

LECROY (TELEDYNE LECROY)

WAVESURFER 64MXS

The Teledyne LeCroy WaveSurfer 64MXs is a high-performance 600 MHz, 4-channel digital storage oscilloscope featuring a large 10.4-inch touch screen, high sample rates up to 10 GS/s, and deep 10 Mpts/ch memory, designed for rapid debugging and analysis of embedded designs and serial data.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000Base-T), 4 x USB 2.0 Host, 1 x USB 2.0 Device, SVGA Video Out, GPIB (optional)
Display	10.4-inch touchscreen TFT-LCD, 800 x 600 SVGA resolution

Physical

Power Supply	100 - 240 VAC ($\pm 10\%$) at 50/60 Hz; 90 - 132 VAC at 400 Hz; 340 W maximum
Operating Temperature	5 to 40 °C °C
Dimensions (W×H×D)	340 mm x 260 mm x 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
Number of Input Channels	4
Vertical Resolution	8 bits (up to 11 bits with ERES Enhanced Resolution)
Input Coupling	AC, DC, GND
Input Impedance	1 M Ω $\pm$ 1% 16 pF or 50 Ω $\pm$ 1%
Maximum Input Voltage (50 Ω)	5 Vrms
Maximum Input Voltage (1 M Ω)	400 V max (DC + Peak AC $\leq$ 10 kHz)
Vertical Sensitivity Range (50 Ω)	2 mV/div to 1 V/div
Vertical Sensitivity Range (1 M Ω)	2 mV/div to 10 V/div
DC Vertical Gain Accuracy	$\pm 1.5\%$ of full scale
Bandwidth Limiters	20 MHz, 200 MHz

Horizontal System & Acquisition

Maximum Real-Time Sampling Rate (4 Channels)	5 GS/s
Maximum Real-Time Sampling Rate (2 Channels)	10 GS/s (interleaved)
Maximum Record Length (4 Channels)	10 Mpts/ch
Maximum Record Length (2 Channels)	20 Mpts/ch (interleaved)
Timebase Range	200 ps/div to 1000 s/div
Timebase Accuracy	±10 ppm
Acquisition Modes	Real-time, Sequence (Segmented), Roll, RIS (Random Interleaved Sampling)

Trigger System

Trigger Modes	Auto, Normal, Single, Stop
Trigger Sources	Ch 1, Ch 2, Ch 3, Ch 4, EXT, EXT/10, Line
Trigger Coupling	AC, DC, LFRej, HFRej
Trigger Holdoff Range	2 ns to 20 s or 1 to 99,999,999 events
Standard Trigger Types	Edge, Glitch, Width, Logic (Pattern), TV-Composite
Smart Triggers	Glitch, Width, Runt, Slew Rate, Interval, Dropout, State/Window-qualified
Trigger Jitter	< 3 ps RMS (typical)
External Trigger Input Range	Aux: ±400 mV, Aux/10: ±4 V
External Trigger Input Impedance	1 MΩ 16 pF
External Trigger Max Input Voltage	250 V max (1 MΩ)

Waveform Analysis & Measurement

Waveform Math Operators	Add, Subtract, Multiply, Divide, FFT, Absolute Value, Averaging (up to 1 million sweeps), Envelope, Enhanced Resolution (ERES), Invert, Reciprocal, Roof, Square, Square Root
FFT Window Types	Rectangular, Von Hann (Hanning), Hamming, Flat Top, Blackman-Harris
Pass/Fail Testing	Mask testing on waveforms or parameter limits

Environmental & Safety

Non-Operating Temperature	-20 °C to 60 °C
Operating Humidity	5% to 80% RH (non-condensing) at up to 30 °C, de-rating to 45% RH at 40 °C
Safety Certifications	UL 61010-1, CAN/CSA-C22.2 No. 61010-1, EN 61010-1
Electromagnetic Compatibility	EN 61326-1, EN 55011 Class A, EN 61000-3-2, EN 61000-3-3

Vertical System

Enhanced Resolution (ERES)	Up to 11 bits
Channel-to-Channel Isolation	> 40 dB (DC to 100 MHz), > 30 dB (100 MHz to rated bandwidth)
Probe Interface	LeCroy ProBus
Input Capacitance (1 M Ω)	16 pF (typical)
Channel-to-Channel Deskew Range	± 4.5 ns
Vertical Offset Range (50 Ω)	2 mV - 4.95 mV: ± 1.6 V, 5 mV - 9.9 mV: ± 2.6 V, 10 mV - 19.8 mV: ± 4 V, 20 mV - 99 mV: ± 8 V, 100 mV - 1 V: ± 10 V
Vertical Offset Range (1 M Ω)	2 mV - 4.95 mV: ± 1.6 V, 5 mV - 9.9 mV: ± 2.6 V, 10 mV - 19.8 mV: ± 4 V, 20 mV - 99 mV: ± 8 V, 100 mV - 1 V: ± 80 V, 1.02 V - 10 V: ± 400 V
DC Vertical Offset Accuracy	$\pm(1.5\%$ of offset setting + 0.5% of full scale + 1 mV)
Vertical Zoom Range	Up to 100x

Acquisition System

WaveStream Fast Viewing Mode Update Rate	Up to 1,250,000 waveforms/s
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Connectivity

USB Ports	5 x USB 2.0 (1 front, 4 rear)
LAN Port	10/100/1000Base-T (RJ-45)
External Monitor Output	15-pin D-sub (SVGA)
Serial Port	1 x RS-232 (DB-9 male)
Calibration Output	1 kHz, 1 V square wave

Power Requirements

Max Power Consumption	340 VA
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Processor & OS

Processor	Intel Celeron 2.0 GHz
Installed RAM	1 GB
Operating System	Windows XP Embedded
System Disk Drive	Internal SATA Hard Drive

TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Embedded System Design, Debugging, Serial Data Analysis, Education, and R&D Testing

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