

Product Line Card 2017

NEW
HV Fiber
Optically-
isolated
Probes

NEW
**HDO4000A/
6000A**
12-Bit, 1 GHz,
10 GS/s with
OneTouch

HDO9000
10-Bit, 4 GHz,
40 GS/s

NEW
WaveSurfer 510
1 GHz at
Great Price

NEW
HDO8000A
12-Bit, 8 Ch.,
1 GHz,
10 GS/s



DEBUG IN HIGH DEFINITION UP TO 4 GHz

High Definition Oscilloscopes with HD Technology have a variety of benefits that allow the user to debug with unsurpassed precision. Waveforms displayed by High Definition Oscilloscopes are cleaner and crisper. More signal details can be seen and measured; these measurements are made with unmatched precision resulting in better test results and shorter debug time.



A critical element of the HDO9000 is the HD1024 technology, which provides 10 bits of vertical resolution with 4 GHz bandwidth. As with all members of Teledyne LeCroy's HDO family, the HDO9000 utilizes an exceptionally low-noise system architecture that delivers outstanding effective number of bits (ENOB).

Dynamic ADC Reconfiguration

HD1024 technology enables dynamic reconfiguration of the ADCs to achieve 10 bits of vertical resolution. By automatically determining the best ADC configuration under each specific measurement condition, the HDO9000 always provides the optimal resolution. The ADCs can be set to 8-, 9-, or 10-bit configurations.

HD Summary

The HDO9000 conveniently displays an overview of the HD1024 operation which can be accessed via the HD descriptor box.

Optimized Filtering

HD1024 high definition technology makes use of optimized filtering to provide additional resolution beyond 10-bits; extending up to 13.8 bits. When operating in low sample rate conditions, an anti-aliasing filter is automatically applied to reduce excess out-of-band noise. Additionally, resolution can be improved by applying a manual bandwidth limit on an individual channel.

	HDO4000A	HDO6000A	HDO8000A	HDO9000
HD Technology	HD4096 12-Bits	HD4096 12-Bits	HD4096 12-Bits	HD1024 10-Bits
Bandwidth	200 MHz – 1 GHz	350 MHz – 1 GHz	350 MHz – 1 GHz	1 GHz – 4 GHz
Input Channels	4	4	8	4
Sample Rate	10 GS/s	10 GS/s	10 GS/s	40 GS/s
Analysis Capability	Basic	Advanced	Advanced	Exceptional



HD4096 high definition technology consists of high sample rate 12-bit ADCs, high signal-to-noise ratio amplifiers and a low-noise system architecture. This technology enables

High Definition Oscilloscopes to capture and display signals of up to 1 GHz, up to 10 GS/s sample rate and 16 times more resolution than other oscilloscopes.



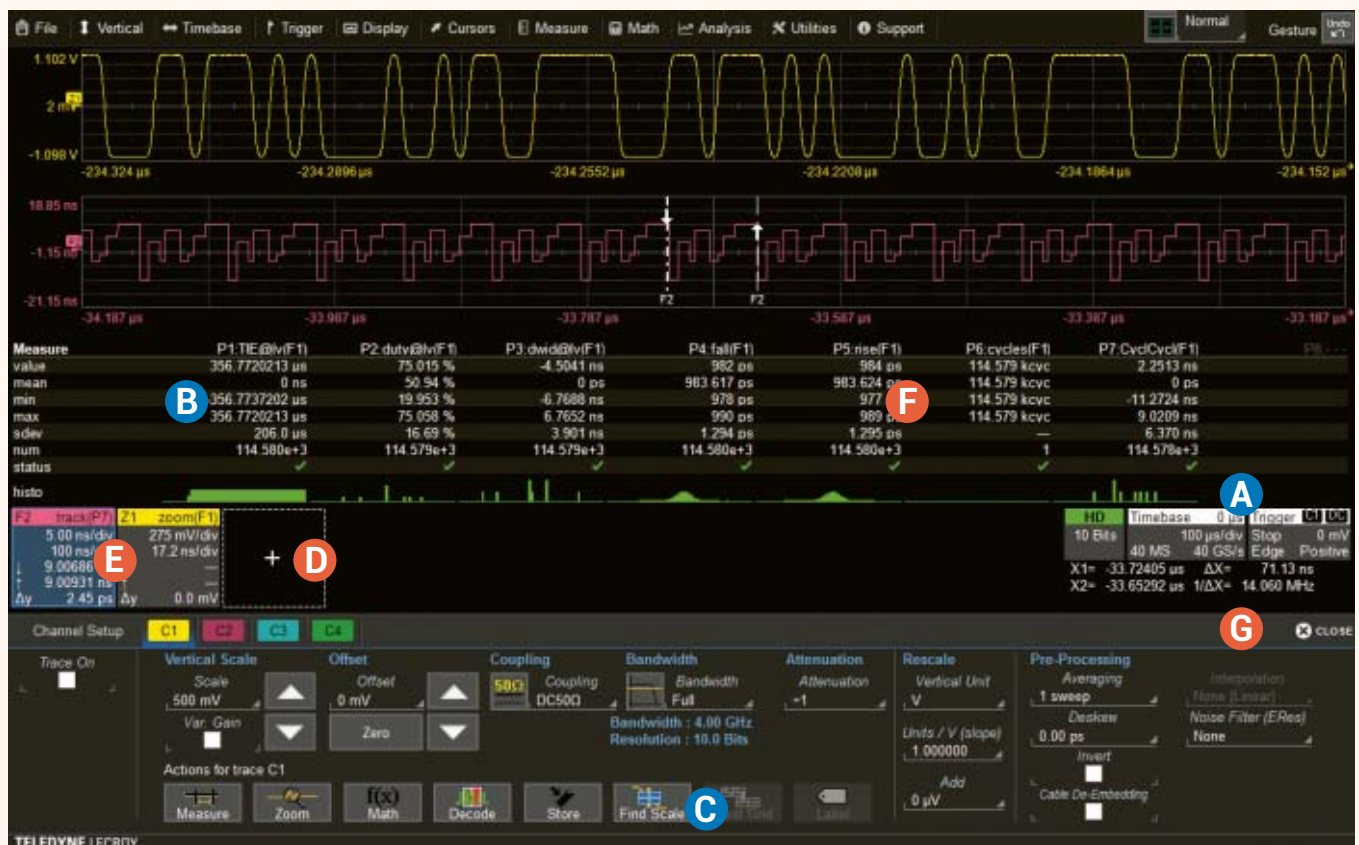
MAUI with OneTouch

MAUI with OneTouch introduces a new paradigm for oscilloscope user experience. Dramatically reduce setup

MAUI – Most Advanced User Interface was developed to put all the power and capabilities of the modern oscilloscope right at your fingertips. Designed for touch; all important oscilloscope controls are accessed through the intuitive touch screen user interface. Built for simplicity; time saving shortcuts and intuitive dialogs simplify setup. Made to solve; a deep set of debug and analysis tools helps identify problems and find solutions quickly.

time with revolutionary drag and drop actions to copy and setup channels, math functions, and measurement parameters without lifting a finger. Use common gestures like drag, drop, and flick to instinctively interact with the oscilloscope. Quickly enable a new

channel, math or measurement using the “Add New” button and simply turn off any trace or parameter with a flick of the finger. These OneTouch innovations provide unsurpassed efficiency in oscilloscope operation.



