Duty Cycle A (Constant Duty Cycle Required)
Range: 1% to 99%, 0 to 100 MHz
Trigger point range: 40% to 60% of pulse height
LSD displayed: $\frac{1\text{ ns}}{\text{period}} \times 100\%$

Slew Rate A
Range: 50 V/s to 10^8 V/s slew rate with 50 Hz to 25 MHz repetition rates (50% duty cycle). Minimum pulse height, width, and duty cycle range are same as Rise and Fall Time A
Input mode: Automatically set to COMMON A with 10% and 90% trigger levels

Ratio A/B
Range: Channel A: 0 to 200 MHz (prescaled by 2);
Channel B: 0 to 100 MHz.
LSD displayed: $\frac{\text{Ratio}}{\text{Freq} \times \text{Gate Time}}$ where Freq is higher frequency after prescaling

Totalize A
Range: 0 to 100 MHz
LSD displayed: 1 count of input
HP-IB output: At end of gate
Manual
Count reset: Via RESET key
HP-IB output: Totalize data on-the-fly sent if Cycle mode set to Single. Input frequency range in this mode is 0 to 50 Hz nominal.
Gated
Count reset: Automatic after measurement

Phase A Rel B
Range: −180° to 360° (Range Hold OFF) or 0° to 360° (Range Hold ON) with signal repetition rates of 30 Hz to 1 MHz.
Minimum signal: 100 mV rms
LSD displayed: 0.1°

Gate Time
Range: 100 μs to 10^7 s
LSD displayed: Up to 3 digits with Ext. Arm Enable OFF, 100 ns when ON. MIN Gate Mode display zero.

Trigger Level
Range: ×1, +5 to −5 V; ×10, +50 to −50 V
Resolution: ×1, 10 mV; ×10, 100 mV
Accuracy (×1): ±20 mV, ±0.5% of reading

Timebase
Standard Crystal (see page 198)
Frequency: 10 MHz
Aging rate: $<3 \times 10^{-7}$/month
Temperature: $< 5 \times 10^{-6}$, 0 to 50° C
Line voltage: $<1 \times 10^{-7}$ for 10% change
High-stability crystal: See Option 010
External timebase input: Rear-panel BNC accepts 5 or 10 MHz, 200 mV rms into 1 kΩ; 5 V rms maximum.
Timebase out: 10 MHz, >1 V peak-to-peak into 50 Ω via rear panel.

Statistics
Sample size: Selectable, n = 100 to 1000 samples
Functions: Std. dev., mean, and smooth (weighted running average)

Math
All measurement functions, except GATE TIME, Totalize in Scale Mode, and TRIG LVL, may be operated upon by Math functions. Offset, Normalize, and Scale may be used independently or together:

$$\text{Display} = \frac{\text{measurement} + \text{offset}}{\text{normalize}} \times \text{scale}.$$

Number value range: $\pm 1 \times 10^{-9}$ to $\pm 9 \times 10^{9}$
Last display: Causes value of previous display to Offset (negative value), Normalize, or Scale all subsequent measurements
Measurement t-1: Causes each new measurement to be Offset, Normalized, or Scaled by immediately preceding measurement

Hewlett-Packard Interface Bus (See Option 040)
Programmable controls: All measurement functions, Math, Statistics, Reset, Range Hold, Ext. Arm Enable/Slope, Check, Gate Adj. (~1 ms to 1 s), Gate Open/Close (gate times to ∞), Gate Mode, Cycle, Preset, Slope, Common A, Auto Trigger
Special functions: FREQ B, PULSE B, TIME B→A, TOT A-B, LEARN, MIN, MAX, all internal diagnostic routines
Interface functions: SH1, AH1, T5, TEØ, L4, LEØ, SR1, RL1, PPØ, DC1, DT1, C0 (see page 114)
Data output: Fixed format consisting of 19 characters plus CR and LF output typically in 8 ms

