

USN Directory of Electronics Test Equipment
NAVSHIPS 94200.4
Section 4.8 Time Base Measuring and
Counting Equipment

18 May 1962

Cog Service: USN FSN:

TIME STANDARD AN/FSM-5

Functional Class: 8

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Lovoie Laboratories, (35225).



Time Standard AN/FSM-5

FUNCTIONAL DESCRIPTION:

Time Standard AN/FSM-5 is a fixed radio-station instrument consisting of a series of rack-mounted assemblies, is used to supply and maintain time information and standard frequency. When set up and properly checked, this instrument is capable of supplying time information correct to within one millisecond and frequency accurate to one part in 50 million if operated in a room air-conditioned at 25 deg porm 2 deg C.

No field changes in effect at time of preparation.

TECHNICAL CHARACTERISTICS:

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

SIGNAL DATA: 1 kc, 10 kc, 100 kc, 1000 kc per sec.

KEYING PULSE: 0.3 sec duration, 1 pps repetition rate.

INDICATION: 3 in. CR tube.

AN/FSM-5 TIME STANDARD

RELATION TO OTHER EQUIPMENT: None.**EQUIPMENT REQUIRED BUT NOT SUPPLIED:** None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Time Standard AN/FSM-5 includes:			
1	R. F. Oscillator 0-76/U		10-1/4 x 19 x 20-1/4	95
1	Frequency Divider Assy CV-87/FSM-5		7 x 18-3/4 x 19	29
1	Clock TD-31/FSM-5		12-1/2 x 19 x 21	65
1	Converter-Filter Assy CV-88/FSM-5		10-1/2 x 18-1/2 x 19	40
1	Power Supply PP-455/FSM-5		10-1/2 x 19 x 19-1/4	86-1/2
1	Power Supply PP-456/FSM-5		7 x 16-1/4 x 19	41
1	Oscilloscope OS-13/U		8-3/4 x 19 x 20-1/4	44
1	Cabinet CY-597/G		22-3/8 x 26 x 87-1/2	322
1	Voltage Stabilizer		8-7/8 x 13-27/32 x 14-5/32	50
1	Test Prod MX-1015/U		50 lg	
1	R. F. Cable CG-55/U		180 lg	

REFERENCE DATA AND LITERATURE: None.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2 (1) 0B2 (1) 3JP1 (8) 6AS6 (7) 6AS7 (1) 6AQ5 (3) 5686 (2) 6C4
(10) 12AU7 (2) 5R4G (6) 6SN7G (1) 6SL7G (2) 6X5GT (14) 5963 (1) 6AL5
(1) 884 (1) 5696 (3) 5R4 (1) 6X4 (2) 12AX7 (2) 5651 (4) 6W4 (1) 631P1
(4) 6AC7 (1) 6V6GT (4) 5727/2D21W

CRYSTALS: None used.

SEMI-CONDUCTORS: (1) 1N34

SHIPPING DATA

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

PROCURING SERVICE: USN
SPEC &/OR DWG:

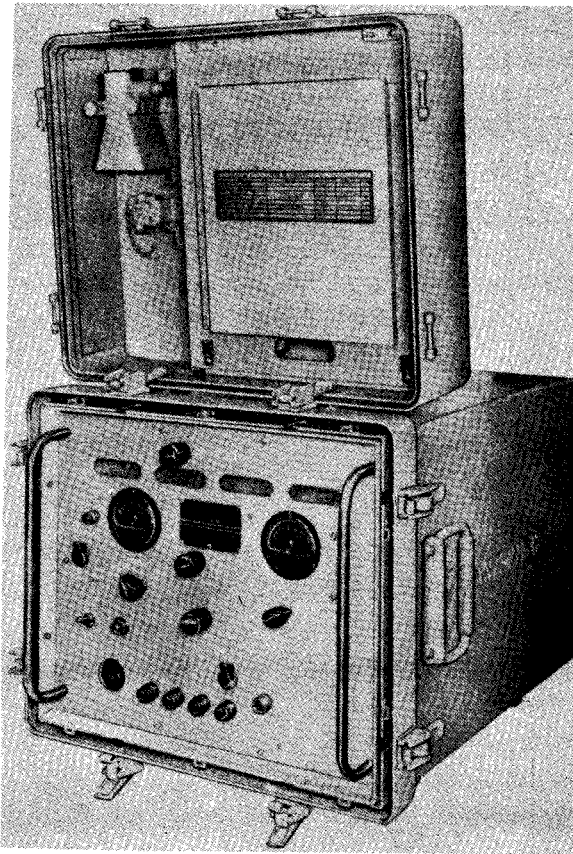
DESIGN COG: USN, BuShips

TIME STANDARD AN/FSM-5

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Lovoie Laboratories	Morganville, N. J.	N0bsr-42300	\$5,000.00

RANGE CALIBRATOR SET

AN/SPM-6



Range Calibrator Set AN/SPM-6

FUNCTIONAL DESCRIPTION

Range Calibrator Set AN/SPM-6 is designed to check the accuracy of the range indicators of radar systems.

No field changes in effect at time of preparation (6 July 1959).

EQUIPMENT REQUIRED BUT NOT SUPPLIED

(1) Waveguide RG-49/U, (1) Waveguide UG-149A/U, (1) Cable Receptacle UG-23B/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 115 v, 50 to 1,000 cy, single ph, 250 W.

FREQUENCY RANGE: 5.4 to 5.9 kmc.

POWER OUTPUT: 0.1 mw (peak).

INTERMEDIATE FREQUENCY: 40 mc.

RANGE CHARACTERISTICS

ACCURACY: ± 5 yds.

DELAY: Odd multiples of 1800 yds.

RF POWER INPUT: Variable; max signal, 10 W peak; dynamic range, 25 db.

IF AMPLIFIER RESPONSE

CENTER FREQUENCY: 40 mc.

BANDWIDTH: 8.0 mc (nom).

HALF-POWER POINT: 36 mc and 44 mc.

MANUFACTURER'S OR CONTRACTOR'S DATA

Sperry Gyroscope Co., Great Neck, N. Y.
Contract NOrd-11904.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5651	(1) 5726	(2) 5814
(2) 5829	(6) 6005	(1) 6115
(1) 5U4GB	(7) 5654/6AK5W	(2) 6AK6
(1) 6AL5W	(2) 6AU6	(3) 6X4W
(1) 12AT7	(2) OA2	(1) TR-361

Total Tubes: (33)

(2) 1N23BM

Total Crystals: (2)

REFERENCE DATA AND LITERATURE

GP 2156: Technical Manual for RANGE CALIBRATOR SET AN/SPM-6.

TYPE CLASSIFICATION
DESIGN COGNIZANCE BUORD
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

February 1960

AN/SPM-6

RANGE CALIBRATOR SET

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Range Calibrator Set AN/SPM-6 Including:	13-5/8 X 16 X 20	95.5
1	Range Calibrator		
1	Cord, Power CX-337/U	72 lg	0.75
1	Case		
1	Horn, Pickup	2 X 3-1/8 X 4-1/8	0.25
1	Cable Assy CG-92A/U	72 lg	1
2	Crystal, Pair		
2	Allen Wrench		

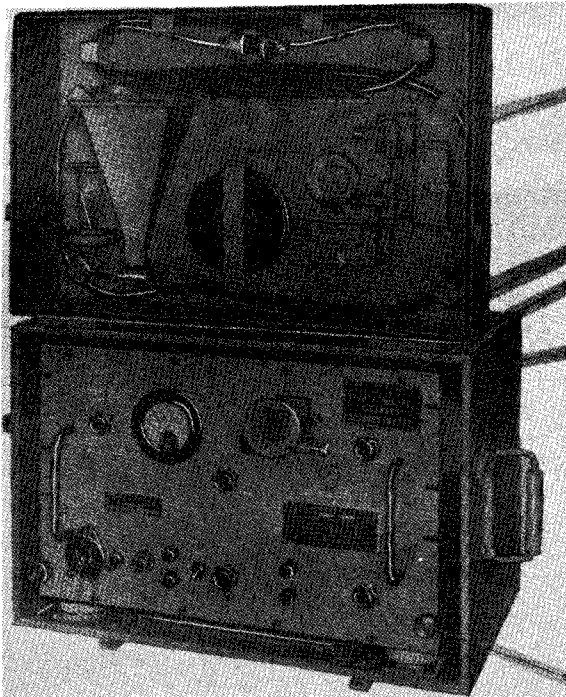
UNCLASSIFIED

April 1959

Test-Timebase Measuring and Counting

RADIAC CALIBRATOR SET

AN/UPM-11



Range Calibrator Set AN/UPM-11

FUNCTIONAL DESCRIPTION

Range Calibrator Set AN/UPM-11 is a portable test equipment used in collimating the radar antenna and in accurately calibrating the radar range.

