

NAVSHIPS 94200.4-2 Directory of Electronics Test
Equipment - Supplement 2
Section 4.8 Time Base Measuring and Counting
Equipment

22 June 1965

Cog Service: USN FSN: 2F6625-448-6448

TIME COMPARATOR SYSTEM CAQI-K17-999B

Functional Class:

USA

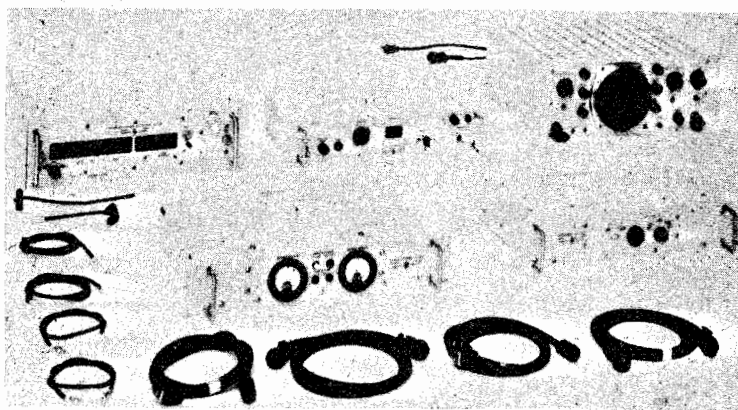
USN

USAF

TYPE CLASS:

Used by

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



TIME COMPARATOR SYSTEM CAQI-K17-999B

FUNCTIONAL DESCRIPTION:

Time Comparator System CAQI-K17-999B gives precise time comparisons between stable oscillators and broadcast standard time signals by the integration of a 100 kilocycle output of a stable oscillator by the Frequency Divider and Digital Clock 115AR.

The Time Comparator 114BR generates linear sweep voltages, provides intensity-modulated timing markers for the Oscilloscope H13-120AR, and determines the delay between the 1 pulse per second "tick" from the Frequency Divider and Digital Clock and the beginning of the oscilloscope sweep.

No field changes in effect at time of preparation (27 May 1965).

RELATION TO OTHER EQUIPMENT: None.

EQUIPMENT REQUIRED BUT NOT SUPPLIED: None.

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TECHNICAL CHARACTERISTICS:

ONE KILOCYCLE PULSE OUTPUT

PULSE RATE: 1000 pps.

AMPLITUDE: + and - pulses, at least 4 v peak.

DURATION: 8 usec nom.

SOURCE IMPEDANCE: 5000 ohms nom.

AUXILIARY OUTPUT: 10, 60, 100, and 1000 cyc sinusoidal, 0.25 v rms, source impedance 1200 ohms.

TIME REFERENCE CONTROL: Continuously adjustable. Directly calibrated in ms and 10 usec increments.

SWEEP TIMES: 1000, 100, 10, and 1 ms selected by SWEEP TIME switch.

SWEEP DELAY: 1 to 1000 ms in digital steps of 1 ms.

TIME SIGNAL GATING: Tick to oscilloscope gated at 1 sec intervals for stable base line between ticks.

INTENSITY MARKERS:

Intervals automatically adjusted to 1/10 of the sweep duration.

Lg adjusted to SWEEP TIME.

May be switched on or off by the MARKER switch.

TRACE UNBLANKING: DC coupled.

FREQUENCY INPUT: 100 kc \pm 300 cps.

ACCURACY

OUTPUT SIGNAL: Determined by the accuracy of the input freq.

TIME REFERENCE DIAL: \pm 10 usec.EFFECT OF TRANSIENTS (NO GAIN OR LOSS WILL RESULT FROM TRANSIENTS CAUSED BY): \pm 300 v step function on 100 kc input; 0 to 50 v pulses, 0 to 500 pps, 1 to 10 usec duration on 100 kc input; \pm 10% step function on the line v, or complete interruption or restoration of power.

INPUT SIGNALS REQUIRED: 0.5 to 5 v rms.

INPUT IMPEDANCE: 300 ohms nom.

TICK OUTPUT

PULSE RATE: 1 pps.

JITTER: Less than 1 usec.

AMPLITUDE: 10 v min.

RISE TIME: Less than 10 usec.

DURATION: 5 to 30 usec.

SOURCE IMPEDANCE: 5000 ohms.

ONE HUNDRED MILLISECOND PULSE OUTPUT

PULSE RATE: 1 pps.

AMPLITUDE: 4 v min.

RISE TIME: Less than 10 usec.

DURATION: 100 ms nom.