General
Gate: Minimum, manual, or continuously variable (NORM/FAST) via Gate Adj. control
NORM: 20 ms to 4 s nominal
FAST: 100 μs to 20 ms nominal
MIN: Minimum gate time. Actual time depends on function.
MANUAL: Each press opens or closes gate.
Cycle: Determines delay between measurements
NORM: No more than a 4 readings per second, nominal
MIN: Updates display as rapidly as possible (~15 readings per second, depending on function)
SINGLE: One measurement taken with each press of button.
Arming: Ext. Arm Enable key allows rear-panel input to determine Start and/or Stop point of a measurement. External gate defined by both Start and Stop armed. All measurements are armable except Manual Totalize, Phase, and Trigger Level.
Start arm: + or − slope of arm input signal starts measurement.
Stop arm: + or − slope of arm input signal stops measurement. When used, Start Arm must occur before Stop Arm.
Ext. arm input: Rear-panel BNC accepts TTL into 20 kΩ. Minimum Start to Stop Time: 200 ns.
Trigger level out: dc output into 1 MΩ via rear panel BNCs for Channel A and B; not adjusted for attenuators.
Accuracy at dc (×1): ±15 mV ±0.5% of TRIG LVL reading
Gate out: TTL level into 50 Ω; goes low when gate open; rear panel BNC
Range hold: Freezes decimal point and exponent of display.
Display: 12-digit LED; exponent range of +18 to −18
Operating temperature: 0° to 50° C
Power requirements: 100, 120, 220, 240 Vac (+5%, −10%), 48 to 66 Hz; 130 VA max
Weight: Net, 8.8 kg (19 lb 8 oz); shipping, 13.6 kg (30 lb)
Dimensions: 425.5 mm W × 132.6 mm H × 345.4 mm D (16¾ in × 5¼ in × 13½ in), not including removable handles.

Options
Opt 010: High Stability Timebase Oven (see page 198)
Frequency: 10 MHz.
Aging rate: $< 5 \times 10^{-10}$/day after 24-hour warmup
Short term: $<1 \times 10^{-10}$ rms for 1s average
Temperature: $< 7 \times 10^{-9}$, 0° to 50° C
Line voltage: $< 1 \times 10^{-10}$ for 10% change
Warmup: within 5×10^{-9} of final value in 20 minutes
Opt 020: DC Digital Voltmeter
Range: 4 digits, autoranging, autopolarity, in ±10, ±100, ±1000 V ranges
Sensitivity: 100 μV, 1 mV, 10 mV, 100 mV for ±1 V, ±10 V, ±100 V, ±1000 V readings
LSD displayed: Same as sensitivity
Input type: Floating pair
Input frequency impedance: 10 MΩ ± 1%
Opt 030: 1.3 GHz C Channel
Input range: 150 MHz to 1.3 GHz prescaled by 20.
Input sensitivity: 10 mV rms sinewave (−27 dBm) to 1 GHz; 100 mV rms sine wave (−7 dBm) to 1.3 GHz.
LSD Displayed, Resolution, Accuracy: Same as Frequency A
Ratio C/A Range: Channel A, 0 to 200 MHz
Channel C, 150 to 1300 MHz
Opt 040: Complete Systems Programmability
Adds remote selection of low-pass filter, ac/dc coupling, attenuator, dc trigger level, and input impedance for Channels A and B.

Ordering Information	Price
HP 5335A Universal Counter (with front handles)	$5,250
Opt 010 Oven Oscillator	+$990
Opt 020 DVM	+$730
Opt 030 C Channel	+$1,015
Opt 040 Expanded HP-IB Control	+$950
Opt 908 Rack Flange Kit for Use Without Handles	+$35
Opt 913 Rack Flange Kit for Use With Supplied Front Handles	+$70
Opt W30 Extended Repair Service (see page 671)	$110
Opt W32 Calibration Service (see page 671)	$525
HP 10855A 2 MHz to 1300 MHz Preamplifier	$1,150