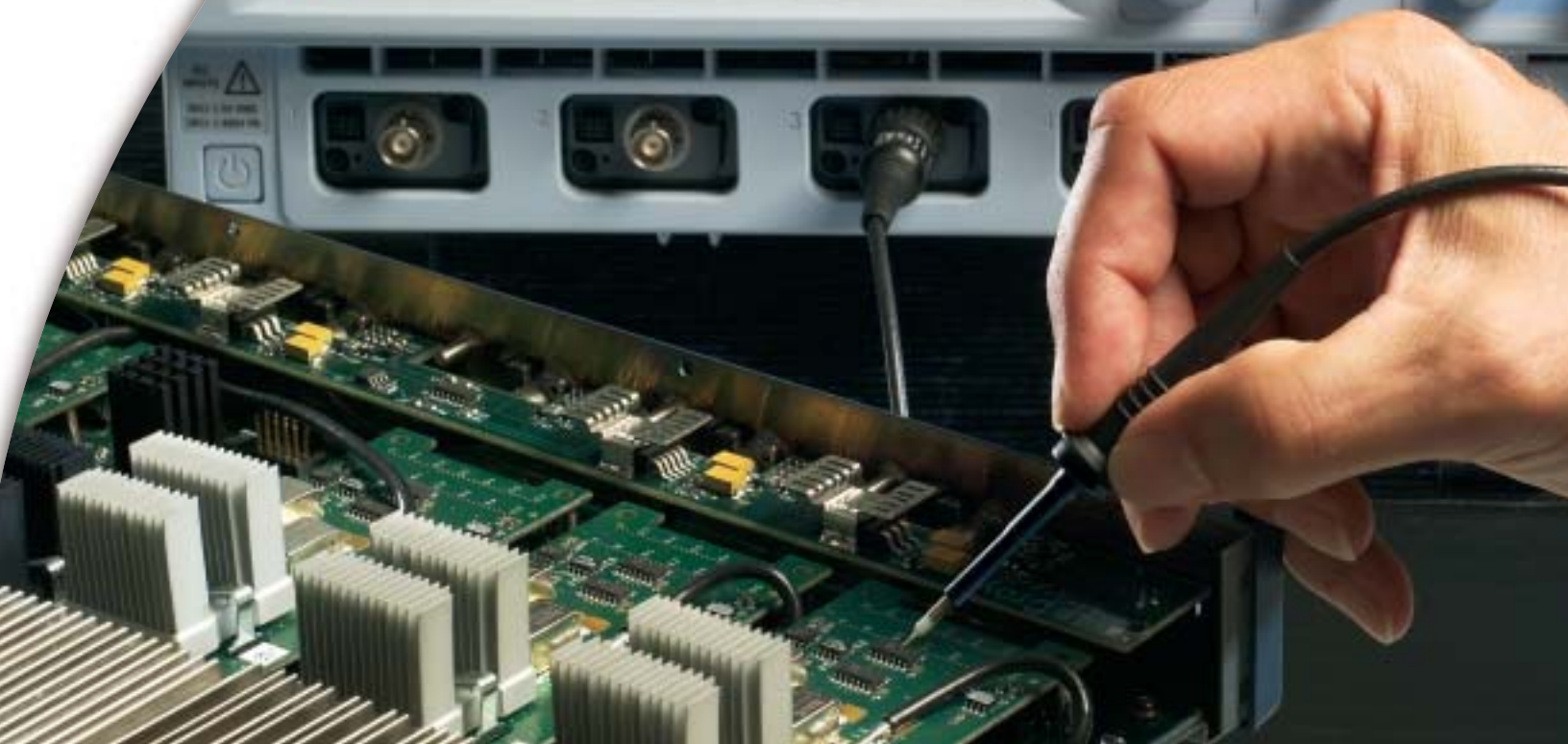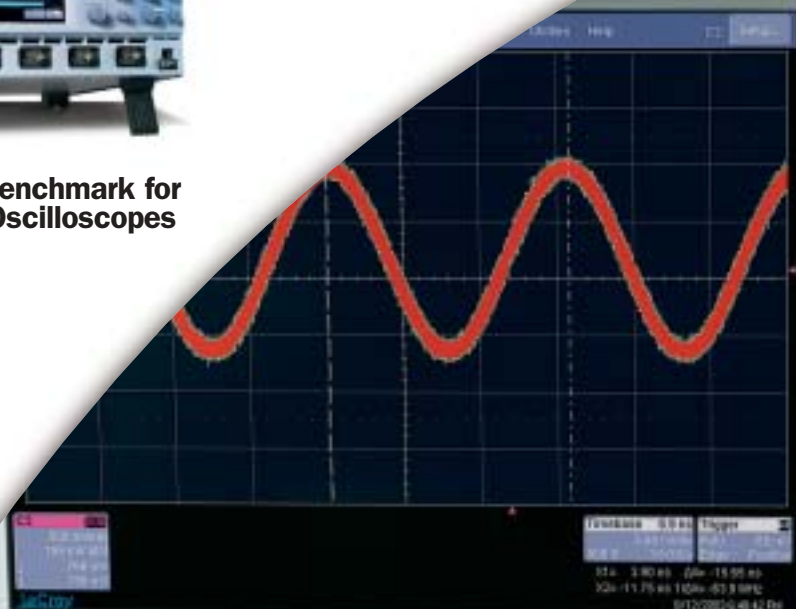# LeCroy

