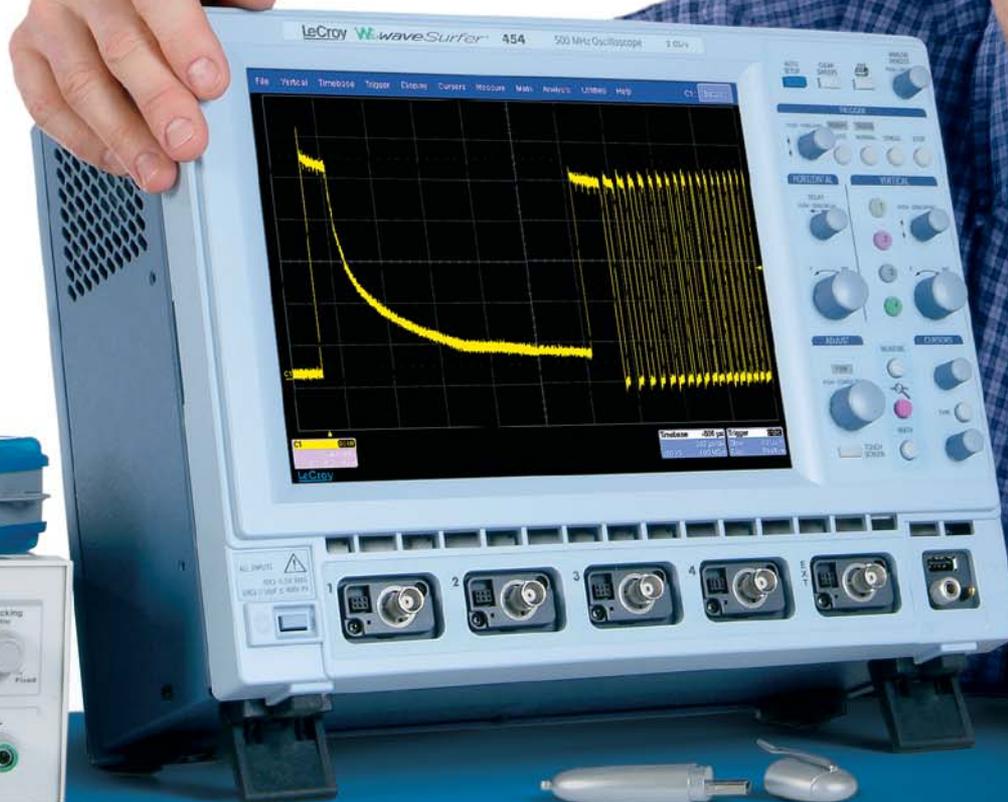# Expect to Make Waves.

The New WaveSurfer Oscilloscope

Large 10.4" LCD touch screen

Long capture time

Extensive communication capabilities

waveSurfer™

LeCroy
www.lecroy.com

WaveSurfer Specifications

Main Specifications

	WaveSurfer 424	WaveSurfer 422	WaveSurfer 434	WaveSurfer 432	WaveSurfer 454	WaveSurfer 452
Bandwidth (at probe tip)	200 MHz		350 MHz		500 MHz	
Rise Time	1.75 ns		1 ns		750 ps	
Input Channels	4	2	4	2	4	2
Display	10.4" Color flat-panel TFT-LCD, 800x600 SVGA, touch screen					
Sample Rate (single-shot)	2 GS/s max (interleaved mode), 1 GS/s (all channels)					
Sample Rate (RIS mode)	50 GS/s					
Standard Record Length	500 kpts/Ch (interleaved mode), 250 kpts/Ch (all channels)					
Maximum Record Length (optional)	2 Mpts/Ch (interleaved mode), 1 Mpts/Ch (all channels)					
Standard Capture Time	up to 250 μs at full sample rate					
Maximum Capture Time (optional)	up to 1 ms at full sample rate					
Vertical Resolution	8 bits					
Vertical Sensitivity	1 mV/div – 10 V/div (1 MΩ); 1 mV/div – 2 V/div (50 Ω)					
Vertical (DC Gain) Accuracy	±(1.5% of reading + 0.5% of full scale)					
BW Limit	20 MHz		20 MHz, 200 MHz			
Maximum Input Voltage	±400 Vpk (CAT I), ±300 Vpk (CAT II)					
Input Coupling	AC, DC, GND (AC for 1 MΩ only) 50 Ω: DC, GND; 1 MΩ: AC, DC, GND					
Input Impedance	1 MΩ//16 pF, or 50 Ω +/-1%					
Probing System	BNC or ProBus®					
Probes	One PP007–WS per channel (standard)					
Time/div Range	1 ns - 1000 s/div		500 ps - 1000 s/div		200 ps - 1000 s/div	
	Roll mode from 200 ms/div - 1000 s/div					
Timebase Accuracy	10 ppm					

