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Data Sheet
August 14, 2026

HP / AGILENT

HP / Agilent 5345A 500 MHz Universal Counter

The HP 5345A isahigh-performance reciprocal electronic counter capable of direct measurements to 500 MHz on ChannelsAand B. OEM descriptions state it measures frequency, period, period average, single-shot time interval, time interval average, ratio, and totalize (sum or difference), and accepts 5245-series plug-ins via adapter to extend range to 18 GHz. An 11-digit LED display with units annunciators is standard, with optional high-stability oven time base. Precision frequency and time-interval metrology to 500 MHz, plug-in microwave frequency extension, automated HP-IB systems counting, and calibration-lab reciprocal frequency measurements. Annunciators: ksec to nsec, k to n, uHz to GHz Measurement Functions: frequency, period, period average, TI, TI average, ratio, totalize Plug In Frequency Extension: to 18 GHz with 5245-series plug-ins Specs from Radiomuseum OEM summary and HP 5345A application/operation literature. Plug-in and DVM capabilities depend on installed accessories; verify configuration before quoting microwave limits.

MODEL HP / Agilent 5345A	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU 5345A	LISTING https://aumictechlabs.com/products/5345a-2/

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 5345A is a universal counter and timer delivering direct frequency measurements to 500 MHz, with extended range to 40 GHz via plug-in converters. Built on reciprocal measurement architecture, it achieves precise low-frequency characterization through period inversion. The instrument executes over 9000 measurements per second across the HP-IB

interface and provides 2 ns single-shot time resolution, improvable to 2 ps with averaging. Dual input channels accept 50 Ω or 1 MΩ impedance selections with continuously variable gate times from 100 ns to 1000 seconds. Applications span metrology, calibration, and research environments requiring frequency, period, time interval, ratio, and totalization measurements. Technical Specifications Frequency Measurement Direct range: DC to 500 MHz Extended range: Up to 40 GHz with HP 5355A converter (to 1.5 GHz) or HP 5356C converter head (to 40 GHz) Reciprocal method for accurate low-frequency measurements via period inversion Resolution: Up to 9 digits per second Time Interval Measurement Single-shot resolution: 2 ns Averaged resolution: 2 ps Gate time: 100 ns to 1000 seconds continuously variable, or one signal period minimum Measurement speed: Over 9000 measurements per second via HP-IB Input Characteristics Dual channels (A and B) Impedance: 50 Ω nominal or 1 MΩ (shunted <45 pF) Sensitivity at X1 gain - 50 Ω: 25 mV rms sine, 75 mV peak-to-peak pulse; 1 MΩ: 25 mV rms to 300 MHz (50 mV rms to 500 MHz), 75 mV to 150 mV p-p pulse Maximum input 50 Ω: ±7 V DC, 7 V rms below 5 MHz, 3.5 V rms above 5 MHz Trigger level: Adjustable ±2.0 V DC AM tolerance: Any modulation index above counter sensitivity FM tolerance: 50 MHz peak-to-peak chirp in Auto Mode Common Input AC coupled 50 Ω: 4 MHz to 400 MHz AC coupled 1 MΩ: 300 Hz to 400 MHz DC coupled: 0 to 400 MHz Key Features Reciprocal measurement architecture for superior low-frequency accuracy Selectable input impedance matching diverse signal sources Continuously tunable gate time accommodates both fast transient and long-term stability measurements Modular expansion via industry-standard plug-ins extends frequency capability Typical Applications Precision frequency and period characterization in R&D and production Time interval and jitter measurement for signal timing validation Ratio and totalization measurements in calibration workflows Metrology support for standards laboratories Compatibility & Integration HP-IB interface for automated measurement sequences and data logging Compatible with HP 5355A and HP 5356C frequency converter modules

5345A Characteristics / Specifications

PARAMETER	VALUE
Direct Frequency Range ChannelsAand B	0 to 500 MHz
Input Impedance Selectable	1 Mohm shunted by less than 30 pF or 50 ohm nominal
Sensitivity X	10 mV rms sine wave and 30 mV peak to peak pulse
Dynamic Range	30 dB
Standard Time Base Frequency	10 MHz
Standard Aging Rate	less than 3 × 10^-7 per month
Standard Short Term	less than 2 × 10^-9 rms for 1 s
Display Digits	11-digit LED plus sign
Annunciators	ksec to nsec, k to n, uHz to GHz
Measurement Functions	frequency, period, period average, TI, TI average, ratio, totalize
Plug In Frequency Extension	to 18 GHz with 5245-series plug-ins
HP IB Role	talker and listener
AC Line	115 or 230 V
Package	metal case electronic counter
Period Measurement	supported
Period Average	supported
Time Interval Single Shot	supported
Time Interval Average	supported
Ratio Measurement	supported
Totalize Sum or Difference	supported

5345A Specifications

PARAMETER	VALUE
HP 5345A 500 MHz Universal Counter	Overview
Key Features	Reciprocal counting to 500 MHz direct
Technical Specifications	Direct Frequency Range Channels A and B: 0 to 500 MHz

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.

performance reciprocal electronic counter capable of direct measurements to 500 MHz on ChannelsAand B. OEM descriptions state it measures frequency, period, period average, single-shot time interval, time interval average, ratio, and totalize (sum or difference), and accepts 5245-series plug-ins via adapter to extend range to 18 GHz. An 11-digit LED display with units annunciators is standard, with optional high-stability oven time base.

Applications
Precision frequency and time-interval metrology to 500 MHz, plug-in microwave frequency extension, automated HP-IB systems counting, and calibration-lab reciprocal frequency measurements.

Key Features
Reciprocal counting to 500 MHz direct
Plug-in expandability to 18 GHz with 5245-series accessories and 10590A adapter
HP-IB talker/listener capability
11-digit LED display with ksec to nsec and uHz to GHz annunciators
Optional Option 001 high-stability 10544A time base

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Direct Frequency Range ChannelsAand B	0 to 500 MHz
Input Impedance Selectable	1 Mohm shunted by less than 30 pF or 50 ohm nominal
Sensitivity X1	10 mV rms sine wave and 30 mV peak to peak pulse
Sensitivity X20	200 mV rms
Dynamic Range	30 dB
Standard Time Base Frequency	10 MHz
Standard Aging Rate	less than 3 x 10^-7 per month
Standard Short Term	less than 2 x 10^-9 rms for 1 s

Option 001 Aging Rate: less than 5 x 10^-10 per day
Option 001 Short Term: less than 1 x 10^-11 for 1 s average
Option 001 Temperature: less than 3 x 10^-9, 0 C to 55 C

Specifications

PARAMETER	VALUE
Display Digits	11-digit LED plus sign
Annunciators	ksec to nsec, k to n, uHz to GHz
Measurement Functions	frequency, period, period average, TI, TI average, ratio, totalize
Plug In Frequency Extension	to 18 GHz with 5245-series plug-ins
HP IB Role	talker and listener

PARAMETER	VALUE
AC Line	115 or 230 V
Package	metal case electronic counter
Period Measurement	supported
Period Average	supported
Time Interval Single Shot	supported
Time Interval Average	supported
Ratio Measurement	supported
Totalize Sum or Difference	supported

Notes
Specs from Radiomuseum OEM summary and HP 5345A application/operation literature. Plug-in and DVM capabilities depend on installed accessories; verify configuration before quoting microwave limits.

Ordering Information

OPTION	DESCRIPTION
Option 001	high-stability 10544A time base

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

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