WaveRunner 6000A Series

W wave Runner ®

The New Benchmark for Everyday Oscilloscopes

The New WaveRunner 6000A Series
The Everyday Bench Scope

The WaveRunner 6000A Series is the best scope for everyday signal testing. Its remarkable functionality includes the following capabilities:

- **acquisition technology that delivers measurements you can trust**
- **an efficient interface that feels just right to the busy engineer**
- **uncommon capabilities — right out of the box**
- **a platform for building on even more functionality**

A Rich Feature Set is Standard

The new WaveRunner is an everyday bench scope with true "lab instrument" capabilities. This series offers:

- Bandwidths from 350 MHz to 2 GHz
- Sample rates of 2.5 to 10 GS/s
- Standard memory 2 Mpts
- All channels expandable to 12 Mpts
- Up to 24 Mpts when interleaved

Most importantly, these features are delivered at a price far below other scopes in this class.

Outstanding Signal Fidelity

The WaveRunner 6000A series is powered by the same SiGe chipset that is used in LeCroy's flagship WaveMaster oscilloscopes.

- High sample rate captures high frequency transients and sharp edges
- Very low residual jitter (2 ps typical)
- Includes ultra-stable clock (±5 ppm)

This outstanding performance gives you timing resolution that rivals oscilloscopes that cost twice as much.

Windows® XP Operating System

The open Windows XP operating system allows you to install Windows application software to analyze waveform data directly in the oscilloscope, eliminating the need for processing in another PC.
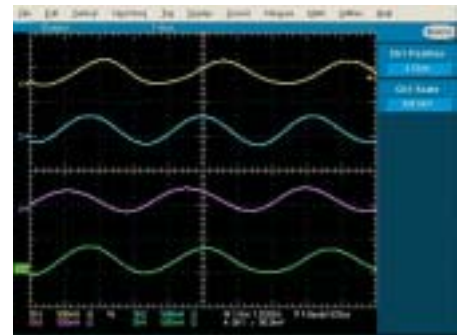
5 GS/s on Each Channel
See Details Others Miss

The WaveRunner 6000A is a true 4 channel instrument — you can sample at a full 5 GS/s on each channel. Other scopes can only use a single channel at 5 GS/s or 1/4 that rate when using all four channels. WaveRunner offers more than Nyquist sample rate on each channel.
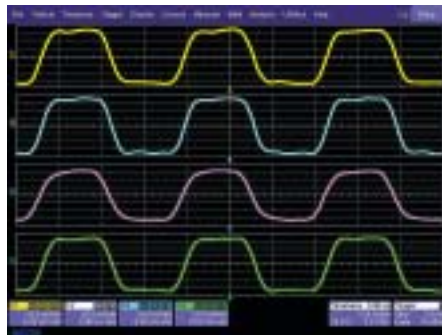
With a true 5 GS/s on each channel, this 300 MHz square wave (checking a timing delay problem between multiple clock signals) is displayed accurately.

Other scopes are limited to 1.25 GS/s on each channel and display the same measurement as a less than informative sinusoidal signal.

SMART Trigger® Makes the
Most of Your Long Memory

The WaveRunner 6000A SMART Trigger provides the flexibility to quickly trigger and locate the specific signal characteristic or pattern you want. Trigger on abnormal signals at the touch of a button.

- Exclusion/inclusion feature triggers on signals outside, or within, a specific range of pulse widths.
- Selecting multiple threshold levels and pulse widths quickly catches the waveform for viewing and measuring.

- Memory retains thousands of acquired events for viewing at your leisure.
- Replay signal history, scan, and search from sweep to sweep.
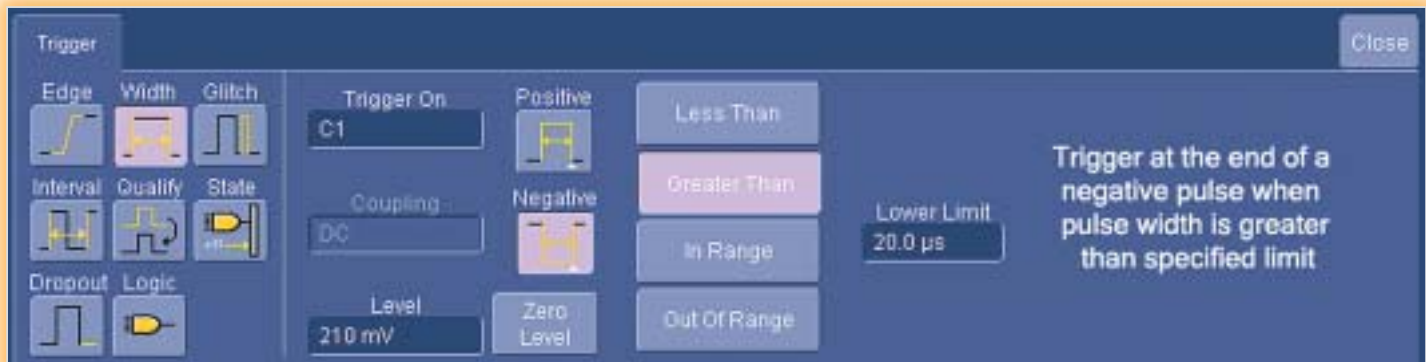
The New WaveRunner 6000A Series
An Outstanding Scope Experience