No field changes in effect at time of preparation (30 March 1959).

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 250 W, 115 v, 50 to

1,000 cy, 1 ph.
 FREQUENCY RANGE: 8,600 to 9,500 mc.
 TEMPERATURE RANGE: -40° C to +55° C (operating); -65° C to +85° C (nonoperating).
 RELATIVE HUMIDITY: 95% (max).
 ACCURACY: ±5 yd.

MANUFACTURER'S OR CONTRACTOR'S DATA

Sperry Gyroscope Co., Great Neck, N.Y.
 Contract AF33(038)ac-22237, 29 June 1950.

TUBE AND/OR CRYSTAL COMPLEMENT

(3) OA2	(1) 1B63A	(3) 12AT7
(2) 2K25	(1) 5U4	(1) 5Y3G
(6) 6AK5	(2) 5725/6AS6W	(1) 6AU6
(1) 6080	(1) 5726/6AL5W	(1) 6J4WA
(1) 6452/Z1963		

Total Tubes: (24)

(4) 1N23C (1) 1N23CR

Total Crystals: (5)

REFERENCE DATA AND LITERATURE

T.Q. 16-30UPM11-1: Operating and Service Instructions for Range Calibrator Set AN/UPM-11.

TYPE CLASSIFICATION
DESIGN COGNIZANCE USAF
PROCUREMENT COGNIZANCE USAF Spec WCEG-F-401
STOCK NO.
R.D.B. IDENT. NO. 8.1

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Range Calibrator Set AN/UPM-11 Including:		80
1	Range Calibrator TS-696/UPM-11		45
1	Antenna Horn AT-273/UPM		
1	Twistguide CG-673/U		
1	Adapter UG-591/U		
1	Adapter UG-592/U		
1	Measuring Tape TL-598/U		
1	Power Cable CX-1490/U		
1	R.F. Cable CG-252A/TPS-10		
1	Waveguide Clamp UG-590/U		
2	Wrench		
1	Case CY-818/U	12 X 12 X 19	

UNCLASSIFIED

UNCLASSIFIED

April 1959

Test-Timebase Measuring and Counting

RANGE CALIBRATOR

AN/UPM-61

FUNCTIONAL DESCRIPTION

1,600 pps, 2,000 pps; or 4,000 pps.

Range Calibrator AN/UPM-61 is a portable pulse generator that produces a marker pulse and a synchronizing pulse used in calibrating range units of radar receivers.

Electron Tube and Crystal Data not Available.

No field changes in effect at time of preparation (7 May 1959).

REFERENCE DATA AND LITERATURE

Nomenclature Card for RANGE CALIBRATOR AN/UPM-61.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 90 W, 110 to 120 v, 50 to 1,000 cy, 1 phase.

MARKER OUTPUT PULSE

REPETITION FREQUENCY: 327,800 pps.

SYNCHRONOUS OUTPUT PULSE

AMPLITUDE: 21 to 40 v.

DURATION: 0.5 usec.

REPETITION FREQUENCY: 400 pps; 800 pps;

TYPE CLASSIFICATION
DESIGN COGNIZANCE TASSA
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Range Calibrator AN/UPM-61 Including:		
1	Range Calibrator TS-884/UPM-61	7.5 X 8 X 16	18
4	Cord CG-409E/U	60 1g	
1	Cord CX-337/U	72 1g	
1	Cord CX-234/AP	180 1g	
2	Adapter UG-273/U		

UNCLASSIFIED

4.8 AN/UPM-61: 1

UNCLASSIFIED

June 1957

Test-Time Base Measuring and Counting

OSCILLOSCOPE

AN/USM-24B

FUNCTIONAL DESCRIPTION

The AN/USM-24B is a portable test set for bench-testing all types of electronic equipment. It displays time variation of a voltage pulse or wave with self-contained means for measuring its duration, displacements, and instantaneous magnitude. Auxiliary features include a calibrating generator for accurate measurement of instantaneous values of signal without recourse to external standards, a choice of five time markers for accurate time measurements, and a trigger generator with five fixed ranges for triggering both the oscilloscope and external apparatus.

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

VERTICAL: 4 cps to 10 mc.
 HORIZONTAL: 0.5 cps to 700 kc.
 BEAM MODULATION: 50 cps to 10 mc.
 INPUT IMPEDANCE
 HORIZONTAL: 300000 ohms.
 VERTICAL: 300000 ohms.
 BEAM MODULATION: 56000 ohms.
 POWER REQUIREMENTS: 105, 115 or 125 v, 50 to 1000 cps, single phase, 215 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

Waterman Products Company, Inc., Philadelphia, Pennsylvania.
 Contract Nobsr 52205, dated 15 January 1951.
 Approximate Cost: \$625.00 with equipment spares.

RELATION TO OTHER EQUIPMENT

Similar to and interchangeable with AN/USM-24 and AN/USM-24A for different component parts.

TUBE AND/OR CRYSTAL COMPLEMENT

No Electron Tubes.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

PRESENTATION: 3 in. CR tube.
 SWEEP DATA
 FREQUENCY RANGE: 8 to 600000 cps recurrent.
 TIME DURATION: 1.25 to 125000 usec triggered.
 DEFLECTION SENSITIVITY DATA
 VERTICAL: 0.035 v rms per in.
 HORIZONTAL: 4.0 v rms per in.
 FREQUENCY RESPONSE DATA

REFERENCE DATA AND LITERATURE

Nomenclature Card for Oscilloscope AN/USM-24B.

TYPE CLASSIFICATION DESIGN COGNIZANCE BUSHIPS PROCUREMENT COGNIZANCE MIL-0-15458A(SHIPS) STOCK NO. R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIP	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Oscilloscope AN/USM-24B including: (1) RF Cable Assembly with (2) Test Prod (2) RF Accessory Cable Assembly (3) Connector, Adapter UG-255/U (3) Connector, Adapter UG-273/U (1) Connector, Adapter UG-274/U (4) Connector, Adapter, Binding Post (1) Power Cable (1) Wrench, Spanner (1) Wrench, Hex, No. 6 Socket Head (1) Wrench, Hex, No. 8 Socket Head (2) Technical Manual (1) Set of Spare Parts	14-9/16 X 14-11/16 X 17-1/8	

UNCLASSIFIED

4.8 AN/USM-24B: 1

8 June 1962
Cog Service:

6625-643-2429
FSN: 6625-643-3327 W/S

OSCILLOSCOPE AN/USM-24C
Functional Class:

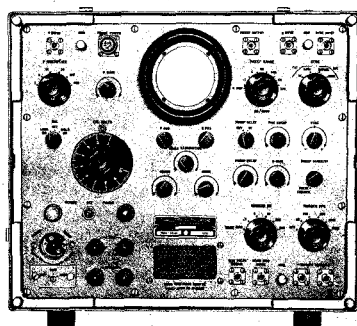
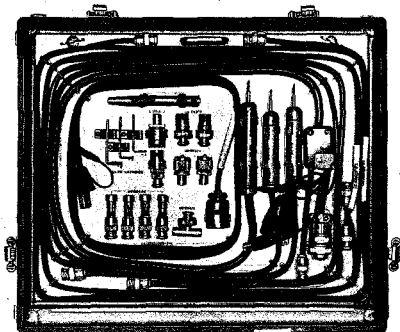
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Waterman Products Co., Inc.



