

19 July 1967

COMMUNICATIONS CENTRAL AN/TSC-24(V)

Cog Service: USN FSN:

Functional Class:

USA

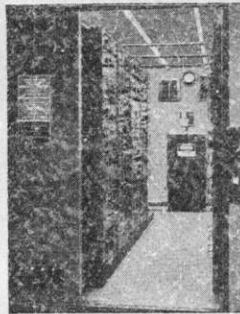
USM

USAF

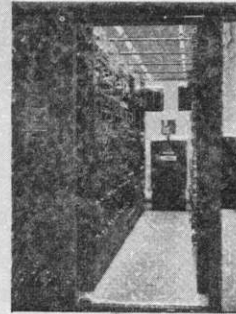
TYPE CLASS:

Used by

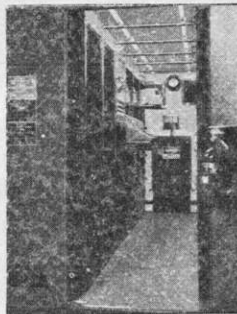
MANUFACTURER'S NAME/CODE NUMBER: The Technical Materiel Corporation, (82679).



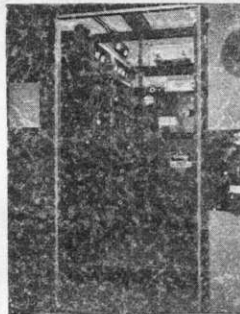
MEDIUM POWER SHELTER



RECEIVER CONTROL SHELTER



RELAY SHELTER



HIGH POWER SHELTER



MAINTENANCE AND SUPPLY SHELTER

COMMUNICATIONS CENTRAL AN/TSC-24(V)

1.5 AN/TSC-24(V): 1

# COMMUNICATIONS CENTRAL AN/TSC-24(V)

## FUNCTIONAL DESCRIPTION:

The Communications Central AN/TSC-24(V) consists of a variable number of shelters to provide modernized, highly transportable communication facilities capable of deployment by air and other conventional means of transportation to any geographical location, and becoming fully operational in a minimum period of time on a self-contained basis.

No field changes in effect at time of preparation (28 April 1966).

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

## TECHNICAL CHARACTERISTICS:

**POWER REQUIREMENTS:** 120 to 208 v ac, 60 cyc, 3 phase, 4-wire-wye.

**EMISSION OR RECEPTION:** Type AM, CW, DSB, ISB, SSB.

**POWER OUTPUT:** 1 kw or 10 kw from 2 to 28 megacycles.

**UHF POWER OUTPUT:** 20 watts.

**VHF POWER OUTPUT:** 50 watts.

**NUMBER OF CHANNELS:** 16.

**FREQUENCY RANGE:** 2 to 28 mc.

### SHELTER MAIN POWER REQUIREMENTS

SHELTER	FULL LOAD	AIR-CONDITIONER-ONLY
Medium Power	19.5 kw	7.5 kw
Receiver Control	16 kw	7.5 kw
Relay	19.5 kw	7.5 kw
High Power	35 kw	7.5 kw
Maintenance and Supply	2 kw	

## MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Communications Central AN/TSC-24(V) includes:		
*	Diesel-Generator Sets, PU-550/TSC-24(V) Trailer Mounted		
*	Shelter Electrical Equipment, S-242/T		
*	Shelter Electrical Equipment, S-243/SRT-13		
*	Radio Transmitting Set, AN/TRT-12(V)		
*	Radio Control Receiving Set AN/TRR-12(V)		
*	Communications Relay Group OA-3772/TSC-24(V)		
*	Radio Transmitting Set, AN/TRT-13		
	* The number of each item used under the complement listing varies depending upon the size of the installations.		

## REFERENCE DATA AND LITERATURE:

THE TECHNICAL MATERIEL CORPORATION: Technical Manual Air Transportable Communications System, AN/TSC-24(V).

COMMUNICATIONS CENTRAL AN/TSC-24(V)

NAVSHIPS 93212, 91357-42, 91771, 92676, 93841, 91582, 91684, 1161B, 235B, 246B, 258B, 1167B, 247B, 216B, 1149B, 217B, 92211, 93210, and 91503.  
TM-856A, TM-5820-358-10.

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
The Technical Materiel Corporation Mfr's Model SYM-2003	Mamaroneck, New York	N600(11)57510	

509



24 July 1967

COMBAT INFORMATION CENTRAL AN/TSQ-6A

Cog Service: USN FSN:

Functional Class:

USA

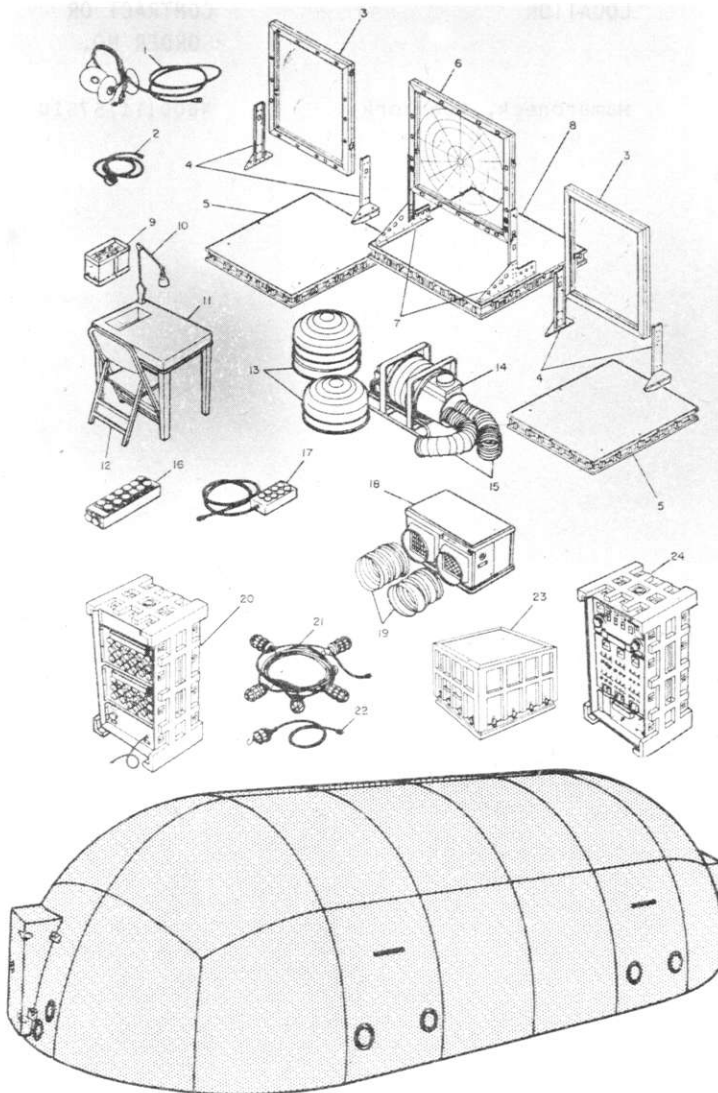
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Specialty Electronics Development Corp., (99872).



COMBAT INFORMATION CENTRAL AN/TSQ-6A

1.2 AN/TSQ-6A: 1

510

**FUNCTIONAL DESCRIPTION:**

The Combat Information Central AN/TSQ-6A provides facilities for positive control of air-craft for air defense operations. The Central is used for telephone and radio reporting, polar-grid plotting, and status-board display. The unit is air transportable and can be used in all climates.

No field changes in effect at time of preparation, (27 April 1966).

**RELATION TO OTHER EQUIPMENT:**

The AN/TSQ-6A is two-way interchangeable with AN/TSQ-6.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Generator Set; (1) Interconnecting Box J-643.

**TECHNICAL CHARACTERISTICS:**

POWER REQUIREMENTS: 120 to 208 v ac, 60 cyc, 3 phase, 4-wire, 20 kw.

TYPE EQUIPMENT: Radio Control.

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Combat Information Central AN/TSQ-6A includes:		
24	Radio Set Control C-1538/TSQ	6 x 7 x 12-1/2	14.5
1	Control Power Supply C-1538/TSQ	18 x 24 x 36	240.0
1	Interconnecting Box J-643/TSQ	18 x 24 x 36	240.0
1	Interconnecting Box J-665A/TSQ		
4	Electrical Connector Assy U-157/TSQ	4 x 7-1/2 x 22-1/4	13.5
8	Air Conditioner HD-209/U	19 x 28-1/2 x 28-1/2	420.0
1	Tactical Display Plotting Board PT-363/TSQ	3-3/4 x 68-1/4 x 68-1/4	140.0
2	Tactical Display Plotting Board PT-364/TSQ	3-3/4 x 54 x 68-1/4	115.0
1	Plotting Board Stanchion Set MT-1494/TSQ	6-1/2 x 39 x 47	31.0
2	Plotting Board Stanchion Set MT-1495/TSQ	6 x 14 x 10	15.0
1	Portable Heater Duct-Type HD-210/U	23 x 24-1/4 x 53-1/2	247.0
12	Desk Light MX-1692/U	44-1/2 h	3.8
2	Extension Light MX-1693/U		8.0
2	Extension Light MX-1694/U		22.0
24	Electrical Foot Switch SA-408/U	2 x 4 x 4-1/2	2.5
12	Radio Set Control Desk FN-78/TSQ	16 x 31 x 32	17.8
24	Folding Chair FN-79/U	18 x 22 x 31-1/2	7.4
36	Headset-Microphone H-103/U		1.0
1	Panelized Prefabricated Building	120 x 240 x 480	3364.0
	S-106A/TSQ-6 with Crates, Cases and Cable Assemblies		

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COMBAT INFORMATION CENTRAL AN/TSQ-6A

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92048: Instruction Book for Combat Information Centrals AN/TSQ-5(XN-1) and AN/TSQ-6(XN-1).

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	12.0	340
1	12.0	335
1	12.0	330
1	12.0	320
1	12.0	285
1	34.0	630
2	27.0	500
1	15.0	130
1	2.9	140
2	14.8	280
2	26.3	190
1	21.0	355
2	11.3	310
3	6.5	220
1	6.5	150
1	11.5	385
1	11.5	300
1	133.0	545
3	133.0	570
1	39.0	250
1	2.7	105
1	3.4	82
1	2.7	165
1	4.0	95
1	2.5	57
1	2.5	51
1	2.5	83
1	1.25	29
1	2.5	68
1	12.0	345
1	12.0	370
1	12.0	280
1	12.0	360
1	12.0	345
1	12.0	345
1	12.0	285
1	34.0	630
2	27.0	500
1	15.0	130
1	2.9	140
2	14.8	280

COMBAT INFORMATION CENTRAL AN/TSQ-6A

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	26.3	217
1	25.0	217
1	21.0	355
4	11.3	310
4	6.5	220
1	6.5	160
1	11.5	335
1	11.5	300
1	133.0	544
3	133.0	570
1	70.0	445
2	63.5	450
2	63.5	440
1	39.0	250
1	2.7	105
1	3.4	82
1	2.7	165
1	4.0	95
1	2.5	57
1	2.5	51
1	2.5	83
1	1.25	29
1	2.5	68

PROCUREMENT DATA

PROCURING SERVICE: USN,  
 SPEC &/OR DWG: SHIPS-C-3706, SHIPS-C-3707

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Specialty Electronics Development Corp. Mfr's Model 1038A-2	Syosset, Long Island, N. Y.	N0bsr-85213	

513

20 April 1966

TERMINAL TELEGRAPH AN/UCC-1(V)

Cog Service: USN FSN:

Functional Class:

USA

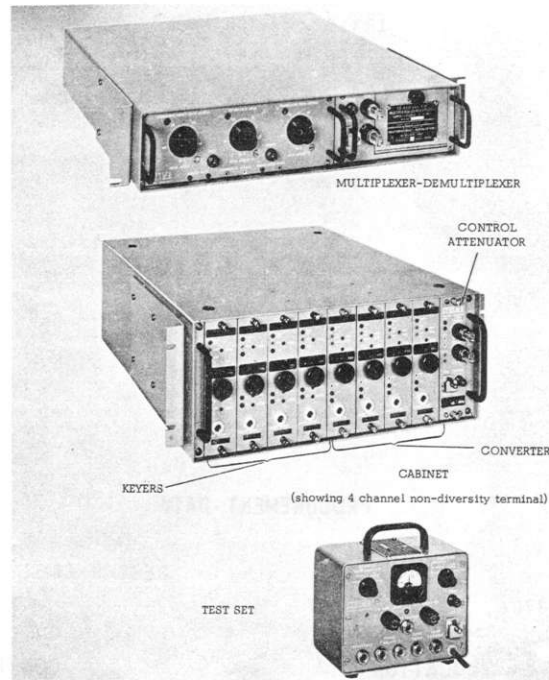
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Incorporated, (96238).



TERMINAL TELEGRAPH AN/UCC-1(V)

**FUNCTIONAL DESCRIPTION:**

The Terminal Telegraph AN/UCC-1(V) is a modular carrier-telegraph equipment intended for use with single sideband or twin-sideband radio circuits, voice frequency wire lines, or micro-wave circuits.

No field changes in effect at time of preparation (28 January 1966).

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Electronic Multimeter ME-6E/U; (1) Multimeter AN/PSM-4C; (1) Oscilloscope AN/USM-105A; (1) Frequency Meter AN/STM-16; (1) Transistor Test Set TS-1100A/U; (1) Test Set, Telegraph AN/GGM-1; (1) Instruction Book NAVSHIPS 92423; (1) Instruction Book NAVSHIPS 92051; (1) Instruction Book NAVSHIPS 93658A; (1) Instruction Book TM-11-2698; (1) Instruction Book



**TERMINAL TELEGRAPH AN/UCC-1(V)**

NAVSHIPS 93277; (1) Instruction Book NAVSHIPS 94244.

**TECHNICAL CHARACTERISTICS:**

**MULTIPLEXING DATA**

FREQUENCY DIVISION TYPE: (Narrow band).

- 1 Minimum, 16 maximum channels.
- 16 Maximum transmitting channels.
- 16 Maximum receiving channels.
- 425 to 2975 cycles frequency range.
- 170 cycles, spacing between channels.
- 100 words per minute operational speed, each channel.

FREQUENCY DIVISION TYPE: (Wide band).

- 1 Minimum, 4 maximum channels.
- 4 maximum transmitting channels.
- 4 maximum receiving channels.
- 1870 to 3315 cycles frequency range.
- 255 cycles spacing between channels.
- 150 words per minute operational speed, each channel.

**POWER REQUIREMENTS**

**TYPE**

- VOLTAGE: 117/230 ± 10%.
- FREQUENCY: 50 to 60 cps ± 5%.
- PHASE: Single.

**POWER CONSUMPTION**

- KEYER: 2 watts.
- CONVERTER: 3 watts.
- MULTIPLEXER-DEMULPLEXER: 20 watts.
- TEST SET: 1 watt.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Telegraph AN/UCC-1(V) includes:			
*	Cabinet Electrical Equipment CY-3956/UCC-1(V)		6-63/64 x 16-61/64 x 20-7/8	22
*	Frequency Shift Keyer KY-490(P)/UCC-1(V)		1-5/8 x 6-3/4 x 19-1/2	4-1/2
*	Frequency Shift Converter CV-1522(P)/UCC-1(V)		1-5/8 x 6-3/4 x 19-1/2	5-1/2
*	Control Attenuator C-4702/UCC-1(V)		1-5/8 x 6-3/4 x 19-1/2	3-1/4
*	Multiplexer-Demultiplexer TD-650/UCC-1(V)		3-15/32 x 16-15/16 x 18	32
1	Test Set Telegraph TS-1920/UCC-1(V)		4 x 5-3/4 x 6-1/2	3-3/8
2	Technical Manual NAVSHIPS 94787		1-1/2 x 9-1/2 x 11-1/2	



19 April 1966

Cog Service: USN FSN:

TERMINAL TELEGRAPH AN/UCC-1(XN-2)  
Functional Class:

USA

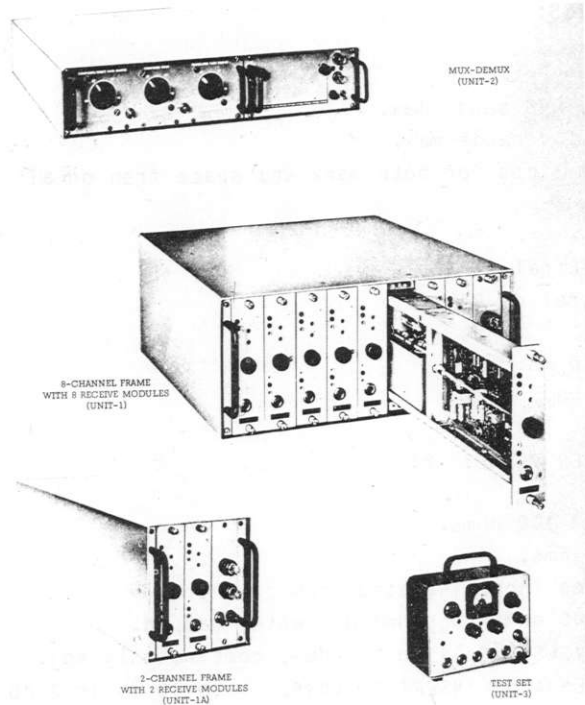
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Incorporated, (96238).



TERMINAL TELEGRAPH AN/UCC-1(XN-2)

#### FUNCTIONAL DESCRIPTION:

Terminal Telegraph AN/UCC-1(XN-2) is a modular carrier telegraph equipment intended for use with single-sideband radio circuits, voice-frequency wire lines, or microwave circuits. The terminal telegraph can provide a total of 16 narrow-band channels within a bandwidth of 375 to 3315 cps or 8 narrow-band and 4 band channels within a bandwidth of 375 to 3315 cps. A multiplexer demultiplexer furnishes the means for shifting the composite output of a set of 16 narrow-band channels from the 375 to 3025 cps band to a 3265 to 5915 cps band and combining this shifted output with the unshifted output of a second set of channels for transmission over a 6 kc bandwidth radio link. At the opposite end of the link the multiplexer-demultiplexer returns the shifted signal to the original band and places it on a separated output line from the unshifted signal.

No field changes in effect at time of preparation (3 December 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Electronic Multimeter ME-6D/U; (1) Multimeter AN/PSM-4A; (1) Oscilloscope AN/USM-105A; (1) Frequency Meter FR-67; (1) Transistor Test Set TS-1000; (1) Technical Manual NAVSHIPS 92423; (1) Technical Manual NAVSHIPS 92051; (1) Technical Manual NAVSHIPS 93658A; (1) Technical Manual NAVSHIPS 93277; (1) Instruction Book TM11-2698.

TECHNICAL CHARACTERISTICS:

KEYING RATE

NARROW BAND CHANNEL: 75 bauds max.

WIDE BAND CHANNEL: 150 bauds max.

FREQUENCY STABILITY:  $\pm 3$  cps for both mark and space freq on all channels.

TELEGRAPH LOOPS

TYPE OF SIGNALS

RECEIVE LOOP: Neutral.

SEND LOOPS: Neutral or Polar.

LOOP CURRENT

NEUTRAL: 20 or 60 ma.

POLAR: 20 or 30 ma.

TRANSMITTER

NUMBER OF CHANNELS PER FRAME: 8.

INPUT RESISTANCE

20 OR 30 MA LOOP: 300 ohms.

60 MA LOOP: 100 ohms.

INPUT ISOLATION: Loop input isolated from ground.

OUTPUT IMPEDANCE: 600 ohms ungrounded, center tapped.

INDIVIDUAL OUTPUT LEVELS: - 24 to + 6 dbm, continuously adj.

COMPOSITE OUTPUT ATTENUATOR INSERTION LOSS: 0 to 38 db in 2 db steps.

RECEIVER

NUMBER OF CHANNELS PER FRAME: 8.

INPUT IMPEDANCE: 600 ohms ungrounded center tapped.

INPUT LEVELS

MAX: + 10 dbm.

MIN: - 45 dbm.

OUTPUT RESISTANCE: 100 ohms.

PHASE DISTORTION: 0.2 ms max under all operating conditions.

PHASE DISTORTION CONTROL: 0-5 ms delay range continuously variable.

MULTIPLEXER-DEMULPLEXER

INPUT AND OUTPUT IMPEDANCE: 600 ohms.

MULTIPLEXER INPUT LEVELS

NORMAL FOR 16-TONE COMPOSITE: - 10 dbm/tone + 2 dbm total.

MAX FOR 16 TONE COMPOSITE: + 4 dbm total.

