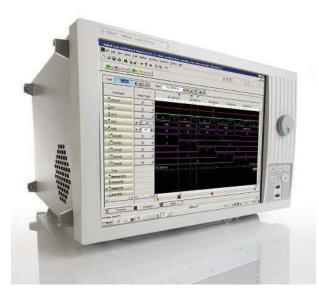
Product Fact Sheet

Agilent 16850 Series Portable Logic Analyzers

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



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 measurements	Configurations for addr/cmd state capture, decode, conformance test up to DDR2/3 1333

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

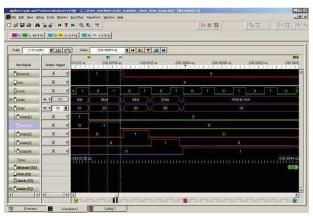
· For state and timing capture to track your high-speed designs

Single-ended and differential probing

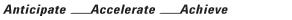
· Provide the widest range of supported technologies

est Name	Actual Val	Mardio	SpecRange	
PRECHARCE to ACTIVATE must be by 199	21.9m	19.5%	VALLE >= 20.0rg	
READ to PRECHARGE must be any tRTP	N/A	100.0%	WALLE >= 4OC	
READ to WRITE must be >= 106W	N/A	100.0%	VALUE >= 70X	100
"WRITE to PRECHARGE must be >= 10WP	14CK	6.7%	VALUE >= 1500	
WRITE to READ reast be >= 60WR	N/A	100.0%	VALUE >= 130K	
WRITE to WRITE, READ to READ must be >= tOCD	400	100.0%	VAULE >= 20K	
REPRESH to non-NOP/DES must be >= IRPC	105.0m	0.0%	VALUE >= 105.0re	
ACTIVATE to ACTIVATE (different banks) must be >= 6980	20.9ns	109.0%	VALUE >= 10.0ns	
Four ACTIVATE vendow (different banks) must be >= tFWW	N(A	100.0%	VALUE >= 50.0mm	2
ACTIVATE to ACTIVATE (same bank) must be >= tRC	195.0ns	225.0%	VALUE >= 60.0ns	
REPRESH and to REPRESH and reast be <= 6REPE * 9	7.713µn		VALUE: <= 70.200µs	
Mode Register Set command to Mode Register Set command >= tMRD	N(A		VALUE >= 20K	
READ or WRITE to an inactive row	Pass	100.0%		
REPRESH to an active bank.	Pass	100.0%		
ACTIVATE to an active bank.		100.0%	Pass,Pail	
A finit A TIVATE to an active bank V Trult Prosenter Value Value Provide Value Provide Value Provide Value Control Value Value A Val				_

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.



www.valuetronics.com



Product Fact Sheet

Agilent 16850 Series Portable Logic Analyzers

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	

* For all after-purchase upgrades use model numbers 16851AU, 16852AU, 16853AU and 16854AU to order memory depth or state speed upgrades.

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

Technical data, availability, and pricing subject to change without notice. © Agilent Technologies, Inc. 2013, Printed in USA, August 10, 2013 5991-2815EN 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 probesGeneral-purpose flying leadU4203A34-ch single-ended data, differential clock, direct connectE5381A17-ch differential probe for 90 pin LA pod ^{1,2} E5382A17-ch single-ended probe for 90 pin LA pod ^{1,2} Connectorless probesE5387ASoft Touch Classic Series: 17-ch differential for 90 pin LA pod ^{1,2} E5398AHalf-Size Soft Touch: 17-ch single-ended for 90 pin LA pod ^{1,2} E5390ASoft Touch Classic Series: 34-ch single-ended for 90 pin LA pod ^{1,3} E5405ASoft Touch Pro Series: 17-ch differential for 90 pin LA pod ^{1,3} E5406ASoft Touch Pro Series: 34-ch single-ended for 90 pin LA pod ^{1,3} E5378ASamtec: 34-ch single-ended probe for 90 pin LA pod ^{1,3} E5378ASamtec: 34-ch single-ended probe for 90 pin LA pod ^{1,3} E5378ASamtec: 34-ch single-ended probe for 90 pin LA pod ^{1,3} E5378ASamtec: 34-ch single-ended probe for 90 pin LA pod ^{1,3} E5378ASamtec: 34-ch single-ended probe for 90 pin LA pod ^{1,2} E5380AMictor: 34-ch single-ended probe ^{1,3}	allalyzel al			
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	E5380A	Mictor: 34-ch single-ended probe ^{1,3}		

- 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

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

Recommended service options

Additional two years of Return-to-Agilent warranty Additional two years of Return-to-Agilent calibrations For more information go to **www.agilent.com/find/removealldoubt**





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Agilent's combination of product reliability and three-year warranty coverage is another way we help you achieve your business goals: increased confidence in uptime, reduced cost of ownership and greater convenience.

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