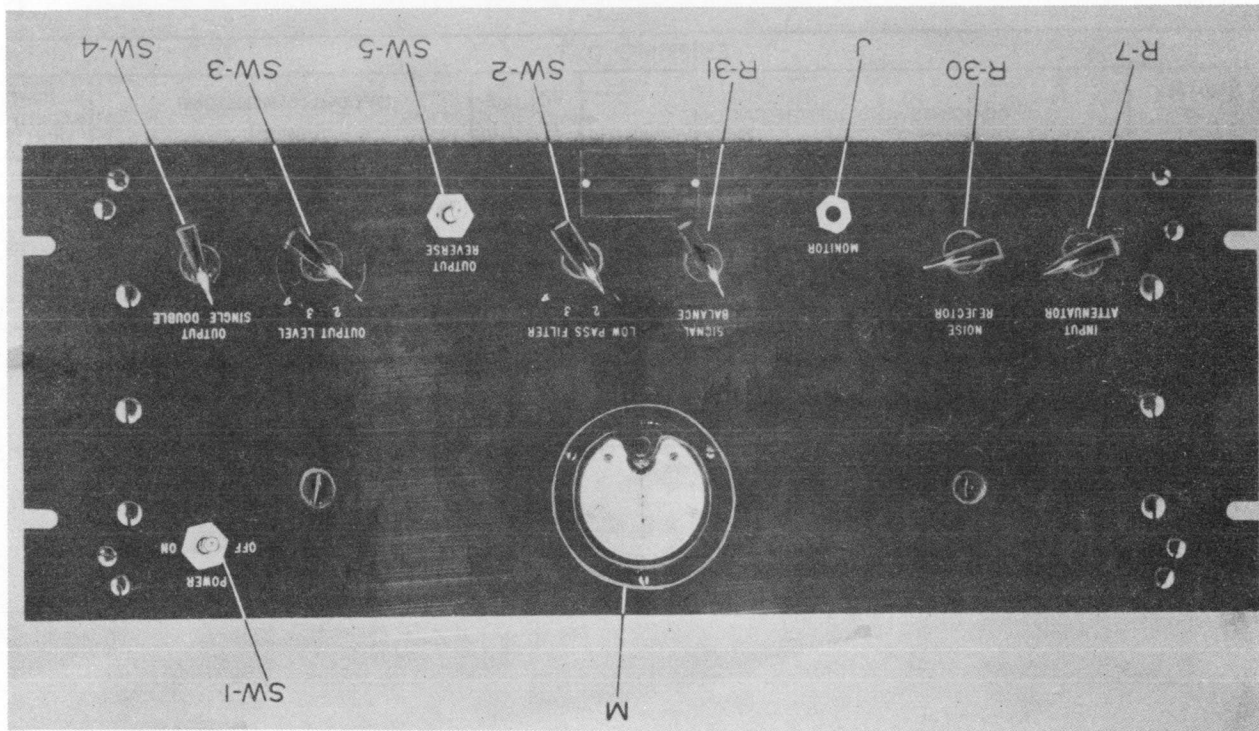


RECORDER DRIVING UNIT

AM-103/U



Recorder Driving Unit AM-103/U

FUNCTIONAL DESCRIPTION

The AM-103/U is designed to operate from a 110 volt, 60 cycle per second power source. The power consumption is approximately 110 watts. It is primarily a signal converter which accepts a Keyed tone at its input terminals and converts said tones into relatively pure high level polar or neutral Keyed DC. The output is suitable for actuating ink recorders, teleprinters, tone Keyers or transmitters, either directly or through relays.

No field changes in effect at time of preparation (21 June 1957).

RELATION TO OTHER EQUIPMENT

Identical to type 4-C Series B (Boehme)

ELECTRICAL AND MECHANICAL CHARACTERISTICS

INPUT IMPEDANCE: 500 or 5000 ohms
INPUT LEVEL: minus 50 to plus 20 db (6 mw ref).
INPUT FREQUENCY: 500 to 5000 cps
INPUT CIRCUIT: grounded or ungrounded
OUTPUT IMPEDANCE: 100 to 25,000 ohms

OUTPUT CIRCUIT: polar or neutral
POWER SOURCE REQUIRED: 110 v, 60 cps single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

H. O. Boehme Inc., New York, N.Y.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SJ7 (1) 6H6 (2) 6SN7GT
(3) 5Y3GT (2) 6V6

Total Tubes: (9)

REFERENCE DATA AND LITERATURE

Technical Manual for Recorder Driving Unit AM-103/U.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

AM-103/U

RECORDER DRIVING UNIT

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Recorder Driving Unit AM-103/U	3.9	14 X 16 X 30	80

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Recorder Driving Unit AM-103/U	7 X 8-1/4 X 19	40

6 August 1962

Cog Service: USN FSN:

AMPLIFIER, AUDIO FREQUENCY AM-2731/UGC

Functional Class:

USA

USN

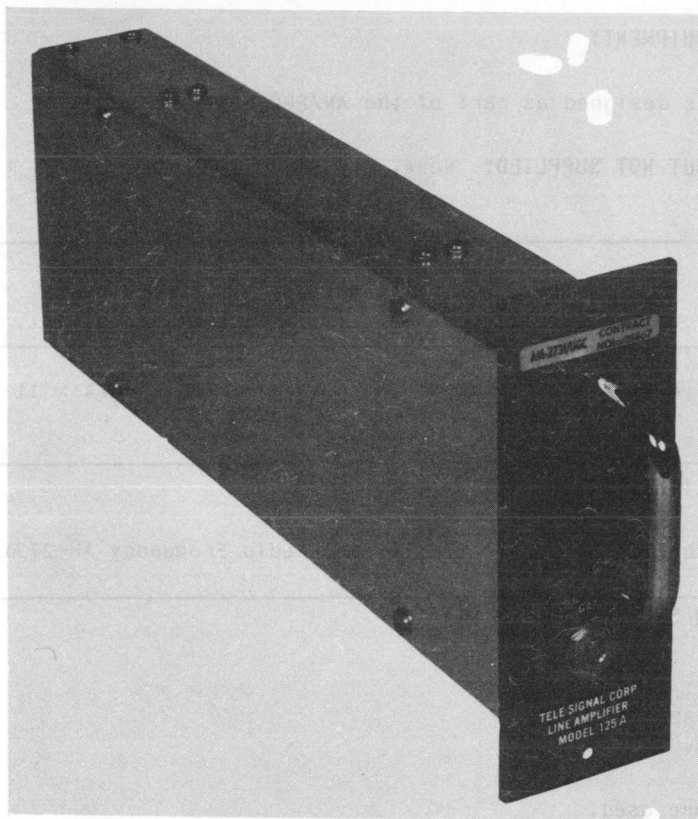
USAF

TYPE CLASS:

Std

Std

MANUFACTURER'S NAME/CODE NUMBER: Tele-Signal Corp., (10241).



Amplifier, Audio Frequency AM-2731/UGC

FUNCTIONAL DESCRIPTION:

The Amplifier, Audio Frequency AM-2731/UGC is designed as a transistorized push-pull amplifier capable of delivering P20 dbm, which is used as an input line amplifier in Terminal Telegraph Set AN/FGC-60(V).

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

TECHNICAL CHARACTERISTICS:

TYPE OF MOUNTING: Rack mounted.

AMPLIFICATION DATA

NOMINAL POWER OUTPUT: P4 dbm.

MINIMUM VOLTAGE GAIN: 36 db.

FREQUENCY RESPONSE

NORMAL OPERATING RANGE: 300 to 10,000 cps.

AM-2731/UGC AMPLIFIER, AUDIO FREQUENCY

VARIATION IN OUTPUT OVER OPERATING RANGE: Form 2 db.
NUMBER OF INPUT CHANNELS: 16 channels.
IMPEDANCE
INPUT: 600 ohms.
OUTPUT: 600 ohms.
OPERATING POWER RQMT: 15 v dc.

RELATION TO OTHER EQUIPMENT:

The AM-2731/UGC is designed as part of the AN/FGC-60(V).

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Audio Frequency AM-2731/UGC		2 x 5-1/4 x 11	1-1/4

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93854: Technical Manual for Amplifier, Audio Frequency AM-2731/UGC.

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)
------	----------------	--------------

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Tele-Signal Corp. Model 125A	Glen Cove, N. Y.	NObsr-81467	

1.5 AM-2731/UGC: 2

RADIO TELETYPE SET

AN/AGA-1

FUNCTIONAL DESCRIPTION

The AN/AGA-1 is an airborne auxiliary assembly terminal equipment used in conjunction with any voice modulated transmitter and receiver, standard or modified for transmission reception and visual recording of two tone audio signal.

The equipment provides one way reversible radio teletype.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

WORKING FREQUENCY RANGE: 2275 cps for space signal, 2475 cps for mark signals.

POWER SOURCE REQUIRED: 26 v DC at 10 amp.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corporation and Radio Frequency Laboratories.

Contract NObsr-29095 and NObsr-30063 respectively.

TUBE AND/OR CRYSTAL COMPLEMENT

- (1) 120384
- (1) 6SJ7G
- (4) 6SN7G/GT
- Total Tubes: (8)
- (1) 6N7G/GT
- (1) 6J5

REFERENCE DATA AND LITERATURE

Nomenclature Card for Radioteletype Set AN/AGA-1 dated 5 December 1946.

Technical Manual for Teletypewriter Terminal TT-31/AGA-1.

80 MA; Technical Manual for Teletype TT-30/AGA-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	Teletypewriter TT-30/AGA-1	10-1/4 x 10-1/2 x 13-1/2	23
1	Teletypewriter Terminal TT-30/AGA-1 incl	8 x 10-1/4 x 13-1/4	25
	(1) Mounting Base MT-B1-B	6-3/4 x 11-1/8 x 16-3/8	4
	(1) Audio Level Meter ME-7/U	4 x 4 x 4	1
	(1) Plug equipped w/cable clamp AN3106-18-85	1-5/16 in. dia	0.187
	(1) Plug, equipped w/cable clamp AN-3106-10SL	21/32 dia	0.062
	(1) Plug AN3106-14S-6P	1-1/16 dia	0.125

April 1958

Radio-Communication Terminal Equipment

MULTIPLEXER SET

AN/FCC-15(XN-1)

FUNCTIONAL DESCRIPTION

The AN/FCC-15(XN-1) combines 45 audio channels on one (1) Radio Frequency Carrier into a pulse train for modulation of a microwave transmitter. The AN/FCC-15(XN-1) also takes pulse train modulation from output of microwave receiver and decomposes into 45 audio channels. The AN/FCC-15(XN-1) provides facilities to indicate equipment failure.

The AN/FCC-15(XN-1) is used with but not a part of the AN/FRC-37().

No field changes in effect at time of preparation (23 June 1958).

TUBE AND/OR CRYSTAL COMPLEMENT

(1) HD6614	(3) OA2WA
(2) OB2WA	(8) 12AT7WA
(2) 2N117	(2) 5Y3WGTB
(103) 5670	(4) 5727-2D21W
(19) 6AG7Y	(2) 6J4WA

Total Tubes: (146)

(497) 1N277	(105) 1N457
(1) 1N458	(8) 1N459
(62) 1N540	(69) 1N628
(21) 1N69	(2) 1N70

Total Crystals: (765)

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF DIVISION: Time division.

TYPE OF TRAIN: Pulse train.

NUMBER OF CHANNELS: 45 channels.

OPERATING POWER RQMT: 117 v, 50 to 60 cps, single ph.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/FCC-15(XN-1) for the Multiplexer Set.

MANUFACTURER'S OR CONTRACTOR'S DATA

Federal Telecommunication Laboratories
Inc., Nutley, N.J.

Contract NObsr-71123, dated 30 November
1955.

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	Multiplexer Set AN/FCC-15(XN-) incl: (1) Multiplexer Power Supply Assembly Group OA-1576()/FCC-15 (1) Demultiplexer Power Supply Group OA-1577()/FCC-15 (1) Repeater Group OA-1603()/FCC-15 (1) Terminal Group OA-1604()/FCC-15		

15 August 1962

Cog Service: USN FSN:

MULTIPLEXER SET AN/FCC-15

Functional Class:

USA

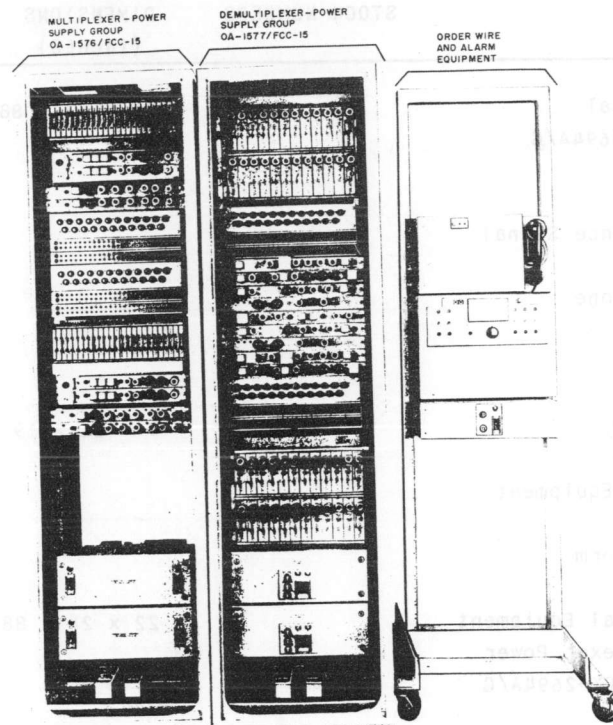
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Kellogg Switchboard & Supply Co., (33031).



Multiplexer Set AN/FCC-15

FUNCTIONAL DESCRIPTION:

The Multiplexer Set AN/FCC-15 is designed to combine 24 voice channels into a pulse train for modulation (PTM) of a microwave transmitter. This equipment takes PTM from output of microwave and combines into 24 voice channels. It also provides alarm facilities to indicate equipment failure.

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

TECHNICAL CHARACTERISTICS:

TYPE OF MULTIPLEXER: Time division-type.

NUMBER OF CHANNELS: 45 channels for each direction.

INTERCHANNEL CROSSTALK AT 100% MODULATION

45-CHANNEL OPERATION: 55 db down.

AUDIO INPUT IMPEDANCE OF BALANCED INPUTS: 600 ohms.

VIDEO PULSE OUTPUT VOLTAGE AND IMPEDANCE: 8 v peak min across 73 ohms.

AN/FCC-15 MULTIPLEXER SET

OPERATING POWER RQMT: 117 v ac, 50 to 60 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	Cabinet, Electrical Equipment CY-2694A/G		22 x 24 x 88	400
2	Attenuator Ass'y CN-440/FCC-15			
1	Generator, Reference Signal SG-240/FCC-15			
46	Modulator, Telephone MD-307/FCC-15			
4	Oscillator, A. F. O-505/FCC-15			
3	Power Supply Ass'y PP-1784/FCC-15		7 x 11 x 19	70
2	Rack, Electrical Equipment MT-1871/FCC-15			
4	Restorer, Pulse Form CN-441/FCC-15			
1	Cabinet, Electrical Equipment (for Demultiplexer Power Supply Group) CY-2694A/G		22 x 24 x 88	600
2	Attenuator Ass'y CN-439/FCC-15			
1	Control-Monitor C-2243/FCC-15		8 x 13 x 19	50
4	Demodulator, Telephone MD-308/FCC-15			
47	Demodulator, Telephone MD-309/FCC-15			
2	Demultiplexer Sub Ass'y MX-2245/FCC-15			
2	Demultiplexer Sub Ass'y MX-2246/FCC-15			
3	Demultiplexer Sub Ass'y MX-2247/FCC-15		1-3/4 x 13-1/2 x 19	30
3	Demultiplexer Sub Ass'y MX-2248/FCC-15		1-3/4 x 13-1/2 x 19	30
2	Power Supply PP-1783/FCC-15			
2	Rack, Electrical Equipment MT-1872/FCC-15			
1	Channel Gate MX-2268/FCC-15			

MULTIPLEXER SET AN/FCC-15

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Generator, Reference Signal SG-243/FCC-15			
1	Modulator, Telephone MD-312/FCC-15			
1	Rack, Electrical Equipment MT-1910/FCC-15		1-3/4 x 8 x 19	25
1	Rack, Electrical Equipment MT-1911/FCC-15		1-3/4 x 14-1/2 x 19	25
2	Receiver-Transmitter, Order Wire RT-431/FCC-15		9 x 12 x 19	40
1	Alarm-Monitor BZ-44/FCC-15		10 x 13 x 19	60
1	Control, Alarm C-2274/FCC-15		11 x 19 dia	50
2	Power Supply PP-1820/FCC-15		6 x 11 x 19	70

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93464(A): Technical Manual for Multiplexer Set AN/FCC-15.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (3) 5727/2D21W (3) 0A2WA (4) 0B2WA (2) 5Y3WGTA (30) 6AG7 (4) 417A(5842)
(13) 12AT7WA (120) 5670

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	46.20	850
1	46.20	650
1	2.65	75
1	1.30	85
1	1.78	85
1	1.94	65
1	2.30	55
1	0.15	25
1	0.27	25
1	2.75	135
1	2.75	135
1	4.45	60
1	4.30	40
1	4.30	40

AN/FCC-15 MULTIPLEXER SET

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: SHIPS-M-3233 Amend 1

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Kellogg Switchboard & Supply Company	Chicago, Illinois	N0bsr-75740, 10 May 1960	

REFERENCE DATA AND LITERATURE:

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

WIRING DATA

WIRE NO.	WIRE SIZE	WIRE TYPE	WIRE COLOR	WIRE LENGTH	WIRE WEIGHT
1	18	...	...	...	...
2	18	...	...	...	...
3	18	...	...	...	...
4	18	...	...	...	...
5	18	...	...	...	...
6	18	...	...	...	...
7	18	...	...	...	...
8	18	...	...	...	...
9	18	...	...	...	...
10	18	...	...	...	...
11	18	...	...	...	...
12	18	...	...	...	...
13	18	...	...	...	...
14	18	...	...	...	...
15	18	...	...	...	...
16	18	...	...	...	...
17	18	...	...	...	...
18	18	...	...	...	...
19	18	...	...	...	...
20	18	...	...	...	...

MULTIPLEXER SET

AN/FCC-15(V)

FUNCTIONAL DESCRIPTION

The AN/FCC-15(V) is designed as a time-division type of multiplexer that combines 45 audio channels on one (1) Radio Frequency (RF) Carrier (Giving 45 channels for each direction operating). The complement varies according to the installation requirements for the individual station.

No field changes in effect at time of preparation (4 April 1961).

OPERATING POWER RQMT: 117 v ac, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Kellogg Switchboard & Supply Company,
Chicago, Illinois.
Contract NObsr-75740.

RELATIONS TO OTHER EQUIPMENT

The AN/FCC-15(V) is designed to be used with, but is not part of Radio Set AN/FRC-37.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) 5727/2D21W	(3) OA2WA
(4) OB2WA	(2) 5Y3WGTA
(30) 6AG7	(4) 417A(5842)
(13) 12AT7WA	(120) 5670

Total Tubes: (179)

No Semi-Conductor Devices used.
No Crystals used.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF MULTIPLEXER: Time division type.

NUMBER OF NARROW BAND CHANNELS: 45.

NUMBER OF WIDE BAND CHANNELS: 22.

NARROW BAND FREQUENCY RESPONSE

ONE: 300 to 3500 cps (nominal) porm 2 db.

TWO: 325 to 2000 cps, porm 1.0 db.

THREE: 2000 to 3450 cps, P0.5 db, M1.8 db.

WIDE BAND FREQUENCY RESPONSE

ONE: 325 to 1000 cps, porm 1.0 db.

TWO: 1000 to 5000 cps, P1.0 db, M4 db.

THREE: 5000 to 7200 cps, 0 db, M6 db.

PHASE DISTORTION COEFFICIENT (NOMINAL): 250

usec max.

AUDIO INPUT IMPEDANCE: 600 ohms porm 10%.

VIDEO PULSE OUTPUT VOLTAGE: 8 v peak.

VIDEO IMPEDANCE: 73 ohms.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Multiplexer Set AN/FCC-15(V).

TYPE CLASSIFICATION (NAVY)
PROCUREMENT COGNIZANCE SHIPS-M-3233
DESIGN COGNIZANCE NAVY BUSHIPS
STOCK NO.
R.O.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Multiplexer Set AN/FCC-15(V) consists of:		
*	Multiplexer-Power Supply Group OA-1576/FCC-15	22-7/8 x 24 x 87-9/16	
*	Demultiplexer-Power Supply Group OA-1577/FCC-15	22-7/8 x 24 x 87-9/16	

Radio-Communication Terminal Equipment

AN/FCC-15(V)

MULTIPLEXER SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
*	Repeater Group OA-2559/FCC-15		
*	Alarm Group OA-2560/FCC-15		

Note: * Indicates that quantity is variable depending upon the type of installation.



QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	OA-2559/FCC-15		
*	OA-2560/FCC-15		

1 August 1962

Cog Service: USN

FSN: 5805-665-2500

TELEGRAPH TERMINAL AN/FCC-16

Functional Class:

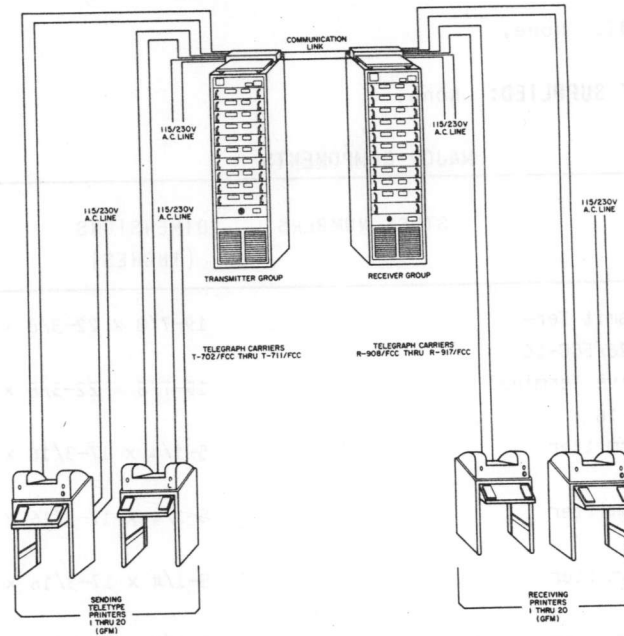
USA

USN

USAF

TYPE CLASS: Used by Used by

MANUFACTURER'S NAME/CODE NUMBER: Connecticut Telephone & Electric Co., (72217).



Telegraph Terminal AN/FCC-16

FUNCTIONAL DESCRIPTION:

The Telegraph Terminal AN/FCC-16 consists of transmitting and receiving channels which are capable of transmitting and receiving, from radio circuits and direct lines, signals originating in a 12 or 16 channel voice frequency telegraph carrier communication system. Each transmit channel receives dc current pulses (mark and space) from a teletype sending equipment and connects them into a frequency shift carrier in the voice frequency range. The frequency shift carrier is then applied to transmitting equipment in the communication system for radio transmission to telephone lines and to other stations.

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

TECHNICAL CHARACTERISTICS:

MULTIPLEXING DATA

TYPE: Frequency-division type.

AN/FCC-16 TELEGRAPH TERMINAL

NUMBER OF BANDS: 16 narrow-bands, or 8 narrow-bands.

NUMBER OF CHANNELS: 4 wide-band channels.

TYPE OF TERMINATION: 4-wire line termination.

LOOP DATA: Ac actuated, full duplex, neutral or polar input, neutral output operation.

TYPE OF SELECTION: Link type.

FREQUENCY: 170 cps for narrow-band channels; 425 cps for wide-band channels.

DOT FREQUENCY: 40 dot cps for narrow-band channels, 100 dot cps for wide-band channels.

OPERATING FREQUENCY: 382.5 to 3315 cps.

OPERATING POWER RQMT: 115 or 230 v ac, 50 to 60 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	Telegraph Carrier Transmit Terminal Cabinet CY-2526/FCC-16		19-7/8 x 22-3/8 x 87-1/2	400
1	Telegraph Carrier Receive Terminal Cabinet CY-2501/FCC-16		19-7/8 x 22-3/8 x 87-1/2	400
1	Telegraph Carrier Transmitter T-702/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-703/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-704/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-705/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-706/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-707/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-708/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-709/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-710/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Transmitter T-711/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Group Attenuator CN-526/FCC		5-7/32 x 5-3/8 x 19	3
1	Telegraph Carrier Receiver R-908/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-909/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-910/FCC-16		5-1/4 x 17-3/16 x 19	45

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph Carrier Receiver R-911/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-912/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-913/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-914/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-915/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-916/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Telegraph Carrier Receiver R-917/FCC-16		5-1/4 x 17-3/16 x 19	45
1	Receiver Group Amplifier R-536/FCC		5-1/4 x 10 x 19	13
1	Power Supply Panel (Transmitter Group Cabinet)		9 x 16 x 19	45
1	Power Supply Panel (Transmitter Group Cabinet)		9 x 16 x 19	45
1	Cable Ass'y (Transmitter Group Cabinet)		4-2/3 lg	
1	Cable Ass'y (Receiver Group Cabinet)		4-2/3 lg	
2	Technical Manual NAVSHIPS 94507		7/8 x 9 x 11-1/2	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94057: Technical Manual for Terminal Telegraph AN/FCC-16.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (40) 6C4W (92) 12AT7WA (24) 5751 (144) 5814 (20) 6146

CRYSTALS: None used.

