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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 54621D

Agilent 54621D Mixed Signal Oscilloscope 60 MHz The Agilent 54621D is a 60 MHz mixed-signal oscilloscope with 2 analog channels plus 16 digital logic channels on the 54620 MegaZoom platform. OEM 54620-series performance characteristics list 200 MSa/s analog sampling, 2 MB per channel analog memory, 400 MSa/s interleaved digital sampling, and MegaZoom deep memory. 8- and 16-bit microcontroller debug and mixed analog/digital troubleshooting at 60 MHz. Pattern triggering across analog and digital The Agilent 54621D is a 60 MHz mixed-signal oscilloscope with 2 analog channels plus 16 digital logic channels on the 54620 MegaZoom platform. OEM 54620-series performance characteristics list 200 MSa/s analog sampling, 2 MB per channel analog memory, 400 MSa/s interleaved digital sampling, and MegaZoom deep memory. 8- and 16-bit microcontroller debug and mixed analog/digital troubleshooting at 60 MHz. Pattern triggering across analog and digital Instrument Type: Mixed signal oscilloscope



MODEL

**Agilent / Keysight
54621D**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

54621D

LISTING

<https://aumictechlabs.com/products/54621d-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 54621D is a 60 MHz mixed-signal oscilloscope combining analog and digital measurement capabilities in a single instrument. It has 2 analog channels and 16 digital channels for simultaneous acquisition of up to 18 signals, making it ideal for debugging mixed analog/digital circuits and microcontroller-based designs. Technical Specifications Bandwidth & Sampling Analog

bandwidth: 60 MHz Maximum sample rate: 400 MSa/s Memory depth: 2 MB per channel Vertical resolution: 8 bits (12 bits in high-resolution mode when $\geq 200 \mu\text{s}/\text{div}$ in average mode) Analog Channels (2) Sensitivity: 1 mV/div to 5 V/div Input impedance: $1 \text{ M}\Omega \pm 1\%$ Input capacitance: $\sim 14 \text{ pF}$ Offset range: $\pm 5 \text{ V}$ (ranges 40 dB (DC–20 MHz), $>30 \text{ dB}$ (20 MHz–60 MHz) Input coupling: AC, DC, Ground Bandwidth limit: $\sim 20 \text{ MHz}$ selectable Shipped with 10074C 10:1 probes Digital Channels (16) Logic levels: TTL, CMOS, ECL, or user-definable User-defined threshold range: $\pm 8.0 \text{ V}$ in 10 mV increments Triggering System Edge, pulse width, pattern, glitch, TV, sequence, duration, and protocol-based triggering Protocol support: I²C, SPI, LIN, CAN, USB, and user-defined serial frames TV trigger: NTSC, PAL, PAL-M, SECAM; field and line selectable; 0.5 div sensitivity Trigger sources: 2 analog channels, external ($1 \text{ M}\Omega \pm 3\%$) Analog trigger level range: $\pm 6 \text{ div}$

Key Features Single-instrument analysis of analog signals and digital logic states Auto probe sense compatible with Agilent/HP and Tektronix probes Protocol-specific triggering simplifies debugging of I²C, SPI, CAN, LIN, and USB designs User-definable logic thresholds accommodate diverse digital signal families

Typical Applications Microcontroller firmware development and validation Mixed analog/digital circuit debug Serial protocol analysis (I²C, SPI, CAN, LIN, USB) Composite video signal verification

Compatibility & Integration Auto probe identification supports standard Agilent/HP and Tektronix probe accessories. External triggering input accepts standard trigger signals at $1 \text{ M}\Omega$ impedance.

54621D Characteristics / Specifications

PARAMETER	VALUE
Model	54621D
Instrument Type	Mixed signal oscilloscope
Analog Bandwidth	dc to 60 MHz (54621A/21D)
Ac Coupled Bandwidth	3.5 Hz to 60 MHz (54621A/21D)
Analog Channels	2 simultaneous acquisition
Digital Channels	16 labeled D15 to D0
Calculated Rise Time	approximately 5.8 ns (0.35/bandwidth)
Max Analog Sample Rate	200 MSa/s
Max Analog Memory	4 MB interleaved, 2 MB each channel
Analog Vertical Resolution	8 bits
Peak Detection	5 ns
High Resolution Mode	12 bits when greater than or equal to 500 us/div, average mode with average = 1
Digital Max Sample Rate	400 MSa/s interleaved, 200 MSa/s each channel
Digital Max Memory	8 MB interleaved, 4 MB each channel
Digital Glitch Detection	5 ns minimum pulse width
Vertical Range Analog	1 mV/div to 5 V/div
Maximum Input Analog	CAT I 300 Vrms, 400 Vpk; CAT II 100 Vrms, 400 Vpk
Input Resistance Analog	1 MOhm plus or minus 1 percent
Input Capacitance Analog	approximately 14 pF
Dc Vertical Gain Accuracy	plus or minus 2.0 percent full scale
Time Base Range	5 ns/div to 50 s/div
Time Base Resolution	25 ps
Digital Threshold Selections	TTL, CMOS, ECL, user-definable by pod
Digital User Threshold Range	plus or minus 8.0 V in 10 mV increments
Digital Threshold Accuracy	plus or minus (100 mV + 3 percent of threshold setting)

PARAMETER	VALUE
Digital Maximum Input	plus or minus 40 V peak CATIWarm Up For Specs: 30 minutes; specs valid plus or minus 10 C from firmware calibration temperature
Bandwidth	dc to 60 MHz (54621A/21D)
Rise Time	approximately 5.8 ns (0.35/bandwidth)

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 characteristics list 200 MSa/s analog sampling, 2 MB per channel analog memory, 400 MSa/s interleaved digital sampling, and MegaZoom deep memory.

Applications
8- and 16-bit microcontroller debug and mixed analog/digital troubleshooting at 60 MHz.

Key Features
2 analog plus 16 digital channels
60 MHz analog bandwidth
MegaZoom 2 MB per analog channel
Pattern triggering across analog and digital
400 MSa/s interleaved digital sampling

Technical Specifications

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Notes

From Agilent 54620/40-series Oscilloscopes User's Guide 54620-series Performance Characteristics (54621D analog/digital columns). 54621D is the 60 MHz MSO; 54622D is the 100 MHz sibling on the same table.

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.