Oscilloscope AN/USM-24C

FUNCTIONAL DESCRIPTION:

The Oscilloscope AN/USM-24C is a portable set for displaying a luminous plot of the time variation of a voltage pulse or wave, with self-contained means for measuring its duration, displacements and instantaneous magnitude of all portions of its shape. The Oscilloscope is primarily intended for use in testing of all types of electronic equipment.

No field changes in effect at time of preparation (1 June 1961).

TECHNICAL CHARACTERISTICS:

TYPE OF INSTALLATION: Portable.

SWEEP DATA

FREQUENCY RANGE: 8 to 800,000 cps.

TRIGGER DATA

DURATION: 1.25 to 125,000 usec for 2.5 in. deflection.

AN/USM-24C OSCILLOSCOPE

INTERNAL TRIGGER

DURATION: Approx 1.5 usec.

RISE TIME: 0.5 usec.

REPETITION RATE: 50, 300, 800, 2,000, 5,000 pps accurate to form 5%.

AMPLITUDE: 25 to 50 v.

SCREEN MARKER INTERVALS: 0.2, 1, 10, 100, 500 usec.

DEFLECTION SENSITIVITY DATA

THRU AMPLIFIER (NOMINAL)

VERTICAL: 0.05 v rms per inch.

HORIZONTAL: 3.5 v rms per inch.

DIRECT TO PLATES

VERTICAL: 110 v rms per inch.

HORIZONTAL: 150 v rms per inch.

FREQUENCY RESPONSE (NOMINAL)

X-AXIS: 8 cps to 800 kc.

Y-AXIS: 2 cps to 8 mc.

Z-AXIS: 6 cps to 5 mc.

INPUT IMPEDANCE (NOMINAL)

X-AXIS: 5.6 meg.

Y-AXIS: 0.3 meg.

Z-AXIS: 0.656 meg.

OPERATING POWER RQMT: 110 to 130 v, 50 to 400 cps, single ph.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Oscilloscope AN/USM-24 C consists of:		14-13/16 x 14-7/8 x 17-16/32	58
1	Oscilloscope OS-51/USM-24C		12-19/64 x 14-3/16 x 17-5/32	50.5
1	Cover, Combination Case CW-362/USM-24C		2-25/32 x 14-3/16 x 17-11/32	4.25
1*	Power, Cable CX-3092/USM-24C		1-5/32 od x 72 lg	3/8
2*	Test, Lead CG-409/U (8 ft 0 in.)		27/64 od x 96 lg	9/16
2*	Test, Lead CG-883A/USM-24		13/16 od x 58 lg	5/8
1*	Test, Lead CG-1277/USM-24C		1-1/4 od x 42-3/4	1/2
2*	Adapter UG-255/U		5/8 od x 1-3/8	1/8
4*	Adapter UG-924/U		9/16 od x 1-13/16	3/16
1*	Adapter UG-274/U		9/16 x 1-1/16 x 1-9/32	1/16
2*	Adapter UG-273/U		11/16 od x 1-5/16	1/8
1*	Adapter UG-201A/U		13/16 od x 1-5/16	1/16
1*	Adapter UG-349A/U		5/8 od x 1-9/16	1/16
1*	Wrench, Allen no. 4		3/64 x 5/8 x 1-13/16	
1*	Wrench, Allen no. 6		1/16 x 5/8 x 1-13/16	
4.8	AN/USM-24C: 2			

OSCILLOSCOPE AN/USM-24C

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1*	Wrench, Allen no 8		5/64 x 11/16 x 1-15/16	
1*	Wrench, Spanner TWA003		7/16 od x 4-1/8 lg	1/16
2**	Technical Manual NAVSHIPS-92465		1/2 x 8-3/4 x 11-1/2	3-1/2

NOTE: *Mounted in cover CW-362/USM-24C.

**One book is contained in cover CW-362/USM-24C, the other is packed in the shipping container.

REFERENCE DATA AND LITERATURE:

NAVSHIPS 92465: Technical Manual TM-11-5103A for Oscilloscope AN/USM-24C.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0A2WA (2) 1V2 (1) 3JP1 (3) 6AH6 (2) 6AN5WA (5) 12AT7WA (7) 12AU7A
(1) 5719 (2) 5726/6AL5W (2) 6135 (4) 6203

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	6.15	117
1	0.59	10

PROCUREMENT DATA

PROCURING SERVICE:

DESIGN COG: TASSA

SPEC &/OR DWG: MIL-0-15458A(SHIPS)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Waterman Products Co., Inc.	Philadelphia, Pa.	N0bsr-59499, 30 June 1952	
Model Engineering & Mfg Inc.	Huntington, Ind.	N0bsr-71353, 15 June 1956	
Speciality Engineering & Electronics Co.	Brooklyn, N. Y.	N0bsr-64701, 1 April 1955	
Waterman Products Co., Inc.	Philadelphia, Pa.	N0bsr-75320, 16 June 1958	

21 February 1963

Cog Service: USN

FSN: F6625-776-0428

ELECTRONIC COUNTER CAQI-524D

Functional Class: 8.6

USA

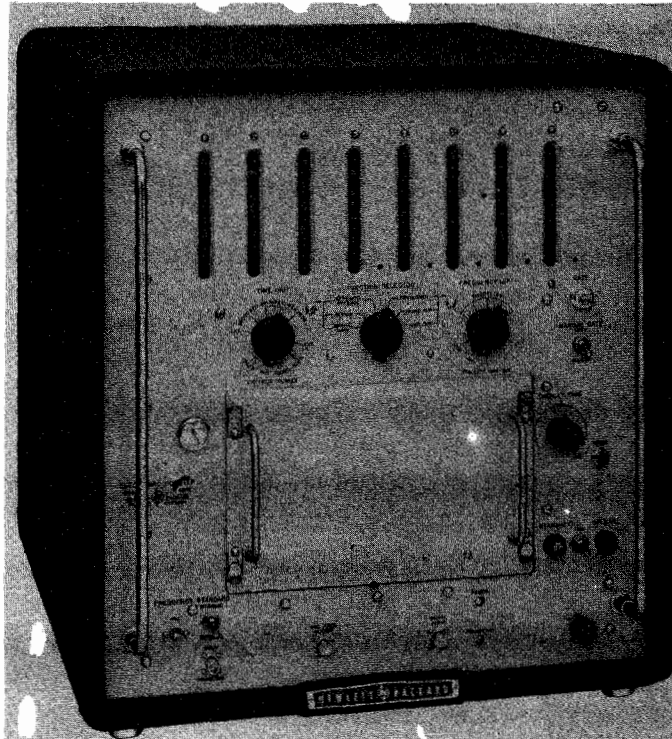
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Hewlett-Packard Company, (28480).



Electronic Counter CAQI-524D

FUNCTIONAL DESCRIPTION:

Electronic Counter CAQI-524D is a frequency counter, measuring and displaying frequency, time interval, period, frequency ratio, or total events. Frequency measurement is up to 10.1 mc.

No field changes in effect at time of preparation (22 December 1962).

TECHNICAL CHARACTERISTICS:

PORTABLE

FREQUENCY MEASUREMENT

RANGE: 10 cps to 10.1 mc.

GATE TIME: 0.001, 0.1, 1, 10 seconds or manual control.

ACCURACY: Form 1 count form stability (see below).

READS IN: Kilocycles.

CAQI-524D ELECTRONIC COUNTER

PERIOD MEASUREMENT

RANGE: 0 cps to 10 kc.

GATE TIME: 1 or 10 cycles of unknown.

ACCURACY: Form 0.3% (measurement one period). Form 0.03% (ten-period average).

STANDARD FREQUENCY COUNTED: 10 cps; 1 or 100 kc; 10 mc, or externally applied frequency.

READS IN: Seconds, milliseconds or microseconds.

GENERAL

REGISTRATION: 8 numbered columns; 99,999,999 maximum count.

STABILITY: 3/100,000,000 short term; 5/10⁸ per week.

