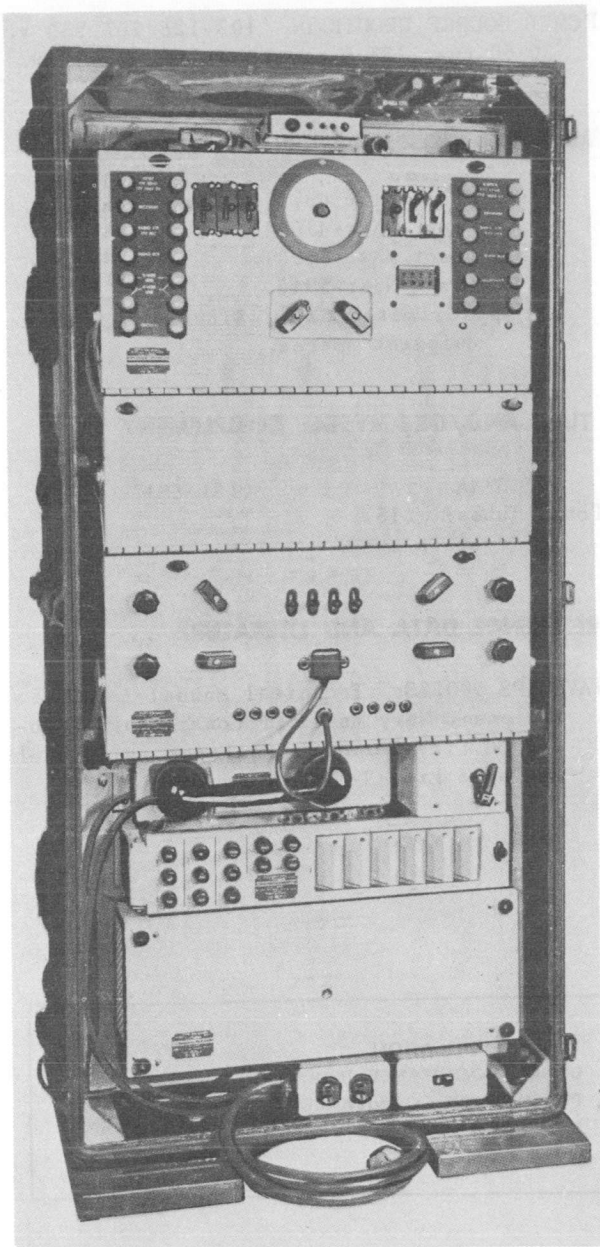


April 1958

PORTABLE CARRIER CONTROL SYSTEM

UF



Line Terminal Equipment Model UG

FUNCTIONAL DESCRIPTION

The Navy Model UF is a multichannel carrier telegraph system using eight frequencies in the voice range. The UF consists of four Line Terminal Equipments UG, and two Radio-Line Terminal Equipments UH. The UG is the carrier-telegraph terminal equipment for the system, and the UH is control and line amplifier equipment for the radio link. The equip-



Radio Line Terminal Equipment Model UH

ment, with associated radio transmitters and receivers for two, two-way voice channels, provide four two-way telegraph circuits. DC telegraph or teletype pulses are converted to on/off carrier tones for transmission and are then converted from received carrier tones back to DC pulses at the other end of the circuit. Either duplex or half-duplex operation is possible and either is capable of handling manual telegraph, teletype, or automatic tape recorded transmissions. Operation is possible on either a neutral or polar basis, depending upon the kind of communication gear utilized.

Typical radio transmitter and receiver equipments used with the UF are Radio Set AN/TRC-1; Radio Transmitter BC-640-B and Radio Receiver BC-639-A; Radio Transmitter TDQ and Radio Receiver RCK; or High Frequency Radio Telephone Transmitting Equipment TDG and High Frequency Radio Receiving Equipment RBQ. The antennas for these systems may be either vertically or horizontally polarized.

No field changes in effect at time of preparation (28 April 1958).

UF PORTABLE CARRIER CONTROL SYSTEM**RELATION TO OTHER EQUIPMENT**

Equipment Required but not Supplied: A complete radio transmitting and receiving system.

POWER SOURCE REQUIRED: 103-126/207-253 v,
50-60 cps, 135 W per UG and 15 W per UH.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

RADIO LINK RANGE: 15 to 40 mi.
LOAD CIRCUIT RANGES: 1/4 mi max length of
field wire.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, Inc, New York, N.Y.
Contract NXsr-41001.
Contract NXsr-85031.
Contract N5sr-5945.
Approximate Cost: \$13000.00 with e-
quipment spares.

LINE CIRCUIT RANGES

BETWEEN TWO UG LINE TERMINALS: 6 to 16
mi.
BETWEEN UG AND UH LINE TERMINALS: 5 mi.
BETWEEN UH LINE TERMINAL AND TRANSMITTER
OR RECEIVER: 500 ft.

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 394A (13) 6SJ7
Total Tubes: (15)
No Crystals used.

RADIO FREQUENCY RANGE: 30 to 300 mc.
TELEGRAPH CARRIER FREQUENCY BAND: 500 to
2050 cps.

REFERENCE DATA AND LITERATURE**CIRCUIT FREQUENCIES**

LOWER: 595, 765, 935, 1105.
HIGHER: 1445, 1615, 1785, 1955.

NAVSHIPS 900223: Technical Manual for Radio
Equipment Navy Model UF Consisting of Mo-
del UG Line Terminal Equipment and Model
UH Radio Line Terminal Equipment.

