

KEYSIGHT TECHNOLOGIES (AGILENT HP)

16801A

The Keysight 16801A is a 34-channel portable logic analyzer designed to deliver robust timing and state analysis capabilities for digital debugging, timing validation, and system verification.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000 Base-T), 6 x USB 2.0 (2 front, 4 rear), VGA, BNC Trigger In, BNC Trigger Out
Display	15-inch color XGA LCD, 1024 x 768 resolution, optional touchscreen

Physical

Power Supply	100 - 240 VAC $\pm 10\%$, 47 - 63 Hz, 325 W max
Operating Temperature	0 to +40 °C °C
Dimensions (W×H×D)	423.7 mm × 326.4 mm × 402.1 mm mm
Weight	12.9 kg kg

State Analysis (Synchronous)

Maximum State Clock Rate	250 MHz or 450 MHz (option dependent)
Maximum State Data Rate	250 Mb/s or 500 Mb/s (option dependent)
State Memory Depth Options	1 M, 4 M, 16 M, 32 M (option dependent)
Minimum State Eye Width	1.5 ns
Adjustable Setup and Hold Step Size	80 ps
Setup/Hold Window	3.0 ns (Option 250) or 1.5 ns (Option 500)

Timing Analysis (Asynchronous)

Maximum Timing Sample Rate (Full Channel)	500 MHz (2.0 ns)
Maximum Timing Sample Rate (Half Channel)	1.0 GHz (1.0 ns)
Timing Zoom Sample Rate	4.0 GHz
Timing Zoom Resolution	250 ps
Timing Zoom Memory Depth	64 K samples
Transitional Timing Sample Rate	500 MHz (half channel), 250 MHz (full channel)
Timing Memory Depth Options	1 M, 4 M, 16 M, 32 M (option dependent)

Channel & Probing Characteristics

Number of Logic Channels	34 (32 data, 2 clock)
Supported Probe Interfaces	40-pin cable connector
Input Impedance at Probe Tip	100 k Ω $\pm$ 2% (with E5383A probe)
Input Capacitance at Probe Tip	1.5 pF (with E5383A probe)
Minimum Input Voltage Swing	500 mV peak-to-peak
Input Dynamic Range	$\pm$ 10 V
Threshold Voltage Range	-3.0 V to +5.0 V (10 mV increments)
Threshold Resolution	10 mV
Threshold Accuracy	$\pm$ (30 mV + 1% of setting)

Triggering & Sequencing

Trigger Sequence Levels	16
Word Recognizers	16
Range Recognizers	4
Edge/Glitch Recognizers	15
Pattern Recognizers	16
Counter Limits	Two 32-bit counters
Timer Limits	Two 32-bit timers
Trigger Arming Inputs	BNC (Arm In)
Trigger Arming Outputs	BNC (Arm Out)

System Architecture

Embedded Controller OS	Windows 7 (64-bit) or Windows XP Professional
Display Size	15-inch
Display Resolution	1024 x 768 (XGA)
Touchscreen Support	Optional (Option 103)
System Memory (RAM)	2 GB (Windows XP) or 4 GB (Windows 7)
Hard Disk Drive Capacity	80 GB or larger

Connectivity

LAN Port Interface Speed	10/100/1000 Mb/s (Gigabit Ethernet)
USB Ports	6 x USB 2.0 (2 front, 4 rear)
External Video Output	15-pin VGA
GPIB Support	Supported via external USB/GPIB adapter
External Trigger BNC Input	Yes
External Trigger BNC Output	Yes
Serial Port Interface	1 x 9-pin RS-232 D-sub
Parallel Port Interface	1 x 25-pin D-sub
PS/2 Ports	2 (Keyboard and Mouse)
Target Control Port	10-pin header

Physical Characteristics

Height	324.5 mm
Width	423.7 mm
Depth	402.1 mm
Weight (Net)	12.9 kg
Weight (Shipping)	18.2 kg

Power Specifications

Input Voltage Range	100 - 240 VAC ±10%
Input Frequency Range	47 - 63 Hz
Maximum Power Consumption	325 W

Environmental & Compliance

Operating Temperature Range	0 °C to +40 °C
Storage Temperature Range	-40 °C to +75 °C
Maximum Operating Altitude	3,000 m (10,000 ft)
Calibration Interval	2 years

System Details

PCI Expansion Slots	1 low profile PCI slot
Optical Drive	CD-RW/DVD-ROM drive

Input Specifications

Maximum Input Voltage	±40 V max
Standard Threshold Presets	TTL, CMOS, ECL, SSTL, User-defined

Software & Connectivity

Export File Formats	.csv, .txt, .xml, .bmp, .png, .jpg
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Triggering

Trigger Event Types	Pattern, Edge, Range, Glitch, Timer, Counter, Setup/Hold, Pulse Width
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Environmental & Physical

Operating Vibration	Random vibration 5 to 500 Hz, 0.31 g (rms)
Non-Operating Vibration	Random vibration 5 to 500 Hz, 2.41 g (rms)

Probing & Accessories

Compatible Probe Models	Keysight E5383A, E5385A, E5381A, E5382A, E5404A
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Software & Control

Application Software	Keysight Logic Analyzer Application Software
Oscilloscope Connectivity (View Scope)	Integrates external oscilloscope waveforms via LAN or GPIB

TECHNOLOGY

Logic Analyzer

APPLICATIONS

Digital circuit debugging, timing analysis, state analysis, hardware verification

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