The WaveRunner 6000A oscilloscope is designed to be a custom fit to your working style. Hundreds of scope users helped us meet this goal by contributing their ideas to the uniquely efficient interface.

1. Bright Display

All WaveRunners include a crisp and bright SVGA screen with 800 x 600 pixels for superior resolution. It's the best resolution available for this class of scope.

2. One Touch Efficiency

The descriptor fields show the scope settings and status. Touch the screen once to open a setup dialog and change settings.

Quickly measure a signal's timing characteristics. Touch "Measure" and "Horizontal" to see multiple common timing parameters. Math, histograms, statistics, and other analysis tools are all within two touches.

3. Dedicated Vertical Controls

Each channel has its own volts per division (V/div) control knob. You can control any channel by turning the knob — eliminating the need to multiplex a single V/div control across all four channels.
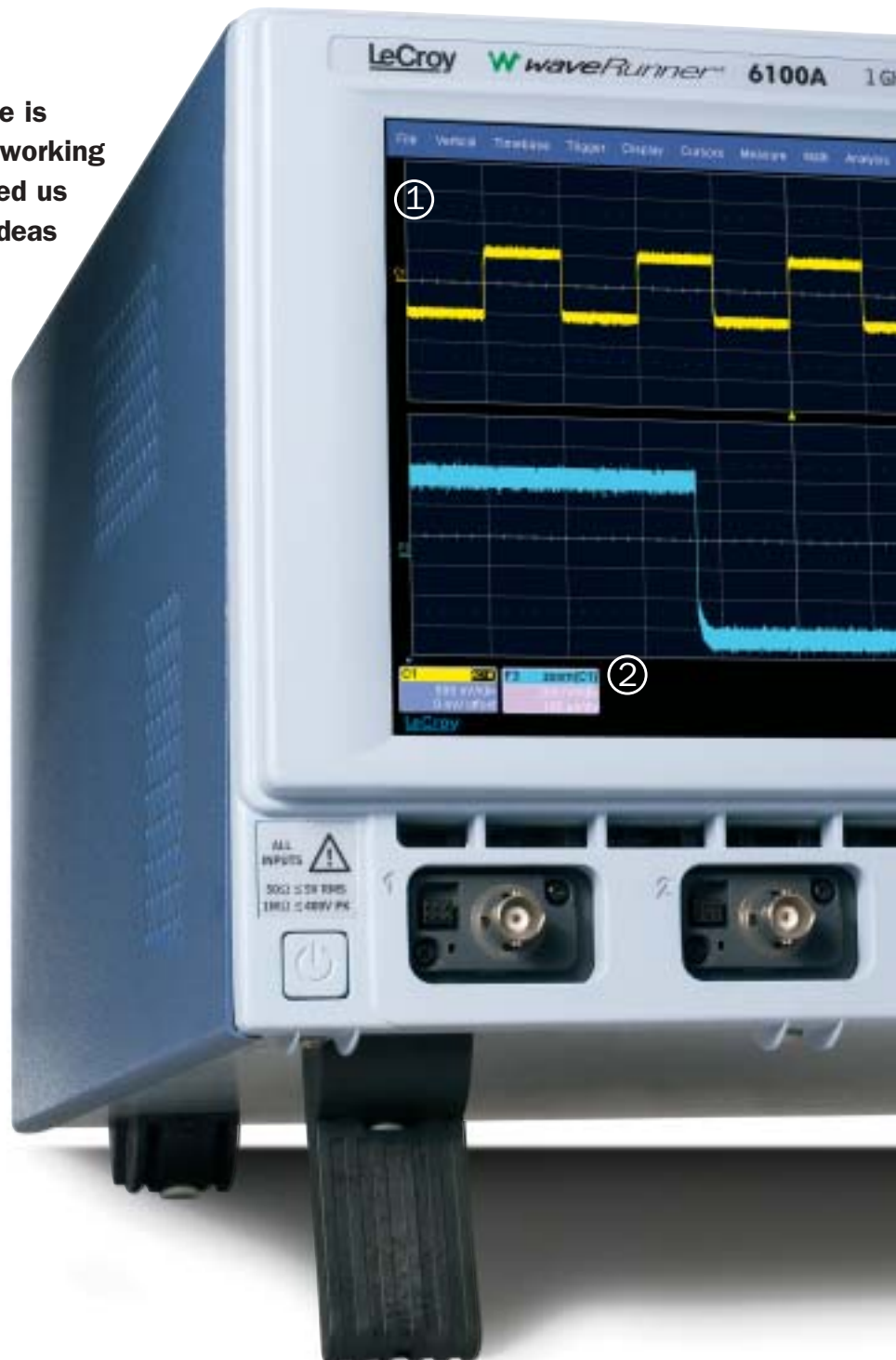
PP007 Passive Probe

Only 2.5 mm with low circuit loading and a flat impulse response, this new probe is the ideal fit for general-purpose applications.