SOURCE IMPEDANCE: 50 ohms nom.

STANDBY BATTERY CAPACITY: 2 hr.

OVER CURRENT PROTECTION: Protects the power supply from over-discharged batteries and defective fuses.

ALARM INDICATORS: Lamps on front panel indicate failure of the 115 v ac line, line fuses or power supply. Open load pulses are also indicated.

REMOTE ALARM PROVISIONS: DPDT contacts, at 115 v ac 5 amp resistive or at 24 v dc.

CLOCK: Digital time indication to 23:59:59.

POWER REQUIREMENTS: 115 v \pm 10%, 50 to 60 cps, 1 ph.

TIME COMPARATOR SYSTEM CAQI-K17-999B

MAJOR COMPONENTS

QTY	ITEM	STOCK NUMBERS	DIMENSIONS (INCHES)	WEIGHT (LBS)
1	Time Comparator System	2F6625-448-6448		
	CAQI-K17-999B consists of:			
1	Time Comparator CAQI-114BR		3-1/2 x 13-1/2 x 19	11
1	Frequency Divider and Clock CAQI-115AR		5-1/4 x 13-1/2 x 19	35
1	Frequency Divider CAQI-116AR		3-1/2 x 12 x 19	12
1	Oscilloscope CAQI-H13-120AR		7 x 13-3/4 x 19	35
1	Battery Power Supply CAQI-725AR		3-1/2 x 12 x 19	27
2	Cable Assembly CAQI-AC-16W		5/8 x 5/8 x 24	0.5
2	Cable Assembly CAQI-AC-16X		5/8 x 5/8 x 36	0.5
1	Cable Assembly CAQI-103A-16A		7/8 x 1-1/4 x 72	1.0
1	Cable Assembly CAQI-113A-16E		1-1/4 x 1-1/4 x 72	1.0
2	Cable Assembly CAQI-114B-16A		1 x 1-3/4 x 72	0.75
2	Cable Assembly CAQI-114B-16C		1-1/4 x 1-3/4 x 6-1/2	0.25

REFERENCE DATA AND LITERATURE:

NAVSHIPS 94218: Hewlett-Packard Co./Operating and Service Manual K17-999B Time Comparator System.

TUBE, CRYSTAL AND/OR SEMI-CONDUCTOR DATA:

TUBES: (4) ECC-82/12AU7 (1) 5AR4 (2) 5642 (1) 5651 (1) 6AN8 (1) 6AQ5 (1) 6AU6
 (1) 6C4 (1) 6DJ8 (3) 6U8A (1) 6X4 (2) 12AT7 (2) 12B4A (4) CAQI-G-84B
 (2) CAQI-G-84D (1) CAQI-G-204A

CRYSTALS: None.

SEMI-CONDUCTORS: (23) CCVL-HD-2135A-5 (4) CCTO-RD-1526 (1) CCTO-RD-2585 (1) CGG-SZ-489
 (1) CGG-2-1/4MIOZ(MATCHED) (45) CRPT5160z (1) 1N281 (2) 1N538
 (1) 1N540 (3) 1N1344 (1) 1N1594 (1) 1N2175 (2) 2N174 (1) 2N301
 (1) 2N457A (2) 2N458A (7) 2N585 (1) 2N218 (25) 2N1373
 (1) CAQI-G-29A-50 (1) CAQI-G-29H-21 (10) CAQI-G-31A-7A
 (1) CAQI-G-31A-15H (1) CAQI-G-31G-27L (5) CAQI-G-129 (1) CAQI-113B-172A
 (1) CAQI-113B-172B (4) CAQI-1850-0062 (4) CAQI-1854-0003
 (4) CAQI-1901-0022 (1) CAQI-1901-0026 (1) CAQI-1902-0002
 (2) CAQI-1902-0016 (10) CAQI-1901-0011 (2) CAQI-2140-0016
 (1) CAQI-724B-172A

SHIPPING DATA

*PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	4.6	55
1	4.6	55

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TIME COMPARATOR SYSTEM CAQI-K17-999B

*PKGS	VOLUME (CU FT)	WEIGHT (LBS)
1	1.7	18
1	1.7	37
1	2.3	20

*Packed for domestic shipment.

PROCUREMENT DATA

PROCURING SERVICE: USN
SPEC &/OR DWG:

DESIGN COG: Commercial

CONTRACTOR	LOCATION	CONTRACT OR ORDER NO.	APPROX. UNIT COST
Hewlett-Packard Company	Palo Alto, California	N0bsr-81557	

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