KEYSIGHT TECHNOLOGIES (AGILENT HP)

1680A

The Agilent 1680A is a standalone, 136-channel logic analyzer in the 1680 Series, featuring 800 MHz timing and 200 MHz state speeds. Designed with a built-in 12.1-inch color flat-panel display and a Windows-based user interface, it delivers high performance and ease of use in a self-contained benchtop form factor.

SPECIFICATIONS

General

Interfaces	LAN (10/100 Base-T RJ-45), USB (1.1), Parallel (LPT), Serial (RS-232), SVGA Video Out, PS/2 Keyboard & Mouse
Display	12.1-inch active-matrix color TFT flat panel, 800 x 600 resolution

Physical

Power Supply	100 to 240 VAC, 47 to 63 Hz (or 115 VAC at 400 Hz), 320 W maximum
Operating Temperature	0 to +45 °C °C
Dimensions (W×H×D)	426 mm × 324 mm × 378 mm mm
Weight	12.9 kg

Acquisition and Sampling

Acquisition Channels	136 channels
Maximum State Clock Rate	200 MHz
Maximum Conventional Timing Sample Rate	400 MHz (full channel)
Maximum Transitional Timing Sample Rate	400 MHz (half channel)
Standard Memory Depth (State/Timing)	1 M per channel (2 M in half-channel timing mode)
Memory Depth Option 002	4 M per channel (8 M in half-channel timing mode)
Setup and Hold Time Window	1.5 ns
Threshold Voltage Range	-3.0 V to +5.0 V
Threshold Setting Resolution	10 mV
Threshold Setting Accuracy	±(100 mV + 3% of setting)
Maximum Input Voltage	±40 V peak

Triggering Capabilities

Trigger Sequence Levels	16 levels
Pattern Detectors	16
Range Detectors	4
Glitch Triggering	Available on timing channels
Trigger Event Counter Range	1 to 2,000,000,000
Trigger Delay Range (by Time)	Up to 10,000 seconds
Trigger Delay Range (by Events)	1 to 2,000,000,000 events

Probing and Input Characteristics

Input Impedance (Resistance)	100 kΩ ± 2% (probe dependent)
Input Impedance (Capacitance)	1.5 pF to 8 pF (probe dependent)
Minimum Input Voltage Swing	500 mV peak-to-peak

Controller and Storage

Operating System	Windows XP Professional
Internal Storage Type & Capacity	Hard Disk Drive (≥ 20 GB configuration dependent)

Connectivity and Interfaces

Oscilloscope Time Correlation	Compatible with Agilent E5850A Time Correlation Fixture for Infiniium Oscilloscopes

Environmental and Safety Compliance

Storage Temperature Range	-40 °C to +75 °C
Operating Humidity Range	Up to 95% relative humidity (non-condensing)

System Architecture

System Processor	Intel Celeron 2.0 GHz
System RAM	512 MB

Timing Analysis

Glitch Timing Maximum Sample Rate	200 MHz (half-channel)
Minimum Detectable Glitch Width	3.0 ns
Time Interval Accuracy	±(1 sample period + 0.01% of interval + 1.0 ns)

State Analysis

State Clock Inputs	4
State Clock Qualifiers	4

Triggering

Timer Terms	2 (8 ns to 34.3 s range)
Edge Terms	2

Environmental

Maximum Operating Altitude	3,000 m
Maximum Non-Operating Altitude	15,300 m

Inputs & Outputs

External Trigger Input	BNC, TTL compatible, approximately 1.5 kOhm input impedance
External Trigger Output	BNC, TTL level into 50 Ohm
VGA Port	15-pin D-sub for external monitor
USB Ports	2 ports, USB 1.1 compliant
LAN Port	RJ-45, 10/100Base-T
Serial Port	9-pin D-sub, RS-232
Parallel Port	25-pin D-sub
Probe Connectors	8 standard 40-pin connectors

TECHNOLOGY

Logic Analysis

APPLICATIONS

Digital circuit debugging, embedded system troubleshooting, and state/timing analysis

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.