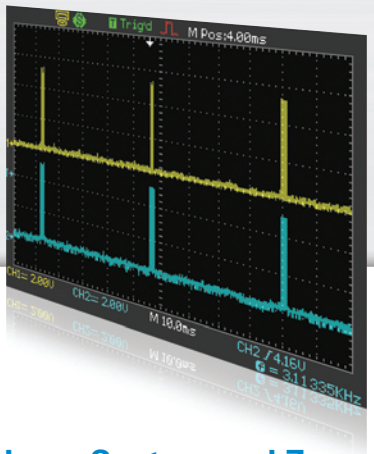
LeCroy

WaveAce™ Oscilloscopes

40 MHz–300 MHz

Debug With Confidence

THE TOOLS AND FEATURES FOR ALL YOUR DEBUG NEEDS



Key Features

- 40 MHz, 60 MHz, 100 MHz, 200 MHz and 300 MHz bandwidths
- Sample rates up to 2 GS/s
- Long Waveform Memory —up to 10 kpts/Ch (20 kpts interleaved)
- Advanced Triggering— Edge, Pulse Width, Video, Slope (Rise Time)
- 5.7" color display on all models
- 32 automatic measurements
- Multi-language User Interface and Context Sensitive Help
- Large internal waveform and setup storage
- Four math functions plus FFT
- USB host and device connections for printers, memory sticks and PC remote control

A good oscilloscope should simplify how you work and shorten the time it takes to find and debug problems. The WaveAce™ combines long memory, a color display, extensive measurement capabilities, advanced triggering and excellent connectivity to improve troubleshooting and shorten debug time. With bandwidths from 40 MHz to 300 MHz, sample rates up to 2 GS/s and waveform memory up to 10 kpts/Ch (20 kpts interleaved) the WaveAce exceeds all expectations of a small affordable oscilloscope.

Long Capture and Zoom

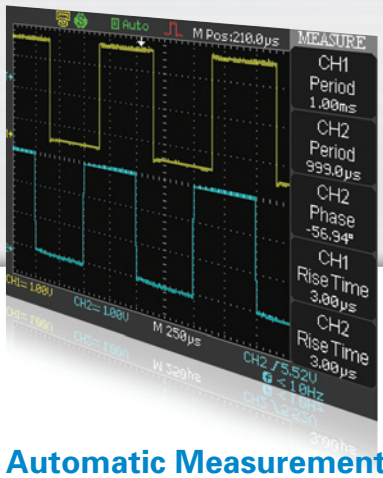
Small, portable oscilloscopes often suffer from short capture time due to the small waveform memory. The WaveAce is available in 4 kpts/Ch and 10 kpts/Ch configurations which is up two to three times more than competitive products. More memory results in longer capture times showing more waveform detail with each trigger. Activate the built-in zoom function to take a closer look at the details.

Digital Filter

Digital filtering is available on each channel of the WaveAce. The Low-Pass, High-Pass, Band-Pass and Band-Stop filters allow you to isolate only the frequencies you want to see.

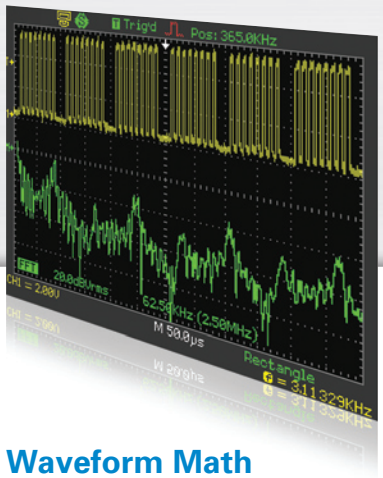
Trigger

Edge triggering is not always the best choice for every signal. Beyond the basic edge trigger is a set of trigger capabilities which include Pulse Width, Video and Slope (Rise Time) triggers.