MAX FOR SINGLE TONE: + 13 dbm.

MULTIPLEXER OUTPUT LEVELS

NORMAL FOR 32 TONE COMPOSITE: - 10 dbm/tone + 5 dbm total.

MAX FOR 32 TONE COMPOSITE: + 12 dbm.

MAX FOR SINGLE TONE: + 22 dbm.

DEMULPLEXER INPUT LEVELS

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**TERMINAL TELEGRAPH AN/UCC-1(XN-2)**

NORMAL FOR 32 TONE COMPOSITE: - 15 dbm/tone; 0 dbm total.  
 MAX FOR 32 TONE COMPOSITE: + 6 dbm total.  
 MAX FOR SINGLE TONE: + 13 dbm.

DEMULTIPLEXER OUTPUT LEVELS  
 NORMAL FOR 16 TONE COMPOSITE: 0 dbm/tone, + 12 dbm total.  
 MAX FOR 16 TONE COMPOSITE: + 12 dbm total.  
 MAX FOR SINGLE TONE: + 22 dbm.

MULTIPLEXER INPUT DEMULTIPLEXER OUTPUT BANDWIDTH: 375 to 3027 cps.  
 MULTIPLEXER OUTPUT DEMULTIPLEXER INPUT BANDWIDTH: 375 to 5915 cps.

POWER REQUIREMENTS

TYPE  
 VOLTAGE: 117 ± 10%.  
 FREQUENCY: 50 to 60 cps ± 5%.  
 PHASE: Single.

POWER CONSUMPTION  
 SEND MODULE: 2 W.  
 RECEIVE MODULE: 3 W.  
 MULTIPLEXER DEMULTIPLEXER: 20 W.  
 TEST SET: 1 W.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Telegraph AN/UCC-1(XN-2) includes:			
*	8 Channel Frame		6-63/64 x 16-16/64 x 20-7/8	62
*	Multiplexer-Demultiplexer		3-15/32 x 16-15/16 x 18	32
*	2 Channel Frame		6-5/8 x 6-63/64 x 20-7/8	16
1	Test Set		4 x 5-3/4 x 6-1/2	3

\*As Required.

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94348: Technical Manual for Telegraph Terminal AN/UCC-1(XN-2).

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) ST-201 (1) 1N3028B (2) 2N297A (1) 2N388 (8) 2N404 (28) 2N466  
 (1) 2N526 (1) 2N1036 (2) 2N1184 (14) 1N270 (22) 1N457 (4) 1N538  
 (2) 1N3022B (4) 1N3026B

**SHIPPING DATA**

PKGS VOLUME (CU FT) WEIGHT (LBS)

1.5 AN/UCC-1(XN-2): 3

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG: SHIPS-T-2810A

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Incorporated	Stanford, Connecticut	N0bsr 72766	

8 July 1965

TELEGRAPH TERMINAL AN/UCC-1A(V)

Cog Service: USN

FSN:

Functional Class:

USA

USN

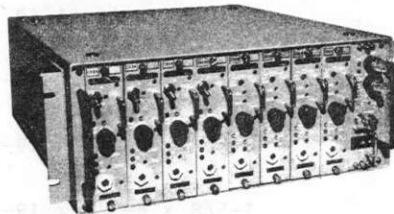
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TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER:

American Scientific Corp., (05885).



TELEGRAPH TERMINAL AN/UCC-1A(V)

**FUNCTIONAL DESCRIPTION:**

Telegraph Terminal AN/UCC-1A(V) is a modular carrier-telegraph equipment intended for use with single or twin sideband radio circuits, voice frequency wire lines, or microwave circuits. The Telegraph Terminal is designed for use on shipboard or shore stations.

No field changes in effect at time of preparation (24 May 1965).

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Electronic Multimeter ME-6E/U; (1) Multimeter AN/PSM-4C; (1) Oscilloscope AN/USM-105A; (1) Frequency Meter AN/TSM-16; (1) Transistor Test Set TS-1100A/U; (1) Telegraph Distortion Analyzer Test Set; (1) Ea Technical Manual NAVSHIPS 92423, 92051, 93658A, 93277 and (1) Instruction Book TM11-2698.

1.5 AN/UCC-1A(V): 1

## TECHNICAL CHARACTERISTICS:

KEYING RATE: 75 baud.  
 FREQUENCY STABILITY:  $\pm 3$  cps.  
 SEND TELEGRAPH LOOP: Neutral or polar.  
 RECEIVE TELEGRAPH LOOP: Neutral.  
 MAX CHANNELS PER CABINET: 8.  
 KEYSER OUTPUT IMPEDANCE: 600 ohms.  
 KEYSER OUTPUT LEVELS: - 24 to + 6 dbm.  
 CONVERTER INPUT IMPEDANCE: 600 ohms.  
 CONVERTER INPUT LEVELS: - 40 to + 10 dbm.  
 POWER REQUIREMENTS

VOLTAGE: 115 to 230  $\pm 10\%$ .  
 FREQUENCY: 50 to 60 cps  $\pm 10\%$ .  
 PHASE: Single.  
 POWER PER CHANNEL: 5 W.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Telegraph-Terminal AN/UCC-1A(V) includes:			
*	Cabinet Electrical Equipment CY-3956/UCC-1(V)		6-63/64 x 16-61/64 x 20-7/8	22
*	Keyer Frequency Shift KY-490A(P)/UCC-1(V)		1-5/8 x 6-3/4 x 19-1/2	4.50
*	Converter Frequency Shift CV-1522A(P)/UCC-1(V)		1-5/8 x 6-3/4 x 19-1/2	5.50
*	Control Attenuator C-4702A/UCC-1(V)		1-5/8 x 6-3/4 x 19-1/2	3.75
1	Test Set Telegraph TS-1920A/UCC-1(V)		7 x 8-3/4 x 9	10.12
2	Technical Manual NAVSHIPS 96028		1 x 9-1/2 x 11-1/2	
1 ea.	Technical Manual NAVSHIPS 96028.42, 96028.32 and 96028.21		1 x 9-1/2 x 11-1/2	

\* As required.

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 96028: Technical Manual for Telegraph Terminal AN/UCC-1A(V).

## TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: Not required.



TELEGRAPH TERMINAL AN/UCC-1A(V)

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1) 2N329AM (1) 2N338 (1) 2N388 (5) 2N398 (27) 2N404 (2) 2N1039  
(1) 2N1309 (15) 1N277M (3) 1N538M (15) 1N645M (3) 1N3022B  
(2) 1N3026B (2) 376D7013

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
American Scientific Corp.	Alexandria, Virginia	N0bsr-91037	

19 July 1967

Cog Service: USN FSN:

TERMINAL, TELEGRAPH AN/UCC-1C(V)  
Functional Class:

USA

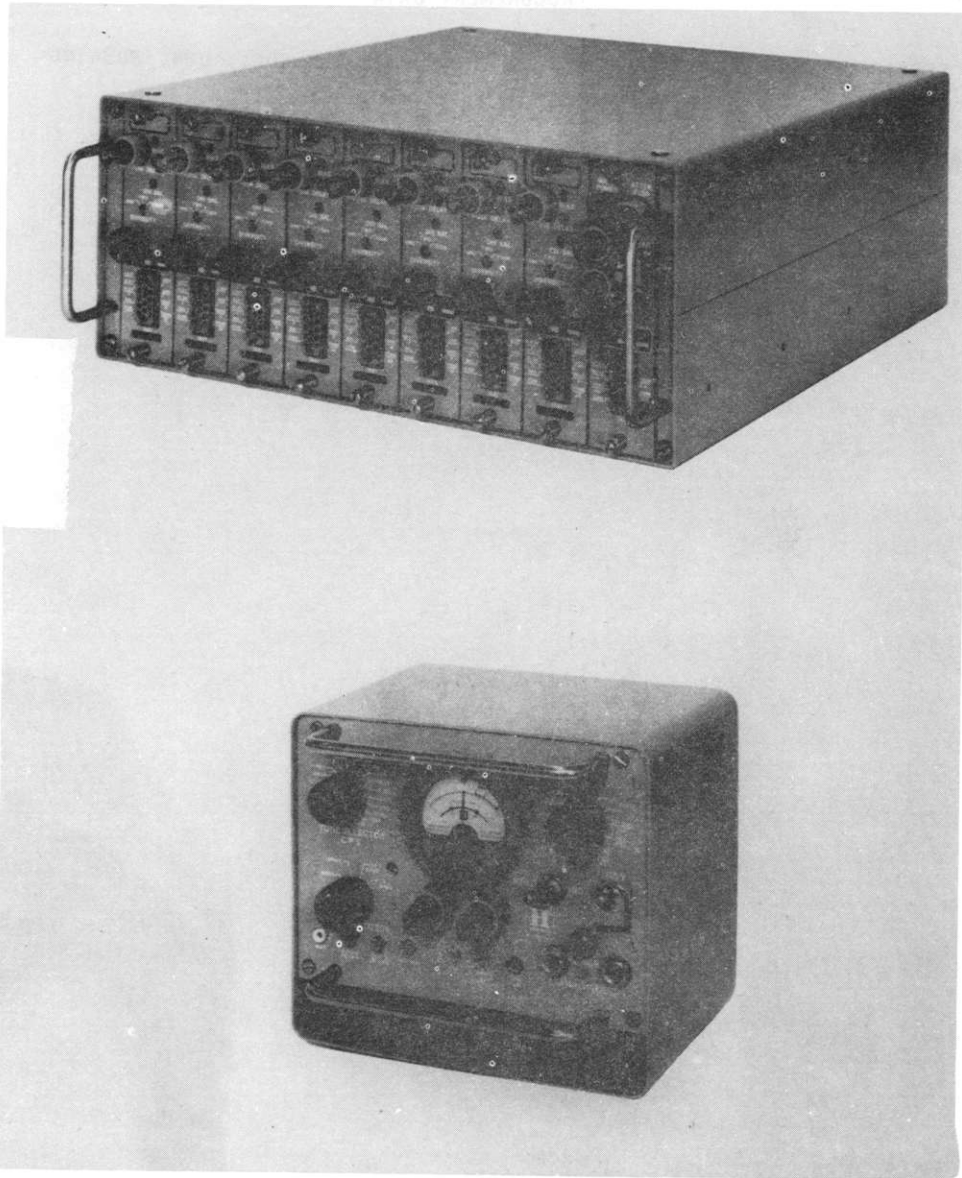
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Honeywell Incorporated, (01534).



TERMINAL, TELEGRAPH AN/UCC-1C(V)

1.5 AN/UCC-1C(V): 1

**FUNCTIONAL DESCRIPTION:**

The Terminal Telegraph AN/UCC-1C(V) operates automatically in various types of telegraph transmission systems. It accepts dc telegraph signals and converts them into voice-frequency signals at the transmission end of a communication link; voice-frequency signals from up to 16 channels are combined on a single communication circuit. At the opposite end of the communication link, the Telegraph Terminal separates the voice-frequency signals and converts them to electronic keying signals for receiving telegraph loops.

The Telegraph Terminal comprises different numbers of modules, as required for specific system configurations and capacities. Transmitting and receiving conversions between telegraph loop keying signals and voice-frequency signals are performed by cabinet-housed keyers and Converters. Switches on the Keyers and Converters determine the system interconnection between the modules. A Test Set provides special meter circuitry, a reversal generator, and a tone generator to aid in adjustment of the Telegraph Terminal.

No field changes in effect at time of preparation (12 January 1967).

**RELATION TO OTHER EQUIPMENT:**

The AN/UCC-1C(V) is similar to Terminal Telegraph Units AN/UCC-1(V), AN/UCC-1A(V) and AN/UCC-1B(V).

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

(1) Electronic Multimeter, ME-6D/U; (1) Oscilloscope, AN/USM-117; (1) Frequency Meter, AN/USM-207; (1) Instruction Book for Electronic Multimeter, ME-6D/U, NAVSHIPS 92423; (1) Instruction Book for Oscilloscope AN/USM-117; NAVSHIPS 94344; (1) Instruction Book for Frequency Meter AN/USM-207.

**TECHNICAL CHARACTERISTICS:**

**KEYING RATE**

NARROW-BAND CHANNEL: 75 bauds (nominal).

WIDE-BAND CHANNEL: 150 bauds (nominal).

FREQUENCY STABILITY (UNDER ALL OPERATING AND ENVIRONMENTAL CONDITIONS): 0.5 cps for both mark and space frequencies on all channels.

**TELEGRAPH LOOPS**

**TYPES OF SIGNALS**

RECEIVE LOOPS: Neutral.

SEND LOOPS: Neutral or Polar.

**LOOP CURRENT**

NEUTRAL: 20 or 60 ma.

POLAR:  $\pm$  30 ma.

LOOP BATTERY: 120 volts dc supplied from loop.

**KEYER**

NUMBER OF CHANNELS PER CABINET: 8 channels.

**INPUT RESISTANCE**

20 OR 30 MA LOOP: 300 ohms.

60 MA LOOP: 100 ohms.

OUTPUT TERMINATION: 600 ohms, ungrounded, center-tapped.

INDIVIDUAL OUTPUT LEVELS: - 24 to + 6 dbm, continuously adjustable.

COMPOSITE, CONTROL-ATTENUATOR OUTPUT RANGE: - 38 to + 6 dbm, continuously adjustable.

**TERMINAL TELEGRAPH AN/UCC-1C(V)**

**CONVERTER**

NUMBER OF CHANNELS PER CABINET: 8 channels.

INPUT IMPEDANCE: 600 ohms, ungrounded, center-tapped.

**INPUT LEVELS**

MAXIMUM: + 10 dbm.

MINIMUM: - 40 dbm.

OUTPUT RESISTANCE: 800 ohms maximum.

PHASE DISTORTION (WITHOUT ADJUSTMENT): 2.0 millisecond maximum under all operating conditions.

PHASE DISTORTION CONTROL: 0 to 3.5 ms delay range continuously variable.

**POWER REQUIREMENTS**

**TYPE**

VOLTAGE: 115/230 volts ac, ± 10%.

FREQUENCY: 50 or 60 cps ± 5%.

PHASE: Single.

**POWER CONSUMPTION (TYPICAL)**

KEYER: 9 watts.

CONVERTER: 5.5 watts.

CONTROL ATTENUATOR: 5 watts.

TEST SET: 10 watts.

**MODES OF OPERATION:**

NON-DIVERSITY

FREQUENCY DIVERSITY

SPARE DIVERSITY

RF DIVERSITY

FSK: 382.5 cps to 3315 cps.

SHIPBOARD OR SHORE TELEGRAPH INSTALLATION RACK MOUNTED.

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Telegraph AN/UCC-1C(V) includes:	4 x 18-1/4	
*	Cabinet, Electrical Equipment CY-4639/UCC-1C(V)	6-49/64 x 16-23/32 x 17-7/8	15
*	Keyer, Frequency Shift KY-558(P)/UCC-1C(V)	1-5/8 x 6-1/2 x 15-23/64	5
*	Converter, Frequency Shift CV-1920(P)/UCC-1C(V)	1-5/8 x 6-1/2 x 15-23/64	6
*	Control-Attenuator C-6554/UCC-1C(V)	1-5/8 x 6-1/2 x 15-23/64	3-1/2
1	Test Set, Telegraph TS-2232/UCC-1C(V)	7 x 7-1/2 x 8	10
2	Technical Manual for Telegraph Terminal AN/UCC-1C(V) NAVSHIPS 0967-046-9010	1-1/2 x 9-1/2 x 11-1/2	4

\* As Required.

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 0967-046-9010: Technical Manual for Telegraph Terminal AN/UCC-1C(V).

NAVSHIPS 0967-046-9030: Maintenance Standard Book for Telegraph Terminal AN/UCC-1C(V).



21 July 1964

Cog Service: USN FSN: 2F5805-786-6221

TERMINAL GROUP, TELEGRAPH AN/UGA-1  
Functional Class:

USA

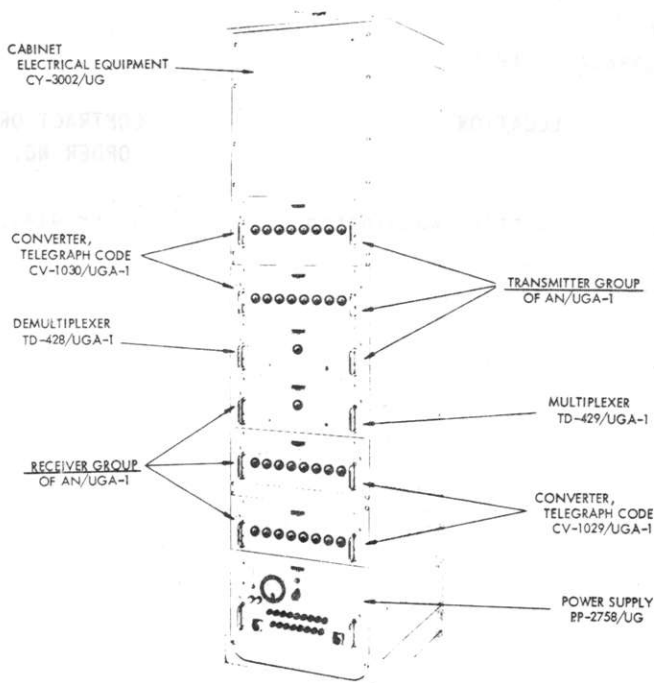
USN

USAF

TYPE CLASS:

Used by

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



TERMINAL GROUP, TELEGRAPH AN/UGA-1

### FUNCTIONAL DESCRIPTION:

Terminal Group, Telegraph AN/UGA-1 is for specific use with Telegraph Terminal AN/UGC-3 in fixed station operation. It provides facilities for operation of Telegraph Terminal AN/UGC-3 with Telegraph Terminal AN/FGC-29. The transmitting and receiving groups of AN/UGA-1 perform complementary functions. The transmitting group accepts a neutral sequential signal such as provided by the 16 channel Telegraph Terminal AN/UGC-3. The sequential signal is then converted and retransmitted on 16 individual channels. The receiving group accepts the 16 individual channels and combines them into neutral sequential signals that can be utilized by the 16 channel Telegraph Terminal AN/UGC-3. The AN/UGA-1 contains the facilities necessary to change a high speed sequential signal into multiple low speed signals that can be transmitted over conventional radio-teletypewriter facilities, in addition to receiving circuits for converting multiple low speed signals into a high speed sequential signal. The AN/UGA-1 is transistorized.

No field changes in effect at time of preparation (1 June 1964).

# AN/UGA-1 TERMINAL GROUP, TELEGRAPH

## RELATION TO OTHER EQUIPMENT:

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Telegraph Terminal AN/UGC-3; (1) Telegraph Terminal AN/FGC-20.

## TECHNICAL CHARACTERISTICS:

FREQUENCY CONTROL: By temperature controlled crystal oscillators in AN/UGC-3 Multiplexer.  
SIGNALS

INPUT MULTIPLEX SIGNALS (TRANSMITTER GROUP OA-2994/UGC-1): 1 neutral 16 channel multiplex signal of 0.06 amp dc.

OUTPUT CONVERTER SIGNALS: 16 neutral 0.06 amp dc signals with less than 5% total distortion.

INPUT CONVERTER SIGNALS: 16 keyed neutral signals of 0.06 amp dc.

POWER REQUIREMENTS: 115 v,  $\pm 10\%$ , 50 to 60 cyc, single ph, 1.67 amp, 0.78 pf, 153.2 W.  
AMBIENT TEMPERATURE

OPERATION: 0 to + 50° C (+ 32 to + 122° F).

STORAGE: - 40 to + 75° C (- 40 to + 161.6° F).