- MAUI
- Unique to OneTouch

POWERFUL, DEEP TOOLBOX

Capture		View			Measure	Math		Analyze										Document				
Triggering	Acquire	Display Grids	Display Views	Zooming	Parameters	Parameter Analysis	Functions	Advanced Functions	Pass/Fail	Anomaly Detection	Serial Decode	Serial Message Analysis	Clock & Timing Jitter	Serial Data Jitter	Serial Data Analysis	Application Packages	Document					
<div>KEY</div> <div>Element:<div><div>Category</div><div>Number</div><div><div>106</div><div>Crosstalk Analysis</div><div>MAUI Icon</div><div>Name</div></div></div><div><div>▲ Invented by LeCroy</div><div>★ Unique to LeCroy</div></div></div>																		2				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17-22	23					
Exclusion	Measurement	5 MS/s Roll	Multi-Cascade	Sequence Mode	80ch	4 to 80 Channels	Multi-Grid	Segment	Multi-Zoom	All Instance	Statistics	Full Memory FFT	Digital Filters	Mask Test	TriggerScan	K28.5 Symbol	Search & Zoom	Jitter Track	Bathub Curve	DDI + ISI Views	DDR Analysis	WaveStudio
47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63-67	68					
Analog/Digital	Serial Data	12-bit Resolution	Drag and Drop	Waveform Histogram	Vertical Zoom	Parameter Math	Parameter Acceptance	Tracks / Trends	Processing Web	Actions	WaveScan	Protocol Layer	Bus Parameters	Jitter Histogram	ISOBER	Pj Spectral Views	Optical	LSB				
69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85-89	90					
	100 GHz / DB	Q-Scope	3D Persistence	Auto-Save	Custom Measure	Histogram/Histogram	Demodulation	Custom Math	Boolean Compare	History Mode	Application Layer	Timing Parameters	Jitter Spectrum	Jitter Simulation	Noise Analysis		LabNotebook					
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107-114	115					
											ProtoSync	Serial DAC Waveform	Jitter Views	EyeDr / VP	Crosstalk Analysis	QualiPHY	Automation					
117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134					
Device Loss	Mod Control Loop	Harmonics	3-Phase	Static/Dynamic	Zoom+Gate	Coherent Receiver	Optical InQ	PAM-4 Analysis	VectorLinQ VSA	Ethernet	DDR	Video	mipi MVB									
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57					
R/W Separation	Multi-Eye View	DDR Tj, Rj, Dj	Debug ToolKit	Virtual Probe																		
58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75					

Our Heritage

Teledyne LeCroy's 50+ year heritage has its origins in the high-speed collection of data in the field of high-energy physics, and the processing of long records to extract meaningful insight. We didn't invent the oscilloscope, but we did invent the digital oscilloscope, which can take full advantage of advanced digital signal processing and waveshape analysis tools to provide unparalleled insight.

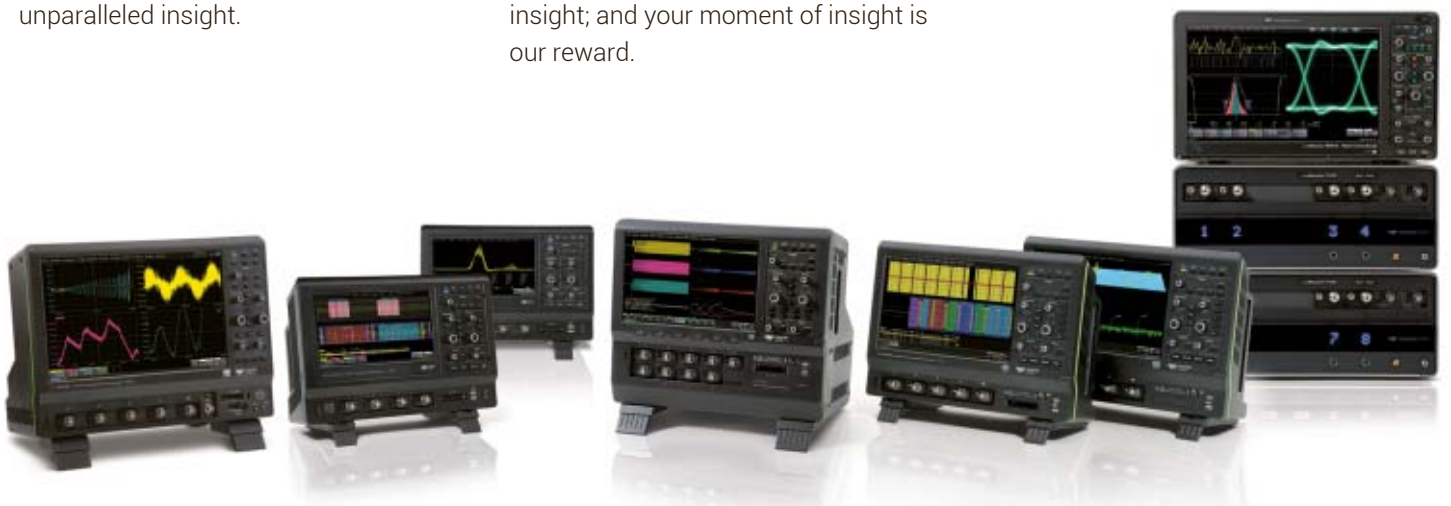
Our Obsession

Our developers are true to our heritage – they are more obsessed with making better and smarter tools than anybody else. Our tools and operating philosophy are standardized across much of our product line for a consistent user experience. Our mission is to help you use these tools to understand problems, including the ones you don't even know you have. Our deep toolbox inspires insight; and your moment of insight is our reward.

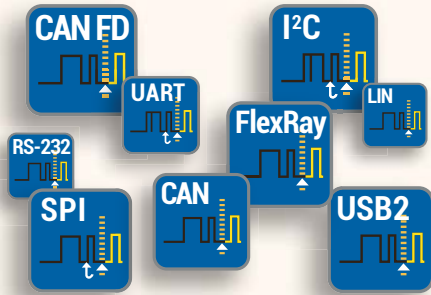
Our Invitation

Our *Periodic Table of Oscilloscope Tools* provides a framework to understand the toolsets that Teledyne LeCroy has created and deployed in our oscilloscopes. Visit our interactive website to learn more about what we offer and how we can help you develop and debug more efficiently.

teledynelecroy.com/tools

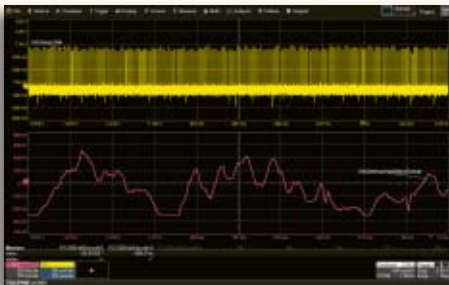


MOST COMPLETE SERIAL DATA DEBUG AND VALIDATION



Trigger

Powerful, flexible triggers designed by people who know the standards, with the unique capabilities you want to isolate unusual events. Conditional data triggering permits maximum flexibility and highly adaptable error frame triggering is available to isolate error conditions. Efficiently acquire bursted data using Sequence Mode to maximize the oscilloscope's memory usage. Sequence Mode enables the oscilloscope to ignore idle time and acquire only data of interest.