DISPLAY TIME: Variable 0.1 to 10 seconds in steps of gate time selected. Display can be held indefinitely.

INPUT VOLTAGE: 1 v rms minimum 1.5 v peak. Rise time 0.2 sec max.

INPUT IMPEDANCE: Approx 1 megohm, 40 uuf shunt.

POWER: 115/230 v porm 10%, 50 to 60 cps, 600 W.

RELATION TO OTHER EQUIPMENT:

This equipment is identical electrically with CAQI-524C, but has an 8-decade numerical readout using neon indicators instead of line "number tube" readout.

EQUIPMENT REQUIRED BUT NOT SUPPLIED:

(1) Video Cable Assy CAQI-AC-16K; (1) Plug-In Unit CAQI-525A; (1) Plug-In Unit CAQI-525B;
(1) Plug-In Unit CAQI-526A; (1) Plug-In Unit CAQI-526B; (1) Plug-In Unit CAQI-526C.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Electronic Counter CAQI-524D		20 x 21.125 x 23.5	118
1	Cable Assy CAQI-AC-16D		0.5 x 0.5 x 44	1
2	Technical Manual		0.5 x 8.5 x 11	1

REFERENCE DATA AND LITERATURE:

NAVSHIPS 93771: Technical Manual for Electronic Counter Model 524D.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 0B2 (2) 2D21 (1) 5Y3GT (3) 5R4GY (2) 5654 (1) 5687 (8) 5725
(1) 5844 (13) 5963 (7) 6AH6 (2) 6AQ5 (3) 6AL5 (2) 6AS7GA (7) 6AU6
(6) 6CB6 (3) 12AT7

CRYSTALS: None used.

SEMI-CONDUCTORS: (54) HD2135(Hughes) (2) G12(CAQI)

4.8 CAQI-524D: 2

ELECTRONIC COUNTER CAQI-524D

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	12.7	157

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: Commercial

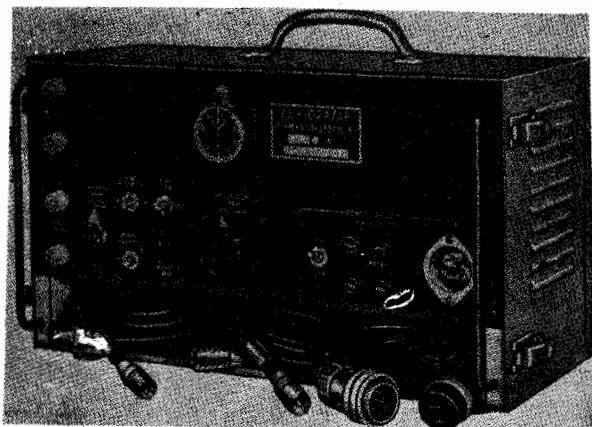
CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hewlett-Packard Company Model no. 524D	Palo Alto, California	N0bsr-81557, 27 June 1960	\$2,150.00

UNCLASSIFIED

April 1958

Test-Time Base Measuring and Counting

RANGE CALIBRATOR TS-102/AP, TS-102A/AP



Range Calibrator TS-102A/AP

REPETITION FREQUENCY: 327, 800 pps.
 DURATION: 0.4 usec.
 PULSE SHAPE: Triangular.
 SYNCHRONOUS OUTPUT PULSE
 AMPLITUDE: 30 to 50 v (not adjustable).
 POLARITY: Pos or neg.
 REPETITION FREQUENCY: 400 pps; 800 pps;
 1,600 pps; or 2,000 pps.
 DURATION: 0.8 usec.
 PULSE SHAPE: Square.
 POWER REQUIREMENTS: 65 W, 110 to 120 v, 0.6
 amp, 50 to 1,200 cps, single ph.

MANUFACTURER'S OR CONTRACTOR'S DATA

Western Electric Co, NY, NY.
 Contract NXsr-78776.
 Order No. 342-DAY-45, dated 31 Decem-
 ber 1942.
 Order No. 1105-DAY-44, dated 31 May
 1944.

FUNCTIONAL DESCRIPTION

The TS-102/AP and TS-102A/AP are port-
 able pulse generators that produce a marker
 pulse and a synchronizing pulse used in cali-
 brating range units of radar receivers.

No field changes in effect at time of
 preparation (16 April 1958).

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3GT (2) 6AG7
 (5) 6AC7 (2) 6SN7
 Total Tubes: (10)
 No Crystals used.

RELATION TO OTHER EQUIPMENT

Equipment Required but not Supplied: (1)
 Test Equipment IE-57-B or LZ, (11) Volt Ohmyst
 Jr., (1) Variac.

REFERENCE DATA AND LITERATURE

AN 16-35TS102-2: Handbook of Maintenance In-
 structions for Range Calibrators TS-102/AP
 and TS-102A/AP.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

MARKER OUTPUT PULSE

AMPLITUDE: 0 to 30 v continuously vari-
 able.

POLARITY: Pos or neg.

TYPE CLASSIFICATION
DESIGN COGNIZANCE USAF
PROCUREMENT COGNIZANCE NAVY SPEC RE13A918
STOCK NO.
R.D.B. IDENT. NO.

SHIPPING DATA

NUMBER OF BOXES	CONTENTS AND IDENTIFICATION	VOLUME (Cu.Ft.)	OVERALL DIMENSIONS (inches)	WEIGHT PACKED (lbs.)
1	Range Calibrator TS-102/AP	2.96	16 x 16 x 20	45
1	Range Calibrator TS-102A/AP	3.65	14 x 18 x 25	37

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	TS-102/AP Range Calibrator TS-102/AP including:	9-3/4 x 11-1/2 x 16-3/4	38
1	Cord CX-154/AP	180 lg	
	Cord CD-800	60 lg	