4. Cursor Knobs

Need a quick measurement? Just turn the cursor knob to bring up a pair of vertical cursors to measure timing relationships and quickly characterize the waveform.

5. Zoom Control Knobs

Need a closer look at your signal? Push the QuickZoom button. Four dedicated knobs (zoom and offset in horizontal and vertical directions) make it easy to navigate any trace — from broad relationships to minute details.

6. "Push" Knobs

WaveRunner rotating knobs control functions, but pushing them invokes further functionality. Push the trigger level and the scope selects the correct setting for a stable display. Push the offset button; your scope instantly zeroes the offset, restoring the waveform clearly in the middle of the screen. Another push restores the offset.

7. Handy, Front Accessible USB Port

Use a memory stick to transfer your captured waveforms, or take your setup from scope to scope to automatically load your configuration. In addition, with one USB port on the front panel and four more on the back, you can connect a variety of plug-n-play peripheral and memory devices.

WaveRunner lets you focus on understanding your signal rather than setting up your scope. The productivity improvement is dramatic and immediate. Here's a prime example of how thoroughly WaveRunner fits your everyday process.

LabNotebook™ — An In-scope Solution for Documenting Results

Simplify and automate report generation all within WaveRunner. Its faster than other alternatives and lets you easily add all the detail you need.

LabNotebook's top line benefits are:

• Make text or "scribble" notes easily
• Save waveforms and setup data
• Convert reports to pdf, rtf, or html for sharing
• Do it all in WaveRunner
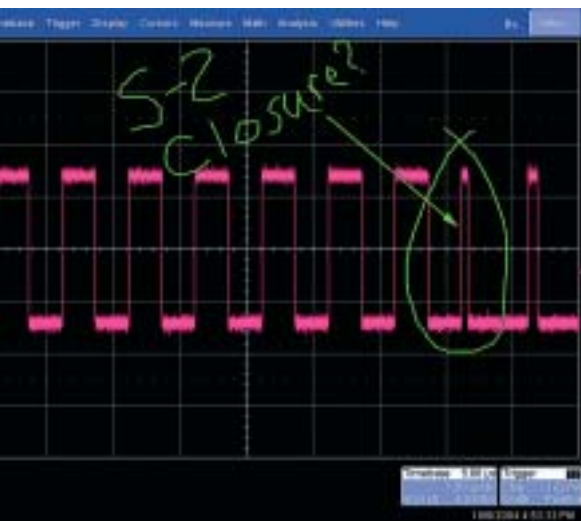
It's easier to analyze and determine signal integrity better. It eliminates the traditional multi-step reporting process that requires time-wasting out-of-scope operations.

Create Notes with the Screen Capture

Just press Hard Copy and you can annotate your waveforms as you capture them. No more separate notebook needed, or trying to match setup details to screen capture. Once the notes are finished, save as a report.

Flashback Function

Recall the state of the DSO, including the saved waveforms and the DSO setup. Make additional measurements easily. A keyword filter makes it simple to find the correct notebook entry for recall.
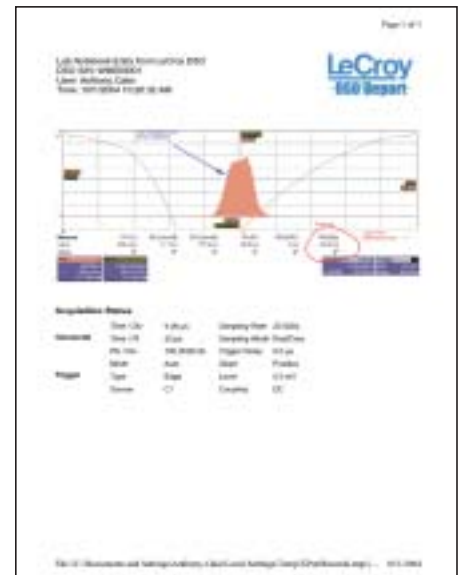
There's more...

LabNotebook lets you:
• Use a default report layout
• Configure your own report layout
• Place your company or department logo in the report
• Store notebook entries for recall at any time
• And much more...

From Everyday Testing to Robust Analysis

It's the perfect end-to-end solution: a bench top oscilloscope that can handle everyday signal measurements easily and efficiently, but can expand to perform more sophisticated WaveShape Analysis when needed. Yet it's priced far below other scopes that are not nearly as versatile and fully featured.

Expanded Analysis

The XMATH Advanced Math Package provides more than 30 math functions and 40 parameter measurements including:

- Parameter math
- Tracking measurements
- Expanded FFT (up to 24 Mpts)
- Expanded histogramming
- Trending of up to one million events

XMATH has a graphical interface that lets you connect input source, measurement, and display icons for surprisingly simple advanced analysis.