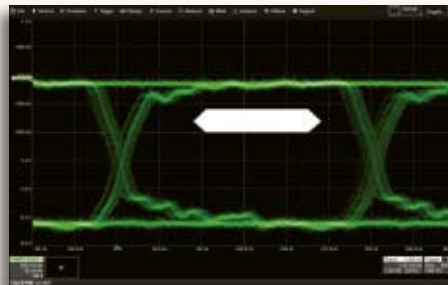
Measure/Graph

Quickly validate cause and effect with automated timing measurements to or from an analog signal or another serial message. Make multiple measurements in a single long acquisition to quickly acquire statistics during corner-case testing. Serial (digital) data can be extracted to an analog value and graphed to monitor system performance over time, as if it was probed directly. Complete validation faster and gain better insight.



Decode

Decoded protocol information is color-coded to specific portions of the serial data waveform and transparently overlaid for an intuitive, easy-to-understand visual record. All decoded protocols are displayed in a single time-interleaved table. Touch a row in the interactive table to quickly zoom to a packet of interest and select a column header to create filter criteria, as is commonly done in spreadsheets. Easily search through long records for specific protocol events using the built-in search feature.



Eye Diagram

Rapidly display an eye diagram of your packetized low-speed serial data signal without additional setup time. Use eye parameters to quantify system performance and apply a standard or custom mask to identify anomalies. Mask failures can be indicated and can force the scope into Stop mode.

SDAII or DDR Debug (optional) create eye diagrams of streaming NRZ serial data or DDR signals, and measure and analyze jitter breakdown.

Serial Data Protocol Support

	Trigger	Decode	Measure/Graph	Eye Diagram	ProtoSync	QualiPHY
Embedded Computing	I ² C	•	•	•	•	•
	SPI	•	•	•	•	•
	UART-RS232	•	•	•	•	•
	USB2-HSIC	•	•	•	•	•
Automotive + Industrial	CAN	•	•	•	•	•
	CAN FD	•	•	•	•	•
	FlexRay	•	•	•	•	•
	LIN	•	•	•	•	•
	SENT	•	•	•	•	•
	MOST50/150	•	•	•	•	•
	BroadR-Reach	•	•	•	•	•
Avionics	ARINC429	•	•	•	•	•
	MIL-STD-1553	•	•	•	•	•
	SPACEWIRE	•	•	•	•	•
	Ethernet (10/100Base-T)	•	•	•	•	•
High Speed Computing, Storage + Peripherals	Ethernet (1000Base-T)	•	•	•	•	•
	USB 1.1/2.0	•	•	•	•	•
	MD10	•	•	•	•	•
	8b/10b	•	•	•	•	•
	Fibre Channel	•	•	•	•	•
	SATA (1.5 & 3 Gb/s)	•	•	•	•	•
	SAS (1.5 & 3 Gb/s)	•	•	•	•	•
	PCI Express (Gen1)	•	•	•	•	•
	LPDDR2	•	•	•	•	•
	DDR2	•	•	•	•	•
Memory	DDR3	•	•	•	•	•
	D-PHY/CSI-2/DSI	•	•	•	•	•
	DigRF3G	•	•	•	•	•
	DigRFv4	•	•	•	•	•
MIPI	UniPro	•	•	•	•	•
	M-PHY	•	•	•	•	•
	SPM	•	•	•	•	•
Other	Audio (I ² S, LJ, RJ, TDM)	•	•	•	•	•
	Manchester	•	•	•	•	•
	NRZ	•	•	•	•	•

T D M E

HDO9000

Exceptional Signal Fidelity with 10-Bit Resolution



HDO9000 High Definition Oscilloscopes leverage HD1024 technology to deliver 10 bits of resolution up to 4 GHz. HD1024 technology ensures that optimal resolution is always provided under each measurement condition for exceptional signal fidelity. The large, bright 15.4" touch screen and MAUI OneTouch user interface results in an unsurpassed user experience. With 40 GS/s sample rate and an extensive toolbox the HDO9000 debugs in high definition to provide uncompromised measurement performance.

HD1024 Technology

HD1024 high definition technology enables 10 bits of vertical resolution with 4 GHz bandwidth. The HDO9000 automatically and dynamically determines the best ADC configuration under each specific measurement condition to always provide the optimal resolution.



HDO9000 is providing the most advanced tools for debug and analysis of serial data.

Dynamic ADC Reconfiguration

HD1024 technology enables dynamic reconfiguration of the ADC to achieve 10-bit vertical resolution. By automatically determining the best ADC configuration under each specific measurement condition, the HDO9000 always provides the optimal resolution.

Powerful, Deep Toolbox

The standard collection of math, measurement, debug, and documentation tools provides unsurpassed analysis capabilities. Application-specific packages enable streamlined debugging for common design/validation scenarios. The advanced customization option (XDEV) enables user-defined parameters and math functions providing unique and limitless analysis capability.

Key Features

- 10-bit resolution; up to 13.8-bit with Optimized Filtering
- 1 GHz – 4 GHz bandwidths
- Up to 40 GS/s sample rate
- 15.4" touch screen
- MAUI with OneTouch Gesture Control
- Advanced Tools
 - Jitter and Timing Analysis Capabilities
 - WaveScan – Search and Find
 - LabNotebook Documentation and Report Generation
 - History Mode – Waveform Playback
- 16 digital channels with 1.25 GS/s
 - Analog and Digital Cross-Pattern Triggering
 - Digital Pattern Search and Find
 - Analog and Digital Timing Measurements
- Optional Software Packages
 - Advanced Customization
 - Digital Filtering
 - Spectrum Analysis
 - Device and Switching Power Supply Analysis
 - Comprehensive set of serial data analysis, debug, validation and compliance tools

15.4" Capacitive Touch Screen

The HDO9000 and MAUI OneTouch allows users to perform all common operations with a single touch of the display, optimizing for convenience and efficiency. Meanwhile, the 15.4" high resolution touch screen's bright display and quick responsiveness further enhances the efficiency and intuitiveness of MAUI OneTouch.

Exceptional Serial Data Tools

A wide variety of application packages are available to meet all serial data test challenges, ranging from automated compliance packages to flexible debug toolkits. A suite of protocol specific measurement and eye diagram packages are available to complement the industry's most intuitive trigger and decode packages.

HDO8000A **NEW**

HD 8-Channel Oscilloscopes up to 1 GHz, 10 GS/s

HDO8000A High Definition Oscilloscopes have more channels, more resolution, more bandwidth and more memory than any other midrange oscilloscope. Ideal for debugging and troubleshooting three-phase power electronics, automotive electronics, and embedded/mechatronic designs with high resolution sensor signals. **Comprehensive digital logic (MSO), low-speed serial data trigger, decode and analysis toolsets, and the widest variety of probes and application packages complete the solution. Get the most intuitive long-memory analysis using the unique Q-Scape multi-tab display architecture.**

Key Features

- 8 analog channels
- 12-bit ADC resolution, up to 15-bit with enhanced resolution
- 350 MHz, 500 MHz, and 1 GHz bandwidths
- 10 GS/s Sample Rate
- Long memory – up to 250 Mpts/Ch
- 16 digital channel MSO option
- Q-Scape™ multi-tab display architecture
- 12.1" touch screen display with Super HD WQXGA 3840 x 2160 pixel extended-desktop mode
- MAUI with OneTouch Gesture Control
- Wide probe selection for power electronics, embedded electronics, and mechatronics applications
- Advanced analysis and reporting toolsets
- Advanced triggering supplemented with TriggerScan and measurement trigger
- Serial data trigger & decode and debug toolkit options



True 12-Bit Technology

HD4096 high definition technology consists of 12-bit ADCs with 10 GS/s sample rates, high signal-to-noise (55dB) input amplifiers and a low-noise system architecture. This technology enables high definition oscilloscopes to capture and display signals of up to 1 GHz with 16 times more resolution than conventional 8-bit oscilloscopes.