UNCLASSIFIED

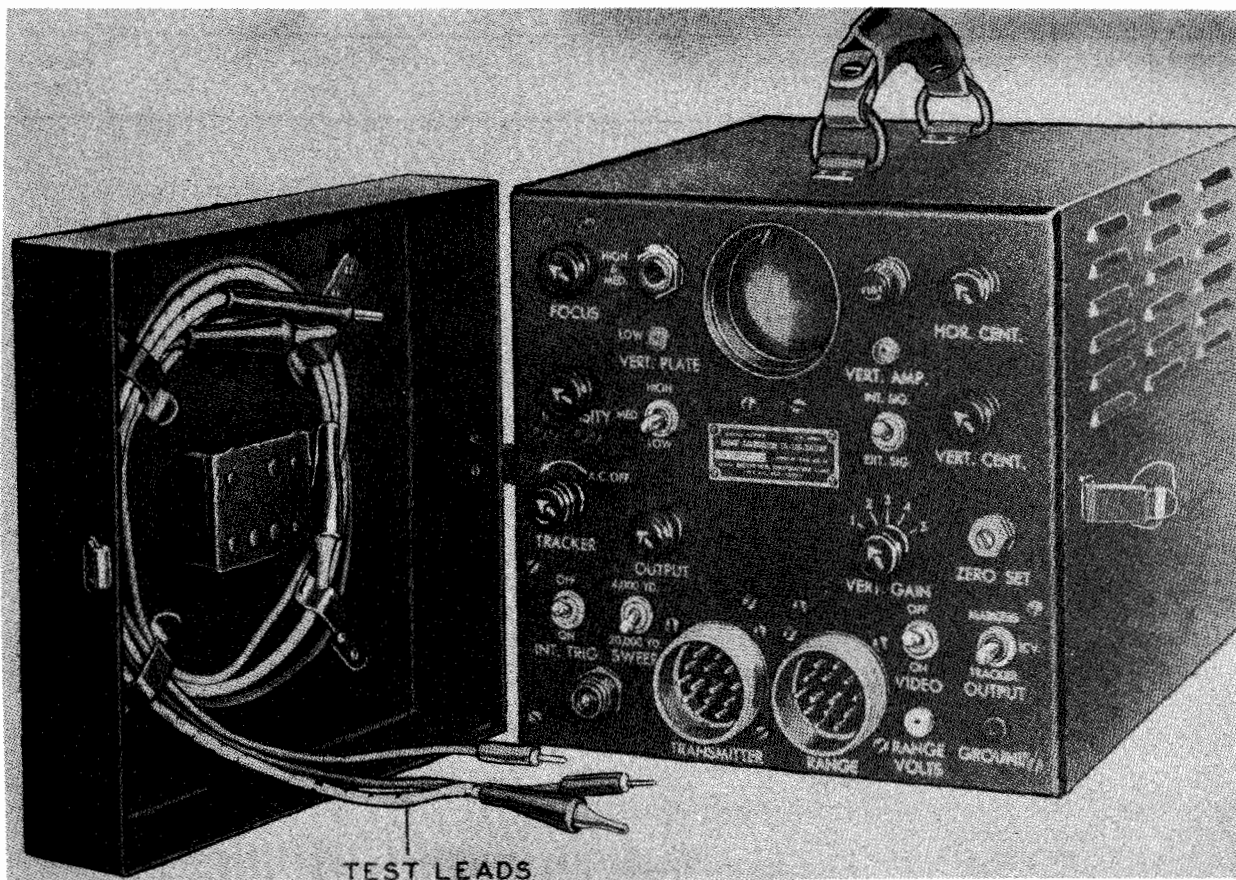
4.8 TS-102/AP: 1

April 1958

Test-Time Base Measuring and Counting

TS-102/AP, TS-102A/AP RANGE CALIBRATOR**EQUIPMENT SUPPLIED DATA**

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	TS-102A/AP Range Calibrator TS-102A/AP including:	9-7/8 x 11-17-7/8	31
1	Cord CX-234/AP	180 lg	
4	Cord CG-107/U	60 lg	

RANGE CALIBRATOR**TS-126/AP***Range Calibrator TS-126/AP***FUNCTIONAL DESCRIPTION**

The TS-126/AP is a synchroscope designed to permit the testing and adjustment of airborne range finding and gun sighting radar systems. It incorporates a cathode ray oscilloscope with a high speed horizontal start-stop sweep. Each cycle of the sweep is started by a trigger pulse (internal generator or external signal). Synchronized signals may be viewed on the scope either by direct coupling, or through a video amplifier. Range marker pips of variable amplitude are impressed on the sweep for calibration purposes. Fixed, or variable, marker delay is available, at choice, as well as a tracker pip which is variable in amplitude and position throughout the range of sweep. The internal pulse may be used for synchronization of

external equipment.

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

ELECTRICAL AND MECHANICAL CHARACTERISTICS

SWEEP RANGES: 4000 or 20000 yd.

OUTPUT TRIGGER

RATE: 950 to 2450 pps.

AMPLITUDE: -110 v into min design load impedance.

DESIGN LOAD IMPEDANCE: 4000 ohms, paralleled by 250 uuf.

EXTERNAL TRIGGER REQUIREMENTS

RATE: 950 to 1650 pps.

AMPLITUDE: 100 v, ± 20 percent.

MARKER PIPS

SPACING: 400 yd ± 1.3 yd between pips.

DELAY (between trigger and second pip):
Fixed, 550 yd; or variable, 600 to 850 yd.

TS-126/AP

RANGE CALIBRATOR

December 1956

TRACER PIPS: Variable from 600 to 4500 vd beyond trigger.

VERTICAL DEFLECTION SENSITIVITY

DIRECT COUPLING: 260 to 7000 v per in.

VERTICAL AMPLIFIER: 7 v to 1100 v per in.

POWER REQUIREMENTS: 115 v, 400 to 600 cps, 80 W.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5Y3GT/G (1) 6SL7GT (1) 2x2
 (5) 6SN7GT (2) 6AC7 (1) 2AP1
 Total Tubes: (11)

REFERENCE DATA AND LITERATURE

AN16-35TS126-2M: Technical Manual for Range Calibrator TS-126/AP.

MANUFACTURER'S OR CONTRACTOR'S DATA

Galvin Mfg. Corp., Chicago, Ill.

Contract: 774-DAY-44,

Contract: 774-DAY-46.

TYPE CLASSIFICATION DESIGN COGNIZANCE USAF PROCUREMENT COGNIZANCE STOCK NO. R.D.B. IDENT. NO.

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Range Calibrator TS-126/AP	10-3/16 X 10-1/2 X 14-3/16	31-1/2
1	Low-Voltage Test Lead (Red)	38-1/2	1/16
1	Low-Voltage Test Lead (Black)	38-1/2	1/16
1	High-Voltage Test Lead	38-1/2	1/16
1	Cord CG-243/AP	108	4-1/2
1	Cord CG-243/AP	36	2

18 February 1963
Cog Service: USN

F6625-369-5998
FSN: F6625-500-0709 W/S

RANGE CALIBRATOR TS-573/UP
Functional Class: 8.1

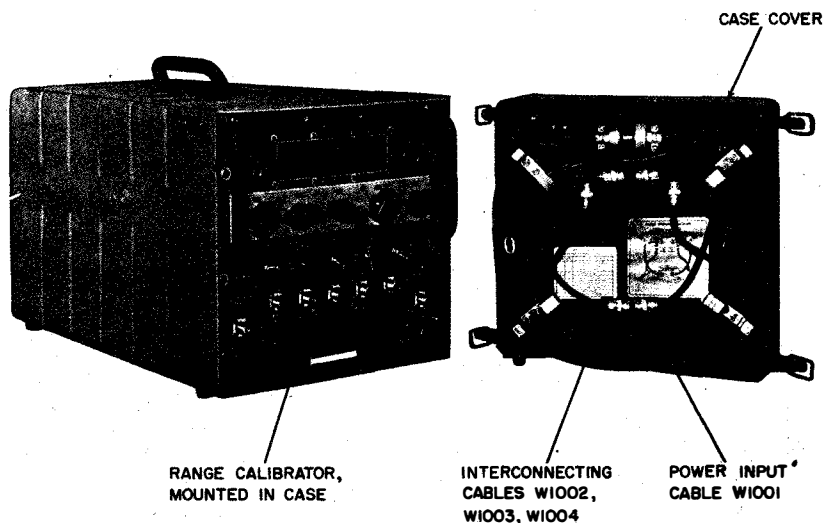
USA

USN

USAF

TYPE CLASS: Std Std

MANUFACTURER'S NAME/CODE NUMBER: Radio Corp of America, RCA Victor Div., (79089).



Range Calibrator TS-573/UP

FUNCTIONAL DESCRIPTION:

Range Calibrator TS-573/UP is a portable, precision, radar range calibrator test set which provides a strobe output to calibrate the range circuits of pulse-type radar equipment. The actual range limitations of the strobe output are between approx 400 and 400,200 yards, determined by adjusting the strobe output in 10-yard steps for any range between the limits of 100 to 399,990 yards and adding the inherent "zero error" of the particular unit. Range Calibrator TS-573/UP may also be used to determine the range of an external marker by comparing this marker input with the TS-573/UP strobe, employing either the comparator circuit of the unit or an external test scope.

No field changes in effect at time of preparation (7 October 1962).

TECHNICAL CHARACTERISTICS:

INPUT PULSE DATA

TS-573/UP RANGE CALIBRATOR

EXTERNALLY TRIGGERED: 47 to 5000 pps, pos or neg, 10 to 50 v.

INTERNALLY TRIGGERED: 160, 480, 800, 1200 or 2400 pps.

OUTPUT TRIGGER DATA: 75 ohms (low imp) (10 v min); 5000 ohms (high imp); pos or neg.

OUTPUT MARKER DATA: Range type; 160, 480, 800, 1200, and 2400 pps recurrence frequency range; accuracy perm (0.01% P10 yds); base width 0.3 usec; amplitude variable from 0 at 75 ohms impedance; pos or neg.

POWER REQUIREMENTS: 115 v, 50 to 1000 cyc, single ph.

OUTPUT: Adjustable in 10-yd increments from 400 yds to 400000 yds.