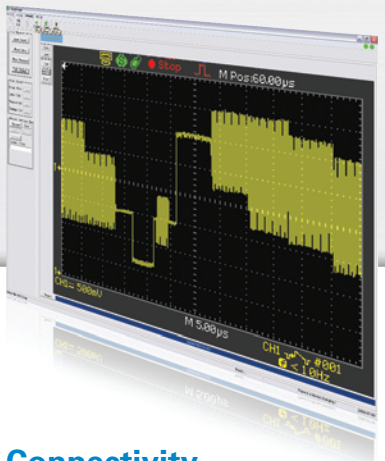
Automatic Measurements

With 32 standard automatic measurements the WaveAce simplifies how you work. Display up to five measurements without crowding the waveform display or show all 32 at once with the measurement dashboard. A wide range of advanced timing parameters provide insight to the relationship between two different signals.



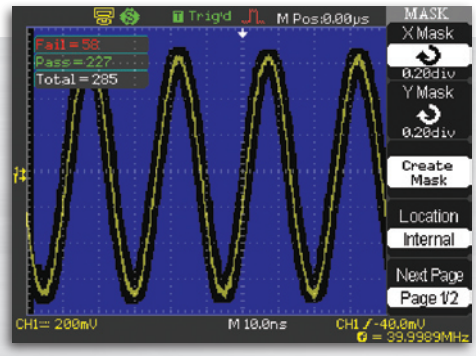
Waveform Math

The WaveAce provides five math functions including Add, Subtract, Multiply, Divide and FFT. The FFT capability includes the choices of four windows and two different vertical scales.



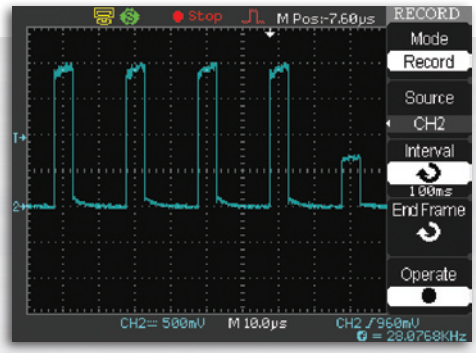
Connectivity

The WaveAce provides a USB host port on the front panel for saving screen images, waveforms and setups to a memory stick. A rear panel USB device port allows for connection to a PC or printer. Connecting and communicating with a PC is simplified with EasyScope software providing full access to the oscilloscope's display, measurements, waveform data and front panel controls.



Pass/Fail Test

With built-in Pass/Fail Mask testing the WaveAce can quickly identify problems and let you know when they occur. A history of the P/F results can be displayed on the screen.



Waveform Sequence Recorder

Capture and replay a sequence of up to 2500 waveforms to isolate that runt or glitch which is causing problems in your system.

Large Internal Storage

Saving and recalling waveforms and setups from internal memory can save a lot of time during test and debug. The WaveAce can save up to 20 waveforms, 20 setups and two reference waveforms to the internal memory.

Acquisition Modes

Different applications call for different acquisitions mode. The WaveAce offers Real Time, Equivalent Time, Peak Detect and Averaging modes to ensure that any waveform can be captured and displayed.

SMART, SIMPLE, EFFICIENT

1. Fast Power Up
The WaveAce turns on and is ready for use in under 10 seconds.

2. Display
All WaveAce models have a 5.7" color display.

3. Connectivity
Saving waveforms, screenshots and setups is easy with the front panel USB port for use with a memory stick.

4. Portability
The small compact form factor is lightweight and only 5" deep.

5. Communication
Rear panel USB and RS-232 ports enable direct remote control from a PC. The USB port also allows for connecting to a printer.

6. Intensity
Waveform intensity can be quickly adjusted by rotating this knob, a meter on the display will appear and show the current setting.

7. Individual Vertical Controls
Quickly change the vertical scale of either channel.

8. Push Knobs

All WaveAce knobs can be pushed for additional capabilities. Push the V/div knobs to toggle between fixed and variable gain. Push the T/div knob to enter zoom mode and push the position knobs to center the waveform on screen.

9. Local Language User Interface

The intuitive user interface is available in several different languages.

10. Front Panel Print Button

Saving or Printing screenshots requires only a single button press.

11. Backlit Menu Buttons

When using certain features like Cursors or Measurements the button remains lit for easy menu navigation.

12. Context Sensitive Help

Press any button or turn any knob while in help mode and a pop-up window displays the functionality of that control.

13. Auto Setup

Quickly configures the vertical, horizontal and trigger settings for the WaveAce. Choose to view the waveform as multi-cycle, single-cycle, rising or falling edge.