Long Memory

Capture large amounts of data with more precision using the 250 Mpts/Ch of acquisition memory. Zoom in for detail, use Roll Mode for extremely long time periods, or 10 GS/s for capturing fast transients and slow events together over longer periods than ever before possible.

Comprehensive Analysis Tools

HDO8000A has the most comprehensive trigger, decode, math, measurement, and application toolsets available.

Use tracks, trends and histograms to enhance understanding of complex behaviors. LabNotebook concisely documents and stores your results.

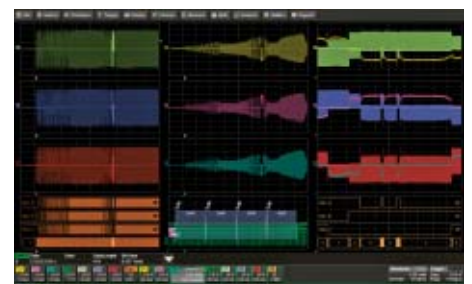
Q-Scape Multi-Tab Display Architecture

More waveforms requires new display architectures. Unique Q-Scape multi-Tab display architecture speeds the understanding of your design with 4x the display area. Quickly move waveforms to different tabs through drag-and-drop. Extended desktop supports WQXGA 3840 x 2160 pixel displays.



Powerful Analysis Capabilities

Up to 250 Mpts/Ch of acquisition memory allows many seconds of data capture. Display simultaneously up to 40 waveforms (12 math, 12 zoom, 12 memory) and 12 measurement parameters.



12-BIT 8 CHANNEL MOTOR DRIVE ANALYSIS

MDA800A Series **NEW**

Motor Drive Analyzers

Motor Drive Analyzers provide complete three-phase power analysis from motor drive input through motor mechanical output, with results in a convenient numeric table format. Motor speed, position, and torque integration are the most complete available. Long memory, per-cycle "synthesized" Waveforms and Zoom+Gate mode provide powerful dynamic drive and motor analysis. 8 analog input channels (MSO optional) with high resolution of 12 bits, sample rate up to 10 GS/s, bandwidth up to 1 GHz and memory up to 250 Mpt/Ch provide unique capability to perform complete system debug on the motor drive power section, motor mechanical performance, and embedded drive control system operation.



HD
4096

MAUI

Key Features

- Complete Motor Drive System Debug and Validation in One Instrument
- Three-Phase Power Measurements; Real, Apparent, Reactive Power
- Efficiency Measurements
- User-Configurable Power Table
- Two- and Three-Wattmeter Methods supported
- Per-Cycle Time-Related Waveforms From Power Values
- Harmonics Calculations and Filtering (optional)
- Dynamic Drive Response Analysis, From Startup To Overload
- Unique Zoom+Gate Mode
- Line-Line To Line-Neutral Voltage Conversion
- Up to 6000 V_{RMS} Isolation with HVD Series Differential Probes
- Easily Interface Other Current Measurement Devices
- Complete Motor Integration (Torque, Speed, Position)
- Flexible Setup Capability
- Graphical User Interface

Complete Drive System Debug

The Motor Drive Analyzer acquires drive power section, power transistor, and embedded control system signals, and performs three-phase power analysis of the power section waveforms. Correlation of drive system behaviors to embedded control loop signals enables debug and analysis of all aspects of the complete motor drive.

Numerics Measurement Table

Various voltage, current, power (real, apparent, and reactive), phase angle/ power factor, and efficiency parameters are calculated on acquired voltage and current waveforms and displayed in a table. The table is displayed along with the acquisition waveforms.

Zoom+Gate Dynamic Analysis

Capture long acquisitions and Zoom+Gate with instant table value updates and views of dynamic three-phase power and motor drive performance.

Most Complete Motor Mechanical Integration

Simple integration is provided for nearly any type of speed, rotation or position sensor, including analog and

digital (pulse) tachometers, Brushless DC (BLDC) Hall sensor, Quadrature Encoder Interface (QEI), and Resolvers. Additionally, Hall sensor and QEI signals can be integrated through digital inputs, preserving valuable analog input channels for other signals.



Detailed Waveforms

In addition to the mean table values, a waveform showing any per-cycle measurement parameter variation can be displayed by simply selecting a table value. This waveform is time-correlated with other waveforms acquired by the MDA800A oscilloscope and can be used to correlate complex drive behaviors to other control or power system waveforms, and to debug drive system problems. Statistical detail of the measurement set can also be displayed. This additional information goes well beyond what is provided by a Power Analyzer.


HDO6000A **NEW**

Highly Accurate Measurements with 12-Bit HD Oscilloscopes up to 1 GHz, 10 GS/s



HDO6000A uses Teledyne LeCroy's HD4096 high definition true 12-bit technology, long memory, a compact form factor, 12.1" touch screen display, powerful measurement and analysis tools, and mixed signal capability. It is the ideal oscilloscope for circuit validation, system debug and waveform analysis.

The powerful feature set provides analytical tools and unique application packages to streamline the testing process. Tools such as WaveScan Search and Find and History Mode, combined with advanced triggering, identify and isolate problems while Spectrum Analyzer Mode provides analysis tools in the frequency domain.

Key Features

- **12-bit ADC resolution, up to 15-bit with enhanced resolution**
- **350 MHz, 500 MHz, and 1 GHz bandwidths**
- **10 GS/s Sample Rate**
- **Long memory – up to 250 Mpts/Ch**
- **12.1" touch screen display**
- **MAUI with OneTouch Gesture Control**
- **Advanced tools**
 - Spectrum Analyzer Option
 - WaveScan – search and find
 - LabNotebook documentation and report generation
 - History Mode – waveform playback
- **Advanced triggering with TriggerScan and Measurement Trigger**
- **Power Analyzer Option**
- **Serial Data Toolsets**
 - Trigger
 - Decode
 - Measure/Graph
 - Eye Diagram
- **16 digital channels with 1.25 GS/s**
 - Analog and digital cross-pattern triggering
 - Digital pattern search and find
 - Analog and digital timing measurements
- **Wide probe selection for power electronics, embedded electronics, and mechatronics applications**

True 12-Bit Technology

HD4096 high definition technology combines high sample rate 12-bit ADCs, high signal-to-noise input amplifiers and a low-noise system architecture. This technology enables high definition oscilloscopes to capture and display signals of up to 1 GHz with high sample rate and 16 times more resolution than other oscilloscopes.

Long Memory

With up to 250 Mpts/Ch of memory the HDO6000A can capture large amounts of data with more precision than other oscilloscopes. The 10 GS/s, 250 Mpts architecture provides the ability to capture a fast transient or a long acquisition.

Comprehensive Analysis Tools

Advanced math and measurement parameters quantify analog and digital waveforms while tracks, trends and histograms show how they change over time. Advanced triggering with TriggerScan and Measurement Trigger ensures that even the most complicated signals are captured.

Large 12.1" Touch Screen

Navigating complicated user interfaces is a thing of the past thanks to the large touch screen display. The MAUI OneTouch user interface is designed for touch screens, which makes navigating the HDO6000A extremely intuitive. Every aspect of the interface is touchable, making channel, timebase and trigger settings only one touch away.