SPEED OF TRANSMISSION

TELETYPEWRITER: 60 wpm.
TAPE KEYS AND RECORDER: 100 wpm.
OUTPUT LEVEL OF MODEL UG LINE TERMINAL: 0
dbm per telegraph circuit.
INPUT LEVEL TO TRANSMITTER: -25 dbm and +10
dbm for a single telegraph carrier fre-
quency.

OUTPUT LEVEL FROM RADIO RECEIVER: -10 dbm
and +10 dbm for single telegraph carrier
frequency.

TERMINATING IMPEDANCES

UG AND UH: 600 ohms.
RADIO TRANSMITTER: 50, 200, or 600 ohms.
RADIO RECEIVER: 600 ohms.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Model UG Line Terminals (4 equipments)	22.5	57-1/2 X 31-3/8 X 21-1/2	710
1	Model UH Radio Line Terminals (2 Equipments)	13.5	29-1/2 X 32 X 20	373
*	Equipment Spares			
	Box 1	13	40 X 28 X 20	331
	Box 2	13	40 X 28 X 20	290
	Box 3	13	40 X 28 X 20	302

PORTABLE CARRIER CONTROL SYSTEM

UF

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
	Box 4	13	40 X 28 X 20	261
	Box 5	13	40 X 28 X 20	273
	Box 6	13	40 X 28 X 20	296
	Box 7	13	40 X 28 X 20	314
**	Ground Rods Data for 1 Box	1.75	52 X 9-3/4 X 5-3/4	120

NOTES: *Only One set of equipment spares (7 boxes) furnished per 10 UF systems but spare tubes, relays, fuses, and fuseholders are attached to various equipment panels in the cabinets.

**Eight boxes per ten UF systems.

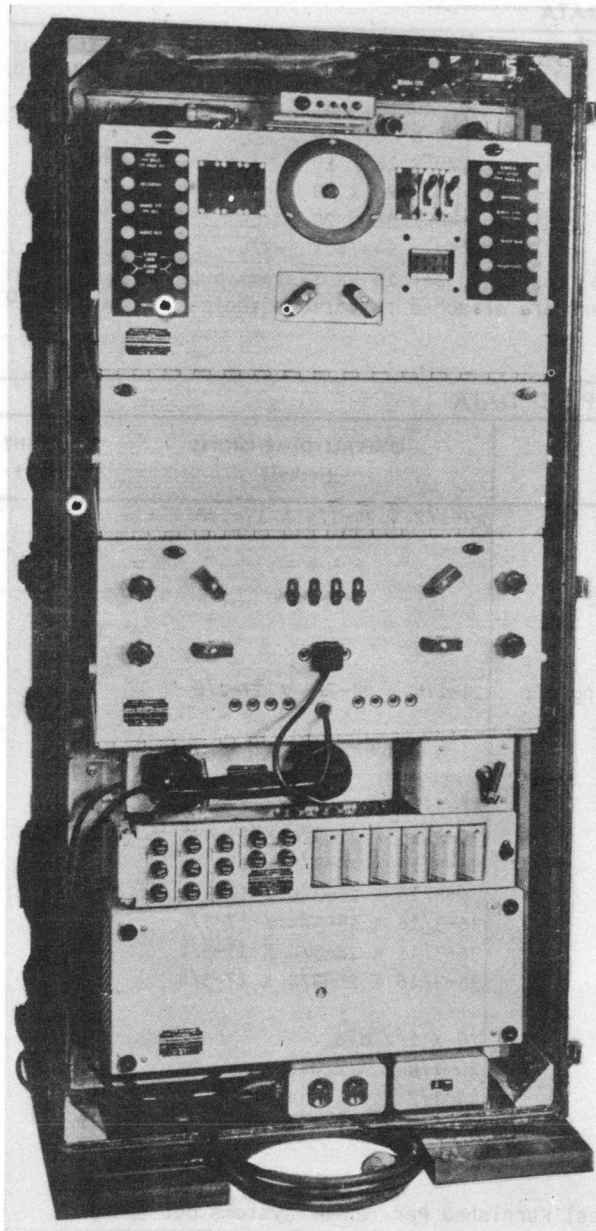
EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
4	Model UG Line Terminal Each Consisting of: 1 Line Control Unit CW-23426 1 Load Control Unit CW-50177 1 Fuse Panel Unit CW-28016 1 Rectifier Power Unit CW-20290 1 Telephone Unit CW-51068	49-1/2 X 24-1/4 X 17-1/8	373
2	Model UH Radio Line Terminal Each Consisting of: 1 Control Unit CW-23427 1 Telephone Unit CW-51068	24-1/4 X 23-7/8 X 17-1/8	163
*	Set of Equipment Spares		
	Box 1	36-3/16 X 25-3/4 X 17-3/4	276
	Box 2	36-3/16 X 25-3/4 X 17-3/4	228
	Box 3	36-3/16 X 25-3/4 X 17-3/4	239
	Box 4	36-3/16 X 25-3/4 X 17-3/4	199
	Box 5	36-3/16 X 25-3/4 X 17-3/4	208
	Box 6	36-3/16 X 25-3/4 X 17-3/4	236
	Box 7	36-3/16 X 25-3/4 X 17-3/4	252
**	Ground Rod Set Consisting of: 8 Rods (2 per UG) 8 Rods (2 per UG) 8 Rods (4 per UH) 8 Rods (4 per UH)	20 X 1/2 dia 20-1/4 X 1/2 dia 46-1/2 X 1/2 dia 46-1/2 X 1/2 dia	
1	Set of Accessories		

NOTES: *Only One Set of Equipment Spares (7 boxes) Furnished Per Ten UF Systems but Spare Tubes, Relays, Fuses, and Fuseholders Are Attached to Various Equipment Panels in the cabinets.