SEMI-CONDUCTORS: (500) 1N540

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	81.0	400
	81.0	400
1		850
1		875
1		

AN/FCC-16 TELEGRAPH TERMINAL

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.7	13
1		

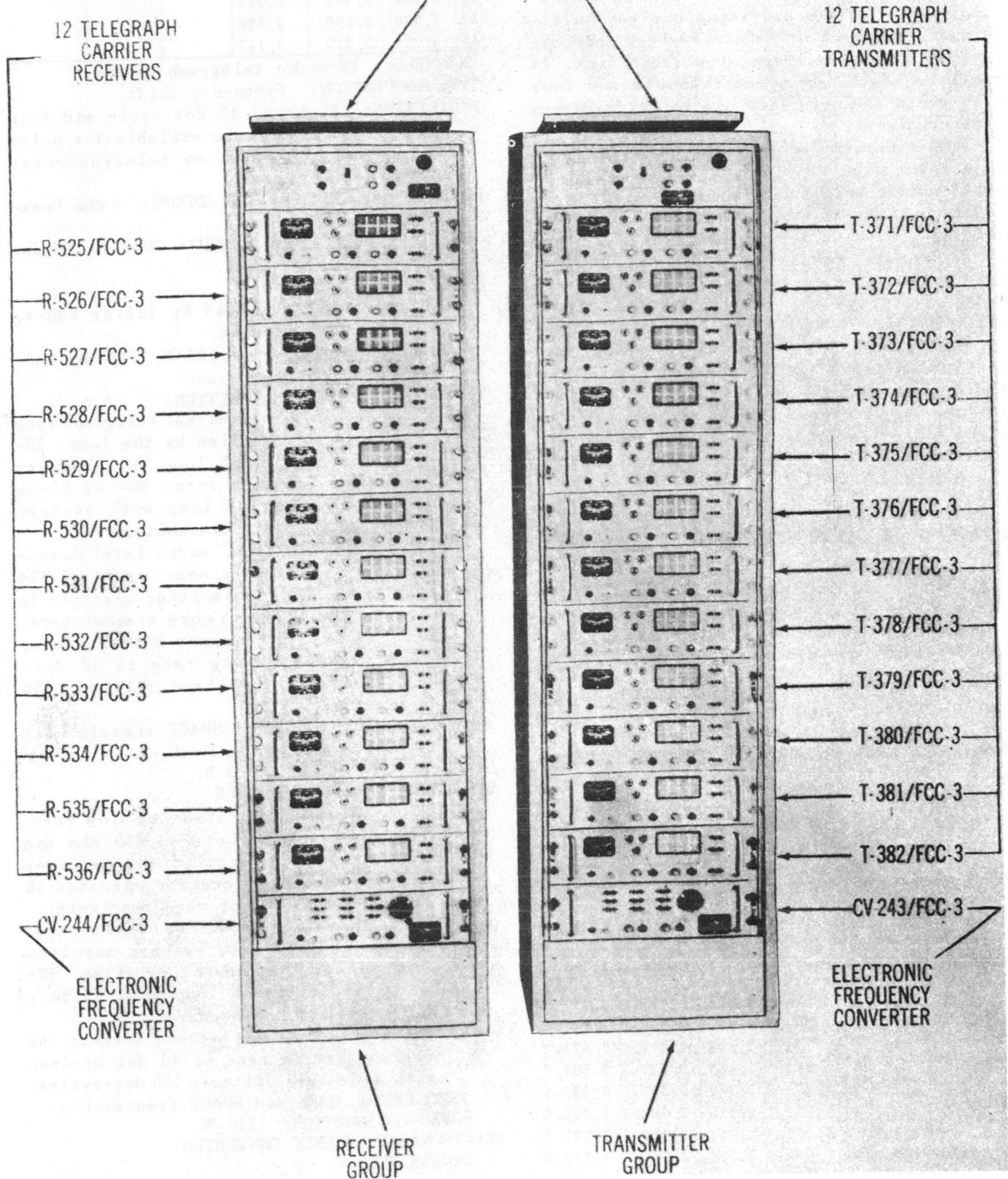
PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-T-19382(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Connecticut Telephone & Electric Co.	Meriden, Conn.	N0bsr-71380, 6 November 1958	

TELEGRAPH CARRIER TERMINAL

TWO TELEGRAPH CARRIER
TERMINAL CABINETS
CY-1195/FCC-3



Telegraph Carrier Terminal AN/FCC-3, Identification Of Units

FUNCTIONAL DESCRIPTION

Telegraph Carrier Terminal AN/FCC-3 is a shore-based system providing one-way multi-channel telegraph or teletypewriter communications over wire lines or a radio link. It combines eight low-speed channels and four high-speed channels into one voice-frequency carrier signal.

This equipment accepts neutral, polar, or tone input signals and furnishes neutral or polar signal outputs.

It consists of two cabinets, one containing the transmitting equipment and the other containing the receiving equipment. Any two receivers may be operated in frequency diversity to improve the quality of the transmission.

The system can be used for remote controlled keying of continuous wave or voice radio transmitting equipment. Line current for the polar or neutral loops can be supplied either externally or by the equipment.

Data on this sheet reflects the following field changes: FC1, FC2, FC3, FC4.

RELATION TO OTHER EQUIPMENT

This equipment is similar to Carrier Telegraph Terminals AN/FCC-7 and AN/FCC-8 except for the number of wide-band receivers and transmitters. In addition, the AN/FCC-3 uses two frequency converters, which the AN/FCC-8 does not include.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SYSTEM
FREQUENCY

RANGE: 300 to 3,400 cps
CARRIER SIGNAL FREQUENCIES (CPS)

Channel	Midband Center	Mark	Space	Modulated Channels		
				Midband Center	Mark	Space
85-cycle frequency shift						
1	425	467.5	382.5	2,975	2,932.5	3,017.5
2	595	637.5	552.5	2,805	2,762.5	2,847.5
3	765	807.5	722.5	2,635	2,592.5	2,677.5
4	935	977.5	892.5	2,465	2,422.5	2,507.5
5	1,105	1,147.5	1,063.5	2,295	2,252.5	2,337.5
6	1,275	1,317.5	1,232.5	2,125	2,082.5	2,167.5
7	1,445	1,487.5	1,402.5	1,955	1,912.5	1,997.5
8	1,615	1,657.5	1,572.5	1,785	1,742.5	1,827.5

170-cycle frequency shift

9	1,955	2,040	1,870		
10	2,380	2,465	2,295		
11	2,800	2,890	2,720		
12	3,280	3,315	3,145		

CHANNELS: 12 audio telegraph carrier.

TYPE MODULATION: Frequency shift.

FACILITIES: Eight to 40 dot-cycle and four 100 dot-cycle channels suitable for polar or neutral telegraph or teletypewriter operation.

POWER OUTPUT (TRANSMITTER GROUP): 6 dbm (maximum) into 600 ohms.

SENSITIVITY (RECEIVER GROUP): M40 to P6 dbm on a single channel.

POWER REQUIREMENTS

RECEIVER GROUP: 1,645 W, 115-or-230-v, 50- to 60- cycle ac.

TRANSMITTER GROUP: 1,125 W, 115- or 230-v, 50 to 60- cycle ac.

TELEGRAPH CARRIER TRANSMITTER

INPUT: 20- or 60-ma neutral telegraph loop with battery supplied by the loop; 30-ma polar telegraph loop with battery supplied from the loop; 20- or 60-ma neutral telegraph loop with battery supplied from the transmitter.

OUTPUT: 600-ohm line; audio level is continuously variable over range of M24 dbm to P6 dbm; transmitter operates in parallel with one or more transmitters.

KEYING RATE: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

FR FREQUENCY: MARK and SPACE signals with perm 3 cps of normal values.

POWER CONSUMPTION: 73 W.

TELEGRAPH CARRIER RECEIVER

INPUT: 600-ohm line; steady or slow varying audio signal between M40 dbm and P10 dbm at frequency of the receiver filter set used; receiver operates in parallel with one or more receivers.

OUTPUT: DC pulses of 20- or 60-ma neutral telegraph loop with battery supplied from either the loop or receiver; 30-ma polar telegraph loop with battery supplied from the receiver.

KEYING RATE: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

FREQUENCY: MARK and SPACE frequencies.

POWER CONSUMPTION: 110 W.

ELECTRONIC FREQUENCY CONVERTER

CV-243/FCC-3

December 1960

TELEGRAPH CARRIER TERMINAL**AN/FCC-3**

INPUT: Two 600-ohm inputs-one for signal to be frequency converted, the other for signal to be combined with the frequency converted signal; normal input level for eight channels into each input is MO.5 dbm. Maximum combined peak signal in 4.3 v at each input. For eight channels into the converted input alone, maximum peak signal input is 5.9 v. For 12 channels with normal input alone, maximum peak signal is 7.3 v.

OUTPUT: 600-ohm line ungrounded; equipment gain of 1 for signals from converted and normal input circuits to output; line ATTENUATOR provides from 0 to 40-db Attenuation in 2-db steps.

POWER CONSUMPTION: 50 W.

**ELECTRONIC FREQUENCY CONVERTER
CV-244/FCC-3**

INPUT: 600-ohm line ungrounded; includes line transformer and ATTENUATOR ranging from 0- to 40-db in 2-db steps; normal input level is 0.5 dbm; maximum combined input peak signal is 8.6 v.

OUTPUT: Two 600-ohm outputs; equipment gain of 1 for signals from input to converted and normal output circuits.

POWER CONSUMPTION: 50 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Frequency Laboratories Inc, Boonton,
N. J.

Part No. HC-4800.

Contract NObsr-52374, dated 4 April
1956.

Approximate Cost \$11,900.00.

TUBE AND/OR CRYSTAL COMPLEMENT

(38) 5Y3GT	(36) 6AL5W	(12) 6AU6
(12) 6C4	(24) 6J6	(12) 6X4W
(48) 6Y6G	(43) 12AU7	(16) 12AX7
(12) 0A2	(64) 0B2	
Total Tubes: (317)		
(2) CR-16/U		
Total Crystals: (2)		

REFERENCE DATA AND LITERATURE

NAVSHIPS 91901: Technical Manual for TELE-
GRAPH CARRIER TERMINAL AN/FCC-3, AN/FCC-7,
AN/FCC-8.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-T-15294A
STOCK NO. (SHIPS)
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Telegraph Carrier Terminal (Receiver Group)	92	34 x 35 x 108	1500
1	Telegraph Carrier Terminal (Transmitter Group)	92	34 x 35 x 108	1475

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Telegraph Carrier Terminal Cabinet CY-1195/FCC-3	24 x 24 x 93	
1	Telegraph Carrier Transmitter T-371/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-372/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-373/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-374/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-375/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-376/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-377/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-378/FCC-3	5-1/4 x 16 x 19	

AN/FCC-3

TELEGRAPH CARRIER TERMINAL

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Carrier Transmitter T-379/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-380/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-381/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-382/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-525/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-526/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-527/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-528/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-529/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-530/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-531/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-532/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-533/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-534/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-535/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-536/FCC-3	5-1/4 x 16 x 19	
1	Electronic Frequency Converter CV-243/FCC-3	5-1/4 x 16 x 19	
1	Electronic Frequency Converter CV-244/FCC-3	5-1/4 x 16 x 19	
13	Cable Assembly, Special Purpose, Electrical CX-2124/FCC-3	56 lg	
13	Cable Assembly, Power, Electrical CX-2125/U	52 lg	
1	Wiring Harness (Transmitter Group Cabinet) CX-2448/FCC-3	67 lg	
1	Wiring Harness (Receiver Group Cabinet) CX-2449/FCC-3	67 lg	
1	Maintenance Parts Kit		
2	Technical Manual NAVSHIPS 91901	12 x 15 x 24	

14 August 1962

Cog Service: USN FSN: 5805-557-5575 W/S

TELEGRAPH CARRIER TERMINAL AN/FCC-3A

Functional Class:

USA

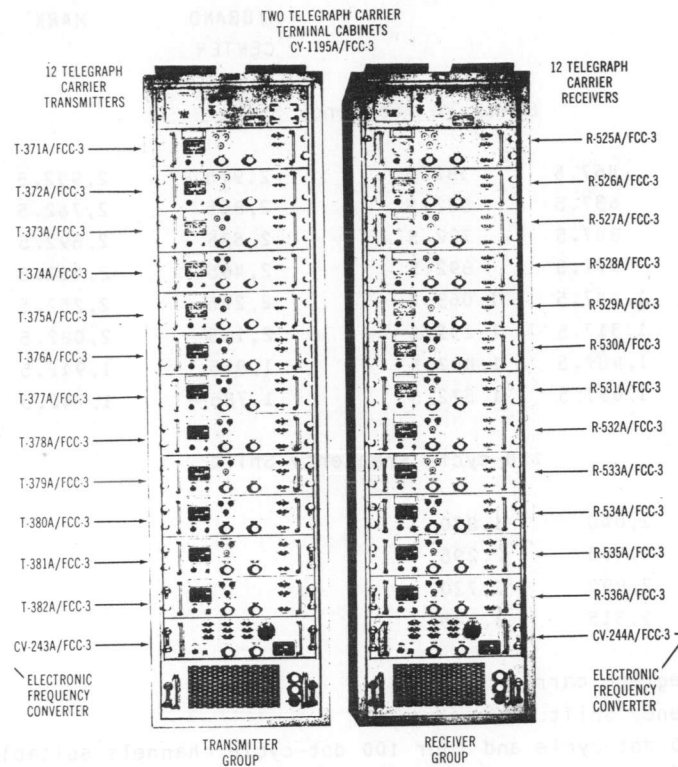
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Aermotive Equipment Corp.



Telegraph Carrier Terminal AN/FCC-3A

FUNCTIONAL DESCRIPTION:

Telegraph Carrier Terminal AN/FCC-3A is a shore-based system providing one-way multi-channel telegraph or teletypewriter communications over wire lines or a radio link. It combines eight low-speed channels and four high-speed channels into one voice-frequency carrier signal.

This equipment accepts neutral, polar, or tone input signals and furnishes neutral or polar signal outputs.

It consists of two cabinets, one containing the transmitting equipment and the other containing the receiving equipment. Any two receivers may be operated in frequency diversity to improve the quality of the transmission.

The system can be used for remote controlled keying of continuous wave or voice radio transmitting equipment. Line current for the polar or neutral loops can be supplied either externally or by the equipment.

No field changes in effect at time of preparation (19 August 1960).

AN/FCC-3A TELEGRAPH CARRIER TERMINAL

TECHNICAL CHARACTERISTICS:

SYSTEM:

FREQUENCY:

RANGE: 300 to 3,400 cps.

CARRIER SIGNAL FREQUENCIES (CPS):

CHANNEL	MIDBAND CENTER	MARK	SPACE	MODULATED CHANNELS		
				MIDBAND CENTER	MARK	SPACE
85-cycle Frequency Shift						
1	425	467.5	382.5	2,975	2,932.5	3,017.5
2	595	637.5	552.5	2,805	2,762.5	2,847.5
3	765	807.5	722.5	2,635	2,592.5	2,677.5
4	935	977.5	892.5	2,465	2,422.5	2,507.5
5	1,105	1,147.5	1,063.5	2,295	2,252.5	2,337.5
6	1,275	1,317.5	1,232.5	2,125	2,082.5	2,167.5
7	1,445	1,487.5	1,402.5	1,955	1,912.5	1,997.5
8	1,615	1,657.5	1,572.5	1,785	1,742.5	1,827.5
170-cycle Frequency Shift						
9	1,955	2,040	1,870			
10	2,380	2,465	2,295			
11	2,800	2,890	2,720			
12	3,280	3,315	3,145			

CHANNELS: 12 audio telegraph carrier.

TYPE MODULATION: Frequency shift.

FACILITIES: Eight to 40 dot-cycle and four 100 dot-cycle channels suitable for polar or neutral telegraph or teletypewriter operation.

POWER OUTPUT (TRANSMITTER GROUP): P10 dbm (maximum) into 600 ohms.

SENSITIVITY (RECEIVER GROUP): M40 to P6 dbm on a single channel.

POWER REQUIREMENTS:

RECEIVER GROUP: 1,110 W, 115- or 230-v 50- to 60-cycle ac.

TRANSMITTER GROUP: 935 W, 115- or 230-v 50- to 60-cycle ac.

TELEGRAPH CARRIER TRANSMITTER:

INPUT: 20- or 60-ma neutral telegraph loop with battery supplied by the loop; 30-ma polar telegraph loop with battery supplied from the loop; 20- or 60-ma neutral telegraph loop with battery supplied from the transmitter.

OUTPUT: 600-ohm line; audio level is continuously variable over range of M24 dbm to P10 dbm; transmitter operates in parallel with one or more transmitters.

KEYING RATE: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

FREQUENCY: MARK and SPACE signals with perm 3 cps of normal values.

POWER CONSUMPTION: 66 W.

TELEGRAPH CARRIER RECEIVER:

INPUT: 600-ohm line; steady or slow varying audio signal between M40 dbm and P10 dbm at

frequency of the receiver filter set used; receiver operates in parallel with one or more receivers.

OUTPUT: Dc pulses of 20- or 60-ma neutral telegraph loop with battery supplied from either the loop or receiver; 30-ma polar telegraph loop with battery supplied from the receiver.

KEYING RATE: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

FREQUENCY: MARK and SPACE frequencies.

POWER CONSUMPTION: 8/W.

ELECTRONIC FREQUENCY CONVERTER CV-243A/FCC-3:

INPUT: Two 600-ohm inputs, one for signal to be frequency converted, the other for signal to be combined with the frequency converted signal; normal input level for eight channels into each input is M0.5 dbm. Maximum combined peak signal is 4.3 v at each input. For eight channels into the converted input alone, maximum peak signal input is 5.9 v. For 12 channels with normal input alone, maximum peak signal is 7.3 v.

OUTPUT: 600-ohm line ungrounded; equipment gain of 1 for signals from converted and normal input circuits to output; line ATTENUATOR provides from 0- to 40-db Attenuation in 2-db steps.

POWER CONSUMPTION: 40 W.

ELECTRONIC FREQUENCY CONVERTER CV-244A/FCC-3:

INPUT: 600-ohm line, ungrounded; includes line transformer and ATTENUATOR ranging from 0- to 40-db in 2-db steps; normal input level is 0.5 dbm; maximum combined input peak signal is 8.6 v.

OUTPUT: Two 600-ohm outputs; equipment gain of 1 for signals from input to converted and normal output circuits.

POWER CONSUMPTION: 40 W.

RELATION TO OTHER EQUIPMENT:

This equipment is similar to Carrier Telegraph Terminal AN/FCC-7A except for the number of wide band receivers and transmitters.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Telegraph Carrier Terminal Cabinet CY-1195A/FCC-3		7-1/4 x 22-3/8 x 24	
1	Telegraph Carrier Transmitter T-371A/FCC-3		5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-372A/FCC-3		5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-373A/FCC-3		5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-374A/FCC-3		5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	

AN/FCC-3A TELEGRAPH CARRIER TERMINAL

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	T-375A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-376A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-377A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-378A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-379A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-380A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-381A/FCC-3			
1	Telegraph Carrier Transmitter		5-1/4 x 16 x 19	
	T-382A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-525A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-526A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-527A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-528A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-529A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-530A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-531A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-532A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-533A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-534A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-535A/FCC-3			
1	Telegraph Carrier Receiver		5-1/4 x 16 x 19	
	R-536A/FCC-3			
1	Electronic Frequency Converter		5-1/4 x 16 x 19	
	CV-243A/FCC-3			
1	Electronic Frequency Converter		5-1/4 x 16 x 19	
	CV-244A/FCC-3			
13	Cable Assembly, Special Purpose		56 lg	
	Electrical CX-4292/FCC-3A			
13	Cable Assembly, Power, Electrical		52 lg	
	CX-4291/U			

TELEGRAPH CARRIER TERMINAL AN/FCC-3A

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Wiring Harness (Transmitter Group Cabinet) CX-4290/FCC-3A		67 1g	
1	Wiring Harness (Receiver Group Cabinet) CX-4289/FCC-3A		67 1g	
2	Technical Manual NAVSHIPS 93109			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93109: Technical Manual for Telegraph Carrier Terminal AN/FCC-3A and AN/FCC-7A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (48) 5726 (12) 6AU6WA (12) 6135 (36) 5670 (24) 6216 (43) 5814A (16) 5751
(12) 0A2WA (64) 0B2WA

CRYSTALS: (2) CR-16/U

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	92	1400
1	92	1370

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-T-15294C(SHIPS) & Amend 2

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Aermotive Equipment Corp. Part no. 7860	Kansas City, Mo.	N0bsr-71273, 30 April 1956	

December 1960

Radio-Communication Terminal Equipment

TELEGRAPH CARRIER TERMINAL**AN/FCC-3B****FUNCTIONAL DESCRIPTION**

Telegraph Carrier Terminal AN/FCC-3B is a shore-based system providing one-way multi-channel telegraph or teletypewriter communications over wire lines or a radio link. It combines eight low-speed channels and four high-speed channels into one voice-frequency carrier signal.

This equipment accepts neutral, polar, or tone input signals and furnishes neutral or polar signal outputs.

It consists of two cabinets, one containing the transmitting equipment and the other containing the receiving equipment. Any two receivers may be operated in frequency diversity to improve the quality of the transmission.

The system can be used for remote controlled keying of continuous wave or voice radio transmitting equipment. Line current for the polar or neutral loops can be supplied either externally or by the equipment.

No field changes in effect at time of preparation (2 September 1960).

RELATION TO OTHER EQUIPMENT

This equipment is a development of Terminal, Telegraph Carrier AN/FCC-3A, type I and type II, but it is not interchangeable due to extensive circuit changes made in all transmitters, receivers, and converters.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**SYSTEM**

CHANNELS: 12 audio telegraph carrier.

TYPE MODULATION: Frequency shift.

FACILITIES: Eight to 40 dot-cycle and four 100 dot-cycle channels suitable for polar or neutral telegraph or teletypewriter operation.

POWER REQUIREMENTS

RECEIVER GROUP: 115 or 230 v, 50 to 60 cyc, single ph, AC.

TRANSMITTER GROUP: 115 or 230 v, 50 to 60 cyc, single ph, AC.

TELEGRAPH CARRIER TRANSMITTER

KEYING RATE: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot-cycles.

FREQUENCY: MARK and SPACE signals.

TELEGRAPH CARRIER RECEIVER

KEYING RATE: With narrow-band filters, the maximum keying rate is 40 dot-cycles; with wide-band filters, 100 dot cycles.

FREQUENCY: MARK and SPACE frequencies.

MANUFACTURER'S OR CONTRACTOR'S DATA

Warren Mfg Co., Littleton, Mass.

Part No. 2056.371-1.

Contract NObsr-75316.

Contract NObsr-75666.

TUBE AND/OR CRYSTAL COMPLIMENT

No Electron Tube or Crystal data available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93109: Technical Manual for TELEGRAPH CARRIER TERMINAL AN/FCC-3A, AN/FCC-7A.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-T-15294C
STOCK NO. (SHIPS) and Amend 2
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Telegraph Carrier Terminal (Receiver Group)	92	34 x 35 x 108	
1	Telegraph Carrier Terminal (Transmitter Group)	92	34 x 35 x 108	

AN/FCC-3B

TELEGRAPH CARRIER TERMINAL

EQUIPMENT SUPPLIED DATA

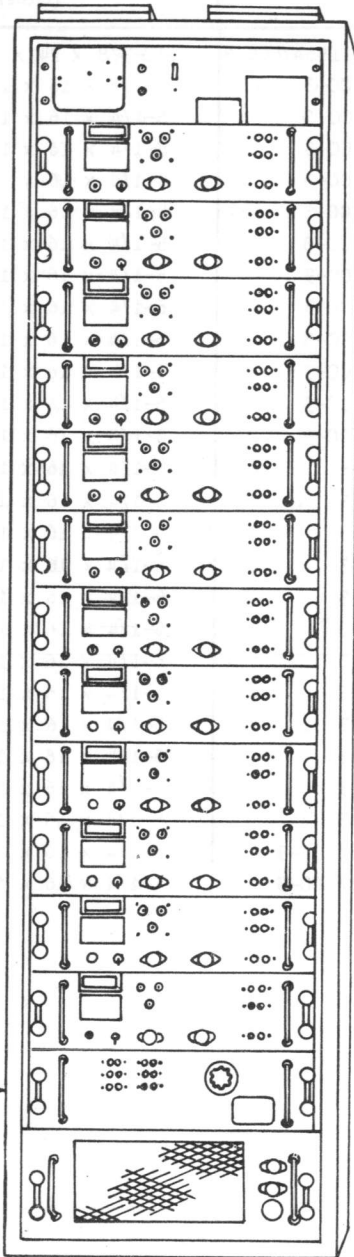
QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Telegraph Carrier Terminal Cabinet CY-1195A/FCC-3	22-3/8 x 24 x 87-9/16	
1	Telegraph Carrier Transmitter T-371B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-372B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-373B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-374B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-375B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-376B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-377B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-378B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-379B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-380B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-381B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Transmitter T-382B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-525B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-526B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-527B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-528B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-529B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-530B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-531B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-532B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-533B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-534B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-535B/FCC-3	5-1/4 x 16 x 19	
1	Telegraph Carrier Receiver R-536B/FCC-3	5-1/4 x 16 x 19	
1	Electronic Frequency Converter CV-243B/FCC-3	5-1/4 x 16 x 19	
1	Electronic Frequency Converter CV-244B/FCC-3	5-1/4 x 16 x 19	

TERMINAL TELEGRAPH CARRIER

AN/FCC-3C

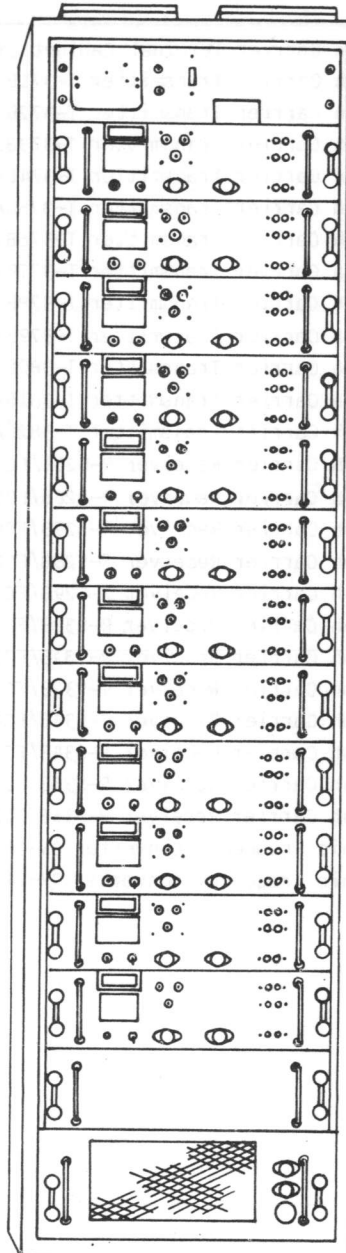
TWO TELEGRAPH CARRIER TERMINAL CABINETS

12 TELEGRAPH
CARRIER
TRANSMITTERS



TRANSMITTER
GROUP

12 TELEGRAPH
CARRIER
RECEIVERS



RECEIVER
GROUP

Telegraph Carrier Terminal AN/FCC-3C

AN/FCC-3C**TERMINAL TELEGRAPH CARRIER****FUNCTIONAL DESCRIPTION**

Telegraph Carrier Terminal AN/FCC-3C is a shore-based system providing one-way multi-channel telegraph or teletype communications over wire lines or a radio link. It combines eight low-speed channels and four high-speed channels into voice-frequency carrier signal.

