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Data Sheet

August 13, 2026

KEYSIGHT / AGILENT / HP

Keysight / Agilent / HP 16950A Logic Analyzer Module

Agilent 16950A 68 Channel 4 GHz Timing / 600 MHz State Logic Analyzer Module The Agilent 16950A is a 68-channel state/timing module for 16900-series mainframes (16900A/16902A/16903A). High-speed timing zoom 4 GHz (250 ps) with 64 k depth on all channels. Deep-memory conventional timing 1.2 GHz half-channel / 600 MHz full-channel; transitional timing 600 MHz. State clock to 600 MHz; data rate to 800 Mb/s. Memory options 256 k, 1 M, 4 M, 16 M, 32 M, 64 M (software-upgradeable). Threshold -3 V to +5 V in 10 mV steps. Single-ended and differential. Eye finder and eye scan. 90-pin probe connector (probes ordered separately). Combine up to five modules for 340 channels on one timebase. The Agilent 16950A is a 68-channel state/timing module for 16900-series mainframes (16900A/16902A/16903A). High-speed timing zoom 4 GHz (250 ps) with 64 k depth on all channels. Deep-memory conventional timing 1.2 GHz half-channel / 600 MHz full-channel; transitional timing 600 MHz. State clock to 600 MHz; data rate to 800 Mb/s. Memory options 256 k, 1 M, 4 M, 16 M, 32 M, 64 M (software-upgradeable). Threshold -3 V to +5 V in 10 mV steps. Single-ended and differential. Eye finder and eye scan. 90-pin probe connector (probes ordered separately). Combine up to five modules for 340 channels on one timebase. High-speed bus validation on 16900 frames



MODEL

**Keysight / Agilent /
HP 16950A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

16950A

LISTING

[https://aumictechlabs.c
om/products/16950a-2/](https://aumictechlabs.com/products/16950a-2/)

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight/Agilent/HP 16950A is a 68-channel logic analyzer module engineered for high-speed digital system debugging and verification. It delivers timing analysis up to 4 GHz with 250 ps resolution, state analysis to 600 MHz, and selectable memory depths from 256 K to 64 M. The module integrates into Keysight 16900 Series mainframes and scales to 340 channels across five modules, supporting both single-ended and differential signals with threshold adjustment from -3 V to 5 V in 10 mV increments.

Technical Specifications

- Channel Architecture** 68 channels per module Maximum 340 channels (5 modules combined)
- Signal** Single-ended and differential signal support
- Timing Analysis (Asynchronous Sampling)** 4 GHz timing zoom at 250 ps resolution with 64 K memory 1.2 GHz half-channel or 600 MHz full-channel conventional timing with deep memory
- 600 MHz transitional timing State Analysis (Synchronous Sampling)** State clock rates to 600 MHz Data rates to 800 Mb/s
- Simultaneous eye diagrams across all channels Memory Configuration** Selectable depths: 256 K, 1 M, 4 M, 16 M, 32 M, 64 M Memory depth upgrades available
- Signal Conditioning** Threshold adjustment: -3 V to 5 V in 10 mV increments Automated threshold and sample position setup for high-speed bus measurements

Key Features

- Versatile triggering for complex digital designs
- Deep memory options enable extended capture windows
- Eye diagram analysis identifies signal integrity problems in real time
- 90-pin probe interface (probes ordered separately)

Compatibility & Integration The 16950A interfaces with Keysight 16900 Series mainframes and maintains backward compatibility with discontinued 16700 Series and 16500C platforms. Multiple modules combine within a single mainframe, defaulting to the lowest memory depth in the set. The module works alongside other 16700 Series logic analyzer cards (16753A, 16754A, 16755A, 16756A) in multi-card configurations.

16950A Characteristics / Specifications

PARAMETER	VALUE
Model	16950A
Manufacturer	Agilent / Keysight
Instrument Type	Logic analyzer module
Series	16900 modules
Alias	16950A; Agilent 16950A
Channels Per Module	68
Max Channels One Timebase	340 (five modules)
Timing Zoom	4 GHz (250 ps) 64 k depth
Deep Timing Half	1.2 GHz (833 ps)
Deep Timing Full	600 MHz (1.67 ns)
Transitional Timing	600 MHz
State Clock	up to 600 MHz
State Data Rate	up to 800 Mb/s
Memory Options	256 k, 1 M, 4 M, 16 M, 32 M, 64 M
Threshold Range	-3 V to +5 V
Threshold Step	10 mV
Signal Types	single-ended and differential
Probe Connector	90 pin
Eye Finder	yes
Eye Scan	yes
Host Mainframes	16900A, 16902A, 16903A
Related 16910A	102 channels, 450 MHz state class
Related 16911A	68 channels, 450 MHz state class
Form	16900 plugin
Status	Agilent 16950A

PARAMETER	VALUE
Simultaneous State Timing	same probes all channels
Duty	continuous in 16900
Calibration	16900 eye finder / threshold setup Notes Specs from Agilent 16950A / 16900 module table (68 ch, 4 GHz zoom, 600 MHz state, 800 Mb/s, 90-pin, memory options). Confirm memory option (256/001/004/016/032/064) on the module.
Data Rate	to 800 Mb/s. Memory options 256 k, 1 M, 4 M, 16 M, 32 M, 64 M (software-upgradeable). Threshold -3 V to +5 V in 10 mV steps. Single-ended and differential. Eye finder and eye scan. 90-pin probe connector (probes ordered separately). Combine up to fiv

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Related 16911A	68 channels, 450 MHz state class
Form	16900 plugin

Specifications

PARAMETER	VALUE
Status	Agilent 16950A
Simultaneous State Timing	same probes all channels
Duty	continuous in 16900

Calibration: 16900 eye finder / threshold setup

Notes

Specs from Agilent 16950A / 16900 module table (68 ch, 4 GHz zoom, 600 MHz state, 800 Mb/s, 90-pin, memory options). Confirm memory option (256/001/004/016/032/064) on the module.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.