Custom Analysis

The XDEV Advanced Customization Package allows you to create your own scripts for measurement parameters or math functions, using third-party software packages such as Excel, MATLAB, and Mathcad.

XDEV seamlessly integrates your custom measurements directly into the oscilloscope's data path, eliminating the need to run separate programs. You can also use XDEV to customize the oscilloscope's interface. This package utilizes the power and efficiency of customization to enable faster analysis and solutions for your specific tasks.

WAVESHAPE ANALYSIS PACKAGES	
CANbus Trigger and Decode Test Package	CANbus TD
Intermediate Math Package	WR6-XWAV
Advanced Math Package	WR6-XMATH
Developer's Customization Kit	WR6-XDEV
Value Analysis Package (XWAV + JTA2)	WR6-XVAP
Master Analysis Package (XMATH + XDEV + JTA2)	WR6-XMAP
Web Editor	WR6-WEB
Digital Filter Package	WR6-DFP2
Disk Drive Measurements Package	WR6-DDM2
Ethernet Test Package (WaveRunner 6100A and 6200A Only[1])	WR6-ENET
Jitter and Timing Analysis	WR6-JTA2
PowerMeasure Analysis	WR6-PMA2
Serial Data Mask Package	WR6-SDM
USB 2.0 Compliance Software (WaveRunner 6200A Only[2])	WR6-USB2

[1] Package may be used with lower BW oscilloscope models; however, some measurements will not operate with signals at all data rates.
[2] Can be used with lower bandwidth models; however, only USB 1.1 test functions will be available. WaveRunner 6200A is required for USB 2.0 capability.

Expandability Ensures an Excellent Return on Investment

CANbus Testing Package

Flexibly trigger on CAN Bus messages. Decode and display hexadecimal or decimal data values next to the CAN signal on the screen. Easily correlate electrical bus problems with CAN Bus message or error data frame.

Digital Filter Package

DFP2 lets you add any of a set of linear-phase Finite Impulse Response (FIR) filters. It enhances your ability to examine important signal components by filtering out undesired spectral components such as noise. Use the standard filters or create your own.

Disk Drive Measurement Package

The Disk Drive Measurement Package (DDM2) adds dozens of new disk drive measurements. DDM2, combined with WaveRunner 6000A's sequence triggering and SMART Triggers, offers the perfect solution for failure analysis when testing disk drives.

Ethernet Test Package
(WaveRunner 6100A & 6200A Only[1])

Conduct complete electrical testing for 1000Base-T, 100Base-T, and 10Base-T Ethernet standards. Jitter and pulse mask tests are performed with automatic waveform alignment, and all test results feature pass/fail indicators corresponding to the IEEE 802.3-2000 and ANSI X3.263 standards being tested.

Jitter and Timing Analysis

Find modulation effects and intermittent signal jitter to track timing changes, and to debug in the time, frequency, and statistical domains. Views like Jitter Track and Jitter Histogram let you see system variability in ways that you have never imagined.

PowerMeasure Analysis

The PMA2 package automates and enhances your ability to analyze power conversion devices and circuits. Optional accessories, such as differential amplifiers, differential probes, current probes, and deskew fixtures complete the solution.

Serial Data Mask Package

The SDM toolset harnesses the WaveRunner DSO's long memory and low jitter to deliver outstanding serial bus characterization. Choose from a comprehensive list of standard eye pattern masks, or create a user-defined mask. Mask violations are clearly marked on the display, so you don't have to guess.

SDM also allows a software "golden PLL" reference to recover an eye diagram from a single long acquisition. The measurement is complete in seconds, and the already low trigger jitter is eliminated, giving you the most precise result possible.

USB 2.0 Compliance Software
(WaveRunner 6200A Only[2])

USB2 provides a complete acquisition and analysis system for USB 2.0 devices, hosts, and hubs, as specified in the USB-IF USB 2.0 Electrical Test Specification, version 1.0.

[1] Package may be used with lower BW oscilloscope models; however, some measurements will not operate with signals at all data rates.
[2] Can be used with lower bandwidth models; however, only USB 1.1 test functions will be available. WaveRunner 6200A is required for USB 2.0 capability.

Specifications

Vertical System	WaveRunner 6030A	WaveRunner 6050A	WaveRunner 6051A	WaveRunner 6100A	WaveRunner 6200A
Nominal Analog Bandwidth @ 50 Ω, 10m V-1 V/div	350 MHz	500 MHz	500 MHz	1 GHz	2 GHz
Rise Time (Typical)	1 ns	750 ps	750 ps	400 ps	225 ps
Input Channels	4	4	2	4	4

