

LECROY (TELEDYNE LECROY)

HDO8108A

The Teledyne LeCroy HDO8108A is a high-definition digital oscilloscope featuring 8 input channels, a 1 GHz analog bandwidth, and 12-bit vertical resolution utilizing HD4096 technology. Built on a Windows 10 platform, it provides exceptional signal fidelity, low noise, and comprehensive analysis capabilities for complex multi-channel design and debug environments.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000Base-T Ethernet), USB 3.0 host, USB 2.0 host, USBTMC device port, GPIB (optional), HDMI, DisplayPort
Display	12.1-inch widescreen capacitive touchscreen color TFT-LCD, 1280 x 800 resolution
Calibration Interval	1 year
LXI Compliance	LXI Class C Compliant (Version 1.4)

Physical

Power Supply	100-240 VAC ($\pm 10\%$) at 50/60 Hz ($\pm 10\%$) or 100-120 VAC ($\pm 10\%$) at 400 Hz; 450 W maximum power consumption
Operating Temperature	5 °C to 40 °C °C
Dimensions (W×H×D)	417 mm × 321 mm × 305 mm mm

Vertical System

Analog Bandwidth (-3 dB)	1 GHz
Number of Input Channels	8 analog channels
Vertical Resolution	12-bit (up to 15-bit with Enhanced Resolution)
Calculated Rise Time (10% to 90%)	450 ps (typical)
Input Impedance	50 Ω ($\pm 1.5\%$) or 1 M Ω ($\pm 1.0\%$ 16 pF)
Input Coupling	50 Ω : DC, GND; 1 M Ω : AC, DC, GND
Input Sensitivity Range	50 Ω : 1 mV/div to 1 V/div; 1 M Ω : 1 mV/div to 10 V/div
DC Gain Accuracy	$\pm 0.5\%$ of full scale
Maximum Input Voltage	50 Ω : 5 Vrms; 1 M Ω : 400 V max (DC + Peak AC $\leq$ 10 kHz)
Enhanced Resolution (ERES)	Up to 15 bits (0.5 to 3 bits in 0.5-bit steps)
Bandwidth Limiters	20 MHz, 200 MHz

Horizontal System

Maximum Real-Time Sampling Rate	10 GS/s
Maximum Record Length	50 Mpts/ch (standard), expandable to 250 Mpts/ch
Time Base Range	20 ps/div to 1000 s/div
Time Base Accuracy	±1.5 ppm (typical)

Trigger System

Trigger Sources	Any input channel, Line
Trigger Modes	Normal, Auto, Single, Stop
Trigger Coupling	DC, AC, HF Rej, LF Rej
Trigger Holdoff Range	100 ns to 20 s or 1 to 99,999,999 events
Standard Trigger Types	Edge, Width, Glitch, Interval, Dropout, Window, Pattern, TV-Composite, Runt, Slew Rate, Exclusion

Acquisition System

Acquisition Modes	Real-time, Roll, Average, Envelope, Sequence (Segmented Memory)
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Processor and Storage

Operating System	Windows 10
System Memory (RAM)	16 GB standard
Storage Type	Removable solid-state drive (SSD), minimum 256 GB

Environmental

Storage Temperature Range	-20 °C to 60 °C
Operating Humidity Range	5% to 90% RH (non-condensing) up to 30 °C

Processing System

CPU	Intel Core i5-4570S Quad-core (2.9 GHz base, up to 3.6 GHz Turbo)
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Inputs & Outputs

Probe Interface	Teledyne LeCroy ProBus with automatic probe detection and power
External Monitor Outputs	1 x HDMI, 1 x DisplayPort (supporting resolutions up to 3840 x 2160)
Auxiliary Output	BNC connector (Trigger Out, Pass/Fail, or 1 kHz / 1 V Amplitude Calibrator)

Connectivity

USB Ports	4 x USB 3.1 Gen 1, 2 x USB 2.0
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Display / Visualization

Grid Styles	Auto, Single, Dual, Quad, Octal, X-Y, Dual X-Y, Q-Scape (Multi-tabbed)
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Power

Power Consumption (Typical)	475 W
Power Consumption (Max)	550 W

Digital Channels (MSO Option)

Digital Channels	16 (with HDO8k-MSO option)
Digital Sample Rate	1.25 GS/s
Minimum Detectable Pulse Width	2 ns
Maximum Digital Input Frequency	250 MHz
Digital Threshold Selections	TTL, ECL, CMOS, PECL, LVDS, User-defined

Memory

Standard Memory Depth	50 Mpt/ch
Optional Memory Depth	100 Mpt/ch (HDO8k-100M), 250 Mpt/ch (HDO8k-250M)

Signal Analysis

Standard Math Operators	Average, Envelope, Difference, Product, Ratio, Sum, FFT, Absolute Value, Derivative, Exp, Floor, Ceil, Integral, Invert, Log, Reciprocal, Rescale, Square, Square Root, Trend, Zoom
Standard Measurement Parameters	Amplitude, Area, Base, Delay, Duty Cycle, Fall Time (90-10%), Fall Time (80-20%), Frequency, Maximum, Mean, Minimum, Overshoot+, Overshoot-, Peak-to-Peak, Period, Phase, Rise Time (10-90%), Rise Time (20-80%), RMS, Std. Deviation, Top, Width, Phase, Skew, Slew Rate

TECHNOLOGY

HD4096 High Definition Technology

APPLICATIONS

Power electronics, automotive ECU testing, multi-phase motor drives, and embedded system debugging

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