HDO4000A **NEW**

Low Noise Measurements with True 12-Bit in HD up to 1 GHz, 10 GS/s



Combining HD4096 high definition technology with long memory, a compact form factor, 12.1" touch screen display, powerful debug tools, and mixed signal capability, the HDO4000A is the ideal oscilloscope for precise measurements and fast debugging. Tools such as WaveScan Search and Find, LabNotebook Report Generator, and History Mode help to identify and to isolate problems for faster troubleshooting.



Long Acquisition Window

With up to 50 Mpts of memory the HDO4000A High Definition Oscilloscopes can capture large amounts of data with more precision than other oscilloscopes. The 10 GS/s, 50 Mpts architecture provides the ability to capture a fast transient or a long acquisition.

Large 12.1" Touch Screen

Navigating complicated user interfaces is a thing of the past thanks to the large touch screen display. The MAUI OneTouch user interface is designed for touch screens which makes navigating the HDO4000A extremely intuitive. Every aspect of the interface is touch-

able, making channel, timebase and trigger settings only one touch away.

Compact Form Factor

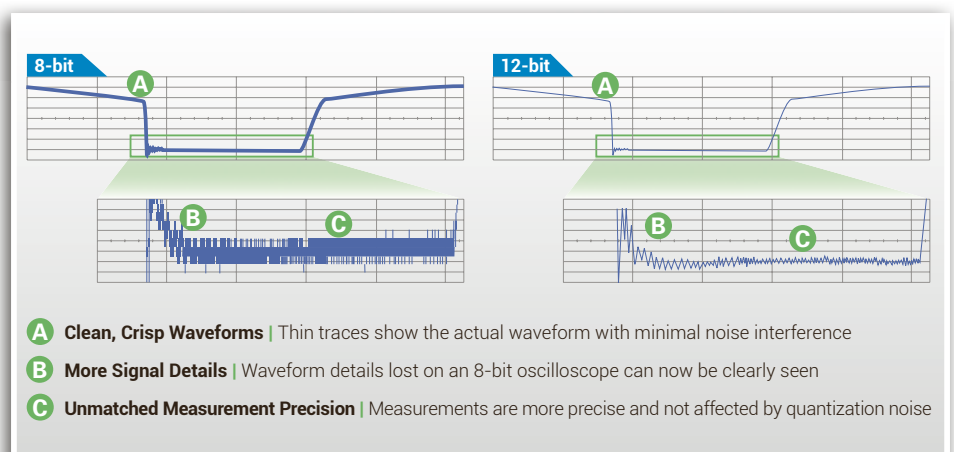
The HDO4000A builds upon Teledyne LeCroy's history of "Large Screen, Small Footprint" with its 12.1" wide touch screen display and a depth of only 5". Additionally, the innovative rotating, tilting feet enable the HDO4000A to be placed in 4 different viewing positions ensuring optimal viewing no matter where it is being positioned in the lab.

Key Features

- 12-bit ADC resolution, up to 15-bit with enhanced resolution
- 200 MHz, 350 MHz, 500 MHz, 1 GHz bandwidths
- 10 GS/s Sample Rate
- Long memory – up to 50 Mpts
- 12.1" touch screen display
- MAUI with OneTouch
 - › Designed for touch
 - › Built for simplicity
 - › Made to solve
- Multi-language user interface
- WaveScan – search and find
- LabNotebook documentation and report generation
- History Mode
- Spectrum Analyzer Option
- Power Analysis Option
- Serial data trigger and decode
- 16 digital channels with 1.25 GS/s
 - › Analog and digital cross-pattern triggering
 - › Digital pattern search and find
 - › Analog and digital timing measurements
 - › Activity indicators

True 12-Bit Technology

HD4096 high definition technology consists of high sample rate 12-bit ADCs, high signal-to-noise input amplifiers and a low-noise system architecture. This technology enables high definition oscilloscopes to capture and display signals of up to 1 GHz with high sample rate and 16 times more resolution than other oscilloscopes.



LabMaster 10 Zi-A

World's Highest Bandwidth Real-Time Oscilloscope 100 GHz, 240 GS/s

Key Features

- Up to 100 GHz bandwidth, 240 GS/s sample rate, 80 Ch, 1.5 Gpts/Ch of analysis memory
- Modular – start with four channels and expand your system over time
- Wide bandwidth upgrade range provides investment protection
- Single trigger circuit for all modules eliminates additive trigger jitter
- Simple – connect and acquire – Teledyne LeCroy has done the hard work for you
- 15.3" widescreen touch screen display – or external monitor with up to WQXGA 2560 x 1600 pixels
- Highly stable timebase over long acquisitions, low jitter and Rj noise floor
- Eye Doctor™ II and Virtual Probe Signal Integrity toolsets provide real-time de-embedding, emulation, and equalization on serial data channels
- Seamless MATLAB analysis – Run custom scripts in real-time
- Superior Analysis Capabilities
 - Eye, Jitter and Noise Analysis with SDAIII-CompleteLinQ
 - Optical Modulation Analysis with Optical-LinQ



The LabMaster 10 Zi-A series of real-time oscilloscopes boasts the world's highest bandwidth and fastest sampling rate at 100 GHz and 240 GS/s. This world-leading performance is key to acquiring, analyzing and understanding the fastest phenomena found in R&D labs, where engineers are working on next-generation communication systems, high bandwidth electrical components and fundamental scientific research.

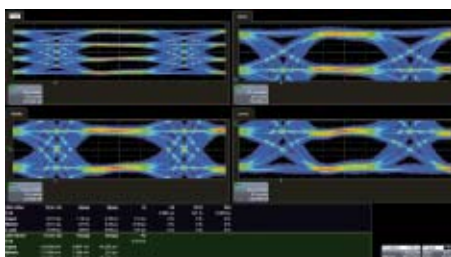
The Fastest Oscilloscope for the Most Demanding Signals

Whether working on communications technology capable of terabit/s symbol rates, analyzing the quickest and most energetic laser pulses, or building links using very high speed NRZ or PAM4 signals, the LabMaster 10 Zi-A Series oscilloscopes can acquire and analyze the waveforms.

Sophisticated Software for Sophisticated Analysis

The LabMaster 10 Zi-A Series offers an extensive set of standard math tools and add-on software packages that

integrate seamlessly into the oscilloscope's MAUI User Interface. LabMaster 10 Zi-A oscilloscopes excel at performing in-depth analysis of complicated signals. For NRZ signals, the SDAIII-CompleteLinQ package compares eye, jitter and noise on up to four lanes simultaneously. With the Optical-LinQ package, analyze coherent optical signals such as DP-QPSK, DP-16QAM. Additionally, the PAM4 Signal Analysis package performs eye, jitter and noise measurements on PAM4 signals. Since the fastest signals often require custom analysis, LabMaster 10 Zi-A also comes standard with the ability to run MATLAB scripts in-stream.



PAM4 signaling is seen as the next step in the evolution of serial data signal formats, allowing two bits of information to be transmitted per UI rather than one.

The Most Powerful, Flexible Optical Toolset

Teledyne LeCroy offers the most complete set of tools available for the development of leading-edge optical communications systems and components. The highest-bandwidth oscilloscopes, highest-performance optical modulation analyzers, and most flexible integrated software enable faster development and reduced time-to-market.