Bandwidth Limiters	20 MHz; 200 MHz
Input Impedance	1 MΩ ‖ 20 pF (10 MΩ ‖ 9.5 pF using PP007 probe)
Input Coupling	50 Ω: DC, 1MΩ: AC, DC, GND
Maximum Input Voltage	50 Ω: 5 Vrms, 1 MΩ: 250 V max (Peak AC: ≤ 10 kHz + DC)
Channel to Channel Isolation	> 40 dB @ < 100 MHz (> 30 dB @ full bandwidth)
Vertical Resolution	8 bits; up to 11 with enhanced resolution (ERES)
Sensitivity	50 Ω: 2 mV/div – 1 V/div fully variable; 1 MΩ: 2 mV – 10 V/div fully variable
DC Accuracy	±1.0% of full scale (typical); ±1.5% of full scale, ≥ 10 mV/div (warranted)
	±(2.5% of full scale + 1.5% of offset value + 1 mV) (for variable gain and fixed gain settings < 2 V/div)
Offset Range	50 Ω: ± 400 mV @ 2–4.95 mV/div
	±1 V @ 5–100 mV/div
	±10 V @ 102 mV/div – 1 V/div
	1 MΩ: ± 400 mV @ 2–4.95 mV/div
	±1 V @ 5–100 mV/div
	±10 V @ 102 mV/div – 1 V/div
	±100 V @ 1.02 V/div – 10 V/div
Offset Accuracy	±(1.5% of offset value + 0.5% of full scale +1 mV) all fixed gain setting < 2 V/div
	±(1.5% of offset value + 1.0% of full scale + 1 mV) for variable and V/div settings ≥ 2 V/div
Input Connector	Probus®/BNC

Timebase System

Timebases	Internal timebase common to all input channels; an external clock may be applied at the auxiliary input
Time/Division Range	Real time: 200 ps/div – 10 s/div, RIS mode: to 20 ps/div, Roll mode: up to 1,000 s/div
Clock Accuracy	≤ 5 ppm @ 25 °C (≤ 10 ppm @ 5–40 °C)
Sample Rate & Delay Time Accuracy	Equal to Clock Accuracy
Trigger & Interpolator Jitter	≤ 3 ps rms (typical)
Time Interval Accuracy	Clock Accuracy + Jitter
Channel to Channel Deskew Range	±9 X time/div setting, 100 ms max., each channel
External Sample Clock	DC to 1 GHz; 50 Ω, (limited BW in 1 MΩ), BNC input, limited to 2 Ch operation (1 Ch in WR6051A), (minimum rise time and amplitude requirements apply at low frequencies)
Roll Mode	User selectable. Available at lower time/div settings

Acquisition System

	6030A	6050A	6051A	6100A	6200A
Single-Shot Sample Rate/Ch	2.5 GS/s	5 GS/s	5 GS/s	5 GS/s	5 GS/s
Interleaved Sample Rate (2 Ch)	5 GS/s	N/A	N/A	10 GS/s	10 GS/s
Random Interleaved Sampling (RIS)	200 GS/s				
Trigger Rate	125,000 waveforms/second				
Sequence Time Stamp Resolution	1 ns				
Minimum Ttime Between Sequential Segments	8 µs				

Acquisition Memory Options	Max. Acquisition Points (4 Ch/2 Ch, 2 Ch/1Ch in 6051A)	Segments (Sequence Mode)
Standard	2M/4M	500
Option M	4M/8M	1,000
Option L	8M/16M	5,000
Option VL	12M/24M	10,000

Acquisition Processing

	6030A	6050A	6051A	6100A	6200A
Time Resolution (min, Single-shot)		200 ps (5 GS/s)		100 ps (10 GS/s)	
Averaging	Summed and continuous averaging to 1 million sweeps				
ERES	From 8.5 to 11 bits vertical resolution				
Envelope (Extrema)	Envelope, floor, or roof for up to 1 million sweeps				
Interpolation	Linear or Sinx/x				

Specifications

Trigger System

Trigger Modes	Normal, Auto, Single, Stop
Sources	Any input channel, External, Ext/10, or Line; slope and level unique to each source, except Line
Trigger Coupling	DC
Pre-trigger delay	0–100% of memory size (adjustable in 1% increments, or 100 ns)
Post-trigger delay	Up to 10,000 divisions in real time mode, limited at slower time/div settings in roll mode
Hold-off	2 ns to 20 s or 1 to 1,000,000,000 events
Internal trigger level range	±4.1 div from center (typical)

	6030A	6050A	6051A	6100A	6200A
Trigger Sensitivity with Edge Trigger	2 div @ < 350 MHz,	2 div @ < 500 MHz,	2 div @ < 500 MHz,	2 div @ < 1 GHz,	2 div @ < 2 GHz,
(Ch 1-4 + external)	1 div @ < 250 MHz	1 div @ < 350 MHz	1 div @ < 350 MHz	1 div @ < 750 MHz	1 div @ < 1.8 GHz
Max. Trigger Frequency with SMART Trigger®	350 MHz	500 MHz	500 MHz	750 MHz	750 MHz
(Ch 1-4 + external)	@ ≥ 10 mV	@ ≥ 10 mV	@ ≥ 10 mV	@ ≥ 10 mV	@ ≥ 10 mV

Trigger Level DC Accuracy	±4% full scale ±2 mV (typical)
External trigger range	EXT/10 ±4 V; EXT ±400 mV

Basic Triggers

Edge	Triggers when signal meets slope (positive or negative) and level condition.

