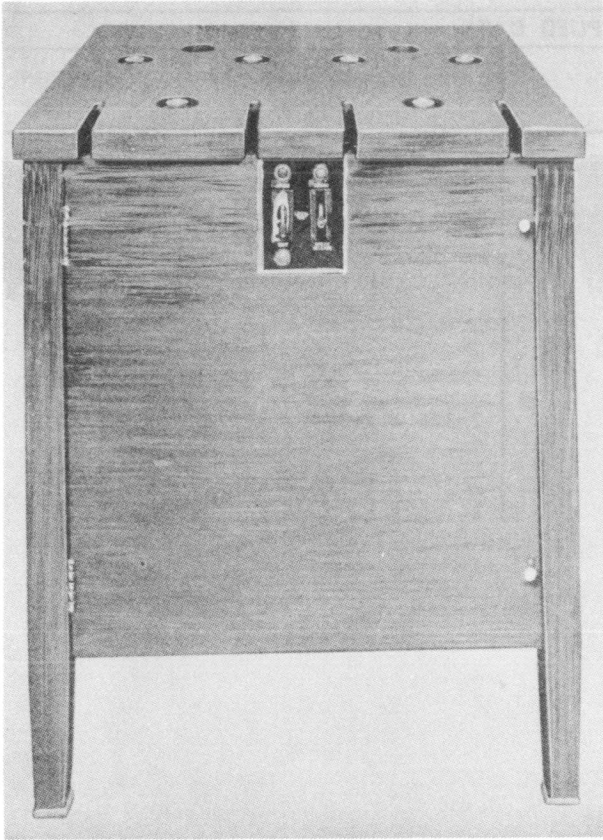


TELETYPEWRITER REPEATER-MIXER

AN/FGQ-1



Teletypewriter Repeater-Mixer AN/FGQ-1

Teletypewriter Repeater-Mixer AN/FGQ-1 is used in conjunction with Teletypewriter TT-10/FG or Teletypewriter Set AN/TGC-3 to increase the traffic handling capacity of wire or radio teletypewriter systems. It is normally used in large fixed-plant teletypewriter systems of a communication zone or in the zone of the interior.

No field changes in effect at time of preparation (29 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

- LINE OPERATION: Neutral, telegraph, on a 20, 30 or 60 ma circuit.
- SPEED OF OPERATION: 60 wpm or 368 opm.
- POWER SUPPLY REQUIRED: 105 to 125 v DC or 95 to 125 v, 60 cps.
- POWER CONSUMPTION: 400 W.
- AUXILIARY EQUIPMENT: Universal connector.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, New York, N. Y.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

- TM11-2209: Technical Manual for Teletypewriter Set AN/FGQ-1.
- TM11-487B: Directory of Signal Corp Equipments Wire Communications Equipment.

FUNCTIONAL DESCRIPTION

The AN/FGQ-1 is a two-way teletypewriter repeater and mixer equipment inclosed in a wooden table-type cabinet. It consists of a mixing relay unit, a repeater unit, a rectifier and a control panel. The AN/FGQ-1 is used in conjunction with other teletypewriter equipment to provide a teletypewriter secrecy system.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Teletypewriter Set 131B2	17.0		273
1	Power Unit	3.9		135

August 1957

Radio-Communication Terminal

AN/FGQ-1

TELETYPEWRITER REPEATER-MIXER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Set 131B2	22 X 26 X 30-1/2	160
1	D-C Power Cord		
1	Cord w/multiconductor plug		
1	Cord w/multiconductor socket		
1	M9C Cord		
1	M9D Cord		
1	M5G Cable		
1	Heater Lamp		
7	225 Type Relay	2-3/4 X 2-3/4 X 5-3/4	1.5
1	Power Unit:		
	Main Unit	7-1/2 X 9-1/8 X 19-1/2	79
	Varistor Unit	4-1/8 X 4-1/4 X 20-3/4	11

TELETYPEWRITER PERFORATOR

AN/FGQ-3

FUNCTIONAL DESCRIPTION

The AN/FGQ-3 is a Teletype Wheatstone Perforator with Wheatstone continental code and continental characters. It has an 11 hole continental die block, provides 3 spaces between words and has 45 slots, and is equipped with a new improved spacing mechanism. It is furnished for operation from either a 120 volt direct current or a 125 volt alternating current source.

No field changes in effect at time of preparation (6 September 1957).

Contract NObsr-57166, dated 9 April 1952.
Approximate Cost: \$990.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Perforator, Telegraph AN/FGQ-3.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 125 v AC or 120 v DC.
TAPE SIZE: 15/32 in. x 8 in. roll.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corporation, Chicago, Illinois.

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	Teletypewriter Perforator AN/FGQ-3 consisting of: (1) Wheatstone Perforator Model WPE18/1SS (1) Cover Model WPEC1 (1) Copyholder Model 115700CB (1) Rectifier Model REC32 (1) Table Model PET3	19-3/8 X 27 X 37	

6 August 1962

TERMINAL TELEGRAPH AN/FGT-1

Cog Service: USN FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Teletype Corporation, (59433).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Terminal Telegraph AN/FGT-1 is designed as a single channel automatic telegraph communication equipment. It provides single channel synchronous operation on either 60, 75 or 100 words per minute basis over any telegraph communication circuit having suitable characteristics. It converts start-stop Teletype signals to Monoplex signals.

No field changes in effect at time of preparation (14 February 1962).

TECHNICAL CHARACTERISTICS:

EQUIPMENT FUNCTION: Single channel automatic telegraph communication.

SIGNAL CHARACTERISTICS

INPUT: Teletype signals (start-stop).

OUTPUT: Monoplex signals.

OPERATIONAL SPEED: 60, 75, 100 wpm.

INPUT CURRENT AT 115 V, 60 CYCLES

TRANSMITTING: 2.4 amps.

POWER FACTOR AT 115 V, 60 CYCLES

TRANSMITTING: 93% pf.

WATTAGE AT 115 V, 60 CYCLES

TRANSMITTING: 255 W.

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

RELATION TO OTHER EQUIPMENT:

The AN/FGT-1 is designed as part of the Electronic Monoplex Telegraph System.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Telegraph AN/FGT-1 consists of:			
1	Monoplex Mounting Cabinet Model B-1		19 x 24 x 26-1/2	
1	Start-Stop-To-Monoplex Code Converter Model "B"			

AN/FGT-1 TERMINAL TELEGRAPH

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Monoplex Transmitting Distributor Drive Unit Model "B"			
1	Power Supply Type BPUIBM			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91686: Technical Manual for Terminal Telegraph AN/FGT-1 and Receiving Group
AN/FGR-2(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 0B2WA (1) 2B23 (1) 5114G (4) 6AU6WA (1) 6BL7GT (3) 6L6WGB (1) 6X4WA
(13) 12AT7WA (3) 12BH7 (2) 2050W (33) 5663 (21) 6189

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

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

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-T-15284(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Chicago, Illinois	N0bsr-49269	

September 1956

RADIO SET**AN/FRC-39(v)****FUNCTIONAL DESCRIPTION**

The AN/FRC-39 (v) consists of variable components both as to type and quantity which will be dependent upon the installation; operate on a single band within the frequency range of 400 to 2400 mc and functions as a terminal station providing transmission and reception of multichannel voice and data signals. In pairs they provide facilities for a repeater station. When additional sets are added to a repeater station they provide branching facilities.

No field changes in effect at time of preparation (25 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE EMISSION: F9.

POWER OUTPUT: 1 kw or 10 kw.

FREQUENCY RANGE: 400 to 2400 mc.

OPERATING POWER

ABOVE 2KW: 208 v, 60 cps, 3 ph.

BELOW 2KW: 115 v, 60 cps, 1 ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

Nomenclature Card for RADIO SET AN/FRC-39 (v).

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	FM Exciter		
2	Power Amplifier (1 or 10 kw)		
1	72 Voice Channel Frequency Division Multiplexer		
2 or 3	Power Diplexer		
3 or 4	FM Receiver		
2 or 3	Antenna		
2 or 3	Coaxial Feed or Horn Assembly		
36 to 48	Compandor		
1	Mast		
2 or 3	Antenna Support		

April 1959

Radio-Communications Terminal Equipment

COMMUNICATIONS CONTROL CONSOLE GROUP

AN/FSA-17(XN-1)

FUNCTIONAL DESCRIPTION

The AN/FSA-17(XN-1) is designed to provide system of radio communication control at Naval Air Stations or other activities where multiplicity of operators must exercise control over multichannel communications. It incorporates all power and control circuitry necessary to function as an independent unit in controlling forty (40) radio receivers from any of twenty (20) operators positions or the supervisor's position.

No field changes in effect at time of preparation (11 May 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

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

TYPE OF SERVICE: By front plug-in units.

MANUFACTURER'S OR CONTRACTOR'S DATA

Virginia Electronics Co., Inc, Washington,

D.C.

Dwg No. A-175RD-126A.

Contract NObsr-71853, dated 24 June 1957

Approximate Cost: \$360,000.00 with equipment spares.

Electron Tube and Crystal data not available.

REFERENCE DATA AND LITERATURE

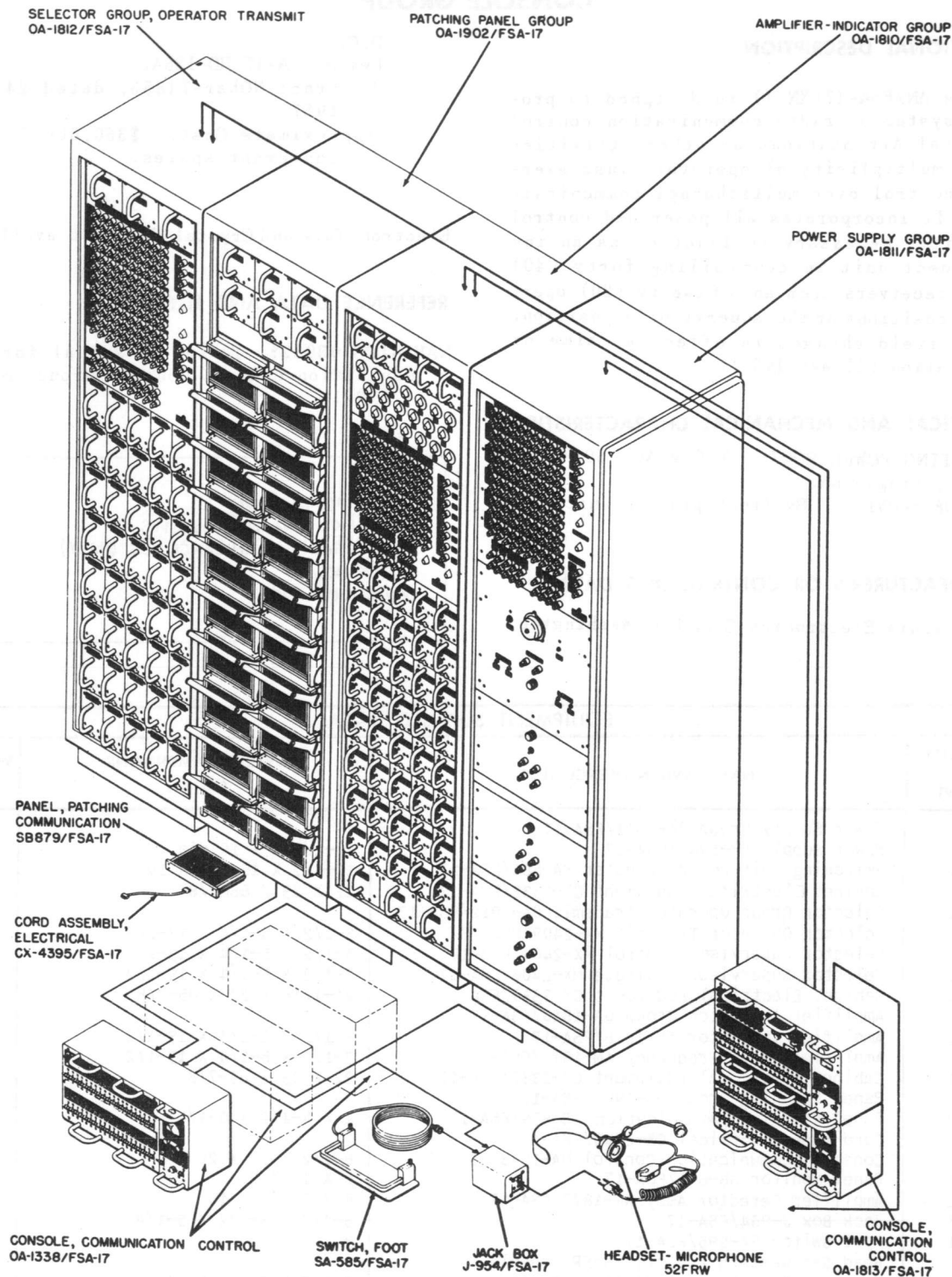
NAVSHIPS 93052: Technical Manual for Communication Control Console Group AN/FSA-17(XN-1).