**Eight Boxes Per Ten UF Systems.

April 1958

LINE TERMINAL EQUIPMENT**UG***Line Terminal Equipment UG*

two oscillators while the other selects the two corresponding filters for each circuit, the two circuits of a terminal unit may be set to operate on any one of four combinations of frequencies. The system permits connection for either duplex or half-duplex operation, and is capable of handling manual telegraph, teletypewriter and automatic tape. Neutral or polar operation is possible. Either a 2- or 4- wire system may be used provided its loss is not greater than 25 db.

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

RELATION TO OTHER EQUIPMENT

The UG is used with Radio-Line Terminal Equipment UH as part of the Portable Carrier Control System Model UF.

Equipment Required but not Supplied: Teletypewriters or other Keying devices, land lines or suitable radio circuits.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

OPERATING FREQ: 595, 765, 935, 1105, 1445, 1615, 1785, and 1955 cps.

CHANNELS: 2, polar or neutral keying.

MODULATION: AM.

TERMINATING IMPEDANCE: 600 ohms.

TRANSMISSION SPEED: 60 wpm (teletypewriter).
100 wpm (automatic tape keyer and recorder).

POWER SOURCE REQUIRED: 103-126/207-253 v,
50 to 60 cps, 135 W.

MOUNTING DATA: Panel mounted in wooden cabinets or carrying cases.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co Inc, New York, N.Y.
Contract NXsr-41001, dated 25 October
1945.

Contract NXsr, Contract N5sr-5945.

FUNCTIONAL DESCRIPTION

The UG is used for carrier telegraphic transmission over a land line or radio link. The system consists of two, two-way telegraph circuits. By means of two switches, one of which selects the operating frequencies for

TUBE AND/OR CRYSTAL COMPLEMENT

(2) 394A

(11) 6SJ7

Total Tubes: (13)

No Crystals

Radio-Communication Terminal Equipment

UG

LINE TERMINAL EQUIPMENT

April 1958

REFERENCE DATA AND LITERATURE

NAVSHIPS 900223, Technical Manual for Radio
Equip Navy Model UF.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Line Terminal Equipment	22-1/2	21-1/2 x 31-3/8 x 57-1/2	710

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Line Terminal Equip UG c/o (1) Line Control Unit -23426 (1) Load Control Unit -50177 (1) Fuse Panel Unit -28016 (1) Rectifier Power Unit -20290 (1) Telephone Set Unit -51068	17-1/8 x 24-1/4 x 49-1/2	373

April 1959

RADIO LINE TERMINAL EQUIPMENT**UH****EQUIPMENT REQUIRED BUT NOT SUPPLIED**

Associated Radio Communication equipment.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**AMPLIFIER**

TYPE: Audio, negative feedback.
 FREQUENCY RANGE: 50 to 20,000 cps.
 FREQUENCY RESPONSE: Flat from 595 to 1955 cps.
 INPUT IMPEDANCE: 600 ohms.
 OUTPUT IMPEDANCE: 600 ohms.
 GAIN: 35 db max.

RECTIFIER UNIT

TYPE: Dry Metal, copper-oxide.
 LOW VOLTAGE: 6.3 v (filament).
 HIGH VOLTAGE: 130 v, dc (plate).
 TEMPERATURE RANGE: -20 to +120° F.
 PRIMARY POWER REQUIREMENT: 115 v (103 to 126) or 230 v (207 to 253), 60 cps, single ph, 15 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co., New York, N.Y.
 Contract N5sr-5945 dated 25 October 1945.
 Contract NXsr-85031.
 Contract NXsr-41001.

TUBE AND/OR CRYSTAL COMPLEMENT

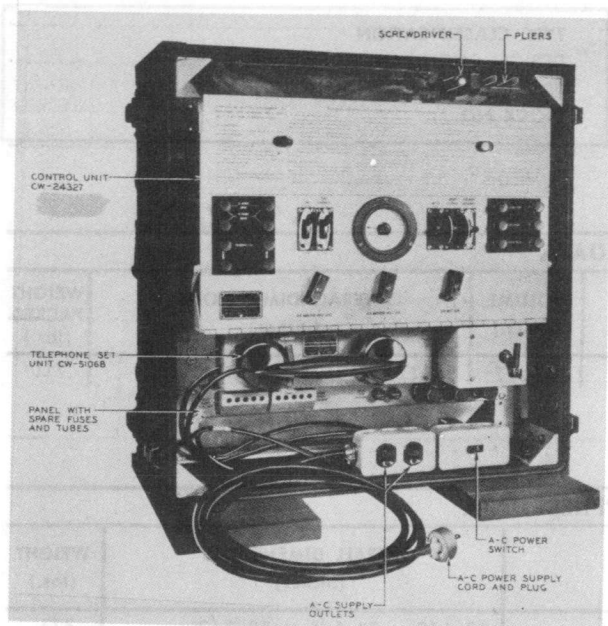
(2) 6SJ7
 Total Tubes: (2)

No Crystal Utilized.

