KEYSIGHT TECHNOLOGIES (AGILENT HP)

54504A

The Keysight (formerly Agilent / HP) 54504A is a 400 MHz, 4-channel digital digitizing oscilloscope from the legacy HP 54500 series. Designed for demanding laboratory and design environments of its era, it features high-speed repetitive sampling, a 200 MSa/s real-time sample rate, and extensive HP-IB programmability.

SPECIFICATIONS

General

Interfaces	HP-IB (IEEE-488)
Display	9-inch monochrome CRT

Physical

Power Supply	115 / 230 V AC (switchable), 48 Hz to 66 Hz
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	425.4 mm × 194.3 mm × 355.6 mm mm
Weight	10.0 kg kg

Vertical System - Analog Channels

Analog Bandwidth (-3 dB)	400 MHz (repetitive), 50 MHz (single-shot)
Number of Input Channels	4
Vertical Resolution	6 bits
Input Impedance	1 MΩ (shunted by 7 pF) or 50 Ω
Input Coupling	DC
Input Sensitivity Range	2 mV/div to 5 V/div
Maximum Input Voltage	1 MΩ: ±250 V (DC + peak AC); 50 Ω: 5 V rms

Horizontal System

Timebase Range	500 ps/div to 5 s/div
Timebase Accuracy	±0.005%
Timebase Resolution	100 ps

Acquisition System

Maximum Real-Time Sample Rate	200 MSa/s
Maximum Record Length (Memory Depth)	2001 points
Number of Digitizers	4

Trigger System

Trigger Sources	Channels 1, 2, 3, 4
Trigger Modes	Auto, Triggered, Single
Standard Trigger Types	Edge, Pattern, State, Delay

Performance

Repetitive Bandwidth	400 MHz
Single-shot Bandwidth	50 MHz

Vertical System

DC Gain Accuracy	±1.25% of full scale
DC Offset Accuracy	±(1.25% of offset + 2% of full scale)
Channel Isolation	≥ 40 dB (DC to 100 MHz), ≥ 30 dB (100 MHz to 400 MHz)
Input Capacitance	7 pF (at 1 Mohm input impedance)
Calculated Rise Time	875 ps

Trigger

Trigger Sensitivity (DC to 100 MHz)	0.1 division or 1.0 mV
Trigger Sensitivity (100 MHz to 400 MHz)	0.22 division or 2.2 mV
Trigger Holdoff Range	40 ns to 320 ms

Power

Maximum Power Consumption	350 VA

Environmental

Maximum Operating Altitude	4,600 m

Memory & Storage

Front-Panel Setup Memories	4 non-volatile setups
Waveform Memories	4 non-volatile waveforms

Power Requirements

Power Supply Voltage Range	115/230 V AC ±10%
Power Supply Frequency Range	48 to 66 Hz

Interfaces & Connectivity

HP-IB Compatibility	IEEE-488.2, fully programmable

TECHNOLOGY

Digitizing Oscilloscope

APPLICATIONS

Electronic testing, legacy system maintenance, RF analysis, analog design verification

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.