This equipment accepts neutral, polar, or tone input signals and furnishes neutral or polar signal outputs.

It consists of two cabinets, one containing the transmitting equipment and the other containing the receiving equipment. Any two receivers may be operated in frequency diversity to improve the quality of the transmission.

The system can be used for remote controlled keying of continuous wave or voice radio transmitting equipment. Line current for the polar or neutral loops can be supplied either externally or by the equipment.

No field changes in effect at time of preparation (5 November 1960).

RELATION TO OTHER EQUIPMENT

This equipment is identical to the AN/FCC-3B Telegraph Carrier Terminal with the exception that neither of the Frequency Converters CV-243B/FCC-3 or CV-244B/FCC-3 are supplied. Instead, these units are replaced by a Group Attenuator CN-609/FCC in the Transmitter Group and a blank panel in the Receiver Group.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Teletypewriters, Teleprinters.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEPTION AND TRANSMISSION: Frequency shift audio signals.

FREQUENCY RANGE: 382.5 cps to 3315 cps.

POWER OUTPUT OF EACH TRANSMITTER: M24 dbm to

P6 dbm.

OUTPUT SIGNAL CHARACTERISTICS: Frequency shifted signals; porm 42.5 cps for channels 1 thru 8 and porm 85 cps for channels 9 thru 12 about each center channel frequency.

NARROW BAND CHANNELS: 425 cps, 595 cps, 765 cps, 935 cps, 1105 cps, 1275 cps, 1145 cps, and 1615 cps.

WIDE BAND CHANNELS: 1955 cps, 2380 cps, 2805 cps, and 3230 cps.

ACCURACIES: Mark and Space frequencies porm 3 cps; overall telegraph signal distortion limit 5% except for 8% on 425 cps channel; phase distortion limit 2.0 milliseconds.

POWER SOURCE: 115/230 v ac from 50 to 60 cps.

HEAT DISSIPATION: 2000 W.

TELEPHONE LINE IMPEDANCE: 600 ohms.

TELEGRAPH LOOP: Neutral 20 to 60 ma; Polar 30 ma.

TWO CHANNELS MAY BE OPERATED IN FREQUENCY DIVERSITY

SHORE BASED EQUIPMENT: Deck mounted.

MOUNTING DIMENSIONS: 4-5/8 in. dia. holes on 16-3/4 in. x 19-3/8 in. centers each of two cabinets.

UNATTENDED OPERATION EXCEPT FOR MONITORING AND ADJUSTING

MANUFACTURER'S OR CONTRACTOR'S DATA

The Warren Mfg Co. Inc., Littleton, Mass.
Part No. 2056.371-3.

Contract NObsr-75854 dated, 29 May 1959.

TUBE AND/OR CRYSTAL COMPLEMENT

(12) 0A2WA	(24) 0B2WA
(12) 6AU6WA	(36) 5670
(48) 5726	(12) 5751
(36) 5814A	(12) 6135
(24) 6216	

Total Tubes: (216)

SEMI-CONDUCTORS

(72) 1N538	(48) 1N540
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Total Semi-Conductors: (120)

December 1960

Radio-Communication Terminal Equipment

TERMINAL TELEGRAPH CARRIER

AN/FCC-3C

No Crystals used.

TYPE CLASSIFICATION (NAVY)
 DESIGN COGNIZANCE NAVY BUSHIPS
 PROCUREMENT COGNIZANCE MIL-T-
 STOCK NO. 15294D(SHIPS)
 R.D.B. IDENT. NO.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93109: Technical Manual for Telegraph Carrier Terminal AN/FCC-3A, -3B, -3C and AN/FCC-7A, -7B, -7C.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter Group	92	34 x 35 x 108	1370
1	Receiver Group	92	34 x 35 x 108	1400

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Carrier Terminal AN/FCC-3C includes:		
2	Cabinet, Electrical Equipment CY-1195A/FCC-3	22-3/8 x 24 x 87-9/16	
1	Transmitter, Telegraph Carrier T-371B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-372B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-373B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-374B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-375B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-376B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-377B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-378B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-379B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-380B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-381B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-382B/FCC-3	5-1/4 x 16 x 19	
1	Attenuator, Variable CN-609/FCC	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-525B/FCC	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-526B/FCC	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-527B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-528B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-529B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-530B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-531B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-532B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-533B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-534B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-535B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-536B/FCC-3	5-1/4 x 16 x 19	

April 1959

TERMINAL TELEGRAPH CARRIER**AN/FCC-7****FUNCTIONAL DESCRIPTION**

The AN/FCC-7 consists of both transmitters and receivers for 12 or 16 channel voice frequency telegraph carrier communication system capable of being used on radio circuits or wire lines. The transmitter converts the direct current (DC) telegraph pulses to frequency shift MARK and SPACE audio signals. The receiver converts the frequency shift audio telegraph signals of the channel to direct current (DC) pulses for operation of telegraph printer or other telegraph end equipment.

Data on this sheet reflects the following field changes, change 1, 2 and 3.

RELATION TO OTHER EQUIPMENT

The AN/FCC-7 is similar to the AN/FCC-3 except four wide-band units are omitted.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Telegraph printers or other telegraph equipment. For test and adjustment purposes, a Distortion Test Set TS-383A/GG and teletype Test Set TS-611/FG is recommend.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

NUMBER OF CHANNELS: 12 audio telegraph carrier channels.

POWER OUTPUT (TRANSMITTER GROUP): 6 dbm max into 600 ohms.

SENSITIVITY (RECEIVER GROUP): -40 dbm to +6 dbm on a single channel.

FREQUENCY RANGE: 300 to 3400 cps.

POWER REQUIREMENTS

RECEIVER GROUP: 115/230 v, 50 to 60 cps, 1645 W.

TRANSMITTER GROUP: 115/230 v, 50 to 60 cps, 1125 W.

TELEGRAPH CARRIER TRANSMITTER

INPUT: 20 or 60 ma neutral telegraph loop w/battery supplied by the loop. 30 ma polar telegraph loop w/battery supplied from loop. 20 or 60 ma neutral telegraph loop w/battery supplied from the transmitter.

OUTPUT: 600 ohm line. Audio output level continuously variable over range of -24 dbm to +6 dbm. Operates in parallel

with one or more transmitters.

KEYING RATE: With narrow-band filters the max keying is 40 dot cps. With wide-band filters, the max keying rate is 100 dot cps.

FREQUENCY: MARK and SPACE signals with ± 3 cps of normal values.

TELEGRAPH CARRIER RECEIVER

INPUT: 600 ohm line. Steady or slow varying audio signal between -40 dbm and +10 dbm at frequency of the receiver filter set used. Operates in parallel with one or more receivers.

OUTPUT: DC pulses of 20 or 60 ma neutral telegraph loop with battery supplied from either the loop or receiver. 30 ma polar telegraph loop with battery supplied from the receiver.

KEYING RATE: With narrow-band filters, the max keying rate is 40 dot cps. With the wide-band filters the max keying rate 100 dot cps.

FREQUENCY: MARK and SPACE ± 3 cps of normal values.

ELECTRONIC FREQUENCY CONVERTER CV-243/FCC-3.

INPUT: Two 600 ohms inputs; one for signal to be frequency converted, the other for signal to be combined w/the frequency converted signal. Normal input level for 8 channels into each input is -0.5 dbm. Max combined peak signal is 4.3 at each input. For 8 channels into the converted input alone, max peak signal input is 5.9 v. For 12 channels with normal input alone. Max peak signal is 7.3 v.

OUTPUT: 600 ohm line, ungrounded. Equipment gain of one converted and normal input circuits to output. Line ATTENUATOR provides from 0 to 40 db attenuation in 2 db steps.

ELECTRONIC FREQUENCY CONVERTER CV-244/FCC-3

INPUT: 600 ohm line ungrounded; includes line transformer and ATTENUATOR 0 to -40 db in 2 db steps. Normal input level is 0.5 dbm. Max combined peak signal is 8.6 v.

OUTPUT: Two 600 ohm outputs. Equipment gain of one for signals from input to converted output circuit. Equipment gain of one for signals from input to normal output.

POWER CONSUMPTION

April 1959

Radio-Communication Terminal Equipment

AN/FCC-7

TERMINAL TELEGRAPH CARRIER

TRANSMITTER: 73 W.
 RECEIVER: 110 W.
 CABINET: 50 W.
 CONVERTER: 50 W each.

(2) 1N71 (2) CR-16/U
 Total Crystals: (4)

MANUFACTURER'S OR CONTRACTOR'S DATA

Northern Radio Company Inc., New York,
 N. Y.
 Contract NObsr 71154, dated 31 Jan-
 uary 1956.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91901: Technical Manual for Tele-
 graph Carrier Terminal AN/FCC-3, AN/FCC-7
 and AN/FCC-8.

TUBE AND/OR CRYSTAL COMPLEMENT

(38) 5Y3GT (36) 6AL5W
 (12) 6C4 (24) 6J6
 (12) 6X4W (48) 6Y6G
 (43) 12AU7 (16) 12AX7
 (12) OA2 (64) OB2

Total Tubes: (317)

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	Telegraph Carrier Terminal AN/FCC-7	101.0	39 X 44 X 102	1785 ea
1	Set of Equipment Spares	3	14 X 18 X 29	135

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Telegraph Carrier Terminal Cabinet CY-1196/FCC-3 Including:	24 X 24 X 93	
1 ea	Telegraph Carrier Transmitter T-371/FCC-3 thru T-382/FCC-3	5-1/4 X 16 X 19	
1 ea	Telegraph Carrier Receiver R-525/FCC-3 thru R-536/FCC-3	5-1/4 X 16 X 19	
1	Electronic Frequency Converter CV-243/FCC-3	5-1/4 X 16 X 19	
1	Electronic Frequency Converter CV-244/FCC-3	5-1/4 X 16 X 19	
13	Cable Ass'y Special Purpose Electrical CX-2124/FCC-3	56 lg	
13	Cable Ass'y Power Electrical CX-2125/U	52 lg	
1	Wiring Harness (Transmitter Group Cabinet) CX-2448/FCC-3	67 lg	
1	Wiring Harness (Transmitter Group Cabinet) CX-2449/FCC-3	67 lg	
1	Maintenance Parts Kit		
2	Technical Manuals	3/4 X 8-3/4 X 11-1/2	

UNCLASSIFIED

April 1959

Radio-Communication Terminal Equipment

TERMINAL TELEGRAPH CARRIER

AN/FCC-7A

FUNCTIONAL DESCRIPTION

The AN/FCC-7A consists of both the transmitting and receiving groups of terminals for an 8 or 16 channel voice-frequency Telegraph Carrier Communication system capable of being used on radio circuits or wire lines. Frequency shift modulation is employed in all channels.

No field changes in effect at time of preparation (26 September 1958).

TUBE AND/OR CRYSTAL COMPLEMENT

- | | |
|------------|----------------|
| (1) 0A2WA | (9) 0B2WA |
| (3) 5670 | (4) 5726-6AL5W |
| (5) 5751 | (10) 5814A |
| (1) 6AU6WA | (2) 6135 |
| (2) 6216 | |

Total Tubes: (37)

- | | |
|-----------|------------|
| (7) 1N538 | (12) 1N540 |
| (2) 1N71 | |

Total Crystals: (21)

ELECTRICAL AND MECHANICAL CHARACTERISTICS

- TYPE OF DIVISION: Frequency-division type.
- NUMBER OF CHANNELS: 8 channels.
- FREQUENCY RANGE: 425 to 1615 cyc mid-band channel carrier frequency.
- SPACING: 170 cyc spacing.
- KEYING RATE: 40 dot cps keying rate.
- OPERATING POWER REQUIREMENTS: 115 v or 230 v AC, 50 to 60 cps, single ph.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/FCC-7A for the terminal Telegraph Carrier.

MANUFACTURER'S OR CONTRACTOR'S DATA

Aermotive Equipment Corp., Kansas City, Mo.
Contract NObsr-71273.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE MIL-T-15294C Amend

STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiver Group OA-1627/FCC-7A		
1	Transmitter Group OA-1628/FCC-7A		
1	Receiver Telegraph Carrier R-532A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-371A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-372A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-373A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-374A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-375A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-376A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-377A/FCC-3	5-1/4 X 16 X 19	
1	Transmitter Telegraph Carrier T-378A/FCC-3	5-1/4 X 16 X 19	
1	Electronic Frequency Converter CV-243A/FCC-3	5-1/4 X 16 X 19	
1	Electronic Frequency Converter CV-244A/FCC-3	5-1/4 X 16 X 19	
1	Wiring Harness CX-2448/FCC-3		
1	Cabinet Electrical Equipment CY-1195A/FCC-3	22-3/8 X 24 X 87-9/16	
1	Receiver Telegraph Carrier R-525A/FCC-3	5-1/4 X 16 X 19	

UNCLASSIFIED

1.5 AN/FCC-7A: 1

December 1960

Radio-Communication Terminal Equipment

TERMINAL TELEGRAPH CARRIER**AN/FCC-7B****FUNCTIONAL DESCRIPTION**

The AN/FCC-7B consists of 8 narrow band transmitter and receiver channels. The transmitting section accepts direct current (DC) pulsed telegraph signals and converts them to frequency shift MARK-SPACE audio tones. The receiving section accepts frequency shift MARK-SPACE audio tones and converts them to dc pulsed telegraph signals. Both transmitters and receivers are compatible with either polar or neutral loops. The channel speed is 40 dot cycles per second (cps).

No field changes in effect at time of preparation (13 September 1960).

RELATION TO OTHER EQUIPMENT

The AN/FCC-7B is comparable to Terminal, Telegraph Carrier AN/FCC-7A, Type I and Type II, but extensive circuit changes have been made in all transmitters, receivers and converters.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF EMISSION: FS Audio.

TYPE OF FREQUENCY CONTROL: Master oscillator.

NUMBER OF CHANNELS: 8 channels.

CHANNEL SPEED: 40 dot cps.

OPERATING FREQUENCY RANGE

NARROW BAND: 382.5 to 1657.5 cps.

OPERATING POWER RQMT: 115/230 v ac, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Warren Mfg Co., Littleton, Mass.

Part No. 2056.371-2.

Contract NObsr-75316, dated 7 January 1959.

TUBE AND/OR CRYSTAL COMPLEMENT

(64) 0A2WA	(24) 0B2WA
(36) 5670	(48) 5726-6AL5W
(12) 5751	(43) 5814A
(12) 6AU6WA	(12) 6C4WA
(24) 6216	

Total Tubes: (275)

SEMI-CONDUCTORS

(48) 1N538	(76) 1N540
(2) 1N71	

Total Semi-Conductors: (126)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93109: Technical Manual for Terminal, Telegraph Carrier AN/FCC-7B.

NAVSHIPS 93400: Preliminary Data Form for Terminal, Telegraph Carrier AN/FCC-7B.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE NAVY BUSHIPS
PROCUREMENT COGNIZANCE MIL-T-15294C(SHIPS)
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Terminal, Telegraph Carrier AN/FCC-7B consists of:	22-3/8 x 24 x 87-9/16	
1	Converter, Frequency Electronic CV-243B/FCC-3	5-1/4 x 16 x 19	
1	Converter, Frequency Electronic CV-244B/FCC-3	5-1/4 x 16 x 19	
2	Cabinet, Electrical Equipment CY-1195A/FCC-3	22-3/8 x 24 x 87-9/16	
1	Transmitter, Telegraph Carrier T-371B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-372B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-373B/FCC-3	5-1/4 x 16 x 19	

AN/FCC-7B

TERMINAL TELEGRAPH CARRIER

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter, Telegraph Carrier T-374B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-375B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-376B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-377B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-378B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-525B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-526B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-527B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-528B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-529B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-530B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-531B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-532B/FCC-3	5-1/4 x 16 x 19	

TERMINAL TELEGRAPH CARRIER

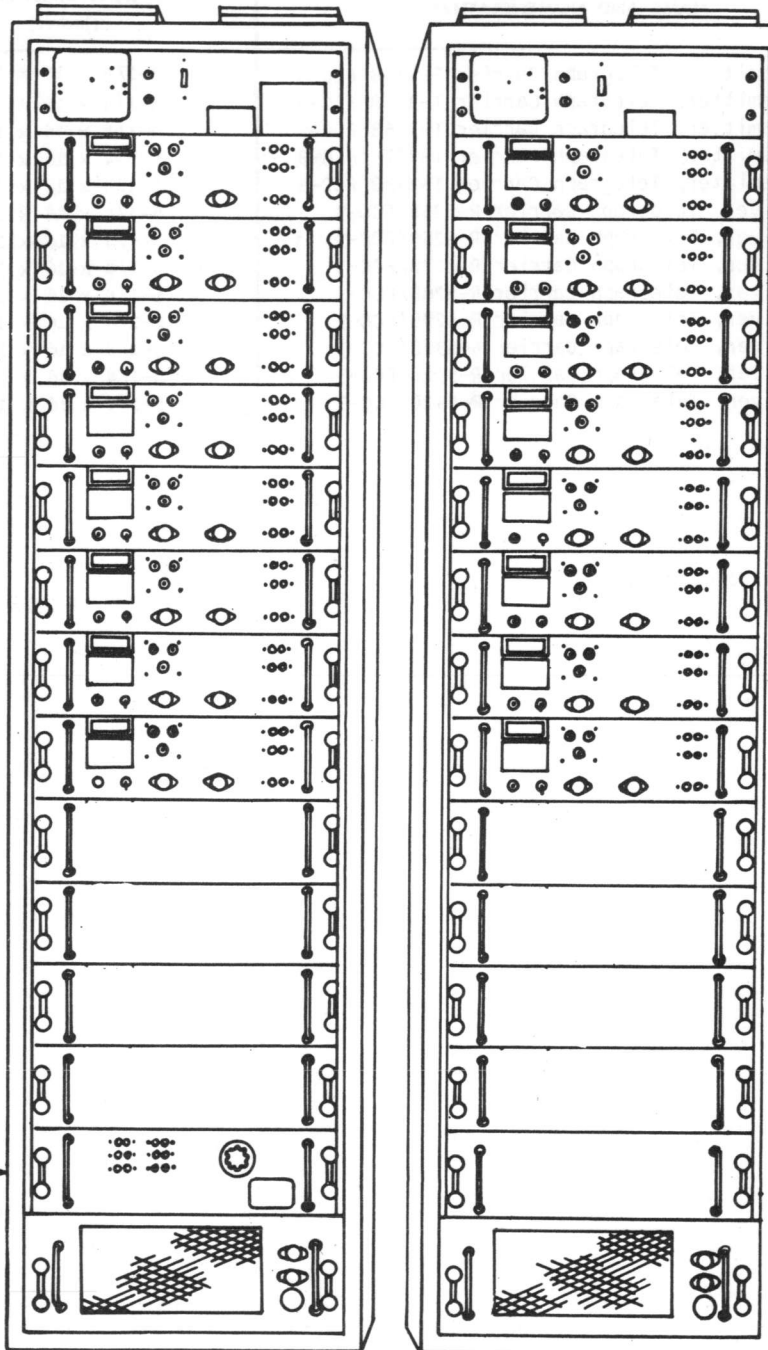
AN/FCC-7C

TWO TELEGRAPH CARRIER
TERMINAL CABINETS

8 TELEGRAPH
CARRIER
TRANSMITTERS

8 TELEGRAPH
CARRIER
RECEIVERS

GROUP
ATTENUATOR



TRANSMITTER
GROUP

RECEIVER
GROUP

Telegraph Carrier Terminal AN/FCC-7C

AN/FCC-7C**TERMINAL TELEGRAPH CARRIER****FUNCTIONAL DESCRIPTION**

Telegraph Carrier Terminal AN/FCC-7C consists of two groups; a Transmitter Group and a Receiver Group. The Transmitter Group is used to convert the output of several telegraph teletypewriters into audio frequency signals suitable for transmission over telephone lines or for modulation of a radio frequency transmitter. The Receiver Group is used to select the output of a particular transmitter unit from the telephone line or radio frequency receiver and convert its signal into an output suitable for operation of a teleprinter.

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

RELATION TO OTHER EQUIPMENT

This equipment is identical to the AN/FCC-7B Telegraph Carrier Terminal with the exception that neither of the Frequency Converters CV-243B/FCC-3 or CV-244B/FCC-3 are supplied. Instead, these units are replaced by a Group Attenuator CN-609/FCC in the Transmitter Group and a blank panel in the Receiver Group.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

Teletypewriters, Teleprinters.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RECEPTION AND TRANSMISSION: Frequency shift audio signals.

FREQUENCY RANGE: 382.5 cps to 1657.5 cps.

POWER OUTPUT OF EACH TRANSMITTER: M24 dbm to P6 dbm.

OUTPUT SIGNAL CHARACTERISTICS: Frequency shifted signals; porm 42.5 cps for channels 1 thru 8 about each center channel frequency.

NARROW BAND CHANNELS: 425 cps, 595 cps, 765 cps, 935 cps, 1105 cps, 1275 cps, 1145 cps, and 1615 cps.

ACCURACIES: Mark and Space frequencies porm 3 cps; overall telegraph signal distortion limit 5% except for 8% on 425 cps channel; phase distortion limit 2.0 milliseconds.

POWER SOURCE: 115/230 v ac from 50 to 60 cps.

HEAT DISSIPATION: 1400 W.

TELEPHONE LINE IMPEDANCE: 600 ohms.

TELEGRAPH LOOP: Neutral 20 to 60 ma; Polar 30 ma.

TWO CHANNELS MAY BE OPERATED IN FREQUENCY DIVERSITY

SHORE BASED EQUIPMENT: Deck Mounted.

MOUNTING DIMENSIONS: 4-5/8 in. dia holes on 16-3/4 in. x 19-3/8 in. centers each of two cabinets.

UNATTENDED OPERATION EXCEPT FOR MONITORING AND ADJUSTING.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Warren Mfg Co. Inc., Littleton, Mass.
Part No. 2056.371-4.
Contract NObsr-75854.
Contract NObsr-81488.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) OA2WA	(16) OB2WA	(8) 6AU6WA
(16) 6216	(24) 5670	(32) 5726
(8) 5751	(24) 5814A	(8) 6135

Total Tubes: (144)

No Crystals used.

SEMI-CONDUCTORS

(48) 1N538 (32) 1N540

Total Semi-Conductors: (80)

REFERENCE DATA AND LITERATURE

NAVSHIPS 93109: Technical Manual for Telegraph Terminal AN/FCC-3A, -3B, -3C and AN/FCC-7A, -7B, -7C.

TYPE CLASSIFICATION (NAVY)
DESIGN COGNIZANCE USN, BUSHIPS
PROCUREMENT COGNIZANCE SPEC: MIL-T-15294D
STOCK NO. (SHIPS)
R.D.B. IDENT. NO.

TERMINAL TELEGRAPH CARRIER

AN/FCC-7C

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitter Group	92	34 x 35 x 108	1200
1	Receiver Group	92	34 x 35 x 108	1230

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Carrier Terminal AN/FCC-7C includes:		
2	Cabinet, Electrical Equipment CY-1195A/FCC-3	22-3/8 x 24 x 87-9/16	
1	Transmitter, Telegraph Carrier T-371B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-372B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-373B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-374B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-375B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-376B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-377B/FCC-3	5-1/4 x 16 x 19	
1	Transmitter, Telegraph Carrier T-378B/FCC-3	5-1/4 x 16 x 19	
1	Attenuator, Variable CN-609/FCC	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-525B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-526B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-527B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-528B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-529B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-530B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-531B/FCC-3	5-1/4 x 16 x 19	
1	Receiver, Telegraph Carrier R-532B/FCC-3	5-1/4 x 16 x 19	

June 1957

TELEGRAPH CARRIER TERMINAL**AN/FCC-8****FUNCTIONAL DESCRIPTION**

The AN/FCC-8 consists of both the transmitting and receiving groups of terminals for a 8 channel voice-frequency telegraph carrier communication system capable of being used on radio circuits or wire units.

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

RELATION TO OTHER EQUIPMENT

Identical to AN/FCC-3 except for the 4-wide band transmitters, 4 wide-band receivers and 2 electronic frequency converters are not included.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 425 to 1615 cps, spaced 170 cps between channels.

NUMBER CHANNELS: 8 per group.

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Frequency Laboratories, Inc., Boonton, New Jersey.

Contract NObsr 52374.

TUBE AND/OR CRYSTAL COMPLEMENT

(24) 5Y3GT	(24) 6AL5W
(8) 6AU6	(8) 6C4
(16) 6J6	(8) 6X4W
(32) 6Y6G	(24) 12AU7
(8) 12AX7	(8) OA2
(40) OB2	

Total Tubes: (200)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91901: Technical Manual for Telegraph Carrier Terminal AN/FCC-3, AN/FCC-7, AN/FCC-8.