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE 832 (NAVY)
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Power Supply Group OA-1811/FSA-17		
3	Power Supply PP-1941/FSA-17	10-1/2 h X 19 dia	
1	Switching Unit Power Transfer SA-586/FSA-17	10-1/2 X 15-1/2 X 19	
1	Cabinet Electrical Equipment CY-2338/FSA-17	22 X 23 X 85-7/8	
1	Selector Group Operator Transmit OA-1812/FSA-17		
40	Selector Operator Transmit MX-2409/FSA-17	3-1/2 X 5-1/4 X 13-1/2	
1	Selector Supervisor Control MX-2404/FSA-17	3-1/2 X 5-1/4 X 13-1/2	
2	Selector Supervisor Indicate MX-2406/FSA-17	3-1/2 X 5-1/4 X 13-1/2	
1	Cabinet Electrical Equipment CY-2339/FSA-17	21-1/16 X 22 X 85-7/8	
1	Amplifier Indicator Group OA-1810/FSA-17		
40	Amplifier Indicator AM-1878/FSA-17	3-1/2 X 5-1/4 X 13-1/2	
5	Amplifier Audio Frequency AM-1876/FSA-17	3-1/2 X 5-1/4 X 13-1/2	
1	Cabinet Electrical Equipment CY-2337/FSA-17	22 X 23 X 85-7/8	
1	Panel Patching Group OA-1902/FSA-17		
50	Panel Patching Communication SB-879/FSA-17	1 X 4-1/2 X 8-1/4	
1000	Cord Assy Electrical CX-2340/FSA-17		
1	Console Communication Control OA-1338/FSA-17	8-1/2 X 10 X 20	
1	Panel Monitor SB-877/FSA-17	5 X 10 X 20	
1	Amplifier Detector Assy AM-1877/FSA-17	4 X 8-1/2 X 10	
1	Jack Box J-954/FSA-17	3-1/2 X 3-1/2 X 5-1/4	
1	Foot Switch SA-585/FSA-17	3 X 6 X 12	
1	Head Set Western Electric 52FR Console		
1	Communication Control OA-1813/FSA-17	8-1/2 X 20 X 20	
1	Panel Monitor SB-878/FSA-17	5 X 10 X 14-1/2	
1	Panel Patching TS-1148/FSA-17	6-1/2 X 10 X 20	
1	Electronic Plug-in Circuits TS-1149/FSA-17	6-1/2 X 10 X 20	

CONSOLE GROUP COMMUNICATION CONTROL AN/FSA-17



Console Group, Communication Control AN/FSA-17

Communication-Radio Terminal Equipment

AN/FSA-17 CONSOLE GROUP COMMUNICATION CONTROL

FUNCTIONAL DESCRIPTION

The AN/FSA-17 system is designed to provide radio communication control at Naval Air Stations or other activities where multiplicity of operators must exercise control over multichannel communications. It incorporates all power and control circuitry necessary to function as an independent unit in controlling 40 radio transmitters and 40 radio receivers from any of 20 operator's positions or the supervisor's position. Each capable of performing the following functions:

(1) Select and operate (key and modulate) any number of radio transmitters up to a maximum of 20, (programmed from an available 40), provided none of these transmitters have been previously selected.

(2) Select and monitor any number of radio receivers up to a maximum of 20 (programmed from an available 40).

(3) Converse with a pre-selected group of other operators by means of a "PARTY LINE" interphone. All the operators, as well as the supervisor, may converse on any one party line or there may be up to 5 party line conversations independent of one another.

(4) Call and talk to any other operator or the supervisor on a "private line" interphone.

(5) The supervisor's console has control over all 40 of the available radiophone channels and when selecting any one or more of the transmitter channels will override a previous selection by any operator.

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

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(40) Radio Transmitters and Receivers (AS required for individual installations), (1) Distribution Main Frame, Cable MIL-C-19547 (SHIPS) as required, Cable MHFF-14 as required, Cable TTOP-3 as required, Cable DCOP-3 as required, Cable DCOP-14 as required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Virginia Electronics Co., Inc., Washington, D. C.
Dwg No. A-175RD-126A.
Contract NObsr-71853.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93207(A): Technical Manual for Console Group Communication Control AN/FSA-17.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY 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	Cabinet Electrical Equipment CY-2340/FSA-17	80	30 X 48 X 96	830
1	Cabinet Electrical Equipment CY-2338/FSA-17			
1	Switching Unit SA-586/FSA-17			
1	Cabinet Electrical Equipment CY-2339/FSA-17	80	30 X 48 X 96	
1	Cabinet Electrical Equipment CY-2337/FSA-17	80	30 X 48 X 96	

December 1960

Communication-Radio-Terminal Equipment

CONSOLE GROUP COMMUNICATION CONTROL

AN/FSA-17

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Power Supply PP-1941/FSA-17	4	15 X 18 X 18	155
1	Console Communication Control 0A-1813/FSA-17 Including:	4	12 X 24 X 24	100
1	Panel Monitor SB-878/FSA-17			
1	Panel Monitor SB-876/FSA-17			
6	Amplifier Audio Frequency AM-1876/FSA-17		12 X 15 X 16	25
9	Amplifier-Indicator AM-1878/FSA-17		12 X 15 X 16	25
7	Selector Operator Transmit MX-2409/FSA-17		12 X 15 X 16	35
4	Selector Supervisor Indicate MX-2406/FSA-17		12 X 15 X 16	25
3	Selector Supervisor Control MX-2404/FSA-17		12 X 15 X 16	25
4	Control Alarm C-2524/FSA-17		12 X 15 X 16	25
40	Panel Patching Communication SB-879/FSA-17		12 X 15 X 16	45
800	Cord Ass'y Electrical CX-4395/FSA-17		12 X 15 X 16	25
17	Jack Box J-954/FSA-17		12 X 16 X 18	20
8	Switch Foot SA-585/FSA-17		12 X 16 X 18	30
17	Headset		12 X 16 X 18	20
1	Console Communication Control 0A-1338/FSA-17 Including:		12 X 12 X 24	30
1	Panel Monitor SB-877/FSA-17			
1	Amplifier Detector Ass'y AM-1877/FSA-17			
1	Panel Monitor SB-877/FSA-17		12 X 12 X 18	12
1	Amplifier Detector AM-1877/FSA-17		12 X 12 X 18	10
2	Panel Monitor SB-876/FSA-17			
1	Test Set, Electronic Circuit Plug in Unit TS-1149/FSA-17		12 X 12 X 24	30
1	Test Set Patching Panel TS-1148/FSA-17 Including:		12 X 12 X 24	30
1	Panel Monitor SB-878/FSA-17			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Selector Group Operator Transmit 0A-1812/FSA-17 Includes:	22 X 26 X 87	800
1	Cabinet Electrical Equipment CY-2339/FSA-17	22 X 24 X 87	450
40	Selector Operator Transmit MX-2409/FSA-17	3-1/2 X 6-1/4 X 14	4
7	Selector Supervisor Indicate MX-2406/FSA-17	5-1/4 X 5-3/4 X 14	4
2	Selector Supervisor Control MX-2404/FSA-17	5-1/4 X 5-3/4 X 14	3.5
1	Patching Panel Group 0A-1902/FSA-17 Including:	21 X 27 X 87	600
1	Cabinet Electrical Equipment CY-2337/FSA-17	21 X 24 X 87	450
20	Panel Patching Communication SB-879/FSA-17	7/8 X 4-1/2 X 8-1/4	1.75
400	Cord Ass'y Electrical CX-4395/FSA-17	1/4 X 1 X 10	0.1

Communication-Radio-Terminal Equipment

AN/FSA-17 CONSOLE GROUP COMMUNICATION CONTROL

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Amplifier Indicator Group OA-1810/FSA-17	21 X 26 X 87	200
	Including:		
1	Cabinet Electrical Equipment CY-2340/FSA-17	21 X 24 X 87	125
40	Amplifier-Indicator AM-1878/FSA-17	3-1/2 X 5-1/4 X 14-1/2	4
5	Amplifier Audio Frequency AM-1876/FSA-17	3-1/2 X 5-1/4 X 14-1/2	3.5
3	Control Alarm C-2524/FSA-17	5-1/4 X 5-3/4 X 14	4
1	Power Supply Group OA-1811/FSA-17 Including:	22 X 26 X 87	483
1	Cabinet Electrical Equipment CY-2338/FSA-17	22 X 24 X 87	105
3	Power Supply PP-1941/FSA-17	11 X 19 X 19	120
1	Switch Unit Power Transfer SA-5861/FSA-17	11 X 17-1/2 X 19	18
20	Console Communication Control OA-1338/FSA-17	6-1/2 X 10 X 20	11.5
	Including:		
21	Panel Monitor SB-877/FSA-17	8 X 10 X 15-3/8	9.5
21	Amplifier Detector Ass'y AM-1877/FSA-17	4-5/8 X 8 X 10	7.3
21	Jack Box J-594/FSA-17	3-1/2 X 3-1/2 X 7	0.5
21	Switch Foot SA-585/FSA-17	3 X 7 X 10	1
1	Console Communication Control OA-1813/FSA-17	6-1/2 X 20 X 20	11.5
	Including:		
1	Panel Monitor SB-878/FSA-17	8 X 10 X 15-3/8	9.5
1	Panel Monitor SB-876/FSA-17	4-3/8 X 10 X 10	4
1	Test Set Electronic Circuit Plug in Unit TS-1149/FSA-17	6-1/2 X 10 X 20	21
1	Test Set Patching Panel TS-1148/FSA-17	6-1/2 X 10 X 22	14

25 July 1962

Cog Service: BuWeps FSN:

CONSOLE GROUP, COMMUNICATION CONTROL AN/FSA-20(XN-1)

Functional Class:

USA

USN

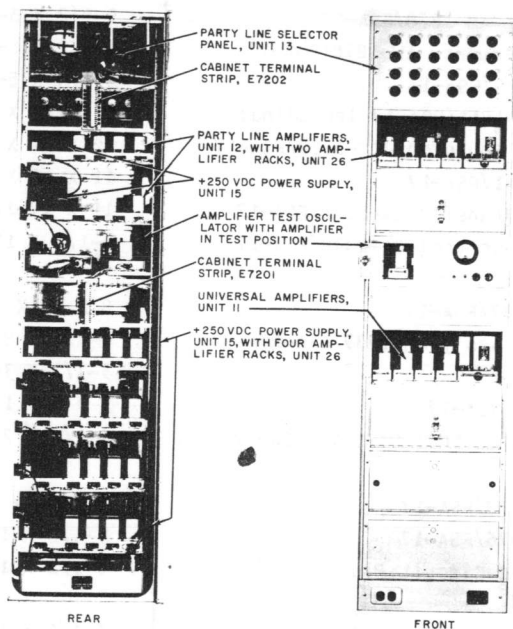
USAF

TYPE CLASS:

Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: U. S. Naval Repair Facility, (91145).



Console Group, Communication Control AN/FSA-20(XN-1)

FUNCTIONAL DESCRIPTION:

The Console Group, Communication Control AN/FSA-20(XN-1) is designed to provide control of all communications (except telephone and emergency radio) incident to the operation of the Radar Air Traffic Control Center (RATCC). The system is capable of handling up to 65 radio transmitting channels, 65 radio receiving channels, 24 local master intercom stations, and 5 party line intercom circuits. Each operating position (24 maximum) is capable of handling 20 radio transmitting channels, 20 receiving channels, 17 private line intercom circuits between other operating positions, and one party line intercom circuit shared with a maximum of 7 other operating positions.

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

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Fixed.

AN/FSA-20(XN-1) CONSOLE GROUP, COMMUNICATION CONTROL

EQUIPMENT PURPOSE: For control of radio and interior communications at Naval Air Stations.
 OPERATING POWER RQMT: 115 v ac, 60 cps, single ph.

POWER INPUT: 5.34 kw.

POWER FACTOR: 0.90%.

CABINET CURRENT

CABINET FIVE: 5.0 amps.

CABINET SIX: 7.4 amps.

CABINET SEVEN: 35.0 amps.

CABINET EIGHT: 4.2 amps.

