

KEYSIGHT TECHNOLOGIES (AGILENT HP)

54624A

The Keysight (Agilent) 54624A is a 4-channel, 100 MHz digital storage oscilloscope from the popular 54600 Series. Offering a cost-effective, deep-memory troubleshooting solution, it features 2 MB of patented MegaZoom memory per channel and a 200 MSa/s sampling rate. It includes serial triggering capabilities for I2C, SPI, CAN, and USB, an integrated 5-digit frequency counter, and a high-definition monochrome display with 1000 levels of intensity for superior waveform visualization.

SPECIFICATIONS

General

Interfaces	RS-232, Parallel printer port (standard); GPIB (optional via module)
Display	7-inch monochrome raster-scan CRT with 32 levels of intensity
Command Language	SCPI
Real-Time Clock	Built-in (tracks time and date for file saving)
Calibration Interval	1 year
Warranty	3 years

Physical

Power Supply	100 - 240 V AC ($\pm 10\%$), 47 - 440 Hz, 100 VA max
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	322 mm × 172 mm × 317 mm mm
Weight	4.9 kg kg

Vertical System (Analog Channels)

Analog Bandwidth	100 MHz
Number of Channels	4
Calculated Rise Time	~3.5 ns
Input Coupling	AC, DC, Ground
Input Impedance	1 M Ω $\pm 1\%$ ~14 pF
Vertical Resolution	8 bits
Sensitivity Range	2 mV/div to 5 V/div
DC Gain Accuracy	$\pm 2\%$
Maximum Input Voltage	400 V (DC + peak AC)
Channel-to-Channel Isolation	≥ 40 dB at 100 MHz
Offset Range	± 2 V to ± 200 V (range dependent)

Horizontal System (Timebase)

Timebase Range	5 ns/div to 50 s/div
Timebase Accuracy	±0.005% (50 ppm)
Horizontal Delay Range	Pre-trigger: 1 million points or 500 s, whichever is smaller; Post-trigger: 500 s

Acquisition System

Maximum Real-Time Sample Rate	200 MSa/s
Maximum Memory Depth	2 MB per channel
MegaZoom Technology	Ensures responsive deep memory acquisition with instant horizontal pan and zoom
Acquisition Modes	Normal, Peak Detect, Averaging
Peak Detection	Glitch capture down to 5 ns
Averaging	Selectable from 2 to 16384
Waveform Update Rate	Up to 25 million vectors/sec

Trigger System

Trigger Sources	Ch 1, 2, 3, 4, Line
Trigger Modes	Auto, Normal, Single
Trigger Coupling	AC, DC, LF Reject, HF Reject, Noise Reject
Trigger Holdoff Range	60 ns to 10 s
Trigger Sensitivity	0.35 div or 3.5 mV (DC to 100 MHz)
Pulse Width Triggering	Trigger on pulse width <, >, or = to specified time (20 ns to 10 s)
Pattern/State Triggering	Standard pattern trigger across channels
Video/TV Triggering	NTSC, PAL, SECAM, and generic video
Serial Triggering	I ² C, SPI, CAN, USB
Integrated Frequency Counter	5-digit, up to 100 MHz
Trigger Level Range	±8 divisions from screen center

Waveform Measurements and Analysis

Automatic Voltage Measurements	Vpp, Vmax, Vmin, Vtop, Vbase, Vamp, Vavg, Vrms
Automatic Time Measurements	Frequency, Period, +Width, -Width, Duty Cycle, Rise time, Fall time
Waveform Math Functions	Addition, subtraction, multiplication, FFT
FFT Window Types	Hanning, Flat Top, Rectangular
Cursor Measurements	Manual, Track, Auto-measurements (dV, dt, 1/dt)

Display and User Interface

Display Type	7-inch monochrome raster-scan CRT with MegaZoom high-definition technology
Display Resolution	500 × 240 pixels
Graticule	8 × 10 divisions
Waveform Persistence	Off, infinite

Storage and File Systems

Removable Media Support	3.5-inch Floppy Disk Drive (1.44 MB)
Supported File Formats	CSV, TIF, BMP, Setup (.stp), Waveform (.wfm)
Setup Storage Registers	3 setups
Waveform Storage Registers	3 waveforms

Power and Environmental Specifications

Line Voltage Range	100 V to 240 V AC (±10%)
Line Frequency Range	47 Hz to 440 Hz
Power Consumption	100 VA max
Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH at 40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)

Compliance and Standards

Safety Certifications	CSA C22.2 No. 1010.1, EN 61010-1 / IEC 1010-1
Electromagnetic Compatibility (EMC)	EN 55011 Group 1 Class A, EN 50082-1

Vertical System

Bandwidth Limit	20 MHz (selectable)
Common Mode Rejection	20 dB at 50 MHz (using 10:1 probe)

Horizontal System

Timebase Modes	Main, Delayed, Roll, XY
XY Phase Difference	±3 degrees at 100 kHz

Connectivity

Parallel Printer Port	Standard, Centronics female (25-pin)
RS-232 Serial Port	Standard, 9-pin D-sub male, up to 57.6 kbps
GPIO Interface Option	Available via N2757A GPIO module

Environmental

Maximum Non-Operating Altitude	15,240 m (50,000 ft)
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Measurements

Simultaneous Auto-Measurements	Up to 4 measurements displayed
Frequency Counter Resolution	5 digits

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