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Group, Telegraph AN/UGA-1 includes:	2F5805-786-6221	23-3/8 x 24 x 84	550
1	Cabinet, Electrical Equipment CY-3002/UG		23-3/8 x 24 x 84	
2	Converter, Telegraph Code CV-1030/UGA-1		6-31/32 x 18-37/64 x 19	
1	Demultiplexer TD-428/UGA-1		6-31/32 x 15-37/64 x 19	
2	Converter, Telegraph Code CV-1029/UGA-1		6-31/32 x 18-37/64 x 19	
1	Multiplexer TD-429/UGA-1		6-31/32 x 15-37/64 x 19	
1	Power Supply PP-2758/UG		10-15/32 x 17-5/32 x 19	
1	Interconnecting Cable		52 lg	
1	Interconnecting Cable		84 lg	
2	Technical Manual NAVSHIPS 94035			
1	Box Maintenance Spare Parts			

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 94035: Technical Manual for Telegraph Terminal Group AN/UGA-1.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (1281) 1N270 (1136) 1N277 (8) 1N538 (2) 1N459 (2) 1N372 (2) 2N657  
 (621) 2N404 (106) 2N388

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	46.7	700

PROCUREMENT DATA

PROCURING SERVICE: USN  
 SPEC &/OR DWG: SHIPS-T-3348

DESIGN COGNIZANCE: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Skokie, Illinois	N0bsr-75810	



30 August 1965

CONVERTER-SHIFT REGISTER GROUP AN/UGA-3

Cog Service: USN FSM:

Functional Class:

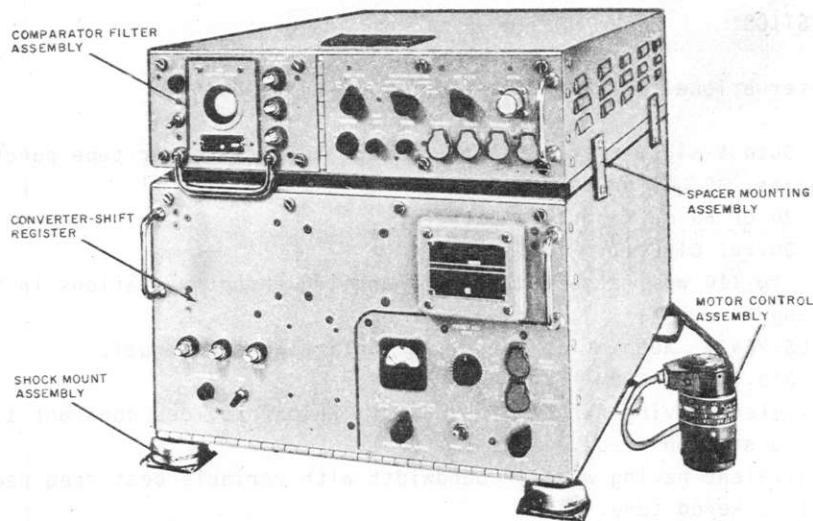
USA

USN

USAF

TYPE CLASS: Used by

MANUFACTURER'S NAME/CODE NUMBER: Trak Electronics Company Inc., (88769).



CONVERTER-SHIFT REGISTER GROUP AN/UGA-3

**FUNCTIONAL DESCRIPTION:**

Converter-Shift Register Group AN/UGA-3 is a complete transistorized digital computing system for converting Morse code transmissions into standard teleprinter code. The output of the system drives either a teleprinter or punch, recording the Morse code transmission as either a typed message or a punched tape.

The comparator-filter assembly receives its input from a radio communications receiver. This input consists of a mixture of Morse code audio signals and random noise. The comparator-filter assembly reduces the noise component to a minimum, demodulates the audio Morse code, and regenerates the signal. The output supplied from the comparator-filter assembly to the converter-shift register is noise-free Morse keyed dc. To accomplish its purpose, the comparator-filter assembly controls the audio frequency of the receiver output within close tolerance limits. This is accomplished automatically by the motor control assembly, an AFC servo-mechanism which is coupled to the beat-frequency oscillator shaft of the receiver.

## CONVERTER-SHIFT REGISTER GROUP AN/UGA-3

The converter-shift register recognizes the dots, dashes, and spaces of the Morse code. Spaces are identified as element spaces between the dots and/or dashes of a Morse character, letter spaces between characters, and word spaces between words or code groups. A code conversion matrix then translates the Morse code to a digital representation of standard teleprinter code. This code is applied, through buffer storage circuits, to the output machine.

No field changes in effect at time of preparation (13 August 1965).

**RELATION TO OTHER EQUIPMENT:** None.

### EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Receiver or Radio Receiving Set AN/BRR-3(XN-1), AN/BRR-3(XN-2), AN/SRR-11, 12 or 13, R-389/URR, or R-390/URR; (1) Teletypewriter TT-47A/UG, TT-48A/UG, TT-69A/UG, or TT-70A/UG; (1) Line Battery; (6) Cables; (1) Headphones.

### TECHNICAL CHARACTERISTICS:

CODE CONVERSION: International Morse to teleprinter (7-Unit Baudot).

LANGUAGE: English.

OUTPUT CAPABILITIES: Output signals drive standard page teleprinter or tape punch machine with standard punches, 60, 75 or 100 wpm.

OUTPUT CURRENT: Nom 20 or 60 ma from line battery.

SERIES RESISTANCE OF OUTPUT CIRCUIT: 1000 ohms.

MORSE CODE SPEED: 10 to 110 wpm; also capable of handling abrupt variations in Morse code speed over this range.

MORSE CODE SPEED ADJUSTMENT: Automatic, manual, or automatic and manual.

ACCEPTS KEYED TONE AUDIO OUTPUT FROM

AN/BRR-3: Or equivalent having narrow IF bandwidth which provides constant 1 kc tone  $\pm$  5 cps when tuned to station freq.

AN/SRR-11: Or equivalent having wide IF bandwidth with variable beat freq oscillator providing approx 1 kc keyed tone.

RD-219/U: Or any variable speed tape recorder capable of playing back receiver audio output within tolerances of comparator-filter.

TOLERABLE ADVERSE RADIO RECEPTION CONDITIONS: Frequency drift, fading, high noise levels, interference from stronger nearby signals, and atmospheric interference as ordinarily encountered in radio communications systems.

COMPARATOR-FILTER ASSEMBLY OUTPUTS: (1) Two-level Morse keyed dc to converter-shift register; (2) Morse keyed audio signal output from communications receiver for auxiliary recorder; (3) Regenerated Morse keyed audio signals, variable in volume for headphone monitoring.

INPUT SIGNAL TO COMPARATOR FILTER ASSEMBLY: 1.0 kc  $\pm$  5 cps keyed audio from associated receiver or tape recorder; input level 0.25 v rms.

NOTE: The 5 cps tolerance is maintained by the motor control assembly supplied with the AN/UGA-3 equip when used with the AN/SRR-11 receiver. When using the AN/BRR-3 receiver, the receiver must be manually tuned precisely to signal freq to provide an output within this tolerance.

SPECIAL FUNCTIONS SIGNALS PROVIDED BY CONVERTER-SHIFT REGISTER: LTRS and FIGS shifts, LINE FEED, and CAR RET; Morse II = one word space; Morse BT or AR = carriage return and line feed.

WARMUP TIME: 2 min.

POWER REQUIREMENTS: 115 v, 60 cps, 1 ph, 120 W.

AMBIENT TEMPERATURE RANGE

**CONVERTER-SHIFT REGISTER GROUP AN/UGA-3**

OPERATION: - 5° C to + 55° C (+ 23° F to + 131° F).  
 STORAGE: - 62° C to + 77° C (- 80° F to + 160° F).  
 RELATIVE HUMIDITY: 95%.  
 PRESSURE ALTITUDE: Operates at sea level (or slightly below) to 10000 ft; air transportable without pressurization at altitudes up to 25000 ft.

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Converter-Shift Register Group AN/UGA-3 includes:		
1	Comparator-Filter Assembly CM-235/UGA-3	4-23/32 x 17-15/32 x 24-9/16	37.5
1	Converter-Shift Register CV-1287/UGA-3	10 x 17-15/32 x 24-9/16	70.75
1	Control Motor Assembly C-4070/UGA-3	2-1/2 dia x 4-1/4	1.75
2	Spacer-Mounting Assembly Pt No. C-200,135	5/8 x 2-3/8 x 21-1/2	0.25
1	Angle Bracket Pt No. C-200,133	1 x 1-1/4 x 10	0.5
1	Angle Bracket Pt No. C-200,405-1	1 x 1-1/4 x 4-23/32	0.25
1	Angle Bracket Pt No. C-200,405-2	1 x 1-1/4 x 4-23/32	0.25
1	Cable Pt No. C-202,045	2 dia x 15	1.0
6	Electrical Connector Plugs		
3	Telephone Plugs		
1	Tool Kit A-7521		

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94316: Technical Manual for Converter-Shift Register Group AN/UGA-3A (and AN/UGA-3).

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: (1) 1CP1

CRYSTALS: Not required.

SEMI-CONDUCTORS: (16) 2N526 (2) 2N388 (5) 2N404 (4) 2N539 (1) 2N174 (2) 2N498  
 (40) 1N277 (136) 1N276 (4) 1N249B (10) 1N253 (2) 1N3154 (3) 1N753A  
 (12) 1N645 (4) 1N753

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	7.5	140

1.5 AN/UGA-3: 3

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Trak Electronics Co., Inc.	Wilton, Connecticut	N0bsr 87076	

26 August 1965

Cog Service: USN FSN:

CONVERTER-SHIFT REGISTER GROUP AN/UGA-3A

Functional Class:

USA

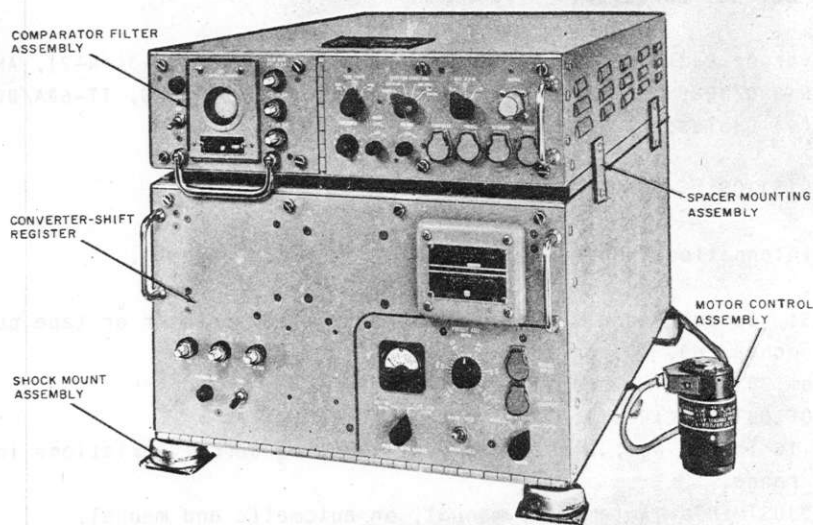
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Trak Electronics Company, Incorporated, (88769).



CONVERTER-SHIFT REGISTER GROUP AN/UGA-3A

#### FUNCTIONAL DESCRIPTION:

Converter-Shift Register Group AN/UGA-3A is a complete transistorized digital computing system for converting Morse code transmissions into standard teleprinter code. The output of the system drives either a teleprinter or punch, recording the Morse code transmission as either a typed message or a punched tape.

The comparator-filter assembly receives its input from a radio communications receiver. This input consists of a mixture of Morse code audio signals and random noise. The comparator-filter assembly reduces the noise component to a minimum, demodulates the audio Morse code, and regenerates the signal. The output supplied from the comparator-filter assembly to the converter-shift register is noise-free Morse keyed dc. To accomplish its purpose, the comparator-filter assembly controls the audio frequency of the receiver output within close tolerance limits. This is accomplished automatically by the motor control assembly, an AFC servo-mechanism which is coupled to the beat-frequency oscillator shaft of the receiver.

## CONVERTER-SHIFT REGISTER GROUP AN/UGA-3A

The converter-shift register recognizes the dots dashes and spaces of the Morse code. Spaces are identified as element spaces between the dots and/or dashes of a Morse character, letter spaces between characters, and word spaces between words or code groups. A code conversion matrix then translates the Morse code to a digital representation of standard teleprinter code. This code is applied through buffer storage circuits, to the output machines.

No field changes in effect at time of preparation (17 August 1965).

### RELATION TO OTHER EQUIPMENT:

The AN/UGA-3A is a modified AN/UGA-3 in that the Converter-Shift Register CV-1287A/UGA-3 replaces the CV-1287/UGA-3. The CV-1287A/UGA-3 includes board T, a one character generator capable of generating all input signals necessary to trouble shoot the CM-235/UGA-3 and the converter-shift register.

### EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Radio Receiver or Radio Receiving Set AN/BRR-3(XN-1), AN/BRR-3(XN-2), AN/SRR-11, 12 or 13, R-389/URR, or R-390/URR; (1) Teletypewriter TT-47A/UG, TT-48A/UG, TT-69A/UG, or TT-70A/UG; (1) Line Battery; (6) Cables; (1) Headphones.

### TECHNICAL CHARACTERISTICS:

CODE CONVERSION: International Morse to teleprinter (7-Unit Baudot).

LANGUAGE: English.

OUTPUT CAPABILITIES: Output signals drive standard page teleprinter or tape punch machine with standard punches, 60, 75, or 100 wpm.

OUTPUT CURRENT: Nom 20 or 60 ma from line battery.

SERIES RESISTANCE OF OUTPUT CIRCUIT: 1000 ohms.

MORSE CODE SPEED: 10 to 110 wpm; also capable of handling abrupt variations in Morse code speed over this range.

MORSE CODE SPEED ADJUSTMENT: Automatic, manual, or automatic and manual.

ACCEPTS KEYED TONE AUDIO OUTPUT FROM

AN/BRR-3: Or equivalent having narrow IF bandwidth which provides constant 1 kc tone  $\pm 5$  cps when tuned to station freq.

AN/SRR-11: Or equivalent having wide IF bandwidth with variable beat freq oscillator providing approx 1 kc keyed tone.

RD-219/U: Or any variable speed tape recorder capable of playing back receiver audio output within tolerances of comparator-filter.

TOLERABLE ADVERSE RADIO RECEPTION CONDITIONS: Frequency drift, fading, high noise levels, interference from stronger nearby signals, and atmospheric interference as ordinarily encountered in radio communications systems.

COMPARATOR-FILTER ASSEMBLY OUTPUTS: (1) Two-level Morse keyed dc to converter-shift register; (2) Morse keyed audio signal output from communications receiver for auxiliary recorder; (3) Regenerated Morse keyed audio signals, variable in volume for headphone monitoring.

INPUT SIGNAL TO COMPARATOR-FILTER ASSEMBLY: 1.0 kc  $\pm 5$  cps keyed audio from associated receiver or tape recorder; input level 0.25 v rms.

NOTE: The 5 cps tolerance is maintained by the motor-control assembly supplied with the AN/UGA-3A equip when used with the AN/SRR-11 receiver. When using the AN/BRR-3 receiver, the receiver must be manually tuned precisely to signal freq to provide an output within this tolerance.

**CONVERTER-SHIFT REGISTER GROUP AN/UGA-3A**

SPECIAL FUNCTIONS SIGNALS PROVIDED BY CONVERTER-SHIFT REGISTER: LTRS and FIGS shifts, LINE FEED, and CAR RET; Morse II= one word space; Morse  $\overline{BT}$  or  $\overline{AR}$  = carriage return and line feed.

WARMUP TIME: 2 min.

POWER REQUIREMENTS: 115 v, 60 cps, 1 ph, 120 W.

AMBIENT TEMPERATURE RANGE

OPERATION:  $-5^{\circ}C$  to  $+55^{\circ}C$  ( $+23^{\circ}F$  to  $+131^{\circ}F$ ).

STORAGE:  $-62^{\circ}C$  to  $+77^{\circ}C$  ( $-80^{\circ}F$  to  $+160^{\circ}F$ ).

RELATIVE HUMIDITY: 95%.

PRESSURE ALTITUDE: Operates at sea level (or slightly below) to 1000 ft; air transportable without pressurization at altitudes up to 25,000 ft.

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Converter-Shift Register Group AN/UGA-3A includes:		
1	Comparator-Filter Assembly CM-235/UGA-3	4-23/32 x 17-15/32 x 24-9/16	37.5
1	Converter-Shift Register CV-1287A/UGA-3	10 x 17-15/32 x 24-9/16	70.75
1	Control Motor Assembly C-4070/UGA-3	2-1/2 dia x 4-1/4	1.75
2	Spacer-Mounting Assembly Pt No. C-200,135	5/8 x 2-3/8 x 21-1/2	0.25
1	Angle Bracket Pt No. C-200,133	1 x 1-1/4 x 10	0.5
1	Angle Bracket Pt No. C-200,405-1	1 x 1-1/4 x 4-23/32	0.25
1	Angle Bracket Pt No. C-200,405-2	1 x 1-1/4 x 4-23/32	0.25
1	Cable Pt No. C-202,045	2 dia x 15	1.0
6	Electrical Connector Plugs		
3	Telephone Plugs		
1	Tool Kit A-7521		

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94316: Technical Manual for Converter-Shift Register Group AN/UGA-3A (and AN/UGA-3).

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: (1) 1CP1

CRYSTALS: Not required.

SEMI-CONDUCTORS: (16) 2N526 (2) 2N388 (6) 2N404 (4) 2N539 (1) 2N174 (2) 2N498  
 (40) 1N277 (155) 1N276 (4) 1N249B (10) 1N253 (2) 1N3154 (3) 1N753A  
 (12) 1N645 (4) 1N753

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CONVERTER-SHIFT REGISTER GROUP AN/UGA-3A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	7.5	140

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Trak Electronics Co., Inc.	Wilton, Conn.	N0bsr 89442	

538

567



17 July 1967  
Cog Service: USN

FSN:

REPEATER GROUP, TELEGRAPH AN/UGA-5  
Functional Class:

USA

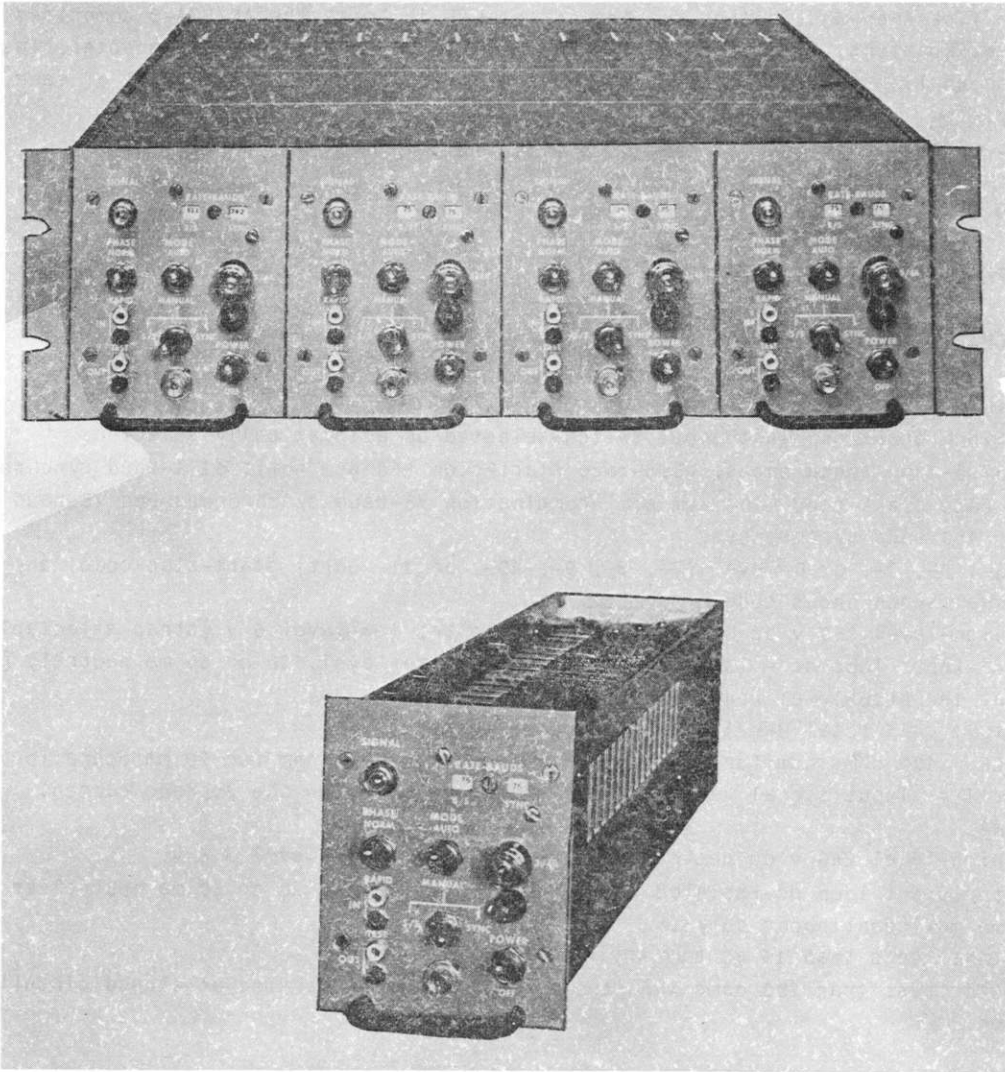
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Stelma Inc., (96238).