RELATION TO OTHER EQUIPMENT:

The AN/FSA-20(XN-1) is designed to be used with, but not part of Standard Navy Radio Transmitters and Receivers.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(As required) Test Equipment; (As required) Monitoring Equipment; (As required) Patch Panels.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Console Group, Communication Con-			
	trol AN/FSA-20(XN-1) consists of:			
25	Communication Console Unit #1			
1	Main Distribution Frame Unit #2			
1	Relay Panel (Program "A") Unit #3			
1	Relay Panel (Program "B") Unit #4			
1	Relay Panel (Program "C") Unit #5			
1	Relay Panel (Program "D") Unit #6			
1	Relay Panel (Program "E") Unit #7			
1	Push to Talk & Intercom Transfer Relay Panel Unit #8			
1	Push to Talk & Intercom Transfer Relay Panel Unit #9			
1	Relay Tester Unit #10			
52	Universal Amplifier Unit #11			
6	Party Line Amplifier Unit #12			
1	Party Line Selector Panel Unit #13			
1	Amplifier Test Oscillator Unit #14			
19	P250 v dc Power Supply Unit #15			
4	M145 v dc Power Supply Unit #16			
3	15 Channel Light Actuator Unit #17			
1	20 Channel Light Actuator Unit #18			
2	P24 v dc Power Supply Unit #19			

1.5 AN/FSA-20(XN-1): 2

CONSOLE GROUP, COMMUNICATION CONTROL AN/FSA-20(XN-1)

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Automatic Transfer and Fuse Panel Unit #20			
1	Pulser Rack and Front Panel Unit #21			
2	DC Pulser Unit #22			
5	Speaker Amplifier Unit #23			
5	Speaker Channel Selector Unit #24			
1	Speaker Mute Relay Panel Unit #25			
14	Mounting Rack (Amplifier) Unit #26			
1	Mounting Rack (Unit #14) Unit #27			
1	Mounting Rack (Unit #15) Unit #28			
1	Mounting Rack (Unit #16) Unit #29			
7	CY-597A/G (Wired)			
1	Set of Equipment Spares			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93116: Technical Manual for Console Group, Communication Control AN/FSA-20(XN-1).

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (86) 12AT7WA (23) 5651WA (1) 5814A (19) 5R4WGB (9) 5Y3WGTB (63) 6005/6AQ5
 (19) 6080WA (23) 6AU6WA (5) 6C4WA (4) 6L6WGB

CRYSTALS: None used.

SEMI-CONDUCTORS: (65) 1N198

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

PROCUREMENT DATA

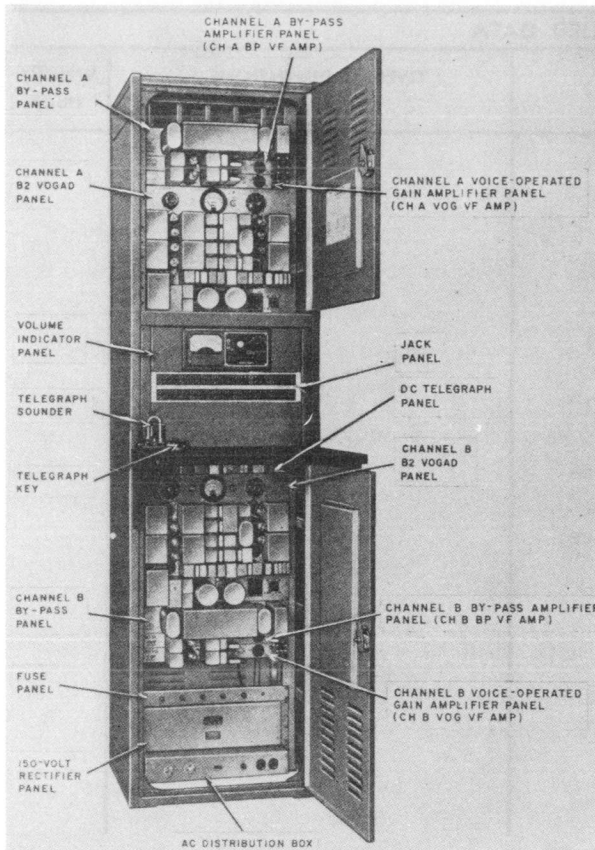
PROCURING SERVICE: USN
 SPEC &/OR DWG:

DESIGN COG: BuWeps

CONTRACTOR	LOCATION	PROJECT OR ORDER NO.	APPROX. UNIT COST
U. S. Naval Repair Facility	San Diego, California	40742-55	
		40758-55	

AUDIO LEVEL REGULATOR

Radio-Communication Terminal Equipment
AN/FTA-7



Audio Level Regulator AN/FTA-7

FUNCTIONAL DESCRIPTION

The AN/FTA-7 compensates for radio fading and maintains the radio receiver output at an almost constant volume. It is used in two or three-channel single side band systems to couple the output of a radio receiver to the input of the wire lines leading to Telephone Terminal AN/FTA-6.

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

RELATION TO OTHER EQUIPMENT

Used with Telephone Terminal AN/FTA-6.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

- MAX NUMBER OF CHANNELS: 3.
- INPUT: -34 to +6 VU.
- OUTPUT: +6 VU.
- INPUT AND OUTPUT IMPEDANCE: 600 ohms.
- TWO-CHANNEL OPERATION (A and B)
 - NORMAL CHANNEL FREQUENCY: 250 to 3000 cps.
 - SHIFTED CHANNEL FREQUENCY: 2250 to 5000 cps.
- THREE-CHANNEL OPERATION
 - CHANNEL "A": 2250 to 5000 cps.
 - CHANNEL "B": 2250 to 5000 cps.
 - CHANNEL "C": Three 550 cps bands transmitted over radio equipment on same sideband as Channel A: 250 to 1900 cps. Two 550 cps bands transmitted over radio equipment on same side band as Channel B: 500 to 1600 cps.
- POWER SOURCE REQUIRED: 105 to 125 v, 50 to 60 cps, single ph, 250 W.

TUBE AND/OR CRYSTAL COMPLEMENT

- (8) 310A (4) 337A (2) 262B
- (4) 352A (2) 2050 (1) OD3/VR150
- Total Tubes: (21)

REFERENCE DATA AND LITERATURE

TM11-2154, T031W1-2FTA7-11, Technical Manual for Audio Level Regulator AN/FTA-7.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE TASSA
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Audio Level Regulator AN/FTA-7	47	25 X 37 X 88	675

AN/FTA-7

AUDIO LEVEL REGULATOR

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Channel A By-Pass Panel		
1	Channel B By-Pass Panel		
1	Channel A By-Pass Amplifier Panel (CH A BP VF AMP)		
1	Channel B By-Pass Amplifier Panel (CH B BP VF AMP)		
1	Channel A Voice-Operated Gain Amplifier Panel (CH A VOG VF AMP)		
1	Channel B Voice-Operated Gain Amplifier Panel (CH B VOG VF AMP)		
1	Channel A Voice-Operated Gain-Adjusting Device Panel (B2 VOGAD)		
1	Channel B Voice-Operated Gain-Adjusting Device Panel (B2-VOGAD)		
1	Volume Indicator Panel		
1	Jack Panel		
1	Telegraph Sounder		
1	Telegraph Key		
1	DC Telegraph Panel		
1	Fuse Panel		
1	150 Volt Rectifier Panel		
1	AC Distribution Box		

27 August 1962

ELECTRONIC DIGITAL DISPLAY SET AN/FYQ-1(XN-1)

Cog Service:

FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Westinghouse Electric Corporation.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Electronic Digital Display Set AN/FYQ-1(XN-1) is designed to accept binary-coded information from a digital input device and transforms this binary information into a compatible form for visual display on an electroluminescent ferroelectric (ELF) display panel located in the Solid State Display Group OA-2960(XN-1)/FYQ-1.

No field changes in effect at time of preparation (15 May 1961).

TECHNICAL CHARACTERISTICS:

OPERATING POWER RQMT: 208 v ac, 60 cps, 3 phase.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Electronic Digital Display Set AN/FYQ-1(XN-1) consists of:			
1	Display Generator OA-2959(XN-1)/FYQ-1 consists of:		44 x 51-9/16 x 89-1/4	
1	Core Memory Unit			
1	Computer Module			
1	Character Generator Associated Power Supplies			
1	Solid State Display Group OA-2960(XN-1)/FYQ-1 consists of:		22 x 26-1/8 x 60-3/4	
1	ELF Display Panel			
1	Control Chassis			
1	Power Supply			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Electronic Digital Display Set AN/FYQ-1(XN-1).

AN/FYQ-1(XN-1) ELECTRONIC DIGITAL DISPLAY SET

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Data not available.

CRYSTALS: Data not available.

SEMI-CONDUCTORS: Data not available.

SHIPPING DATA

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

PROCURING SERVICE:

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-P-15024B

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Westinghouse Electric Corp.	Baltimore, Maryland	N0bsr-72782, 6 May 1958.	\$652,433.00
Maico Electronics Inc.	Minneapolis, Minnesota	N0bsr-72830, 20 June 1958.	\$429,969.00

UNCLASSIFIED

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER GROUP

AN/GGA-1

FUNCTIONAL DESCRIPTION

The AN/GGA-1 is an auxiliary for use in the transmission and reception of teletype messages.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 95 to 125 v or 190 to 250 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Illinois
Contract NXsr-90799

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Group
AN/GGA-1 dated 24 September 1947.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter-Distributor TT-36/GGA-1		
1	Power Supply PP-315/GGA-1		
1	Teletypewriter Table FN-30/GGA-1		
1	Reperforator TT-37/GGA-1		
1	Reperforator TT-38/GGA-1		
1	Teletypewriter TT-39/GGA-1		

UNCLASSIFIED

April 1959

TELETYPEWRITER GROUP

AN/GGA-1A

FUNCTIONAL DESCRIPTION

The AN / GGA-1A is a special purpose teletypewriter system designed for use with classified communication equipment.

No field changes in effect at time of preparation (17 June 1958).

RELATION TO OTHER EQUIPMENT

The AN/GGA-1A is similar to and functionally interchangeable with the AN/GGA-1, differing in that AN/GGA-1A uses Teletypewriter TT-183/GGA-1A in lieu of Teletypewriter TT-39/GGA-1.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING SPEED: 460 rpm.

POWER REQUIREMENTS: 95 to 125 v or 190 to 250 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tube or Crystal Data Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Group
AN/GGA-1A.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Distributor TT-36/GGA-1		
1	Power Supply PP-315/GGA-1		
1	Teletypewriter Table FN-30/GGA-1		
1	Reperforator TT-37/GGA-1		
1	Reperforator TT-38/GGA-1		
1	Teletypewriter TT-183/GGA-1A		

TELETYPEWRITER SWITCHING CENTER

AN/GGC-2

FUNCTIONAL DESCRIPTION

The AN/GGC-2 is used for switching or routing teletypewriter traffic and for automatically numbering and time stamping of messages.

