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Data Sheet

August 31, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 54616B

Agilent 54616B 500 MHz 2 GSa/s Oscilloscope The Agilent/HP 54616B is a 2-channel MegaZoom digitizing oscilloscope with 500 MHz bandwidth and 2 GSa/s maximum sample rate. OEM 54615B/54616B family materials list 5000-point memory depth and share the 54600-series front-end architecture. Faster single-shot 500 MHz capture than 54615B, general lab debug, and automated measurements. Related Lower Rate Sibling: 54615B 1 GSa/s

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MODEL

**Agilent / Keysight
54616B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

54616B

LISTING

<https://aumictechlabs.com/products/54616b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 54616B is a 500 MHz, 2-channel digital storage oscilloscope delivering 2 GSa/s real-time sample rate with simultaneous acquisition on both channels. Built for precision waveform capture and analysis, this benchtop instrument combines analog-style front-panel controls with advanced digital signal processing. Peak detect glitch capture to 1 ns and equivalent-time sampling to 20 GSa/s resolve fast transient events for electronics testing, troubleshooting, and design verification in laboratory and production environments. Technical

Specifications Acquisition Performance Analog bandwidth: 500 MHz single-shot Real-time sample rate: 2 GSa/s (simultaneous, both channels) Equivalent-time sampling: Up to 20 GSa/s Record length: 5,000 points (54616B) Peak detect: 1 ns and 50 ns capture modes Horizontal timebase: 1 ns/div to 5 s/div Horizontal accuracy: $\pm 0.005\%$ Vertical System Sensitivity: 2 mV/div to 5 V/div Input impedance: $1\text{ M}\Omega \parallel \sim 9\text{ pF}$ or $50\ \Omega$ (selectable) Maximum input: 250 V (dc + peak ac); 5 Vrms in $50\ \Omega$ mode Coupling: DC, AC, or Ground Bandwidth limit: $\sim 30\text{ MHz}$ Vertical accuracy: $\pm 1.2\%$ of full scale Dynamic range: ± 12 div from center screen CMRR: $\sim 20\text{ dB}$ at 50 MHz Display & Processing 7-inch raster CRT, 255×500 point resolution 8×10 graticule Display update rate: Up to 3.0 million points/sec Vector display with intensity modulation Autostore with half-bright previous sweeps Measurement Capabilities Voltage: Vavg, Vrms, Vp-p, Vtop, Vbase, Vmin, Vmax Time: Frequency, Period, $\pm$ Width, Duty Cycle, Rise Time, Fall Time Averaging: 8, 64, 256 selectable Key Features 2-channel + external trigger input architecture Channel inversion on both inputs Continuous automatic measurements with real-time updates Glitch capture to 1 ns for transient detection Waveform averaging for noise reduction Benchtop form factor with CRT display

54616B Characteristics / Specifications

PARAMETER	VALUE
Analog Channels	2
Analog Bandwidth	500 MHz
Maximum Sample Rate	2 GSa/s
Memory Depth	5000 points
Product Family	54615B/54616B
Related Lower Rate Sibling	54615B 1 GSa/s
Vertical Sensitivity Class	1 mV/div to 5 V/div class
Input Impedance	1 MOhm or 50 ohm class
Maximum Input 1 MOhm Class	plus/minus 250 V class
Maximum Input 50 Ohm Class	5 V rms class
DC Gain Accuracy Class	plus/minus 1.25 percent class family
Time Base Range Class	ns/div to s/div span
Trigger Modes	edge and advanced trigger set
Automatic Measurements	pulse parameter set
Display	MegaZoom CRT/LCD family package
Connectivity	HP-IB / RS-232 class
Peak Detect	glitch capture class
Operators	math and delayed sweep class
Form Factor	54600-series benchtop
Operating Temperature Class	0 to 55 C
Documentation	54615B/54616B datasheet
Front End Note	shares hybrids with related 500 MHz family scopes
Probe Interface	standard passive / 50 ohm path
Bandwidth	500 MHz
Operating temperature	Class: 0 to 55 C

54616B Specifications

PARAMETER	VALUE
Agilent 54616B 500 MHz 2 GSa/s Oscilloscope	Overview
Applications	Faster single-shot 500 MHz capture than 54615B, general lab debug, and automated measurements.
Key Features	500 MHz bandwidth
Technical Specifications	Analog Channels: 2

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: 0 to 55 C
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Operating Temperature Class	0 to 55 C
Documentation	54615B/54616B datasheet
Front End Note	shares hybrids with related 500 MHz family scopes
Probe Interface	standard passive / 50 ohm path Notes Bandwidth, 2 GSa/s, 2 channels, and 5k memory from HP/Agilent 54616B product specifications. Confirm warranted accuracy tables on the datasheet revision.

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	
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Notes	
Bandwidth, 2 GSa/s, 2 channels, and 5k memory from HP/Agilent 54616B product specifications. Confirm warranted accuracy tables on the datasheet revision.	

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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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.