SMART Triggers®

State or Edge Qualified	Triggers on any input source only if a defined state or edge occurred on another input source. Delay between sources is selectable by time or events.
Dropout	Triggers if signal drops out for longer than selected time between 2 ns and 20 s.
Pattern	Logic combination (AND, NAND, OR, NOR) of 5 inputs (4 channels and external trigger input - 2 Ch+EXT on 6051A). Each source can be high, low, or don't care. The high and low level can be selected independently. Triggers at start or end of the pattern.

SMART Triggers® with Exclusion Technology

Glitch and Pulse Width	Triggers on positive or negative glitches with widths selectable from 600 ps to 20 s or on intermittent faults (subject to bandwidth limit of oscilloscope).
Signal or Pattern Interval	Triggers on intervals selectable between 2 ns and 20 s.
Timeout (State/Edge Qualified)	Triggers on any source if a given state (or transition edge) has occurred on another source. Delay between sources is 2 ns to 20 s, or 1 to 99,999,999 events.
Exclusion Triggering	Trigger on intermittent faults by specifying the normal width or period.

Automatic Setup

Auto Setup	Automatically sets timebase, trigger, and sensitivity to display a wide range of repetitive signals.
Vertical Find Scale	Automatically sets the vertical sensitivity and offset for the selected channels to display a waveform with maximum dynamic range.

Probes

Probes	One PP007-WR-1 per channel standard; Optional passive and active probes available.
Probe System; Probus®	Automatically detects and supports a variety of compatible probes.
Scale Factors	Automatically or manually selected, depending on probe used

Color Waveform Display

Type	Color 8.4" flat-panel TFT-LCD with high resolution touch screen
Resolution	SVGA; 800 x 600 pixels
Number of Traces	Display a maximum of 8 traces. Simultaneously display channel, zoom, memory, and math traces.
Grid Styles	Auto, Single, Dual, Quad, Octal, XY, Single + XY, Dual + XY
Waveform Styles	Sample dots joined or dots only

Analog Persistence Display

Analog and Color-Graded Persistence	Variable saturation levels; stores each trace's persistence data in memory.
Persistence Selections	Select analog, color, or three-dimensional.
Trace Selection	Activate persistence on all or any combination of traces.
Persistence	Aging time select from 500 ms to infinity.
Sweeps Displayed	All accumulated, or all accumulated with last trace highlighted.

Specifications

Zoom Expansion Traces

	Display up to 4 Zoom/Math traces;

CPU

Processor	Intel® Celeron® 2.0 GHz or better.
Processing Memory	256 MB on Std and M option; 512 MB with L and VL options
Operating System	Microsoft Windows® XP Professional

Internal Waveform Memory

	M1, M2, M3, M4 Internal Waveform Memory (store full-length waveform with 16 bits/data point) or store to any number of files limited only by data storage media.

Setup Storage

Front Panel and Instrument Status	Store to the internal hard drive, over the network, or to a USB-connected peripheral device.

Interface

Remote Control	Via Windows Automation, or via LeCroy Remote Command Set
GPIB Port (Optional)	Supports IEEE – 488.2
Ethernet Port	10/100Base-T Ethernet interface (RJ-45 connector)
USB Ports	5 USB 2.0 ports (one on front of instrument) supports Windows-compatible devices.
External Monitor Port	Standard 15-pin D-Type SVGA-compatible DB-15; connect a second monitor to use dual-monitor display mode.
Parallel Port	Standard DB-25
Serial Port	DB-9 RS-232 port (not for remote oscilloscope control)

Auxiliary Input

Signal Types	Selected from External Trigger or External Clock input on front panel
Coupling	50 Ω: DC, 1 MΩ: AC, DC, GND
Maximum Input voltage	50 Ω: 5 Vrms, 1 MΩ: 250 V max (Peak AC: ≤ 10 kHz + DC)

Auxiliary Output

Signal Type	Trigger Enabled, Trigger Output. Pass/Fail, or Off
Output Level	TTL, ≈3.3 V
Connector Tyler	BNC, located on rear panel

General

Auto Calibration	Ensures specified DC and timing accuracy is maintained for 1 year minimum.
Calibrator	Output available on front panel connector provides a variety of signals for probe calibration and compensation.
Power Requirements	100–240 Vrms at 50/60 Hz; 115 Vrms (±10%) at 400 Hz, Automatic AC Voltage Selection Installation Category: 300V CAT II; Max. Power Consumption: 400 VA/400 W; 350 VA/350 W for WaveRunner 6051A

Environmental

Temperature: Operating	+5 °C to 40 °C
Temperature: Non-Operating	-20 °C to +60 °C
Humidity: Operating	5% to 80% RH (non-condensing) up to 30 °C, Upper limit derates linearly to 45% RH (non-condensing) at 40 °C
Humidity: Non-Operating	5% to 95% RH (non-condensing) as tested per MIL-PRF-28800F
Altitude: Operating	3,048 m (10,000 ft.) max at ≤ 25 °C
Altitude: Non-Operating	12,190 m (40,000 ft.)