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

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Switching Center AN/GGC-2 dated 22 October 1946.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

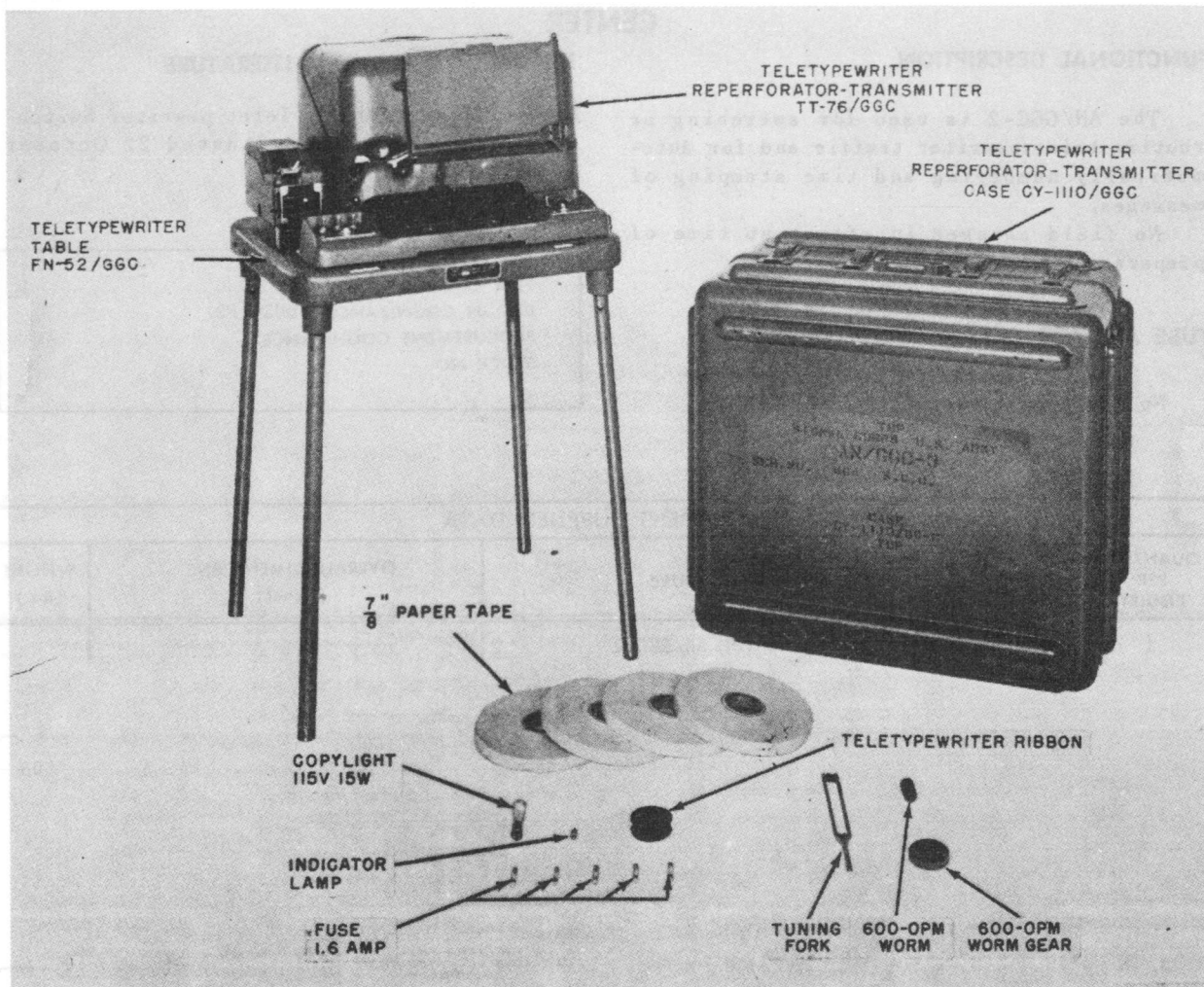
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Switching Center AN/GGC-2		

September 1956

TELETYPEWRITER SET

AN/GGC-3

*Teletypewriter Set AN/GGC-3***FUNCTIONAL DESCRIPTION**

The AN/GGC-3 is lightweight and portable and may be used in either tactical or fixed station military system. It provides facilities for sending from either a keyboard or a tape transmitter. The received signals are printed and perforated on 7/8 in. paper tape. The set may be arranged to send and receive neutral or polar signals at speeds of 363 or 600 operations per minute.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

KEYBOARD: Standard Communications.
TYPE OF CHARACTERS: English.
CHARACTERS PER LINE: 76 max.
SIGNAL CODE: Five-unit start-stop; stop

impulse equals start impulse length multiplied by 1.42.

TYPE OF SIGNALS: Neutral or polar.
SPEED (SEND AND RECEIVE): 368.1 or 600 opm.
SERVICE RANGE: 368.1 opm 25 mi; 600 opm 15 mi.

MOTOR AND GENERATOR

TYPE: Universal AC or DC (series type).
RPM: 3600 ($\pm 5\%$).

GOVERNOR: Reduces motor current when motor speed exceeds critical rate.

TUNING FORK: Stroboscopic, 180 vps.

POWER REQUIREMENTS: 115 or 230 v, 50 to 60 cps, single ph, 150 W.

LINE CURRENT REQUIREMENTS

DC: 60 ma DC.

VOICE FREQUENCY: 20 mc DC.

POLAR: 30 ma DC max.

TAPE CAPACITY: 5 hours, 20 minutes at 368 opm; 3 hours, 10 minutes at 600 opm.

AMBIENT TEMPERATURE LIMITS

AN/GGC-3

TELETYPEWRITER SET

September 1956

EQUIPMENT IN USE: ± 32 deg F (0 deg C)
to +132 deg F. (+55.6 deg C).

EQUIPMENT IN STORAGE: -80 deg F (-62.2
deg C) to +160 deg F (+71.1 deg C).

REFERENCE DATA AND LITERATURE

TM 11-2225: Technical Manual for Teletypewriter Set AN/GGC-3.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp., Chicago, Illinois.
Contract MIPR-49509.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Teletypewriter Set AN/GGC-3 w/Spare Parts.	18.36	26-15/16 X 31-7/8 X 38-1/8	208

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter-Reperforator-Transmitter TT-76/GGC	12 X 18 X 21	45
1	Teletypewriter Table FN-52/GGC	18 X 21 X 28	15
1	Teletypewriter Reperforator Transmitter Case CY-1110/GGC.	16 X 22 X 25	30
1	Tuning Fork	1/4 X 7/8 X 9	.25
1	Worm	3/4 X 1-1/4	.125
1	Worm Gear	13/16 X 2.031 dia	.187
1	Set Spare Parts		

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET

AN/GGQ-2

FUNCTIONAL DESCRIPTION

The AN/GGQ-2 is a light weight cipher machine equipment using SIGTOT for either on-line or off-line operation and for either enciphering or deciphering.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 115 v, 50 to 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter AN/GGQ-2 dated 28 January 1946.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

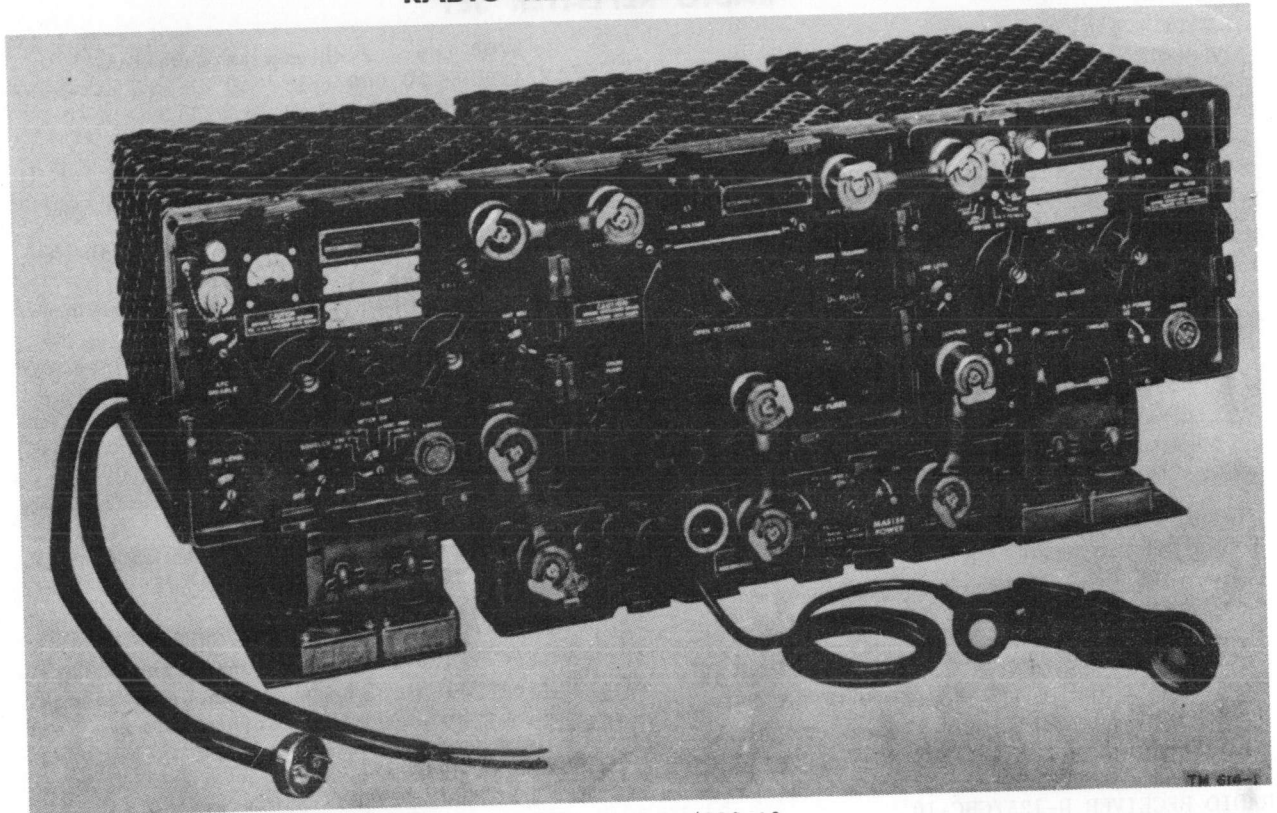
NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Teletypewriter Set AN/GGQ-2			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Set AN/GGQ-2		

**RADIO SET
RADIO TERMINAL SET
RADIO REPEATER SET**

Radio-Communication Terminal Equipment

AN/GRC-10, 39, 40

Radio Set AN/GRC-10

FUNCTIONAL DESCRIPTION

The AN/GRC-10, AN/GRC-39 and AN/GRC-40 provide a rapid method of linking two or more telephone or telegraph terminals when time or terrain limitations prevent the laying of telephone wire. In multi channel use, five audio channels are available, over which various combinations of signals may be distributed. The lowest frequency channel, 250 to 3,500 cycles, is normally reserved as the system service channel to permit all of the radio operators to communicate with each other similar to a telephone party line, while the operators cannot communicate, nor know the nature of the signals on the upper four audio channels. The AN/GRC-10 is a frequency-modulated equipment that operates in the frequency range of 54.0 to 70.9 megacycles. It can be operated from AC or DC and mounted in various types of vehicles or used as a fixed field station. It is supplied with two antennas to permit the transmitter and receiver to operate on different frequencies and may be used for simple push-to-talk voice operation or as part of a multichannel system. The AN/GRC-40 consists of two AN/GRC-10 to-

gether with two Power Units PE-75. Four antennas are required at each relay station. It must be set for duplex operation to receive and retransmit signals traveling in both directions at the same time. The AN/GRC-39 consists of one AN/GRC-10 and two Power Units PE-75. When it is connected to Telephone Terminal AN/TCC-3 and its associated equipment, multichannel operation may be obtained, such as one voice, four telegraph, and two facsimile channels.

No field changes in effect at time of preparation (19 December 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RADIO TRANSMITTER T-235/GRC-10
FREQUENCY RANGE: 54 to 70.9 mc.
CHANNELS: 170 spaced 0.1 mc apart.
TYPE TRANSMITTER: FM with AFC.
TYPE SIGNALS: Voice; multichannel telephone, telegraph, or facsimile; or a combination of these.
POWER OUTPUT: 10 w or 40 w.
DISTANCE RANGE: 5 to 15 mi at 10 w, 20 to 50 mi at 40 w.

August 1957

AN/GRC-10, 39, 40

RADIO SET
RADIO TERMINAL SET
RADIO REPEATER SET

TYPE MODULATION: FM.

FREQUENCY DEVIATION: ± 40 kc max.

OUTPUT IMPEDANCE: 50 ohms at antenna receptacle.

AUDIO RESPONSE (WIDE-BAND CHANNEL WITH PRE-EMPHASIS)

250 to 1000 cps: 0 db $\pm 1/2$ db.5000 cps: +4 db $\pm 1/2$ db.10,000 cps: +8.5 db $\pm 1/2$ db.20,000 cps: +14 db $\pm 1/2$ db.

AUDIO RESPONSE (NARROW-BAND CHANNEL)

250 to 2500 cps: 1 db max attenuation.

3200 cps: 3 db max attenuation.

4200 to 20,000 cps: 40 db min attenuation.

AUDIO INPUT LEVEL

WIDE-BAND INPUT: -9 to +3 dbm.

MICROPHONE INPUT (PUSH-TO-TALK): 350 mv for 40 kc deviation.

AUDIO INPUT IMPEDANCE

WIDE-BAND INPUT: 600 ohms.

MICROPHONE INPUT: 150 ohms.

AFC: Crystal-controlled monitor receiver.

POWER REQUIREMENTS: 550 v DC at 150 ma,

250 v DC at 120 ma, 20 v DC at 25 ma,

26 v AC or DC at 1.7 amps.

ANTENNA: Half-wave dipole with reflector and detector elements, or ground plane.

RADIO RECEIVER R-125/GRC-10

FREQUENCY RANGE: 54 to 70.9 mc.

CHANNELS: 170 spaced 0.1 mc apart.

TYPE RECEIVER: Double conversion superheterodyne.

TYPE SIGNALS RECEIVED: FM ± 40 kc max deviation.