Triggering

Standard	Edge, Glitch, Width, Logic (Pattern), TV/Composite Video
Advanced (WS-ADVTRIG)	Runt, Slew Rate, Interval (Signal or Pattern), Dropout, Qualified (State or Edge)

Measure, Zoom, and Math Tools

Standard Parameter Measurement	Amplitude, Area, Base (Low), Delay, Duty, Fall Time (90%-10%), Fall Time (80%-20%), Frequency, Maximum, Mean, Minimum, Overshoot+, Overshoot–, Period, Peak-Peak, Rise Time (10%-90%), Rise Time (20%-80%), RMS, Skew, Standard Deviation, Top (High), Width+, Width –.
Zooming	Use front panel QuickZoom button, or use touch screen or mouse to draw a box around the zoom area.
Standard Math	Operators include Sum, Difference, Product, Ratio, and FFT (up to 25 kpts with power spectrum output and rectangular, Von Hann, and FlatTop windows). 1 math function may be defined at a time.
Extended Math (WS-MATHSURF)	Adds the following additional math functions: Absolute Value, Averaging (summed and continuous), Derivative, Envelope, Enhanced Resolution (to 11 bits), Floor, Integral, Invert, Reciprocal, Roof, Square, and Square Root. Also adds chaining of two math functions, rescaling to different units, and 1 Mpt FFTs.

Product Code   Ordering Information

WaveSurfer Four Channel Digital Oscilloscopes

WaveSurfer 454	500 MHz, 2 GS/s, 500 kpts/Ch (Interleaved), Color DSO with 10.4" Display (1 GS/s, 250 kpts/Ch)
WaveSurfer 434	350 MHz, 2 GS/s, 500 kpts/Ch (Interleaved), Color DSO with 10.4" Display (1 GS/s, 250 kpts/Ch)
WaveSurfer 424	200 MHz, 2 GS/s, 500 kpts/Ch (Interleaved), Color DSO with 10.4" Display (1 GS/s, 250 kpts/Ch)

WaveSurfer Two Channel Digital Oscilloscopes

WaveSurfer 452	500 MHz, 2 GS/s, 500 kpts/Ch (Interleaved), Color DSO with 10.4" Display (1 GS/s, 250 kpts/Ch)
WaveSurfer 432	350 MHz, 2 GS/s, 500 kpts/Ch (Interleaved), Color DSO with 10.4" Display (1 GS/s, 250 kpts/Ch)
WaveSurfer 422	200 MHz, 2 GS/s, 500 kpts/Ch (Interleaved), Color DSO with 10.4" Display (1 GS/s, 250 kpts/Ch)

Included with Standard Configuration

PP007–WS 10:1 Passive Probe (1 per Channel)

Operator's Getting Started Manual, Quick Reference Guide

CD-ROM with Operator's Getting Started Manual, QRG, and Remote Control Manual

10/100Base-T Ethernet Port, 3 USB2.0 Ports, SVGA Video Output Port, RS232-C Serial Port, Centronics Parallel Port, Protective Front Cover

Standard Commercial Calibration and Performance Certificate

3-Year Warranty

Memory Options for Four Channel WaveSurfers

WS-L-4CH	2 Mpts/2 Ch, 1 Mpts/4 Ch

Memory Options for Two Channel WaveSurfers

WS-L-2CH	2 Mpts/1 Ch, 1 Mpts/2 Ch

Hardware and Software Accessories

WS-ADVTRIG	Advanced Trigger Package
WS-MATHSURF	MathSurfer Extended Math
WS-ET-PMT	Electrical Telecom Mask Test Package
WS-GPIB	USB2.0 to GP-IB converter for WaveSurfer

Mounting/Ergonomic Accessories

WS-MS-PED	Mounting Stand - Pedestal Style (includes WS-MB Mounting Bracket)
WS-MS-CLAMP	Mounting Stand - Desktop Clamp Style (includes WS-MB Mounting Bracket)
WS-MB	Mounting Brackets - 100 mm Square
WS-RMA-25	Rackmount ears for WaveSurfer

For more detailed information and a listing of LeCroy offices and distributors visit www.lecroy.com/goto/wavesurfer

Available from:

LeCroy

www.lecroy.com