539

**FUNCTIONAL DESCRIPTION:**

Repeater Group, Telegraph AN/UGA-5 provides (1) signal regeneration on four synchronous channels at one of four modulation rates, or on four start-stop channels at one of three modulation rates. Although any code-level may be used for synchronous channels, start-stop operation allows use in systems employing only 5-, 6-, 7-, or 8- level codes. The AN/UGA-5, which may be used on channels carrying synchronous and start-stop signals, automatically switches from one mode to the other according to the type of incoming signal. Since output signals are provided through an electronic relay, a supply battery is required locally or at the receiving station. The input and output circuits permit high-level keying as well as low-level keying for compatibility with interface requirements of associated military standards (MIL-STD-188B). False-start protection prevents production of an output signal when noise-pulses up to 1/2-bit are developed on the line during character stop and rest-mark intervals. An automatic mode-control circuit detects the type of incoming data, and establishes the equipments mode of operation accordingly so that output data is the same type as the input data. An automatic disconnect circuit inhibits the output and places a steady mark on the line when an incoming synchronous signal is lost. The AN/UGA-5 comprises four Regenerative Repeaters, Automatic, TH-73/UGA-5, enclosed in a rack shelf adapter. Test connections for in-line testing of each channel are provided on the front panel of each TH-73/UGA-5.

No field changes in effect at time of preparation (28 November 1966).

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

**TECHNICAL CHARACTERISTICS:**

**INPUT SIGNAL**

**MODE:** Synchronous or start-stop, switch-selected or automatically selected.  
**RATE:** 37.5-baud synchronous, 45.5-baud start-stop (60 wpm nom); 61.1-baud synchronous, 74.2-baud start-stop (100 wpm nom) combination 75-baud synchronous and 75-baud start-stop; 150 baud synchronous.  
**CODE:** 5-, 6-, 7-, or 8-level (7-, 8-, 9-, 10-, or 11- unit) start-stop code; any unit-interval synchronous code.  
**TYPE:** High-level 260 v dc neutral, or 130 v polar; low level 6 v (strap selectable).  
**CURRENT:** Input loop dc - isolated from ground, high-level, 20 or 60 ma neutral, (90 ma max at the high-level input).  
**DISTORTION:** 45% total Marking or Spacing distortion.  
**IMPEDANCE:** 100 ohms nom for 60 ma operation and 300 ohms nom for 20 ma operation.  
**SENSITIVITY:** Input signal variation of 2 ma above or below the average current.

**OUTPUT SIGNAL**

**TYPE:** High-level 260 v dc neutral or 130 v dc polar; low level  $\pm 6$  v.  
**CURRENT:** Output loop dc-isolated from ground, high-level, 20 or 60 ma neutral or polar, 100 ma max (continuous duty).  
**DISTORTION:** Less than 1% at max keying rate.  
**IMPEDANCE:** Less than 200 ohms when the output is in the Marking or closed circuit condition.

**TIMING**

540

**REPEATER GROUP, TELEGRAPH AN/UGA-5**

INTERNAL: Oscillator-supplied frequencies of 76.8 kc, 93.237 kc, 125.217 kc, or 152.016 kc.

EXTERNAL: MIL-STD-188B input required. Frequency must be 256 times bit-rate.

**SYNCHRONIZATION**

CORRECTION INCREMENT: 1 part in 128 of bit.

TIMING: 128 times bit-timing derived from internal clock.

**MODES OF OPERATION**

AUTOMATIC: Automatically switches to regenerate synchronous data-signals on detection of absence of start-stop signals.

MANUAL: Regenerates either synchronous or start-stop signals. (Separate switch selects synchronous or start-stop mode, when in the manual Mode select switch position.

RADIO FREQUENCY INTERFERENCE SUPPRESSION: Meets all limits specified in MIL-I-16910A, and the radiated interference level does not exceed 1 uv per meter per kc of bandwidth measured at distance of 3 ft.

POWER REQUIREMENTS: 120 v ± 10% at 50 or 60 cps ± 5%, 20 W.

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Repeater Group, Telegraph AN/UGA-5	20 x 19 x 5-1/4	41

**REFERENCE DATA AND LITERATURE:**

Manuscript for Regenerative Repeater Group, Telegraph AN/UGA-5.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

**PROCUREMENT DATA**

PROCURING SERVICE: USN  
SPEC &/OR DWG: MIL-E-16400

DESIGN COG: USN, NavShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Stelma Inc.	Stamford, Conn.	N600(63133-126)64773 N600(63133-126)64926	

541

20 July 1964

Cog Service: USN

FSN: 2F5805-897-7866

TERMINAL, TELEGRAPH AN/UGC-1A  
Functional Class:

USA

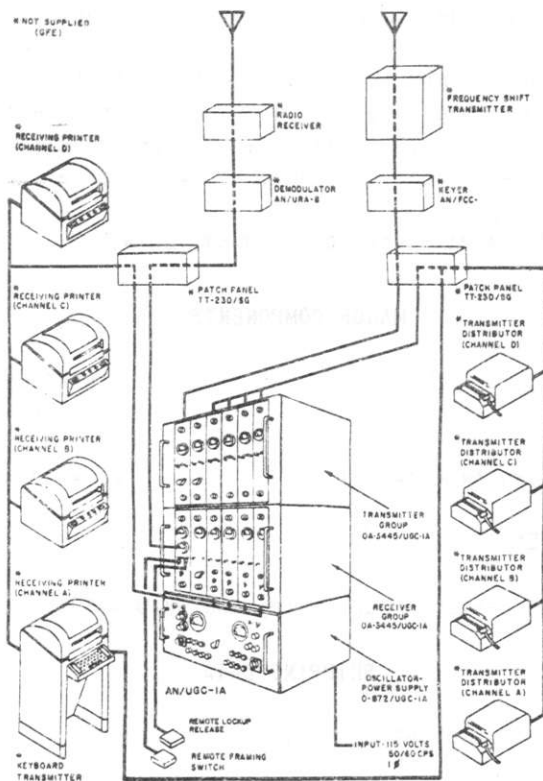
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Trak Electronic Company, Incorporated, (88769).



TERMINAL, TELEGRAPH AN/UGC-1A

**FUNCTIONAL DESCRIPTION:**

Terminal, Telegraph AN/UGC-1A provides facilities at a given station for combining two, three or four two-way start-stop circuits into common long-distance telegraph circuits through the use of time sharing principles. At the distant end of the telegraph loop circuit, a duplicate equipment performs the complementary multiplexing functions. The start-stop circuits of both terminals are made according to conventional practices, and may include any apparatus which utilizes the standard 7.42 unit start-stop code at the speed chosen for the system operation.

No field changes in effect at time of preparation (1 July 1964).

**RELATION TO OTHER EQUIPMENT:**

# AN/UGC 1A TERMINAL, TELEGRAPH

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Multimeter AN/PSM-4C; (1) Oscilloscope AN/USM-105A.

## TECHNICAL CHARACTERISTICS:

### INPUT TO TRANSMITTER GROUP

NEUTRAL START-STOP SIGNALS: 0.020 or 0.060 amp dc; ext BATT reqd.

### OUTPUT OF TRANSMITTER GROUP

MULTIPLEX SIGNALS: Current keyed neutral dc signals of 0.020 or 0.060 amp for remote transmission line.

EXTERNAL BATTERY: 130 v (not exceeding 150 v) reqd.

### INPUT TO RECEIVER GROUP

MULTIPLEX SIGNALS: Current keyed neutral dc signals of 0.020 or 0.060 amp.

### OUTPUT OF RECEIVER GROUP

NEUTRAL START-STOP SIGNALS: 0.020 or 0.060 amp dc; less than 2% distortion of signals for all specified conditions of temp and voltage.

### AUXILIARY OUTPUT SIGNALS OF TRANSMITTER GROUP

#### POSITIVE-GOING PULSES

AMPLITUDE: 37 v.

IMPEDANCE: 10,000 ohms.

MINIMUM DURATION: 150 usec.

REPETITION RATE: 450 pps (60 wpm); 562.5 pps (75 wpm); 773.69 pps (100 wpm).

SIGNAL CORRESPONDING TO NORMAL MULTIPLEX SIGNAL BUT INVERTED: Amplitudes of 0 v for mark and + 50 v for space.

POWER REQUIREMENTS: 115 v  $\pm$  10%, 50 to 60 cyc, single ph, 160 W, 0.9 pf, 1.5 amp.

### AMBIENT TEMPERATURE RANGE

OPERATION: 0 to + 50° C (+ 32 to + 122° F).

STORAGE: - 40 to + 65° C (- 40 to + 149° F).

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal, Telegraph AN/UGC-1A includes:	2F5805-897-7866	17 x 35 x 33-1/4	280
1	Oscillator-Power Supply O-872/UGC-1A		8-23/32 x 19 x 19-3/8	
1	Receiver Group OA-3444/UGC-1A includes:			
1	Synchronizer, Electrical SN-313/UGC-1A		2-9/16 x 12 x 20	
1	Demultiplexer-Multiplexer TD-515/UGC-1A		2-9/16 x 11-31/32 x 18-1/8	
4	Converter, Telegraph Code CV-1218/UGC-1A		2-9/16 x 11-31/32 x 18-1/8	
1	Transmitter Group OA-3445/UGC-1A includes:			

1.5 AN/UGC-1A: 2

TERMINAL, TELEGRAPH AN/UGC-1A

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Amplifier, Control AM-3107/UGC-1A		2-9/16 x 11-31/32 x 18-1/8	
1	Demultiplexer-Multiplexer TD-515/UGC-1A		2-9/16 x 11-31/32 x 18-1/8	
4	Converter, Telegraph Code CV-1217/UGC-1A		2-9/16 x 11-31/32 x 18-1/8	

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94376(A): Technical Manual for Terminal Telegraph AN/UGC-1A.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N249B (44) 2N174 (4) 1N253 (8) 2N331 (199) 1N270 (32) 2N388  
 (122) 1N277 (10) 2N398 (1) 1N458 (79) 2N404 (7) 1N645 (4) 2N498  
 (1) 1N742 (2) 2N539 (5) 1N749A (1) 2N699 (1) 1N2976B (1) 1N2997B  
 (73) 2N40A

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1		

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips  
 SPEC &/OR DWG: MIL-T-21147(SHIPS), Amend 2

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Trak Electronic Co. Inc. Pt No. J400,312	Wilton, Connecticut	NObsr-81605 NObsr-85254	\$12416.67 \$12416.67

8 August 1967  
Cog Service: USN FSN:

TERMINAL TELEGRAPH AN/UGC-1B  
Functional Class:

USA

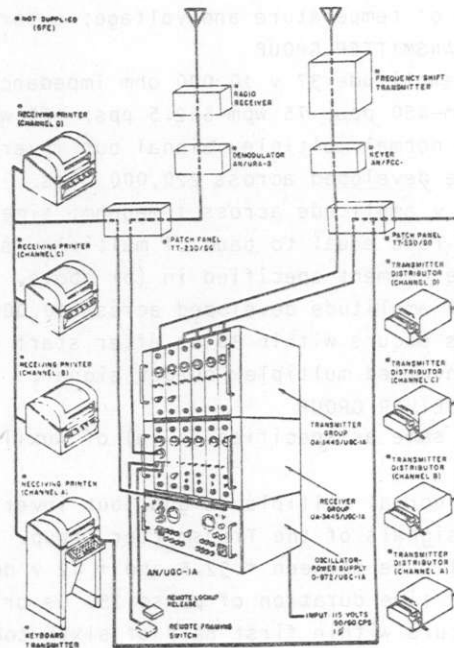
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Rixon Electronics Inc., (00433).



TERMINAL TELEGRAPH AN/UGC-1B

**FUNCTIONAL DESCRIPTION:**

The Terminal Telegraph AN/UGC-1B comprises an electronic transmitting and receiving, time division, multiplex equipment for use on radio circuits or wire lines. It provides terminal facilities for a multiplex send-receive station. It includes a portable, self-contained code converter indicator which provides a visual indication of the operation of the transmitting and receiving code converters.

No field changes in effect at time of preparation (13 April 1966).

**RELATION TO OTHER EQUIPMENT:**

The AN/UGC-1B is mechanically and electrically two-way interchangeable with AN/UGC-1A and AN/UGC-1, differing by maintenance parts and components.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

TECHNICAL CHARACTERISTICS:

INPUT TO TRANSMITTER GROUP

Neutral start-stop signals of 0.020 or 0.060 amp dc; external battery required.

OUTPUT OF TRANSMITTER GROUP

Multiplex signals; current-keyed neutral dc signals of 0.020 or 0.060 amp for remote transmission line; external battery of 130 v (not exceeding 150 v) required.

INPUT TO RECEIVER GROUP

Multiplex signals, current-keyed neutral dc signals of 0.020 or 0.060 amp; external battery required.

OUTPUT OF RECEIVER GROUP

Neutral start-stop signals of 0.020 or 0.060 amp dc less than 2% distortion of signals for all specified conditions of temperature and voltage; external battery required.

AUXILIARY OUTPUT SIGNALS OF TRANSMITTER GROUP

- (a) Positive-going pulses, amplitude 37 v 10,000 ohm impedance, minimum duration 150 us, repetition rates: 60 wpm-450 pps; 75 wpm-562.5 pps; 100 wpm-773, 69 pps.
- (b) Signal corresponding to normal multiplex signal but inverted: amplitudes of 0 v for mark and + 50 v for space developed across 220,000 ohms.
- (c) Negative pulses with 24 v amplitude across 1 megohm; time duration of each pulse greater than 7 us, repetition rate equal to baud of multiplex signal; pulses occur within 30 us, of start of each code element specified in (b) above.
- (d) Positive pulse with 37 v amplitude developed across 10,000 ohms; time duration of pulse greater than 150 us; plus occurs within 30 us after start of first code element in Channel B appearing in inverted multiplex output signal.

AUXILIARY OUTPUT SIGNALS OF RECEIVER GROUP

- (a) Positive-going pulses: same as specified in (a) of Auxiliary output signals of Transmitter Group.
- (b) Signal corresponding to normal multiplex signal but inverted: same as specified in (b) of Auxiliary output signals of the Transmitter Group.
- (c) Positive pulse with amplitude between + 32.5 and + 42 v developed across impedance not greater than 10,000 ohms; time duration of pulse 150 us or greater; rise time one milli-second or less; pulse occurs within first half of sixth code element of Channel A as an inverted multiplex signal and occurs only when the sixth code element of the signal being received by Channel A is marking.
- (d) Negative-going pulses with amplitudes not less than 15 v developed across not greater than 10,000 ohms impedance; time duration of pulses less than 5% of width of multiplex code element center of code elements of inverted multiplex output signal specified in (b) above.

AUXILIARY INPUT SIGNALS OF TRANSMITTER GROUP

Inverted multiplex signal from auxiliary equipment; Signal amplitude of 0 (+ 2) volts for mark and + 55 (+ 20, - 10 volts) for space; input impedance is 50,000 ohms.

AUXILIARY INPUT SIGNALS OF RECEIVER GROUP

Inverted multiplex signal from auxiliary equipment; signal amplitude of 0 ( $\pm 2$ ), - 10 volts for space; Signal is delayed 1/2 of a code element from signal specified in (b) of Auxiliary output signals of Transmitter Group.

POWER REQUIREMENTS: 115 v ac  $\pm 10\%$ , 50 to 60  $\pm 5\%$  cps, 0.9 power factor, current 1.5 amp, 160 watts power dissipation.



**TERMINAL TELEGRAPH AN/UGC-1B**

**AMBIENT TEMPERATURE RANGE**

OPERATION: 0 deg C to 0 + 50 deg C (32 deg F to 122 deg F).

STORAGE: - 40 deg C to + 65 deg C (- 40 deg F to + 149 deg F).

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Telegraph, AN/UGC-1B includes:	17 x 25 x 33-1/4	280
1	Oscillator Power Supply: O-872A/UGC-1A	8-23/32 x 19 x 19-3/8	
1	Cabinet Electrical Equipment: CY-3253/UGC-1A		
1	Receiver Group: OA-3444A/UGC-1A		
1	Cabinet, Electrical Equipment: CY-3254/UGC-1A		
1	Converter, Telegraph Code: CV-1218A/UGC-1A		
1	Synchronizer, Electrical: SN-313/UGC-1A		
1	Demultiplexer-Multiplexer: TD-515A/UGC-1A		
1	Transmitter Group: OA-3445A/UGC-1A		
1	Amplifier Control: AM-3107/UGC-1A		
1	Cabinet, Electrical Equipment: CY-3255/UGC-1A		
1	Converter, Telegraph Code CV-1217A/UGC-1A		
1	Indicator, Code Converter: ID-965/UGC-1A		

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94376(A): Technical Manual for Terminal Telegraph AN/UGC-1B.

**SHIPPING DATA**

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

PROCURING SERVICE: USN

DESIGN COG: USN, BUSHIPS

SPEC &/OR DWG: SPEC: MIL-T-21147(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Rixon Electronics Inc.	Silver Spring, Md.	Nobsr-87223	
Mfr's Part No. 905-3537			

21 April 1965

Cog Service: USN FSN:

TERMINAL TELEGRAPH AN/UGC-3  
Functional Class:

USA

USN

USAF

TYPE CLASS:

Used by

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

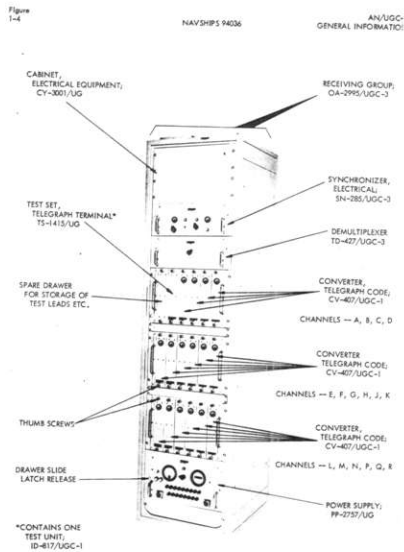


Figure 1-4. Receiving Group OA-2995/UGC-3 (16 Channel Multiplex TM-202)

1-4

ORIGINAL

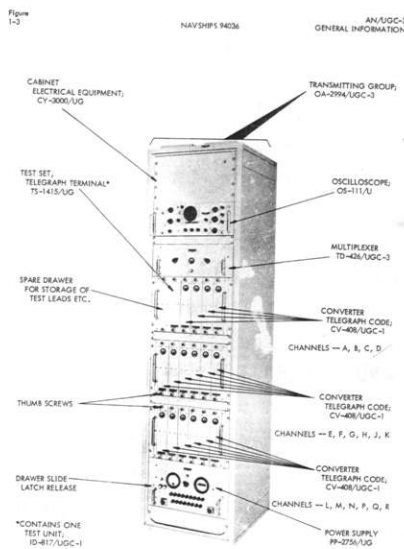


Figure 1-3. Transmitting Group OA-2994/UGC-3

1-4

ORIGINAL

### TERMINAL TELEGRAPH AN/UGC-3

#### FUNCTIONAL DESCRIPTION:

Terminal Telegraph AN/UGC-3 consists of a transmitting group; OA-2994/UGC-3 and a receiving group; OA-2995/UGC-3. The transmitting group accepts neutral, start-stop signals from up to sixteen separate circuits and assembles them in sequential order for multiplex transmission over a single circuit. The receiving group accepts multiplex signals from a distant source, converts them to start-stop form, and distributes them to four, eight, twelve or sixteen teletypewriter circuits.

No field changes in effect at time of preparation (5 March 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

PRIMARY POWER SUPPLY REQUIREMENTS

TRANSMITTING GROUP

VOLTAGE: 115 v  $\pm$  10% ac.  
 PHASE: Single.  
 CYCLES PER SECOND: 50 to 60  $\pm$  5%.  
 CURRENT  
 WITH CRYSTAL OVEN ON: 2.08 amps.  
 WITH CRYSTAL OVEN OFF: 1.72 amps.  
 POWER FACTOR: 0.85 to 0.89.  
 WATTAGE  
 WITH CRYSTAL OVEN ON: 195 W.  
 WITH CRYSTAL OVEN OFF: 155 W.  
 WITH OSCILLOSCOPE ON: 455 W.

