KEYSIGHT TECHNOLOGIES (AGILENT HP)

54815A

The Keysight (Agilent HP) Infiniium 54815A is a versatile 4-channel, 500 MHz digital storage oscilloscope. It features a high real-time sampling rate of 1 GSa/s on all channels simultaneously, standard 32 kpts memory depth per channel, and an easy-to-use analog-like front panel interface combined with a Windows-based graphical user interface.

SPECIFICATIONS

General

Interfaces	GPIB, RS-232, Centronics parallel, SVGA out, PS/2 mouse and keyboard, LAN (optional or via network card)
Display	7.5-inch color flat-panel TFT-LCD, 640 x 480 resolution
Operating System	Windows-based (Windows 95 / 98)
Recommended Calibration Interval	1 year

Physical

Power Supply	100-240 VAC (±10%), 47-440 Hz, Max 390 W
Operating Temperature	+10 °C to +40 °C °C
Dimensions (W×H×D)	437 mm × 216 mm × 440 mm mm
Weight	12 kg kg

Vertical System

Analog Bandwidth (-3 dB)	500 MHz
Number of Input Channels	4
Vertical Resolution	8 bits (up to 12 bits with averaging)
Input Impedance	1 MΩ (~12 pF) or 50 Ω selectable
Input Coupling	AC, DC
Input Sensitivity Range	2 mV/div to 5 V/div (1 MΩ), 2 mV/div to 1 V/div (50 Ω)
Maximum Input Voltage	1 MΩ: ±150 V (DC + peak AC); 50 Ω: 5 V rms
DC Gain Accuracy	±1.25% of full scale
Hardware Bandwidth Limits	20 MHz
Input Capacitance	~12 pF
Channel-to-Channel Isolation	>= 40 dB (DC to 500 MHz)
Vertical Offset Range (1 MOhm)	2 mV to 100 mV/div: +/-2 V; 101 mV to 1 V/div: +/-20 V; 1.01 V to 5 V/div: +/-100 V
Vertical Offset Range (50 Ohm)	2 mV to 100 mV/div: +/-2 V; 101 mV to 1 V/div: +/-12 V

Horizontal System

Timebase Range	500 ps/div to 20 s/div
Timebase Accuracy	±0.005% (50 ppm)
Channel-to-Channel Deskew Range	±25 ns

Acquisition System

Maximum Real-Time Sample Rate	1 GSa/s per channel (simultaneously)
Maximum Record Length	32 kpts per channel
Acquisition Modes	Normal, Peak Detect, Averaging

Trigger System

Trigger Sources	Channel 1, Channel 2, Channel 3, Channel 4, Line, Auxiliary
Trigger Modes	Auto, Triggered, Single
Trigger Coupling	DC, AC, LF Reject, HF Reject, Noise Reject
Standard Trigger Types	Edge, Glitch, Pattern, State, Delay, Setup/Hold, Video
Trigger Sensitivity (Internal)	DC to 100 MHz: 0.5 div; 100 MHz to 500 MHz: 1.0 div
Auxiliary Trigger Input Impedance	1 MOhm (~12 pF)
Auxiliary Trigger Maximum Input Voltage	+/-150 V

Waveform Measurements and Analysis

Automatic Measurements	Rise time, fall time, period, frequency, positive width, negative width, duty cycle, delta time, peak-to-peak, min, max, amplitude, top, base, overshoot, preshoot, average, rms
Waveform Math Operators	Add, subtract, multiply, average, differentiate, integrate, FFT
FFT Window Types	Hanning, Hamming, Flat Top, Rectangular

Display and User Interface

Display Formats	YT, XY

Environmental and Compliance

Storage Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% relative humidity (non-condensing) at +40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)

Interfaces & Connectivity

GPIB Interface	IEEE-488 standard, fully programmable
Parallel Port	25-pin D-sub (Centronics)
Serial Port	9-pin D-sub (RS-232)
External Monitor Port	15-pin SVGA
PS/2 Ports	2 ports (for keyboard and mouse)
Probe Interface	AutoProbe interface

Storage

Floppy Drive	3.5-inch 1.44 MB

Accessories

Standard Probes	Four 1160A 10:1 passive probes (10 MΩ, 500 MHz)

Inputs & Outputs

Auxiliary Output	TTL-level pulse on trigger event, or DC calibration level on rear-panel BNC
Probe Calibration Output	Approx. 1 kHz square wave, ~5 Vp-p into High-Z
Active Probe Support	HP AutoProbe interface with automatic probe attenuation and offset control

Compliance & Safety

Safety Compliance	UL 3111-1, CSA C22.2 No. 1010.1, EN 61010-1 / IEC 1010-1
EMC Compliance	CISPR 11 / EN 55011 Group 1 Class A

Environmental

Operating Vibration	0.21 g (rms), 5 Hz to 500 Hz
Non-Operating Vibration	2.09 g (rms), 5 Hz to 500 Hz
Operating Shock	15 g, 11 ms, half-sine pulse
Non-Operating Shock	60 g, 11 ms, half-sine pulse

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

General-purpose electronic design, debugging, and communication mask testing