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	Transmitter Group	74	34 X 35 X 108	
1	Receiver Group	74	34 X 35 X 108	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
2	Telegraph Carrier Terminal Cabinet CY-11 95/FCC-3	24 X 24 X 93	
1	Telegraph Carrier Transmitter T-371/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-372/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-373/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-374/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-375/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-376/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-377/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Transmitter T-378/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-525/FCC-3	5-1/4 X 16 X 19	

June 1957

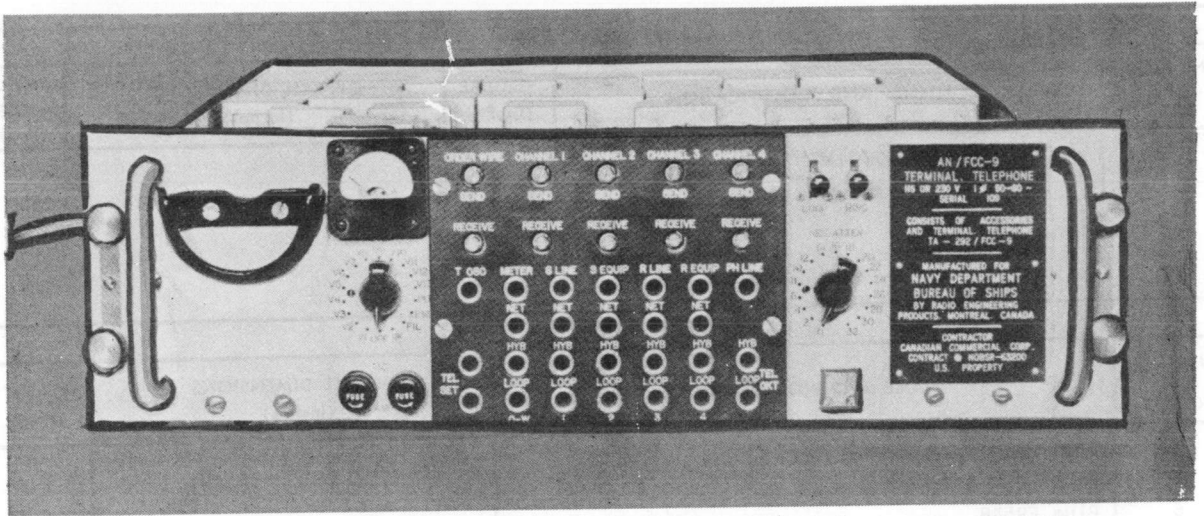
AN/FCC-8

TELEGRAPH CARRIER TERMINAL

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Carrier Receiver R-526/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-527/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-528/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-529/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-530/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-531/FCC-3	5-1/4 X 16 X 19	
1	Telegraph Carrier Receiver R-532/FCC-3	5-1/4 X 16 X 19	
13	Cable Assy, Special Purpose CX-2124/FCC-3	56 lg	
13	Cable Assy, Power CX-2125/U	52 lg	
1	Wiring Harness CX-2448/FCC-3	67 lg	
1	Wiring Harness CX-2449/FCC-3	67 lg	
1	Maintenance Parts Kit	12 X 15 X 24	
2	Technical Manual NAVSHIPS 91901		

Radio-Communication Terminal Equipment
TERMINAL, TELEPHONE CARRIER **AN/FCC-9**



Terminal, Telephone Carrier AN/FCC-9

FUNCTIONAL DESCRIPTION

The AN/FCC-9 provides five broad band telephone channels consisting of four carrier derived channels and one order wire channel for use over a suitable four wire line or equivalent four wire facility. Each channel includes a voice frequency ringing circuit, a four wire terminating set and a line balancing network. The terminal includes an AC power supply, a test oscillator and a test meter. A telephone handset is supplied as a separate item.

No field changes in effect at time of preparation (25 June 1957).

RELATION TO OTHER EQUIPMENT

Similar to AN/TCC-3 except for ringing facilities.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

- FREQUENCY RANGE: 300 to 20000 cps.
- CHANNEL WIDTH: 3200 cps.
- MAX ATTENUATION: 30 db.
- MAX TRANSMISSION VARIATION: 1 db.
- CROSS TALK ATTENUATION: More than 50 db below test tone level.
- SENDING LEVEL: 0 dbm.
- RECEIVING LEVEL RANGE: -30 to 0 dbm.
- CHANNEL FREQUENCIES.
- ORDER WIRE: 300 to 3500 cps.

- CHANNEL 1: 4500 to 7700 cps.
- CHANNEL 2: 8500 to 11700 cps.
- CHANNEL 3: 12500 to 15700 cps.
- CHANNEL 4: 16500 to 19700 cps.
- POWER SOURCE REQUIRED: 103 to 127 v or 206 to 254 v, 50 to 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Radio Engineering Products, Ltd., Montreal, Canada.
Contract 63200 dated 20 October 1953.
Approximate Cost: \$10,400.00 with equipment spares

TUBE AND/OR CRYSTAL COMPLEMENT

(13) 6AK5W
Total Tubes: (13)

REFERENCE DATA AND LITERATURE

NAVSHIPS-92338, Technical Manual for Terminal Telephone AN/FCC-9.

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	Terminal, Telephone AN/FCC-9 and accessories	26.6	8 X 23 X 25	110

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Terminal Telephone AN/FCC-9	5-1/4 X 19 X 19-1/2	93
1	Handset H-61/U		
6	Plug F9548		
6	Cord Assemblies F9541		
1	Test Oscillator		
1	Test Meter		

28 August 1962

TELETYPEWRITER GROUP AN/FGA-2

Cog Service:

FSN:

Functional Class:

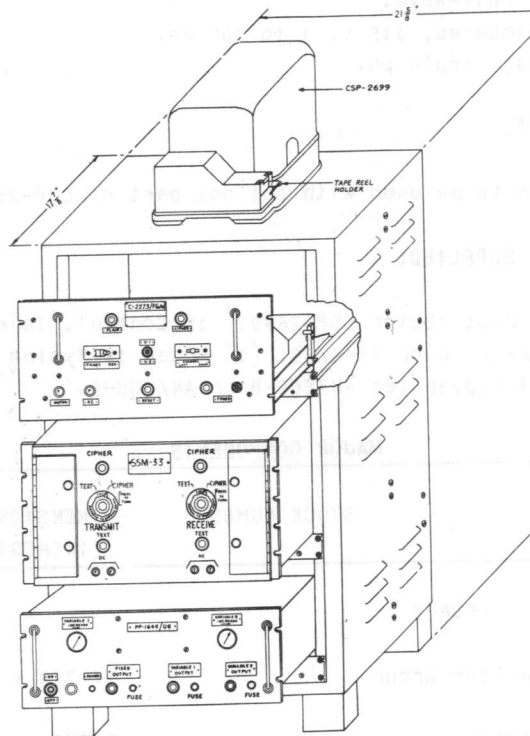
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Assembled by Norfolk Naval Shipyard.



Teletypewriter Group AN/FGA-2

FUNCTIONAL DESCRIPTION:

The AN/FGA-2 is designed as a rack-mounted equipment used with classified communication devices for passing messages, on-line, and using teletypewriter equipment. No field changes in effect at time of preparation (26 April 1961).

TECHNICAL CHARACTERISTICS:

CONTROL, TELETYPEWRITER C-2273/FGA-2

TYPE OF CONTROL: Automatic.

TYPE OF SWITCHING: Automatic.

OPERATING POWER RQMT: 115 v ac, 60 cps, single ph; 120 v dc.

TELETYPEWRITER MIXER SSM-3

NUMBER OF CHANNELS: 2 channels.

AN/FGA-2 TELETYPEWRITER GROUP

EQUIPMENT ASSOCIATION: Normally used in conjunction with full-duplex terminal equipment with one Teletypewriter-Mixer.

TYPE OF OPERATION: Full-duplex, on-line operation utilizing the start-stop form of teletype operation.

OPERATIONAL SPEED: 60 wpm.

POWER SUPPLY PP-1646/UG

TYPE OF RECTIFIER: Metallic type.

TYPE OF RECTIFICATION: Full-wave.

OUTPUT: 115 v dc, 1.5 amperes, 115 v, 1 to 100 ma.

INPUT: 115 v ac, 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/FGA-2 is designed to be used with but not part of CSP-2699 and TSEC/KW-2.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Special Transmitter Distributor CSP-2699; (1) Control, Teletypewriter C-2192/UG; (1) Model 15 Teletypewriter AN/FGC-10 or TT-5/FG; (1) Model 14 Typing Reperforator TT-53/FG or TT-192/FG; (1) Model 19 Teletypewriter AN/FGC-8 or AN/FGC-9.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
	Teletypewriter Group AN/FGA-2 consists of:			
1	Cabinet, Teletypewriter Group CY-2245/FGA-2		17-7/8 x 21-5/8 x 35-1/2	62
1	Control, Teletypewriter C-2273/FGA-2		7-1/2 x 12-1/8 x 19	27
1	Power Supply PP-1646/UG		7 x 8-1/2 x 19	41
1	Repeater-Mixer, Teletype- writer SSM-33		9-1/2 x 10-1/2 x 17	18

REFERENCE DATA AND LITERATURE:

BUREAU OF SHIPS INTERIM: Technical Manual for Installation & Maintenance Instructions for Teletypewriter Group AN/FGA-2.

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)

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Assembled by Norfolk Naval Shipyard	Portsmouth, Va.		

RADIOTELETYPE TERMINAL EQUIPMENT AN/FGC-1,1C,1X**FUNCTIONAL DESCRIPTION**

The AN/FGC-1, 1C, 1X is used for single channel operation at the receiving end of a radio teletype system which uses space diversity reception and frequency shift transmission. The radio transmitter radiates two unmodulated carrier frequencies spaced 850 cps apart to represent teletypewriter space and mark signals. Two radio receivers arranged for space diversity reception receive the signals and convert them to 2125 cps for mark signals and 2975 cps for space signals. The AN/FGC-1, 1C, 1X converts the 2125 cps and the 2975 cps to DC teletypewriter pulses which are applied through land lines to teletypewriter receiving equipment.

The difference between the AN/FGC-1 and the AN/FGC-1C are few minor electrical changes.

No field changes in effect at time of preparation (15 June 1956).

ELECTRICAL AND MECHANICAL CHARACTERISTICS**INPUT SIGNAL****WITH HIGH-FREQUENCY RADIO**

MARK: 2125 cps.

SPACE: 2975 cps.

FREQUENCY SHIFT: 8500 cps.

TRANSMISSION SPEED: 60 wpm.

WITH LOW-FREQUENCY RADIO

MARK: 2465 cps.

SPACE: 2635 cps.

FREQUENCY SHIFT: 170 cps.

TRANSMISSION SPEED: 60 wpm.

OUTPUT SIGNAL: DC, neutral, or polar.

LOOP RESISTANCE

POLAR: 3700 ohms.

NEUTRAL: 2000 ohms.

POWER REQUIREMENTS

AN/FGC-1 and AN/FGC-1C: 103 to 127 v or

207 to 253 v, 50 to 60 cps.

AN/FGC-1X: 103 to 127 v or 207 to 253 v,

25 to 60 cps.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6SA7Y

(1) 6SL7WGT

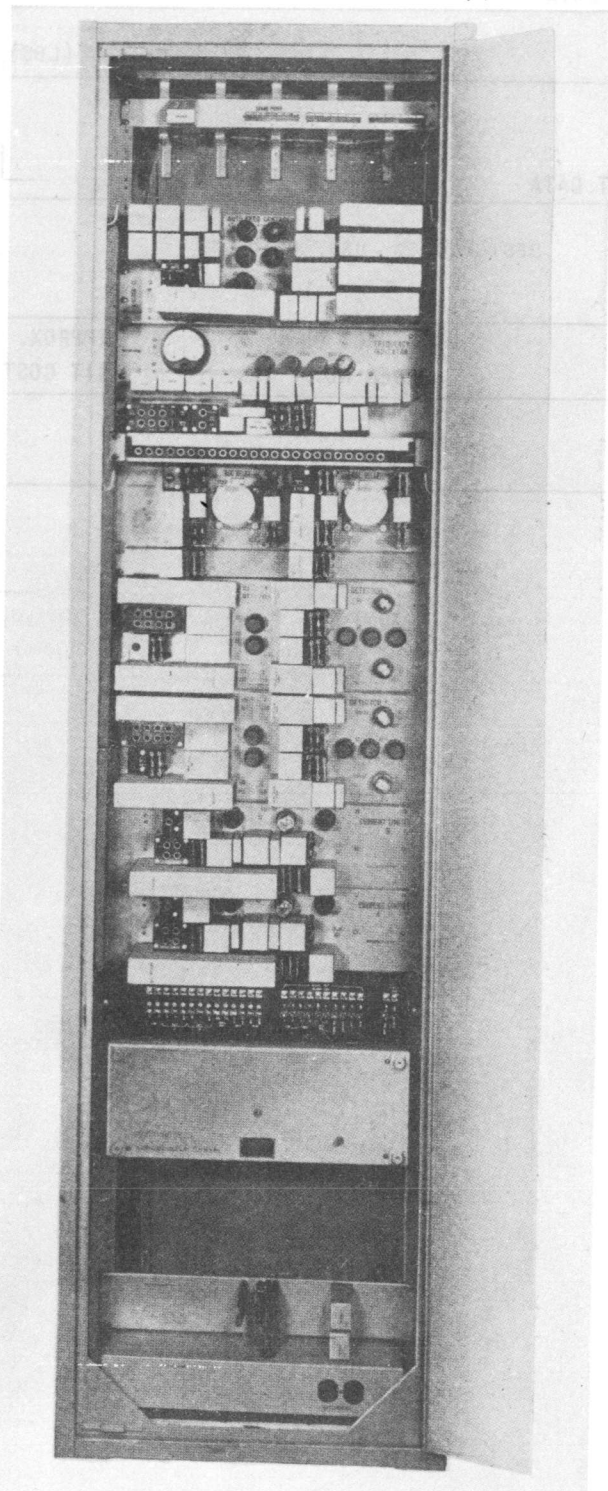
(3) 6V6GTIY

(10) 6SJ7

(2) 394A

(2) 6H6

Total Tubes: (19)



Radioteletype Terminal Equip AN/FGC-1,1C,1X

AN/FGC-1,1C,1X RADIOTELETYPE TERMINAL EQUIPMENT

September 1956

REFERENCE DATA AND LITERATURE

TM11-356: Technical Manual for Radiotele-
type Terminal Equipment AN/FGC-1, AN/FGC-1C
and AN/FGC-1X.

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	Radioteletype Terminal Equipment AN/FGC-1, AN/FGC-1C, or AN/FGC-1X	67.5	29 X 38 X 106	825

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
AN/FGC- 1 1C 1X			
1 1 1	Radioteletype Terminal Equipment AN/FGC-1 () consisting of:	17 X 19-5/8 X 84	425
1 1 1	Electrical Equipment Cabinet CY-1071/FGC-1		
1 1 1	Power Supply PP-737/FGC-1		
1 1 1	Power Supply PP-763/FGC-1		
1 1 1	Terminal Box J-447/FGC-1		
1 1 1	Telegraph Repeater TH-11/FGC-1		
1 1 1	Signal Data Converter CV-250/FGC-1		
2 2 2	Current Regulator CN-164/FGC-1		
1 1 1	Receiver Control C-948/FGC-1		
1 1 1	Under Voltage Alarm BZ-27/FGC-1		
2 2 2	Trigger Amplifier AM-591/FGC-1		

6 August 1962

5805-304-9483

RADIO TELETYPE TERMINAL EQUIPMENT AN/FGC-1A

Cog Service: USN FSN: 5805-669-8828 W/S

Functional Class:

USA

USN

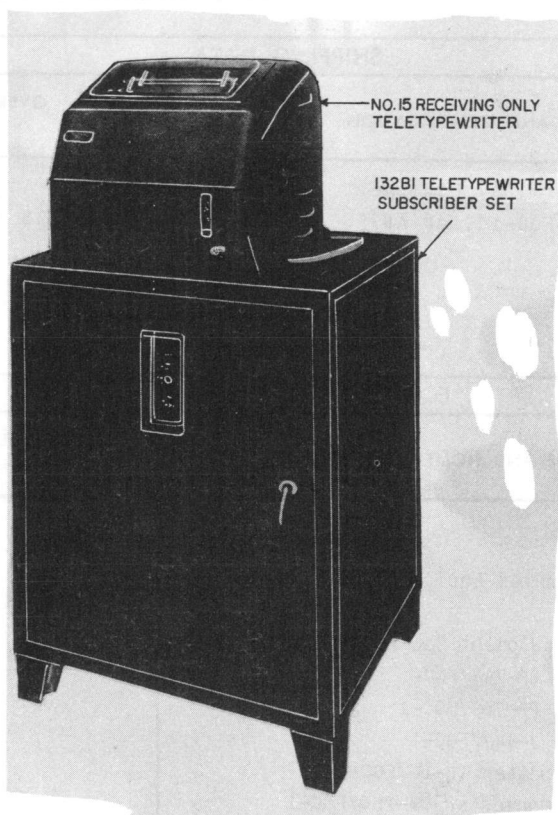
USAF

TYPE CLASS:

Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Western Electric Co. Inc., (64959).



Radio Teletype Terminal Equipment AN/FGC-1A

FUNCTIONAL DESCRIPTION:

The Radio Teletype Terminal Equipment AN/FGC-1A is designed to form a part of the receiving portion of a radio teletype system. It converts the output of the associated radio receivers from voice frequency signals to direct-current teletypewriter pulses. The AN/FGC-1A is used for single channel operation at the receiving end of a radio teletype system, which uses space diversity reception and frequency shift transmission. The radio transmitter radiates two (2) unmodulated carrier frequencies spaced 850 cycles per second apart to represent teletypewriter space and mark signals. Two (2) radio receivers arranged for space diversity reception receives the signals and converts them to 2,125 cycles per second for mark signals and 2,975 cycles per second for space signals. The AN/FGC-1A converts 2,125 cycles per second and the 2,975 to direct current teletypewriter pulses which are applied through land lines to teletypewriter receiving equipment.

No field changes in effect at time of preparation (27 December 1961).

AN/FGC-1A RADIO TELETYPE TERMINAL EQUIPMENT

TECHNICAL CHARACTERISTICS:

OPERATING SIGNAL FREQUENCY

MARK SIGNAL: 2,125 cycles per second.

SPACE SIGNAL: 2,975 cycles per second.

OPERATING POWER RQMT

TRANSMITTER: 125 v or 190 to 250 v, 50 to 60 cps, single ph.

RECEIVER: 108 to 132 v, 50 to 60 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The RBP Diversity Radio Receiving Equipment is designed to be used with, but is not a part of the AN/FGC-1A.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Subscriber Set Type 132B1		22 x 26 x 34	200
1	Power Unit Type KS-5988 consists of:		12 x 15-5/8 x 28-3/8	135
1	Main Unit		7-5/8 x 9-3/16 x 19-3/4	78
1	Disc Assembly		4-1/8 x 4-1/4 x 20-3/4	11
1	Teletypewriter Type no. 15 consists of:			
1	Base		9 x 15-3/4 x 16	40
1	Typing Unit		12 x 14-1/2 x 15-1/4	75
1	Cover Type C105		15 x 16 x 16-1/2	30
1	Motor Unit		5-3/4 x 5-3/4 x 8-1/2	15

REFERENCE DATA AND LITERATURE:

X-66137 ISSUE 3: Technical Manual for Teletypewriter Stations for Navy AN/FGC-1A Radio Equipment.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 5U4G (8) 6SA7GT (5) 6SJ7WGT (2) 6V6GTY (3) 807

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

RADIO TELETYPE TERMINAL EQUIPMENT AN/FGC-1A

SHIPPING DATA

PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

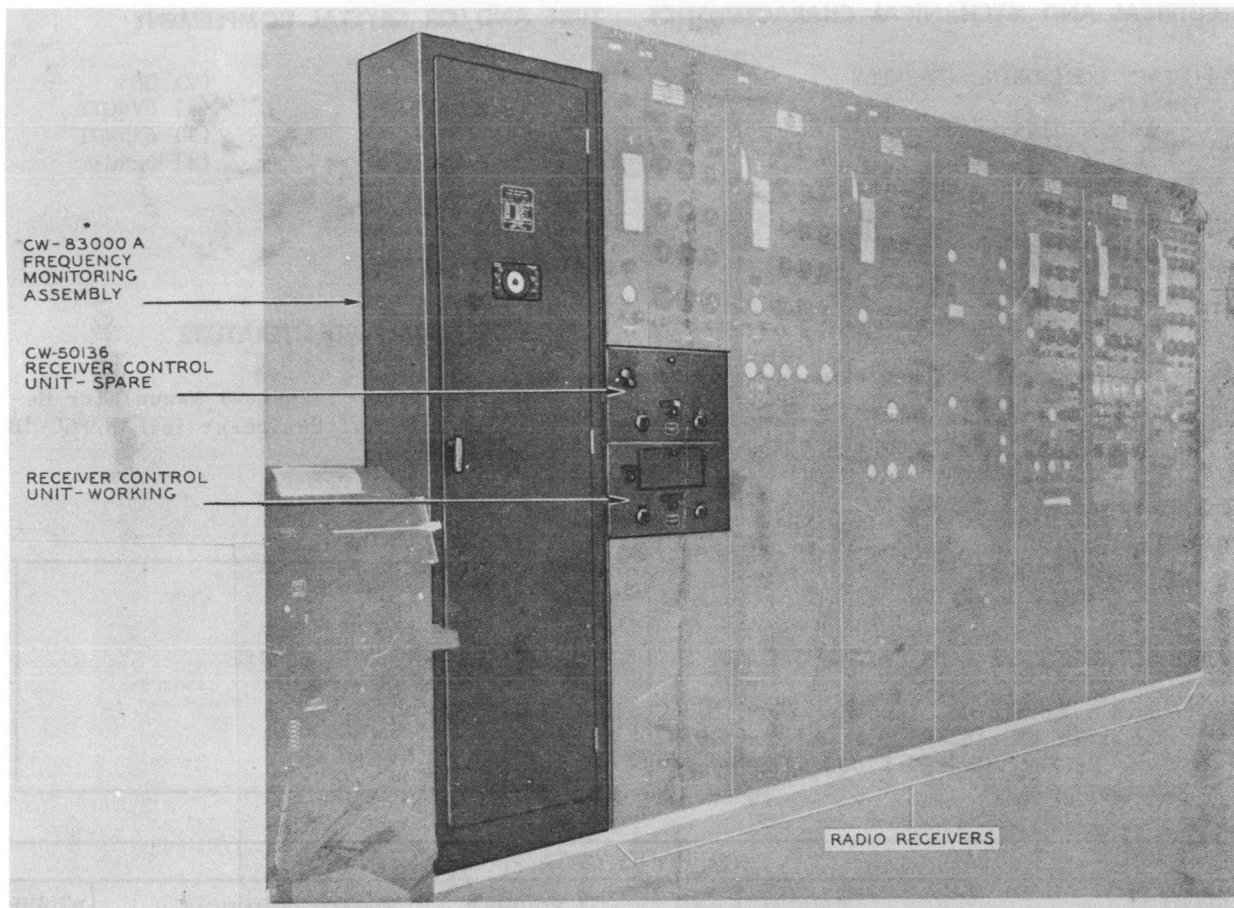
PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Western Electric Co., Inc.	New York, N. Y.	NXss-20953, 11 October 1943	

RADIO TELETYPE TERMINAL EQUIPMENT

AN/FGC-1B



Radioteletype Terminal Equipment AN/FGC-1B

FUNCTIONAL DESCRIPTION

The AN/FGC-1B consists of a Frequency Monitoring Assembly NT-83000-A and Receiver Control Unit NT-50136. The main function of the frequency monitoring assembly is to receive the frequency-shift telegraph signals from the two radio receivers of a radio teletype circuit and convert them by means of a tone keyer in the radio receiver to single tone signals (tone "on" for mark and tone "off" for space). These on and off tone signals are transmitted over another system such as the Carrier Control System Model UN and are then converted to dc signals for operating the teletype equipment. The use of two receivers provides space diversity which increases the reliability of reception. The receiver control unit is a small unit designed to mount in one of the receiver bays.

Its function is to provide the necessary control of the receivers when they are associated with a frequency monitoring assembly.

No field changes in effect at time of preparation (25 March 1958).

RELATION TO OTHER EQUIPMENT

The AN/FGC-1B differs from the Radioteletype Terminal Equipment AN/FGC-1A in that a receiver relay unit has been added along with associated apparatus to permit direct operation of a teletypewriter from the frequency monitoring equipment without going through modulators and demodulators.

Equipment Required but not Supplied: Wire, cables, connectors for connecting units, and two receivers.

April 1958

AN/FGC-1B RADIO TELETYPE TERMINAL EQUIPMENT**ELECTRICAL AND MECHANICAL CHARACTERISTICS TUBE AND/OR CRYSTAL COMPLEMENT****FREQUENCY MONITORING ASSEMBLY****FREQUENCY**

MARK: 2125 cps.

SPACE: 2975 cps.

INPUT IMPEDANCE: 600 ohms.

INPUT SIGNAL POWER: 1 mw.

INPUT SIGNAL POWER DEVIATION: -50 db to +25 db.

OUTPUT VOLTAGE

MARK: -8 v.

SPACE: -0.7 v.

OUTPUT IMPEDANCE: 6,600 ohms.

RECEIVER CONTROL UNITINPUT SIGNAL: 50 kc \pm 425 cps.

MODULATING OSCILLATOR FREQUENCY: 52.55 kc.

OUTPUT SIGNAL: 2.55 kc \pm 425 cps.

POWER REQUIREMENTS: 120 v, 50 to 60 cps, 1 ph, 180 W, 0.8 pf.

