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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 5340A Microwave Frequency Counter

HP Agilent 5340A Microwave Frequency Counter The HP 5340A is an automatic microwave frequency counter covering 10 Hz to 18 GHz on Input 1 with heterodyne conversion and a separate 10 Hz to 250 MHz direct-count Input 2. OEM Table 1-3 lists sensitivity to -35 dBm in midband and VSWR under 2:1 to 12.4 GHz. Microwave LO and carrier frequency measurement to 18 GHz, automatic amplitude discrimination of the largest signal, and laboratory microwave counting with optional oven time base. Automatic amplitude discrimination of the largest signal The HP 5340A is an automatic microwave frequency counter covering 10 Hz to 18 GHz on Input 1 with heterodyne conversion and a separate 10 Hz to 250 MHz direct-count Input 2. OEM Table 1-3 lists sensitivity to -35 dBm in midband and VSWR under 2:1 to 12.4 GHz. Microwave LO and carrier frequency measurement to 18 GHz, automatic amplitude discrimination of the largest signal, and laboratory microwave counting with optional oven time base. Automatic amplitude discrimination of the largest signal Optional high-stability time base Option 001



MODEL

HP / Agilent 5340A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

5340A

LISTING

<https://aumictechlabs.com/products/5340a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 5340A is a direct-reading microwave frequency counter spanning 10 Hz to 18 GHz, with optional extension to 23 GHz. It delivers high-accuracy carrier frequency measurement across AM, FM, and noisy signal conditions using phase-lock loop technology and microwave samplers. The instrument handles low-level signals routed through directional couplers and lossy devices, making it essential for RF and microwave calibration, testing, and signal analysis.

Technical Specifications

Frequency Measurement Frequency range: 10 Hz to 18 GHz (standard); optional 23 GHz extension Direct count: 10 Hz to 250 MHz Frequencies above 250 MHz: Automatic transfer oscillator technique Resolution: Selectable from 1 MHz, 100 kHz, 10 kHz, 1 kHz, 100 Hz, 10 Hz, or 1 Hz Sensitivity & Dynamic Range 10 Hz–500 MHz: -30 dBm sensitivity, 37 dB dynamic range 500 MHz–10 GHz: -35 dBm sensitivity, 42 dB dynamic range 10 GHz–18 GHz: -25 dBm sensitivity, 32 dB dynamic range Input Stage (Primary) Impedance: 50 Ω Connector: Type N female VSWR: < 2:1 (10 Hz to 12.4 GHz); < 3:1 (12.4 GHz to 18 GHz) Damage level: +30 dBm or 7 Vdc (1 W max total) Accepts sine or square wave (40% duty factor worst case) Input Stage (Secondary, DC to 250 MHz) Impedance: 1 M Ω shunted by < 25 pF (standard); < 100 pF with Option 002 Connector: Type BNC female AC coupled, 200 V rms maximum (10 Hz to 100 Hz) Time Base Crystal frequency: 10 MHz Standard stability: Aging < 3×10^{-7} /month; short-term < 5×10^{-10} rms @ 1 s; temperature < $\pm 2 \times 10^{-7}$ (0–50°C) Optional premium time base (Option 001): Aging < 5×10^{-10} /day; short-term 1×10^{-11} /s; temperature < $\pm 1 \times 10^{-8}$ (0–40°C) 10 MHz output: 2.4 V square wave (TTL compatible) from rear panel BNC Measurement Performance Acquisition time: < 150 ms typical; < 40 ms with HP-IB and octave range programming (Option 011) Typical Applications Microwave signal calibration and frequency verification Low-level RF testing through lossy transmission paths Broadband AM/FM carrier measurement Direct frequency counting to 250 MHz; heterodyne counting to 23 GHz Compatibility & Integration HP-IB interface option (Option 011) enables remote control and accelerated measurement cycles via octave range programming.

