	TCX0	Option 001	Option 010
Aging Rate	1×10^{-7}/month	5×10^{-10}/day	2×10^{-8}/year
Short Term	1×10^{-9}/s	2.5×10^{-10}/s	2.5×10^{-10}/s
Temperature 0° to 50° C	1×10^{-6}	1×10^{-9}	1×10^{-9}
Line 10% change	1×10^{-7}	1×10^{-10}	1×10^{-10}
Warmup to $<5 \times 10^{-9}$ @ 25° C		10 min	10 min

Table 1. Timebase (10 MHz)

Input 2

Frequency Range: 10 Hz to 525 MHz
50 Ω: 10 MHz to 525 MHz
1 MΩ: 10 Hz to 80 MHz
Sensitivity: Full operating environment:
50 Ω: 10 MHz to 525 MHz, 25 mV rms: 15 mV typical @ 25° C
1 MΩ: 10 Hz to 80 MHz, 25 mV rms: 15 mV typical @ 25° C
Gate Time = 1/resolution: 1 ms min
Maximum Input: 50 Ω: +10 dBm; 1 MΩ: 1V rms
Damage Level: 50 Ω or 1 MΩ dc to 5 kHz: 250 V (dc + ac peak); >5 kHz: 5.5 V rms (+ 28 dBm) + 1.25×10^6 V rms/freq
Coupling: ac
Connector: Replaceable fuse, type BNC (female)
Accuracy:

$$\pm 1 \text{ LSD} \pm \left(\frac{1.4 \times \text{Trigger Error}^1}{\text{Gate Time}} \pm \text{Timebase Error} \right) \times \text{Freq}$$

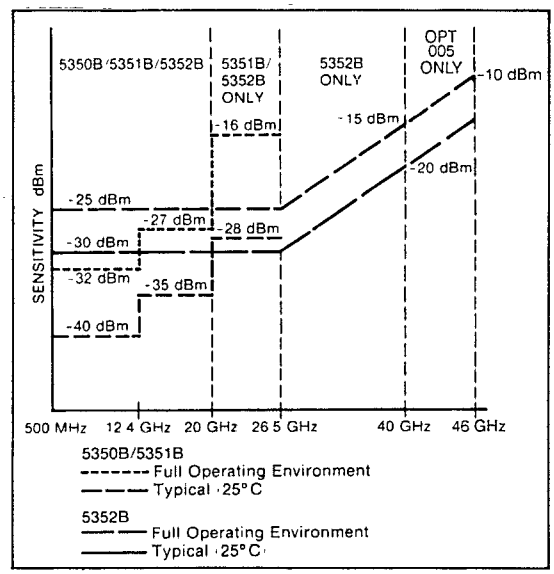
Gate time = 1/resolution = 1 ms minimum
Impedance: 1 MΩ nominal shunted by <70 pF or 50 Ω nominal
Resolution: Selectable, 1 Hz to 1 MHz
High Resolution: 1 MΩ mode: 0.001 Hz for <100 kHz input; 0.01 Hz for <1 MHz input; 0.1 Hz for <10 MHz input; 1 Hz for >10 MHz input: 1-second gate
Timebase Output: 10 MHz and 1 MHz, 2.4 V square wave ac coupled into 1 kΩ: 1.5V peak-to-peak into 50 Ω; rear panel BNC connectors
External Timebase: 1, 2, 5, or 10 MHz, 0.7 V min. to 8 V max. peak-to-peak sine wave or square wave into > 1 kΩ shunted by <30 pF, via rear-panel BNC connector

