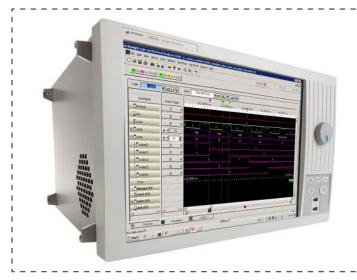Product Fact Sheet

Keysight 16850 Series Portable Logic Analyzers

The industry's fastest timing capture with deep memory for fast debug

Why is the 16850 Series such a versatile tool for general purpose debug and validation challenges?

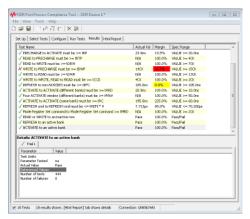2.5 GHz timing capture with up to 128 M sample memory
– Find elusive timing problems quickly, even far from the trigger point
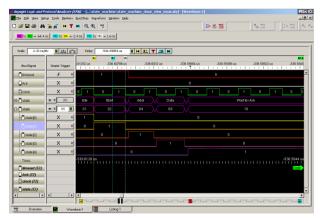
Up to 1.4 GHz trigger sequencer
– For state and timing capture to track your high-speed designs

Single-ended and differential probing
– Provide the widest range of supported technologies

The 16850 Series offers not only memory decode on addr/cmd for up to DDR2/3 1333, but also allows for conformance testing as shown.

Often it is easy to trigger on a symptom of a problem, like an error flag. In this example, one can look far back in time before the trigger with 2.5 GHz (400 ps) timing to see the timing and functional details of the root cause of failure.

Key specifications

Timing speed with deep memory (half/full ch)	5 GHz (200 ps)/2.5 GHz (400 ps) up to 128 M samples depth
Channels	34, 68, 102 and 136
Trigger sequencer	1.4 GHz (timing mode standard); 700 MHz state mode standard; 1.4 GHz state mode with option 700)
State data rate	700 Mbps standard; 1400 Mbps upgrade
Timing Zoom	12.5 GHz (80 ps) with 256 k samples depth
Memory depth	2 M samples standard; 4 M, 8 M, 16 M, 32 M, 64 M, and 128 M options
Probing options	Single-ended and differential
Memory measure-ments	Configurations for addr/cmd state capture, decode, conformance test up to DDR2/3 1333

KEYSIGHT TECHNOLOGIES

1 Choose the channel count

Model	16851A	16852A	16853A	16854A
Channels	34	68	102	136

2 Choose the state speed

Standard	350 MHz state clock; 700 Mbps data rate
16851A-700	700 MHz state clock; 1.4 Gbps data rate
16852A-700	700 MHz state clock; 1.4 Gbps data rate
16853A-700	700 MHz state clock; 1.4 Gbps data rate
16854A-700	700 MHz state clock; 1.4 Gbps data rate

3 Choose the memory depth

Standard	2 M
16851A-004	4 M for 34-ch models
16851A-008	8 M for 34-ch models
16851A-016	16 M for 34-ch models
16851A-032	32 M for 34-ch models
16851A-064	64 M for 34-ch models
16851A-128	128 M for 34-ch models
16852A-004	4 M for 68-ch models
16852A-008	8 M for 68-ch models
16852A-016	16 M for 68-ch models
16852A-032	32 M for 68-ch models
16852A-064	64 M for 68-ch models
16852A-128	128 M for 68-ch models
16853A-004	4 M for 102-ch models
16853A-008	8 M for 102-ch models
16853A-016	16 M for 102-ch models
16853A-032	32 M for 102-ch models
16853A-064	64 M for 102-ch models
16853A-128	128 M for 102-ch models
16854A-004	4 M for 136-ch models
16854A-008	8 M for 136-ch models
16854A-016	16 M for 136-ch models
16854A-032	32 M for 136-ch models
16854A-064	64 M for 136-ch models
16854A-128	128 M for 136-ch models

www.keysight.com/find/16850-Series

Logic analyzer probes are ordered separately. Please specify probes when ordering to ensure the correct connection between your logic analyzer and the device under test.

16850 Series direct connect logic analyzer probes

General-purpose flying lead	
U4203A	34-ch single-ended data, differential clock, direct connect
E5381A	17-ch differential probe for 90 pin LA pod [1,2]
E5382A	17-ch single-ended probe for 90 pin LA pod [1,2]
Connectorless probes	
E5387A	Soft Touch Classic Series: 17-ch differential for 90 pin LA pod [1,2]
E5398A	Half-Size Soft Touch: 17-ch single-ended for 90 pin LA pod [1,2]
E5390A	Soft Touch Classic Series: 34-ch single-ended for 90 pin LA pod [1,3]
E5405A	Soft Touch Pro Series: 17-ch differential for 90 pin LA pod [1,2]
E5406A	Soft Touch Pro Series: 34-ch single-ended for 90 pin LA pod [1,3]
Connector probes	
U4205A	34-ch single-ended data and clock, direct connect
E5378A	Samtec: 34-ch single-ended probe for 90 pin LA pod [1,3]
E5379A	Samtec: 17-ch differential probe for 90 pin LA pod [1,2]
E5380A	Mictor: 34-ch single-ended probe [1,3]

1. Logic analyzer probes are ordered separately. Please specify probes when ordering to ensure the correct connection between your logic analyzer and the device under test.
2. 17 channel probes require one of two 90 pin pods provided on the U4201A logic analyzer direct connect cable.
3. 34 channel probes require both 90 pin pods provided on the U4201A logic analyzer cable.

Additional 16850 Series options

Keysight product or option number	Description	Ordering information
E5864A	Additional external hard drive	Order E5864A

Three-Year Warranty
www.keysight.com/find/ThreeYearWarranty
Keysight's commitment to superior product quality and lower total cost of ownership. The only test and measurement company with three-year warranty standard on all instruments, worldwide.

Keysight Assurance Plans
www.keysight.com/find/AssurancePlans
Up to five years of protection and no budgetary surprises to ensure your instruments are operating to specification so you can rely on accurate measurements.

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