(32) 6SJ7

(9) 6SA7Y

(2) 394A

(2) 6SL7WGT

(2) OB3

(4) 6V6GTY

(1) 6X5WGT

(4) 6H6GT

Total Tubes: (56)

No Crystals Used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 900,623: Technical Manual for Receiving Terminal Equipment for AN/FGC-1B Radio Equipment.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, Inc, New York, N. Y.
 Contract NXsr-62365, dated 31 May 1944.
 Approximate Cost: \$2000 with equipment spares.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.

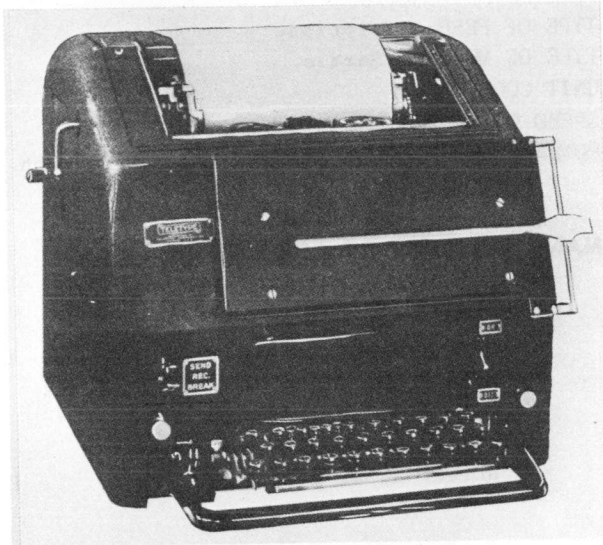
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Frequency Monitoring Assy NT-83000A	29.5	21 X 27 X 90	800
1	Receiver Control Unit NT-50136	3.8	16 X 18 X 23	75
1	Equipment Spares, Tools, and Accessories			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Frequency Monitoring Assy NT-83000A	17 X 22 X 83	600
2	Receiver Control Unit NT-50136	10 X 11 X 19	40
1	Set of Equipment Spares, Tools, and Drawings		

April 1958

TELETYPEWRITER SET**AN/FGC-10***Teletypewriter Set AN/FGC-10*

type Corp) and identical to Teletypewriter TT-5/FG except that the TT-5/FG employs a series motor with unregulated power sources.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FUNCTIONS: Page printing of incoming messages; keyboard transmission of outgoing messages.

SPEED: 368 operations per minute, approximately 60 words-per-minute.

POWER SOURCE REQUIRED: 115 v, 60 cps, single ph. A regulated power supply is required for satisfactory operation.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.
Contract NObsr-42421 and
Contract NObsr-52210.

FUNCTIONAL DESCRIPTION

The AN/FGC-10 is used for the transmission and reception of teletype messages over wire or radio communications circuits. It is installed at shore stations and communicates with any 5 unit code teletype equipment geared for 368 operations per minute.

No field changes in effect at time of preparation (16 October 1957).

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91240, Technical Manual for Teletype Model 15 Page Printer Set.

RELATION TO OTHER EQUIPMENT

Similar to Model 15 Send-Receive Set (tele-

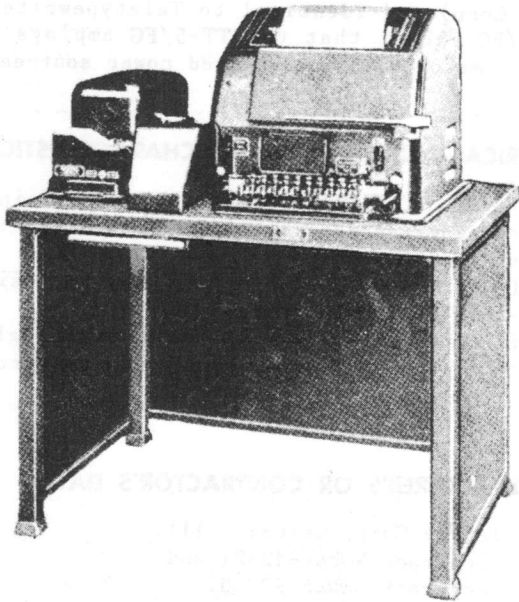
TYPE CLASSIFICATION	BUSHIPS
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Typing Unit BP128/247		
1	Keyboard BK22LD		
1	Base BB-44		
1	Motor Unit MU4		
1	Power Supply PP-424/U(REC-29)		
1	Table XRT200AA		

December 1960

Radio-Communication Terminal Equipment

TELETYPEWRITER SET**AN/FGC-11***Teletypewriter Set AN/FGC-11***FUNCTIONAL DESCRIPTION**

Teletypewriter Set AN/FGC-11 is used for ship-to-ship and ship-to-shore radio teletype communication. It provides either direct-keyboard or tape transmission.

This equipment has resilient shock mounts between the mounting table and the printer and also on the transmitter-distributor to reduce vibration. The table is bolted to the deck of the ship on which the unit is used.

The set can communicate with any five-unit code teletypewriter equipment geared for 368 operations per minute.

No field changes in effect at time of preparation (22 September 1960).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF STATION: Fixed.

TYPE OF KEYBOARD: Std communication keyboard.

TYPE OF CHARACTERS: English.

QUANTITY OF CHARACTERS: 72 characters per line

TYPE OF FEED: Friction.

TYPE OF MOTOR: Series.

UNIT CODE: 5.

SPEED OF OPERATION: 368 o.p.m.

POWER REQUIREMENTS: 115 v, 60 cyc, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp., Chicago, Illinois.

Contract NObsr-52161.

Contract NObsr-59260.

Contract NObsr-52210.

Contract NObsr-71847.

Contract NObsr-77121.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6F6GT

(2) 323B

Total Tubes: (3)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91523: Technical Manual for TELETYPEWRITER SET AN/FGC-11.

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

Radio-Communication Terminal Equipment

AN/FGC-11

TELETYPEWRITER SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Set AN/FGC-11 including:	23-1/2 x 36 x 41-5/8	
1	Motor Unit, Teletype Corp no. MU-27		
1	Perforator Transmitter, Teletype Corp no. PEX25LE		
1	Transmitter-Distributor, Teletype Corp no. XD76FR		
1	Typing Unit, Teletype Corp no. BP22/247		
1	Table, Teletype Corp no. XTR114		
1	Set of Gears for 368 o.p.m., Teletype Corp no. 80374		
1	Power Supply PP-315/66A-1		

April 1958

TELETYPEWRITER SET**AN/FGC-12***Teletypewriter Set AN/FGC-12***FUNCTIONAL DESCRIPTION**

The AN/FGC-12 is a Teletype Model 14 send-receive typing reperforator transmitter distributor set. It provides means for direct keyboard transmission, and automatic transmission of printing telegraph messages under control of perforated tape. The equipment also receives typewritten telegraph messages on standard width (11/16 in.) perforator tape on which both the printed characters and the corresponding chadless code perforations are automatically recorded in the same operation. This set is commonly used for interchanging messages between two or more points and for relaying messages from one circuit to another.

The AN/FGC-12 is used as fixed plant (signal center) equipment and is particularly useful in message and signal centers where large amounts of traffic (both relay and originating) must be handled without delay.

No field changes in effect at time of preparation (14 March 1958).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 105 to 125 v, 50 to 60 cps, single ph.

OUTPUT OF RECTIFIER: 0.2 amp at 120 v DC.

OPERATING POWER REQUIREMENTS: 230 W at 115 v, 60 cps (incl rectifier).

UNITE CODE: 7.42.

TYPE MOTOR: 110 v, 60 cps, sync; geared for 368 opm, at 1800 rpm.

SPEED: 60 wpm.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.

Contract NObsr-59583, dated 15 Dec 1952.

Contract NObsr-52286.

Approximate Cost: \$1,429.84 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals Used.

REFERENCE DATA AND LITERATURE

Technical Manual, Teletype Corp Manual 44MA.

TYPE CLASSIFICATION
DESIGN COGNIZANCE
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Typing Reperforator FPR23H246	7.4	19-1/2 X 21-3/4 X 29-5/8	135
1	Keyboard FK110LD15 including:	21.7	25-1/2 X 30-1/8 X 48	240
1	Relay RY30			

Radio-Communication Terminal Equipment

AN/FGC-12

TELETYPEWRITER SET

April 1958

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Cover FPRC200AA	14.2	24-3/4 X 31 X 33	165
1	Tape Container 115702AA			
1	Copyholder 115700AA			
1	Transmitter Distributor TT-57/FG			
1	Rectifier REC10			
1	Table XRT210AA			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Typing Reperforator FPR23H246	7-1/2 X 11-1/2 X 12	33
1	Keyboard FK110LD15	9 X 15 X 16	17
1	Relay RY30		1
1	Cover FPRC200AA	10-3/8 X 13-1/16 X 14	12
1	Tape Container 115702AA		4
1	Copyholder 115700AA	3/4 X 6 X 12-1/2	2
1	Transmitter Distributor TT-57/FG	7-7/8 X 9 X 15-1/2	29
1	Table XRT210AA	21-1/2 X 26-1/2 X 27	54
1	Rectifier REC10	6-3/4 X 8 X 11-7/8	29

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET**AN/FGC-13****FUNCTIONAL DESCRIPTION**

Teletypewriter Set AN/FGC-13 is a page printer for the reception and transmission of teletype messages. It is designed for 368 operation per minute.

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.

REFERENCE DATA AND LITERATURE

No Electron Tubes.

RELATION TO OTHER EQUIPMENT

Same as TT-51/FG except for synchronous motor and type 80437 gear set instead of series governed motor and type 80374 gear set.

TUBE AND/OR CRYSTAL COMPLEMENT

Nomenclature Card for Teletypewriter Set AN/FGC-13 dated 23 January 1952.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CHARACTERS: 72 per line, english.

TYPE OF FEED: Friction.

SPEED: 368 operations per minute.

TYPE OF MOTOR: Synchronous type.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Typing Unit BP119/210		
1	Base BB-50		
1	Motor MU-4		
1	Set of Gears 80437		
1	Cover C105		
1	Relay RY30		
1	Table XRT115		
1	Rectifier REC29		

UNCLASSIFIED

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET

AN/FGC-15

FUNCTIONAL DESCRIPTION

The Teletypewriter Set AN/FGC-15 is for the reception only of 5 unit code on 11/16 in. wide chad or chadless tape. It utilizes communication characters, a synchronous motor and operates at 368 operations per minute.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATIONS: Receiving only
CODE: 5 unit.
CHARACTERS: Communication type.
OPERATIONS PER MINUTE: 368.
TYPE OF TAPE: Chad or chadless.
MOTOR: Synchronous type

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set AN/FGC-15 dated 6 October 1951.

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-57/FG		
1	Teletypewriter Reperforator TT-91/FG		
1	Table XRT118		
1	Rectifier REC29		

UNCLASSIFIED

Radio-Communication Terminal Equipment
TELETYPEWRITER SET
AN/FGC-16

FUNCTIONAL DESCRIPTION

The Teletypewriter Set AN/FGC-16; Reperforator-Transmitter distributor set consists of one TT-92/FG (less table RT-36) and one TT-57/FG mounted on a XRT118 table with REC 29 rectifier.

No field changes in effect at time of preparation (5 August 1957).

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set AN/FGC-16 dated 27 October 1951.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp; Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	
STOCK NO.	

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	TT-92/FG (less table RT-36)		
1	TT-57/FG		
1	Table XRT118		
1	Rectifier REC 29		

FUNCTIONAL DESCRIPTION

Teletypewriter Set AN/FGC-17 is for the transmission and reception of teletype messages over wire or radio communications circuits. It is installed at shore stations and communicates with any 5-unit code teletype equipment geared for 460 operations per minute (75 wpm).

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

RELATION TO OTHER EQUIPMENT

Same as AN/FGC-10 except modified for 460 operations per minute (75 wpm).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FUNCTIONS: Page printing of incoming messages; keyboard transmission of outgoing messages.

SPEED: 460 operations per minute, 75 words per minute.

POWER SOURCE REQUIRED: 115 v, 60 cps, single ph. A regulated power supply is required for satisfactory operation.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set AN/FGC-17 dated 27 October 1951.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Set AN/FGC-17		

February 1960

Radio-Communication Terminal Equipment

TELETYPEWRITER SET**AN/FGC-18****FUNCTIONAL DESCRIPTION**

Teletypewriter Set AN/FGC-18 is used for the transmission and reception of teletype messages over wire and radio communications circuits. It is installed at shore stations and communicates with any 5 unit code teletype equipment geared for 368 o.p.m.

No field changes in effect at time of preparation (2 October 1959).

RELATION TO OTHER EQUIPMENT

This equipment is similar to Teletypewriter Set AN/FCG-10, except for use of weather symbols.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v, 60 cy, single ph.

TYPE OF STATION: Fixed.

TYPE OF KEYBOARD: Weather communication keyboard.

TYPE OF CHARACTERS: English.

QUANTITY OF CHARACTERS: 72 characters per line.

TYPE OF FEED: Friction feed.

TYPE OF MOTOR: Series motor.

UNIT CODE: 5.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp., Chicago, Illinois.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set AN/FGC-18.

TYPE CLASSIFICATION (NAVY)

DESIGN COGNIZANCE USN, 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	Teletypewriter Set AN/FGC-18 including:		
1	Typing Unit		
1	Keyboard		
1	Base		
1	Motor Unit		
1	Power Supply		
1	Table		

UNCLASSIFIED

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET

AN/FGC-19

FUNCTIONAL DESCRIPTION

The Teletypewriter Set AN/FGC-19 is used to transmit and receive teletype messages consisting of weather symbols. Either direct keyboard or tape transmission may be employed in shore to shore and shore to ship radio teletype communication.

No field changes in effect at time of preparation (1 August 1957).

POWER SOURCE REQUIRED: 110 to 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp., Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

RELATION TO OTHER EQUIPMENT

Similar to AN/FGC-9 but modified to send and receive weather characters.

REFERENCE DATA AND LITERATURE

Nomen Card for Teletypewriter Set AN/FGC-19 dated 27 October 1951.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FUNCTIONS: Page printing of incoming messages; keyboard or perforated tape transmission of outgoing messages.

SPEED: 368 opm, approximately 60 wpm.

MOTOR CHARACTERISTICS: Synchronous, capacitor start motor.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Set AN/FGC-19		

UNCLASSIFIED

1.5 AN/FGC-19: 1

April 1959

TELEGRAPH TERMINAL SET

AN/FGC-2

FUNCTIONAL DESCRIPTION

The AN/FGC-2 is designed as communication Terminal Equipment, to provide four (4) channel multiplex operation, of the time division type, over any telegraph communication circuits having suitable characteristics.

No field changes in effect at time of preparation (26 November 1958).

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and Crystal data not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card AN/FGC-2 for Telegraph Terminal Set.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF INSTALLATION: Fixed.

TYPE OF OPERATION: Four channel multiplex operation.

TYPE OF DIVISION: Time division type.

NUMBER OF CHANNELS: 4 channels.

MANUFACTURER'S OR CONTRACTOR'S DATA

RCA Victor Division of Radio Corp., of
America Camden, N.J.
Contract 34985-PHILA-43.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Terminal Set AN/FGC-2 Incl:	18 X 81-5/16 X 86-7/8	
1	Line Amplifier Rectifier RCA Type L-1102		
1	Monitor Amplifier Rectifier RCA Type AA-1019		
1	Correction Unit RCA Type AA-2353		
1	Coupling Unit RCA Type AA-2354		
5	Distributor Drive Amplifier RCA Type AA-1881-A		
1	Frequency Standard RCA Type AA-2357		
1	Frequency Standard RCA Type AA-1842-A		
1	Frequency Standard Power Supply RCA Type S-7489-A		
1	Main Rectifier Unit RCA Type AA-1276-A		
1	Multiplex Receiving Machine RCA Type E-985-C		
1	Multiplex Transmitting Machine RCA Type E-986-C		
1	Power Control Unit RCA Type AA-1102		
2	Power Inverter RCA Type L-609-A		
5	Receiving Locking Unit RCA Type AA-2363		
1	Receiving Relay Unit RCA Type AA-2179		
1	Transmitting Relay Unit RCA Type AA-2180		
1	Transmitting Tone Keyer RCA Type AA-1096-A		
1	Filter Panel RCA Type AA-2367		

Radio-Communication Terminal Equipment

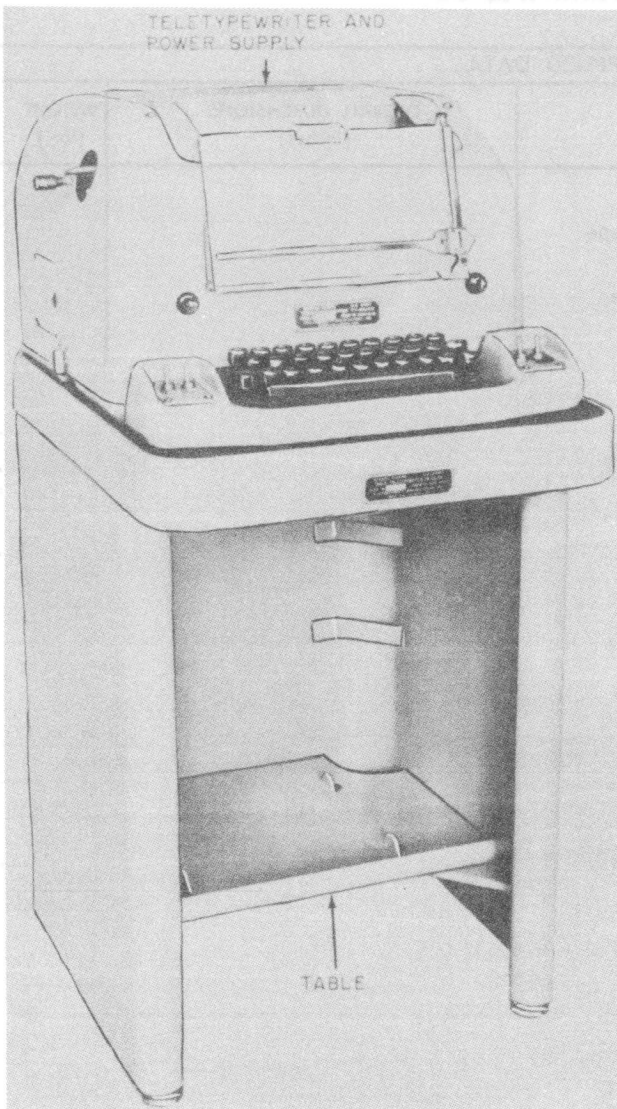
April 1959

AN/FGC-2**TELEGRAPH TERMINAL SET****EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Distributor RCA Type AA-1191		
1	Synchronous Type Transmitter Drive RCA Type AA-1195-A		
1	Teletype Transmitter Distributor RCA Type S-9392		

TELETYPEWRITER SET

AN/FGC-20



Teletypewriter Set AN/FGC-20

No field changes in effect at time of preparation (30 November 1956).

RELATION TO OTHER EQUIPMENT

Similar to AN/FGC-20X which contains series governed motor instead of synchronous type contained in the AN/FGC-20.

Equipment Required but not Supplied: Test Equipment and Tools as Required.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SYMBOLS: Standard Communications.

CHARACTERS: English.

CHARACTERS PER LINE: 72.

TYPE PAPER FEED: Friction or sprocket.

SIGNALING CODE: Five-unit start-stop; stop impulse length equals start impulse length multiplied by 1.42.

TYPE SIGNAL: Neutral (20 or 60 ma), polar, or polal.

SPEED (SEND AND RECEIVE)

OPM: 368.1, 404, 460, or 600.

WPM: 60, 66, 75, or 100.

MOTOR DATA

TYPE: Synchronous.

SPEED: 3600 rpm.

POWER REQUIREMENTS: 105 to 125 v, 60 cps, single ph, approx 120 W.

PAPER CAPACITY: Adjustable to accommodate standard 1,2, or 3-copy roll, fanfold paper, or sprocket-fed forms 8-1/2 in. wide.

SIGNAL BIAS TOLERANCE

TRANSMITTED SIGNAL: $\pm 5\%$ max at 368.1 cpm.

RECEIVED SIGNALS

368.01 or 404 opm: 4% marking or spacing bias.

600 OPM: 35% marking or spacing bias.

END DISTORTION TOLERANCE (RECEIVED SIGNALS).

368.1 or 404 OPM: 35% marking or spacing end distortion.

600 OPM: 30% marking or spacing end distortion.

RANGE ADJUSTMENT: Scale calibrated 0 to 120, 100 scale units equal width of 1 unit signal pulse (22 msec at 368.1 opm).

INTERFERENCE SUPPRESSION: Does not interfere with radio reception between 0.35 to 150 mc when located 1 ft or more from radio antenna.

SAFETY SHIELDING: 30 v or more potential shielded from personnel.

TEMPERATURE RANGE (SURROUNDING)

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

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

OPERATING CONDITIONS

BAROMETRIC PRESSURE (MIN): 16.88 in. mercury (equivalent to approx 15000 ft altitude).

FUNCTIONAL DESCRIPTION

The AN/FGC-20 is a fixed-station, page-printing teletypewriter which transmits, monitors, and receives messages in communication centers. Two or more teletypewriters can be interconnected directly and operated with or without the use of associated equipment. It may be modified for receive only operation by removing the keyboard and reconnecting the wires. It prints one to six copies on paper roll, fanfold paper, or sprocket-fed forms 8-1/2 inches wide.

Radio-Communication Terminal Equipment

August 1957

AN/FGC-20

TELETYPEWRITER SET

OTHER: Withstands high humidity and moisture as encountered in tropics, is fungiproofed and resistant to corrosion.

REFERENCE DATA AND LITERATURE

TM11-2230: Technical Manual for Teletypewriter Sets AN/FGC-20, AN/FGC-20X, AN/FGC-21.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

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 TT-100/FG including:	11.8	20-1/4 X 27-1/8 X 37	66
1	Teletypewriter Accessories Table FN-59/FG	8.1	20-3/4 X 25 X 30-1/4	28

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter TT-100/FG	11-1/4 X 17-1/8 X 20-9/16	54
1	Power Supply PP-978/FG	4 X 4 X 9	7
1	Teletypewriter Table FN-59/FG	18-3/4 X 22-1/4 X 27	22
1	Roll Recording Paper	4-1/2 dia X 8-1/2	3.5
1	Ribbon, Inking	3/4 X 2-1/4 dia	
1	Worm Gear, 100 wpm	3/4 X 2 dia	
1	Worm, 100 wpm	1/2 dia X 1-1/4	4
1	Set of Spares		

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET**AN/FGC-24****FUNCTIONAL DESCRIPTION**

The AN/FGC-24 Teletypewriter Set is for transmission and reception of teletype messages. Either direct keyboard or tape transmission may be employed in shore to shore or shore to ship radio teletype communication.

This equipment is the Teletype Corp Model 19 Page Printer Transmitter-Distributor Set. It can communicate with any 5 unit code teletype equipment geared for 450 operations per minute.

No field changes in effect at time of preparation (1 August 1957).

POWER SOURCE REQUIRED: 110 to 115 v, 60 cps, single ph.

TYPE OF FEED: Friction.

CHARACTERS: 72 characters per line; English.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

RELATION TO OTHER EQUIPMENT

Similar to Teletypewriter Set AN/FGC-9 except modified for 75 words per minute.

REFERENCE DATA AND LITERATURE

Nomenclature Card for AN/FGC-24, Teletypewriter Set dated 17 January 1952.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FUNCTIONS: Page printing of incoming messages; Keyboard or perforated tape transmission of outgoing messages.

SPEED: 450 opm, 75 wpm.

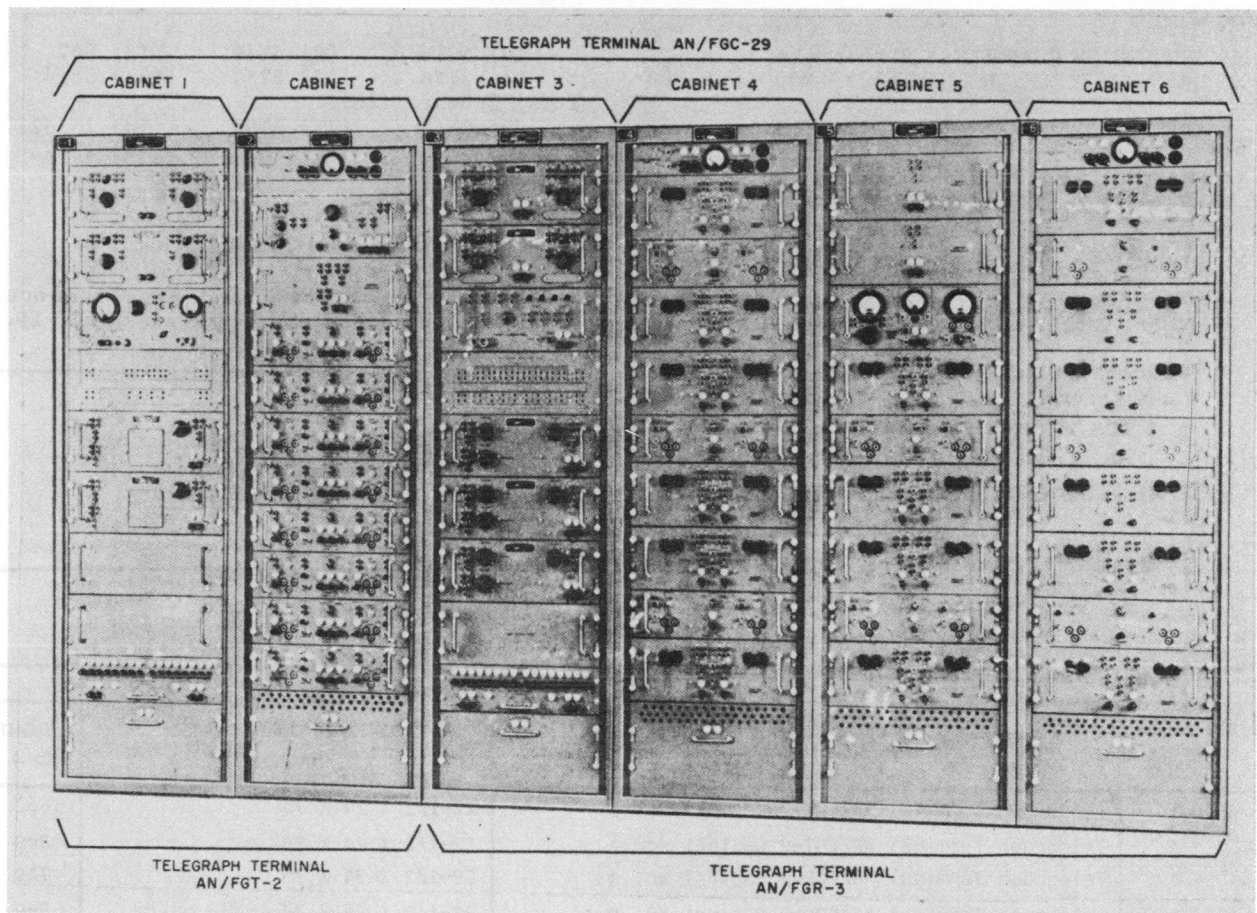
MOTOR CHARACTERISTICS: Synchronous, capacitor start motor.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Perforator-Transmitter		
1	Transmitter-Distributor		
1	Table		
1	Power Supply PP-315/GGA-1		
1	Set of Gears		

April 1959

TELEGRAPH TERMINAL**AN/FGC-29***Telegraph Terminal AN/FGC-29***FUNCTIONAL DESCRIPTION**

The AN/FGC-29 is designed as the terminal equipment for a 16-channel carrier telegraph system that provides communication over long range, twin-channel, single-sideband radio circuits operating in the high-frequency (HF) range.

