KEYSIGHT TECHNOLOGIES (AGILENT HP)

54600B

The Keysight (Agilent) 54600B is a 100 MHz, 2-channel digital storage oscilloscope renowned for its reliable performance, analog-like feel, and high screen update rate of up to 1.5 million points per second. It is widely used in production testing, educational laboratories, and general-purpose troubleshooting.

SPECIFICATIONS

General

Interfaces	None standard; optional HP-IB (GPIB), RS-232, or Parallel interfaces available via plug-in expansion modules
Display	7-inch monochrome CRT raster display with 500 x 256 pixel resolution

Physical

Power Supply	100-240 VAC (±10%), 45-440 Hz, automatic selection, 75 W maximum power consumption
Operating Temperature	0 to +55 °C °C
Dimensions (W×H×D)	322 mm x 172 mm x 417 mm mm
Weight	6.2 kg kg

Vertical System

Analog Bandwidth (-3 dB)	100 MHz
Number of Input Channels	2
Calculated Rise Time (10% to 90%)	< 3.5 ns
Vertical Resolution (ADC)	8 bits
Input Sensitivity Range	2 mV/div to 5 V/div
Input Impedance	1 MΩ || ~20 pF
Input Coupling	AC, DC, GND
Maximum Input Voltage	400 V (DC + peak AC)
DC Gain Accuracy	±1.5%
Offset Range	±2 V (for 2 mV/div to 200 mV/div); ±40 V (for 500 mV/div to 5 V/div)
Bandwidth Limit	20 MHz (selectable)
Channel Math	Channel 1 + Channel 2, Channel 1 - Channel 2, Invert Channel 1 and Channel 2
Vertical Dynamic Range	±8 divisions from screen center
Probe Attenuation Factors	1x, 10x, 100x
Input Capacitance	20 pF
Channel-to-Channel Isolation	40 dB at 100 MHz

Horizontal System

Maximum Real-Time Sampling Rate	20 MSa/s
Maximum Record Length	4,000 points (single-channel), 2,000 points (dual-channel)
Time Base Range	2 ns/div to 5 s/div
Time Base Accuracy	±0.01%
X-Y Mode Phase Shift	< 3° at 100 kHz

Trigger System

Trigger Sources	Channel 1, Channel 2, Line, External
Trigger Modes	Auto, Auto Level, Normal, Single
Trigger Coupling	DC, AC, LF Reject, HF Reject, Noise Reject
External Trigger Input Impedance	1 MΩ || ~20 pF
External Trigger Maximum Input	400 V (DC + peak AC)
External Trigger Input Range	±18 V
Trigger Sensitivity	DC to 10 MHz: 0.3 div or 5 mV; 10 MHz to 100 MHz: 1 div or 15 mV
TV Trigger Standards	NTSC, PAL, SECAM

Acquisition System

Maximum Waveform Capture Rate	1,500,000 points/s

Waveform Measurements and Analysis

Automatic Measurements	Vpp, Vmax, Vmin, Vavg, Vrms, Vtop, Vbase, Frequency, Period, Duty Cycle, Positive Width, Negative Width, Rise Time, Fall Time
Cursors	V1, V2, t1, t2, ΔV, Δt, 1/Δt

Display and User Interface

Display Type	Monochrome CRT raster display
Display Size	7-inch
Display Resolution	500 x 256 pixels

Power Specifications

Power Supply Voltage Range	100 to 240 VAC (±10%)
Power Supply Frequency Range	45 to 440 Hz

Environmental Specifications

Operating Temperature Range	0 °C to +55 °C
Storage Temperature Range	-40 °C to +70 °C
Operating Humidity Range	Up to 95% RH at 40 °C
Non-Operating Altitude	Up to 15,240 m (50,000 ft)

Compliance and Standards

Calibration Interval	1 year

Storage & Memory

Front-Panel Setup Storage	16 nonvolatile setups
Waveform Storage	2 nonvolatile waveforms

Connectivity

Expansion Slot Compatibility	Supports HP 54650A-series interface and measurement modules

Display

CRT Phosphor Type	P31
Display Graticule	8 × 10 divisions (internal)

Triggering

Trigger Holdoff Range	200 ns to 13 s

Compliance

Safety Certifications	IEC 1010-1, UL 1244, CSA C22.2 No. 231
EMC Standards	CISPR 11 / EN 55011 Group 1 Class A

TECHNOLOGY

Digital Storage Oscilloscope

APPLICATIONS

Production testing, educational laboratories, and general-purpose electronic troubleshooting