4 GHz – 30 GHz

WaveMaster 8 Zi-B

Exceptional Performance up to 30 GHz, 80 GS/s



Key Features

- Up to 30 GHz bandwidth, 80 GS/s sample rate, 512 Mpts/Ch of analysis memory
- The industry's only true hardware 14.1 Gb/s serial pattern trigger
- Low Jitter Measurement Floor and exceptional timebase stability
- Comprehensive set of serial data analysis, debug, validation and compliance tools
- Integrated 50 Ω and 1 M Ω inputs for true connection and probing flexibility
- Multi-lane serial data eye, jitter and crosstalk analysis
- Real-time de-embedding, emulation, and equalization
- 15.3" touch screen display

WaveMaster 8 Zi-B combines high bandwidth and high sample rate with superior signal fidelity performance and 20 GHz on all four input channels. Availability of models from 4 to 30 GHz with complete bandwidth upgradability throughout the entire product range makes it easy and affordable to stay current with emerging high-speed technologies and serial data standards.

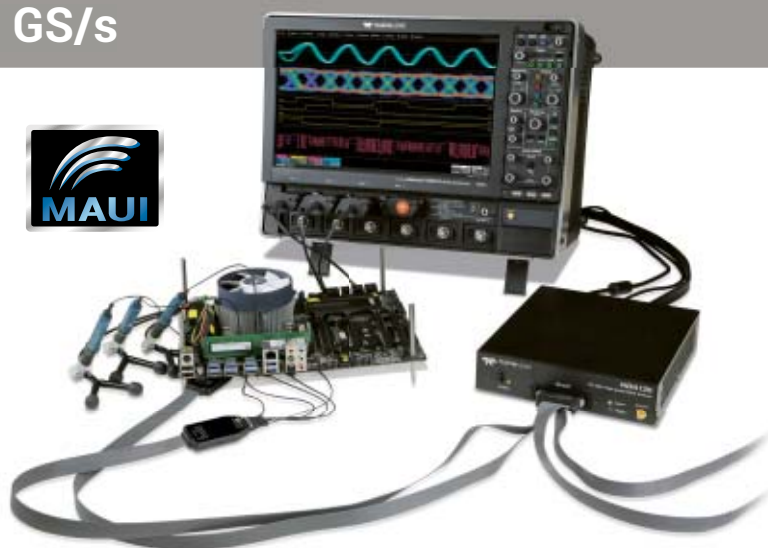
18 Digital Channels at 12.5 GS/s

HDA125

High-Speed Mixed Signal Testing

Key Features

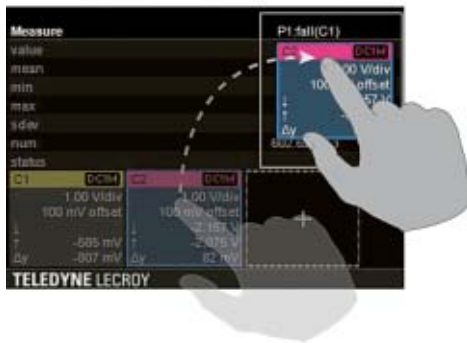
- 12.5 GS/s sampling rate for 80 ps timing accuracy
- 3 GHz leadset for capturing digital signals up to 6 Gb/s
- Unique QuickLink probing system
 - Easy access to difficult test points with differential solder-in tips with 9-inch lead
 - Ultra low loading for superior performance
 - Unmatched acquisition flexibility



The HDA125 transforms your oscilloscope into the highest-performance, most flexible mixed-signal solution for high-speed digital debug and evaluation. With 12.5 GS/s digital sampling rate on 18 input channels, and the revolutionary QuickLink probing solution allowing seamless transitions from digital to high-bandwidth analog acquisitions, validation of challenging interfaces such as DDR4 has never been simpler or more comprehensive.

WaveRunner 8000**Extremely Powerful. Incredibly Easy.**

The WaveRunner 8000 combines a superior oscilloscope experience with an extensive toolbox to shorten debug time. MAUI with OneTouch includes the most unique touch features on any oscilloscope providing unsurpassed efficiency in oscilloscope operation. Offering 500 MHz – 4 GHz of bandwidth, 40 GS/s sample rate, long memory, MAUI – Most Advanced User Interface, and a versatile toolset make the WaveRunner 8000 unbelievably powerful and incredibly easy to use.

**Superior User Experience**

The WaveRunner 8000 with MAUI OneTouch sets the standard for oscilloscope user experience by providing the most unique touch features on any oscilloscope. Common gestures are used to instinctively interact with the oscilloscope and dramatically reduce setup time. Convenience and efficiency are optimized – all common operations can be performed with one touch and do not require opening and closing of pop-up dialogs or menus.

Exceptional Serial Data Tools

A wide variety of application packages are available to meet all serial data test challenges, ranging from automated compliance packages to flexible debug toolkits. A suite of protocol specific measurements and eye diagram packages are available to complement the industry's most intuitive trigger and decode packages.

Powerful, Deep Toolbox

The standard collection of math, measurement, debug, and documentation tools provides unsurpassed analysis capabilities. Application-specific packages enable streamlined debugging for common design/validation scenarios. The advanced customization option (XDEV) enables user-defined parameters and math functions providing unique and limitless analysis capability.

Key Features

- 500 MHz – 4 GHz bandwidths
- Up to 40 GS/s sample rate
- up to 128 Mpts/Ch of analysis memory
- 12.1" touch screen display
- MAUI with OneTouch
 - › Designed for touch
 - › Built for simplicity
 - › Made to solve
- Advanced Tools
 - › Jitter and Timing Analysis Capabilities
 - › WaveScan – Search and Find
 - › LabNotebook Documentation and Report Generation
 - › History Mode – Waveform Playback
- Optional Software Packages
 - › Advanced Customization
 - › Digital Filtering
 - › Spectrum Analysis
 - › Device and Switching Power
- Supply Analysis
 - › Comprehensive set of serial data analysis, debug, validation and compliance tools
- 16 digital channels with 1.25 GS/s
 - › Analog and Digital Cross-Pattern Triggering
 - › Digital Pattern Search and Find
 - › Analog and Digital Timing Measurements
 - › Logic Gate Emulation
 - › Activity Indicators

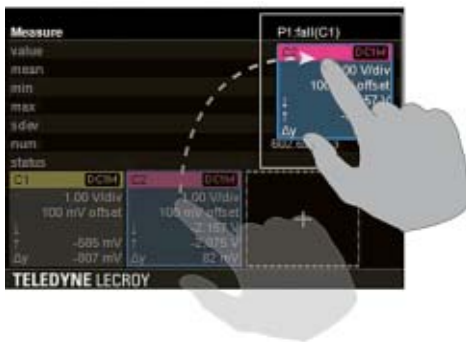


WaveRunner 8000 combines Serial Bus Trigger, Decode, Measure/Graph, and now also Eye Diagrams

WaveSurfer 510

1 GHz Oscilloscope

The WaveSurfer 510 combines the MAUI with OneTouch user interface with powerful waveform processing, in addition to advanced math, measurement, and debug tools, to quickly analyze and find the root cause of problems. The 12.1" touch-screen display of the WaveSurfer 510 is the largest in its class and makes viewing waveform abnormalities fast and easy.



Superior User Experience

The WaveSurfer 510 with MAUI OneTouch sets the standard for oscilloscope user experience by providing the most unique touch features on any oscilloscope. Common gestures are used to instinctively interact with the oscilloscope and dramatically reduce setup time. Convenience and efficiency are optimized – all common operations can be performed with one touch and do not require opening and closing of pop-up dialogs or menus.