RECEIVING GROUP

VOLTAGE: 115 v  $\pm$  10% ac.  
 PHASE: Single.  
 CYCLES PER SECOND: 50 to 60  $\pm$  5%.  
 CURRENT  
 WITH CRYSTAL OVEN ON: 1.64 amps.  
 WITH CRYSTAL OVEN OFF: 1.33 amps.  
 POWER FACTOR: 0.85 to 0.88.  
 WATTAGE  
 WITH CRYSTAL OVEN ON: 166 W.  
 WITH CRYSTAL OVEN OFF: 130 W.  
 WITH OSCILLOSCOPE ON: -

TRANSLATOR GROUP

VOLTAGE: 115 v  $\pm$  10% ac.  
 PHASE: Single.  
 CYCLES PER SECOND: 50 to 60  $\pm$  5%.  
 CURRENT  
 WITH CRYSTAL OVEN ON: 1.67 amps.  
 WITH CRYSTAL OVEN OFF: 1.67 amps.  
 POWER FACTOR: 0.78.  
 WATTAGE  
 WITH CRYSTAL OVEN ON: -.  
 WITH CRYSTAL OVEN OFF: 150 W.  
 WITH OSCILLOSCOPE ON: -.

HEAT DISSIPATION: Same as wattage for Transmitting group, Receiving Group and Translator Group.

TEMPERATURE

OPERATING RANGE: 0° to 50° C (32° to 122° F).  
 STORAGE RANGE: - 40° to 65° C (- 40° to 149° F).

FREQUENCY CONTROL: By temperature-controlled crystal oscillators.

SIGNALS

INPUT START-STOP SIGNALS (TRANSMITTING GROUP): Neutral start-stop signals of 0.020 or 0.060 amp dc; external line battery required.

MULTIPLEX OUTPUT SIGNALS (TRANSMITTING GROUP): Neutral 0.060 amp dc signal; an external line battery is required, not to exceed 135 volts. In four channel operation, signals are compatible with Telegraph Terminal Set AN/UGC-1 at all speeds and with Telegraph Terminal Set AN/FGC-5 at 60 and 75 wpm.

549

**TERMINAL TELEGRAPH AN/UGC-3**

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Terminal Telegraph AN/UGC-3 includes:			1,157
1	Transmitter Group 0A-2994/UGC-3		23-3/8 x 24 x 84	556
1	Receiver Group 0A-2995/UGC-3		23-3/8 x 24 x 84	601
2	Technical Manual NAVSHIPS 94036			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94036: Technical Manual for Telegraph Terminal AN/UGC-3.

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: Not required.

CRYSTALS: Not required.

SEMI-CONDUCTORS: (1340) 1N270 (2321) 1N277 (2) 1N372 (2) 1N459 (2) 1N461  
 (16) 1N538 (2) 1N540 (5) 1N93 (2) 4JA411FC1AD1 (2) 4JA411FC1AD2  
 (2) 4JA411AC1AD3 (4) SV9-4 (4) 2N341 (452) 2N388 (12) 2N398  
 (1369) 2N404 (2) 2N539 (2) 2N657 (8) 2N1184

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	46.7	706
1	46.7	751

**PROCUREMENT DATA**

PROCURING SERVICE: USN  
 SPEC &/OR DWG: MIL-M-16616

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corp.	Skokie, Illinois	N0bsr-75810	

5 October 1966

TELETYPEWRITER SET AN/UGC-6B

Cog Service: USN FSN:

Functional Class:

USA

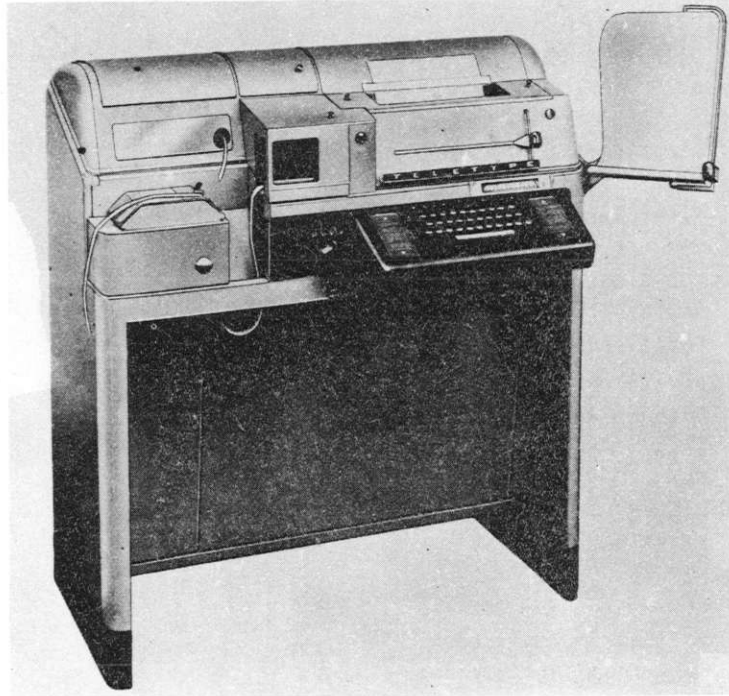
USN

USAF

TYPE CLASS:

Used by

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



TELETYPEWRITER SET AN/UGC-6B

**FUNCTIONAL DESCRIPTION:**

The Teletypewriter Set AN/UGC-6B is a complete high capacity, send-receive message station with a send-receive page printer, tape punch, and tape reader units. The set is a fixed station friction-feed equipment with a standard English character communications keyboard. It prints 72 characters per line and has a 7.42 unit code. It has a synchronous motor.

No field changes in effect at time of preparation (29 April 1966).

**RELATION TO OTHER EQUIPMENT:**

The AN/UGC-6B is mechanically and electrically one-way interchangeable with Teletypewriter Set AN/UGC-6 and 6A except that it includes a modified Teletypewriter Typing Unit, TT-325/UG, which adds AHF stunt box features, and that Power Distribution Panel SB-1302/UG has been substituted for SP-1061/UG(LESU-12).

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Set of tools: (1) Instruction Book for Teletypewriter Rectifier and cable assembly PP-1010-UG (optional) NAVSHIPS 92142; (1) NAVSHIPS 98363, Change 1 to tool equipment TE-50-A; (1) Line Relay, RY-30; (1) External Power Connector to 120 v ac; (1) Signal Line Rectifier; (1) Signal Distortion test equipment.

## TECHNICAL CHARACTERISTICS:

## POWER SUPPLY REQUIREMENTS

## AC SYNCHRONOUS MOTOR PD-67/U

INPUT VOLTAGE: 115 v,  $\pm 10$  percent ac, 115 v dc.

PHASE: Single ph.

FREQUENCY: 60 cycles,  $\pm 0.5$  cycles.

INPUT CURRENT, STARTING: 12.25 amps.

RUNNING, NO LOAD: 2.48 amps.

FULL LOAD: 2.58 amps.

WATTS, NO LOAD: 66.3 watts.

FULL LOAD: 132.9 watts.

POWER FACTOR: No-load 23 percent.

Full-load 45 percent.

HEAT DISSIPATION: 73 watts.

## AC SYNCHRONOUS MOTOR PD-17A/U

INPUT VOLTAGE: 115 v  $\pm 10$  percent, ac.

PHASE: Single ph.

FREQUENCY: 60 cycles,  $\pm 0.5$  cycles.

INPUT CURRENT, STARTING: 9 amps.

RUNNING: 1.85 amps.

WATTS: 65 watts.

POWER FACTOR: No-load 23.7 percent

Full-load 38.5 percent.

HEAT DISSIPATION: 50 watts.

## 1 PERMISSIBLE TEMPERATURES

(1) AMBIENT: - 20 deg C (- 4 deg F) to + 50 deg C (+ 122 deg F).

(2) TEMPERATURE RISE: Not in excess of + 40 deg C (+ 104 deg F) above ambient temperature.

TYPE OF STATION: Fixed.

TYPE OF KEYBOARD: Std Communication Keyboard.

TYPE OF CHARACTERS: English.

QUANTITY OF CHARACTERS: 72 characters per line.

TYPE OF SPEED: Friction.

TYPE OF MOTOR: Synchronous.

UNIT CODE: 7.42.

## MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Set, AN/UGC-6B, includes:		267

1.5 AN/UGC-6B: 2

**TELETYPEWRITER SET AN/UGC-6B**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Equipment Cabinet CY-2529/UG	18-1/4 x 38-1/2 x 46	150
1	Teletypewriter Keyboard Transmitter, MX-2643/UG	12 x 20 x 22-1/2	31
1	Power Distribution Panel, SB-1302/UG	4-5/8 x 8-1/8 x 15	7
1	Power Distribution Panel, SB-959/UG	4-5/8 x 8-1/8 x 15	9
1	Automatic Typer, TT-325/UG	9-3/4 x 10-1/2 x 15-1/2	19
1	Teletypewriter Perforator, IT-252/UG	7-1/2 x 7-1/2 x 8	7
1	Teletypewriter Reperforator, TT-266/UG	6-3/4 x 7-1/2 x 9	8
1	Teletypewriter Base Unit, MT-2234/UG	11 x 11 x 11-1/2	8
1	Teletypewriter Distributor Transmitter, TT-251/UG	3-1/2 x 4-1/2 x 7-1/8	6
1	Teletypewriter Base Unit, MT-2099/UG	4-3/4 x 8-3/4 x 10-3/4	4
1	AC Motor, PD-67/U	4 x 5-3/4 x 8-1/2	9
1	AC Motor, PD-17A/U	4 x 5-3/4 x 8-1/2	9
1	Set of Gears for LAK and LCXB		
1	60 WPM Mfr's Part No. 164583		
1	75 WPM Mfr's Part No. 164584		
1	100 WPM Mfr's Part No. 164585		
1	Copyholder Mfr's Part No. 152901BU		
1	Control Panel Mfr's Part No. 161830		
1	Relay Rack Modification Kit Mfr's Part No. 160387		
1	Cabinet Modification Kit Mfr's Part No. 161815		
1	PDP Modification Kit Mfr's Part No. 16129		

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 93534: Technical Manual for Teletypewriters AN/UGC-5, AN/UGC-5A, AN/UGC-5X, AN/UGC-5AX, AN/UGC-6, AN/UGC-6A, AN/UGC-6X, AN/UGC-6AX, AN/UGC-7, AN/UGC-7X, AN/UGC-8 and AN/UGC-8X.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	7.8	55
1	3.5	40
1	0.6	7
1	0.3	8
1	22.6	170
1	0.5	10
1	0.3	10
1	1.6	20
1	1.5	18

553

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	1.0	10
1	0.5	8
1	0.3	10
1	0.3	3

PROCUREMENT DATA

PROCURING SERVICE: USN  
 SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Skokie, Illinois	NObsr 85156	



4 August 1967

TELETYPEWRITER SET AN/UGC-6C

Cog Service: USN FSN:

Functional Class:

USA

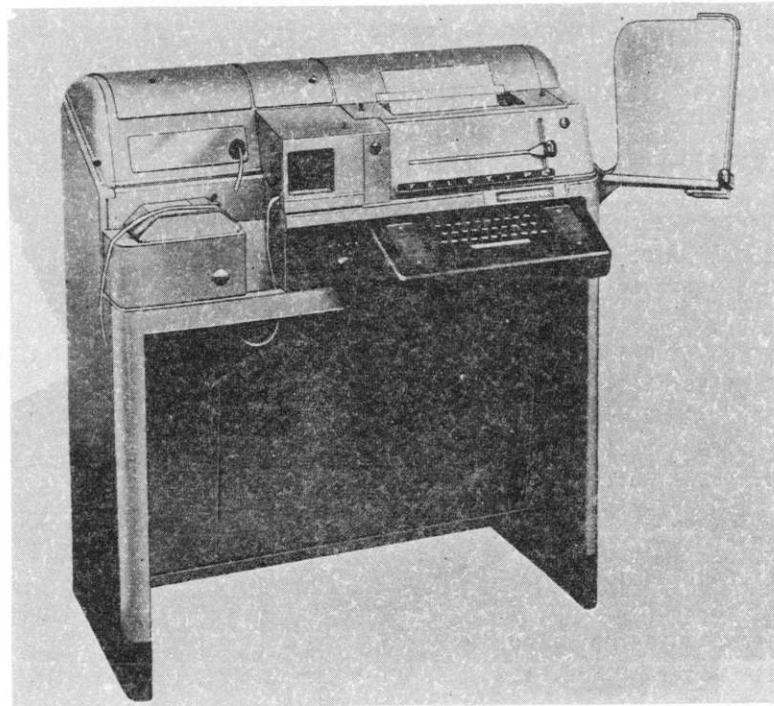
USN

USAF

TYPE CLASS:

Used by

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



TELETYPEWRITER SET AN/UGC-6C

#### FUNCTIONAL DESCRIPTION:

The AN/UGC-6C is a complete, high capacity send-receive message station with send-receive page printer, tape-punch, and tape reader units. It is a fixed-station for specific use. The set has a standard communication keyboard, English characters, 72 characters per line, friction feed, synchronous motor, and 7.42 unit code.

No field changes in effect at time of preparation (2 May 1966).

#### RELATION TO OTHER EQUIPMENT:

The AN/UGC-6C is mechanically and electrically one-way interchangeable to those previously furnished AN/UGC-6, 6A, and 6B, with the following exceptions: Gearing in the MT-2625/UGC-6C, is for 60, 75, and 100 WPM operation. The previously furnished MT-2234/UG was for 60, 75 and 100 wpm operation. MT-2625/UGC-6C has the "on and off" mounted to a control panel instead of being mounted on the base unit (Teletypewriter MT-2234/UG).

1.5 AN/UGC-6C: 1

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Set of tools; (1) NAVSHIPS 92142: Instruction Book for Teletypewriter Rectifier and Cable Assembly PP-1010-UG (optional); (1) NAVSHIPS 98363: Change 1 to tool equipment TE-50-A; (1) Line Relay: RY-30; (1) External power connector to 120 v ac; (1) Signal line rectifier; (1) Signal distortion test equipment.

## TECHNICAL CHARACTERISTICS:

TYPE OF STATION: Fixed.

TYPE OF KEYBOARD: Std Communication Keyboard.

TYPE OF CHARACTERS: English.

QUANTITY OF CHARACTERS: 72 characters per line.

TYPE OF SPEED: Friction.

TYPE OF MOTOR: Synchronous.

UNIT CODE: 7.42.

## POWER SUPPLY REQUIREMENTS

(a) AC SYNCHRONOUS MOTOR PD-67/U.

INPUT VOLTAGE: 115 volts ac  $\pm 10\%$ ; 115 v dc.

PHASE: Single phase.

FREQUENCY: 60 cycles,  $\pm 0.5$  cycle.

INPUT CURRENT, STARTING: 12.25 amps.

RUNNING, NO LOAD: 2.48 amps.

FULL LOAD: 2.58 amps.

WATTS, NO LOAD: 66.3 watts.

FULL LOAD: 132.9 watts.

POWER FACTOR NO LOAD: 23%.

POWER FACTOR FULL LOAD: 45%.

HEAT DISSIPATION: 73 watts.

(b) AC SYNCHRONOUS MOTOR PD-17A/U.

INPUT VOLTAGE: 115 volts AC,  $\pm 10\%$ .

PHASE: Single phase.

FREQUENCY: 60 cycles,  $\pm 0.5$  cycle.

INPUT CURRENT, STARTING: 9 amps.

RUNNING: 1.85 amps.

WATTS: 65 watts.

POWER FACTOR: No load, 23.7%.

POWER FACTOR: Full load, 38.5%.

HEAT DISSIPATION: 50 watts.

## PERMISSIBLE TEMPERATURES

(1) AMBIENT: - 20 deg C (-4 deg F) to + 50 deg C (+ 122 deg F).

(2) TEMPERATURE RISE: Not in excess of + 40 deg C (+ 104 deg F) above ambient temperatures.

## MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Set AN/UGC-6C includes:		267

1.5 AN/UGC-6C: 2

**TELETYPEWRITER SET AN/UGC-6C**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electrical Equipment Cabinet: CY-2529/UG	18-1/4 x 38-1/2 x 46	150
1	Teletypewriter Keyboard Transmitter: MX-2643/UG	12 x 20 x 22-1/2	31
1	Power Distribution Panel: SB-1302/UG	4-5/8 x 8-1/8 x 15	7
1	Power Distribution Panel SB-959/UG	4-5/8 x 8-1/8 x 15	9
1	Teletypewriter Typing Unit: TT-325/UG	9-3/4 x 10-1/2 x 15-1/2	19
1	Teletypewriter-Perforator: TT-252/UG	7-1/2 x 7-1/2 x 8	7
1	Teletypewriter Reperforator: TT-266/UG	6-3/4 x 7-1/2 x 9	8
1	Teletypewriter Base Unit: MT-2625/UGC-6C		
1	Teletypewriter Distributor Transmitter: TT-251/UG	3-1/2 x 4-1/2 x 7-1/8	6
1	Teletypewriter Base Unit: MT-2099/UG	4-3/4 x 8-3/4 x 10-3/4	4
1	AC Motor: PD-67/U	4 x 5-3/4 x 8-1/2	9
1	AC Motor: PD-17A/U	4 x 5-3/4 x 8-1/2	9
1	Set of Gears: Mfr's Part No. 164583 (60 WPM), (75 WPM) Pt No. 163300 (100 WPM) Part No. 164585.		
1	Copyholder: Mfr's Part No. 164024BR		
1	Control Panel: Mfr's Part No. 178838		
1	Relay Rack Modification Kit Mfr's Part No. 160387		
1	Cabinet Modification Kit Mfr's Part No. 160815		
1	Power Distribution Panel Modification Kit Mfr's Part No. 161829		

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 93534: Technical Manual for Teletypewriters AN/UGC-5, AN/UGC-5A, AN/UGC-5X, AN/UGC-5AX, AN/UGC-6, AN/UGC-6A, AN/UGC-6X, AN/UGC-6AX, AN/UGC-7, AN/UGC-7X, AN/UGC-8, and AN/UGC-8X.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	7.8	55
1	3.5	40
1	0.6	7
1	0.3	8
1	22.6	170
1	0.5	10
1	0.3	10
1	1.6	20
1	1.5	18
1	1.0	10

1.5 AN/UGC-6C: 3

TELETYPEWRITER SET AN/UGC-6C

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	0.5	8
1	0.3	10
1	0.3	3

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OF DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Skokie, Illinois	N0bsr-85155	

558

20 July 1964

TELETYPEWRITER SET AN/UGC-11(XN-1)

Cog Service: USN FSN:

Functional Class:

USA

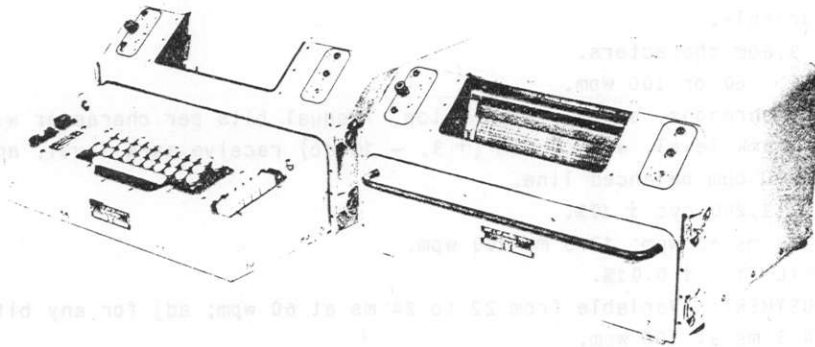
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Alpha Corporation, (09148).



TELETYPEWRITER SET AN/UGC-11(XN-1)

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/UGC-11(XN-1) is a fixed-station, send-receive set designed for keyboard and tape recorder sending and page copy receiving. Two or more AN/UGC-11(XN-1) can be interconnected directly and operated with, or without, the use of intermediate equipment. Simultaneous sending and receiving is possible, with one call being received on one printer of the set, a second call being received on the second printer of the set, and a third call being sent from the keyboard or recorder.

No field changes in effect at time of preparation (1 June 1964).

**RELATION TO OTHER EQUIPMENT:**

# AN/UGC-11(XN-1) TELETYPEWRITER SET

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Tool Equipment TE-5U-B; (2) Patch Cord Assy, Printer; (1) Patch Cord Assy, Recorder;  
(1) Patch Cord Assy, Keyboard; (2) Patch Cord Assy, External Input.

## TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Shipboard; send and receive.  
SYMBOLS: Std communications symbols convertible to weather with key cap and drum changes.  
TYPE OF CHARACTERS: 10 point murray.  
CHARACTERS PER LINE: 72 convertible to 76 for weather.  
TYPE OF PAPER FEED: Friction.  
TYPE OF PAPER SUPPLY: Roll (2-1/2 in. dia; paper is 8-7/16 in. w).  
STORED PAPER CAPACITY: 5,000 lines.  
PRINTING SPEED: 60 or 100 wpm nom.  
RECORDING SPEED: Variable.  
RECORDER CAPACITY: 3,600 characters.  
RECORDER READOUT RATE: 60 or 100 wpm.  
SIGNALING CODE: A synchronous, serial, start-stop, 7 equal bits per character with 0 dbm  
(± 3 db) transmit mark level, with 0 dbm (+ 3, - 10 db) receive mark level, and no tone  
space level on a 600 ohm balanced line.  
DATA TONE FREQUENCY: 1,200 cyc ± 10%.  
DATA BIT LENGTH: 23.3 ms 60 wpm; 13.5 ms 100 wpm.  
DATA BIT LENGTH STABILITY: ± 0.01%.  
DATA BIT LENGTH ADJUSTMENT: Variable from 22 to 24 ms at 60 wpm; adj for any bit lg in the  
range of 11 to 14.3 ms at 100 wpm.  
MAXIMUM INCOMING SIGNAL DISTORTION: 15%.  
POWER REQUIREMENTS: 115 v, 400 cyc, 3 ph.  
TEMPERATURE LIMITS  
OPERATING: 0 to 50° C.  
STORAGE: - 62 to 75° C.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Set AN/UGC-11(XN-1) consists of:			
1	Teletypewriter Set Unit 1		8-3/4 x 16-3/8 x 23-1/2	7
1	Teletypewriter Set Unit 2		8-3/4 x 16-3/8 x 16-3/4	54
1	Interconnection Cable Assy			
2	Connector, External Power			
1	Connector, External Signal			
1	Technical Manual			

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 94260: Technical Manual for Teletypewriter Set AN/UGC-11(XN-1).

1.5 AN/UGC-11(XN-1): 2

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (137) 1N281 (23) 1N458 (8) 1N538 (4) 1N1614 (2) SG22 (1) 1N1353A  
 (1) 1N1358A (1) 1N1361A (1) SV904 (8#) 2N404A (10) 2N458A  
 (7) 2N1039

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.45	79
1	4.45	64
1	1.04	

**PROCUREMENT DATA**

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Alpha Corporation	Richardson, Texas	N0bsr-75853	

DESIGNATION  
**AN/UGC-13X**

CLASSIFICATION of Equip. <b>UNCLASSIFIED</b>	ITEM NAME <b>Teletypewriter Set</b>	DATE of Request. <b>3 January 1962</b>
SPECIFICATION <b>-</b>	CONTRACT NUMBER AND DATE <b>NObsr-81501, Mod. 4, Item 63</b>	QUANTITY ON ORDER <b>-</b>
CONTRACTOR'S NAME AND ADDRESS <b>Teletype Corporation 5555 Touhy Avenue Skokie, Illinois 60076</b>		SERVICE APPROVAL LETTER - SERIAL AND DATE <b>-</b>

ELECTRICAL CHARACTERISTICS

POWER INPUT  
**115** v **60** CYCLE **1** PHASE - AMPS - WATTS | **115** dc CYCLE - PHASE - AMPS - WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
-	-	-	-
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)	FREQ. CONTROL (TYPE)	NO. OF CHANNELS
-	-	-	-
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN ° HORIZ. ° VERT.
-	-	-	-

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-	-	-	TECHNICAL MANUAL	<b>A</b>
-	-	-	OPERATING INSTRUCTION CHART	-
-	-	-	PERFORMANCE STANDARD SHEET	-
-	-	-	MAINTENANCE STANDARD BOOK	-

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H. D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Teletypewriter Set AN/UGC-13X (Mfr's Mod. 284SR) consists of:					
1	Teletypewriter Base Unit MT-2422/UG					
1	Electrical Equipment Cabinet CY-3062/UG					
1	Teletypewriter Distributor-Transmitter TT-311/UG					
1	Teletypewriter Keyboard-Transmitter MX-3312/UG					
1	AC Motor PD-77/U (For MX-3311/UG)	11-3/4	5-3/4	8		10
1	Power Distribution Panel SB-1227/UG					
1	Teletypewriter Reperforator TT-316/UG					
1	Teletypewriter Typing Unit MX-3311/UG					
1	Set of Gears (75 Baud) (Mfr's Part No. 163502 (For Reperforator)					
1	Set of Gears (75 Baud) (Mfr's Part No. 163505 (For Typing Unit)					
1	Set of Gears (75 Baud) (Mfr's Part No. 163454 (For Distributor-Transmitter)					
1	Housing for Transmitter Distributor (Mfr's Part no. 160887BR)					
1	Teletypewriter Reperforator TT-315/UG (Typing)					
1	AC Motor PD-18/U (For TT-311/UG)	11-3/4	5-3/4	8		10
1	Control Panel Assy (Modification Kit for Cabinet) (Mfr's Part No. 173778)					
1	Teletypewriter Base Unit MT-2452/UG					

(EQUIPMENT SUPPLIED CONT'D NEXT PAGE)

UNCLASSIFIED 8/15/62

1.5 AN/UGC-13X 1

CHANGE 64 - 687B/679C



DESIGNATION	ITEM NAME
AN/UGC-13X	Teletypewriter Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/UGC-13X is a fixed-station, send-receive Teletypewriter Set for use at terminal or relay stations. It is a part of the CRITICOM system. The set uses a series-governed motor with friction feed. It has a standard English-character communications keyboard and it prints 72 characters per line with a 7.00 unit code. It receives on page copy or tape and transmits by tape or keyboard.

No unit cost available.

Source of information: Request for Nomenclature.  
Contract

EQUIPMENT SUPPLIED DATA (CONTINUATION OF)

- 1 Tuning Fork Speed Indicator (Mfr's Part No. 104986)
- 1 Set of Gears (75 Baud) (For Auxiliary Reperforator) (Mfr's Part No. 163451)
- 1 Sub-Base (For AN/UGC-13X) (Mfr's Part No. 154754BR)
- 1 Modification Kit (Mfr's Part No. 161815)
- 1 Power Factor Corrector (For MX-3311/UG and PD-77/U) (Mfr's Part No. 173706)
- 1 Power Factor Corrector (For TT-3311/UG and PD-18/U) (Mfr's Part No. 173707)

CLASSIFICATION

UNCLASSIFIED

8/15/62

CHANGE 64 -687B/679C

1.5 AN/UGC-13X: 2

B-17678 100



UNCLASSIFIED

ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

NAVSHIPS 93400

DESIGNATION

ITEM NAME

AN/UGC-15X

Teletypewriter Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/UGC-15X is a general-purpose automatic, send-receiver teletypewriter set for use aboard ship or at shore stations.

It is a fixed station set with a standard communication keyboard, English characters, 72 characters per line, friction feed, series motor, and a 7.00 unit code.

No unit cost available.

Source of information: Request for Nomenclature.  
Nomenclature correspondence.

CLASSIFICATION

UNCLASSIFIED

2/15/63

CHANGE 67 - 687B/694D

1.6 AN/UGC-15X: 2

B-17678

DESIGNATION <b>AN/UGC-21</b>
DATE of Request. <b>11 March 1963</b>
QUANTITY ON ORDER -
SERVICE APPROVAL LETTER - SERIAL AND DATE -

CLASSIFICATION of Equip. <b>UNCLASSIFIED</b>	ITEM NAME <b>Teletypewriter Set</b>
SPECIFICATION	CONTRACT NUMBER AND DATE <b>NObsr-87645</b>
CONTRACTOR'S NAME AND ADDRESS <b>Thompson Ramo Wooldridge Incorporated RW Division Canoga Park, California</b>	

ELECTRICAL CHARACTERISTICS

POWER INPUT **115 ± 10% v, 60 ± 0.5 cps, 200 WATTS**

V CYCLE PHASE AMPS WATTS

OUTPUT SIGNAL CHARACTERISTICS (REP. RATE, I.F. ETC.)	WAVE GUIDE OR CABLE LIMITATIONS	INPUT SIGNAL CHARACTERISTICS	POWER OUTPUT
OPERATING FREQ. AND FREQ. RANGE	EMISSION OR RECEPTION (TYPE)	FREQ. CONTROL (TYPE)	NO. OF CHANNELS
ANTENNA OR TRANSDUCER (TYPE)	IMPEDANCE (OHMS)	FEED TYPE	BEAM PATTERN °HORIZ. °VERT.

REFERENCE DATA AND LITERATURE

DRAWING	DWG. NUMBER	DIST. DATE	PUBLICATION	PUB. NUMBER
-	-	-	TECHNICAL MANUAL	-
-	-	-	OPERATING INSTRUCTION CHART	-
-	-	-	PERFORMANCE STANDARD SHEET	-
-	-	-	MAINTENANCE STANDARD BOOK	-

MAJOR UNITS

QTY	NOMENCLATURE AND NAME	OVERALL DIMENSIONS (IN)			H.D. (UNITS)	WEIGHT (LBS)
		HEIGHT	WIDTH	DEPTH		
	Teletypewriter Set AN/UGC-21 (Mfr's Model 28ASR) consists of:	39	36	23		260
1	Keyboard (Mfr's Part No. LAK4ARK)					
1	Non-Typing Reperforator (Mfr's Part No. LRPE6)					
1	Typing Unit (Mfr's Part No. LP14RA1AY)					
1	Electrical Service Unit (Mfr's Part No. LESU13)					
1	Motor Unit (Mfr's Part No. LMU12)					
1	Transmitter-Distributor (Mfr's Part No. LXD4)					
1	Transmitter-Distributor (Mfr's Part No. LCXB8)					
1	Cabinet (Mfr's Part No. LAAC200AB)					
1	Line Relay (Mfr's Part No. RY33)					
1	Gear Set for Punch (Mfr's Part No. 163025)					
1	Gear Set for Reader (Mfr's Part No. 161861)					

UNCLASSIFIED  
ELECTRONIC EQUIPMENT - PRELIMINARY DATA  
NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

NAVSHIPS 93400

DESIGNATION	ITEM NAME
AN/UGC-21	Teletypewriter Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/UGC\_21 is an automatic message receiving, generating, and transmitting device. It is capable of simultaneously punching 5-level code, non-printed, chadless paper tape, and reading this tape for sequential distribution-transmittal to one or more receiving devices. It will also type copy either automatically from input signals or manually from keyboard input. It is compatible with Controller TRW-140 and will receive data-signal outputs from the Controller as well as transmit data-signal inputs to the controller. It is part of Data Processing Set AN/UYK-1(V), and is used with CP-740/UYK-1(V) or C-4843/UYK-1(V).

No unit cost available.

Source of information: Request for Nomenclature.

CLASSIFICATION

UNCLASSIFIED

11/15/63

CHANGE 71 - 687D1

1.5 AN/UGC-21: 2

B-17876

110

18 July 1967

Cog Service: USN

FSM:

Functional Class:

TELEPRINTER SET AN/UGC-38

USA

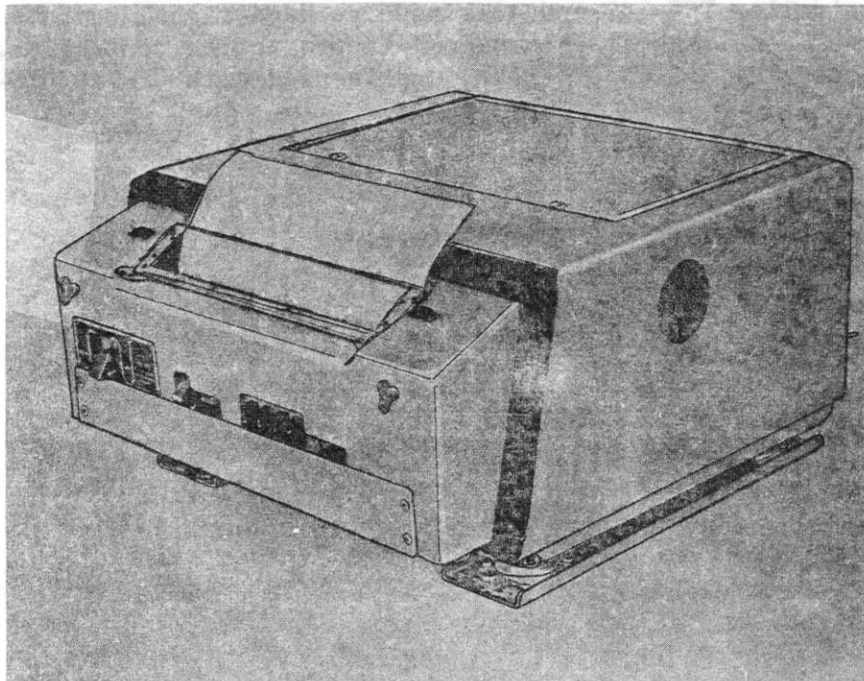
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Mite Corp., (26344).



TELEPRINTER SET AN/UGC-38

**FUNCTIONAL DESCRIPTION:**

Teleprinter Set AN/UGC-38 is a miniaturized, portable receive-only printer with standard weather print-out. It is capable of printed reception of messages over radio circuits, wire lines, or other communication links. The equipment can operate in both fixed or mobile installations under conditions of severe shock, vibration, humidity, salt atmosphere, high temperature, and is unaffected by unusual attitudes. The set is fully compatible with commercial and military teletypewriter equipments employing the standard Baudot code and can be integrated into existing land-line and radio link communication systems. By appropriate switching the set can be operated in full-duplex, on-line, or off-line circuits.

No field changes in effect at time of preparation (15 February 1967).

**RELATION TO OTHER EQUIPMENT:**

The AN/UGC-38 is similar to the AN/UGC-40, except that the latter is for communications rather than weather read-out.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

## TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 60 cyc, 1 ph.  
 FREQUENCY RANGE: 60 cyc  $\pm$  5%.  
 TYPE OF RECEPTION: Receive only, standard Baudot 7.43 unit code, at 60, 75, and 100 wpm.  
 RANGES AS RATED: 70 points at 100 wpm.  
 ACCURACIES: Accepts 30% marking or 30% spacing bias.  
 HEAT DISSIPATION: 112 W.  
 OPERATING SPEED: Gears for 60, 66, or 100 wpm.  
 SIGNAL CODE TYPE: Direct-current pulse, 5-level, 7.42 unit, Baudot serial, neutral line.  
 TYPE FACE: Gothic, 12 point.  
 PRINTER LINE SPACING  
 SINGLE LINE FEED: 6 lines per in.  
 DOUBLE LINE FEED: 3 lines per in.  
 CHARACTERS PER LINE: Adjustable for either 72 or 76.  
 INPUT IMPEDANCE  
 HIGH CURRENT RANGE (20 to 80 MA): Approx 185 ohms at 60 ma.  
 LOW CURRENT RANGE (2.5 to 10 MA): Approx 1500 resistive at 5 ma.  
 ALARM DEVICE: Signal Activated bell.  
 COPY PAPER: 5 in. dia max roll, 8-1/2 in. w, w/1 in. hollow core or fan-fold, sprocket feed, multi-ply paper.

## MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teleprinter Set AN/UGC-38 includes:	7-7/8 x 15 x 17-3/16	33.9
1	Teleprinter TT-529/UGC-38	4-1/2 x 9 x 12-3/4	13.9
1	Chassis, Electrical Equipment Ch-561/UG	5-1/2 x 13-1/8 x 14-1/8	7.4
1	Cover Teleprinter CW-895/UG	4-1/8 x 5-1/2 x 15	1.5
1	Case Teleprinter Set CY-6063/UG	7-7/8 x 14-1/2 x 15	9.5

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-170-8010: Technical Manual for Teleprinter Sets AN/UGC-38 and AN/UGC-40 and Teletypewriter Set AN/UGC-41.

## SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.9	51

## PROCUREMENT DATA

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

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Mite Corp.	New Haven, Conn.	NOM-73340	

1.5 AN/UGC-38: 2

17 July 1967

TELEPRINTER SET AN/UGC-40

**Cog Service:** USN FSN:

**Functional Class:**

USA

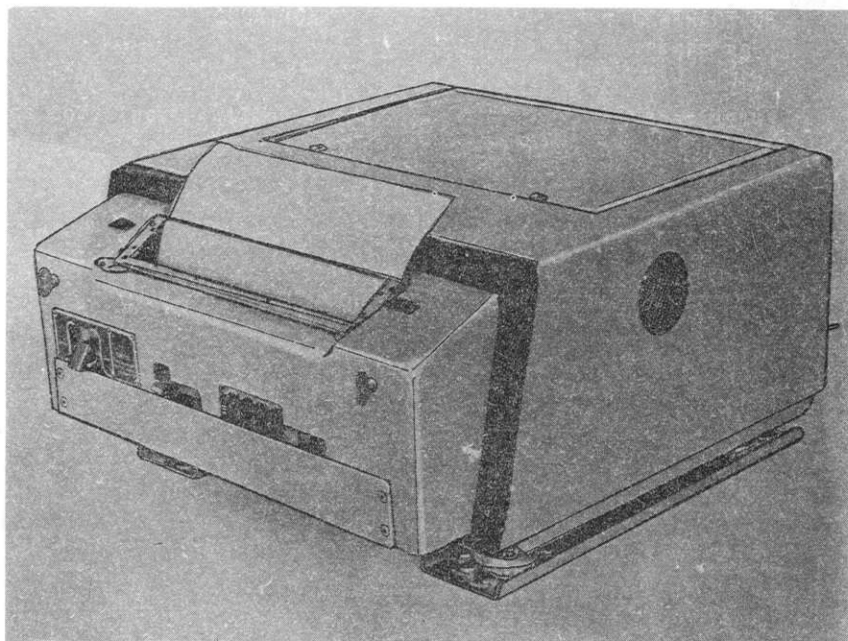
USN

USAF

**TYPE CLASS:**

Used by

**MANUFACTURER'S NAME/CODE NUMBER:** Mite Corporation, (26344).



TELEPRINTER SET AN/UGC-40

**FUNCTIONAL DESCRIPTION:**

Teleprinter Set AN/UGC-40 is a miniaturized, portable, receive-only printer with standard communications print-out. It is capable of printed reception of messages over radio circuits, wire lines or other communications links. The equipment can operate in both fixed or mobile installations under conditions of severe shock, vibration, humidity, salt atmosphere, high temperature, and is unaffected by unusual attitudes. The set is fully compatible with commercial and military teletypewriter equipments employing the standard Baudot Code and can be integrated into existing land-line and radio link communication systems. By appropriate switching the set can be operated in full-duplex on-line, or off-line circuits.

No field changes in effect at time of preparation (16 February 1967).

**RELATION TO OTHER EQUIPMENT:**

The AN/UGC-40 is similar to the AN/UGC-38 except that the latter is for weather rather than communications read-out.



TELEPRINTER SET AN/UGC-40

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

TECHNICAL CHARACTERISTICS:

POWER REQUIREMENTS: 115 v, 60 cyc, single ph, 112 W.

FREQUENCY RANGE: 60 cyc + 5%.

TYPE OF TRANSMISSION AND RECEPTION: Receive-only, standard Baudot 7.42 unit code, at 60, 75, and 100 wpm.

RANGES AS RATED: 70 points at 100 wpm.

ACCURACIES: Accepts 30% marking or 30% spacing bias.

CHARACTERISTICS: Line feed on carriage return; automatic carriage return on line feed; electronic time delay motor stop.

OPERATING SPEED: Gears for 60, 66, or 100 wpm.

SIGNAL CODE TYPE: Direct-current pulse, 5-level, 7.42 unit, Baudot serial, neutral line.

TYPE FACE: Gothic, 12 point.

PRINTER LINE SPACING: Single line feed, 6 lines per in.; double line feed, 3 lines per in.

CHARACTERS PER LINE: Adjustable for either 72 or 76.

INPUT IMPEDANCE

HIGH CURRENT RANGE (20 TO 80 MA): Approx 185 ohms at 60 ma.

LOW CURRENT RANGE (2.5 TO 10 MA): Approx 1500 ohms at 5 ma.

ALARM DEVICE: Signal activated bell.

COPY PAPER: 5 in. max dia roll, 8-1/2 in. w, w/1 in. hollow core or fan-fold, sprocket feed, multi-ply paper.