REFERENCE DATA AND LITERATURE

Technical Manual for Radio Equipment Navy
 Model UF NAVSHIPS 900, 223.

TYPE CLASSIFICATION
 DESIGN COGNIZANCE BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.



Model UH Radio Line Terminal Equipment

FUNCTIONAL DESCRIPTION

The Navy Model UH is control and line Amplifier equipment for the radio link in Navy Model UF Communication terminal equipment. It is designed to perform the functions of separating the transmitting and receiving paths to the radio transmitter and receiver when a 2-wire line is used for the connection to the line terminal, and to provide means of adjusting the signal levels to the required values in either 2 or 4-wire operation. Facilities are also provided for talking over the line wires or over the radio link.

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

RELATION TO OTHER EQUIPMENT

The UH Radio Line Terminal Equipment is used with Line Terminal Equipment UG as part of Portable Carrier Control System UF.

April 1959

Radio-Communication Terminal Equipment

UH

RADIO LINE TERMINAL EQUIPMENT

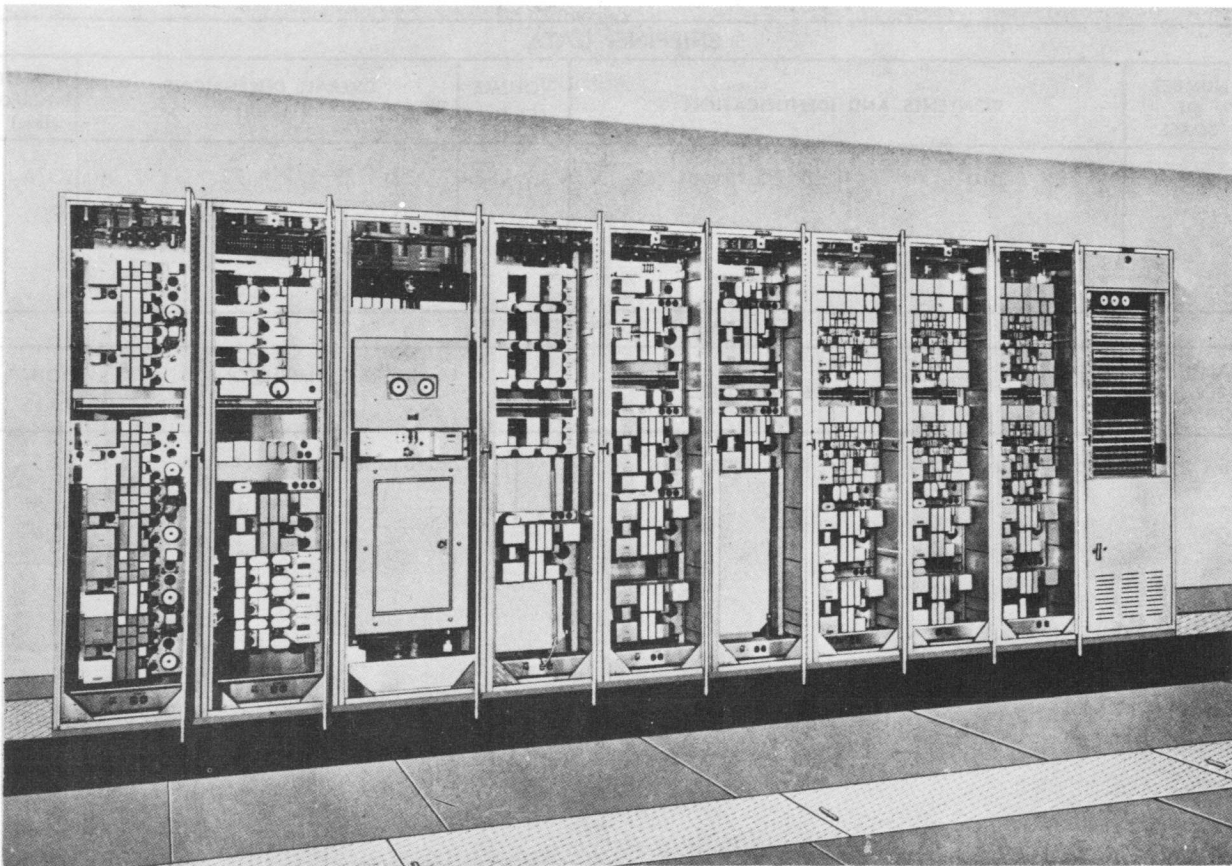
SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	UH Radio Line Terminal Equipment	13-1/2	20 X 29-1/2 X 32	373

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Radio Line Terminal Equipment Model UH	17-1/8 X 23-7/8 X 24-1/4	163

April 1958

CARRIER CONTROL SYSTEM**UN**

Carrier Control System, Navy Model UN

FUNCTIONAL DESCRIPTION

The Model UN is a multichannel carrier communication system for shore use, capable of furnishing a variety of narrow and wide band telegraph channels, as well as voice channels, simultaneously over one radio carrier or a two- or four-wire metallic circuit. It is arranged to key a long haul radio transmitter, repeat cw signals from a long haul radioreceiver to a communication center, transmit and receive half-duplex or full-duplex transmission teletypewriter telegraph signals, transmit telegraph signals from a tape keyer and to a tape recorder, provide a telephone order wire circuit from terminal to terminal using hand-set telephones, and provide telephone circuits terminating at either end of the system in a telephone switchboard to provide service over the UN system from local telephone exchange or PBX lines in the area.

