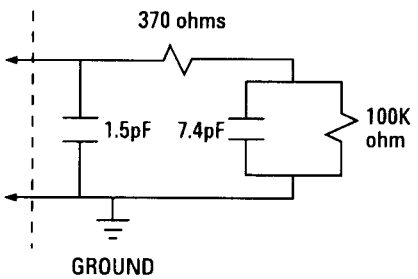
Specifications and Characteristics

Agilent Technologies
1680 and 1690 series



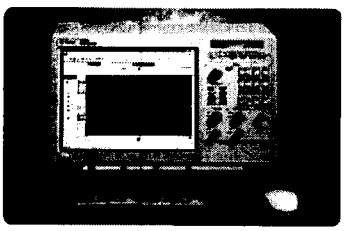
Equivalent Probe Load for the 01650-61608 General-Purpose Lead Set.

Channels	**136, 102, 68, 34**
State Analysis	
State speed	**200 MHz**
State memory depth	**Standard: 256K** **Deep: 1M**
Minimum state clock pulse width	**1.2ns**
Time tag resolution	**4ns or +/-0.1%, whichever is greater**
Maximum time count between states	**17 seconds**
State clock/qualifiers	**4 (2 on 34 channel models)**
Minimum master-to-master clock time	**5.0 ns**
Minimum master-to-slave clock time	**2.0 ns**
Minimum slave-to-master clock time	**5.0 ns**
Setup/hold time (Single clock, single edge)	2.5 ns window adjustable from 4.5/-2 ns to -2.0/4.5 ns in 100 ps increments per channel
Setup/hold time (Multiple clock, multi edge)	3.0 ns window adjustable from 5.0/-2 ns to -1.5/4.5 ns in 100 ps increments per channel
Timing Analysis	
Timing speed	400/800 MHz (full/half channel)
Timing memory depth	Standard: 512K/1M (full/half channel) Deep: 2M/4M (full/half channel)
Sample period, full channels	2.5 ns to 1 ms
Sample period, half channels	1.25 ns
Sample period accuracy	+/-(0.01% of Sample period +/- 100 ps)
Channel-to-channel skew	<1.5ns typical
Time interval accuracy	+/-(Sample period accuracy + channel-to-channel skew +0.01% of reading)
Triggering	
Sequencer speed	200 MHz
Maximum occurrence counter	16,777,215
Range width	32 bits
Timer value range	100 ns to 5497 seconds
Timer resolution	5 ns
Timer accuracy	10 ns +/-0.01% of setting
Trigger resources	16 patterns 15 ranges
Timers	3 (136 channels) 2 (102 channels) 1 (68 channels) 0 (34 channels)
Occurrence counters	1 per sequence level
Trigger sequence levels	16
Trigger in arms logic analyzer	15 ns typical delay
Trigger to Trigger out	150 ns typical delay
Probes	
Input resistance	100 K Ohms +/- 2%
Parasitic tip capacitance	1.5 pf
Maximum input voltage	+/- 40V peak
Minimum voltage swing	500 mV p-p
Threshold range	-6V to + 6V in 10 mV increments
Threshold accuracy	+/-(65mV + 1.5% of setting)

A family of high performance logic analyzers at an affordable price

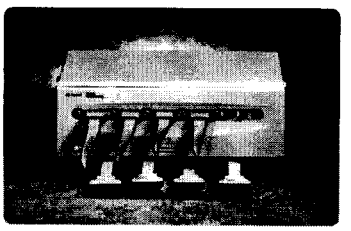
Agilent's Windows-based logic analyzers are designed to match your work style, application and budget. In all, 16 models offer a variety of channel counts and memory depths in benchtop or PC-hosted form factors. Each provides the same performance, core features and functionality in a small footprint that saves valuable workspace.

Measurement Modes	Memory Depths
State: 200 MHz	Standard: 256 K Deep: 1 M
Timing: 400/800 MHz (full/half channel)	Standard: 512 K/1 M (full/half channel) Deep: 2 M/4 M (full/half channel)
Transitional Timing: 200 MHz	Standard: 256 K Deep: 1 M



1680 series

- Self-contained benchtop instrument
- Large, built-in, 12.1-inch color display
- Cable flexibility—front or back
- Front panel knobs and hot keys
- Includes a mouse, mini keyboard, front panel cover and accessory pouch



1690 series

- PC-hosted instrument
- Uses PC display
- Cable connection from the front
- Small footprint, lowest price
- Includes desktop IEEE 1394 PCI card and cable, laptop IEEE 1394 cable and accessory pouch

Selecting a logic analyzer to meet your application and budget is as easy as 1, 2, 3

1. Choose the form factor
2. Choose the memory depth
3. Select the channel count

		136 Channels	102 Channels	68 Channels	34 Channels
Benchtop 1680 Series	Standard Memory	1680A	1681A	1682A	1683A
	Deep Memory	1680AD	1681AD	1682AD	1683AD
PC-Hosted 1690 Series	Standard Memory	1690A	1691A	1692A	1693A
	Deep Memory	1690AD	1691AD	1692AD	1693AD