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teleprinter Set AN/UGC-40 includes:	7-7/8 x 15 x 17-3/16	33.9
1	Teleprinter TT-530/UGC-40	4-1/2 x 9 x 12-3/4	13.9
1	Chassis Electrical Equipment CH-561/UG	5-1/2 x 13-1/8 x 14-1/8	7.4
1	Cover Teleprinter CW-895/UG	4-1/8 x 5-1/2 x 15	1.5
1	Case Teletypewriter CY-6063/UG	7-7/8 x 14-1/2 x 15	9.5

REFERENCE DATA AND LITERATURE:

NAVSHIPS 0967-170-8010: Technical Manual for Teleprinter Sets AN/UGC-38 and AN/UGC-40 and Teletypewriter Set AN/UGC-41.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.9	51

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG:

DESIGN COG: USN, NavShips

1.5 AN/UGC-40: 2

TELEPRINTER SET AN/UGC-40

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Mite Corporation	New Haven, Connecticut	NOM 73340	

17 July 1967

Cog Service: USN

FSN:

TELETYPEWRITER SET AN/UGC-41

Functional Class:

USA

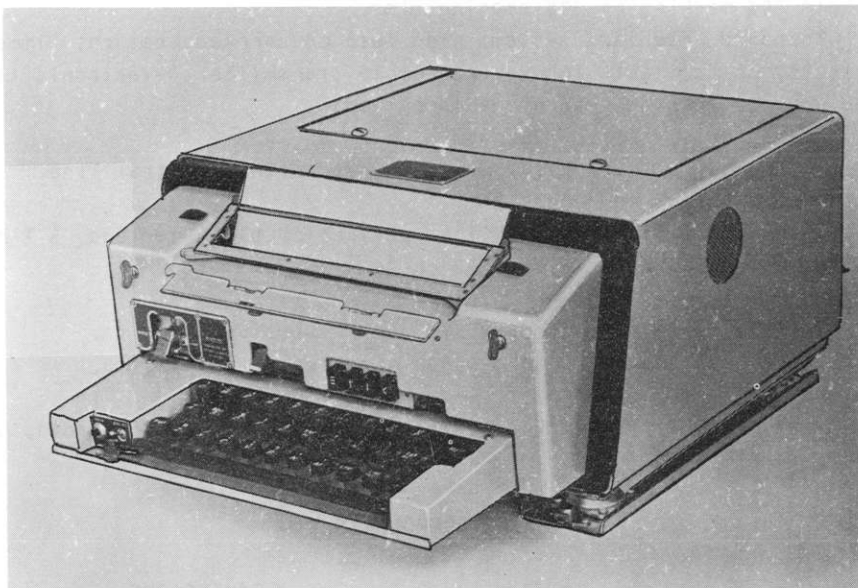
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Mite Corporation, (26344).



TELETYPEWRITER SET AN/UGC-41

**FUNCTIONAL DESCRIPTION:**

Teletypewriter Set AN/UGC-41 is a miniaturized, portable, send-receive teletypewriter set. It provides for transmission and printed reception of messages over radio circuits, wire lines, or other communications links. The equipment can operate in both fixed or mobile installations under conditions of severe shock, vibration, humidity, salt atmosphere, high temperature and is unaffected by unusual attitudes. The set is fully compatible with commercial and military teletypewriter equipments employing the standard Baudot code and can be integrated into existing land-line and radio-link communication systems. By appropriate switching the set can be operated in full-duplex, on-line, or off-line circuits.

No field changes in effect at time of preparation (16 February 1967).

**TELETYPEWRITER SET AN/UGC-41**

**RELATION TO OTHER EQUIPMENT:**

The AN/UGC-41 is similar to the AN/UGC-40, except that the AN/UGC-40 is a receive-only unit.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

**TECHNICAL CHARACTERISTICS:**

POWER REQUIREMENTS: 115 v, 60 cyc, single ph, 112 W.  
 FREQUENCY RANGE: 60 cyc  $\pm$  5%.  
 TYPE OF TRANSMISSION AND RECEPTION: Standard Baudot 7.42 unit code, at 60, 75, and 100 wpm.  
 RANGES AS RATED: 70 points at 100 wpm.  
 ACCURACIES: Accepts 30% marking or 30% spacing bias.  
 CHARACTERISTICS: Keyboard interlock system; Line feed on carriage return; Dimmer switch on electrical chassis; dry contacts for keying remote transmitter; electronic time delay motor stop; automatic carriage return and line feed.  
 OPERATING SPEED: Gears for 60, 66, or 100 wpm.  
 SIGNAL CODE TYPE: DC pulse, 5-level, 7.42 unit, Baudot serial, neutral line.  
 TYPE FACE: Gothic, 12 point.  
 PRINTER LINE SPACING: Single line feed, 6 lines per in; double line feed, 3 lines per in.  
 CHARACTERS PER LINE: Adjustable for either 72 or 76.  
 INPUT IMPEDANCE  
     HIGH CURRENT RANGE (20 TO 80 MA): Approx 185 ohms resistive at 60 ma.  
     LOW CURRENT RANGE (2.5 TO 10 MA): Approx 1500 ohms resistive at 5 ma.  
 ALARM DEVICE: Signal activated bell.  
 COPY PAPER: 5 in. max dia roll, 8-1/2 in. w, w/1 in. hollow core or fan-fold, sprocket feed, multi-ply paper.

**MAJOR COMPONENTS**

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teletypewriter Set AN/UGC-41 includes:	7-7/8 x 15 x 17-3/4	37.9
1	Teleprinter TT-531/UGC-41	4-1/2 x 9 x 12-3/4	13.9
1	Keyboard-Transmitter Teletypewriter TT-332/UG	1-1/2 x 8-1/4 x 12	3.9
1	Chassis, Electrical Equipment CH-561/UG	5-1/2 x 13-1/8 x 14-1/8	7.4
1	Cover, Teletypewriter CW-896/UG	4-1/2 x 5-1/2 x 15	1.5
1	Case, Teletypewriter CY-6063/UG	7-7/8 x 14-1/2 x 15	9.5

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 0967-170-8010: Technical Manual for Teleprinter Sets AN/UGC-38 and AN/UGC-40 and Teletypewriter Set AN/UGC-41.

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.9	55

574

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG:

DESIGN COG: USN, NavShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Mite Corporation	New Haven, Connecticut	N0m 73340	



575

23 June 1965

Cog Service: USN FSN:

SPECTRUM ANALYZER GENERATOR AN/UGM-4(XN-1)

Functional Class:

USA

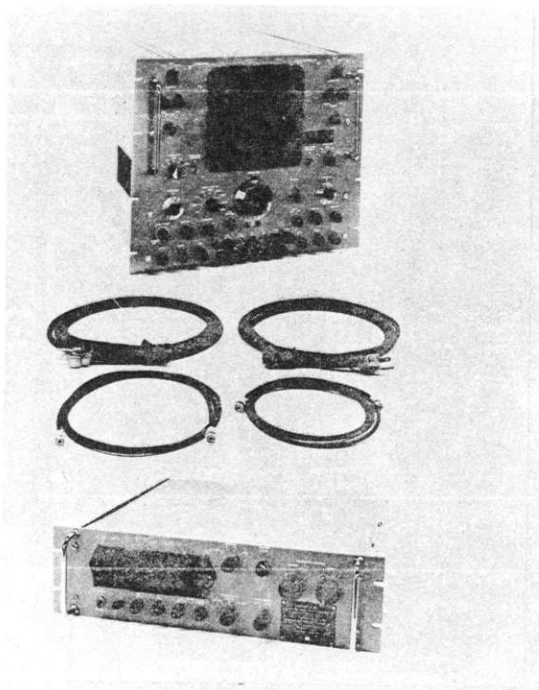
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Probescope Co., Inc., (06181).



SPECTRUM ANALYZER GENERATOR AN/UGM-4(XN-1)

**FUNCTIONAL DESCRIPTION:**

Spectrum Analyzer Generator AN/UGM-4(XN-1) is a highly sensitive superheterodyne receiver, whose voltage output can be linearly or logarithmically displayed on a calibrated dual-trace Cathode-Ray Tube. The signal to be analyzed can be applied to two rear panel inputs and simultaneously viewed on the Cathode-Ray Tube. A continuously adjustable oscillator provides marker pulses for calibrating the sweep presentation of either or both signal inputs.

No field changes in effect at time of preparation (9 June 1965).

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

1.4 AN/UGM-4(XN-1): 1

**SPECTRUM ANALYZER GENERATOR AN/UGM-4(XN-1)**

**TECHNICAL CHARACTERISTICS:**

**SPECTRUM ANALYZER**

FREQUENCY RANGE: 0 to 20 kc.  
 TYPE OF RECEIVER: Superheterodyne.  
 INTERMEDIATE FREQUENCY: 100 kc.  
 SWEEP WIDTHS: 100, 250, 750, 1000, 1500, 2000, 3000, 4000 and 7000 cps (fixed).  
 SWEEP SPEEDS: 1, 3, 5, and 10 cps (preset).  
 RESOLUTION: 30 cps at 100 cps sweep width and 100 cps at 4 kc sweep width.  
 INPUT VOLTAGE: 500 uv to 500 v (full scale).  
 INPUT IMPEDANCE: 250 k ohms or 600 ohms.  
 VOLTAGE SCALE: RMS and 50 db log.  
 VOLTAGE ACCURACY:  $\pm 10\%$  rms scale,  $\pm 1$  db log scale.  
 HARMONIC AND CROSS MODULATION SUPPRESSION: 60 db.  
 POWER SUPPLY REQUIREMENTS: 115 or 230 v  $\pm 10\%$ , 47.5 to 66 and 320 to 450 cps, single ph.  
 CURRENT (AT 115 V): 2.2 amp starting and 2 amp operating.  
 VERTICAL OUTPUT: 100 mv peak.  
 SYNC OUTPUT: 5 v pulse.  
 HORIZONTAL OUTPUT: 40 v peak-to-peak.  
 OSCILLATOR OUTPUT: 2 v peak-to-peak.

**MARKER GENERATOR**

FREQUENCY RANGE: 10 to 10,000 cps adj.  
 MARKER FREQUENCY ACCURACY:  $\pm 1\%$ .  
 POWER SUPPLY REQUIREMENTS: 115 or 230 v  $\pm 10\%$ , 47.5 to 66 and 320 to 450 cps, single ph.  
 CURRENT (115 V ABOVE 0° C): 0.75 amp max starting and 0.6 amp operating.  
 CURRENT (115 V BELOW 0° C): 2.2 amp starting and 2 amp operating.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Spectrum Analyzer Generator AN/UGM-4 (XN-1) includes:			
1	Spectrum Analyzer		15-3/4 x 17 x 21-1/2	87
1	Marker Generator		5-1/4 x 17 x 17	20
2	Power Cables		72 lg	0.5
2	Interconnecting Cables		72 lg	0.5

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 95766: Technical Manual for Spectrum Analyzer and Marker Generator AN/UGM-4(XN-1).

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: (4) 0A2 (2) 7360 (2) 0B2WA (1) 85A2 (2) 5651 (2) 12AT7 (1) 5696  
 (2) 12AY7 (1) 5719 (1) K1315 (1) 5751 (2) 5840 (5) 6AB4 (10) 6AU6WB  
 (2) 6L6WGB (1) 6080 (1) 6201 (8) 6842

1.4 AN/UGM-4(XN-1): 2

SPECTRUM ANALYZER GENERATOR AN/UGM-4(XN-1)

CRYSTALS: Not required.

SEMI-CONDUCTORS: (2) 1N483 (3) 2N404 (7) 1N547 (3) 2N652A (20) 1N647 (1) 2N1120  
(1) 1N757 (1) 2N1310 (2) 1N759 (2) 10M1502 (1) 1N982 (2) 1N1614  
(2) 1N1734 (1) 1N2974B (1) 1N2976B (1) 1N2991B (1) 2N297A  
(5) 2N335

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	3.3	87
1	.85	20

PROCUREMENT DATA

PROCURING SERVICE: USN  
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Probescope Company, Incorporated	Syosset, L. I., N. Y.	N0bsr 85477	

578



9 May 1966

TELEPRINTER SET AN/UGR-1

Cog Service: USN FSM:

Functional Class:

USA

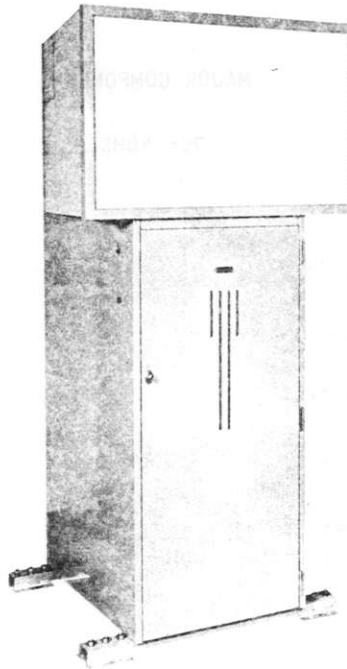
USN

USAF

TYPE CLASS:

Used by

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



TELEPRINTER SET AN/UGR-1

**FUNCTIONAL DESCRIPTION:**

Teleprinter Set AN/UGR-1 is a unit designed to receive teletype messages in the form of five unit code impulses from the sending station and type the messages in successive lines on a continuous transparent web, from which it is projected onto the rear of a translucent rectangular screen approximately two feet high and three feet wide.

No field changes in effect at time of preparation (10 February 1966).

**RELATION TO OTHER EQUIPMENT:** None.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

1.4 AN/UGR-1: 1

**TECHNICAL CHARACTERISTICS:**

OPERATING POWER REQUIREMENTS

AC: 115 v, 60 cps, single ph.

DC: 115 v.

COMMUNICATION CHARACTERS: English

PELLETS

STYLE: Murray.

TYPE ARRANGEMENT: RN.

CHARACTERS PER LINE: 46.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teleprinter Set AN/UGR-1 includes:			
1	Typing Unit, Teletypewriter TT-362/UGR-1			
1	Base Unit Teletypewriter MT-2726/UGR-1			
1	Printer Tape Teletypewriter TT-363/UGR-1			
1	Base Unit Teletypewriter MT-2727/UGR-1			
1	Projector Teletypewriter Message MX-4118/UGR-1			
1	Motor A.C. PD-92/U			
1	Motor A.C. PD-17A/U			
1	Cabinet CY-1104/UG			
1	Cabinet CY-1105/UG			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94444: Technical Manual for Model 28 Projector Set (AN/UGR-1 Teleprinter Set) and (AN/UGR-1A Teleprinter Set).

**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
Teletype Corporation	Skokie, Illinois	NObsr 87094	

4 May 1966

Cog Service: USN FSN:

TELEPRINTER SET AN/UGR-1A

Functional Class:

USA

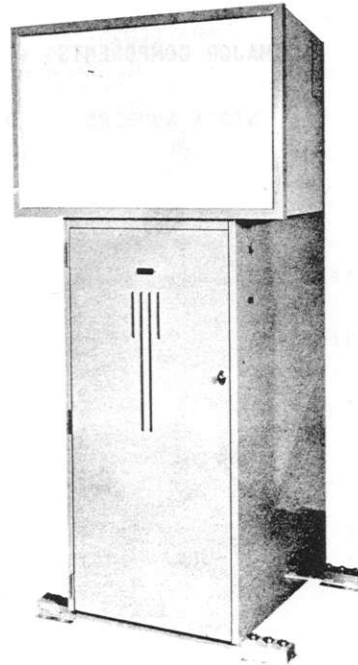
USN

USAF

TYPE CLASS:

Used by

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



TELEPRINTER SET AN/UGR-1A

**FUNCTIONAL DESCRIPTION:**

Teleprinter Set AN/UGR-1A is a unit designed to receive teletype messages in the form of five unit code impulse from the sending station and type the messages in successive lines on a continuous transparent web, from which it is projected onto the rear of a translucent rectangular screen approximately two feet high and three feet wide.

No field changes in effect at time of preparation (10 February 1966).

**RELATION TO OTHER EQUIPMENT:**

The AN/UGR-1A is similar to the AN/UGR-1.

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

1.4 AN/UGR-1A: 1

**TELEPRINTER SET AN/UGR-1A**

**TECHNICAL CHARACTERISTICS:**

**OPERATING POWER REQUIREMENTS**

AC: 115 v, 60 cps, single ph.

DC: 115 v.

**COMMUNICATION CHARACTERS:** English.

**PELLETS**

STYLE: Murray.

TYPE ARRANGEMENT: RN.

CHARACTERS PER LINE: 66.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Teleprinter Set AN/UGR-1A includes:			
1	Typing Unit Teletypewriter TT-432/UG5-1A			
1	Printer Tape Teletypewriter TT-363/UGR-1			
1	Base Unit Teletypewriter MT-2726/UGR-1			
1	Base Unit Teletypewriter MT-2727/UGR-1			
1	Projector Teletypewriter Message MX-4118/UGR-1			
1	Motor AC PD-92/U			
1	Motor AC PD-17A/U			
1	Cabinet CY-1104/UG			
1	Cabinet CY-1105/UG			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 94444: Technical Manual for Model 28 Projector Set (AN/UGR-1 Teleprinter Set) and (AN/UGR-1A Teleprinter Set).

**SHIPPING DATA**

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

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG:

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Teletype Corporation	Skokie, Illinois	N600(24)60811	

582

20 July 1964

Cog Service: USN

FSN:

INTERCOMMUNICATION SYSTEM AN/UIC-2(V)

Functional Class:

USA

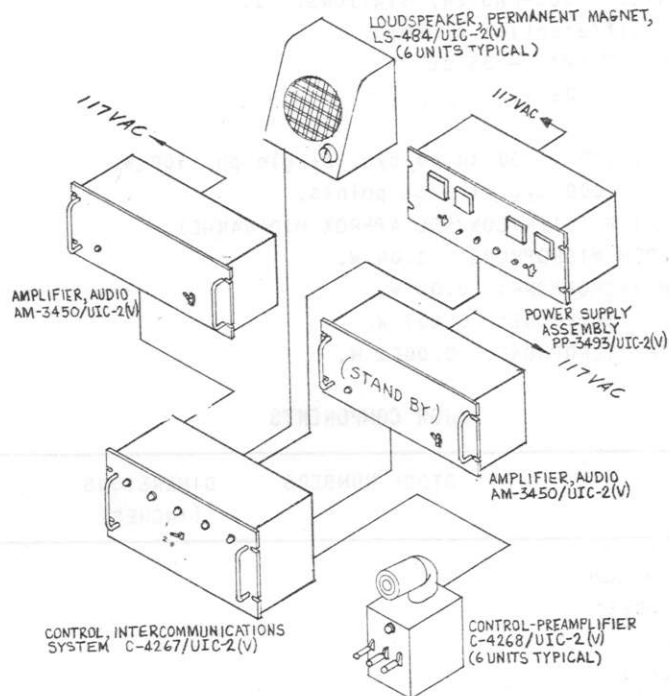
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Industrial Manager, USN Potomac River Naval Command, (80064).



INTERCOMMUNICATION SYSTEM AN/UIC-2(V)

#### FUNCTIONAL DESCRIPTION:

Intercommunication System AN/UIC-2(V) is a low-level system, designed for use in noisy areas.

The system features "Master" and "Sub-Master" stations. The Master Station can override a conversation originating in any of the other five stations. The Sub-Master can override a conversation originating in any station other than the Master. The Sub-Master also is a "private-listening" station, any conversation directed to the Sub-Master cannot be monitored by any other station.

No field changes in effect at time of preparation (1 July 1964).

#### RELATION TO OTHER EQUIPMENT:

# AN/UIC-2(V) INTERCOMMUNICATION SYSTEM

## EQUIPMENT REQUIRED BUT NOT SUPPLIED:

## TECHNICAL CHARACTERISTICS:

NUMBER OF STATIONS: 6.  
NUMBER OF "MASTER" STATIONS: 2.  
NUMBER OF "PRIVATE-LISTENING" (SUB-MASTER) STATIONS: 1.  
TYPE OF MICROPHONE USED: Differential dynamic.  
INPUT TO MICROPHONE PREAMPLIFIER: - 55 db.  
INPUT TO SPEAKER AMPLIFIER: 0.02 v.  
INPUT TO SPEAKERS: 2 W.  
POWER REQUIREMENTS: 110 to 120 v, 50 to 60 cyc, single ph, 300 W.  
FREQUENCY RESPONSE: 70 to 3,000 cyc at 3 db points.  
OUTPUT FROM SPEAKER AMPLIFIER (GAIN CONTROL APPROX MID-RANGE)  
NORMAL VOICE 1/4 IN. FROM MICROPHONE: 1.04 W.  
NORMAL VOICE 1 FT FROM MICROPHONE: 0.04 W.  
NORMAL VOICE 2 FT FROM MICROPHONE: 0.007 W.  
NORMAL VOICE 10 FT FROM MICROPHONE: 0.0002 W.

