

HP 16542A Deep Memory State and Timing Module Collect and Analyze Large Streams of Data

The HP 16542A module provides high-speed, configurable, deep memory logic analysis for your HP 16500 series system. Debug systems that process and transfer large streams of data, such as image processing systems, radar or other imaging systems, DSP systems, and telecommunications systems. Find the cause of intermittent system crashes by capturing up to 1 M of inverse-assembled states in your computer system. Perform benchmark testing and system performance analysis by acquiring up to 10 MB of data per run.

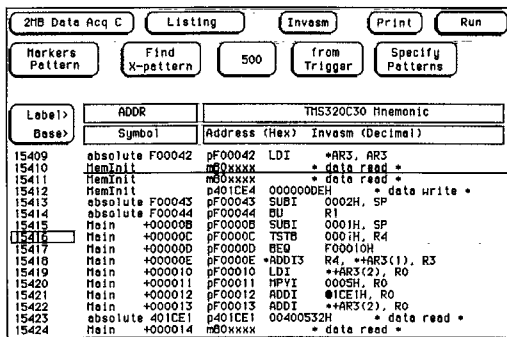
Key Specifications and Characteristics

HP 16542A	
Channels/card	16
Memory depth/channel/card	1 Mb/channels × 16 channels or 2 Mb/channels × 8 channels
Maximum memory depth/channel	1 Mb/channels × 80 channels 2 Mb/channels × 40 channels 5 Mb/channels × 16 channels* 10 Mb/channels × 8 channels*
Maximum state input clock rate	100 MHz
Timing analysis rate	100 MHz, fixed

*Requires HP E2430A memory expansion interface for multcard configurations.

Capture Entire Frames of Image Data

Capture and analyze image data from image processing systems, such as HDTVs, scanners, facsimiles, laser printers, and color photocopiers.



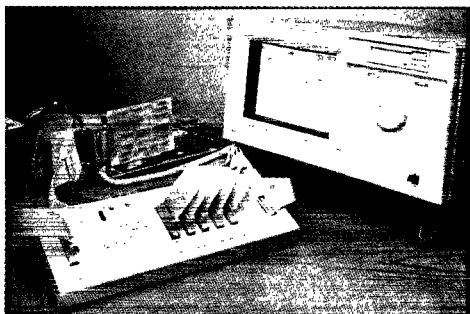
Capture up to 10 MB of data in a single acquisition.

Debug Digital Signal Processor Systems

Combine the HP 16542A with other HP 16500 series modules for full DSP analysis in a single, easy-to-use mainframe. Use the HP 16550A 100-MHz state/timing analyzer to monitor code flow; the HP 16542A for memory-intensive data stream capture; and the HP 16532A 1-GSa/s oscilloscope for viewing parametric anomalies on the analog I/O streams.

Capture Data Bursts with Multirecord Mode

Use multirecord mode to specify a recurring trigger pattern and data stream length so that multiple data bursts or occurrences of real-time events may be captured in a single acquisition. Only data within these boundaries are stored, thereby using acquisition memory more effectively.



HP E2430A memory expansion interface allows one probe to drive up to five HP 16542A data acquisition cards for up to 10 Mb/channel memory depth.

HP 16517A/16518A High-Speed State and Timing Module

Make Time Measurements with the Resolution and Precision of an Oscilloscope

Key Specifications and Characteristics

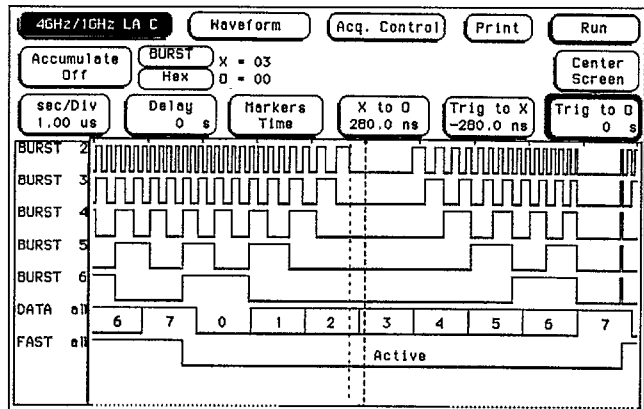
HP 16517A/16518A	
Maximum timing speed	2 GSa/s or 4 GSa/s ¹
Maximum state speed	1 GSa/s
Memory depth	64 K or 128 K ²
Channels per card	16/16 ²
Probe input R&C	0.2 pF, then through 500 Ω, 3 pF and 100 kΩ
Trigger macro library	Yes, with 4 sequence levels
Channel-to-channel skew	250 ps, typical

¹Half-channel mode doubles memory depth and doubles timing speed.

²HP 16518A expansion card requires HP 16517A master card. Up to four HP 16518As are supported by each HP 16517A.

Find the Cause of Elusive Problems

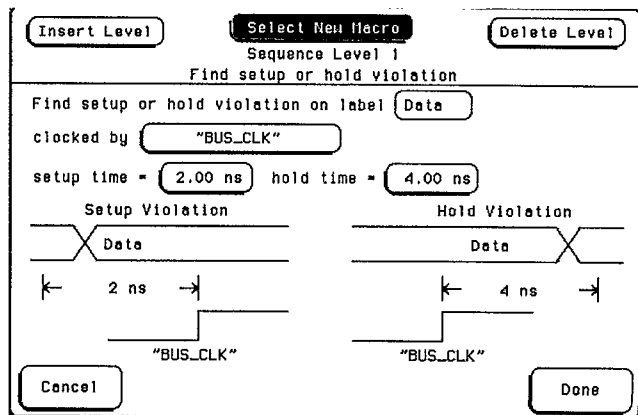
The 64 K deep memory lets you capture data over many clock cycles while retaining the highest multi-channel accuracy ever in a logic analyzer. Verify the timing of critical edges with 250 ps resolution across up to 40 channels, or 500 ps resolution, across up to 80 channels. Use the 1 GSa/s synchronous state analysis to view high-speed data streams across up to 80 channels.



Capture 32 μs of circuit activity while maintaining 250 ps resolution.

Precisely Characterize Setup or Hold Times

The 250 ps precision (channel-to-channel skew) allows this logic analyzer to be used in place of an oscilloscope for characterization. The high channel count of a logic analyzer makes this a much more efficient process.



A graphical trigger macro library ensures fast trigger condition setups.

