KEYSIGHT TECHNOLOGIES (AGILENT HP)

MSO8064A

The Keysight Technologies (formerly Agilent) MSO8064A is a high-performance 4+16 channel Mixed Signal Oscilloscope in the Infiniium 8000 Series. Featuring 600 MHz of analog bandwidth and a real-time sample rate of 4 GSa/s, it seamlessly integrates 4 analog channels and 16 digital channels for comprehensive mixed-signal debugging. Powered by MegaZoom III technology, the MSO8064A offers up to 128 Mpts of deep memory on a responsive 10.4-inch XGA touchscreen display, operating on an open Windows XP Pro environment.

SPECIFICATIONS

General

Interfaces	USB 2.0 Host (front & rear), USB Device, LAN (10/100Base-T), GPIB, VGA, RS-232
Display	10.4-inch color XGA active-matrix TFT-LCD with touch screen (1024 x 768 resolution, 256 color intensity grades)
Operating System	Windows XP Professional
Calibration Interval	1 year

Physical

Power Supply	100 V AC to 240 V AC (±10%) at 47 Hz to 63 Hz, maximum 440 W power consumption
Operating Temperature	5 °C to +40 °C °C
Dimensions (W×H×D)	437 mm × 216 mm × 440 mm mm
Weight	13.9 kg

Analog Vertical System

Analog Input Channels	4
Analog Bandwidth (-3 dB)	600 MHz
Calculated Rise Time (10% to 90%)	583 ps
Input Impedance	Selectable 1 MΩ ±1% (~13 pF) or 50 Ω ±1%
Input Coupling	AC, DC
Vertical Resolution	8 bits (up to 12 bits with high-resolution mode)
Input Sensitivity Range	1 mV/div to 5 V/div (1 MΩ), 1 mV/div to 1 V/div (50 Ω)
Maximum Input Voltage (1 MΩ)	150 Vrms (CAT I or CAT II)
Maximum Input Voltage (50 Ω)	5 Vrms
DC Gain Accuracy	±2% of full scale

Digital Vertical System

Digital Channels	16
Threshold Grouping	Pod 1 (D7 - D0) and Pod 2 (D15 - D8) thresholds can be set independently
Threshold Selections	TTL, CMOS, ECL, PECL, User-defined
Threshold Voltage Range	-8.0 V to +8.0 V (in 10 mV increments)
Threshold Accuracy	±(100 mV + 3% of threshold setting)
Input Impedance (Digital Probe)	100 kΩ ±2% (~8 pF) at probe tip
Maximum Input Voltage (Digital Probe)	±40 V peak
Minimum Voltage Swing	500 mV peak-to-peak
Minimum Detectable Pulse Width	2.5 ns
Maximum Toggle Rate	250 MHz

Horizontal System

Maximum Real-time Sample Rate (Analog)	4 GSa/s (2 channels interleaved), 2 GSa/s (all 4 channels)
Maximum Sample Rate (Digital)	1 GSa/s
Maximum Record Length (Digital)	Up to 32 Mpts (configuration dependent; 1 Mpts standard)
Time Base Range	100 ps/div to 20 s/div
Time Base Accuracy	±0.4 ppm (annual aging rate)

Trigger System

Trigger Modes	Edge, Glitch, Pattern, State, Setup and Hold, Transition, Runt, Timeout, Window, Video, Serial Bus
Trigger Coupling	DC, AC, LF Reject, HF Reject, Noise Reject
Trigger Holdoff Range	60 ns to 10 s
Trigger Sensitivity	0.6 div (DC to 600 MHz)
Serial Bus Triggering Options	I2C, SPI, CAN, USB (software/hardware options dependent)
Trigger Jitter	< 8 ps rms

Acquisition Modes

Acquisition Modes	Sample, Peak Detect, Averaging, High Resolution, Segmented Memory (optional)

Waveform Analysis & Measurements

Automatic Measurements	Up to 38 automatic measurements
Waveform Histograms	Vertical and horizontal with math statistics
Math Functions	Add, Subtract, Multiply, Divide, FFT, Differentiate, Integrate, Square Root, Absolute Value
FFT Window Types	Hanning, Flat Top, Rectangular, Blackman-Harris

Display & User Interface

Waveform Display Formats	YT, XY

Environmental & Compliance

Operating Humidity Range	Up to 95% relative humidity (non-condensing) at +40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)
Non-Operating Altitude	Up to 15,300 m (50,000 ft)

PC System

CPU	Intel Celeron 2.0 GHz
PC System Memory	512 MB (standard), expandable to 2 GB
Hard Drive	40 GB (or larger)

Environmental

Vibration (Operating)	0.3 g (rms), 5 Hz to 500 Hz
Vibration (Non-Operating)	2.41 g (rms), 5 Hz to 500 Hz
Shock (Operating)	30 g, half-sine, 11 ms duration
Shock (Non-Operating)	50 g, half-sine, 11 ms duration

Inputs & Outputs

Probe Interface	Agilent AutoProbe interface

Analog Channel Characteristics

Channel-to-Channel Isolation	≥ 40 dB from DC to 600 MHz

Connectivity & I/O

USB Ports	5 × USB 2.0 (2 front, 3 rear)
LXI Compliance	LXI Class C

Compliance

EMC	IEC 61326-1, CISPR 11/EN 55011 Group 1 Class A
Safety Standards	IEC 61010-1, CAN/CSA-C22.2 No. 61010-1, UL 61010-1

TECHNOLOGY

Mixed Signal Oscilloscope (MSO)

APPLICATIONS

Mixed-signal embedded system design, serial bus troubleshooting, digital and analog debug