

Agilent 16800 Series Portable Logic Analyzers

Data Sheet

**Quickly debug, validate,
and optimize your digital
system – at a price that
fits your budget.**

Features and benefits

- 250 ps resolution (4 GHz) timing zoom to find elusive timing problems quickly, without double probing
- 15" display, with available touch screen, allows you to see more data and navigate quickly
- View Scope – time-correlated measurements and displays of your logic analyzer and oscilloscope data let you effectively track down problems across the analog and digital portions of your design
- Eight models with 34/68/102/136/204 channels, up to 32 M memory depth and models with a pattern generator provide the measurement flexibility for any budget
- Application support for every aspect of today's complex designs – FPGA dynamic probe, digital VSA (vector signal analysis) and broad processor and bus support

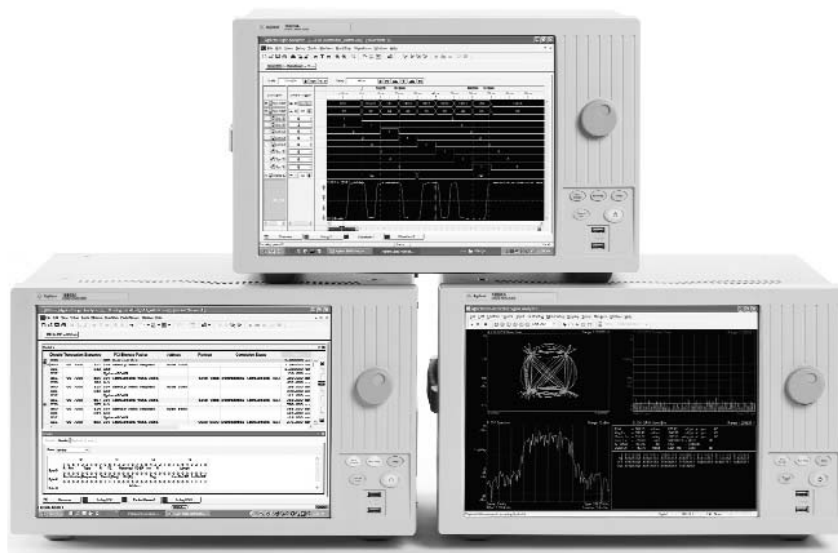


Table of Contents

Selection Guide for 16800 Series Portable Logic Analyzers	2
Logic Analysis for Tracking Real-time System Operation	3
Agilent 16800 Series Logic Analyzer Specifications and Characteristics	5
A Built-in Pattern Generator Gives You Digital Stimulus and Response in a Single Instrument	10
Pattern Generator Specifications and Characteristics	12
Unleash the Complementary Power of a Logic Analyzer and an Oscilloscope	23
Get Instant Insights into your Design with Multiple Views and Analysis Tools	24
16800 Series Instrument Characteristics	26
16800 Series Interfaces	29
16800 Series Physical Characteristics	30
16800 Series Accessories	31
Ordering Information	33
Support, Services, and Assistance	36



Agilent Technologies

Selection Guide for 16800 Series Portable Logic Analyzers

Agilent Model Number	16801A, 16821A ¹	16802A, 16822A ¹	16803A, 16823A ¹	16804A	16806A
Logic analyzer channels	34	68	102	136	204
Pattern generator channels ¹	48	48	48	N/A	N/A
High-speed timing zoom	4 GHz (250 ps) with 64 K depth	4 GHz (250 ps) with 64 K depth			
Maximum timing sample rate (Half/full ch)	1.0 GHz (1.0 ns) / 500 MHz (2.0 ns)	1.0 GHz (1.0 ns) / 500 MHz (2.0 ns)			
Maximum state clock rate	250 MHz with option 250	450 MHz with option 500 250 MHz with option 250			
Maximum state data rate	250 Mb/s with option 250	500 Mb/s with option 500 250 Mb/s with option 250			
Maximum memory depth	1 M with option 001 4 M with option 004 16 M with option 016 32 M with option 032	1 M with option 001 4 M with option 004 16 M with option 016 32 M with option 032			
Supported signal types	Single-ended	Single-ended			
Automated threshold/sample position Simultaneous eye diagrams, all channels	Yes	Yes			
Probe compatibility	40-pin cable connector	40-pin cable connector			

¹ Pattern generator available with 16821A, 16822A and 16823A.

Choose from eight models to get the measurement capability for your specific application

Agilent Model Number	16821A, 16822A, 16823A	
	Half Channel	Full Channel
Maximum clock	300 MHz	180 MHz
Data channels	24	48
Memory depth in vectors	16 M	8 M
Logic levels supported	5 V TTL, 3-state TTL, 3-state TTL/CMOS, 3-state 1.8 V, 3-state 2.5 V, 3-state 3.3 V, ECL, 5 V PECL, 3.3 V LVPECL, LVDS	

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

Models with a built-in pattern generator give you more measurement flexibility