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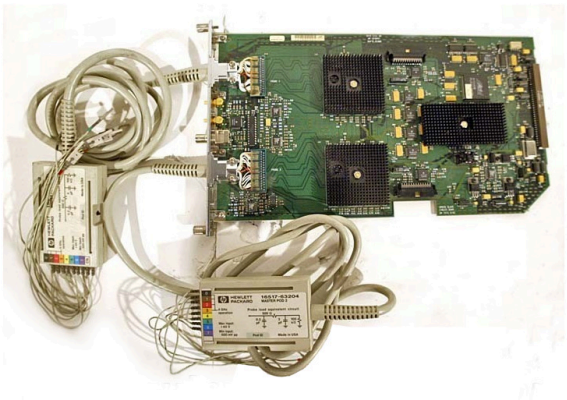
Data Sheet
August 13, 2026

KEYSIGHT / AGILENT

Keysight (Agilent) 16517A Logic Analyzer High-Speed State and Timing Module, 16-Channel, 4 GHz

Keysight (Agilent / HP) 16517A High-Speed State and Timing Logic Analyzer Module The HP/Agilent/Keysight 16517A is the master card of the 16517A/16518A high-speed state and timing logic analyzer family for the 16500A/B Logic Analysis System. It provides 16 channels of 4 GSa/s timing (half-channel) / 2 GSa/s timing (full-channel) and 1 GSa/s synchronous state analysis with 64 Kbits memory per channel (128 Kbits in half-channel timing). Up to four 16518A expansion cards can extend the set to 80 channels (40 in half-channel mode) on one time base and trigger. The HP/Agilent/Keysight 16517A is the master card of the 16517A/16518A high-speed state and timing logic analyzer family for the 16500A/B Logic Analysis System. It provides 16 channels of 4 GSa/s timing (half-channel) / 2 GSa/s timing (full-channel) and 1 GSa/s synchronous state analysis with 64 Kbits memory per channel (128 Kbits in half-channel timing). Up to four 16518A expansion cards can extend the set to 80 channels (40 in half-channel mode) on one time base and trigger. High-speed digital edge timing characterization; multi-channel timing zoom versus oscilloscope probing; synchronous state capture of high-speed data streams; critical-path skew verification across pods.



MODEL **Keysight / Agilent 16517A**	CALIBRATION **Available on request**
CONDITION **Used**	STATUS **In stock**
RFQ / SKU **16517A**	LISTING **https://aumictechlabs.com/products/16517a-2/**

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight (Agilent) 16517A is a high-speed logic analyzer module engineered for timing and state analysis of complex digital designs. Operating at up to 4 GSa/s in timing mode and 1 GSa/s in state mode, this 16-channel instrument delivers 250 ps resolution across up to 40 channels and 500 ps resolution across up to 80 channels. It integrates with Agilent 16500 mainframes and 16501A Expansion Frames, providing a scalable platform for digital verification.Technical Specifications Channels: 16 data channels; expandable to 80 channels with four 16518A expansion cards Timing Mode: Up to 4 GSa/s (half-channel); up to 2 GHz (full-channel) State Mode: Up to 1 GSa/s (synchronous); external clock support to 1 GHz; maximum state speed 1 GHz or 2 GHz with oversampling Memory Depth: 64K (full-channel mode); 128 Kbits or 128 Kbytes (half-channel mode) Resolution: 250 ps (up to 40 channels); 500 ps (up to 80 channels) Channel-to-Channel Skew: ±250 ps Setup/Hold Time: 750/750 ps (across pods, without adjustment); 350/350 ps (with adjustment) Trigger Sequencer Speed: Maximum 500 MHz Data Validity for Triggering: 2.25 ns minimum for data faster than 500 MHzKey Features Supports both timing and state acquisition modes in full-channel and half-channel configurations Half-channel mode doubles memory depth while reducing channel width Sample point offset available in full-channel state mode Flexible data storage start point: beginning, center, end, or user-defined location within memory ±250 ps channel-to-channel skew specification ensures timing accuracy across wide channel countsTypical Applications High-speed digital circuit debugging and verification Multi-clock system analysis with synchronous state monitoring Timing characterization of 2 GHz to 4 GHz digital designs Complex protocol decoding and trigger sequencing up to 500 MHzCompatibility & Integration Designed for Agilent 16500 mainframes and 16501A Expansion Frames. The 16500 mainframe provides GPIB, RS-232-C, and Ethernet LAN connectivity for data processing and host control. All probe accessories connect to 0.1-inch centers; shielded cables measure 5 to 6 feet and contain eighteen 50-Ω transmission lines plus 6 standard wires. Requires non-terminated preprocessor compatibility.

Features & description

From manufacturer datasheet

Features

- Master module for 16500A/B mainframes; optional 16518A expanders (up to four)

16517A Characteristics / Specifications

PARAMETER	VALUE
Model	16517A
Manufacturer	Keysight Technologies
Instrument Type	High-Speed State and Timing Logic Analyzer Module
Host Platform	HP/Agilent 16500A/B Logic Analysis System
Product Family	16517A/16518A
Role	Master module
Max Channels Full With Four 16518A	80
Max Channels Half With Four 16518A	40
Synchronous State Rate	1 GSa/s
Clock Inputs Master	1
Trigger Sequencer Max Speed	500 MHz
Trigger Sequence Levels State	4
Trigger Sequence Levels Timing	4
Setup Hold Window	700 ps
Setup Hold Adjust Step	50 ps
Threshold Modes	TTL; ECL; user +/-5 V
Threshold Step	10 mV
Probe Impedance at 1 GHz	500 Ohm
Max Expansion Cards	four 16518A
Form Factor	16500 plug-in module Notes Specs from HP/Agilent 16517A/18A user/service literature and State and Timing Modules comparison data. Confirm master vs expander cards and 16500 mainframe revision on the installed set.

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

Specifications

PARAMETER	VALUE
Model	16517A
Manufacturer	Keysight Technologies
Instrument Type	High-Speed State and Timing Logic Analyzer Module

Specifications

PARAMETER	VALUE
Host Platform	HP/Agilent 16500A/B Logic Analysis System
Product Family	16517A/16518A
Role	Master module

Channels Full-Channel Master: 16

Channels Half-Channel Master: 8

Max Channels Full With Four 16518A: 80

Max Channels Half With Four 16518A: 40

Timing Sample Rate Full-Channel: 2 GSa/s

Timing Sample Rate Half-Channel: 4 GSa/s

Timing Resolution Half-Channel: 250 ps

Synchronous State Rate: 1 GSa/s

Memory Depth Full-Channel: 64 Kbits per channel

Memory Depth Half-Channel Timing: 128 Kbits per channel

Specifications

PARAMETER	VALUE
Clock Inputs Master	1
Trigger Sequencer Max Speed	500 MHz
Trigger Sequence Levels State	4

Specifications

PARAMETER	VALUE
Trigger Sequence Levels Timing	4

PARAMETER	VALUE
Setup Hold Window	700 ps
Setup Hold Adjust Step	50 ps

Threshold Modes: TTL; ECL; user +/-5 V

Threshold Step: 10 mV

Channel-to-Channel Skew: +/-250 ps

Specifications

PARAMETER	VALUE
Probe Impedance at 1 GHz	500 Ohm
Max Expansion Cards	four 16518A
Form Factor	16500 plug-in module

Notes

Specs from HP/Agilent 16517A/18A user/service literature and State and Timing Modules comparison data. Confirm master vs expander cards and 16500 mainframe revision on the installed set.

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

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