INTERMEDIATE FREQUENCIES

VARIABLE (2 STAGES): 15.15 to 16.05 mc.

FIXED (4 STAGES): 4.3 mc.

FREQUENCY CONTROL: Crystal and AFC.

OUTPUT IMPEDANCE

WIDE-BAND: 600 ohms.

NARROW-BAND: 600 ohms for loudspeaker, 4 ohms for earphone of handset.

OUTPUT LEVEL (WITH 10 UV INPUT, 40 kc DEVIATION, 1000 cps)

WIDE-BAND: 50 mw.

NARROW-BAND: 750 mw for speaker, 30 mw for earphone of handset.

AUDIO RESPONSE (WIDE-BAND CHANNEL WITH DE-EMPHASIS)

250 to 1000 cps: 0 db $\pm 1/2$ db.5000 cps: -4 db $\pm 1/2$ db.10,000 cps: -8.5 db $\pm 1/2$ db.20,000 cps: -14 db $\pm 1/2$ db.

AUDIO RESPONSE (NARROW-BAND CHANNEL)

250 to 2500 cps: 1 db max attenuation.

3200 cps: 3 db max attenuation.

4200 to 20,000 cps: 40 db min attenuation.

SENSITIVITY DATA

RECEIVER: 0.5 uv signal input for 10 db signal-plus-noise to noise ratio.

SQUELCH: 1 uv.

SELECTIVITY: 140 kc min at 3 db points, 420 kc max at 60 db points.

POWER REQUIREMENTS: 200 v DC at 100 ma, 26 AC or DC at 1.3 amps.

ANTENNA: Half-wave dipole with director and reflector elements, or ground plane.

COMBINED RECEIVER-TRANSMITTER.

AUDIO RESPONSE

WIDE-BAND CHANNEL (250 to 20,000 cps): ± 1 db of 1 kc level with 1% max distortion.NARROW-BAND CHANNEL (250 to 3500 cps): ± 5 db of 1 kc level with 10% max distortion.

DYNAMOTOR-POWER SUPPLY DY-94/GRC-10

AC RECTIFICATION: 7 selenium rectifiers.

DC INVERSION: 2 nonsynchronous vibrators.

VOLTAGE REGULATION: Performed in receiver and transmitter.

POWER OUTPUT

TO TRANSMITTER: 550 v at 150 ma, 250 v at 120 ma, 26 v AC or DC at 1.7 amps, 20 v at 25 ma.

TO RECEIVER: 200 v at 100 ma, 26 v AC or DC at 1.3 amps.

CONTROL C-632/GRC-10

POWER SOURCE: 115 or 230 v, 50 to 65 cps or 26 v DC.

SPECIAL FEATURES: Provision made for automatic use of DC power when AC power fails.

ANTENNA GROUP OA-249/GRC-10

CHARACTERISTIC IMPEDANCE: 52 ohms.

FREQUENCY RANGE: 54 to 71 mc.

TYPE ANTENNA: Yagi with ground-lane adapter.

TUBE AND/OR CRYSTAL COMPLEMENT

T-235/GRC-10

(3) 6CB6
(1) 5654/6AK5W
(1) 5686
(1) 4X150D
(3) 12AT7
(1) OA2
(4) 6BH6
(1) 6BJ6

R-125/GRC-10

(3) 5654/6AK5W
(11) 6BH6
(4) 12AT7
(1) 6BJ6
(2) 5726/6AL5W
(1) OA2
(1) 6AK6
Total Tubes: (23)

**RADIO SET
RADIO TERMINAL SET
RADIO REPEATER SET**

AN/GRC-10, 39, 40

REFERENCE DATA AND LITERATURE

(1) 5726/6AL5W C-632/GRC-10
(2) OA2
Total Tubes: (16) Total Tubes: (2)

TM11-614: Technical Manual for Radio Set AN/GRC-10, Radio Terminal Set AN/GRC-39, Radio Repeater Set AN/GRC-40.

T-235/GRC-10
(17) CR-23/U (1) 1N69 (10) CR-18/U
Total Crystals: (28)
R-125/GRC-10
(17) CR-23/U
Total Crystals: (17)

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	AN/GRC-10 Radio Transmitter T-235/GRC-10 including: Radio Receiver R-125/GRC-10 Dynamotor-Power Supply DY-94/GRC-10 Spare Parts Kits	7.9	12 X 18-1/2 X 42-1/2	158
1	Radio Set Control C-632/GRC-10 including: Electrical Equipment Rack MT-700/GRC-10 Accessories Case CY-1097/GRC-10 Cable Assemblies Spare Parts Kit Technical Manuals	6.2	12-3/4 X 15-1/4 X 38-3/8	101.25
1	Antenna Array AS-620/GRC-10(2)	8.9	13-3/8 X 14-3/8 X 80	134
1	Mast AB-301/G(2)	10	11-3/8 X 16-3/4 X 93	216
2	AN/GRC-39 Radio Transmitter T-235/GRC-10 including: Radio Receiver R-125/GRC-10 Dynamotor-Power Supply DY-94/GRC-10 Spare Parts Kits	7.9	12 X 18-1/2 X 42-1/2	158
2	Radio Set Control C-632/GRC-10 including: Electrical Equipment Rack MT-700/GRC-10 Accessories Case CY-1097/GRC-10 Cable Assemblies Spare Parts Kit Technical Manuals	6.2	12-3/4 X 15-1/4 X 38-3/8	101.25
2	Antenna Array AS-620/GRC-10 (2)	8.9	13-3/8 X 14-3/8 X 80	134
2	Mast AB-301/G (2)	10	11-3/8 X 16-3/4 X 93	216
2	Power Unit PE-75	21	27 X 31 X 43-1/2	491
1	Dynamic Loudspeaker LS-166/U including: Junction Box JB-110 Junction Box J-85/G Telephone Cable Assembly CX-1521/U Cord CD-711	14.4	20 X 26 X 48	95
3	AN/GRC-40 Radio Transmitter T-235/GRC-10 including: Radio Receiver R-125/GRC-10 Dynamotor-Power Supply DY-94/GRC-10 Spare Parts Kits	7.9	12 X 18-1/2 X 42-1/2	158
3	Radio Set Control C-632/GRC-10 including: Electrical Equipment Rack MT-700/GRC-10 Accessories Case CY-1097/GRC-10	6.2	12-3/4 X 15-1/4 X 38-3/8	101.25

AN/GRC-10,39, 40

**RADIO SET
RADIO TERMINAL SET
RADIO REPEATER SET**

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	Cable Assemblies Spare Parts Kit Technical Manuals			
3	Antenna Array AS-620/GRC-10(2)	8.9	13-3/8 X 14-3/8 X 80	134
3	Mast AB-301/G(2)	10	11-3/8 X 16-3/4 X 93	216
2	Power Unit PE-75	21	27 X 31 X 43-1/2	491
1	Dynamic Loudspeaker LS-166/U including: Junction Box JB-110 Junction Box J-85/G Cord CD-711	14.4	20 X 26 X 48	90

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	AN/GRC-10		
1	Radio Receiver R-125/GRC-10	9-1/4 X 11-1/4 X 13	31
1	Radio Transmitter T-235/GRC-10	9-1/4 X 11-1/4 X 13	34.5
1	Dynamotor-Power Supply DY-94/GRC-10	9-1/4 X 11-1/4 X 13	59.5
1	Radio Set Control C-632/GRC-10	4 X 13 X 18	18
1	Electrical Equipment Rack MT-700/GRC-10	5 X 12-1/2 X 33-5/8	59
5	Special Purpose Cable Assembly CX-2324/U	3-5/8 lg	33
1	Loudspeaker LS-166/U	3-1/8 X 5 X 5	3.5
1	Special Purpose Cable Assembly CX-2325/U	24-1/2 lg	4
1	Handset H-33/PT	1-1/2 X 3-1/4 X 8-3/8	6
1	Accessories Case CY-1097/GRC-10	4-1/8 X 8-5/8 X 14-5/8	0.88
1	Spare Parts Kit for R-125/GRC-10	3-3/4 X 10-1/8 X 12-7/8	3.25
1	Spare Parts Kit for T-235/GRC-10	3-3/4 X 10-1/8 X 12-7/8	1
1	Spare Parts Kit for DY-94/GRC-10	3-3/4 X 10-1/8 X 12-7/8	1
1	Spare Parts Kit for C-632/GRC-10	3-5/8 X 4-5/8 X 14	1
2	Technical Manual for AN/GRC-10	2 X 8-1/2 X 11	0.75
1	Antenna Group OA-249/GRC-10 consisting of:		3
	(1) Antenna Case CY-1252/GR including:	10-1/2 X 11-1/4 X 61-5/8	44
	(2) Boom and Block Subassembly	5 X 5-3/4 X 59-3/4	7.13
	(6) Radiator Element	1 X 3-5/8 X 53	1
	(2) Master Adapter MX-1463/G	3 X 3 X 9-3/8	1
	(2) Frequency Setting Chart	1/16 X 3-7/8 X 5-1/2	0.06
	(2) Director Element, Red	1 X 2-1/8 X 51-1/2	0.5
	(2) Reflector Element, Blue	1 X 2-1/8 X 58-1/2	0.65
	(2) Connector, Receptacle UG-568/U	1 X 1 X 2-1/16	0.06
	(1) Bag BG-102-A including:	10 X 12 X 14	1.18
	(2) RF Cable Assembly CG-718/U (65 ft)	3/4 X 3/4 X 780	6.37
	(2) RF Cable Assembly CG-718/U (35 ft)	3/4 X 3/4 X 420	4
	(1) Ground Plate Adapter	3 X 3 X 10	1
	(4) Adapter Connector UG-567/U	3/4 X 1-5/32 X 1-17/32	0.15
	(4) Adapter Connector UG-643/U	3/4 X 3/4 X 1-9/32	0.06