The system consists of a number of panel units, which may be ordered as required, to provide different combinations of telegraph and telephone terminal facilities.

Data on this sheet reflects the following field changes: FC-1, FC-2 (8 November 1957).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

FREQUENCY RANGE: 300 to 10150 cps.

MODULATION: AM.

CHANNEL SPACING

NARROW BAND: 170 cps.

MEDIUM BAND: 340 cps.

WIDE BAND: 850 cps.

OSCILLATOR FREQUENCY: 85 cps.

SIGNAL SPEEDS (MAX)

NARROW BAND: 40 dot cycles.

WIDE BAND: 175 dot cycles.

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

Radio-Communication Terminal Equipment

UN

CARRIER CONTROL SYSTEM

April 1958

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company, Inc., New York,
N.Y.
Contract NXsr-83392, dated 13 February
1945.
Approximate Cost: \$97,000.00 with e-
quipment spares.

NT-20364
(2) 393A
Total Tubes: (2)
NT-35089
(1) 352A (1) 272A
Total Tubes: (2)

TUBE AND/OR CRYSTAL COMPLEMENT

NT-50101
(3) 6V6GT/G (1) 5R4GY
Total Tubes: (4)

MD-117/FC
(1) 310A
Total Tubes: (1)

NT-50103 and MD-115/FC
(2) 6V6GT/G (2) 807
(1) 5R4GY
Total Tubes: (5)

MD-116/FC
(2) 6SJ7 (1) 6SK7
Total Tubes: (3)

NT-23295/NT-23296
(4) 328A (1) 274A
Total Tubes: (5)

NT-23522
(3) 310A
Total Tubes: (3)

NT-35023
(1) 101D
Total Tubes: (1)

NT-50100
(2) 311A
Total Tubes: (2)

NT-20140
(2) 323A
Total Tubes: (2)

NT-20387
(1) 274A
Total Tubes: (1)
NT-60036
(1) 6J7 (1) 25L6GT (1) 25Z6GT
Total Tubes: (3)

NT-35010
thru
NT-35021,
NT-35024, NT-35025,
NT-35026
(1) 101D
Total Tubes: (1)

AM-351/FC
(2) 6SN7GT
Total Tubes: (2)

MD-115/FC
(1) 1N44
Total Crystals: (1)

REFERENCE DATA AND LITERATURE

NAVSHIPS 900840: Technical Manual for
Carrier Control System Navy Model UN.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	System Terminal Cabinet, Send Telegraph-24NB	29.7	21 X 27-1/2 X 89	790
1	System Terminal Cabinet, Receive Telegraph-12NB and 3WB	29.7	21 X 27-1/2 X 89	600
1	System Terminal Cabinet, Send and Receive Voice and 3WB-2 Send and 2 Rec	1.8	7 X 18 X 24	40

April 1958

CARRIER CONTROL SYSTEM

UN

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Sending 3-Channel Terminal Panels NT-53096, 53097, 53098, 53099, 53100, 53101	1.8	7 X 18 X 24	40
1	Sending Voice Channel Terminal Panel NT-50112	1.8	7 X 18 X 24	35
1	Receiving 3-Channel Terminal Panels NT-53102 thru NT-53106	3.0	12 X 18 X 24	55.5
1	Receiving 3-Channel Terminal Panel NT-53107	3.0	12 X 18 X 24	50
1	Receiving Voice Channel Terminal Panel NT-23303	1.5	6 X 18 X 24	30
1	Sending Line Terminal Panel (without Line Filter) NT-23297	1.5	6 X 18 X 24	30
1	Sending Line Terminal Panel (with Line Filter) NT-23298	2.8	11 X 18 X 24	48
1	Receiving Line Terminal Panel (without Line Filter) NT-23300	1.5	6 X 18 X 24	30
1	Receiving Line Terminal Panel (with Line Filter) NT-23301	2.8	11 X 18 X 24	45
1	Modulator Cabinet	29.7	21 X 27-1/2 X 89	450
1	Modulator Panel MD-117/FC	2.0	8-1/2 X 17 X 24	60
1	Modulator Panel MD-116/FC	2.0	8-1/2 X 17 X 24	70
1	Demodulator Cabinet	29.7	21 X 27-1/2 X 89	450
1	Demodulator Panel NT-50103	4.6	16 X 20 X 25	125
1	Demodulator Panel MD-115/FC	4.6	16 X 20 X 25	125
1	Carrier Telephone Cabinet (Early Model)	29.7	21 X 27-1/2 X 89	800
1	Carrier Telephone Panel EAST NT-23295	5.0	18 X 20 X 24	140
1	Carrier Telephone Panel WEST NT-23296	5.0	18 X 20 X 24	140
1	Carrier Telephone Cabinet (Late Model) NT-23528	29.7	21 X 27-1/2 X 89	775
1	Carrier Telephone Panel NT-23522	4.3	17 X 18 X 24	85
1	Carrier Telephone Line Filter Panel NT-53365	1.7	7 X 17 X 24	35
1	Line Amplifier Panel NT-50101	5.8	19 X 23 X 23	130
1	Carrier Supply Cabinet, Channels 1 to 6 and Harmonic Control	29.7	21 X 27-1/2 X 89	710
1	Carrier Supply Cabinet, Channels 7 to 12 and 22 to 24	29.7	21 X 27-1/2 X 89	660
1	Carrier Supply Cabinet, Channels, 1, 3, 5 or 22, 23, 24	29.7	21 X 27-1/2 X 89	575
1	Channel Frequency Oscillator Panels NT-35010 thru NT-35021, NT-35024, NT-35025, NT-35026	2.8	11 X 18 X 24	45
1	Base Frequency Oscillator Panel NT-35023	2.8	14 X 18 X 19	75
1	Base Frequency Amplifier Panel NT-50100	2.8	11 X 18 X 24	45
1	Harmonic Generator Panel NT-35002	2.8	11 X 18 X 24	40
1	Harmonic Generator Alarm Panel NT-10094	1.7	7 X 17 X 24	30
1	Voltmeter Test Panel NT-60035	1.7	7 X 17 X 24	30
1	Power Cabinet (Early Model)	33.0	21 X 30-1/2 X 89	840
1	Rectifier, 130 Volt NT-20140	6.1	17 X 22 X 28	250
1	Rectifier, 49.5 Volt NT-20141	2.9	12 X 15 X 28	75
1	Rectifier, 24 Volt NT-20142	1.6	12 X 15 X 15	40
1	Power Cabinet (Late Model)	33.0	21 X 30-1/2 X 89	850
1	Rectifier, 130 Volt NT-20364	6.1	17 X 22 X 28	250
1	Control Cabinet	33.0	21 X 30-1/2 X 89	550
1	Teletypewriter Repeater Cabinet Model PM	29.7	21 X 27-1/2 X 89	750
1	Teletypewriter Repeater Panel NT-23446	1.6	7 X 21 X 24	40
1	Test Unit NT-60603	2.6	11 X 17 X 24	40

