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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 54201D

Agilent 54201D 300 MHz Digitizing Oscilloscope with State Trigger The HP 54201D is a two-channel digitizing oscilloscope with 300 MHz repetitive bandwidth, 50 MHz single-shot bandwidth at 200 MSa/s, and added parallel/serial logic trigger qualification. OEM Table 1-1 in the 54201A/D service/operating manuals lists vertical, time-base, analog-trigger, and 54201D-only state-trigger specifications. 300 MHz analog capture with simultaneous two-channel digitizing plus 27-channel-class state trigger qualification for digital-system debug. The HP 54201D is a two-channel digitizing oscilloscope with 300 MHz repetitive bandwidth, 50 MHz single-shot bandwidth at 200 MSa/s, and added parallel/serial logic trigger qualification. OEM Table 1-1 in the 54201A/D service/operating manuals lists vertical, time-base, analog-trigger, and 54201D-only state-trigger specifications. 300 MHz analog capture with simultaneous two-channel digitizing plus 27-channel-class state trigger qualification for digital-system debug. 300 MHz repetitive / 50 MHz single-shot bandwidth



MODEL

**Agilent / Keysight
54201D**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

54201D

LISTING

<https://aumictechlabs.com/products/54201d-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 54201D is a two-channel digitizing oscilloscope built for waveform acquisition, analysis, and logic state monitoring. It delivers 300 MHz repetitive bandwidth and 50 MHz single-shot bandwidth through dual 200 MS/s digitizers, enabling precise capture of analog signals alongside advanced logic triggering on up to 27 channels. The instrument combines

conventional oscilloscope triggering with specialized logic probe capabilities, pre-trigger viewing, and multiple display modes - infinite persistence, envelope, and average - making it suitable for mixed-signal applications requiring both analog and digital insight.

Technical Specifications

Repetitive Bandwidth: 300 MHz Single-Shot Bandwidth: 50 MHz Sample Rate: 200 MS/s per channel (2 simultaneous analog channels) Time-Interval Accuracy: ± 200 ps Logic Probe Organization: 3 pods, 8-bit + 1 parity bit + clock per pod

Key Features

Logic State Triggering: Up to 27 channels with missing and extra bit modes Logic Trigger Qualification: Parallel and serial trigger qualification capabilities Automatic Waveform Measurements: Parametric analysis with user-defined thresholds Waveform Math: Ch1+Ch2 and Ch1-Ch2 operations Display Modes: Infinite persistence, envelope, and average; auto-scaling of input signals Event-Based Holdoff: Trigger acquisition after a specified number of events Pre-trigger Viewing: Capture events before the trigger point

Typical Applications

Mixed-signal debugging, logic state verification, serial protocol analysis, and embedded system characterization requiring simultaneous analog and digital signal observation.

Compatibility & Integration

HP-IB (IEEE-488) interface enables full remote control and integration into automated test environments. Supplied with two HP 10017A 10:1 divider probes, three HP 10271A 10-bit state data probes, BNC adapter, and complete documentation.

54201D Characteristics / Specifications

PARAMETER	VALUE
Model	54201D
Instrument Type	Digitizing oscilloscope with state trigger
Analog Channels	2 simultaneous
Repetitive Bandwidth Dc	dc to 300 MHz (minus 3 dB)
Repetitive Bandwidth Ac	10 Hz to 300 MHz
Realtime Bandwidth Dc	dc to 50 MHz
Realtime Bandwidth Ac	10 Hz to 50 MHz
Max Sample Rate	200 MSa/s (digitizing rate 100 Sa/s to 200 MSa/s)
Vertical Range	40 mV to 16 V full-scale, two-digit resolution
Gain Accuracy	plus or minus 2 percent of full-scale
Adc Accuracy	plus or minus 1.6 percent of full-scale
Vertical Resolution	6 bits (1 part in 64); up to 7 bits with filtering and averaging
Transition Time Realtime	7 ns (10 to 90 percent, calculated 0.35/bandwidth)
Transition Time Repetitive	1.2 ns (10 to 90 percent)
Input Rc Nominal	1 MOhm shunted by approximately 10 pF; 50 ohm dc also selectable
Maximum Safe Input	1 MOhm plus or minus 40 V (dc plus peak ac); 50 ohm 5 Vrms or plus or minus 40 V, whichever is less
Time Base Realtime	50 ns to 10 s full-scale (10 divisions, 1-2-5)
Time Base Repetitive	10 ns to 20 us full-scale
Time Base Accuracy Repetitive	plus or minus 200 ps or plus or minus 0.2 percent of time range, whichever is greater
Channel Isolation	50 dB dc to 50 MHz; 40 dB 50 MHz to 300 MHz (equal ranges)
State Clock Single Phase	25 MHz maximum with single clock and single edge; 20 MHz with ORed clocks/edges
State Probe Input Rc	100 kOhm plus or minus 2 percent shunted by approximately 5 pF (HP 10271A)
State Threshold Range	minus 9.9 V to plus 9.9 V in 100 mV increments

PARAMETER	VALUE
State Pods	3 pods, each 8 bit plus 1 parity bit plus clock (HP 10271A)
Ac Power	115/230 Vac, minus 22 percent to plus 10 percent, 48 to 66 Hz, 275 W maximum
Weight Net Shipping	12.7 kg (28 lb) net; 21.8 kg (38 lb) shipping
Operating Temperature	0 to plus 55 C
Bandwidth	Dc: dc to 300 MHz (minus 3 dB)

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to plus 55 C
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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.

Applications

300 MHz analog capture with simultaneous two-channel digitizing plus 27-channel-class state trigger qualification for digital-system debug.

Key Features

300 MHz repetitive / 50 MHz single-shot bandwidth

Dual 200 MSa/s digitizers

Three HP 10271A 10-bit state data probes (54201D only)

Ch1 plus Ch2 and Ch1 minus Ch2 waveform math

HP-IB programmability and one-button hardcopy

Technical Specifications

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Notes

From HP 54201A/D Digitizing Oscilloscope Table 1-1 Specifications and Table 1-2 General Characteristics (service/operating manuals). 54201D-only rows are state trigger, 10271A probes, andDweight; analog rows are shared 54201A/D.

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 ·
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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.