August 1957

**RADIO SET
RADIO TERMINAL SET
RADIO REPEATER SET**

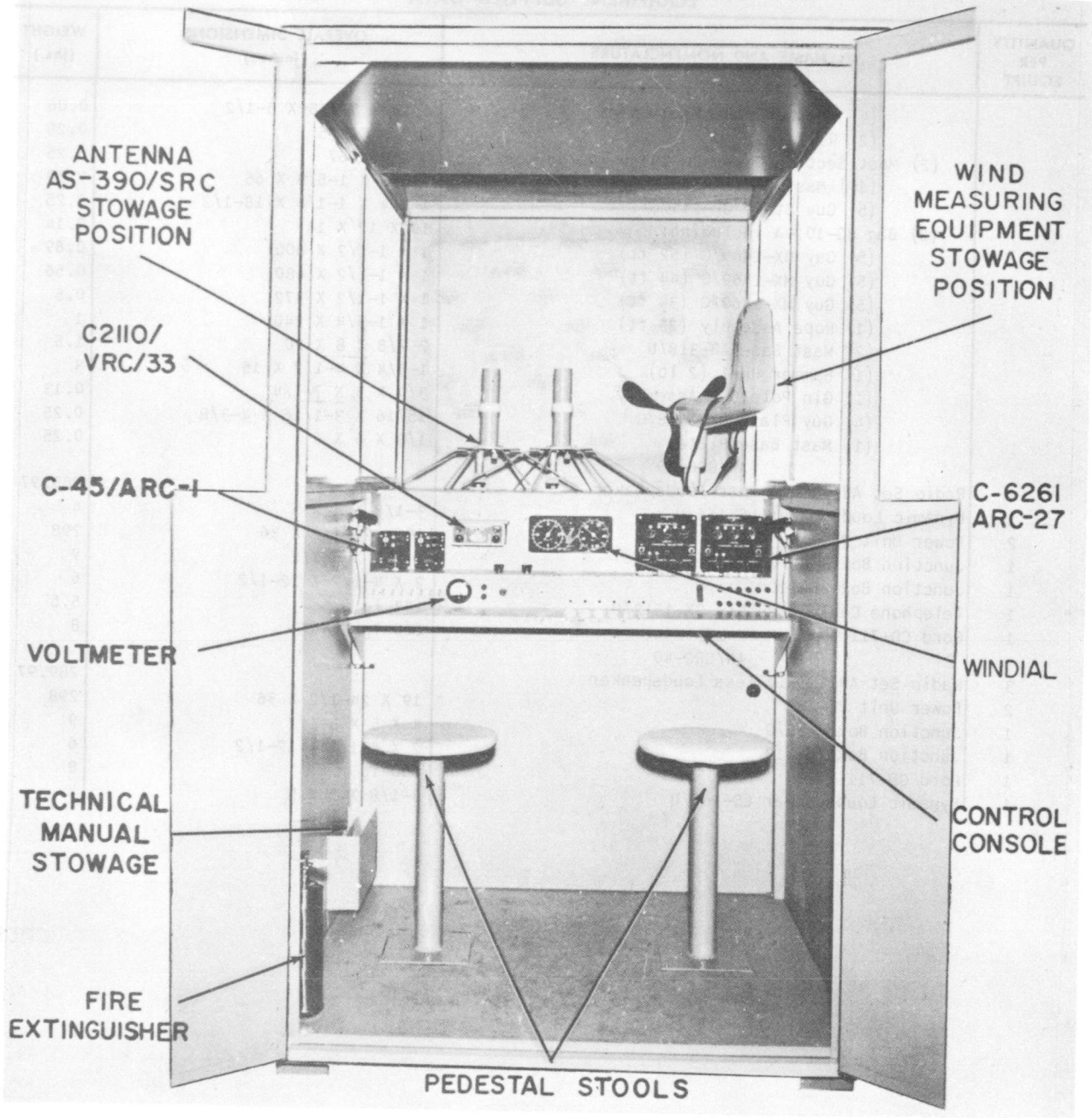
AN/GRC-10, 39, 40

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	(4) Frequency Setting Chart	1/16 X 3-7/8 X 5-1/2	0.06
	(2) Roll Tape	1/2 X 5 X 5	0.25
(2)	Mast Section Cover CW-294/U including:	7 X 9 X 67	6.25
	(10) Mast Section AB-300/G	1-5/8 X 1-5/8 X 66	3.50
	(5) Guy Stake GP-111/G	1-1/4 X 1-1/4 X 18-1/2	2.25
(2)	Bag BG-102-A including:	10 X 12 X 14	2.14
	(5) Guy MX-1469/G (52 ft)	1 X 1-1/2 X 600	0.69
	(5) Guy MX-1469/G (44 ft)	1 X 1-1/2 X 480	0.56
	(5) Guy MX-1469/G (34 ft)	1 X 1-1/2 X 372	0.5
	(1) Rope Assembly (25 ft)	1 X 1-3/4 X 240	1
	(2) Mast Base AB-318/U	2-7/8 X 8 X 20	1.5
	(1) Hammer HM-1 (2 lb)	1-3/4 X 4-1/2 X 15	3
	(1) Gin Pole Cap Assembly	3/4 X 3 X 7-1/4	0.13
	(4) Guy Plate MX-1468/G	15/16 X 3-1/16 X 4-3/8	0.25
	(1) Mast Base Plate	1/8 X 6 X 6	0.25
	AN/GRC-39		
2	Radio Set AN/GRC-10 less loudspeaker		289.97
1	Dynamic Loudspeaker LS-166/U	3-1/8 X 5 X 5	4
2	Power Unit PE-75	19 X 24-1/2 X 36	298
1	Junction Box J-85/G	4 X 5 X 5-1/2	9
1	Junction Box JB-110	2 X 4-1/2 X 12-1/2	6
1	Telephone Cable Assembly CX-1512/U	144 lg	5.5
1	Cord CD-711	600 lg	8
	AN/GRC-40		
3	Radio Set AN/GRC-10 less Loudspeaker		289.97
2	Power Unit PE-75	19 X 24-1/2 X 36	298
1	Junction Box J-85/G	4 X 5 X 5-1/2	9
1	Junction Box JB-110	2 X 4-1/2 X 12-1/2	6
1	Cord CD-711	600 lg	8
1	Dynamic Loudspeaker LS-166/U	3-1/8 X 5 X 5	4

AIR TRAFFIC CONTROL GROUP

AN/GRC-100

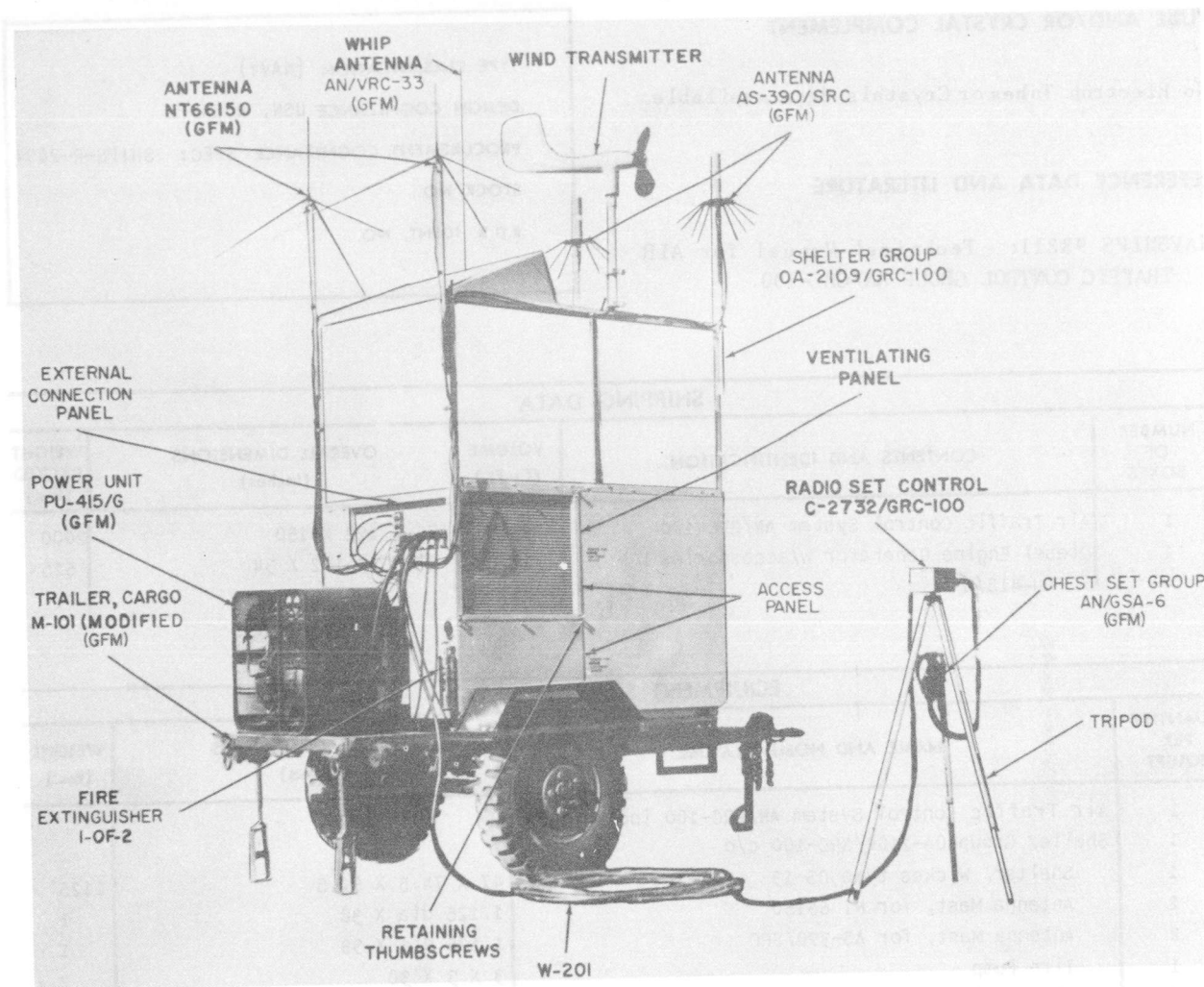


*Shelter Group OA-2109/GRC-100
Interior View*

Radio-Communication Terminal Equipment

AN/GRC-100

AIR TRAFFIC CONTROL GROUP



Air Traffic Control System AN/GRC-100

FUNCTIONAL DESCRIPTION

Air Traffic Control System AN/GRC-100 is a mobile communication system providing v-h-f and u-h-f voice communications from ground to air and ground to ground.

The AN/GRC-100 provides amplitude modulated communications in the frequency ranges of 100 to 156 mc and 225 to 399.9 mc and frequency modulated communications within the frequency range of 30 to 42 mc.

No field changes in effect at time of preparation (14 August 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 156 mc, 225 to 399.9 mc - (AM).
INPUT IMPEDANCE: 50 ohm (carbon microphone).
POWER REQUIREMENTS: 24 to 28 v DC at 2 kw.

MANUFACTURER'S OR CONTRACTOR'S DATA

Wickes Engineering and Construction Co.,
Camden, N.J.
Contract NObsr-71824, dated 21 June 1957.

February 1960

Radio-Communication Terminal Equipment

AIR TRAFIC CONTROL GROUP

AN/GRC-100

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals data available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93311: Technical Manual for AIR
TRAFFIC CONTROL GROUP AN/GRC-100.

TYPE CLASSIFICATION (NAVY)

DESIGN COGNIZANCE USN, BUSHIPS

PROCUREMENT COGNIZANCE SPEC: SHIPS-R-2694

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	Air Traffic Control System AN/GRC-100	793.8	75 X 122 X 150	2000
1	Diesel Engine Generator w/accessories PII-415/6	17.8	27 X 33-1/2 X 34	515

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Air Traffic Control System AN/GRC-100 including:		
1	Shelter Group OA-2109/GRC-100 c/o		
1	Shelter, Wickes type CS-13	47 X 74.5 X 91.5	1125
2	Antenna Mast, for NT 66150	1.125 dia X 38	1
2	Antenna Mast, for AS-390/SRC	1.125 dia X 38	1
1	Tire Pump	3 X 3 X 30	2.0
2	Fire Extinguisher, 1 qt	3 X 3 X 13	6.5
1	Wind Transmitter Mast Assy	1.5 X 24	5.5
1	Windial, Bendix-Friez Model 476-6 incl's		
1	Wind Transmitter p/o windial	15.5 X 22 X 32	7.5
1	Indicator, Modified p/o Windial	4.75 X 7.5 X 11.5	7
1	Tripod, Folding type	4.5 X 4.5 X 43	6
1 set	Interconnecting Cables		
1	Remote Control Cable	100 lg	
1	Pipe, Exhaust Extension	1.875 dia X 22.5	4
1	Pipe, Exhaust Extension	1.875 dia X 5	1
1	Fitting, Pipe-Elbow		1
1	Coupling, Pipe	1.875 X 2.25	0.25
1	Radio Set Control C-2732/GRC-100	5 X 7.25 X 7.5	3
1	Trailer, Modified M101 (GFM)		
	Government Furnished Material c/o:		
2	Receiver-Transmitter RT-178/ARC-27		
2	Mounting MT-822/ARC-27		