WAVEACE 100 SPECIFICATIONS

	WaveAce 101	WaveAce 102	WaveAce 112
Bandwidth	40 MHz	60 MHz	100 MHz
Rise Time	8.8 ns	5.8 ns	3.5 ns
Input Channels	2	2	2
Display	5.7" Color, 320 x 240 Resolution		
Sampling Rate (Single Shot)	500 MS/s (interleaved), 250 MS/s (all channels)		
Sampling Rate (Equivalent Time)	50 GS/s		
Peak Detect Period	10 ns		
Memory Length	4 kpts/Ch		
Maximum Memory	4 kpts		
Vertical Resolution	8-bits		
Vertical Sensitivity	2 mV/div–5 V/div		
Bandwidth Limiting Filter	20 MHz		
Maximum Input Voltage	400 Vpk		
Input Coupling	GND, DC 1 MΩ, AC 1 MΩ		
Input Impedance	1 MΩ || 13 pF		
Probes	10:1, 1:1 Switchable Passive Probe (one per channel)		
Timebase Range	10 ns/div–50 s/div	5 ns/div–50 s/div	2.5 ns/div–50 s/div

Triggering

Triggers	Edge, Pulse Width, Video, Slope (Rise Time), Alternate

Measure, Math and Wave Recorder

Measure	Amplitude, Average, Base, Burst Width, Cyclic RMS, + Duty Cycle, - Duty Cycle, Fall Time, Frequency, Max, Mean, Min, Overshoot, Peak-Peak, Period, Phase, Rise Time, RMS, Top, + Width, - Width. Plus 8 advanced parameters for edge to edge timing measurements
Math	Add, Subtract, Multiply, Divide, FFT (up to 1 kpts with Rectangular, Von Hann, Hamming or Blackman windows)
Waveform Sequence Recorder	Record and playback a sequence of up to 2500 waveforms

Input/Output Interfaces

USB	USB host port for flash drives, USB device port for connecting to PC and printers
RS-232	RS-232 port for connection to PC and EasyScope software

Physical

Dimensions (HWD)	154 mm x 305 mm x 133 mm; 6" x 12" x 5.25" (height excludes feet)
Weight	2.3 kg; 5 lbs.

WAVEACE 200 SPECIFICATIONS

	WaveAce 202	WaveAce 204	WaveAce 212	WaveAce 214	WaveAce 222	WaveAce 224	WaveAce 232	WaveAce 234
Bandwidth	60 MHz	60 MHz	100 MHz	100 MHz	200 MHz	200 MHz	300 MHz	300 MHz
Rise Time	5.8 ns	5.8 ns	3.5 ns	3.5 ns	1.75 ns	1.75 ns	1.2 ns	1.2 ns
Input Channels	2	4	2	4	2	4	2	4
Display	5.7" Color, 320 x 240 Resolution							
Sampling Rate (Single Shot)	1 GS/s (all channels)				2 GS/s (interleaved), 1 GS/s (all channels)			
Sampling Rate (Equivalent Time)	50 GS/s							
Peak Detect Period	2.5 ns							
Memory Length	9 kpts/Ch	10 kpts/Ch	9 kpts/Ch	10 kpts/Ch	9 kpts/Ch	10 kpts/Ch	9 kpts/Ch	10 kpts/Ch
Maximum Memory (Interleaved)	18 kpts	20 kpts	18 kpts	20 kpts	18 kpts	20 kpts	18 kpts	20 kpts
Vertical Resolution	8-bits							
Vertical Sensitivity	2 mV/div–5 V/div							
Bandwidth Limiting Filter	20 MHz							
Maximum Input Voltage	400 Vpk				400 Vpk (1 MΩ), 5 Vrms (50 Ω)			
Input Coupling	GND, DC 1 MΩ, AC 1 MΩ				GND, DC 1 MΩ, AC 1 MΩ, 50 Ω			
Input Impedance	1 MΩ || 13 pF				1 MΩ || 13 pF, 50 Ω			
Probes	10:1, 1:1 Switchable Passive Probe (one per channel)							
Timebase Range	5 ns/div–50 s/div		2.5 ns/div–50 s/div				1 ns–50 s/div	

