

KEYSIGHT TECHNOLOGIES (AGILENT HP)

16950B

The Keysight Technologies (formerly Agilent) 16950B is a high-performance state and timing logic analyzer module designed for the 16900 Series logic analysis mainframes. With support for state clock rates up to 667 MHz, data rates up to 1066 Mb/s, and a 4 GHz timing zoom with deep selectable memory options, the 16950B is engineered to handle complex, demanding digital debugging tasks.

SPECIFICATIONS

General

Interfaces	Mainframe backplane interface, 90-pin probe connectors
Display	None (utilizes mainframe display)
Warm-up Time	30 minutes
Recommended Calibration Cycle	2 years

Physical

Power Supply	Powered via mainframe backplane
Dimensions (W×H×D)	Single-slot module for 16900 Series mainframes mm

State Analysis Performance

Maximum State Clock Rate	667 MHz
Maximum State Data Rate	1066 Mb/s
State Channels per Module	136
Minimum Setup and Hold Time	125 ps / 125 ps (Option 667), 300 ps / 300 ps (Option 450)
Minimum State Eye Width	550 ps (Option 667), 800 ps (Option 450)

Timing Analysis Performance

Maximum Conventional Timing Sample Rate (Half Channel)	1.2 GHz
Maximum Conventional Timing Sample Rate (Full Channel)	600 MHz
Maximum Transitional Timing Sample Rate	600 MHz
Maximum High-Speed Timing (Zoom) Sample Rate	4 GHz
High-Speed Timing Sample Resolution	250 ps
Timing Channels per Module	136

Memory and Triggering

Selectable Memory Depths	1 M, 4 M, 16 M, 32 M, or 64 M (option dependent)
High-Speed Timing Zoom Memory Depth	64 K
Simultaneous Eye Diagrams	Supported on all channels

Probe and Input Characteristics

Supported Probe Interfaces	90-pin logic analyzer probes
Threshold Support	Single-ended and differential
Automated Threshold/Sample Position	Supported

Multi-Module and Frame Integration

Compatible Mainframes	Keysight / Agilent 16900 Series
Slot Width Requirement	1 slot
Multi-Module Integration	Combine modules for higher-channel counts

Threshold & Voltage

Voltage Threshold Range	-3.0 V to +5.0 V in 10 mV steps
Threshold Accuracy	±(30 mV + 1% of threshold setting)

Triggering

Trigger Sequencer Max Levels	16
Pattern Recognizers	10
Range Recognizers	2
Timers	2
Counters	2
Maximum Trigger Sequencer Speed	Up to 667 MHz (option-dependent)

Environmental

Operating Humidity Range	8% to 80% RH (non-condensing)
Storage Temperature Range	-40 °C to +75 °C
Operating Altitude	Up to 3,000 m
Storage Altitude	Up to 15,300 m

Inputs & Outputs

Module Connector Type	High-density 90-pin connectors
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Software & Control

Host Software Compatibility	Keysight Logic Analyzer Application Software
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Compliance

Safety Standards Compliance	IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1
EMC Standards Compliance	IEC 61326-1, EN 61326-1, CISPR 11 / EN 55011 Class A

TECHNOLOGY

Logic Analysis

APPLICATIONS

Digital Systems Debugging, State and Timing Analysis, High-Speed Bus Verification

