

LECROY (TELEDYNE LECROY)

WaveRunner 64MXi-A

The Teledyne LeCroy WaveRunner 64MXi-A is a 600 MHz, 4-channel Digital Storage Oscilloscope (DSO) featuring high-performance specifications, active analysis tools, and a large display in a space-saving 15 cm deep form factor. Introduced in February 2009 as an update to the original 64MXi, the 'MXi-A' designation represents a standard package that includes upgraded deep acquisition memory (12.5 Mpts/ch), advanced math capabilities, customized VBScript/MATLAB/Excel scripting, and serial trigger options, providing deep troubleshooting capability for mixed-signal design, serial data, and power applications.

SPECIFICATIONS

General

Interfaces	USB Host (6 ports: 2 front, 4 rear), USB Device (1 port), LXI-compliant Gigabit LAN (10/100/1000Base-T), External VGA (DB-15), GPIB (optional)
Display	10.4" color TFT-LCD touchscreen, SVGA (800 x 600 pixels) with integrated stylus
Calibration Interval	1 year
Standard Probes	4 × PP009 (500 MHz, 10:1, 10 M Ω) passive probes

Physical

Power Supply	100 - 240 VAC ($\pm 10\%$) at 50/60 Hz ($\pm 10\%$), 100 - 120 VAC at 400 Hz; max power consumption 340 VA
Operating Temperature	5 °C to 40 °C °C
Dimensions (W×H×D)	397 mm × 263 mm × 152 mm mm
Weight	7.26 kg kg

Vertical System (Analog Channels)

Analog Bandwidth (-3 dB)	600 MHz
Calculated Rise Time (10% to 90%)	583 ps (typical)
Number of Input Channels	4
Input Coupling	AC, DC, GND (GND, 50 Ω , 1 M Ω)
Input Impedance	1 M Ω $\pm 1\%$ 16 pF, or 50 Ω $\pm 1\%$
Vertical Resolution (A/D Converter)	8-bit (up to 11-bit with Enhanced Resolution/ERES)
DC Gain Accuracy	$\pm 1.5\%$ of full scale
Vertical Sensitivity Range (50 Ω)	2 mV/div - 1 V/div
Vertical Sensitivity Range (1 M Ω)	2 mV/div - 10 V/div
Maximum Input Voltage (50 Ω)	5 Vrms
Maximum Input Voltage (1 M Ω)	400 V max (DC + Peak AC $\leq$ 10 kHz)
Hardware Bandwidth Limiters	20 MHz, 200 MHz

Horizontal System & Acquisition

Maximum Real-time Sample Rate (Single-Channel)	10 GS/s (interleaved)
Maximum Real-time Sample Rate (Multi-Channel)	5 GS/s (all 4 channels)
Standard Record Length (Memory Depth)	12.5 Mpts/ch (all 4 channels), 25 Mpts/ch (interleaved 2 channels)
Time Base Range	200 ps/div - 1000 s/div
Time Base Accuracy	±10 ppm

Trigger System

Trigger Sources	Channels 1-4, External, Line, Ext/10
Trigger Modes	Auto, Normal, Single, Stop
Trigger Coupling	AC, DC, HFRej, LFRej
Standard Trigger Types	Edge, Width, Glitch, Period, Timeout, Slew Rate, Interval, Dropout, Pattern, State, Window, TV/Video
Advanced and Protocol Trigger Types	I2C, SPI, UART, RS-232, LIN, CAN, FlexRay (some capability optional)
External Trigger Input Impedance	1 MΩ 16 pF
External Trigger Max Input Voltage (1 MΩ)	400 V max (DC + Peak AC ≤ 10 kHz)
Trigger Level Range	±4 divisions from center (internal)
External Trigger Input Range	±400 mV (Ext), ±4 V (Ext/10)
Trigger Jitter	< 2.5 ps rms (typical)

Acquisition Modes & Signal Processing

Acquisition Modes	Real-time, Roll, Random Repetitive (RIS), WaveStream (Fast Viewing)
Waveform Math Operators	Dual operators; Sum, Difference, Product, Ratio, FFT, Absolute Value, Derivative, Integral, Square, Square Root, Reciprocal, Rescale, and more
Advanced Waveform Functions	Completely customizable math and measurements using Excel, MATLAB, or VBScripts

Measurements & Analysis

Automatic Voltage Measurements	Amplitude, Base, Maximum, Minimum, Mean, Peak-to-Peak, RMS, Top, Custom
Automatic Time & Frequency Measurements	Delay, Duty Cycle, Fall Time, Frequency, Period, Phase, Rise Time, Width, Custom
Search Engine	WaveScan Advanced Search and Analysis

Display & User Interface

User Interface Control	Dedicated Front Panel Cursor Knobs, Front Panel Zoom Controls
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Environmental & Compliance

Storage Temperature Range	-20 °C to +60 °C
Operating Humidity Range	5% to 80% RH (non-condensing) at ≤ 30 °C
Operating Altitude	Up to 3,048 m (10,000 ft) at ≤ 25 °C

PC Platform

Processor	Intel Core 2 Duo (3.0 GHz or better)
System Memory	2 GB standard
Storage	160 GB or larger removable hard drive

Vertical System

Probe Interface	Teledyne LeCroy ProBus
Channel-to-Channel Isolation	> 30 dB at rated bandwidth (typical)

Acquisition System

Random Interleaved Sampling (RIS) Rate	200 GS/s
Enhanced Resolution (ERES)	Up to 11 bits (with standard software)

Auxiliary Outputs

Calibrator Signal Output	1 kHz, 1 V square wave into ≥ 100 kΩ
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Power Requirements

Power Consumption (Typical)	340 VA
Power Consumption (Maximum)	440 VA

Interfaces

LXI Compliance	LXI Class C
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Compliance

Environmental Safety Compliance	Conforms to EN 61010-1, EN 61326-1
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TECHNOLOGY

DSO (Digital Storage Oscilloscope)

APPLICATIONS

Electronic Design, Embedded Systems Validation, Jitter/Timing Analysis, Serial Bus Debugging, Power Diagnostics

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