The carrier telegraph channels are capable of teletypewriter operation at a maximum speed of 100 words per minute.

Data on this sheet reflects the following field changes: No. 1 thru 3.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**TELEGRAPH CHANNELS**

NUMBER OF CHANNELS: 16.
 MAXIMUM WORD SPEED: 100 wpm.
 MAXIMUM DOT FREQUENCY: 37 cps.
 CHANNEL CENTER FREQUENCIES: 425 to 2,975 cps.
 CHANNEL SPACING: 170 cps.
 TYPE OF MODULATION: Frequency-shift.

FREQUENCY DEVIATION: ± 42.5 cps.
 DIVERSITY OPTIONS: Frequency or space.
 DIVERSITY COMBINING OPTIONS: 2-channel or 4-channel.

TELEGRAPH LOOPS

NUMBER: 16.
 TYPE OF SIGNALS: Neutral.
 LOOP CURRENT: 20 ma or 60 ma.
 MAXIMUM LOOP RESISTANCE: 1,000 ohms.

LOOP BATTERY OPTIONS**TRANSMITTING LOOPS**

BATTERY FROM EQUIPMENT: -130 v DC.
 BATTERY FROM LOOPS: ± 130 v DC.

RECEIVING LOOPS

BATTERY FROM EQUIPMENT: -130 v DC.

VOICE FREQUENCY CHANNELS

NUMBER OF CHANNELS: 4 channels.
 BANDWIDTH (EACH): 375 to 3,025 cps.

IMPEDANCE

OUTPUT TRANSMITTING TERMINAL: 600 ohms.
 INPUT RECEIVING TERMINAL: 600 ohms.

TRANSMISSION MEDIUM

TYPE: Single-sideband radio.
 FREQUENCY RANGE: High frequency 3 to 30 mc.

April 1959

Communication-Terminal Equipment

AN/FGC-29**TELEGRAPH TERMINAL**

NUMBER OF CHANNELS: 2 channels.
 BANDWIDTH (EACH CHANNEL): 200 to 6,000
 cps.

FACILITIES TO RADIO SITES: 3 kc or 6 kc
 lines.

OPERATING POWER REQMS

FREQUENCY: 50 to 60 cps.

POWER CONSUMPTION: 4,000 watts.

VOLTAGE: 107 to 122 or 210 to 250 v AC.

(8) 6CL6 (8) 6X4W (8) 807
 (4) 5726 (52) 5751 (31) 5814
 Total Tubes: (251)
 (20) 1N69 (12) 1N92 (4) 1N362
 (13) 1N330 (28) 1N71 (6) 1N435
 Total Crystals: (83)

REFERENCE DATA AND LITERATURE

TM11-2245, TO31W4-2FGC29-1-3: Technical
 Manual for Telegraph Terminal AN/FGC-29.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Union Telegraph Co., New York,
 New York.
 Proc. 26570-PHILA-52-93.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE TASSA
 PROCUREMENT COGNIZANCE MIL-T-11958
 STOCK NO.

TUBE AND/OR CRYSTAL COMPLEMENT

(8) 2AS15 (44) 2D21W (8) 3B22
 (8) 5Y3GT (44) 6AQ5W (28) 6AU6W

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Telegraph Terminal AN/FGT-2 Cabinet No. 1	22-1/2 X 24 X 75	662
1	Telegraph Terminal AN/FGT-2 Cabinet No. 2	22-1/2 X 24 X 75	809
1	Telegraph Terminal AN/FGR-3 Cabinet No. 3	22-1/2 X 24 X 75	749
1	Telegraph Terminal AN/FGR-3 Cabinet No. 4	22-1/2 X 24 X 75	869
1	Telegraph Terminal AN/FGR-3 Cabinet No. 5	22-1/2 X 24 X 75	900
1	Telegraph Terminal AN/FGR-3 Cabinet No. 6	22-1/2 X 24 X 75	874
1	Transformer Ass'y TF-206/FG	3-1/2 X 4-7/8 X 19	10
1	Relay Panel	7 X 10-3/16 X 19	33
7	Dummy Circuit Panel	4 X 7 X 19	3-13/16
2	Electrical Headset H-110/G		1-1/2
9	Power Cord	48 lg	11/16
9	Cable Ass'y	48 lg	1-1/4
7	Intercabinet Signal Cable Ass'y	24 lg	1
2	Switchboard Patching Cord (Single Plug Each End)	72 lg	7/16
2	Switchboard Patching Cord (Twin Plugs Both Ends)	24	7/16
2	Switchboard Patching Cord (Twin Plugs Both Ends)	48	7/16
8	Switchboard Patching Cord (Twin Plugs Both Ends)	72	7/16
4	Switchboard Patching Cord (Twin Plugs Both Ends)	96	7/16
1	Set of Equipment Spares		41

UNCLASSIFIED

January 1958

Radio-Communications Terminal Equipments

OCEAN CABLE TERMINAL SET

AN/FGC-3

FUNCTIONAL DESCRIPTION

The AN/FGC-3 is used for manually signaling in Morse or cable code over ocean telegraph cable. The equipment is contained in a steel case and includes a table for operation of equipment.

No field changes in effect at time of preparation (24 May 1957).

TUBE AND/OR CRYSTAL COMPLEMENT

Tubes and Crystals: Not Available.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Ocean Cable Terminal Set AN/FGC-3, dated 25 June 1946.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER SOURCE REQUIRED: 115 v, 60 cps, single ph, 325 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Union Spec 6480-B.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Ocean Cable Terminal Set AN/FGC-3	24 X 27 X 72	
1	Table	30 X 32 X 60	

UNCLASSIFIED

1.5 AN/FGC-3: 1

April 1958

TELETYPEWRITER SET AN/FGC-38, AN/FGC-38X, AN/FGC-39



Teletypewriter Set AN/FGC-38, AN/FGC-38X, AN/FGC-39

FUNCTIONAL DESCRIPTION

The AN/FGC-38, AN/FGC-38X or AN/FGC-39 is a semiautomatic tape relay equipment and performs three basic functions: The first function is to receive automatic telegraph sig-

nals from distant points and record these signals on a chadless perforated tape with the message typed over the perforations. The second function is to produce automatic telegraph signals from perforated tape and to transmit these signals to distant points. The

Radio-Communication Terminal Equipment

**AN/FGC-38, AN/FGC-38X, TELETYPEWRITER SET
AN/FGC-39**

April 1958

third function is to automatically monitor all transmitted messages and numbers for storage.

The AN/FGC-38, AN/FGC-38X and AN/FGC-39 are each comprised essentially of three major groups, a Receiving Group, Transmitting Group and Monitor Group. These three groups make

up one set. The set is used as a relay station to receive, transmit and monitor telegraph messages. A typical station installation may consist of several sets.

No field changes in effect at time of preparation (18 March 1958).

RELATION TO OTHER EQUIPMENT
EQUIPMENT SIMILARITIES OF AN/FGC SERIES

MODEL	NAME	OPERATING CHARACTERISTICS	REMARKS
AN/FGC-6	Teletypewriter Set	7.42 unit code 60, 75, or 100 (experimental) wpm.	Uses synchronous motors.
AN/FGC-38	Teletypewriter Set	7.42 unit code 60, 75, or 100 (experimental) wpm.	Uses synchronous motors. Minor mechanical and electrical changes from AN/FGC-6.
AN/FGC-38X	Teletypewriter Set	7.42 unit code 60, 75, or 100 (experimental) wpm.	Uses governed motors. Minor mechanical and electrical changes from AN/FGC-6.
AN/FGC-39	Teletypewriter Set	7.00 unit code, 65 wpm only.	Uses synchronous motors. Minor mechanical and electrical changes from AN/FGC-6.
UNIT SIMILARITIES IN AN/FGC SERIES			
TT-141/FGC-6 TT-161/FGC-38 TT-163/FGC-39	Reperforator, Teletypewriter	7.42 or 7.00 unit code has manual tape feedout feature.	Synchronous motor.
TT-140/FGC-6 TT-164/FGC-38 TT-166/FGC-39	Reperforator, Teletypewriter	7.42 or 7.00 unit code. No manual tape feedout.	Synchronous motor.
TT-162/FGC-38X	Reperforator, Teletypewriter	Similar to TT-141/FGC-6.	Governed motor.
TT-165/FGC-38X	Reperforator, Teletypewriter	Similar to TT-140/FGC-6.	Governed motor.
TT-138/FGC-6	Distributor-Transmitter, Teletypewriter	7.42 unit code; message transmission.	
TT-167/FGC-38	Distributor-Transmitter, Teletypewriter	7.42 unit code; message transmission.	Mechanical changes from TT-138/FGC-6; not interchangeable.

April 1958

TELETYPEWRITER SET AN/FGC-38, AN/FGC-38X, AN/FGC-39

UNIT SIMILARITIES IN AN/FGC SERIES

MODEL	NAME	OPERATING CHARACTERISTICS	REMARKS
TT-168/FGC-39	Distributor-Transmitter, Teletypewriter	7.00 unit code; message transmission.	Similar to TT-167/FGC-38, but different camshaft.
TT-139/FGC-6	Distributor-Transmitter, Teletypewriter	7.42 unit code; number transmission only.	
TT-169/FGC-38	Distributor-Transmitter, Teletypewriter	7.42 unit code; number transmission only.	Mechanical changes from TT-139/FGC-6; not interchangeable.
TT-170/FGC-39	Distributor-Transmitter, Teletypewriter	7.00 unit code; number transmission only.	Similar to TT-169/FGC-38, but different camshaft.
MT-1258/FGC-6	Base, Distributor-Transmitter	Drives and mounts TT-138/FGC-6.	Synchronous motor.
MT-1372/FGC-38	Base, Distributor-Transmitter	Drives and mounts TT-167/FGC-38	Similar to MT-1258/FGC-6, but with mechanical changes; not interchangeable.
MT-1373/FGC-38X	Base, Distributor-Transmitter	Drives and mounts TT-167/FGC-38.	Similar to MT-1372/FGC-38, but with governor motor.
MT-1374/FGC-39	Base, Distributor-Transmitter	Drives and mounts TT-168/FGC-39	Similar to MT-1372/FGC-38, but has different gears; interchangeable provided gears are changed.
MT-1259/FGC-6	Base, Distributor-Transmitter	Drives and mounts TT-139/FGC-6.	Synchronous motor.
MT-1369/FGC-38	Base, Distributor-Transmitter	Drives and mounts TT-169/FGC-38.	Similar to MT-1259/FGC-6, but with mechanical changes; not interchangeable.
MT-1370/FGC-38X	Base, Distributor-Transmitter	Drives and mounts TT-169/FGC-38.	Similar to MT-1372/FGC-38, but with governed motor.
MT-1371/FGC-39	Base, Distributor-Transmitter	Drives and mounts TT-170/FGC-39.	Similar to MT-1372/FGC-38, but has different gears; interchangeable with change in gears.
CY-1421/FGC-6	Cabinet, Electrical Equipment	Mounts units of Transmitter Group OA-517/FGC-6.	
CY-1524/FGC	Cabinet, Electrical Equipment	Mounts units of Transmitter Groups OA-615/FGC-38, OA-618/FGC-38X, and OA-621/FGC-39.	Same as CY-1421/FGC-6.

Radio-Communication Terminal Equipment

**AN/FGC-38, AN/FGC-38X, TELETYPEWRITER SET
AN/FGC-39**

April 1958

UNIT SIMILARITIES IN AN/FGC SERIES

MODEL	NAME	OPERATING CHARACTERISTICS	REMARKS
CY-1422/FGC-6	Cabinet, Electrical Equipment	Mounts units of Receiver Group OA-518/FGC-6.	
CY-1523/FGC	Cabinet, Electrical Equipment	Mounts units of Receiver Groups OA-616/FGC-38, OA-619/FGC-38X and OA-622/FGC-39.	Same as CY-1422/FGC-6.
CY-1423/FGC-6	Cabinet, Electrical Equipment	Mounts units of Monitor Group OA-519/FGC-6.	
CY-1522/FGC	Cabinet, Electrical Equipment	Mounts units of Monitor Groups OA-619/FGC-38, OA-620/FGC-38X and OA-623/FGC-39.	Same as CY-1423/FGC-6.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SIGNAL FREQUENCY: The telegraph output signal is in maximum dot cycles (one cycle is marking impulse followed by one spacing impulse) per second.

60 WPM: 22.8 cps, 7.42 unit code.

65 WPM: 22.8 cps, 7.00 unit code.

75 WPM: 28.5 cps, 7.42 unit code.

100 WPM: 37.1 cps, 7.42 unit code.

FREQUENCY CONTROL: Depends on the use of a synchronous motor and a regulated 60-cycle power supply in sets AN/FGC-38 and AN/FGC-39, or on a properly adjusted governed motor in set AN/FGC-38X.

TRANSMITTED AUTOMATIC TELEGRAPH SIGNALS: May be either neutral signals (nominally 0.060 ampere) or polar signals (nominally 0.030 ampere) supplied by either a power supply within the transmitter group or from an external DC power source.

RECEIVED AUTOMATIC TELEGRAPH SIGNALS: Applied to the line relays may be neutral signals (nominally 0.060 ampere) supplied by either a rectifier within the receiver group or from an external power source, or polar signals (nominally 0.030 ampere) supplied from an external power source only.

POWER SOURCE REQUIRED: 115 v \pm 10%, single ph, 60 cps \pm 0.5 cps for synchronous motors and 50 to 70 cycles for governed motors.

INPUT CURRENT

TRANSMITTER GROUP: Approx 12.9 amps.

RECEIVER GROUP: Approx 14.9 amps.

MONITOR GROUP: Approx 10.2 amps.

POWER FACTOR

TRANSMITTER GROUP: Approx 0.34.

RECEIVER GROUP: Approx 0.36.

MONITOR GROUP: Approx 0.36.

WATTAGE

TRANSMITTER GROUP: 400 watts.

RECEIVER GROUP: 400 watts.

MONITOR GROUP: 1250 watts.

AMBIENT TEMPERATURE RANGE

STORAGE: -40° C (-40° F) to $+65^{\circ}$ C ($+149^{\circ}$ F).

OPERATING: 0° C ($+32^{\circ}$ F) to $+50^{\circ}$ C ($+122^{\circ}$ F).

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corporation, Chicago, Ill.
Contract NObsr-52445, dated 3 April 1953.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes or Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92378: Technical Manual for Teletypewriter Sets AN/FGC-38, AN/FGC-38X and AN/FGC-39.

TM-11-2248: Technical Manual for Teletypewriter Sets AN/FGC-38, AN/FGC-38X and AN/FGC-39.

TO31W4-2FGC-201: Technical Order for Teletypewriter Sets AN/FGC-38, AN/FGC-38X and AN/FGC-39.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE STOCK NO.

April 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET AN/FGC-38, AN/FGC-38X, AN/FGC-39

SHIPPING DATA

BOX NO.	QTY	NAME	CONTENTS			OVER-ALL DIMENSIONS	VOLUME	WEIGHT
			DESIGNATION					
			AN/FGC-38	AN/FGC-38X	AN/FGC-39			
1	1	Cabinet, Electrical Equip.	CY-1522/FGC	CY-1522/FGC	CY-1522/FGC	29 X 32-1/4 X 83-1/2	45.2	640
1	1	Cabinet, Electrical Equip.	CY-1523/FGC	CY-1523/FGC	CY-1523/FGC	29 X 38-1/4 X 83-1/2	53.6	735
1	1	Cabinet, Electrical Equip.	CY-1524/FGC	CY-1524/FGC	CY-1524/FGC	34-1/4 X 49-1/4 X 54-3/4	53.4	410
2	2	Power Supply	PP-987/U	PP-987/U	PP-987/U	10-1/4 X 15 X 15-1/4	1.4	65
1	2	Base, Distributor-Xmtr	MT-1369/FGC-38	MT-1370/FGC-38X	MT-1371/FGC-39			
	3	Distributor-Transmitter	TT-169/FGC-38	TT-169/FGC-38	TT-170/FGC-39			
	6	Distributor-Transmitter	TT-167/FGC-38	TT-167/FGC-38	TT-168/FGC-39	21-1/4 X 28-1/4 X 30	10.4	195
1	1	Base, Distributor-Xmtr	MT-1372/FGC-38	MT-1373/FGC-38X	MT-1374/FGC-39	21 X 24-1/2 X 25-1/2	7.6	145
2	4	Reperforator	TT-161/FGC-38	TT-162/FGC-38X	TT-163/FGC-39	20-1/2 X 21-1/2 X 34-3/4	8.9	175
1	1	Reperforator	TT-164/FGC-38	TT-165/FGC-38X	TT-166/FGC-39			
	1	Reeling Machine	RL-173/FGC	RL-173/FGC	RL-173/FGC			
	1	Maintenance Parts Kit	MX-1527/U	MX-1527/U	MX-1527/U	17-1/2 X 26 X 31	8.2	140
1	1	Reperforator	TT-164/FGC-38	TT-165/FGC-38X	TT-166/FGC-39			
	1	Reeling Machine	RL-173/FGC	RL-173/FGC	RL-173/FGC			
	1	Stamp, Time	MX-1527/U	MX-1527/U	MX-1527/U	17-1/2 X 22-3/4 X 31	7.1	140
1	1	Reperforator	TT-164/FGC-38	TT-165/FGC-38X	TT-166/FGC-39			
	1	Reeling Machine	RL-173/FGC	RL-173/FGC	RL-173/FGC			
	2	Stamp, Time	MX-1527/U	MX-1527/U	MX-1527/U	17-1/2 X 22-3/4 X 31	7.1	150

Radio-Communication Terminal Equipment
AN/FGC-38, AN/FGC-38X, TELETYPEWRITER SET
AN/FGC-39

Apr 11 1958

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
	AN/FGC-38		
1	Teletypewriter Set AN/FGC-38 including:		
1	Transmitter Group OA-615/FGC-38 consisting of:		284
1	Cabinet, Electrical Equipment CY-1524/FGC	67 X 27 X 43	
1	Base, Distributor-Transmitter MT-1369/FGC-38	11 X 17 X 16	36
2	Base, distributor-Transmitter MT-1372/FGC-38	6-1/2 X 17 X 16	56
3	Distributor-Transmitter, Teletypewriter TT-167/FGC-38	4 X 5-1/4 X 6	14
6	Distributor-Transmitter, Teletypewriter TT-169/FGC-38	4 X 5-1/4 X 6	27
1	Power Supply PP-987/U	12 X 10 X 7-1/2	49
3	Control Panel SB-358/FGC	13-1/2 X 4-1/2 X 7-1/2	42
1	Tape Holder MX-1569/FGC	21 X 19-1/2 X 2-1/2	22
3	Line Relay	6 X 2-3/4 X 2-3/4	3
1	Receiver Group OA-616/FGC-38 consisting of:		505
1	Cabinet, Electrical Equipment CY-1523/FGC	77-3/8 X 33 X 24	
4	Reperforator, Teletypewriter TT-161/FGC-38	7-1/2 X 11-1/2 X 12	156
1	Power Supply PP-987/U	12 X 10 X 7-1/2	49
4	Control Panel SB-357/FGC	13-1/2 X 3 X 8-1/2	36
4	Line Relay	6 X 2-3/4 X 2-3/4	4
1	Monitor Group OA-617/FGC-38 consisting of:		420
1	Cabinet, Electrical Equipment CY-1522/FGC	77-3/8 X 27 X 24	
3	Reperforator, Teletypewriter TT-164/FGC-38	8-1/2 X 11-1/2 X 12	111
3	Reeling Machine, Tape RL-173/FGC	12 X 5 X 21	47
3	Time Stamp MX-1527/U	7 X 4-1/4 X 13-3/4	50
1	Maintenance Parts Kit	18-3/4 X 16-1/4 X 11	30
	AN/FGC-38X		
1	Teletypewriter Set AN/FGC-38X including:		
1	Transmitter Group OA-618/FGC-38X consisting of:		284
1	Cabinet, Electrical Equipment CY-1524/FGC	67 X 27 X 43	
1	Base, Distributor-Transmitter MT-1370/FGC-38X	11 X 17 X 16	38
2	Base, Distributor-Transmitter MT-1373/FGC-38X	6-1/2 X 17 X 16	60
3	Distributor-Transmitter, Teletypewriter TT-167/FGC-38	4 X 5-1/4 X 6	14
6	Distributor-Transmitter, Teletypewriter TT-169/FGC-38	4 X 5-1/4 X 6	27
1	Power Supply PP-987/U	12 X 10 X 7-1/2	49
3	Control Panel SB-358/FGC	13-1/2 X 4-1/2 X 7-1/2	14
1	Tape Holder MX-1569/FGC	21 X 19-1/2 X 2-1/2	22
3	Line Relay	6 X 2-3/4 X 2-3/4	3
1	Receiver Group OA-619/FGC-38X consisting of:		505
1	Cabinet, Electrical Equipment CY-1523/FGC	77-3/8 X 33 X 24	
4	Reperforator, Teletypewriter TT-162/FGC-38X	7-1/2 X 11-1/2 X 12	164
1	Power Supply PP-987/U	12 X 10 X 7-1/2	49
4	Control Panel SB-357/FGC	13-1/2 X 3 X 8-1/2	36
4	Line Relay	6 X 2-3/4 X 2-3/4	4
1	Monitor Group OA-620/FGC-38X consisting of:		420
1	Cabinet, Electrical Equipment CY-1522/FGC	77-3/8 X 27 X 24	
3	Reperforator, Teletypewriter TT-165/FGC-38X	8-1/2 X 11-1/2 X 12	117
3	Reeling Machine, Tape RL-173/FGC	12 X 5 X 21	47
1	Maintenance Parts Kit	18-3/4 X 16-1/4 X 11	30
	AN/FGC-39		
1	Teletypewriter Set AN/FGC-39 including:		
1	Transmitter Group OA-621/FGC-39 consisting of:		284
1	Cabinet, Electrical Equipment CY-1524/FGC	67 X 27 X 43	
1	Base, Distributor-Transmitter MT-1371/FGC-39	11 X 17 X 16	36
2	Base, Distributor-Transmitter MT-1374/FGC-39	6-1/2 X 17 X 16	56

Radio-Communication Terminal Equipment

**TELETYPEWRITER SET AN/FGC-38, AN/FGC-38X,
AN/FGC-39**

April 1958

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
3	Distributor-Transmitter, Teletypewriter TT-168/FGC-39	4 X 5-1/4 X 6	14
6	Distributor-Transmitter, Teletypewriter TT-170/FGC-39	4 X 5-1/4 X 6	27
1	Power Supply PP-987/U	12 X 10 X 7-1/2	49
3	Control Panel SB-358/FGC	13-1/2 X 4-1/2 X 7-1/2	42
1	Tape Holder MX-1569/FGC	21 X 19-1/2 X 2-1/2	22
3	Line Relay	6 X 2-3/4 X 2-3/4	3
1	Receiver Group OA-622/FGC-39 consisting of:		
1	Cabinet, Electrical Equipment CY-1523/FGC	77-3/8 X 33 X 24	505
4	Reperforator, Teletypewriter TT-163/FGC-39	7-1/2 X 11-1/2 X 12	156
1	Power Supply PP-987/U	12 X 10 X 7-1/2	49
4	Control Panel SB-357/FGC	13-1/2 X 3 X 8-1/2	36
4	Line Relay	6 X 2-3/4 X 2-3/4	4
1	Monitor Group OA-623/FGC-39 consisting of:		
1	Cabinet, Electrical Equipment CY-1522/FGC	77-3/8 X 27 X 24	420
3	Reperforator, Teletypewriter TT-166/FGC-39	8-1/2 X 11-1/2 X 12	111
3	Reeling Machine, Tape RL-173/FGC	12 X 5 X 21	47
3	Time Stamp MX-1527/U	7 X 4-1/4 X 13-3/4	50
1	Maintenance Parts Kit	18-3/4 X 16-1/4 X 11	30

28 August 1962

Cog Service:

FSN:

TELETYPEWRITER SET AN/FGC-38AX
Functional Class:

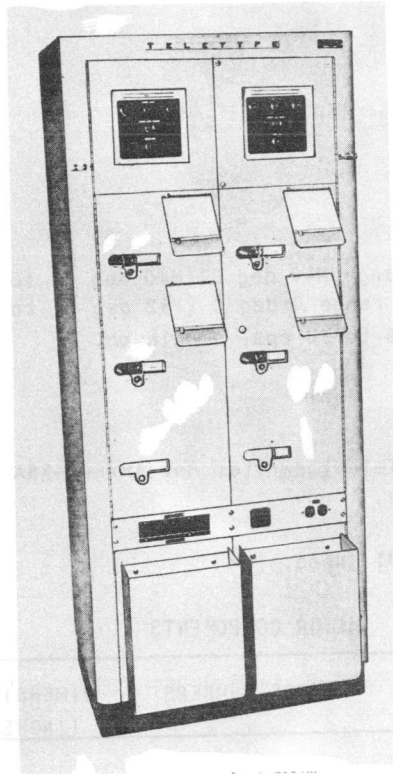
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Teletype Corporation.



