KEYSIGHT TECHNOLOGIES (AGILENT HP)

54615B

The Keysight (Agilent/HP) 54615B is a 500 MHz, 2-channel digital storage oscilloscope belonging to the versatile 54600 Series. Combining the tactile feel and responsive display of an analog oscilloscope with the robust diagnostic power of digital architecture, it is designed for demanding test and engineering environments. It features a high real-time sample rate of 1 GS/s simultaneously on both channels and a 1 ns peak detect system, providing confidence in capturing elusive glitches and high-frequency waveforms.

SPECIFICATIONS

General

Interfaces	Optional HP-IB (GPIB), RS-232, or Parallel (Centronics) interfaces available via rear-panel expansion modules
Display	7-inch monochrome raster-scan CRT with 8 × 10 division graticule

Physical

Dimensions (W×H×D)	322 mm × 172 mm × 317 mm (excluding front-panel cover and accessories pouch) mm

Vertical System

Number of Channels	2
Analog Bandwidth (-3 dB)	500 MHz
Calculated Rise Time	< 700 ps
Input Coupling	AC, DC, GND
Maximum Input Voltage	1 MΩ: 400 V (DC + peak AC at ≤ 40 kHz); 50 Ω: 5 V rms
Vertical Sensitivity Range	2 mV/div to 5 V/div
Vertical Resolution	8 bits
DC Gain Accuracy	±1.5%
Bandwidth Limit Filter	20 MHz selectable
Maximum Input Voltage (50 Ohm)	5 Vrms
Maximum Input Voltage (1 MOhm)	400 V (DC + peak AC)
Vertical Vernier Range	Continuously variable between steps

Horizontal System

Sweep Speed Range	1 ns/div to 5 s/div
Timebase Accuracy	±0.005%
Horizontal Modes	Main, Delayed, Roll, X-Y
Pre-trigger Delay Range	At least 1 screen width (10 divisions)

Acquisition System

Memory Depth	5,000 points per channel
Peak Detection Mode	1 ns minimum glitch width capture
Averaging Factors	Selectable from 8 to 256 in binary steps

Trigger System

Trigger Sources	Channel 1, Channel 2, Line, External
Trigger Modes	Auto, Normal, Single, Auto Level
Trigger Coupling	DC, AC, LF Reject, HF Reject, Noise Reject

Measurements and Analysis

Automatic Voltage Measurements	Vp-p, Vmax, Vmin, Vtop, Vbase, Vamp, Vavg, Vrms
Automatic Time Measurements	Frequency, Period, +Width, -Width, Duty Cycle, Rise Time, Fall Time
Cursor Measurements	Voltage and Time cursors (ΔV, Δt, 1/Δt)

Environmental Parameters

Storage Temperature Range	-40 °C to +70 °C
Maximum Operating Altitude	4,600 m (15,000 ft)

Environmental

Maximum Operating Humidity	95% RH at 40 °C (non-condensing)

Waveform Storage

Setup Registers	16

Power Requirements

AC Input Frequency Range	45 Hz to 440 Hz

Outputs

Probe Compensator Output Voltage	approx. 5 V
Probe Compensator Output Frequency	approx. 1.2 kHz

Display System

Display Graticule	8 × 10 divisions

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

General-purpose electronics test, high-speed digital debugging, and RF signal analysis