Radio-Communication Terminal Equipment

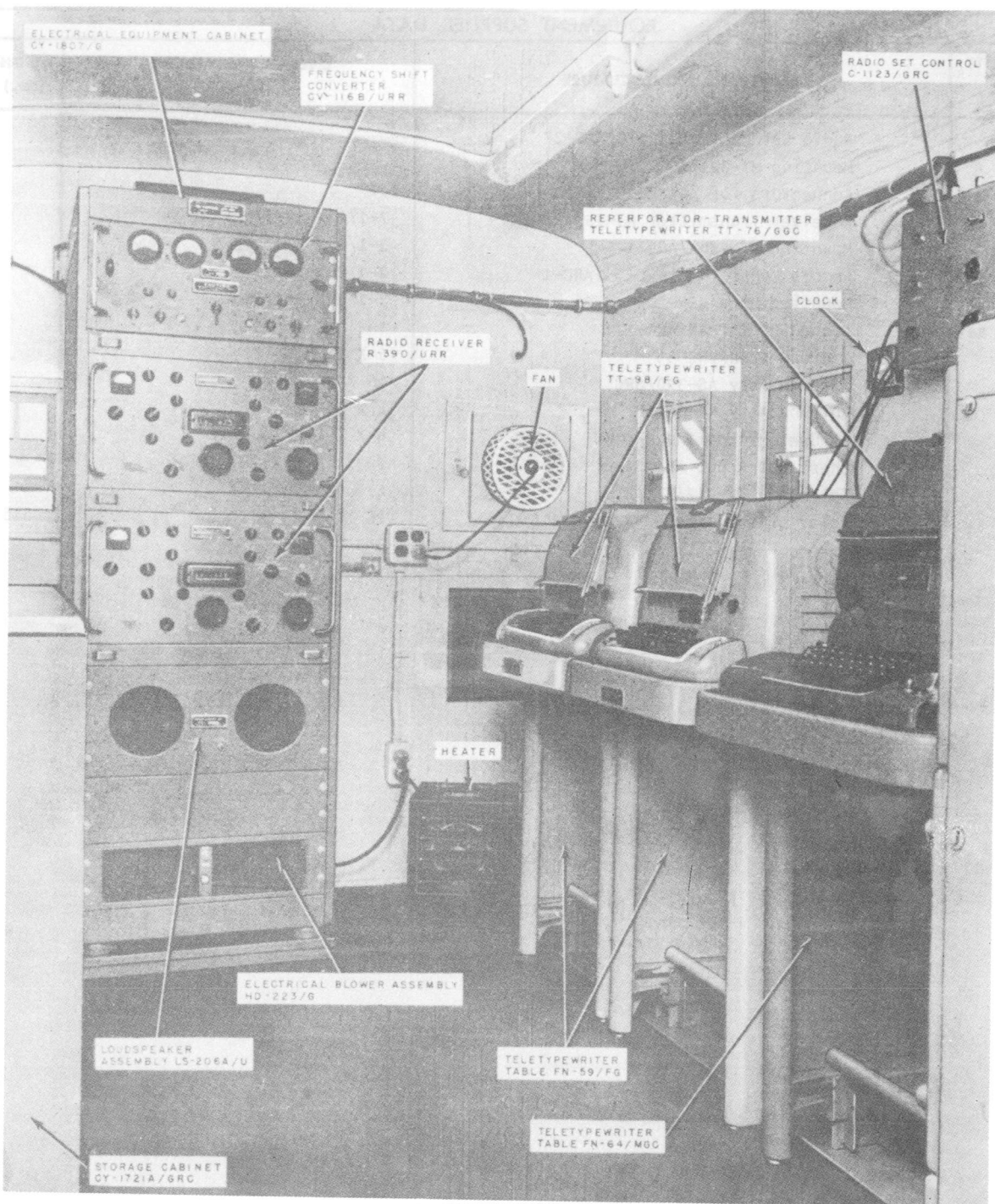
AN/GRC-100

AIR TRAFFIC CONTROL GROUP

EQUIPMENT SUPPLIED DATA			
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Radio Set Control C-626/ARC-27		
2	Mounting MT-821/ARC-27		
1 set	Connectors for AN/ARC-27		
2	Receiver-Transmitter RT-18/ARC-1	7-1/2 X 10-1/2 X 22	
2	Mounting MT-230A/ARC-1	2-1/2 X 3-1/2 X 5	
2	Remote Control Unit C-45/ARC-1	2-1/2 X 16 X 21	
2	Mounting MT-4/ARR-2	3-1/2 X 3-1/2	
1 set	Connector for AN/ARC-1		
1	Radio Set AN/VRC-33	6 X 11 X 13	
2	Antenna Assy AS-390/SRC	16 X 24	
2	Antenna Assy NT-66150	2 X 24	
2	Headset-Microphone H-63/U	4 X 6 X 8	
2	Chest Set Group AN/GSA-6	2-3/4 X 5 X 9	
2	Telephone TA-312/PT	5 X 8 X 12	
1	Power Unit w/accessories PU-415/G	25 X 33 X 33	515

RADIO SET

AN/GRC-26D

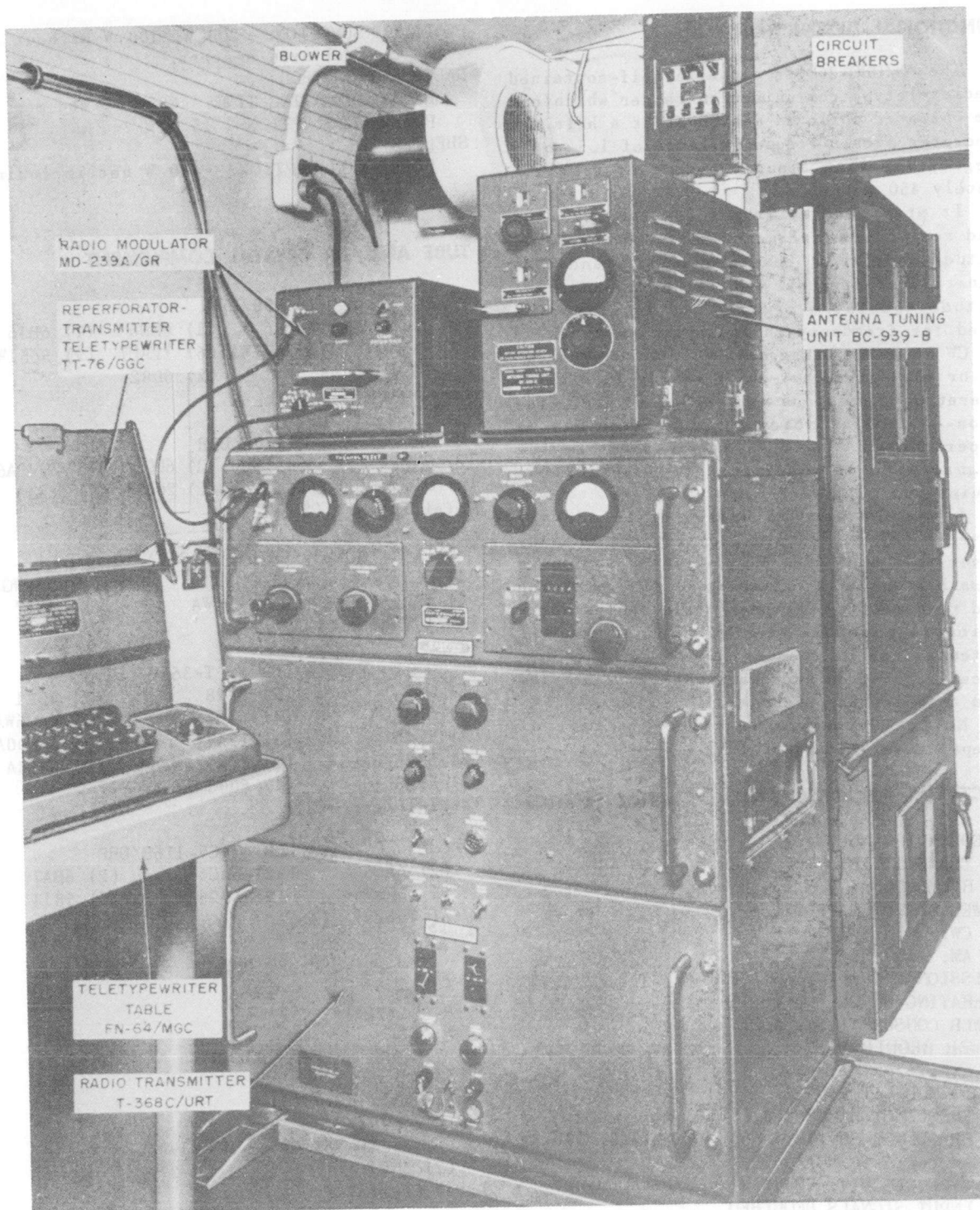


Sonar Set AN/GRC-26D Interior Front View

Radio-Communication Terminal Equipment

AN/GRC-26D

RADIO SET



Sonar Set AN/GRC-26D Interior Rear View

January 1958

Radio-Communication Terminal Equipment

RADIO SET**AN/GRC-26D****FUNCTIONAL DESCRIPTION**

The AN/GRC-26D is a mobile self-contained radioteletype communication center which can be operated while in motion or at a halt. It operates over a frequency range of 1.5 to 20 megacycles with a power output of approximately 450 watts.

It provides facilities for transmission and reception of frequency-shift keying, amplitude-modulated, continuous-wave, and combination of frequency-shift keying and amplitude-modulated signals. It is primarily used for frequency-shift keying service, AM or CW normally being used only in an emergency or when frequency-shift keying facilities operating conditions warrant their use. Station-to-station voice communication may be superimposed upon a frequency-shift keying signal without modifying or recabling the equipment.

It may be used in duplex or in one-way reversible, half-duplex, operation. One-way reversible operation only while in motion is possible due to the nearness of the receiving and transmitting antenna, while duplex operation is possible when at halt as doublet antennas can be erected to provide the physical separation necessary between receiving and transmitting antennas.

No field changes in effect at time of preparation (19 August 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS**FREQUENCY RANGE**

TRANSMITTER: 1.5 to 20 mc.

RECEPTION: 0.5 to 32 mc.

POWER OUTPUT (APPROX)

CW: 450 W.

AM: 400 W.

EMISSION: CW, AM, FSK, FSK-AM.

OPERATING RANGE: Over 100 mi.

POWER CONSUMPTION: Approx 5 kw.

POWER REQUIREMENTS: 115 v, 50 to 60 cps, single ph.

RADIO MODULATOR DATA

FREQUENCY RANGE: 1.5 to 3 mc.

FREQUENCY SHIFTS: 850, 425, 212.5, 106.25 cps.

TYPE CIRCUIT: Double superheterodyne.

INPUT SIGNALS REQUIRED

RF: 3 to 5 v.

DC: 60 ma.

OUTPUT VOLTAGE: 3 to 5 v.

POWER CONSUMPTION: 200 W, 100 W without crystal oven heaters.

RADIO SET CONTROL

RELAY OPERATING TIME: 20 millisecc max.

POWER CONSUMPTION: 15 W.

SHELTER

POWER CONSUMPTION: 460 W not including heater.

TUBE AND/OR CRYSTAL COMPLEMENT**R-390/URR**

(3) 6AJ5 (3) 6AK6 (1) 6BH6 (7) 6BJ6
 (3) 6C4WA (1) 12AT7WA (6) 12AU7 (2) 5651WA
 (2) 5749/6BA6W (2) 6082

Total Tubes: (30)

R-390A/URR

(3) 6AK6 (2) 5654/6AK5W (1) 6DC6 (6) 5749/6BA6W
 (4) 6C4WA (1) 6626/OA2WA (2) 26Z5W (7) 5814A

Total Tubes: (26)

MD-239/GR or MD-239A/GR

(1) OC3W (1) OD3W (1) 5R4WGA
 (4) 6AH6 (2) 6AU6WA (2) 6BA7

Total Tubes: (11)

T-368A/URT or T-368C/URT

(5) OA2 (2) 3B28 (2) 4D21
 (3) 5R4WGA (4) 6AH6 (1) 6AU6WA
 (2) 6C4W (1) 12AT7WA (1) 4-400A
 (2) 5726/6AL5W (2) 5749/6BA6W (2) 5814A
 (1) 5933 (1) 6000

Total Tubes: (29)

CV-116A/URR or CV-116B/URR

(2) 6AQ5 (12) 6AU6 (2) 6BA7
 (5) 6X4W (9) 5726 (15) 5814

Total Tubes: (45)

R-390/URR

(1) 1N69

Total Crystals: (1)

R-390A/URR

(1) 1N198

Total Crystals: (1)

MD-239/GR or MD-239A/GR

(2) 1N81 (2) CR-27/U

Total Crystals: (4)

CV-116A/URR or CV-116B/URR

(2) HC-6/U

Total Crystals: (2)

AN/GRC-26D

RADIO SET

REFERENCE DATA AND LITERATURE

- TM11-264B: Technical Manual for Radio Set AN/GRC-26D.
 TM11-809: Technical Manual for Radio Transmitter T-368/URT, T-368A/URT, T-368B/URT, and T-368C/URT and Antenna Tuning Unit BC-939-B.
 TM11-856: Technical Manual for Radio Receiver R-390/URR.
 TM11-856A: Technical Manual for Radio Receiver R-390A/URR.
 TM11-2241: Technical Manual for Frequency Shift Converters CV-116/URR, CV-116A/URR, and CV-116B/URR.
 TM11-904: Technical Manual for Power Units PE-95-A, PE-95-B, and PE-95-C.