Teletypewriter Set AN/FGC-38AX

FUNCTIONAL DESCRIPTION:

The Teletypewriter Set AN/FGC-38AX is comprised essentially of three (3) major groups; a Receiver Group, a Transmitter Group, and a Monitor Group, each contained in a separate cabinet. These three groups make up one set. The set is used at a relay station to receive, transmit, and monitor telegraph messages. A typical station installation may consist of several sets.

No field changes in effect at time of preparation (5 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF EQUIPMENT: Teletype semiautomatic tape relay equipment.

ELECTRICAL CHARACTERISTICS

NUMBER OF WORDS PER MINUTE: 60 wpm, 22.8 cps, 7.42 unit code.

AN/FGC-38AX TELETYPEWRITER SET

NUMBER OF WORDS PER MINUTE: 65 wpm, 22.8 cps, 7.00 unit code.
NUMBER OF WORDS PER MINUTE: 75 wpm, 28.5 cps, 7.42 unit code.
NUMBER OF WORDS PER MINUTE: 100 wpm, 37.1 cps, 7.42 unit code.

INPUT CURRENT

TRANSMITTER GROUP: Approx 8.15 amps.
RECEIVER GROUP: Approx 10.79 amps.
MONITOR GROUP: Approx 11.2 amps.

POWER FACTOR

TRANSMITTER GROUP: 0.43 pf.
RECEIVER GROUP: 0.34 pf.
MONITOR GROUP: 0.36 pf.

WATTAGE

TRANSMITTER GROUP: 400 W.
RECEIVER GROUP: 416 W.
MONITOR GROUP: 460 W.

PERMISSIBLE TEMPERATURES

STORAGE: Ambient temperature range M40 deg C (M40 deg F) to P65 deg C (P149 deg F).
OPERATING: Ambient temperature range 0 deg C (P32 deg F) to P50 deg C (P122 deg F).
OPERATING POWER RQMT: 115 v ac, 50 to 70 cps, single ph.

RELATION TO OTHER EQUIPMENT:

The AN/FGC-38AX is the same as Teletypewriter Set AN/FGC-38A except employs series gov-
erned motors in lieu of sync motors.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Set AN/FGC-38AX consists of:			
1	Transmitter Group			
	0A-618A/FGC-38X includes:			
1	Cabinet, Electrical Equip- ment CY-1524B/FGC		27 x 43 x 67	285
2	Base, Distributor-Transmit- ter MT-1370/FGC-38X		6-1/2 x 16 x 17	38
1	Base, Distributor-Transmit- ter MT-1373/FGC-38X		11 x 16 x 17	36
6	Distributor-Transmitter Teletypewriter TT-167/FGC-38		4 x 5-1/4 x 6	4-1/2
3	Distributor-Transmitter Teletypewriter TT-169/FGC-38		4 x 5-1/4 x 6	4-1/2
1	Power Supply PP-987/U		7-1/2 x 10 x 12	49

1.5 AN/FGC-38AX: 2

TELETYPEWRITER SET AN/FGC-38AX

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
3	Control Panel SB-625/FGC-38		4-1/2 x 7-1/2 x 13-1/2	14
1	Holder Assy MX-1994/FGC		2-1/2 x 19-1/2 x 21	20
1	Cable Assy CX-3472/FGC		200-1/2 lg	6
3	Line Relay		2-3/4 x 2-3/4 x 6	1
1	Receiver Group OA-1619A/FGC-38X consists of:			
1	Cabinet, Electrical Equip- ment CY-2024/FGC		24 x 33 x 77-3/8	505
4	Reperforator, Teletypewriter TT-203/FGC-38AX		7-1/2 x 11-1/2 x 12	39
1	Power Supply PP-987/U		7-1/2 x 10 x 12	49
4	Control Panel SB-357/FGC		3 x 8-1/2 x 13-1/2	9
1	Cable Assy CX-2649/FGC		245 lg	6
4	Line Relay		2-3/4 x 2-3/4 x 6	1
1	Monitor Group OA-620A/FGC-38X consists of:			
1	Cabinet, Electrical Equip- ment CY-2023/FGC		24 x 27 x 77-3/8	425
3	Reperforator, Teletype- writer TT-202/FGC-38AX		7-1/2 x 11-1/2 x 12	37
3	Reeling Machine, Tape RL-173/FGC		5 x 12 x 21	16
1	Cable Assy CX-2650/FGC		720 lg	13

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92833: Technical Manual for Teletypewriter Sets AN/FGC-38A, AN/FGC-38AX, and AN/FGC-39A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	46.6	668
1	56.0	751
1	47.0	473
1	2.0	72
1	2.0	72
1		
1		

1.5 AN/FGC-38AX: 3

AN/FGC-38AX TELETYPEWRITER SET

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		
3		
3	8.0	144
1	10.4	195
6		
2	8.3	188
2	13.2	226
2	13.2	226
4	9.4	136
1		
4		
2	13.2	226
3	11.3	170
1	10.8	98
1	10.1	
1		
1		
2		

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Chicago, Illinois	N0bsr-64843, 30 June 1955 N0bsr-71053, 30 September 1955	

23 August 1962

TELETYPEWRITER SET AN/FGC-39A

Cog Service:

FSN:

Functional Class:

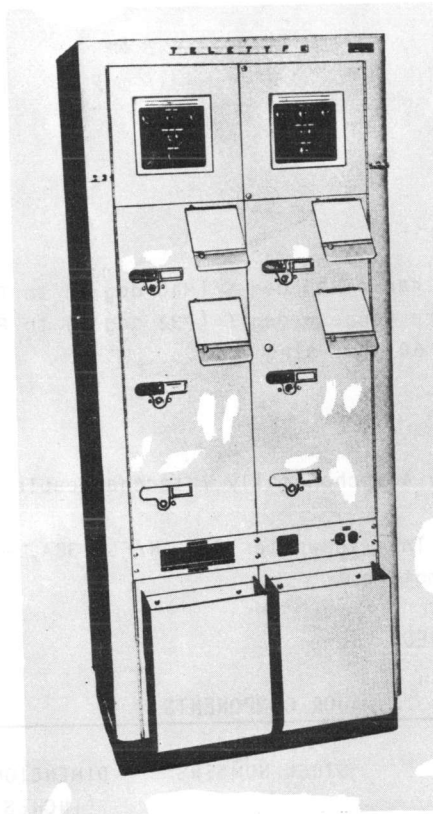
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Teletype Corporation.



Teletypewriter Set AN/FGC-39A

FUNCTIONAL DESCRIPTION:

The Teletypewriter Set AN/FGC-39A is comprised essentially of three (3) major groups, a Receiver Group, a Transmitter Group, and a Monitor Group, each contained in a separate cabinet. These three groups make up one set. The set is used at a relay station to receive, transmit, and monitor telegraph messages. A typical station installation may consist of several sets.

No field changes in effect at time of preparation (5 April 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF EQUIPMENT: Teletype semi-automatic tape relay equipment.

ELECTRICAL CHARACTERISTICS

NUMBER OF WORDS PER MINUTE: 60 wpm, 22.8 cps, 7.42 unit code.

NUMBER OF WORDS PER MINUTE: 65 wpm, 22.8 cps, 7.00 unit code.

AN/FGC-39A TELETYPEWRITER SET

NUMBER OF WORDS PER MINUTE: 75 wpm, 28.5 cps, 7.42 unit code.

NUMBER OF WORDS PER MINUTE: 100 wpm, 37.1 cps, 7.42 unit code.

INPUT CURRENT

TRANSMITTER GROUP: Approx 8.15 amps.

RECEIVER GROUP: Approx 10.79 amps.

MONITOR GROUP: Approx 11.2 amps.

POWER FACTOR

TRANSMITTER GROUP: 0.43 pf.

RECEIVER GROUP: 0.34 pf.

MONITOR GROUP: 0.36 pf.

WATTAGE

TRANSMITTER GROUP: 400 W.

RECEIVER GROUP: 416 W.

MONITOR GROUP: 460 W.

PERMISSIBLE TEMPERATURES

STORAGE: Ambient temperature range M40 deg C (M40 deg F) to P65 deg C (P149 deg F).

OPERATING: Ambient temperature range 0 deg C (P32 deg F) to P50 deg C (P122 deg F).

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

RELATION TO OTHER EQUIPMENT:

The AN/FGC-39A is electrically & mechanically interchangeable with Teletypewriter Set AN/FGC-39.

The AN/FGC-39A is the same as Teletypewriter Set AN/FGC-38A, -38AX except that it employs sync motors in lieu of governed motors.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Set AN/FGC-39A includes:			
1	Transmitter Group OA-621A/FGC-39 consists of:			
1	Cabinet Electrical Equipment CY-1524A/FGC		27 x 43 x 67	285
2	Base, Distributor-Trans- mitter MT-1371A/FGC-39		6-1/2 x 16 x 17	38
1	Base, Distributor-Trans- mitter MT-1374A/FGC-39		11 x 16 x 17	36
6	Distributor-Transmitter Teletypewriter TT-168/FGC-39		4 x 5-1/4 x 6	4-1/2
3	Distributor-Transmitter Teletypewriter TT-170/FGC-39		4 x 5-1/4 x 6	4-1/2

TELETYPEWRITER SET AN/FGC-39A

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Power Supply PP-1479/FGC		7-1/2 x 10 x 12	49
3	Control Panel SB-621/FGC-39A		4-1/2 x 7-1/2 x 13-1/2	14
1	Holder ASS'y MX-1994/FGC		2-1/2 x 19-1/2 x 21	20
1	Cable Ass'y CX-3472/FGC		209 lg	6
3	Line Relay		2-3/4 x 2-3/4 x 6	1
1	Receiver Group OA-622/FGC-39			
	consists of:			
1	Cabinet, Electrical Equipment CY-2024/FGC		24 x 33 x 77-3/8	505
4	Reperforator, Teletypewriter TT-205/FGC-39A		7-1/2 x 11-1/2 x 12	39
1	Power Supply PP-987/U		7-1/2 x 10 x 12	49
4	Control Panel SB-357/FGC		3 x 8-1/2 x 13-1/2	9
1	Cable Ass'y CX-2649/FGC		245 lg	6
4	Line Relay		2-3/4 x 2-3/4 x 6	1
1	Monitor Group OA-623A/FGC-39			
	consists of:			
1	Cabinet, Electrical Equipment CY-2023/FGC		24 x 27 x 77-3/8	425
3	Reperforator, Teletypewriter TT-204/FGC-39A		7-1/2 x 11-1/2 x 12	37
3	Reeling Machine Tape RL-173/FGC		5 x 12 x 21	16
1	Cable Ass'y CX-2650/FGC		720 lg	13
3	Time Stamp MX-2041/FGC		4-1/4 x 7 x 13-3/4	16-1/2

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92833: Technical Manual for Teletypewriter Sets AN/FGC-38A, AN/FGC-38AX, and AN/FGC-39A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	46.6	668
1	56.0	751
1	47.0	473
1	2.0	72

AN/FGC-39A TELETYPEWRITER SET

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.0	72
1		
1		
1		
3		
3		
3	8.0	144
1	10.4	195
6		
2	8.3	188
2	13.2	226
2	13.2	226
1	9.4	136
4		
1		
4		
2	13.2	226
3	11.3	170
1	10.1	158
1		
1		
3	8.0	144
1	10.8	98

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Chicago, Illinois	N0bsr-64843, 30 June 1955 N0bsr-71053, 30 September 1955	

UNCLASSIFIED

January 1958

TELETYPEWRITER SET

Radio-Communication Terminal Equipment
AN/FGC-4

FUNCTIONAL DESCRIPTION

The AN/FGC-4 Teletypewriter Set is for the transmission and reception of teletype messages. It utilizes tape printing, english character, standard keyboard arrangement with a single character key.

No field changes in effect at time of preparation (5 August 1957).

RELATION TO OTHER EQUIPMENT

Similar to Teletype Corp. Model 14.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FUNCTIONS: Page printing of incoming messages; keyboard or perforated tape transmission of outgoing messages.

SPEED: 368 opm.

UNIT CODE: 5.

POWER SOURCE REQUIRED: 110 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp; Chicago, Illinois.
Contract 12682-Phila-47.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set
AN/FGC-4 dated 14 July 1948.

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Typing Unit FT23D275		
1	Base FK61MG1		
1	Cover		
1	Copyholder 74833		
1	Table XRT-82		

UNCLASSIFIED

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET

AN/FGC-41

FUNCTIONAL DESCRIPTION

The AN/FGC-41 is a Teletype Corporation Model 15 page printer designed for interchanging type written messages between two or more points connected by telegraph communication channels. The instrument incorporates a keyboard with weather symbols for use in weather report service.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

KEYBOARD: Weather symbols.
 NUMBER OF CHARACTERS PER LINE: 72.
 TYPE OF FEED: Friction.
 DIRECTION: Send-receive.
 OPERATIONS PER MINUTE: 460 opm.
 UNIT CODE: 5.
 POWER SOURCE REQUIRED: 115 v, 60 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp; Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set AN/FGC-41 dated 2 March 1954.

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 Set AN/FGC-41 c/o (1) Base BB44 (1) Weather Keyboard (1) Weather Typing Unit (1) Cover BPC200AA (1) Motor Unit MU4 (1) Rectifier REC29 (1) Relay RY30 (1) Table XRT200AA (1) Set of Gears 96535 (1) Copyholder (1) Cover Plate	18 X 21-5/16 X 41-11/16	

UNCLASSIFIED

January 1958

Radio-Communication Terminal Equipment

TELETYPEWRITER SET

AN/FGC-42

FUNCTIONAL DESCRIPTION

The AN/FGC-42 is a Teletype Model 19 send-receive fixed weather station that can communicate with any 5-unit code teletype equipment geared for 460 operations per minute. It can be used for wire and radio communication.

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

RELATION TO OTHER EQUIPMENT

The AN/FGC-42 is the same as AN/FGC-19 except that the AN/FGC-42 is geared for 460 opm.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CHARACTERS

TYPE: Weather.

QUANTITY: 72 per line.

UNIT CODE: 7.42.

SPEED: 460 opm.

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corporation, Chicago, Ill.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for Teletypewriter Set AN/FGC-42.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

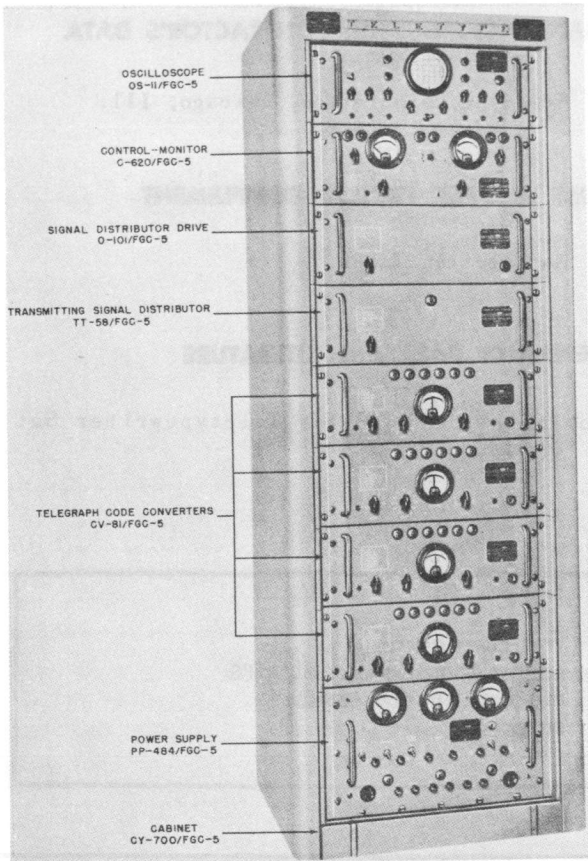
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Teletypewriter Set AN/FGC-42 consisting of: (1) Weather Typing Unit (1) Base BB44 (1) Motor Unit MU4 (1) Perforator-Transmitter PEX25LD (1) Cover PEXC200AA (1) Line Relay RY30 (1) Transmitter-Distributor XD86DJ (1) Table XRT202AA (1) Rectifier REC30 (1) Gear 96535 (1) Tape Container 115726AA (1) Copyholder 115700AA	23-1/2 X 36 X 41-11/16	

UNCLASSIFIED

TELEGRAPH TERMINAL SET

AN/FGC-5



Telegraph Transmitting Group OA-151/FGC-5

Manual for Telegraph Terminal Set AN/PGM-1, (1) Telegraph Terminal Test Set AN/PGM-1 (optional).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY: 101.25 KC.
FREQUENCY CONTROL: Quartz crystal.
CHANNEL SPEED: 60 wpm.
CHARACTERS PER LINE: 72.
CHANNEL: 2, multiplex.
CODE: 5 unit.
POWER SOURCE REQUIRED: 115 or 230 v $\pm 10\%$,
50-60 cps, singleph, 690 W, 6.9 amp, 0.86 pf.

OSCILLATOR CHARACTERISTICS

FREQUENCY CONTROL: Temperature regulated quartz crystal in a modified Colpitts oscillator circuit.

OPERATING FREQUENCY: 101.25 KC.

KEYING FREQUENCY

60 WPM: 150 and 112.5 cps.
75 WPM: 187.5 and 140.62 cps.

FREQUENCY STABILITY: $+0.0001\%$ per deg C, with crystal heater at 55 deg C ± 1 deg (131 deg F) ± 1 deg.

TRANSMITTING GROUP SIGNALS

OUTPUT MULTIPLEX SIGNAL

(a): 120 v internal source, variable up to 0.060 amp, + polarity to station ground.

(b): 120 v or less, external source, variable up to 0.03 amp, + polarity to station ground.

INPUT START-STOP SIGNALS: On-off DC \pm polarity, 0.060 amp from external battery source.

RECEIVING GROUP SIGNALS

INPUT MULTIPLEX SIGNAL: On-off DC, 0.060 amp from external source of \pm polarity or from a 115 v internal positive battery source.

OUTPUT START-STOP SIGNALS: On-off DC, \pm polarity, 0.060 amp, external battery source.

FUNCTIONAL DESCRIPTION

The AN/FGC-5 consists of two major components, Telegraph Transmitting Group OA-151/FGC-5 and Telegraph Receiving Group OA-150/FGC-5, and is a complete send-recv electronic time-division multiplex telegraph terminal.

Data on this sheet reflects the following field changes: FC 1.

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1) Model 15 Monitoring Printer Set, (1) Morse Key w/switchboard type plug on cord, (1) Loud Speaker 500 ohms impedance for remote alarm signal (optional), (1) Teletype Manual No. 22 for Model 15 printer set, (1) Technical

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Ill.
Contract NObsr-39309, dated 23 June 1947.
Approximate Cost: \$19,000.00 with equipment spares.

April 1958

AN/FGC-5

TELEGRAPH TERMINAL SET

TUBE AND/OR CRYSTAL COMPLEMENT

REFERENCE DATA AND LITERATURE

(5) 2B23 (2) 2X2A
 (4) 3B28 (2) 3RP1
 (2) 5U4G (3) 6SJ7Y
 (1) 6SL7GT (31) 6SN7GT
 (4) 6V6GT (2) 6X4
 (2) 6Y6G (69) 12AT7WA
 (78) 5814-A/12AU7 (4) 2050W
 (148) GL-5663
 Total Tubes: (357)
 (8) 1N44 (1) 1N34
 Total Crystals: (9)

NAVSHIPS 91265(A): Technical Manual for
 Telegraph Terminal Set AN/FGC-5.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE
 PROCUREMENT COGNIZANCE MIL-T-15259(SHIPS)
 STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Transmitting Cabinet CY-700/FGC-5	45.2	30 X 33 X 79	641
1	Receiving Cabinet CY-743/FGC-5	45.2	30 X 33 X 79	649
1	(4) Telegraph Code Converter CV-81/FGC-5	26.8	26 X 38 X 47	326
	Transmitting Signal Distributor TT-58/FGC-5			
	Control-Monitor C-620/FGC-5			
	Signal Distributor Drive O-101/FGC-5			
	Oscilloscope OS-11/FGC-5			
1	(4) Telegraph Code Converter CV-94/FGC-5	26.8	26 X 38 X 47	330
	Receiving Signal Distributor TT-64/FGC-5			
	Control-Monitor C-621/FGC-5			
	Signal Distributor Drive O-100/FGC-5			
	Oscilloscope OS-11/FGC-5			
2	Power Supply PP-484/FGC-5	17.4	24 X 35 X 36	338
1	Maintenance Parts Kit Box 1	5.2	15 X 19-1/4 X 35-1/4	146
1	Maintenance Parts Kit Box 2	5.2	15 X 19-1/4 X 35-1/4	193
1	Maintenance Parts Kit Box 3	5.2	15 X 19-1/4 X 35-1/4	178
1	Maintenance Parts Kit Box 4	5.2	15 X 19-1/4 X 35-1/4	203
1	Maintenance Parts Kit Box 5	5.2	15 X 19-1/4 X 35-1/4	100

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitting Group OA-151/FGC-5 consists of:		
1	Transmitting Cabinet CY-700/FGC-5	24-3/16 X 27 X 72-7/8	405
4	Telegraph Code Converter CV-81/FGC-5	6-31/32 X 17-1/8 X 19	64
1	Transmitting Signal Distributor TT-58/FGC-5	6-31/32 X 17-1/8 X 19	13
1	Control-Monitor C-620/FGC-5	6-31/32 X 17-1/8 X 19	14
1	Signal Distributor Drive O-101/FGC-5	6-31/32 X 17-1/8 X 19	15
1	Oscilloscope OS-11/FGC-5	6-31/32 X 17-1/8 X 19	22
1	Power Supply PP-484/FGC-5	10-1/2 X 19 X 22	187
1	Receiving Group OA-150/FGC-5 consists of:		

TELEGRAPH TERMINAL SET

AN/FGC-5

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Receiving Cabinet CY-743/FGC-5	24-3/16 X 27 X 72-7/8	413
4	Telegraph Code Converter CV-94/FGC-5	6-31/32 X 17-1/8 X 19	60
1	Receiving Signal Distributor TT-64/FGC-5	6-31/32 X 17-1/8 X 19	15
1	Control-Monitor C-621/FGC-5	6-31/32 X 17-1/8 X 19	17
1	Signal Distributor Drive O-100/FGC-5	6-31/32 X 17-1/8 X 19	18
1	Oscilloscope OS-11/FGC-5	6-31/32 X 17-1/8 X 19	22
1	Power Supply PP-484/FGC-5	10-1/2 X 19 X 22	187
1	Maintenance Parts Kit Box 1	12-1/4 X 16 X 31	101
1	Maintenance Parts Kit Box 2	12-1/4 X 16 X 31	148
1	Maintenance Parts Kit Box 3	12-1/4 X 16 X 31	133
1	Maintenance Parts Kit Box 4	12-1/4 X 16 X 31	158
1	Maintenance Parts Kit Box 5	12-1/4 X 16 X 31	55

TELETYPEWRITER SET

AN/FGC-6



Teletypewriter Set AN/FGC-6

FUNCTIONAL DESCRIPTION

The AN/FGC-6 is used at a relay station to receive, transmit, and monitor telegraph messages. The AN/FGC-6 consists essentially of a Receiver Group, a Transmitter Group, and a Monitor Group. A typical station installation may consist of several sets.

The receiver group receives automatic telegraph signals at 60, 75, or 100 (experimental) words-per-minute from three incoming signal lines, converts the signals to perforated tape, and type the characters on the tape.

The transmitter group transmits from perforated tape to three outgoing signal lines.

AN/FGC-6**TELETYPEWRITER SET**

at 60, 75 or 100 (experimental) words-per-minute. Circuits in series with the distributor-transmitters provide monitoring. Each transmitted message is numbered consecutively.

The monitor group receives messages from the transmitter group and records each transmitted message on tape in the same manner as the receiver group. The time and date are stamped every minute on the message tape which is taken up on a reel for storage.

No field changes in effect at time of preparation (3 December 1956).

TRANSMITTER GROUP: 12 amps.
RECEIVER GROUP: 14 amps.
MONITOR GROUP: 10 amps.
POWER FACTOR: Approx 0.3 for each group.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corporation, Chicago, Illinois.
Contract NObsr 52445, dated 3 April 1953.
Approximate Cost: \$17,790.00 with equipment spares.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**SIGNAL FREQUENCY (MAX DOT CYCLES)**

60 WPM: 22.8 cps.

75 WPM: 28.5 cps.

100 WPM: 37.1 cps.

FREQUENCY CONTROL: Depends on use of synchronous motor and regulated 60 cps power supply.

TELEGRAPH SIGNALS (TRANSMITTED OR RECEIVED)

NEUTRAL: 0.06 amps nom.

POLAR: 0.03 amps nom.

POWER SUPPLY REQUIREMENTS

VOLTAGE: 115 v \pm 10%.

PHASE: Single phase.

FREQUENCY: 60 cps \pm 0.5 cps.

CURRENT (APPROX)

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91899(A): Technical Manual for Teletypewriter Set AN/FGC-6.

TYPE CLASSIFICATION	
DESIGN COGNIZANCE	BUSHIPS
PROCUREMENT COGNIZANCE	MIL-T-16280A(SHIPS)
STOCK NO.	

