

LECROY (TELEDYNE LECROY)

WaveSurfer 3034

The Teledyne LeCroy WaveSurfer 3034 is a 300 MHz, 4-channel digital oscilloscope designed for rapid debug and analysis. Featuring a large 10.1-inch capacitive touchscreen, advanced math capabilities, and extensive toolsets like History Mode and LabNotebook, it delivers exceptional performance and a streamlined user experience.

SPECIFICATIONS

General

Interfaces	LAN (10/100/1000Base-T), 4 x USB 2.0 Host, 1 x USB 2.0 Device, HDMI, GPIB (optional via external adapter)
Display	10.1-inch widescreen capacitive touchscreen TFT-LCD, 1024 x 600 resolution
Calibration Interval	1 year

Physical

Power Supply	100 to 240 VAC (±10%) at 50/60 Hz (±10%) or 100 to 120 VAC (±10%) at 400 Hz (±10%), Max 150 W (80 W typical)
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	382 mm x 290 mm x 140 mm mm
Weight	4.81 kg

Vertical System

Analog Bandwidth (-3 dB)	300 MHz
Calculated Rise Time (10% to 90%)	1.15 ns (typical)
Number of Input Channels	4 analog channels
Input Coupling	50 Ω: DC, GND; 1 MΩ: AC, DC, GND
Input Impedance	1 MΩ ± 1% 16 pF, or 50 Ω ± 1%
Input Sensitivity Range (1 MΩ)	1 mV/div to 10 V/div
Input Sensitivity Range (50 Ω)	1 mV/div to 1 V/div
Vertical Resolution	8 bits (up to 11 bits with ERES)
Maximum Input Voltage (1 MΩ)	300 Vrms (CAT II)
Maximum Input Voltage (50 Ω)	5 Vrms
DC Gain Accuracy	±1.5% of full scale (typical)
Hardware Bandwidth Limits	20 MHz

Horizontal System

Timebase Range	1 ns/div to 1000 s/div
Timebase Accuracy	±10 ppm

Acquisition System

Maximum Real-Time Sample Rate (Interleaved)	4 GS/s
Maximum Real-Time Sample Rate (All Channels)	2 GS/s
Maximum Record Length (Interleaved)	20 Mpts
Maximum Record Length (All Channels)	10 Mpts/ch
Segmented Memory (Maximum Segments)	1,000 segments
Waveform Capture Rate	130,000 wfms/s
Acquisition Modes	Real-Time, Roll, Sequence (Segmented Memory), Average, Peak Detect

Trigger System

Trigger Sources	Ch 1 - Ch 4, EXT, EXT/5, Line
Trigger Modes	Auto, Normal, Single, Stop
Trigger Coupling	AC, DC, LF Rej, HF Rej
Trigger Holdoff Range	8 ns to 9.22 s
Standard Trigger Types	Edge, Width, Pattern, TV (NTSC, PAL, SECAM, HDTV), Glitch, Interval, Dropout, Runt, Slew Rate
Trigger Jitter	4 ps rms (typical)
Internal Trigger Range	±4.1 div from center
External Trigger Range	EXT: ±610 mV, EXT/5: ±3.05 V
Trigger Sensitivity (Internal)	0.5 div: DC to 200 MHz, 1.0 div: 200 MHz to 300 MHz
Trigger Sensitivity (External)	0.5 div / 100 mV: DC to 200 MHz, 1.0 div / 200 mV: 200 MHz to 300 MHz

Waveform Measurements and Analysis

Automatic Measurements	Up to 6 measurements displayed simultaneously with statistics
Waveform Math Operators	Add, Subtract, Multiply, Divide, FFT, Absolute Value, Average, Derivative, Envelope, Enhanced Resolution (ERES), Floor, Integral, Invert, Reciprocal, Roof, Square, Square Root
FFT Window Types	Von Hann (Hanning), Hamming, Flat Top, Blackman-Harris
History Mode	Waveform playback up to 80,000 waveforms

Display and User Interface

Display Size	10.1 inches diagonal
Touchscreen Technology	Capacitive touch

Connectivity and Interfaces

USB Host Ports	4 x USB 2.0 (2 front, 2 rear)
USB Device Port	1 x USB 2.0 Type-B (rear)

Environmental and Compliance

Storage Temperature Range	-20 °C to +60 °C
Operating Humidity	5% to 90% RH (non-condensing) up to +30 °C; 5% to 50% RH above +30 °C to +50 °C
Operating Altitude	Up to 3,000 m (+30 °C)

Physical Characteristics

Form Factor	Benchtop
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MSO (Digital Channels) Option

MSO Digital Channels	16 digital channels (with optional WS3K-MSO)
MSO Sample Rate	500 MS/s
MSO Record Length	10 MS
MSO Maximum Input Frequency	125 MHz

WaveSource Function Generator Option

WaveSource Channels	1 channel (with optional WS3K-FG)
WaveSource Frequency Range	0.1 Hz - 25 MHz
WaveSource Vertical Resolution	14-bit
WaveSource Sample Rate	125 MS/s
WaveSource Standard Waveforms	Sine, Square, Pulse, Ramp, Noise, DC

Auxiliary Measurements

Digital Voltmeter	4-digit AC rms, DC, AC+DC rms (requires free registration)
Frequency Counter	5-digit hardware frequency counter

Auxiliary Inputs / Outputs

Probe Interface	ProBus (supports active voltage, current and differential probes)
Auxiliary Out / Calibrator	1 kHz, 1 V p-p square wave into ≥ 100 kOhm
External Trigger Input	1 MOhm 16 pF; Max input 300 Vrms

Display & Visualization

Grid Styles	Auto, Single, Dual, Quad, Octal, XY, Single XY
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Connectivity

LAN Interface	10/100/1000Base-T RJ-45
External Display Output	DB-15 female connector (VGA, 1024x600 resolution)
LXI Compliance	LXI Class C / LXI Version 1.3
GPIB Interface	Optional via external USB-GPIB adapter

Power

Max Power Consumption	150 W
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Environmental

Vibration	MIL-PRF-28800F Class 3 Random
Shock	MIL-PRF-28800F Class 3 (30g, 11 ms half-sine pulse)

WaveSource Function Generator (Optional)

WaveSource Waveform Length	16 kpts
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MSO Digital Channels (Optional)

Digital Channels Input Impedance	100 kΩ 8 pF
Digital Channels Threshold Range	-10 V to +10 V
Digital Channels Threshold Selection	TTL, CMOS, ECL, PECL, LVDS, User-Defined
Digital Channels Minimum Detectable Pulse Width	4 ns

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO)

APPLICATIONS

Electronic Design, Debugging, Embedded Systems Analysis, Protocol Testing

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