General

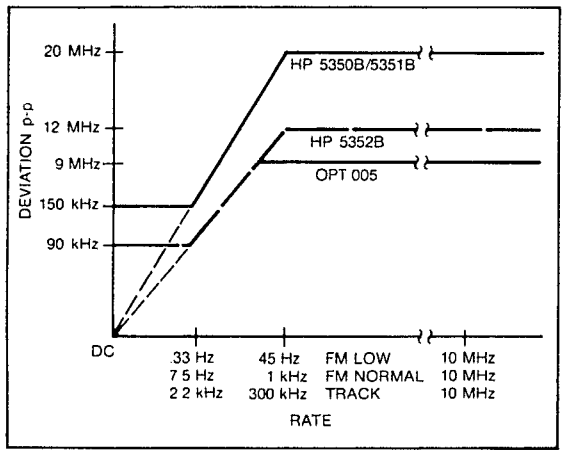
Display: Segmented 24-character alphanumeric LCD (backlighted)
Built-in Features: Self-check, diagnostics, display and keyboard lockout, overload indicator, HP-IB teach-learn mode
Data Output: Over HP-IB bus; varies with frequency and resolution
Auto mode: >100 readings/s, 10 kHz resolution, no math functions, "DUMP" mode
Manual mode: >120 readings/s, 10 kHz resolution, no math functions, "DUMP" mode
Math Functions: Scale, offset, smooth (exponential averaging)
Sample Rate: Variable from less than 50 ms between measurements to HOLD, which holds the display indefinitely or until trigger occurs.
Display Rate: 5/s, variable over HP-IB
Sleep Mode: Input 1 emissions reduced to < −70 dBm typical when sleep mode or Input 2 is selected.
IF Output: Rear-panel BNC provides 30-110 MHz down-converted microwave signal at > −20 dBm into 50 Ω, ac-coupled.
HP-IB Interface Functions: SH1, AH1, T5, L4, SR1, RL1, PP0, DC1, DT1, C0, E1 (see page 623)
Operation Temperature: 0° to 50° C
Power Requirements: 100 VA max
Line Select: 100 V (90 to 105 Vac rms; 47.5 to 440 Hz)
115/120 V (104/126 Vac rms; 47.5 to 440 Hz)
220 V (198 to 231 Vac rms; 47.5 to 66 Hz)
230/240 V (207 to 252 Vac rms; 47.5 to 66 Hz)
Accessories Furnished: Power cord, manual
Size: 133 mm H × 425 mm W × 358 mm D (5¼ in × 16¾ in x 14 in)
Weight: 11 kg (24 lb)

[1] Trigger error = $\frac{\sqrt{(e_i^2 + e_n^2)}}{\text{Input slew rate in V/S at trigger point}}$ s rms

Where e_i = effective rms noise of counter's input channel (100 μV typical)
e_n = rms noise of the input signal for a 500 MHz bandwidth.



Graph 1. Sensitivity



Graph 2. FM rate tolerance

Ordering Information

HP 5350B 20 GHz Microwave Frequency Counter
HP 5351B 26.5 GHz Microwave Frequency Counter
HP 5352B 40 GHz Microwave Frequency Counter
Options for HP 5350B/5351B/5352B:
Opt 001 Oven Timebase
Opt 002 Rear-Panel Inputs (HP 5350B/51B only)
Opt 005 Frequency Extension to 46 GHz (HP 5352B only)
Opt 006 Microwave Level Limiter (HP 5350B/51B only)
Opt 010 High-Stability Oven Timebase
Opt 910 Additional Operating and Service Manual
Opt 908 Rack Mount Kit for Use with Front Handles removed
Opt 913 Rack Mount Kit for Use with Supplied Front Handles
Opt 1A3 Bellcore CLEI Barcode Sticker
Opt W30 Extended Repair Service (see page 663)
Opt W32 Calibration Service (see page 663)
Additional Equipment Available:
Transit Case (HP 9211-2643)
Waveguide (3 inch straight) Adapter WR28-APC3.5 (HP 05356-20217)
Waveguide (3 inch straight) to Coaxial Adapter WR42-APC3.5 (HP 05356-20216)
Adapter: In series APC 3.5 male-to-male (HP 1250-1748)
Adapter: In series APC 3.5 female-to-female (HP 1250-1749)

For the most current prices and product information, contact your local Hewlett-Packard sales office—see page 691.