Triggering

Triggers	Edge, Pulse Width, Video, Slope (Rise Time), Alternate

Measure, Math and Wave Recorder

Measure	Amplitude, Average, Base, Burst Width, Cyclic RMS, + Duty Cycle, - Duty Cycle, Fall Time, Frequency, Max, Mean, Min, Overshoot, Peak-Peak, Period, Phase, Rise Time, RMS, Top, + Width, - Width. Plus 8 advanced parameters for edge to edge timing measurements
Math	Add, Subtract, Multiply, Divide, FFT (up to 1 kpts with Rectangular, Von Hann, Hamming or Blackman windows)
Waveform Sequence Recorder	Record and playback a sequence of up to 2500 waveforms

Input/Output Interfaces

USB	USB host port for flash drives, USB device port for connecting to PC and printers
RS-232	RS-232 port for connection to PC and EasyScope software (2 Channel models only)
LAN	LAN port for connection to PC and EasyScope software (4 Channel models only)

Physical

2 Ch Models	
Dimensions (HWD)	154 mm x 305 mm x 133 mm; 6" x 12" x 5.25" (height excludes feet)
Weight	2.3 kg; 5 lbs.
4 Ch Models	
Dimensions (HWD)	159 mm x 336 mm x 133 mm; 6.3" x 13.2" x 5.25" (height excludes feet)
Weight	3 kg; 6.6 lbs.

ORDERING INFORMATION

Ordering Information

Product Description	Product Code
40 MHz, 250 MS/s, 2 Ch, 4 kpts/Ch with 5.7" Color Display. 500 MS/s Iinterleaved, 1 MΩ Input	WaveAce 101
60 MHz, 250 MS/s, 2 Ch, 4 kpts/Ch with 5.7" Color Display. 500 MS/s Interleaved, 1 MΩ Input	WaveAce 102
100 MHz, 250 MS/s, 2 Ch, 4 kpts/Ch with 5.7" Color Display. 500 MS/s Interleaved, 1 MΩ Input	WaveAce 112
60 MHz, 1 GS/s, 2 Ch, 9 kpts/Ch with 5.7" Color Display. 18 kpts Interleaved. 1 MΩ Input	WaveAce 202
60 MHz, 1 GS/s, 4 Ch, 10 kpts/Ch with 5.7" Color Display. 20 kpts Interleaved. 1 MΩ Input	WaveAce 204
100 MHz, 1 GS/s, 2 Ch, 9 kpts/Ch with 5.7" Color Display. 18 kpts Interleaved. 1 MΩ Input	WaveAce 212
100 MHz, 1 GS/s, 4 Ch, 10 kpts/Ch with 5.7" Color Display. 20 kpts Interleaved. 1 MΩ Input	WaveAce 214
200 MHz, 1 GS/s, 2 Ch, 9 kpts/Ch with 5.7" Color Display. 18 kpts, 2 GS/s Interleaved. 50/1 MΩ Input	WaveAce 222
200 MHz, 1 GS/s, 4 Ch, 10 kpts/Ch with 5.7" Color Display. 20 kpts, 2 GS/s Interleaved. 50/1 MΩ Input	WaveAce 224
300 MHz, 1 GS/s, 2 Ch, 9 kpts/Ch with 5.7" Color Display. 18 kpts, 2 GS/s Interleaved. 50/1 MΩ Input	WaveAce 232
300 MHz, 1 GS/s, 4 Ch, 10 kpts/Ch with 5.7" Color Display. 20 kpts, 2 GS/s Interleaved. 50/1 MΩ Input	WaveAce 234

Product Description	Product Code
Included with Standard Configuration	
One Passive Probe per Channel	
Multi-language User-interface and Help (English, French, German, Italian, Japanese, Korean, Russian, Simplified Chinese, Spanish, Traditional Chinese)	
EasyScope PC Software with USB Cable	
Getting Started Manual	
Protective Front Cover (4 channel models only)	
Calibration and Performance Certificate	
3-year Warranty	
Accessories	
Soft Carrying Case for WaveAce Oscilloscopes	WA-SOFTCASE

Customer Service

LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year.

This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

For more information, please contact:

LeCroy
1-800-5-LeCroy
www.lecroy.com

Local sales offices are located throughout the world.
Visit our website to find the most convenient location.