OPERATING TEMPERATURE: M40 deg C to P55 deg C.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Range Calibrator TS-573/UP		12 x 13 x 22-1/2	44-1/4
1	Set of Equipment Spare Parts			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91760: Technical Manual for Range Calibrators TS-573/UP, TS-573A/UP, TS-573B/UP and TS-573C/UP.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (24) 6BF7/6BF7W (4) 5784 (6) 5840 (1) 5902

CRYSTALS: (1) CR-18/U

SEMI-CONDUCTORS: (46) G5S3

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	8.3	130
1	0.25	20

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG: MIL-C-15539(SHIPS)

DESIGN COG: USN, BuShips

RANGE CALIBRATOR TS-573/UP

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Corp of America, RCA Victor Div.	Camden, N. J.	NObsr-52327, 17 September 1952	

19 February 1963

Cog Service: USN FSN: F5840-543-1295 W/S

RANGE CALIBRATOR TS-573A/UP
Functional Class: 8.1

USA

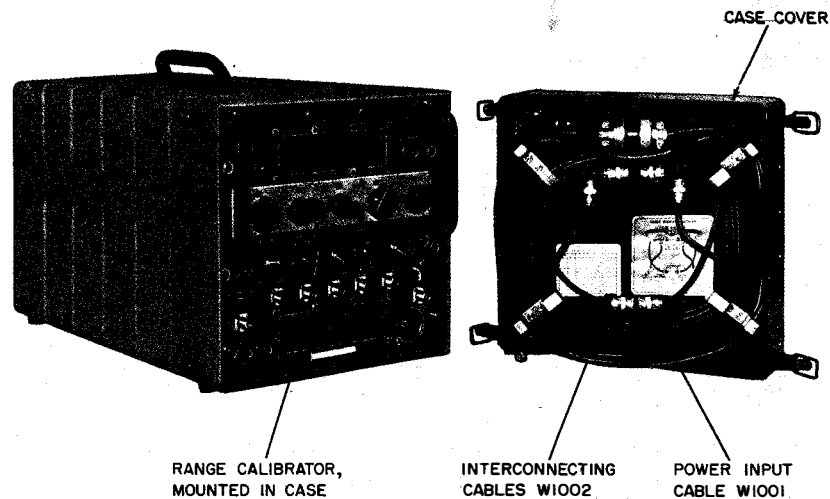
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Emerson Radio and Phonograph Corporation, (72171).



Range Calibrator TS-573A/UP

FUNCTIONAL DESCRIPTION:

Range Calibrator TS-573A/UP is a portable, precision, radar range calibrator test set which provides a strobe output to calibrate the range circuits of pulse-type radar equipments. The actual range limitations of the strobe output are between approx 400 and 400,200 yards, determined by adjusting the strobe output in 10 yard steps for any range between the limits of 100 to 399,990 yards and adding the inherent "zero error" of the particular unit. Range Calibrator TS-573A/UP may also be used to determine the range of an external marker by comparing this marker input with the TS-573A/UP strobe, employing either the comparator circuit of the unit or an external test scope.

No field changes in effect at time of preparation (7 October 1962):

TECHNICAL CHARACTERISTICS:

INPUT PULSE DATA

TS-573A/UP RANGE CALIBRATOR

EXTERNALLY TRIGGERED: 47 to 5,000 pps, pos or neg, 10 to 50 v.

INTERNALLY TRIGGERED: 160, 480, 800, 1,200 or 2,400 pps.

OUTPUT TRIGGER DATA: 75 ohms (low imp) (10 v min); 5,000 ohms (high imp); pos or neg.

OUTPUT MARKER DATA: Range type; 160, 480, 800, 1,200, and 2,400 pps recurrence frequency range; accuracy perm (0.01% P10 yds); base width 0.3 usec; amplitude variable from 0 at 75 ohms impedance; pos or neg.

POWER REQUIREMENTS: 115 v, 50 to 450 cyc, single ph.

OUTPUT: Adjustable in 10-yd increments from 400 yds to 400,000 yds.

OPERATING TEMPERATURE: M40 deg C to P55 deg C.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Range Calibrator TS-573A/UP		12 x 13 x 22-1/2	44-1/4
1	Set of Equipment Spare Parts			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91760: Technical Manual for Range Calibrators TS-573/UP, TS-573A/UP, TS-573B/UP, TS-573C/UP.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (24) 6021A (4) 5784 (6) 5840 (1) 5902

CRYSTALS: (1) CR-18/U

SEMI-CONDUCTORS: (52) 1N198

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	8.3	130
1	0.25	20

PROCUREMENT DATA

PROCURING SERVICE: USN

DESIGN COG: USN, BuShips

SPEC &/OR DWG: MIL-C-15539A(SHIPS)

RANGE CALIBRATOR TS-573A/UP

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Emerson Radio and Phono- graph Corporation	Jersey City, New Jersey	NObsr-64799, 20 June 1955	

2 July 1962
Cog Service:

6625-606-1515
FSN: 6625-539-7337 W/S

RANGE CALIBRATOR TS-573B/UP
Functional Class:

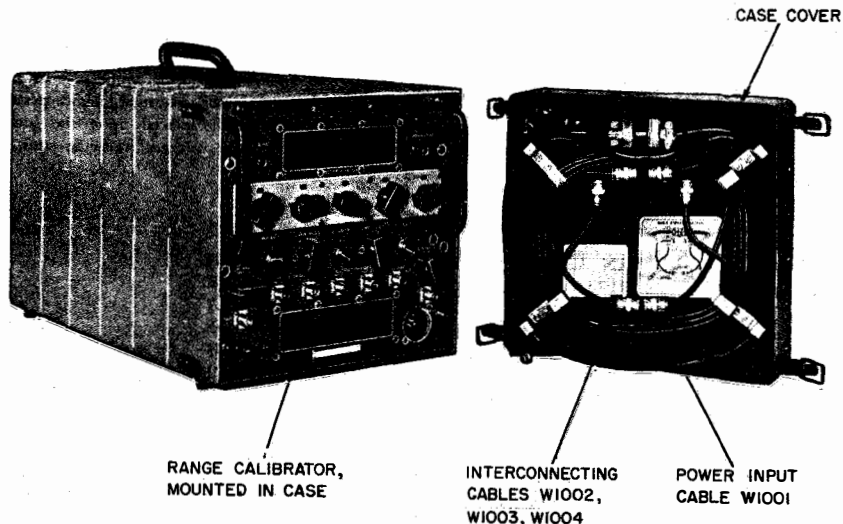
USA

USN

USAF

TYPE CLASS:

MANUFACTURER'S NAME/CODE NUMBER: Radio Corp of America.



Range Calibrator TS-573B/UP

FUNCTIONAL DESCRIPTION:

Range Calibrator TS-573B/UP is a portable, precision, radar range calibrator test set which provides a strobe output to calibrate the range circuits of pulse-type radar equipments. The actual range limitations of the strobe output are between approx. 400 and 400,200 yds, determined by adjusting the strobe output in 10-yd steps for any range between the limits of 100 to 399,990 yds and adding the inherent "zero error" of the particular unit. Range Calibrator TS-573B/UP may also be used to determine the range of an external marker by comparing this marker input with the TS-573B/UP strobe, employing either the comparator circuit of the unit or an external test scope.

No field changes in effect at time of preparation (7 October 1960).