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Cabinet, Electrical Equipment CY-1423/FGC-6	45.2	29 X 32-1/4 X 83-1/2	640
1	Cabinet, Electrical Equipment CY-1422/FGC-6	53.6	29 X 38-1/4 X 83-1/2	735
1	Cabinet, Electrical Equipment CY-1421/FGC-6	53.4	34-1/4 X 49-1/4 X 54-3/4	410
2	Power Supply PP-987/U	1.4	10-1/4 X 15 X 15-1/4	65
1	Base, Distributor-Transmitter MT-1259/FGC-6 (2) including: (3) Distributor-Transmitter TT-138/FGC-6 (6) Distributor-Transmitter TT-139/FGC-6	10.4	21-1/4 X 28-1/4 X 30	195
1	Base, Distributor-Transmitter MT-1258/FGC-6	7.6	21 X 24-1/2 X 25-1/2	145
1	Reperforator TT-141/FGC-6 (2)	8.9	20-1/2 X 21-1/2 X 34-3/4	175
1	Reperforator TT-141/FGC-6 (2)	7.7	20-1/2 X 23 X 28-1/4	160
1	Reperforator TT-140/FGC-6 including: Reeling Machine RL-173/FGC-6 Maintenance Parts Kit	8.2	17-1/2 X 26 X 31	140

TELETYPEWRITER SET

AN/FGC-6

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Reperforator TT-140/FGC-6 including: Reeling Machine RL-173/FGC-6 Stamp, Time MX-1527/U	7.1	17-1/2 X 22-3/4 X 31	140
1	Reperforator TT-140/FGC-6 including: (1) Reeling Machine RL-173/FGC-6 (2) Stamp, Time MX-1527/U	7.1	17-1/2 X 22-3/4 X 31	150

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Transmitter Group OA-517/FGC-6 consisting of: (1) Cabinet, Electrical Equipment CY-1421/FGC-6 (1) Base, Distributor-Transmitter MT-1258/FGC-6 (2) Base, Distributor-Transmitter MT-1259/FGC-6 (3) Distributor-Transmitter, Teletypewriter TT-138/FGC-6 (6) Distributor-Transmitter, Teletypewriter TT-139/FGC-6 (1) Power Supply PP-987/U	27 X 43 X 67 11 X 16 X 17 6-1/2 X 16 X 17 4 X 5 X 5-1/4 4 X 5 X 5-1/4 7-1/2 X 10 X 12	346 36 56 14 27 49
1	Receiver Group OA-518/FGC-6 consisting of: (1) Cabinet, Electrical Equipment CY-1422/FGC-6 (4) Reperforator, Teletypewriter TT-141/FGC-6 (1) Power Supply PP-987/U	24 X 33 X 77-3/8 7-1/2 X 11-1/2 X 12 7-1/2 X 10 X 12	544 156 49
1	Monitor Group OA-519/FGC-6 consisting of: (1) Cabinet, Electrical Equipment CY-1423/FGC-6 (3) Reperforator, Teletypewriter TT-140/FGC-6 (3) Reeling Machine, Tape, Motor Driven RL-173/FGC-6 (3) Stamp, Time MX-1527/U	24 X 27 X 77-3/8 7-1/2 X 11-1/2 X 12 5 X 12 X 21 4-1/4 X 7 X 13-3/4	411 111 47 50
1	Maintenance Parts Kit	11 X 16-1/4 X 18-3/4	30

17 September 1962

Cog Service: USN FSN:

TERMINAL TELEGRAPH AN/FGC-60(V)

Functional Class:

USA

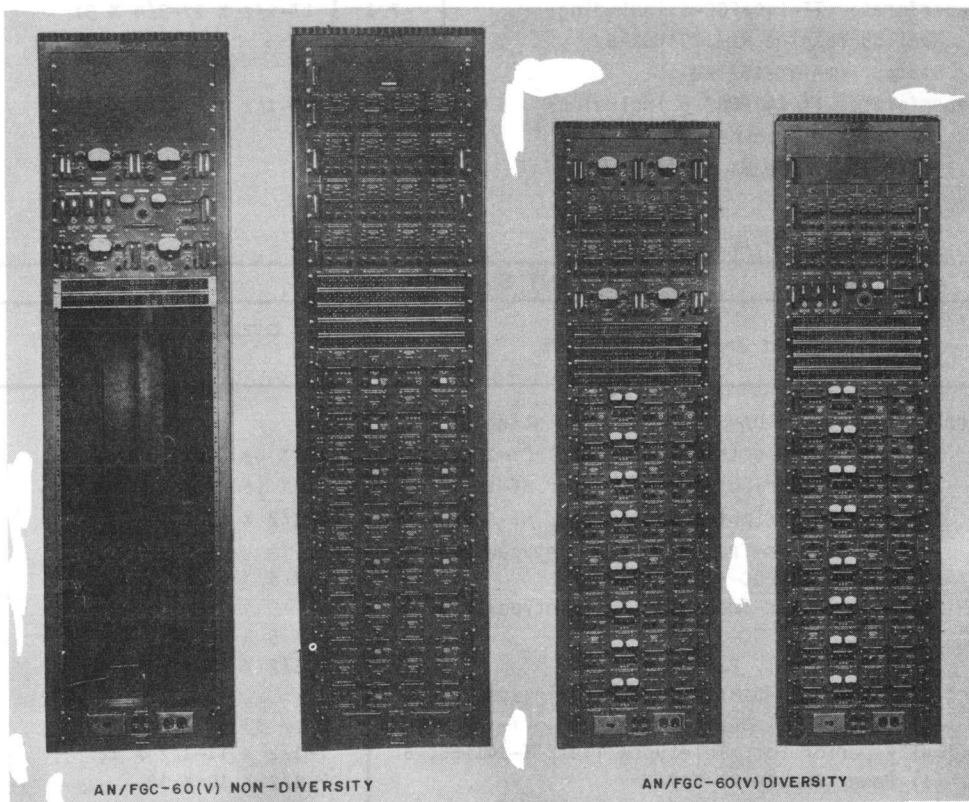
USN

USAF

TYPE CLASS: Used by

Used by

MANUFACTURER'S NAME/CODE NUMBER: Tele-Signal Corp., (10241).



Terminal Telegraph AN/FGC-60(V)

FUNCTIONAL DESCRIPTION:

The Terminal Telegraph AN/FGC-60(V) is used for long distance communication links. The system provides for the transmission and reception of sixteen (16) independent telegraph channels that are simultaneously conveyed over one (1) audio circuit. Provisions are also included for multiplexing and demultiplexing two (2) audio channels. The telegraph terminals are available in up to sixteen (16) channel diversity (dual/quadruple) configuration. The terminals are also available in non-diversity configuration up to twenty-two (22) send-receive channels.

The Diversity Terminal is a fully transistorized 16 channel transmit, and dual diversity receive frequency division multiplex system, further capable of eight (8) quadruple diversity receive channels. All the channels can be individually operated and utilized the audio frequency shift keyed method of signalling. In this configuration it provides for 100 wpm telegraph channels.

Non-Diversity Terminal contains the same basic components of the diversity terminal

AN/FGC-60(V) TERMINAL TELEGRAPH

except for Signal Comparator CM-185/UGC and Channel Selector Panel SB-1180/UGC. All channels can be individually operated at speeds up to 100 wpm

No field changes in effect at time of preparation (18 May 1962).

TECHNICAL CHARACTERISTICS:

MULTIPLEXING DATA

TYPE: Frequency division.

NUMBER OF CHANNELS: 16.

FREQUENCY RANGE: 425 to 2975 cps.

SPACING BETWEEN CHANNELS: 170 cycles.

OPERATIONAL SPEED: 100 wpm.

TYPE OF LINE TERMINATION: 4-wire line.

LOOP DATA

TYPE OF ACTUATION: AC.

TYPE OF OPERATION AND SELECTION

ONE: Full duplex operation.

TWO: Neutral operation

THREE: Polar operation.

FOUR: Switch-type selection.

OPERATING POWER RQMT

VOLTAGE: 115/230 vac.

FREQUENCY: 50 to 60 cps.

PHASE: Single.

RELATION TO OTHER EQUIPMENT:

The AN/FGC-60(V) is the Army & Navy designation for Tele-Signal Corp. Commercial Model 60-1.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QUANTITY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
2	Terminal, Telegraph (Diversity) AN/FGC-60(V) consists of:	22 x 24 x 84	500 ea
1	1 Signal Distribution Panel SB-1179/UG2	3-1/2 x 6-1/2 x 19	
8	16 Frequency Shift Keyer KY-346(P)/UGC	4 x 5-1/4 x 10-1/2	
1	2 Patch Field		
16	32 Frequency Shift Converter CV-972(P)/UGC	4 x 5-1/4 x 10-1/2	
8	16 Electronic Switch SA-733/UGC	4-1/4 x 5-1/2 x 10-1/2	
8	16 Signal Comparator CM-185/UGC	4 x 5-1/4 x 10-1/2	
1	2 Power Distribution Panel SB-1177/UGC	3-1/2 x 5 x 19	
1	2 Electrical Equipment Cabinet CY-2965/U		
3	3 Audio Frequency Amplifier AM-2731/UGC	2 x 5-1/4 x 11-3/4	

1.5 AN/FGC-60(V): 2

TERMINAL TELEGRAPH AN/FGC-60(V)

QUANTITY * **	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	1	Meter Panel SB-1178/UGC	5-1/4 x 6 x 10-1/2
1	1	Power Supply PP-2713/UGC	4 x 5-1/4 x 11-3/4
OPT	2	Multiplexer TD-410/UGC	5-1/4 x 8 x 10-1/2
OPT	2	Demultiplexer TD-411/UGC	5-1/4 x 8 x 10-1/2
1	2	Channel Selector Panel SB-1180/UGC	1-3/4 x 4-1/2 x 19
	2	Terminal, Telegraph AN/FGC-60(V) (non Diversity) consists of:	22 x 24 x 84
			500 ea
1	1	Signal Distribution Panel SB-1179/UGC	3-1/2 x 6-1/2 x 19
1-22	16	Frequency Shift Keyer KY-346(P)UGC	4 x 5-1/4 x 10-1/2
1	1	Patch field	
1-22	16	Frequency shift Converter CV-972(P)/UGC	4 x 5-1/4 x 10-1/2
1-22	16	Electronic switch SA-733/UGC	4-1/4 x 5-1/2 x 10-1/2
1	1	Power Distribution Panel SB-1177/UGC	3-1/2 x 5 x 19
1	1	Electric Equipment Cabinet CY-2965/U	
3-OPT	3-OPT	AF Amplifier	2 x 5-1/4 x 11-3/4
1-OPT	1-OPT	Meter Panel SB-1178/UGC	5-1/4 x 6 x 10-1/2
1-OPT	1-OPT	Power supply PP-2713/UGC	4 x 5-1/4 x 11-3/4
OPT	2-OPT	Multiplexer TD-410/UGC	5-1/4 x 8 x 10-1/2
OPT	2-OPT	Demultiplexer TD-411/UGC	5-1/4 x 8 x 10-1/2

*NOTE: 8-channel.

**NOTE: 16-channel.

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93400: Preliminary Data Form for Terminal, Telegraph AN/FGC-60(V).

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)

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

AN/FGC-60(V) TERMINAL TELEGRAPH

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Tele-Signal Corp. Model no. 60-1	Glen Cove, N. Y.	NObsr-81467	

MANUFACTURER'S OR CONTRACTOR'S DATA

Manufacturer's Name: Tele-Signal Corp., Glen Cove, N.Y.
 Model No.: 60-1

TUBE AND/OR CRYSTAL COMPLIMENT

Number of Tubes and/or Crystals: 4

REFERENCE DATA AND LITERATURE

Reference Data: Preliminary Data Form for Terminal, Contract NO-FC-60(V)-1

TYPE CLASSIFICATION (NAVY)	
DESIGN COORDINATE (NAVY BUFILE)	
PROCUREMENT COORDINATE	
STOCK NO.	
E.C.E. ITEM NO.	

EQUIPMENT SUPPLIED DATA

WEIGHT (lbs.)	OVERALL DIMENSIONS (inches)	MOUNT AND MOUNTING	SERIAL NO.
	17 x 28 x 20	Terminal mounted on a rack with a power supply and control panel.	

December 1960

Radio-Communication Terminal Equipment

TERMINAL TELEGRAPH**AN/FGC-63(XN-1)****FUNCTIONAL DESCRIPTION**

The AN/FGC-63(XN-1) is the Robertshaw phase MULTILOK binary coherent signalling system operating on phase shift keying on a plurality of independent frequency-multiplexed channels, each of which automatically establishes its phase reference from the received signal in that channel. The equipment operates between the binary generator or receiver (teletype apparatus, etc.) and the transmission circuit. Number of channels may be arranged to suit traffic or circuit conditions.

No field changes in effect at time of preparation (14 September 1960).

RELATION TO OTHER EQUIPMENT

The AN/FGC-63(XN-1) is designed to be used with but not part of Single Sideband Radio Terminals Capable of expansion to 80 or more channels using the same principle.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

TYPE OF DIVISION: Frequency-division type.
 NUMBER OF CHANNELS: 40 channels.
 CHANNEL SPACING: 120 cycles between channels.
 CHANNEL SPEED: 100 words per minute min max.
 OUTPUT: DC neutral.
 INPUT: 600 ohms.
 LOOP DATA
 TYPE OF ACTUATION: DC actuated.

TYPE OF OPERATION: Full duplex with neutral type keying.

OPERATING FREQUENCY RANGE: 425 to 2975 cycles mid band channel carrier frequency range.

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

MANUFACTURER'S OR CONTRACTOR'S DATA

Robertshaw-Fulton Controls Co., Aeronautical and Instrument Div., Anaheim, California.

TUBE AND/OR CRYSTAL COMPLEMENT

Electron Tube and/or Crystal data not available.

REFERENCE DATA AND LITERATURE

NAVSHIPS 93400: Preliminary Data Form for Terminal, Telegraph AN/FGC-63(XN-1).

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

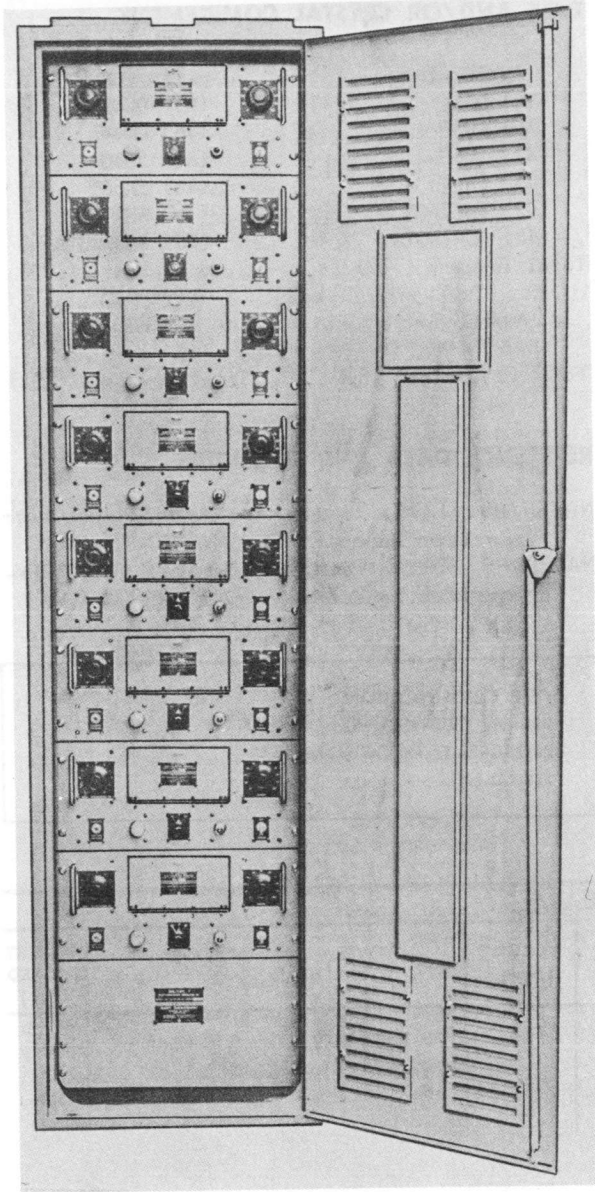
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (Inches)	WEIGHT (lbs.)
1	Terminal Telegraph AN/FGC-63(XN-1) consists of:		
1	Cabinet - containing 20 Double Phase Multilock Transmitters	17 x 26 x 35	
20	Double Phase Multilock Receivers		
1	Power Supply		
2	Intelligence Channels		

April 1958

TELETYPEWRITER REPEATER SET

AN/FGC-7,-7A

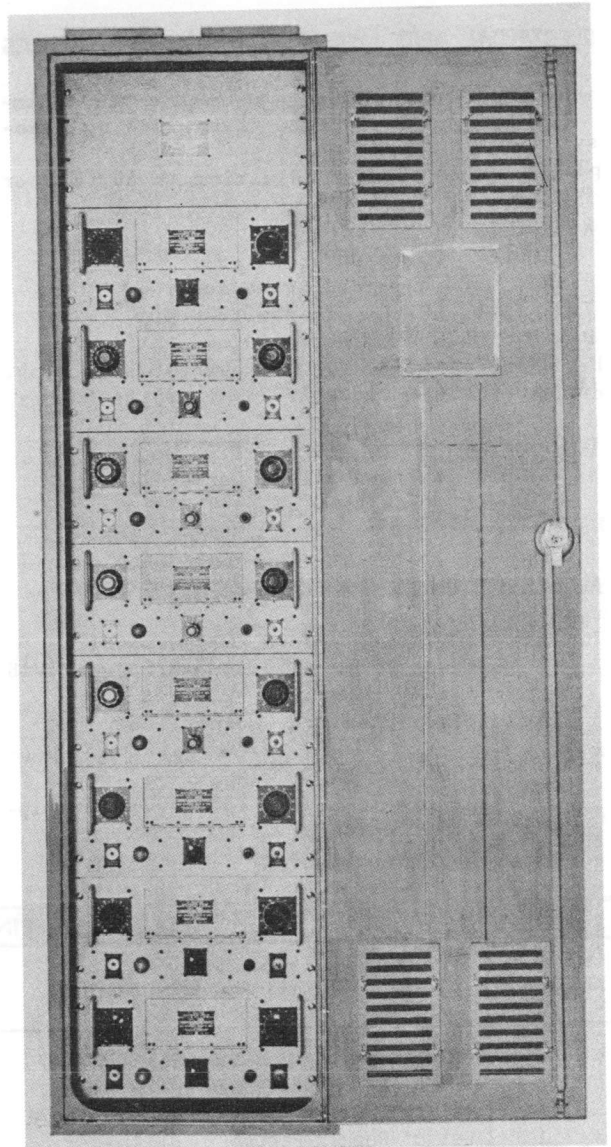


Teletypewriter Repeater Set AN/FGC-7

FUNCTIONAL DESCRIPTION

The AN/FGC-7 and AN/FGC-7A are shore based equipments consisting of eight regenerative teletype repeaters in a standard relay cabinet. These repeaters receive on/off tone or polar and neutral teletype signals having up to 45% bias distortion and regenerate the signal with less than 5% distortion.

Two repeaters may be used to receive a diplex teletype signal, one producing a leading diplex signal regenerated to standard



Teletypewriter Repeater Set AN/FGC-7A

simplex timing, the other producing a lagging diplex signal regenerated to standard simplex timing.

These equipments are employed in long-line wire teletype circuits at teletype relay and receiving stations. Provision is made for connection of a monitor teletypewriter.

The AN/FGC-7 and AN/FGC-7A are similar except that the AN/FGC-7A has facilities for 230 v AC operation, blank panel at top instead of bottom and different tube complement as well as relocation of some component parts.

No field changes in effect at time of preparation (16 October 1957).

Radio-Communication Terminal Equipment

AN/FGC-7,-7A

TELETYPEWRITER REPEATER SET

April 1958

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FACILITIES: Can handle eight simplex or 4 duplex channels simultaneously.

SPEED: Control for adjusting to 60, 75, or 100 wpm.

KEYING INPUT

TONE: 500 to 3600 cps.

DC: 30 ma polar, 60 ma neutral.

TONE INPUT LEVEL: 20 dbm to 0 dbm.

POWER SOURCE REQUIRED

AN/FGC-7: 115 v, 50 to 60 cps, single ph.

AN/FGC-7A: 115 v or 230 v, 50 to 60 cps, single ph.

DISTORTION:

INPUT: 45% max mark or space bias.

OUTPUT: Less than 5%.

MANUFACTURER'S OR CONTRACTOR'S DATA

Meridian Inc, Stamford, Connecticut
Contract NObsr-42501 dated 25 June 1948
for AN/FGC-7.

Stelma Inc, Stamford, Connecticut
Contract NObsr-52696 dated 27 June
1951 for AN/FGC-7A.

Approximate Cost: \$3500.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

AN/FGC-7

(16) OA3
(16) OD3W
(8) 5U4G
(16) 6H6
(8) 6SL7WGT
(48) 6SN7WGTA

Total Tubes: (112)

AN/FGC-7

(8) 1N69
Total Crystals: (8)

AN/FGC-7A

(8) OC3W
(16) OD3W
(8) 5U4G
(16) 6H6GT
(16) 6SL7WGT
(56) 6SN7WGTA

Total Tubes: (120)

AN/FGC-7A

(8) 1N69
Total Crystals: (8)

REFERENCE DATA AND LITERATURE

NAVSHIPS 91247, Technical Manual for Teletypewriter Repeater Set AN/FGC-7.

NAVSHIPS 91689, Technical Manual for Teletypewriter Repeater Set AN/FGC-7A.

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 Repeater Set AN/FGC-7	46.7	28 X 34 X 93	670
1	Set of Repair Parts or		mounted in equipment	
1	Teletypewriter Repeater Set AN/FGC-7A	83.92	36 X 38 X 106	1075
1	Set of Repair Parts			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
8	Teletypewriter Repeater TT-63/FGC or TT-63A/FGC		
1	Cabinet CY-614/G	22 X 28 X 87	
1	Set of Repair Parts		

UNCLASSIFIED

August 1957

Radio-Communication Terminal Equipment

TELETYPEWRITER SET

AN/FGC-8

FUNCTIONAL DESCRIPTION

The AN/FGC-8 has a standard commercial keyboard with english characters, a signal bell on figures "S", motor stop on figures "H", carriage return and line feed at end of line and on carriage return signal. It is used to transmit and receive teletype signals from keyboard or tape at fixed stations.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

- KEYBOARD: standard commercial.
- CHARACTERS: english.
- CHARACTERS PER LINE: 72.
- FEED: friction.
- OPERATIONS PER MINUTE: 368.
- CODE: 5 unit
- CIRCUITS: wire and radio.
- POWER SOURCE REQUIRED: 115 v, 50 to 60 cps, single ph.
- INSTALLATION: fixed station.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp.
 Contract NObsr-42466.
 Approximate Cost: \$2220.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

Nomenclature Card for AN/FGC-8, Teletypewriter Set 1 July 1948.

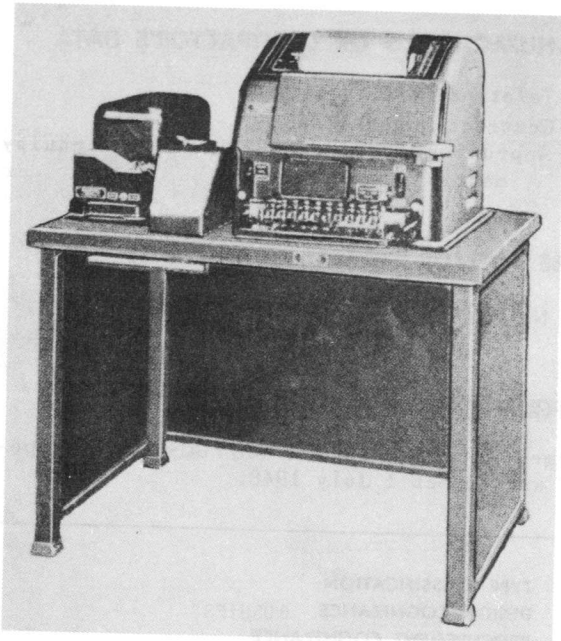
TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Typing Unit *BP119/210		
1	Base *BB50		
1	Motor Unit *MU27		
1	Set of Gears *80374		
1	Perforator Transmitter *PEX25JX		
1	Cover *C-156		
1	Table *XRT116		
1	Transmitter-Distributor *TT-52/FG		
1	Power Supply PP-315/GGA-1		

NOTE: *Teletype Corp Part Numbers.

April 1958

TELETYPEWRITER SET**AN/FGC-9**

Teletypewriter Set AN/FGC-9

No field changes in effect at time of preparation (15 October 1957).

RELATION TO OTHER EQUIPMENT

Identical to the Model 19 Page Printer Transmitter-Distributor Set (Teletype Corp).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FUNCTIONS: Page printing of incoming messages, Keyboard or perforated tape transmission of outgoing messages.

SPEED: 368 operations per minute, approx 60 wpm.

MOTOR CHARACTERISTIC: Synchronous, capacitor start motor.

POWER SOURCE REQUIRED: 110 to 115 v, 55 to 65 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Teletype Corp, Chicago, Illinois.

FUNCTIONAL DESCRIPTION

The AN/FGC-9 is for shipboard use and provides for the transmission and reception of typewritten messages over a telegraph circuit at a speed of 368 operations per minute (approximately 60 words per minute). Facilities are provided either for direct Keyboard or tape transmission. All units mounted on the table, including the covers, are securely clamped in place. Resilient mounts are provided between the table and the bases of the printer and transmitter distributor to reduce vibration and severity of shocks which might be transmitted from the table to the associated units. The table legs are provided with angle iron rails to permit bolting to the deck.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

REFERENCE DATA AND LITERATURE

NAVSHIPS, 91239, Technical Manual for Teletypewriter Set AN/FGC-9.

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-57/FG	9-3/4 x 15 x 25-1/2	
1	Power Supply PP-315/GGA-1		
1	Typing Unit BP-119/210		
1	Motor Unit MU-4		
1	Perforator Transmitter PEX25JX		