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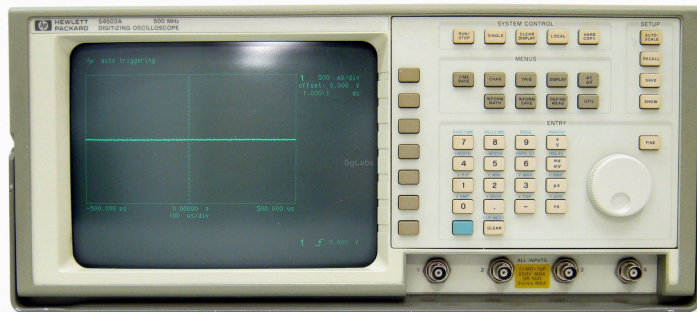
Data Sheet

August 31, 2026

HP / AGILENT

HP / Agilent 54503A 500 MHz digitizing oscilloscope

The HP 54503A is a member of the 54500 family of portable digitizing oscilloscopes. OEM family literature specifies 500 MHz repetitive and 2 MHz single-shot class performance with 4 channels and full HP-IB digitizing features. Bench and portable digital/analog debugging, automated production test with HP-IB, and single-shot or repetitive capture depending on model strengths. Autoscaling and automatic pulse-parameter measurements Vertical Sensitivity Range Class: 1 mV/div to 5 V/div family Power Requirements Family: 115/230 Vac, 48 to 66 Hz, 350 VA maximum Shipping Weight: Approximately 20 kg (44 lb) Size: 194.3 mmHx 422.3 mmWx 355.6 mmD Notes Specs from HP 54500 family digitizing oscilloscope catalog datasheet pages for 54503A.



MODEL

**HP / Agilent
54503A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

54503A

LISTING

<https://aumictechlabs.com/products/54503a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 54503A is a 500 MHz digitizing oscilloscope built for high-speed signal acquisition across four channels with configurable simultaneous operation. It delivers single-shot bandwidth to 250 MHz and repetitive bandwidth to 500 MHz, supporting maximum sample rates of 1 GSa/s per channel and real-time sampling at 20 MSa/s across all channels. The instrument

combines vertical sensitivity from 1 mV/div to 5 V/div with 8-bit resolution (10-bit via HP-IB with averaging) and a timebase range of 0.2 ns/div to 5 S/div at $\pm 0.005\%$ accuracy. Technical Specifications Acquisition & Bandwidth Repetitive bandwidth: DC to 500 MHz Single-shot bandwidth: 2 MHz (4 channels) or 250 MHz (2 channels) Channels: 4 (simultaneous 2 or 4, with channels 1 & 4, then 2 & 3 alternating in 4-channel mode) Maximum sample rate: 1 GSa/s per channel Real-time sample rate: 20 MSa/s on all channels Record length: 768 or 8001 points (real-time), 501 points (repetitive) Bandwidth degradation: $-2.5 \text{ MHz}/^{\circ}\text{C}$ above $+35^{\circ}\text{C}$ Vertical Characteristics Sensitivity range: 1 mV/div to 5 V/div Vertical resolution: 8 bits (10 bits via HP-IB with averaging) Vertical gain accuracy: -0.08% of full scale/ $^{\circ}\text{C}$ from calibration temperature Horizontal & Triggering Timebase: 0.2 ns/div to 5 S/div at $\pm 0.005\%$ accuracy Trigger modes: edge, pattern, state, delay, and glitch (minimum 1.75 ns) Trigger level: $\pm 1.5 \times$ full scale (internal), $\pm 2 \text{ V}$ (external) Trigger delay: $-160 \times (\text{s/div})$ Key Features Advanced logic triggering standard Glitch detection and isolation to 1.75 ns minimum pulse width Automatic pulse parameter measurements and limit testing Waveform math functions: addition, subtraction, multiplication, division, inversion User-defined measurements with statistical analysis HP-IB (IEEE 488.2) interface for remote control Typical Applications High-speed signal acquisition, complex waveform analysis, pulse characterization, transient capture, and automated measurement in production and field environments. Compatibility & Integration HP-IB interface enables integration with automated test systems. Operates on 115/230 V ac (-25% to $+15\%$), 48–66 Hz, consuming maximum 350 VA. Compact form factor: 194.3 mm H $\times$ 422.3 mm W $\times$ 355.6 mm D; 10 kg net weight.

54503A Characteristics / Specifications

PARAMETER	VALUE
Repetitive Bandwidth	500 MHz
Single Shot Bandwidth	2 MHz
Sample Rate	family repetitive primary
Number of Channels	4
Vertical Sensitivity Range Class	1 mV/div to 5 V/div family
Vertical Gain Accuracy DC Class	±1.25% of full scale family (±1.5% on 54501A)
Vertical Resolution	8 bits (±0.4%); 10 bits via HP-IB with averaging
Bandwidth Limit	dc to 30 MHz switchable
AC Coupled Lower 3 dB Frequency	10 Hz
LF Reject Lower 3 dB Frequency	450 Hz
Time Base Range Class	1 ns/div to 5 s/div family (model-dependent minimum)
Dual Time Base Windowing	Yes except 54510A uses pan/zoom
Autoscale	Yes
Automatic Measurements	Yes
Hard Copy Output	Pushbutton supported
HP IB Interface	Built-in
Maximum Sample Rate Class	Digitized repetitive primary (low real-time rate)
Record Length Display Class	501 points family
Rise Time from Bandwidth	Approximately 0.7 ns class for 500 MHz
Input Coupling	ac, dc
Power Requirements Family	115/230 Vac, 48 to 66 Hz, 350 VA maximum
Net Weight	Approximately 10 kg (22 lb)
Shipping Weight	Approximately 20 kg (44 lb)
Size	194.3 mmHx 422.3 mmWx 355.6 mmD Notes Specs from HP 54500 family digitizing oscilloscope catalog datasheet pages for 54503A.
Bandwidth	500 MHz

PARAMETER	VALUE
Rise Time	from Bandwidth: Approximately 0.7 ns class for 500 MHz

54503A Specifications

PARAMETER	VALUE
Agilent 54503A Digitizing Oscilloscope	Overview
Technical Specifications	Repetitive Bandwidth: 500 MHz
Notes	Specs from HP 54500 family digitizing oscilloscope catalog datasheet pages for 54503A.

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 with 4 channels and full HP-IB digitizing features.

Applications

Bench and portable digital/analog debugging, automated production test with HP-IB, and single-shot or repetitive capture depending on model strengths.

Key Features

Autoscaling and automatic pulse-parameter measurements

Advanced logic and TV triggering

Measurement limit testing

Nonvolatile setup and waveform memories

Full HP-IB programmability

Portable approximately 22 lb chassis

Technical Specifications

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Specs from HP 54500 family digitizing oscilloscope catalog datasheet pages for 54503A.

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

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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 31, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.