KEYSIGHT TECHNOLOGIES (AGILENT HP)

16550A

The Keysight (Agilent/HP) 16550A is a 102-channel state and timing logic analyzer module designed for the HP 16500 series mainframes. Operating with a 100 MHz state clock rate and up to 500 MHz timing sample rate, the 16550A provides versatile, time-correlated state and timing analysis. It features 4K samples of acquisition memory per channel (expandable to 8K in half-channel mode) and advanced transitional timing to maximize memory efficiency.

SPECIFICATIONS

Physical

Slot Width	1 slot

Channel & Acquisition

Total Measurement Channels	102
Channels per Pod	17
Number of Pods	6
Maximum State Clock Rate	100 MHz
Maximum Timing Sample Rate - Full Channel	250 MHz
Maximum Timing Sample Rate - Half Channel	500 MHz
Maximum Memory Depth - Full Channel	4,096 samples
Maximum Memory Depth - Half Channel	8,192 samples
Input Capacitance	8 pF
Input Resistance	100 kΩ
Input Dynamic Range	±10 V
Minimum Input Voltage Swing	500 mV peak-to-peak
Threshold Voltage Range	-6.0 V to +6.0 V
Threshold Resolution	50 mV
Threshold Setting Accuracy	±(100 mV + 3% of setting)

State Analysis

Maximum State Clock Frequency	100 MHz
State Clock Edge Selectivity	Rising, falling, or both
State Clock Setup Time	Selectable 3.5 ns to 0 ns in 500 ps increments
State Clock Hold Time	Selectable 0 ns to 3.5 ns in 500 ps increments
Minimum State Clock Pulse Width	3.5 ns
State Time-Tagging Resolution	8 ns
State Tagging Modes	Time or State
Minimum State Clock Period	10 ns

Triggering & Sequencing

Trigger Sequence Levels	12
Pattern Resource Terms	10
Range Resource Terms	2
Edge/Glitch Resource Terms	2
Occurrence Counter Range	1 to 1,048,575

Host Frame & Interoperability

Maximum Modules per Frame	5

Cabling & Probing

Probe Tip Input Resistance	100 kΩ
Probe Tip Input Capacitance	8 pF

System Integration

Intermodule Bus Support	Yes (supports cross-triggering and time-correlation with other modules via mainframe backplane)

Configuration

Maximum Multi-card Channels	510 channels (using 5 cards in a single mainframe)

Input Characteristics

Maximum Probe Input Voltage	±40 V peak
Threshold Presets	TTL, ECL

TECHNOLOGY

Logic Analyzer Module

APPLICATIONS

Digital hardware design, embedded systems debugging, timing and state verification