

KEYSIGHT TECHNOLOGIES (AGILENT HP)

16821A

The Keysight 16821A is a portable logic analyzer with a built-in 48-channel pattern generator, offering digital designers a single instrument for simultaneous stimulus and response measurements. Featuring 68 logic acquisition channels and up to 32 M memory depth, the 16821A makes it possible to debug complex digital systems, capture long-duration events, and trace root-cause system errors. Its large 15-inch color display provides high visibility across extensive channel counts, with optional touchscreen integration for streamlined navigation.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000 Base-T), 6 x USB 2.0, VGA, Trigger In/Out
Display	15-inch color active matrix LCD, 1024 x 768 (XGA) resolution, optional touch screen

Physical

Power Supply	100 - 240 V AC ($\pm 10\%$), 47 - 63 Hz, 615 W max
Operating Temperature	0 °C to +40 °C °C
Dimensions (W×H×D)	424 mm x 383 mm x 290 mm mm
Weight	14.1 kg

Logic Analyzer Performance

Logic Analyzer Channels	68
Maximum State Clock Rate	250 MHz (standard), 500 MHz (with Option 500)
Maximum Timing Sample Rate (Half-Channel)	1.0 GHz
Maximum Timing Sample Rate (Full-Channel)	500 MHz
High-Speed Timing Zoom (Sample Rate)	4.0 GHz (250 ps)
High-Speed Timing Zoom (Memory Depth)	64K samples
Logic Analyzer Memory Depth Options	1 M, 4 M, 8 M, 16 M, 32 M vectors
Input Threshold Voltage Range	-3.0 V to +5.0 V (10 mV increments)
Minimum Input Voltage Swing	250 mV
Setup/Hold Time Window	1.0 ns (with Option 250), 625 ps (with Option 500)
Minimum State Pulse Width	1.5 ns (with Option 250), 1.25 ns (with Option 500)
Trigger Sequencer Maximum Speed	250 MHz (with Option 250), 450 MHz (with Option 500)
Predefined Trigger Macros	13

Pattern Generator Performance

Pattern Generator Channels	48
Maximum Pattern Generator Clock Rate	300 MHz (half-channel), 150 MHz (full-channel)
Pattern Generator Memory Depth Options	2 M vectors (Option 002), 16 M vectors (Option 016)
Minimum Clock Rate	1.4 Hz

Triggering & Signal Processing

Number of Trigger Levels	16
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System & Storage

Operating System	Windows XP Professional (original) or Windows Embedded Standard 7
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Interfaces & Connectivity

USB Host Ports	6 x USB 2.0 (2 front, 4 rear)
LAN Interface Speed	10/100/1000 Mb/s (Gigabit Ethernet)
External Video Port	VGA (15-pin D-sub)
Trigger Output Connector	BNC
Trigger Input Connector	BNC

Environmental & Physical

Storage Temperature Range	-40 °C to +75 °C
Operating Altitude Limit	3,000 meters (10,000 feet)
Operating Humidity Range	Up to 80% relative humidity (non-condensing) at +40 °C

Display & Interface

Display Resolution	1024 × 768 (XGA)
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Computer System

PCI Expansion	1 low-profile PCI slot
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Pattern Generator

Pattern Generator Data Channels	48
Pattern Generator Clock Channels	4 (2 single-ended, 1 differential, 1 external)
Pattern Generator Output Impedance	50 Ω nominal

Triggering

Trigger Pattern Resources	16
Trigger Range Resources	4
Trigger Edge and Glitch Resources	2
Trigger Timers and Counters	2

Hardware Connectivity

Logic Analyzer Cable Connector Type	90-pin
Pattern Generator Cable Connector Type	40-pin

Computer System Details

System Processor	Intel Celeron 2.0 GHz or Intel Celeron 2.93 GHz (vintage dependent)
System Memory	1 GB or 2 GB (vintage dependent)
Hard Drive Capacity	80 GB or larger, SATA

Environmental & Reliability

Acoustic Noise	Lpa < 50 dBA (typical at 25 °C)
Operating Vibration	Random vibration, 5 to 500 Hz, 0.3 g (rms)
Non-operating Vibration	Random vibration, 5 to 500 Hz, 2.41 g (rms)
Non-operating Shock	30 g, half-sine, 11 ms duration

Regulatory & Standards

Safety Standards	IEC 61010-1, CAN/CSA-C22.2 No. 61010-1, UL 61010-1
EMC Standards	IEC 61326-1, EN 61326-1, ICES-001, AS/NZS CISPR 11

TECHNOLOGY

Logic Analysis & Pattern Generation

APPLICATIONS

Digital System Debug, Protocol Analysis, Hardware Stimulus-Response Testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.