TECHNICAL CHARACTERISTICS:

INPUT PULSE DATA

TS-573B/UP RANGE CALIBRATOR

EXTERNALLY TRIGGERED: 47 to 5000 pps, pos or neg, 10 to 50 v.
INTERNALLY TRIGGERED: 160, 480, 800, 1200 or 2400 pps.
OUTPUT TRIGGER DATA: 75 ohms (low imp.) (10 v min.); 5000 ohms (high imp.); pos or neg.
OUTPUT MARKER DATA: Range type; 160, 480, 800, 1200, and 2400 pps recurrence frequency range; accuracy (porm 0.01% P10 yds); base width 0.3 usec; amplitude variable from 0 to 75 ohms impedance; pos or neg.
POWER REQUIREMENTS: 115 v, 50 to 450 cps, single ph.
OUTPUT: Adjustable in 10 yd increments from 400 yds to 400,000 yds.
OPERATING TEMPERATURE: M40 deg C to P55 deg C.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Range Calibrator TS-573B/UP		12 x 13 x 22-1/2	44-1/4
1	Set of Equipment Spare Parts			

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91760: Technical Manual for Range Calibrators TS-573/UP, TS-573A/UP, TS-573B/UP, and TS-573C/UP.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (24) 6021A (4) 5784 (6) 5840 (1) 5902

CRYSTALS: (1) CR-18/U

SEMI-CONDUCTORS: (55) 1N198

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	8.3	130
1	0.25	20

PROCUREMENT DATA

PROCURING SERVICE:
SPEC &/OR DWG:

DESIGN COG: USN, BuShips

RANGE CALIBRATOR TS-573B/UP

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Corp of America, Missile and Surface Radar Dept	Moorestown, N. J.	N0bsr-71710, 28 March 1957	

19 February 1963

Cog Service: USN FSN: F6625-448-0052

RANGE CALIBRATOR TS-573C/UP

Functional Class: 8.1

USA

USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Radio Corp. of America, (02769).

(No Illustration Available)

FUNCTIONAL DESCRIPTION:

Range Calibrator TS-573C/UP is a portable, precision, radar range calibrator test set which provides a strobe output to calibrate the range circuits of pulse-type radar equipments. The actual range limitations of the strobe output are between approx 400 and 400,200 yards, determined by adjusting the strobe output in 10-yard steps for any range between the limits of 100 to 399,990 yards and adding the inherent "zero error" of the particular unit. Range Calibrator TS-573C/UP may also be used to determine the range of an external marker by comparing this marker input with the TS-573C/UP strobe, employing either the comparator circuit of the unit or an external test scope.

No field changes in effect at time of preparation (4 February 1963).

TECHNICAL CHARACTERISTICS:

INPUT PULSE DATA

EXTERNALLY TRIGGERED: 47 to 5,000 pps, pos or neg, 10 to 50 v.

INTERNALLY TRIGGERED: 160, 480, 800, 1,200 or 2,400 pps.

OUTPUT TRIGGER DATA: 75 ohms (low imp) (10 v min); 5,000 ohms (high imp); pos or neg.

OUTPUT MARKER DATA: Range type; 160, 480, 800, 1,200, and 2,400 pps recurrence frequency range; accuracy perm (0.01% P10 yds); base width 0.3 usec; amplitude variable from 0 at 75 ohms impedance; pos or neg.

POWER REQUIREMENTS: 115 v, 50 to 450 cps, single ph.

OUTPUT: Adjustable in 10-yd increments from 400 yds to 400,000 yds.

OPERATING TEMPERATURE: M40 deg C to P55 deg C.

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Range Calibrator TS-573C/UP		12 x 13 x 22-1/2	40

REFERENCE DATA AND LITERATURE:

NAVSHIPS 91760: Technical Manual for Range Calibrators TS-573/UP, TS-573A/UP, TS-573B/UP, and TS-573C/UP.

TS-573C/UP RANGE CALIBRATOR

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (24) 6021/6021A (4) 5784 (4) 5840 (1) 5920

CRYSTALS: (1) CR-18/U

SEMI-CONDUCTORS: (56) 1N198

SHIPPING DATA

PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	2.9	50

PROCUREMENT DATA

PROCURING SERVICE: USN DESIGN COG: USN, BuShips
SPEC &/OR DWG: MIL-C-19033 (SHIPS), Amend 4

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Radio Corp. of America, DEP Dwg no. 314645-115 Rev 9	Moorestown, New Jersey	N0bsr-81099, 15 March 1960 N0bsr-85311	\$1,679.00 \$2,203.00

February 1960

Test-Timebase Measuring and Counting

STROBOSCOPE**TS-805/U**

Stroboscope TS-805/U

FUNCTIONAL DESCRIPTION

Stroboscope TS-805/U is a portable instrument used in measuring the speed of rotating, reciprocating, and vibrating mechanisms.

No field changes in effect at time of preparation (17 July 1959).

RELATION TO OTHER EQUIPMENT

This equipment is identical with General Radio Model 631-B.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 35 W, 105 to 125 v, 60 cy, 1 ph.
 CALIBRATION: 7,200 cpm.
 COLOR: Red-orange (neon).
 FLASH: 10 to 40 usec.
 RANGE: 600 to 14,400 rpm (direct); to 100,000 rpm (indirect).
 ACCURACY: $\pm 1\%$ above 900 rpm.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Radio Co., Cambridge, Mass.
 Order No. 16884-PHILA-44.
 Approximate Cost: \$83.60.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6N7GT (1) 6X5GT
 (1) 631-P1
 Total Tubes: (3).
 No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91249: Technical Manual for STROBOSCOPE 631-B.

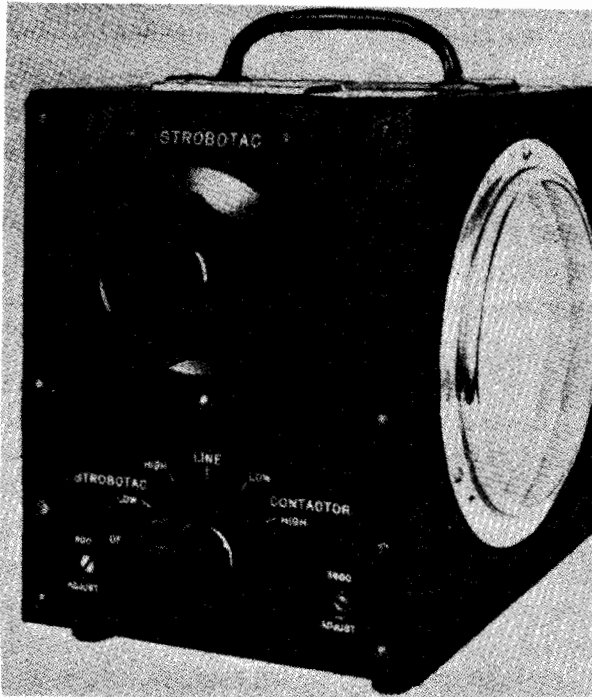
TYPE CLASSIFICATION
DESIGN COGNIZANCE USA, SIG C
PROCUREMENT COGNIZANCE
STOCK NO.
R.D.B. IDENT. NO. 8.3

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Stroboscope TS-805/U Including:	7-1/2 X 8-3/4 X 9-7/8	8.75
1	Technical Manual		
1	Line Cord	84 lq	

February 1960

Test-Timebase Measuring and Counting

STROBOSCOPE**TS-805A/U***Stroboscope TS-805A/U***FUNCTIONAL DESCRIPTION**

Stroboscope TS-805A/U is a portable instrument used in measuring the speed of rotating, reciprocating, and vibrating mechanisms.

No field changes in effect at time of preparation (17 July 1959).

RELATION TO OTHER EQUIPMENT

This equipment is identical with General Radio Model 631-BL.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 35 W, 105 to 125 v, 60 cy, 1 ph.

CALIBRATION: 7,200 cpm.

COLOR: Red-orange (neon).

FLASH: 10 to 40 usec.

RANGE: 600 to 14,400 rpm (direct); to 100,000 rpm (indirect).

ACCURACY: $\pm 1\%$ above 900 rpm.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Radio Co., Cambridge, Mass.

Contract NObsr-71169.

Contract NObsr-71650.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6N7GT (1) 6X5GT (1) 631-P1

Total Tubes (3)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 92862: Technical Manual for STROBOSCOPE TS-805A/U.

TYPE CLASSIFICATION

DESIGN COGNIZANCE USN, BUSHIPS

PROCUREMENT COGNIZANCE

STOCK NO.