- TM11-2230: Technical Manual for Teletypewriter Sets AN/FGC-20, AN/FGC-20X, AN/FGC-21.
 TM11-2225: Technical Manual for Teletypewriter Set AN/GGC-3, Teletypewriter Reperator-Transmitters TT-76/GGC and TT-76A/GGC.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE TASSA
 PROCUREMENT COGNIZANCE
 STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Radio Set AN/GRC-26D	715.5	88 X 91-1/4 X 154	8152

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Modulator MD-239/GR or MD-239A/GR including: Power Cable Assembly CX-2491/U	8-3/4 X 9-1/2 X 17 72 lg	50
1	Radio Transmitter T-368A/URT or T-368C/URT including: Cord CD-763	31 X 32 X 41-1/2 156 lg	650
1	Frequency Shift Converter CV-116A/URR or CV-116B/URR including: Power Cable Assembly CX-2491/U	8-3/4 X 17 X 19 72 lg	69
1	Teletypewriter Set AN/MGC-5 consisting of: Reperator-Transmitter Teletypewriter TT-76/GGC	12 X 18 X 21 18 X 28 X 28	45 15
2	Teletypewriter Set AN/FGC-20X consisting of: Teletypewriter TT-98/FG Teletypewriter Table FN-59/FG	13-1/2 X 20-5/8 X 24 20 X 21 X 27	54 22
2	Radio Receiver R-390/URR or R-390A/URR including: Power Supply PP-621/URR	10-1/2 X 17-1/4 X 19 4-1/8 X 5-7/8 X 6-3/4	65 15 48
1	Antenna Tuning Unit BC-939-B		10
1	Radio Set Control C-1123/GRC	4-1/2 X 10-1/16 X 12	
1	Generator Set PU-248/U consisting of: (1) Trailer M-105 (1) Power Unit PE-95 (6) Bracket Assembly (3) Tube, Flexible Nozzle (6) Liquid Container, 5 Gallon		2350 1360
6	Mast AB-155/U		2470
1	Electrical Equipment Shelter S-56A/G including: Fire Extinguisher	75 X 77 X 138-1/2	
2	Telephone Set TA-43/PT	4 X 7 X 11	9.5

September 1956

RADIO TERMINAL SET**AN/GRC-76****FUNCTIONAL DESCRIPTION**

The AN/GRC-76 receives and transmits multichannel voice (12 voice plus 1 order wire), telegraph, teletype and/or facsimile in conjunction with multichannel sub-carrier telephone carrier equipment.

No field changes in effect at time of preparation (31 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 50 to 100 mc.
 OPERATING POWER: 115 v, 50 cps, single ph,
 or 230 v, 60 cps, single ph.
 ENGINE GENERATOR OUTPUT: 115 v, 60 cps,
 single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Terminal Set
 AN/GRC-76.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE
 PROCUREMENT COGNIZANCE
 STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Terminal Set AN/GRC-76		

September 1956

RADIO REPEATER SET**AN/GRC-77****FUNCTIONAL DESCRIPTION**

The AN/GRC-77 receives and re-transmits multichannel voice (12 voice plus 1 order wire), telegraph, teletype and/or facsimile, providing a simultaneous two-way radio relay circuit.

No field changes in effect at time of preparation (1 August 1956).

OPERATING POWER: 115 v, 50 cps, single ph;
or 230 v, 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Repeater Set
AN/GRC-77.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

METHOD OPERATION: Continuous multiplexing.

FREQUENCY RANGE: 50 to 100 mc, 1 band, 200 channels.

TYPE EMISSION: F9.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Repeater Set AN/GRC-77		

UNCLASSIFIED

September 1956

Radio Communication Terminal Equipment

RADIO TERMINAL SET

AN/GRC-79

FUNCTIONAL DESCRIPTION

The AN/GRC-79 receives and transmits multi-channel voice (12 voice plus 1 order wire), telegraph and/or facsimile in conjunction with multi-channel sub-carrier telephone carrier equipment.

No field changes in effect at time of preparation (1 August 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 100 to 225 mc and 400 to 600 mc.

OPERATING POWER: 115 v, 50 cps, single ph, or 230 v, 60 cps, single ph.

ENGINE GENERATOR OUTPUT: 115v, 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Terminal Set AN/GRC-79.

TYPE CLASSIFICATION	TASSA
DESIGN COGNIZANCE	TASSA
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Terminal Set AN/GRC-79		

UNCLASSIFIED

September 1956

RADIO REPEATER SET**AN/GRC-80****FUNCTIONAL DESCRIPTION**

The AN/GRC-80 receives and re-transmits multichannel voice (12 voice plus 1 order wire), telegraph, teletype and/or facsimile, providing a simultaneous two-way radio relay circuit.

No field changes in effect at time of preparation (31 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 100 to 225 mc and 400 to 600 mc,
2 bands, 383 channels.

TYPE EMISSION: F9.

OPERATING POWER: 115 v, 50 cps, single ph;
or 230 v, 60 cps, single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Repeater Set
AN/GRC-80.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Repeater Set AN/GRC-80		

September 1956

RADIO TERMINAL SET**AN/GRC-82****FUNCTIONAL DESCRIPTION**

The AN/GRC-82 receives and transmits multi-channel voice, (12 voice plus 1 order wire), telegraph teletype and/or facsimile in conjunction with multichannel sub-carrier telephone carrier equipment such as AN/TCC-7.

No field changes in effect at time of preparation (31 July 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 225 to 400 mc.
 OPERATING POWER: 115 v, 50 cps, single ph,
 or 230 v, 60 cps, single ph.
 ENGINE GENERATOR OUTPUT: 115 v, 60 cps,
 single ph.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radio Terminal Set
 AN/GRC-82.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE
 PROCUREMENT COGNIZANCE
 STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Terminal Set AN/GRC-82		

Radio-Communication Terminal Equipment
AIR TRAFFIC CONTROL GROUP
AN/GRC-99

FUNCTIONAL DESCRIPTION

The AN/GRC-99 is a mobile Air Traffic Control System designed to provide unified control of aircraft traffic using radio telephone communications or by means of visual aid operation. It has an electrical wind data system for indicating wind velocity and wind direction, the wind vane mounted on top of the shelter housing the radio communications equipment. The shelter mounts on a 4-wheel running gear. The running gear can be removed and the shelter housing the radio equipment mounted on ground or supporting structure. A hand operated Radio Control Set C-2640/GRC-99 can be used for remote operation of the shelter installed radio equipment.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING POWER RQMT: 120 or 208 v AC, 60 cps, 3 ph, 4 wire, 7 kw.

MANUFACTURER'S OR CONTRACTOR'S DATA

Wickes Engineering and Construction Co.,

Camden 4, N.J.
Contract NObsr-75102, dated 7 January 1958.

Approximate Cost: \$55,221.32 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal Data not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/GRC-99 for Air Traffic Control System.

NAVSHIPS 93236: Technical Manual for Air Traffic Control System.

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	Mobile Shelter Group OA-2031/GRC-99 Including: (1) Air Control Tower Wickes Type ACT-3 (1) Control Shelter Wickes Type CS-3 (1) Console Group Wickes Type CG-2		
1	Radio Control Set C-2640/GRC-99 Including: (2) Radio Set AN/ARC-27 (1) Radio Set AN/VRC-33 (1) Diesel Engine Generator Set PU-348/G (1) Chest Set Group AN/GSA-6 (1) Microphone Headset H-36/U (2) Antenna Ass'y AS-390/SRC (1) Antenna for AN/VRC-33	25-1/2 X 31 X 37 4 X 4 X 11	

COMPARATOR GROUP, SIGNAL DATA

AN/GSA-22

FUNCTIONAL DESCRIPTION

The AN/GSA-22 provides facilities for accepting data from up to five AN/FLD-1 or AN/TLQ-5 and determining coincidence of data over a preset number of variables and tolerances by comparing the input messages with previously stored data. A permanent record is made of the output data. The coincidences data is also converted to pulse-separation form for automatic entry into an AN/GLA-2.

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

RELATION TO OTHER EQUIPMENT

Used w/but not part of AN/TLQ-5, AN/FLD-1 and AN/GLA-2.

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Comparator Group, Signal Data AN/GSA-22 dated 24 August 1956.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Data Entry Unit		
1	Data Comparison Unit		
1	Presentation Unit		
1	Converter Digital to Pulse		
1	Teletypewriter Set AN/GGC-3		
	Power Supplies		
	Cabinet		
	Interconnecting Cable Assemblies		
	Built-in test equipment		
	Error equipment		

October 1957

Radio-Communication Terminal Equipment

CENTRAL OFFICE TELEPHONE-TELETYPE

AN/GSC-2

FUNCTIONAL DESCRIPTION

The AN/GSC-2 is a telephone office having switching facilities for connecting any manual non-dial telephone station to any other telephone station within its area. It is also a teletypewriter exchange having switching facilities for connecting any teletypewriter station to any other teletypewriter station within its area.

No field changes in effect at time of preparation (7 June 1957).

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature card for Central Office, Telephone-Teletypewriter AN/GSC-2.

RELATION TO OTHER EQUIPMENT

Used with but not part of Strategic Communication Equipment. Compatible with Plan 55.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Central Office, Teletypewriter		
1	Central Office Telephone Manual		
1	Electrical Rack		
	Interconnecting Cable Assemblies		

RADIO TELETYPEWRITER SET

AN/GSC-6

FUNCTIONAL DESCRIPTION

The AN/GSC-6 is designed for ground or vehicular use. It is engine generator or land power operated and is installed in Helicopter Hut for mobile or fixed ground installation.

No field changes in effect at time of preparation (21 September 1960).

MANUFACTURER'S OR CONTRACTOR'S DATA

Eldico Electronics, Long Island City, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Ground or vehicular.
TYPE OF EMISSION: A1, A3, A3a, F1 types of emission.

POWER OUTPUT

- A1 EMISSION: 1000 W.
- A3 EMISSION: 350 W.
- A3a EMISSION: 1000 W PEP nominal.
- F1 EMISSION: 1000 W nominal.

FREQUENCY DATA

- RANGE: 2.2 to 30 mc.
- NUMBER OF BANDS: 12.
- OPERATING POWER RQMT: 115 v ac, 60 cps, single ph or 115 v ac, 60 cps, 3 ph.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Radio Teletypewriter Set AN/GSC-6.

TYPE CLASSIFICATION (NAVY)
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 Teletypewriter Set AN/GSC-6 consists of:		
1	Converter, Single Sideband CV-719/GSC-6	1-3/4 x 6 x 19	
1	Converter-Power Supply CV-718/GSC-6	1-3/4 x 6 x 19	
1	Amplifier, Radio Frequency AM-2018/GRT	10-1/2 x 15-1/4 x 19	
1	Power Supply PP-2104/GR	10-1/2 x 15-1/4 x 19	
1	Control-Monitor C-2619/GSC-6	5-1/4 x 8-1/8 x 19	
1	Converter, Frequency Shift CV-717/J	8-3/4 x 13 x 19	
1	Keyer, Frequency Shift KY-264/GSC-6	3-1/2 x 8 x 19	
1	Antenna Tuning Group OA-2009/GSC-6	5-1/4 x 6-1/2 x 19	
11	Dummy Load, Electrical DA-195/U	9-1/2 x 9-1/2 x 26	
1	Antenna AT-865/GRT	3/8 dia x 96 lg	
1	Antenna AT-866/GRR	3/8 dia x 96 lg	
2	Transmitter-Exciter		
1	Receiver		
1	Diesel-Generator PU-347/G	19-1/2 x 27-5/8 x 28	
1	Shelter, Electrical Equipment S-151/GSC-6	84 x 84 x 96-1/2	
1	Teletypewriter Set AN/TGC-6		
1	Reperforator Teletypewriter Set AN/GGC-3		
1	Telephone Set TA-43/PT	3-3/4 x 6 x 10-1/2	
1	Typewriter (7430-164-1421)		
1	Clock TD-15/U		
3	Mast Base MP-47A		
1	Test Tool Set AN/USM-15		

27 August 1962

Cog Service:

FSN:

MAGNETIC CORE MEMORY GROUP AN/GYA-1(XN-1)

Functional Class:

USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Computer Control Company, Incorporated.

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

The Magnetic Core Memory Group AN/GYA-1(XN-1) is a random-access, coincident-current, magnetic core memory system. It is transistorized. It stores 4096 words of 32-bit length. It performs full memory operations (clear-and-white, or read-and-regenerate) in six micro-seconds. It serves as fast-access storage for the David Taylor Model Basin Computer.

No field changes in effect at time of preparation (15 May 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF SYSTEM EMPLOYED: Modular digital system.

TYPE OF CIRCUITRY EMPLOYED: Completely transistorized.

TYPE OF OPERATION: Performs full memory operations (clear-and-white or read-and-regenerate) in 6 micro-seconds.

NUMBER OF WORDS STORED: 4096 words of 32-bit length.

RELATION TO OTHER EQUIPMENT:

The AN/GYA-1(XN-1) is designed to be used with, but not part of, David Taylor Model Basin Computer (DTMB).

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Magnetic Core Memory Group AN/GYA-1(XN-1) consists of:		23 x 29 x 51	250
1	Power Supply			
1	Memory Power Supply			
1	Magnetic Core Unit			
1	Memory Pac Tester			

REFERENCE DATA AND LITERATURE:

Nomenclature Card for Magnetic Core Memory Group AN/GYA-1(XN-1).

AN/GYA-1(XN-1) MAGNETIC CORE MEMORY GROUP

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

TRANSISTORS: Data not available.

SHIPPING DATA

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

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Computer Control Company, Incorporated Model no. TCM-4096/32-6	Framington, Mass.	NObsr-81533, 2 June 1960	\$47,753.00