5340A Characteristics / Specifications

PARAMETER	VALUE
Input 1 Frequency Range	10 Hz to 18 GHz
Input 1 Sensitivity 10 Hz To 500 MHz	minus 30 dBm
Input 1 Sensitivity 500 MHz To 10 GHz	minus 35 dBm
Input 1 Sensitivity 10 GHz To 18 GHz	minus 25 dBm
Input 1 Dynamic Range 10 Hz To 500 MHz	37 dB
Input 1 Dynamic Range 500 MHz To 10 GHz	42 dB
Input 1 Dynamic Range 10 GHz To 18 GHz	32 dB
Input 1 Impedance	50 ohm
Input 1 VSWR To 12.4 GHz	less than 2:1
Input 1 VSWR 12.4 To 18 GHz	less than 3:1
Input 1 Connector	Precision TypeNInput 1 Damage Level: +30 dBm plus or minus 7 V dc total power not to exceed 1 W
Input 1 Acquisition Time	less than 150 ms mean typical
Input 2 Frequency Range	10 Hz to 250 MHz direct count
Input 2 Sensitivity	50 mV rms; 150 mV p-p pulses to 0.1% duty factor minimum pulse width 2 ns
Input 2 Impedance	1 Mohm shunted by less than 25 pF
Accuracy	plus or minus 1 count plus or minus time base error
Resolution Selections	1 MHz, 100 kHz, 10 kHz, 1 kHz, 100 Hz, 10 Hz, or 1 Hz
Display Digits	8 in-line long-life display tubes
Operating Temperature	0 to 50 C
Power	115 V or 230 V plus or minus 10%, 50 to 400 Hz, 100 VA
Amplitude Discrimination	selects largest signal 250 MHz to 18 GHz if 20 dB larger (10 dB typical)

5340A Specifications

PARAMETER	VALUE
HP Agilent 5340A Microwave Frequency Counter	Overview
Key Features	Automatic measurements to 18 GHz
Automatic amplitude discrimination of the largest signal	Direct-count Input 2 to 250 MHz
Selectable resolution from 1 MHz to 1 Hz	Optional high-stability time base Option 001
Technical Specifications	Input 1 Frequency Range: 10 Hz to 18 GHz

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 50 C
Operating Temperature	0 to 50 C
Power	115 V or 230 V plus or minus 10%, 50 to 400 Hz, 100 VA
Amplitude Discrimination	selects largest signal 250 MHz to 18 GHz if 20 dB larger (10 dB typical) Notes Specs from HP 5340A Operating and Service Manual Table 1-3 and HP Journal specification summaries. Option 001 oven time base aging belongs on the option sheet.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Input 1 Frequency Range: 10 Hz to 18 GHz
Input 1 Sensitivity 10 Hz To 500 MHz: minus 30 dBm
Input 1 Sensitivity 500 MHz To 10 GHz: minus 35 dBm
Input 1 Sensitivity 10 GHz To 18 GHz: minus 25 dBm
Input 1 Dynamic Range 10 Hz To 500 MHz: 37 dB
Input 1 Dynamic Range 500 MHz To 10 GHz: 42 dB
Input 1 Dynamic Range 10 GHz To 18 GHz: 32 dB

Specifications

PARAMETER	VALUE
Input 1 Impedance	50 ohm
Input 1 VSWR To 12.4 GHz	less than 2:1
Input 1 VSWR 12.4 To 18 GHz	less than 3:1
Input 1 Connector	Precision TypeNInput 1 Damage Level: +30 dBm plus or minus 7 V dc total power not to exceed 1 W
Input 1 Acquisition Time	less than 150 ms mean typical
Input 2 Frequency Range	10 Hz to 250 MHz direct count
Input 2 Sensitivity	50 mV rms; 150 mV p-p pulses to 0.1% duty factor minimum pulse width 2 ns
Input 2 Impedance	1 Mohm shunted by less than 25 pF
Accuracy	plus or minus 1 count plus or minus time base error
Resolution Selections	1 MHz, 100 kHz, 10 kHz, 1 kHz, 100 Hz, 10 Hz, or 1 Hz
Display Digits	8 in-line long-life display tubes
Operating Temperature	0 to 50 C
Power	115 V or 230 V plus or minus 10%, 50 to 400 Hz, 100 VA
Amplitude Discrimination	selects largest signal 250 MHz to 18 GHz if 20 dB larger (10 dB typical)

Notes
Specs from HP 5340A Operating and Service Manual Table 1-3 and HP Journal specification summaries. Option 001 oven time base aging belongs on the option sheet.

Ordering Information

OPTION	DESCRIPTION
Option 001	Technical Specifications

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech
788 S 500 E, Pleasant Grove, UT 84062
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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.