

KEYSIGHT TECHNOLOGIES (AGILENT HP)

16517A

The Agilent/HP 16517A is a 16-channel High-Speed State and Timing Logic Analyzer Module designed for the 16500-series mainframe logic analysis systems. Engineered to solve critical timing and state analysis challenges in high-speed digital designs, it delivers up to 4 GHz timing resolution (250 ps) and 1 GHz synchronous state analysis. With channel-to-channel skew controlled to within ± 250 ps, this module provides oscilloscope-like precision over high channel counts, allowing designers to perform accurate characterizations of phase-locked loops (PLLs) and high-speed clock boundaries.

SPECIFICATIONS

General

Interfaces	Via mainframe backplane (HP-IB, RS-232, LAN, Centronics)
Display	None (uses mainframe display)

Physical

Power Supply	Powered by mainframe backplane
Dimensions (W×H×D)	Single-slot module for 16500 series mainframes mm

Acquisition and Channels

Number of Channels	16 channels per module
Maximum State Clock Speed	1 GHz (1 GSa/s synchronous state analysis)
Maximum Timing Resolution	250 ps (4 GHz)
Maximum Configuration Channels	Up to 80 channels (using 16518A expansion modules)
Timing Resolution (up to 40 channels)	250 ps (4 GHz)
Timing Resolution (up to 80 channels)	250 ps (4 GHz)

Memory and Record Length

Standard Memory Depth	64K samples per channel
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Mainframe Compatibility

Compatible Mainframes	Agilent HP 16500C, 16500B
Backplane Slot Width Requirements	1 slot

Probing

Probe Input Resistance	100 k Ω
Probe Input Capacitance	1.5 pF
Threshold Range	-2.0 V to +4.5 V (in 10 mV increments)
Maximum Input Voltage	± 15 V
Minimum Input Voltage Swing	300 mV p-p

State Analysis

State Analyzer Setup/Hold Time	500 ps setup, 0 ps hold
Minimum Clock Pulse Width	400 ps

Electrical Probe Characteristics

Input Dynamic Range	±2.0 V relative to threshold
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TECHNOLOGY

Logic Analyzer Module

APPLICATIONS

High-speed digital system hardware verification, PLL phase characterization, state and timing analysis

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