency Line Cap UG-654/U	6-5/8 X 9 X 9	12

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January 1958

Radio-Transmitters

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AN/FRT-10

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QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
12	Radio Frequency Line Cap UG-653/U	4-7/8 X 5-3/16 X 5-3/16	7
2	Radio Frequency Line Elbow UG-656/U	9 X 15-3/16 X 24-5/16	17
4	Radio Frequency Line Elbow UG-655/U	5-3/16 X 17-7/8 X 17-7/8	9
4	Electrical Clamps UG-651/U	3 X 6-1/8 X 6-1/8	9
12	Electrical Clamps UG-652/U	5-1/4 X 5-1/4 X 5-1/4	0.028
2	Solenoid Relay RE-104/FRT-10	13-1/2 X 17 X 24	50
4	Solenoid Relay RE-103/FRT-10	10-1/2 X 13-1/2 X 14	35
2	Solenoid Relay RE-102/FRT-10	10-1/2 X 13-1/2 X 21-3/4	42
1	Radio Frequency Monitor ID-305/FRT-10	21-1/2 X 24 X 45-1/2	35
1	Ammeter ID-311/FRT-10	21-1/4 X 21-1/4 X 22-1/8	35
1	Low Pass Filter F-139/FRT-10	54-1/4 X 84 X 96-1/2	3800
1	Radio Frequency Monitor IP-147/FRT-10	17-1/8 X 44-1/2 X 66-9/16	350
1	Frequency Multiplier Power Supply PP-1032/FRT-10	9-23/32 X 15-1/2 X 19	40
1	Electrical Counter TD-59/FRT-10	13-7/32 X 14-27/32 X 19	20
1	Power Supply PP-656/FRT-10	10-9/16 X 10-15/32 X 19	25
1	Radio Receiver R-401/FRT-10	8-23/32 X 14-3/32 X 18-5/16	30
1	Selector Control C-857/FRT-10	6-31/32 X 10-23/32 X 19	15
1	Oscilloscope OS-23/FRT-10	19 X 19-7/32 X 20-1/4	60
1	Direct Current Amplifier AM-532/FRT-10	9-23/32 X 14-3/32 X 19	15
1	Pulse Generator O-156/FRT-10	12-8/32 X 15-1/2 X 19	30
1	Frequency Time Recorder RD-93/FRT-10	13-7/32 X 17-7/16 X 19	20
1	Radio Test Set TS-709/FRT-10	24 X 53 X 55	400
1	Impedance Matching Network CU-270/FRT-10	14 X 16-3/8 X 19	20
1	Power Supply PP-692/FRT-10	14 X 19-3/16 X 30	50
1	Signal Generator SG-53/FRT-10	22 X 30 X 30-3/16	60
1	Push Switch SA-252/FRT-10	6-29/32 X 9 X 10-1/8	10
1	Tube Hoist	24 X 58 X 72	150
1	Remote Indicator	2 X 4-1/16 X 18	10
	Installation Kit MX-1227		
	Cables and Miscellaneous Equip.		

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1.6 AN/FRT-10: 3