Radio-Communication Terminal Equipment

UN

CARRIER CONTROL SYSTEM

April 1958

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Rectifier, 130 Volt NT-20311	2.8	21 X 27-1/2 X 89	110
1	Four-Wire Terminating and Signaling Cabinet NT-50250	29.7	21 X 27-1/2 X 89	700
1	Four-Wire Terminating Unit NT-50249	2.5	11 X 16 X 24	50
1	Signaling Applique Unit (20 CPS) NT-23486	1.4	6 X 17 X 24	50
1	Ringing Oscillator NT-35089	2.8	12 X 17 X 24	70
1	Signaling Power Supply Unit NT-20387	2.6	11 X 17 X 24	45
1	Ringing Supply Unit NT-35090	3.5	15 X 17 X 24	50
1	Oscillator Model 19C	2.6	15 X 15 X 20	45
1	Transmission Measuring Set NT-60036	1.9	15 X 15 X 15	35
1	Attenuator NT-631193	0.7	10 X 10 X 11	20
1	AF Amplifier AM-351/FC			

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	System Terminal Cabinet, Send Telegraph-24NB	17 X 22-1/2 X 84	590
1	System Terminal Cabinet, Rec Telegraph-12NB and 3WB	17 X 22-1/2 X 84	400
1	System Terminal Cabinet, Send and Rec Voice and 3 WB-2' Send and 2 Rec	17 X 22-1/2 X 84	520
1*	Sending 3-Channel Terminal Panels		
	Channels 1, 2, 3 NT-53096	3-1/2 X 8 X 19	18.5
	Channels 4, 5, 6 NT-53097	3-1/2 X 8 X 19	18.5
	Channels 7, 8, 9 NT-53098	3-1/2 X 8 X 19	18.5
	Channels 10, 11, 12 NT-53099	3-1/2 X 8 X 19	18.5
	Channels 1, 3, 5 NT-53100	3-1/2 X 8 X 19	16.0
	Channels 22, 23, 24 NT-53101	3-1/2 X 8 X 19	12.5
1	Sending Voice Channel Terminal NT-50112	3-1/2 X 8 X 19	
1*	Receiving 3-Channel Terminal Panels		
	Channels 1, 2, 3 NT-53102	7 X 8 X 19	28.5
	Channels 4, 5, 6 NT-53103	7 X 8 X 19	28.5
	Channels 7, 8, 9 NT-53104	7 X 8 X 19	28.5
	Channels 10, 11, 12 NT-53105	7 X 8 X 19	28.5
	Channels 1, 3, 5 NT-53106	7 X 8 X 19	25
	Channels 22, 23, 24 NT-53107	7 X 8 X 19	
1	Receiving Voice Channel Terminal Panel NT-23303	1-3/4 X 8 X 19	4
1*	Sending Line Terminal Panel without Line Filter NT-23297 with Line Filter NT-23298	1-3/4 X 8 X 19 5-1/4 X 8 X 19	6.5 24
1*	Receiving Line Terminal Panel without Line Filter NT-23300 with Line Filter NT-23301	1-3/4 X 8 X 19 5-1/4 X 8 X 19	4.5 22
1*	Modulator Cabinet including: Modulator Panel MD-117/FC	17 X 22-1/2 X 84	250
	Modulator Panel MD-116/FC	5-1/4 X 8 X 19	21
		5-1/4 X 10-1/2 X 19	30
1*	Demodulator Cabinet including: Demodulator Panel NT-50103	17 X 22-1/2 X 84	250
	Demodulator Panel MD-115/FC	10 X 10-1/2 X 19	60
		10 X 10-1/2 X 19	60

