

KEYSIGHT TECHNOLOGIES (AGILENT HP)

54502A

The Keysight (Agilent/HP) 54502A is a classic 400 MHz digitizing oscilloscope designed for both repetitive and single-shot waveform analysis. Featuring two channels, a 400 MSa/s real-time sample rate, and comprehensive HP-IB programmability, it delivers robust and reliable signal analysis for legacy electronic design, manufacturing test, and maintenance environments.

SPECIFICATIONS

General

Display	9-inch monochrome CRT (raster scan)
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Physical

Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	425.4 mm W × 194.3 mm H × 355.6 mm D mm
Weight	10.0 kg kg

Vertical System

Number of Channels	2
Analog Bandwidth (-3 dB)	400 MHz (repetitive), 100 MHz (single-shot)
Calculated Rise Time	875 ps
Vertical Resolution	8 bits (up to 12 bits with averaging)
Input Coupling	AC, DC
Input Impedance	1 MΩ (±1%) or 50 Ω (±1%)
Input Capacitance	~7 pF
Maximum Input Voltage (1 MΩ)	±250 V (DC + peak AC)
Maximum Input Voltage (50 Ω)	5 V rms
DC Gain Accuracy	±1.25% of full scale
DC Offset Range	±2 V to ±250 V (sensitivity-dependent)

Acquisition System

Maximum Real-Time Sample Rate	400 MSa/s
Maximum Record Length	501 points per channel
Single-shot Bandwidth	100 MHz
Waveform Storage	4 non-volatile memories, 2 volatile pixel memories

Trigger System	
Trigger Sources	Channel 1, Channel 2, External, Line
Trigger Modes	Auto, Triggered, Single
Trigger Coupling	AC, DC, LF Reject, HF Reject, Noise Reject
Trigger Level Range (External)	±2 V or ±20 V (range dependent)
External Trigger Input Impedance	1 MΩ (±1%) or 50 Ω (±1%)

Measurements & Analysis	
Automated Voltage Measurements	Vpp, Vmax, Vmin, Vtop, Vbase, Vamp, Vavg, Vrms
Automated Time Measurements	Frequency, Period, Width (+/-), Rise Time, Fall Time, Duty Cycle, Delay
Cursor Measurement Types	Voltage, Time

Physical Characteristics	
Form Factor	Benchtop with tilt stand

TECHNOLOGY	
Digital Storage Oscilloscope (DSO)	

APPLICATIONS	
Electronic circuit design, general-purpose laboratory testing, component characterization, and legacy system maintenance	

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