R.D.B. IDENT. NO. 83

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Stroboscope TS-805A/U Including:	7-1/2 X 8-3/4 X 9-7/8	8.75
1	Technical Manual		
1	Line Cord	84 lg	

18 May 1962

STROBOSCOPE TS-969/U

Cog. Service: USN FSN:

Functional Class: 8.3

USA

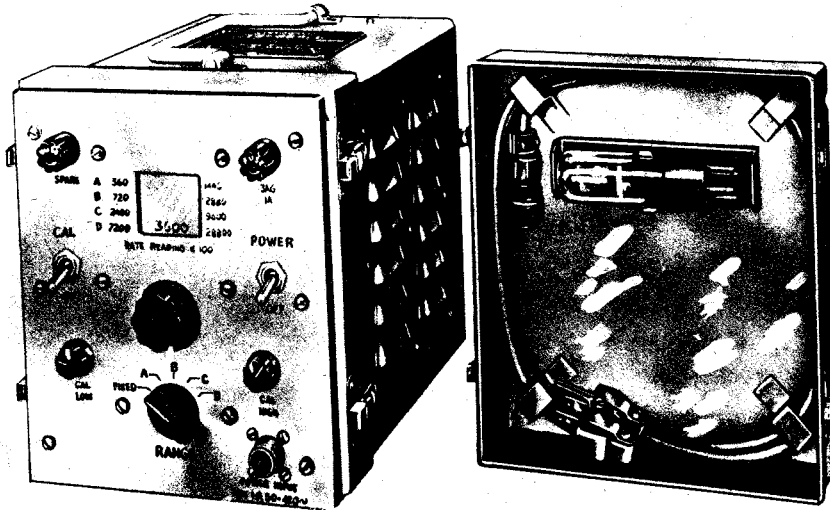
USN

USAF

TYPE CLASS:

Used by

MANUFACTURER'S NAME/CODE NUMBER: Electronic Brazing Co., (83490).



Stroboscope TS-969/U

FUNCTIONAL DESCRIPTION:

Stroboscope TS-969/U is a portable instrument used in calibration and maintenance of Computer Group AN/ASA-13. It may also be used as an electronic tachometer for observation and measurement of speeds in rotating or vibrating equipments.

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

TECHNICAL CHARACTERISTICS:

SHAFT SPEED RANGES: 3,600 (fixed), 360 to 1,400; 720 to 2,880; 2,400 to 9,600; 7,200 to 28,800 rpm.

POWER REQUIREMENTS: 105 to 125 v, 50 to 420 cyc, single ph, 100 W.

RELATION TO OTHER EQUIPMENT: None.

TS-969/U STROBOSCOPE

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Stroboscope TS-969/U Includes:		8-1/8 x 8-3/8 x 13-7/8	20
1	Case Cover			
1	Cable Assy, Power			

REFERENCE DATA AND LITERATURE:

NAVAER 16-35TS969-1: Handbook of Operations and Service Instructions with Illustrated Parts Breakdown for Stroboscope TS-969/U.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (1) 5V4GA (1) 5687WA (2) 5751 (1) 5965 (2) 6627/0B2WA (2) 631-P1

CRYSTALS: None used.

SEMI-CONDUCTORS: None used.

SHIPPING DATA

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

PROCURING SERVICE: USN DESIGN COG: USN, BuWeps
SPEC &/OR DWG: MIL-S-18437(BuAer)

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Electronic Brazing Co. Part no. 82-100	Montclair, N. J.	N383(17)-54535A N383-60503A	
Loral Electronics Corp. Part no. 4501-11	New York, N. Y.	N0as-55-766-r	

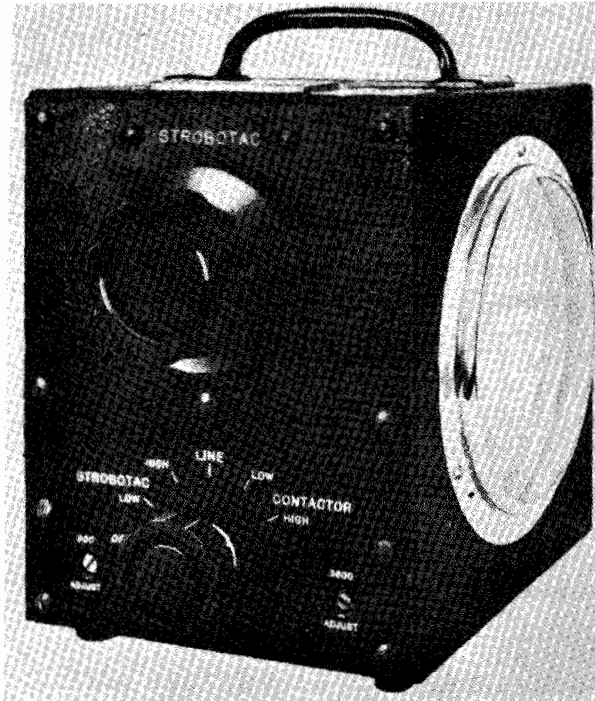
UNCLASSIFIED

February 1960

Test-Timebase Measuring and Counting

STROBOSCOPE

60175



Stroboscope 60175

COLOR: Red-orange (neon).

FLASH: 10 to 40 usec.

RANGE: 600 to 14,400 rpm (direct); to 100,000 rpm (indirect).

ACCURACY: ±1% above 900 rpm.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Radio Co., Cambridge, Mass.
Contract NObsr-43131, dated 3 December 1948.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6N7GT (1) 6X5GT (1) 631-P1

Total Tubes: (3)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91249: Technical Manual for Stroboscope 631-B.

FUNCTIONAL DESCRIPTION

Stroboscope 60175 is a portable instrument used in measuring the speed of rotating, reciprocating, and vibrating mechanisms.

No field changes in effect at time of preparation (17 July 1959).

RELATION TO OTHER EQUIPMENT

This equipment is identical with General Radio Model 631-B.

ELECTRICAL AND MECHANICAL CHARACTERISTICS

POWER REQUIREMENTS: 35 W, 105 to 125 v, 60 cy, 1 ph.

CALIBRATION: 7,200 cpm.

TYPE CLASSIFICATION (NAVY) STD
 DESIGN COGNIZANCE USN, BUSHIPS
 PROCUREMENT COGNIZANCE
 STOCK NO.
 R.D.B. IDENT. NO. 8.3

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Stroboscope 60175 Including:	7-1/2 X 8-3/4 X 9-7/8	8.75
1	Technical Manual NAVSHIPS 91249		
1	Line Cord	84 lg	

UNCLASSIFIED

4.8 60175: 1

April 1958

Test-Time Base Measuring and Counting

STROBOTAC 631-B (GENERAL RADIO)

Strobotac 631-B

FUNCTIONAL DESCRIPTION

The General Radio Type 631-B is a stroboscope tachometer which permits rotating, vibration, or reciprocating objects to be viewed intermittently and produce the optical effect of slowing down or stopping motion. The apparent slow motion is an exact replica of the original high speed motion of a high speed machine, can be analyzed while in actual operation. It is particularly adapted for the measurement of speed where the end of the shaft is not accessible, or in cases of very low power devices where power is limited.

No field changes in effect at time of preparation (8 May 1958).

RELATION TO OTHER EQUIPMENT

The General Radio Co. Type 631-B is the same as NT 60175 and also the same as the TS-805/U.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**SPEED RANGE**

DIRECT READING: 600 to 14400 rpm.

INDIRECT READING: Up to 100000 rpm approx.

ACCURACY: $\pm 1\%$ above 900 rpm on standard range when using a frequency controlled power line.

CALIBRATOR: 7200 vibrations per minute at 60 cps supply.

FLASH: 5 to 10 usec.

COLOR: Red-Orange (Neon).

POWER SUPPLY: 105 to 125 v AC, 50 to 60 cps, 35 W max.

MANUFACTURER'S OR CONTRACTOR'S DATA

General Radio Co; Cambridge, Mass.
Contract NObsr 43131.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 6N7GTG (1) 6X5GTG (1) 631-P1

Total Tubes: (3)

No Crystals Used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91249: Technical Manual for Type 631-B Strobotac.

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

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Strobotac Type 631-B, NT 60175	7-1/2 X 8-3/4 X 9-7/8	8.75
1	Line Cord	84 lg	