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Intercommunication System AN/UIC-2(V) includes:			
2	Amplifier, Audio AM-3450/UIC-2(V)			23
6	Control, Pre-amplifier C-4268/UIC-2(V)			2.5
1	Control, Intercommunications System C-4267/UIC-2(V)			10.5
1	Power Supply PP-3493/UIC-2(V)			48.5
6	Loudspeaker, Permanent Magnet LS-484/UIC-2(V)			.7

## REFERENCE DATA AND LITERATURE:

NAVSHIPS 94449: Technical Manual for Intercommunication System AN/UIC-2(V).

## TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (2) 5Y3GT (2) 6AV5GA (1) 6CG7 (1) 6U8

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N2832 (2) 2N414 (4) 40LF

1.2 AN/UIC-2(V): 2

SHIPPING DATA

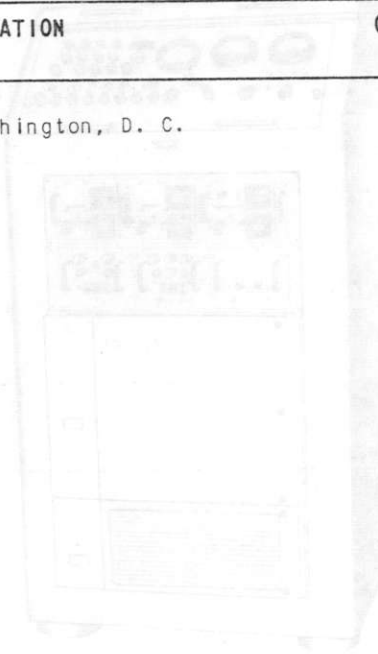
PKGS VOLUME (CU FT) WEIGHT (LBS)

PROCUREMENT DATA

PROCURING SERVICE: USN  
 SPEC &/OR DWG:

DESIGN COG: USN, BuShips

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Industrial Manager, USN Potomac River Naval Command	Washington, D. C.		



5 October 1966

Cog Service: USN FSN:

RECEIVING SET, TELEMETRIC DATA AN/UKR-10A

Functional Class:

USA

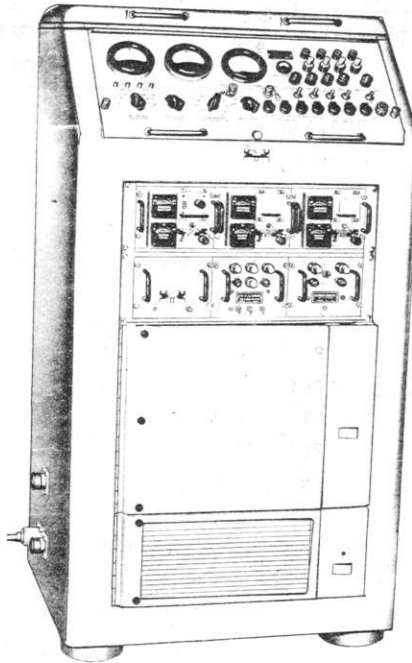
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Dubrow Electronic Industries Inc., (89114).



RECEIVING SET, TELEMETRIC DATA AN/UKR-10A

**FUNCTIONAL DESCRIPTION:**

The Receiving Set, Telemetric Data AN/UKR-10A receives RF signals, detects composite sub-carrier signals present on the RF, and records these composite signals on magnetic tape. The set also can monitor continuously any one of the subcarrier signals. It records and monitors telemetering signals by reception of RF signals from a missile in flight, by direct coupling from a telemetric data transmitter to a receiver during a missile test, by reception of RF signals from a telemetric data transmitter during a missile systems test, or by direct coupling of a telemetric data transmitter to a receiver during checkout of the transmitter.

No field changes in effect at time of preparation (27 April 1966).

**RELATION TO OTHER EQUIPMENT:**

The AN/UKR-10A is one-way interchangeable with the AN/UKR-10 except for maintenance parts.

1.4 AN/UKR-10A: 1



EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

## TECHNICAL CHARACTERISTICS:

INPUT SIGNAL FREQUENCY: 216 to 236 mc,  $\pm 0.025\%$  of assigned freq.  
 TYPE OF MODULATION: FM,  $\pm 125$  kc deviation.  
 RECEIVER TUNING: Two channels pretuned and one channel tunable from 215 to 236 mc, or three channels pretuned to discrete frequencies between 215 to 236 mc.  
 RECEIVER TUNING STABILITY:  $\pm 20$  kc.  
 RECEIVER OUTPUT FREQUENCY RESPONSE: 100 cps to 100 kc,  $\pm 1$  db.  
 RECORDER CHANNELS: 4.  
 TAPE WIDTH: 1/2 inch.  
 TAPE SPEED: 60 inches per second,  $\pm 0.2\%$ .  
 TAPE DRIVE STABILIZATION TIME: 2 seconds,  $\pm 5\%$ .  
 REEL SIZE: 10-1/2 inches.  
 RECORDER FREQUENCY RESPONSE: 100 cps to 100 kc,  $\pm 3$  db.  
 SPEED SYNCHRONIZATION SIGNAL (CONTROL FOR PLAYBACK ONLY): 100 kc.  
 TIMING SIGNALS (FOR EXTERNAL USE): RATE: 10 per second.  
     WIDTH: 0.005 second,  $\pm 0.001$  second.  
     AMPLITUDE: 10 v,  $\pm 2$  v.  
     RATE: 1 per second.  
     WIDTH: 0.01 second,  $\pm 0.002$  second.  
     AMPLITUDE: 10 v,  $\pm 2$  v.  
 TIMING SIGNALS (TONE BURSTS FOR RECORDING): RATE: 10 per second  
     WIDTH: 0.005 second,  $\pm 0.001$  second.  
     AMPLITUDE: Greater than 5 v peak-to-peak.  
     FREQUENCY: 28.0, 28.5, 29.0, 29.5 or 30.0 kc  
         as required,  $\pm 0.1\%$  of crystal used.  
     RATE: 1 per second.  
     WIDTH: 0.010 second,  $\pm 0.002$  second.  
     AMPLITUDE: Same as 1.  
     FREQUENCY: Same as 1.  
 EVENT MARKER SIGNAL (TONE BURST FOR RECORDING): RATE: At-Time-Zero.  
     WIDTH: 0.1 second,  $\pm 20\%$ .  
     AMPLITUDE: 6 v peak-to-peak,  $\pm 1$  v.  
     FREQUENCY: 960 cps,  $\pm 5\%$ .  
 INPUT VOLTAGE: 115 v, single phase,  $\pm 10\%$ .  
 INPUT FREQUENCY: 60 cycles per second,  $\pm 5\%$ .  
 INPUT POWER CONSUMPTION: 9 amperes at 115 v,  $\pm 2$  amperes at 115 v.  
 SUBCARRIER FREQUENCY: 11 standard IRIG bands as follows: 1700, 2300, 3000, 3900, 5400, 7350,  $\pm 9-3/4\%$  at, 10,500, and 14,500 cps, pass-band limits, 22,000, 40,000, and 70,000 cps,  $\pm 19-1/2\%$  at, pass-band limits.

RECEIVING SET, TELEMETRIC DATA AN/UKR-10A

MAJOR COMPONENTS

QTY	ITEM	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Receiving Set, Telemetric Data AN/UKR-10A Includes:		
1	Voltage Regulator Assy, CN-467A/UKR-10		
1	Power Supply, PP-1864/UKR-10		
1	Control, C-2309/UKR-10		
3	IF Subassembly		
1	Frequency Converter, CV-635/UKR-10		
2	Frequency Converter, CV-634/UKR-10		
3	Discriminator Output Amplifier Limiter		
1	Synchronizer, SN-200/UKR-10		
1	Power Supply		
3	Direct Record Amplifiers include:		
1	Control Track Generator		
1	RC Oscillator		
1	Connector Chassis Power Supply		
1	High Voltage Power Supply		
1	Power Amplifier		
1	Auxiliary Metering Amplifier		
1	Control Track Generator		
1	Auxiliary Metering Amplifier		
3	Limiter Discriminator Amplifier		

REFERENCE DATA AND LITERATURE:

NAVWEPS OP 2445: Technical Manual of Description Operation, and Maintenance for Telemetric Data Receiving Set AN/UKR-10A.

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps  
SPEC &/OR DWG: MIL-R-19267 Amend 1

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Dubrow Electronic Indus- tries, Inc.	Burlington, N.J.	NOrd-18695	

1.4 AN/UKR-10A: 3



## ELECTRONIC EQUIPMENT - PRELIMINARY DATA

NAVSHIPS 4457 (Rev. 9-62) (CONT'D)

DESIGNATION

ITEM NAME

AN/UNH-9

Signal Data Recorder-Reproducer Set

FUNCTIONAL DESCRIPTION: SKETCH, MFG. DIMENSIONS, ETC.

The AN/UNH-9 receives, monitors, and stores analog signals on magnetic tape and provides subsequent playback. The equipment is transistorized and is of modular construction for ease of modification and flexibility in applications. It is suitable for general airborne-instrumentation applications. Plug-in modules necessary for equipment modification are stored in a separate module kit with instructions for installation in the recorder-reproducer in order to obtain the desired performance. A separate panel is provided for remote control in addition to local operation.

It has high-speed starting capability. The unit records on 1/2-inch wide tape. Operating characteristics:

Simultaneous or sequential recording and reproducing on 7 channels

Frequency response and record-reproduce speeds:

40 cps to 7.5 kc at 1-7/8 inches per sec.

40 cps to 15 kc at 3-3/4 inches per sec.

50 cps to 30 kc at 7-1/2 inches per sec.

100 cps to 60 kc at 15 inches per sec.

200 cps to 120 kc at 30 inches per sec.

No unit cost available.

Source of information: Request for Nomenclature

CLASSIFICATION

UNCLASSIFIED

Rei 8/15/62

CHANGE 48/64 - BuWeps (RAAV-33/7)

1.2 AN/UNH-9: 2

B-17878 138

27 July 1964

RECORDER-REPRODUCER SET, SOUND AN/UNQ-7B

Cog Service: USN FSN:

Functional Class:

USA

USN

USAF

TYPE CLASS:

Std

MANUFACTURER'S NAME/CODE NUMBER: Ampex Corporation, (92739).



RECORDER-REPRODUCER SET, SOUND AN/UNQ-7B

**FUNCTIONAL DESCRIPTION:**

Recorder-Reproducer Set, Sound AN/UNQ-7B is a dual-track, magnetic tape recorder and reproducer which can be operated at any one of three linear tape speeds of 15, 7.5 and 3.75 in. per sec. Electrical signals which fall within the audio frequency spectrum can be recorded on this equipment and this information can be either reproduced immediately or, under proper conditions, stored indefinitely.

No field changes in effect at time of preparation (1 July 1964).

**RELATION TO OTHER EQUIPMENT:**

**AN/UNQ-7B RECORDER-REPRODUCER SET, SOUND**

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**

**TECHNICAL CHARACTERISTICS:**

**INPUTS**

**CHANNEL A (VOICE)**

MICROPHONE: 150 ohms impedance; - 25 dbm max input level, - 60 dbm min input level.

BRIDGING: 200,000 ohms impedance; 15 v max input level, 0.3 v min input level.

LINE: 600 ohms impedance; + 20 dbm max input level, - 15 dbm min input level.

**CHANNEL B (SONAR)**

BRIDGING: 30,000 ohms impedance; 1.0 v max input level, 0.02 v min input level.

LINE: 600 ohms impedance; 0.0 dbm max input level, - 35 dbm min input level.

**FREQUENCY RESPONSE**

**TAPE SPEED**

15 inches per second: ± 2 db, 50 to 20,000 cps freq range.

7.5 inches per second: ± 2 db, 50 to 10,000 cps freq range.

3.75 inches per second: ± 2 db, 50 to 5,000 cps freq range.

NOISE-TO-NOISE RATIO: Exceeds 40 db.

HARMONIC DISTORTION: Less than 2% total at optimum record level.

FLUTTER: Does not exceed 0.3% rms at 7.5 in. per sec under vibration requirements.

OUTPUTS: 1 output from ea channel, ea delivering 1.0 W into 8 ohm load.

NUMBER OF TRACKS: 2.

RECORDING/REPRODUCING MEDIUM: 1/4 in. w, magnetic oxide-coated, plastic or polyester film base tape, wound on 7 in. dia reel.

RECORDING/REPRODUCING LINEAR TAPE SPEEDS: 15 ± 0.2, 7.5 ± 0.1, 3.75 ± 0.05 in. per sec.

FAST FORWARD/REWIND TAPE SPEED: 300 in. per sec avg min.

TIME RATING: Capable of continuous operation.

POWER REQUIREMENTS: 108 to 122 v, 57 to 63 cyc, single ph.

POWER DISSIPATION: 100 W (standby), 200 W (record and reproduce), 170 W (rewind or fast forward).

OPERATING TEMPERATURE: + 40 to + 131° F.

**MAJOR COMPONENTS**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Recorder-Reproducer Set, Sound AN/UNQ-7B includes:	S5835-829-0610		
1	Recorder-Reproducer, Sound RD-246/UNQ-7B			43
1	Cabinet, Electrical Equipment CY-3496/UNQ-7B		15 x 21-1/32 x 21-3/16	94
1	Control, Sound, Recorder-Re- producer C-4055/UNQ-7B		6-1/32 x 7-1/4 x 13-17/32	23
1	Attenuator, Record Input			

1.2 AN/UNQ-7B: 2

RECORDER-REPRODUCER SET, SOUND AN/UNQ-7B

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Container, Maintenance Kit consisting of:			
1	Container, Polystyrene			
1	Service Assy, Electrical Equipment Cabinet			
1	Service Assy, Record Pre- amplifier Channel A			
1	Service Assy, Record Pre- amplifier Channel B			
1	Tape, Alignment			
2	Reel, Empty			
1	Demagnetizer, Head			
1	Splicer, Tape			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 365-2766: Service Manual for Recorder-Reproducer Set, Sound AN/UNQ-7B.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA

TUBES: (2) 1DP1 (2) 6AU6WA

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N93 (9) 1N276 (3) 1N277 (18) 1N526 (8) 1N538 (13) 1N645  
 (1) 1N751A (2) 1N3190 (1) 1N3191 (1) 2N297A (1) 2N335 (3) 2N338  
 (17) 2N404 (4) 2N657 (2) 2N697B (8) 2N1039 (6) 2N1308

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuShips  
 SPEC &/OR DWG: MIL-R-21091D (SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ampex Corporation	Redwood City, California	NObs(24-126)-84726	\$4,563.00
		NObs(24-126)-86797(FBM)	\$5,836.00

21 July 1964

Cog Service: USN FSN:

RECORDER-REPRODUCER SET, SOUND AN/UNQ-7C

Functional Class:

USA

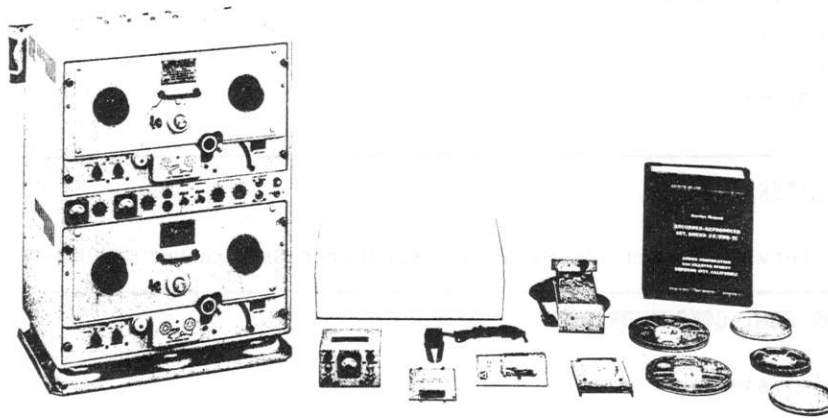
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Ampex Corporation, (92739).



RECORDER-REPRODUCER SET, SOUND AN/UNQ-7C.

**FUNCTIONAL DESCRIPTION:**

Recorder-Reproducer Set, Sound AN/UNQ-7C is a dual-track, magnetic tape recorder and re-producer which can be operated at any one of three linear tape speeds of 15, 7.5, and 3.75 in. per sec. Electrical signals which fall within the audio frequency spectrum can be re-corded on this equipment and this information can be either reproduced immediately or, under proper conditions, stored indefinitely.

No field changes in effect at time of preparation (1 July 1964).

**RELATION TO OTHER EQUIPMENT:**

**EQUIPMENT REQUIRED BUT NOT SUPPLIED:**



# AN/UNQ-7C RECORDER-REPRODUCER SET, SOUND

## TECHNICAL CHARACTERISTICS:

### INPUTS

#### CHANNEL A (VOICE)

MICROPHONE: 150 ohms impedance; - 25 dbm max input level, - 60 dbm min input level.

BRIDGING: 200,000 ohms impedance; 15 v max input level, 0.3 v min input level.

LINE: 600 ohms impedance; + 20 dbm max input level, - 15 dbm min input level.

#### CHANNEL B (SONAR)

BRIDGING: 30,000 ohms impedance, 1.0 v max input level, 0.02 v min input level.

LINE: 600 ohms impedance; 0.0 dbm max input level, - 35 dbm min input level.

### FREQUENCY RESPONSE

#### TAPE SPEED

15 INCHES PER SECOND:  $\pm 2$  db, 50 to 20,000 cps freq range.

7.5 INCHES PER SECOND:  $\pm 2$  db, 50 to 10,000 cps freq range.

3.75 INCHES PER SECOND:  $\pm 2$  db, 50 to 5,000 cps freq range.

NOISE-TO-NOISE RATIO: Exceeds 40 db.

HARMONIC DISTORTION: Less than 2% total at optimum record level.

INTER-CHANNEL CROSSTALK: - 35 db.

FLUTTER: Does not exceed 0.3% rms at 7.5 in. per sec under vibration requirements.

OUTPUTS: 1 output from ea channel, ea delivering 1.0 W into 8 ohm load.

NUMBER OF TRACKS: 2.

RECORDING/REPRODUCING MEDIUM: 1/4 in. W, magnetic oxide-coated, plastic or polyester film base tape, wound on 7 in. dia reel.

RECORDING/REPRODUCING LINEAR TAPE SPEEDS:  $15 \pm 0.2$ ,  $7.5 \pm 0.1$ ,  $3.75 \pm 0.05$  in. per sec.

FAST FORWARD/REWIND TAPE SPEED: 300 in. per sec avg min.

TIME RATING: Capable of continuous operation.

POWER REQUIREMENTS: 108 to 122 v, 57 to 63 cyc, single ph.

POWER DISSIPATION: 175 W (standby), 400 W (record and reproduce).

## MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Recorder-Reproducer Set, Sound AN/UNQ-7C includes:	S5835-829-0671		
2	Recorder-Reproducer, Sound RD-247/UNQ-7C			45
1	Cabinet, Electrical Equipment CY-3497/UNQ-7C		21 x 21-3/16 x 27	124
1	Control, Sound, Recorder-Repro- ducer C-4056/UNQ-7C		3-5/32 x 4-31/32 x 5-7/16	2
1	Container, Maintenance Kit consisting of:			
1	Container, Polystyrene			
1	Service Assy, Electrical Equipment Cabinet			
1	Service Assy, Record Preamp- fier Channel A			

**RECORDER-REPRODUCER SET, SOUND AN/UNQ-7C**

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Service Assy, Record Pre-amplifier Channel B			
1	Tape, Alignment			
2	Reel, Empty		7 dia	
1	Demagnetizer, Head			
1	Splicer, Tape			
1	Technical Manual NAVSHIPS 365-2769			

**REFERENCE DATA AND LITERATURE:**

NAVSHIPS 365-2769: Service Manual for Recorder-Reproducer Set, Sound AN/UNQ-7C.

**TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:**

TUBES: None used.

CRYSTALS: None used.

SEMI-CONDUCTORS: (2) 1N93 (2) 1N1390 (9) 1N276 (2) 1N1391 (3) 1N277 (1) 1N2995B  
 (12) 1N526 (1) 1N3070 (12) 1N538 (1) 2N297A (4) 1N540 (1) 2N335  
 (8) 1N645 (2) 2N338 (1) 1N649 (20) 2N404 (1) 1N751A (5) 2N697B  
 (1) 1N752A (10) 2N1039 (2) 1N963B (2) 2N1308 (2) 2N1711

**SHIPPING DATA**

PKGS	VOLUME (CU FT)	WEIGHT (LBS)

**PROCUREMENT DATA**

PROCURING SERVICE: USN DESIGN COG: USN, BuShips  
 SPEC &/OR DWG: MIL-D-21091D(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Ampex Corporation	Redwood City, California	NObs (24-126)-84733 (FBM)	\$33435.00
		NObs (24-126)-86797 (FBM)	\$ 9676.00