Uncompromised Performance

Many 1 GHz oscilloscopes are available at attractive entry-point prices, however, they are often limited in sample rate, memory or features. The WaveSurfer 510 provides uncompromised 1 GHz performance with up to 10 GS/s per channel and 32 Mpts of memory.

Advanced Debug Tools

Advanced debug tools make the WaveSurfer 510 an unparalleled debug and analysis machine providing 10 GS/s sample rate on 4 channels, 32 Mpts of memory, sequence mode, history mode, advanced math functions, and 2 simultaneous math traces.

Capture Debug, Analyze, Document

Easily accessible measurement, math and debug tools, plus a wide variety of serial data protocol decoders, and active probes ensure the WaveSurfer 510 can capture and analyze any type of waveform and simplify the debug process. The LabNotebook tool provides a fast way to save waveforms, save setups and screen images, report results, and view offline.

Key Features

- 1 GHz, 10 GS/s, up to 16 Mpts/ch
- MAUI – advanced user interface
 - › Designed for touch
 - › Built to simplify
 - › Made to solve
- WaveScan – Advanced Search and Find
- LabNotebook Documentation and Report Generation
- History Mode – Waveform Playback
- Sequence Mode Segmented Memory
- Spectrum Analyzer Mode
- Power Analysis Software
- Serial Trigger and Decode
 - › I²C, SPI, UART
 - › CAN, LIN, FlexRay, SENT
 - › Ethernet 10/100BaseT, USB 1.0/1.1/2.0, USB 2.0-HSIC
 - › Audio (I2S, LJ, RJ, TDM)
 - › MIL-STD-1553, ARINC 429
 - › MIPI D-PHY, DigRF 3G, DigRF v4
 - › Manchester, NRZ

WaveSurfer 3000

Designed to Touch, Built for Simplicity, Made to Solve

WaveSurfer 3000 oscilloscopes feature the MAUI advanced user interface with touch screen simplicity to shorten debug time. Quickly identify and isolate anomalies with WaveScan, Fast Display, and History Mode for faster troubleshooting; LabNotebook enables easy documentation and convenient collaboration. The advanced probe interface, upgradable bandwidth and multi-instrument capabilities provide maximum versatility and investment protection.



Key Features

- 200 MHz, 350 MHz, 500, and 750 MHz bandwidths
- Up to 4 GS/s sample rate
- Long memory – 10 Mpts/Ch
- 10.1" touch screen display
- MAUI – advanced user interface
 - › Designed for touch
 - › Built to simplify
 - › Made to solve
- Advanced anomaly detection
 - › Fast waveform update
 - › History Mode
 - › WaveScan
- Superior toolset
 - › LabNotebook
 - › Sequence Mode
 - › Advanced active probe interface
 - › Math and measure
- Multi-instrument capabilities
 - › Protocol analysis – Serial trigger and decode I²C, SPI, UART/RS-232, CAN, CAN FD, LIN, FlexRay
 - › Waveform generation – built-in arbitrary generator
 - › Digital Voltmeter DVM
 - › Logic analysis – 16 channel MSO
- Future proof
 - › Upgradeable bandwidth
 - › Field upgradable software and hardware options

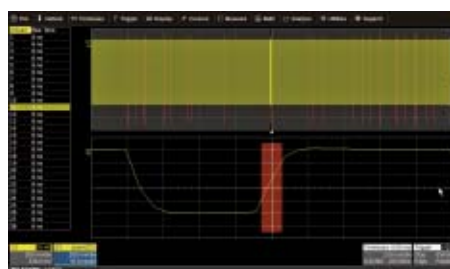
MAUI – A New Wave of Thinking

MAUI advanced user interface is designed for touch. All important controls are accessed through the intuitive touch control. MAUI is made for simplicity; time saving shortcuts and intuitive dialogs simplify setup. MAUI is built to solve. A deep set of debug and analysis tools help identify problems and find solutions quickly.



Advanced Anomaly Detection

Combining a fast waveform update rate of 130,000 waveforms/second with History mode waveform playback and WaveScan search and find, the WaveSurfer 3000 is an outstanding tool for waveform anomaly detection.



Capture, Debug, Analyze, Document

The advanced active probe interface gives tremendous flexibility for capturing all types of signals. Debug, analyze and document problems through the use of powerful math and measurement capabilities, sequence mode segmented memory, and LabNotebook.



Multi-Instrument Capabilities

Beyond traditional oscilloscope functionality the WaveSurfer 3000 has a variety of multi-instrument capabilities including waveform generation with a built-in arbitrary generator, a digital voltmeter DVM, protocol analysis with serial data trigger and decode, and logic analysis with a 16 channel mixed signal option.



OSCILLOSCOPES



LabMaster 10 Zi-A
(SDA/DDA Models)



WaveMaster 8 Zi-B
(SDA/DDA 8 Zi-B)



WavePro 7 Zi-A
(SDA/DDA 7 Zi-A)

Classification	Modular High End Analysis	High End Analysis	High End Analysis
Bandwidth	20 GHz to 100 GHz	4 GHz to 30 GHz	1.5 GHz to 6 GHz
Resolution	8-bit ADC resolution, 11-bit with ERES	8-bit ADC resolution, 11-bit with ERES	8-bit ADC resolution, 11-bit with ERES
Channels	Up to 80	4	4
MSO Characteristics	–	18/36 Ch Low Speed ¹⁾ 9/18 Ch High Speed ⁴⁾	18/36 Ch Low Speed ¹⁾ 9/18 Ch High Speed ⁴⁾
Display	15.3" WXGA Color Touch Screen	15.3" WXGA Color Touch Screen	15.3" WXGA Color Touch Screen
Memory	32 Mpts/Ch to 1.5 Gpts/Ch	64 Mpts to 512 Mpts/Ch	32 Mpts/Ch to 256 Mpts/Ch
Sample Rate	Up to 240 GS/s	Up to 80 GS/s	Up to 40 GS/s
Trigger Types	Basic, SMART, Sequence, High Speed Serial Protocol, Measurement	Basic, SMART, Sequence, High Speed Serial Protocol, Measurement	Basic, SMART, Sequence, High Speed Serial Protocol, Measurement
Serial Data Options	37	37	37
Dimensions (HWD)	MCM-Zi: 277 x 462 x 396 mm LabMaster 10-xxZi Acq. Module: 202 x 462 x 660 mm	355 x 467 x 406 mm	355 x 467 x 289 mm



**HDO4000A/
HDO4000A-MS**



WaveSurfer 510



WaveSurfer 3000



Classification	High Definition Analysis	Bench	Bench
Bandwidth	200 MHz to 1 GHz	1 GHz	200 MHz – 750 MHz
Resolution	12-bit ADC resolution, 15-bit with ERES	8-bit ADC resolution, 11-bit with ERES	8-bit ADC resolution, 11-bit with ERES
Channels	4	4	2 / 4
MSO Characteristics	16 Ch ²⁾	18 Ch or 36 Ch ¹⁾	16 Ch ³⁾
Display	12.1" WXGA Color Touch Screen	12.1" WXGA Color Touch Screen	10.1" Color Touch Screen
Memory	25 Mpts/Ch to 50 Mpts/Ch	16 Mpts/Ch to 32 Mpts/Ch	10 Mpts/Ch
Sample Rate	10 GS/s (12-bit)	10 GS/s	Up to 4 GS/s
Trigger Types	Basic, SMART, Sequence	Basic, SMART, Sequence	Basic, SMART, Sequence
Serial Data Options	23	23	6
Dimensions (HWD)	291 x 399 x 131 mm	316 x 417 x 238 mm	220 x 350 x 145 mm