April 1958

CARRIER CONTROL SYSTEM

UN

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	AF Amplifier AM-351/FC	5-1/4 X 6-13/16 X 19	
1	Carrier Telephone Cabinet (Early Model) including:	17 X 22-1/2 X 84	600
	Carrier Telephone Panel EAST NT-23295	9 X 15-3/4 X 19	80
	Carrier Telephone Panel WEST NT-23296 or	9 X 15-3/4 X 19	80
1	Carrier Telephone Cabinet (Late Model)	17 X 22-1/2 X 84	575
	NT-23528 including:		
	Carrier Telephone Panel NT-23522	9 X 12-1/4 X 19	50
	Carrier Telephone Line Filter Panel NT-53365	3-1/2 X 8 X 19	15
	Line Amplifier Panel NT-50101	10 X 10-1/2 X 19	65
1	Carrier Supply Cabinet		
	Channels 1 to 6 and Harmonic Control	17 X 22-1/2 X 84	510
	Channels 7 to 12 and 22 to 24	17 X 22-1/2 X 84	460
	Channels 1, 3, and 5 or 22, 23, and 24 including	17 X 22-1/2 X 84	375
	Channel Frequency Oscillator Panels*	5-1/4 X 8 X 19	21.5
	Channel 1 (425 CPS) NT-35010		
	Channel 2 (595 CPS) NT-35011		
	Channel 3 (765 CPS) NT-35012		
	Channel 4 (935 CPS) NT-35013		
	Channel 5 (1105 CPS) NT-35014		
	Channel 6 (1275 CPS) NT-35015		
	Channel 7 (1445 CPS) NT-35016		
	Channel 8 (1615 CPS) NT-35017		
	Channel 9 (1785 CPS) NT-35018		
	Channel 10 (1955 CPS) NT-35019		
	Channel 11 (2125 CPS) NT-35020		
	Channel 12 (2295 CPS) NT-35021		
	Channel 22 (2975 CPS) NT-35024		
	Channel 23 (3825 CPS) NT-35025		
	Channel 24 (4675 CPS) NT-35026		
	Base Frequency Oscillator Panel NT-35023*	8 X 10-1/2 X 19	44.5
	Base Frequency Amplifier Panel NT-50100*	5-1/4 X 8 X 19	21.5
	Harmonic Generator Panel NT-35022*	5-1/4 X 9 X 19	16
	Harmonic Generator Alarm Panel NT-10094*	3-1/2 X 9 X 19	7.5
	Voltmeter Test Panel NT-60035	3-1/2 X 4 X 19	5.5
1	Power Cabinet (Early Model) including:	17 X 26-1/4 X 84	644
	130 Volt Rectifier NT-20140	11 X 15-3/4 X 23	140
	49.5 Volt Rectifier NT-20141	2-11/16 X 5 X 9-1/2	40
	24 Volt Rectifier NT-20142	6-1/2 X 7-1/2 X 9-1/4	20
	or		
1	Power Cabinet (Late Model) including:	17 X 26-1/4 X 84	650
	130 Volt Rectifier NT-20364	11 X 15-3/4 X 23	140
1	Control Cabinet	17 X 26-1/4 X 84	350
1	Teletypewriter Repeater Cabinet Model PM including:	17 X 22-1/2 X 84	550
	Teletypewriter Repeater Panel NT-23446	3-1/2 X 17 X 19	20
	Test Unit NT-60603	5-1/4 X 11 X 19	20
	130 Volt Rectifier NT-20311	7 X 12 X 29	58
1	Four-Wire Terminating and Signaling Cabinet NT-50250 including:	17 X 22-1/2 X 84	500
	Four-Wire Terminating Unit NT-50249	5-1/4 X 6-1/4 X 19	25
	Signaling Applique Unit (20 CPS) NT-23486	1-3/4 X 8 X 19	10
	Ringer Oscillator NT-35089	7 X 10 X 19	35
	Signaling Power Supply Unit NT-20387	5-1/4 X 9-1/2 X 19	22
	Ringling Supply Unit NT-35090	9-1/16 X 11 X 19	25
1	Oscillator Model 19C	9-1/4 X 9-5/8 X 15-1/8	20
1	Transmission Measuring Set NT-60036	6-1/2 X 8-1/2 X 11	14
1	Attenuator NT-631193	4-3/16 X 5 X 6-3/4	4.5

NOTE: *-Supplied as required for each specific installation.

December 1956

CARRIER CONTROL SYSTEM

UP

FUNCTIONAL DESCRIPTION

The UP is a multi-channel voice frequency carrier telegraph system operating over single side hand short wave radio telephone circuits.

This system provides for six two-way telegraph circuits over one radio telephone circuit. Each circuit employs two frequencies, the lower frequency being used for marks, and a frequency 170 cps high for spaces.

This equipment may be located at a distance from the radio stations if suitable voice frequency circuits are provided for inter-connection.

Data on this sheet reflects the following field changes, F.C. 2 (20 August 1956).

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Company Inc., New York, N. Y.

Contract NXsr 60059.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5R4WGB	(1) 25Z5	(2) 311A
(6) 6SJ7WGT	(1) 43	(12) 337A
(6) 6SL7WGT	(1) 77	(6) 355A
(3) 6V6GT	(16) 101D	(4) 393A
(14) 12D	(36) 310A	

Total Tubes: (109)

REFERENCE DATA AND LITERATURE

Technical Manual for Two-Tone Carrier Control System UP.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

CHANNEL FREQUENCIES

- 1: 425 cps mark, 595 cps space.
- 2: 765 cps mark, 935 cps space.
- 3: 1105 cps mark, 1275 cps space.
- 4: 1445 cps mark, 1615 cps space.
- 5: 1785 cps mark, 1955 cps space.
- 6: 2125 cps mark, 2295 cps space.