Physical

Dimensions (HWD)	211 mm x 355 mm x 363 mm (excluding feet) 8.3" x 13.8" x 14.3"
Net Weight	10 kg. (22 lbs.), excluding printer
Shipping Weight	less than 13.6 kg. (30 lbs.)

Certifications

	CE Compliant, UL and cUL listed; Conforms to EN 61326-1, EN 61010-1, UL 3111-1, and CSA C22.2 No. 1010.1.

Warranty and Service

	3-year warranty; calibration recommended annually. Optional service programs include extended warranty, upgrades, calibration, and customization services.

WaveRunner Digital Oscilloscopes

2 GHz, 4-Channel, 5/10 GS/s 2/4 Mpts Standard, Color	WaveRunner 6200A
1 GHz, 4-Channel, 5/10 GS/s 2/4 Mpts Standard, Color	WaveRunner 6100A
500 MHz, 4-Channel, 5 GS/s 2/4 Mpts Standard, Color	WaveRunner 6050A
500 MHz, 2-Channel, 5 GS/s 2/4 Mpts Standard, Color	WaveRunner 6051A
350 MHz, 4-Channel, 2.5/5 GS/s 2/4 Mpts Standard, Color	WaveRunner 6030A

Included with Standard Configuration

÷10 10 MΩ, 500 MHz BW Passive Probes – Qty 4 (2 on WaveRunner 6051A)	PP007-WR-1
Printed Quick Reference Guide	
Operator's Manual and Remote Control Manual on CD-ROM	
Optical 3-button Wheel Mouse – USB	
Standard Ports; 10/100Base-T Ethernet, USB 2.0 (5), Parallel, RS-232, SVGA Video out, Audio in/out	
Protective Front Cover	
Standard Commercial Calibration and Performance Certificate	
3-Year Warranty	

Memory Options

4 Mpts/Ch, 8 Mpts/Ch	M
8 Mpts/Ch, 16 Mpts/Ch	L
12 Mpts/Ch, 24 Mpts/Ch	VL

Hardware Options

CD-RW Upgrade	WR6-CDRW
Graphic Printer	WR6A-GP
Graphic Printer Retrofit	WR6A-RK-GP
IEEE-488 interface (GPIB)	WR6-GPIB

WaveShape Analysis Packages

CANbus Trigger and Decode Test Package	CANbus TD
Intermediate Math Package	WR6-XWAV
Advanced Math Package	WR6-XMATH
Developer's Customization Kit	WR6-XDEV
Value Analysis Package (XWAV + JTA2)	WR6-XVAP
Master Analysis Package (XMATH + XDEV + JTA2)	WR6-XMAP
Web Editor	WR6-WEB
Digital Filter Package	WR6-DFP2
Disk Drive Measurements Package	WR6-DDM2
Ethernet Test Package (WaveRunner 6100A and 6200A Only[1])	WR6-ENET
Jitter and Timing Analysis	WR6-JTA2
PowerMeasure Analysis	WR6-PMA2
Serial Data Mask Package	WR6-SDM
USB 2.0 Compliance Software (WaveRunner 6200A Only[2])	WR6-USB2
Norton Antivirus	WR6-AV

Selected Probes

Passive Probe, 500 MHz	PP007-WR-1
2.5 GHz Active Voltage Probe	HFP2500
1.5 GHz Active Voltage Probe	HFP1500
1 GHz Active Voltage Probe	HFP1000
3 GHz Differential Probe with Adjustable Tips	WL300 & D300A-AT
3 GHz Differential Probe with Small Tips	WL300 & D600ST
500 MHz Differential Probe	AP033
1 GHz Differential Probe	AP034
150 A, 10 MHz Current Probe	CP150
500 A, 2 MHz Current Probe	CP500
15 A, 50 MHz Current Probe	CP015

Selected Accessories

Video Trigger Module	VT75
100 MHz Differential Amp	DA1855A
Floppy Drive (External USB)	WR6-FLPY
Rackmount Kit (6U)	WR6-RACK
Mini Keyboard	WR6-KBD
Soft Carrying Case	WR6-SOFT
Hard Transit Case	WR6-HARD
Accessory Pouch	WR6-POUCH
256 MB USB Memory Key	MEM-USB
Scope Cart – Basic	OC1021
Scope Cart – With extra shelf and drawer	OC1024
WaveRunner 6000A Series Operators Manual, printed	WR6A-OM-E
5-Year NIST Calibration and Warranty	WR6-T5

[1] Package may be used with lower BW oscilloscope models, however some measurements will not operate with signals at all data rates.

[2] Package may be used with lower bandwidth oscilloscope models, however only USB 1.1 test functions will be available. WaveRunner 6200A is required for USB 2.0 capability.

Warranty

LeCroy scopes 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. This warranty includes:

• Full updates
• Calibration
• Insurance
• No charge for return shipping
• Long term 7-year support
• Upgrade to latest software at no charge

LeCroy