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

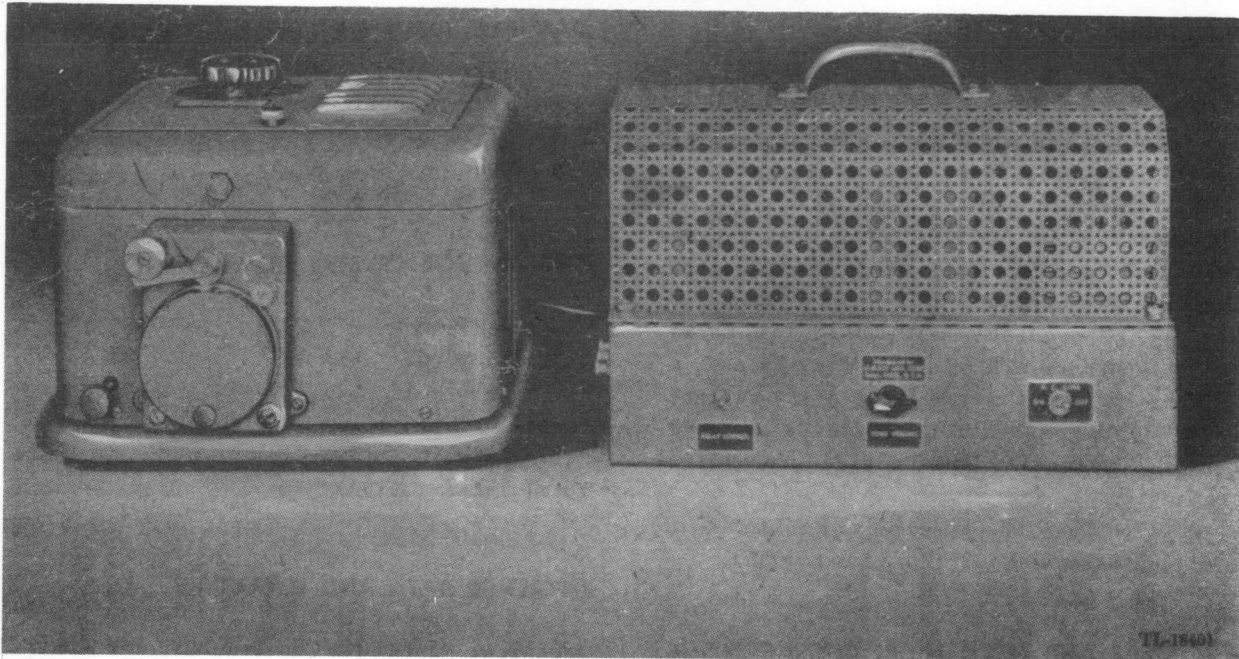
TYPE CLASSIFICATION
DESIGN COGNIZANCE BUSHIPS
PROCUREMENT COGNIZANCE
STOCK NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Oscillator 19C	9-1/4 X 9-1/2 X 15	27
1	Transmission Measuring Set 13A	6-1/2 X 8-1/2 X 11	14
1	Regulated Rectifier X-63673A (24V)	12-7/32 X 12-7/32 X 23	140
1	Power Supply Unit KS-15123-L02WA (Mtg. On Plate)	8-3/4 X 10-1/8	65
1	Test Set 67B		
1	Test Set 67B (SPL)		
1	Test Set I-181	5-1/8 X 5-1/8 X 8-3/4	9
1	Tube Tester MOD 560 (SPL) (including Case)	6-3/4 X 14-1/2 X 16	23
1	Vott-Ohm-Milliameter D-166852 (including Case)	3 X 4-1/2 X 7-1/2	3-1/4

AUTOMATIC TRANSMITTER FOR PERFORATED TAPE

XTR-442-C



Automatic Transmitter for Perforated Tape XTR-442-C

FUNCTIONAL DESCRIPTION

The McElroy Type XTR-442-C is an electro-mechanical device using Wheatstone perforated tape to produce International Morse Characters at continuously variable speeds from 10 to 100 words per minute. Two types of output are available; terminal output of an electronically operated relay and a keyed audio-frequency tone.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

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

MANUFACTURER'S OR CONTRACTOR'S DATA

McElroy and Goode Inc. Boston Mass.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6V6G (1) 89Y (1) 80

Total Tubes: (3)

REFERENCE DATA AND LITERATURE

TM11-2545: Technical Manual for Automatic Transmitter for Perforated Tape (Wheatstone) McElroy Type XTR-442-C.

TYPE CLASSIFICATION
DESIGN COGNIZANCE COMMERCIAL
PROCUREMENT COGNIZANCE
STOCK NO.

Radio-Communication Terminal Equipment

XTR-442-C

**AUTOMATIC TRANSMITTER
FOR PERFORATED TAPE**

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Automatic Transmitter for Perforated Tape McElroy Type XTR-442-C	5.7	15 X 20-3/4 X 31-1/2	141

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Auto Head and Drive Unit	8-1/2 X 12 X 13-3/4	30
1	Electronic Unit	9-1/4 X 10 X 15	14