¹⁾ 18/36 Digital Channels with MS-250/500 Options ²⁾ MS Models ³⁾ 16 Digital Channels with MS-Option ⁴⁾ HDA125 Option



WaveRunner 8000	HDO9000	HDO8000A/ MDA800A	HDO6000A/ HDO6000A-MS
Advanced Analysis	Advanced High Definition Analysis	8-Channel High Definition Analysis	Advanced High Definition Analysis
500 MHz to 4 GHz	1 GHz to 4 GHz	350 MHz to 1 GHz	350 MHz to 1 GHz
8-bit ADC resolution, 11-bit with ERES	10-bit ADC resolution, up to 13.8-bit with optimized filtering	12-bit ADC resolution, 15-bit with ERES	12-bit ADC resolution, 15-bit with ERES
4	4	8	4
16 Ch ³⁾	16 Ch ³⁾ 9/18 Ch High Speed ⁴⁾	16 Ch ³⁾	16 Ch ²⁾
12.1" WXGA Color Touch Screen	15.4" WXGA Color Touch Screen	12.1" WXGA Color Touch Screen	12.1" WXGA Color Touch Screen
32 Mpts/Ch to 128 Mpts/Ch	128 Mpts/Ch	50 Mpts/Ch to 250 Mpts/Ch	50 Mpts/Ch to 250 Mpts/Ch
Up to 40 GS/s	Up to 40 GS/s	10 GS/s (12-bit)	10 GS/s (12-bit)
Basic, SMART, Sequence, Measurement	Basic, SMART, Sequence, Measurement	Basic, SMART, Sequence, Measurement	Basic, SMART, Sequence, Measurement
37	37	24	24
316 x 417 x 238 mm	358 x 445 x 242 mm	374 x 417 x 280 mm	291 x 399 x 131 mm



WaveJet Touch

Bench
350 MHz to 500 MHz
8-bit ADC resolution
4
—
7.5" Color Touch Screen
5 Mpts/Ch
2 GS/s
Standard
3
190 x 295 x 102 mm

Powerful Mixed Signal Test Solutions



MSO-Models

16 Channel, 1.25 GS/s Mixed Signal probe and accessories for the following oscilloscope series:

HDO4000A, HDO6000A, HDO8000A/MDA800A, HDO9000, WR8000, WS3000



MS-250/500

18/36 Channel, 2 GS/s Mixed Signal Oscilloscope Option for the following oscilloscope series:

WM8Zi-B, WP7Zi-A, WR6Zi, HDO9000, WS510



HDA125

12.5 GS/s High-Speed Digital Analyzer with 18 ch QuickLink leadset for the following oscilloscope series:

WM8Zi-B, WP7Zi-A, WR6Zi, HDO9000

OSCILLOSCOPE PROBES

The right probe is essential for accurate signal capture. Teledyne LeCroy offers an extensive range of probes to meet virtually every probing need.

Passive Probes


PP006A	500 MHz, 10:1, 10 M Ω , 600 V Passive Probe
PP007	500 MHz, 10:1, 10 M Ω , 400 V Passive Probe
PP008	500 MHz, 10:1, 10 M Ω , 400 V Passive Probe
PP009	500 MHz, 10:1, 10 M Ω , 400 V Passive Probe
PP010	200 MHz, 10:1, 10 M Ω , 600 V Passive Probe
PP011	500 MHz, 10:1, 10 M Ω , 400 V Passive Probe
PP017	250 MHz, 10:1, 10 M Ω , 600 V Passive Probe
PP018	500 MHz, 10:1, 10 M Ω , 600 V Passive Probe
PP019	250 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP020	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP021	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP022	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP023	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP024	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP025	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe
PP026	500 MHz, 10:1, 10 M Ω , 500 V Passive Probe

[illegible]

Teledyne LeCroy passive probes automatically scale the oscilloscope waveforms without user input. Passive probes are the ideal tool for low frequency signals since circuit loading at these frequencies is minimized. Passive probes are designed to handle voltages of up to 400 V, some as high as 600 V.

ZS Series High Impedance Active Probes

ZS1000	1 GHz, 0.9 pF, 1 MΩ Active Voltage Probe
ZS1500	1.5 GHz, 0.9 pF, 1 MΩ Active Voltage Probe
ZS2500	2.5 GHz, 0.9 pF, 1 MΩ Active Voltage Probe
ZS4000	4 GHz, 0.9 pF, 1 MΩ Active Voltage Probe

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster
						
						
						
						



The ZS Series probes provide high impedance and an extensive set of probe tips and accessories to handle a wide range of probing scenarios. The high 1 M Ω input resistance and low 0.9 pF input capacitance mean this probe is ideal for all frequencies.

Current Probes

CP030A	30A; 50 MHz High Sensitivity Current Probe – AC/DC; 30 A rms; 50 A Peak Pulse
CP030	30 A; 50 MHz Current Probe – AC/DC; 30 A rms; 50 A Peak Pulse
CP031A	30A; 100 MHz High Sensitivity Current Probe – AC/DC; 30 A rms; 50 A Peak Pulse
CP031	30 A; 100 MHz Current Probe – AC/DC; 30 A rms; 50 A Peak Pulse
CP150	150 A, 10 MHz Current Probe – AC/DC; 150 A rms, 500 A Peak Pulse
CP500	500 A, 2 MHz Current Probe – AC/DC; 500 A rms, 700 A Peak Pulse















































































































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Available current probes reach bandwidths of 100 MHz, peak currents of 700 A and sensitivities of 1 mA/div. Use multiple current probes to make measurements on three phase systems or a single current probe with a voltage probe to make instantaneous power measurements.

Highlight – High sensitivity current probes for accurate measurements down to 1 mA/div

Differential Probes

ZD200	200 MHz, 3.5 pF, 1 M Ω Active Differential Probe, ± 20 V
ZD500	500 MHz, 1.0 pF Active Differential Probe, ± 8 V
ZD1000	1 GHz, 1.0 pF Active Differential Probe, ± 8 V
ZD1500	1.5 GHz, 1.0 pF Active Differential Probe, ± 8 V

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster
						
						
						
						
						
						
						
						
						
						
						
						
						
						
						
						
						
						



High bandwidth, excellent common-mode rejection ratio (CMRR) and low noise make these active differential probes ideal for applications such as automotive development (e.g. CAN) and failure analysis, as well as wireless and data communication design.

Active Voltage/Power Rail Probe **NEW**

RP4030 4 GHz bandwidth, 1.2x attenuation, ± 30 V offset, ± 800 mV

WaveJet
WaveSurfer
HDO
WaveRunner
WavePro
WaveMaster
LabMaster



Specifically designed to probe a low impedance power/voltage rail. The RP4030 has 30 V built-in offset adjust, low attenuation (noise), and high DC input impedance with 4 GHz of bandwidth and a wide assortment of tips and leads, including solder-in and U.FL receptacle connections.

High Voltage Fiber Optically-Isolated Probe **NEW**

HVFO103 60 MHz, Superior Noise and Rejection (140 dB CMRR)

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster



The HVFO103 is a compact, simple, affordable probe for measurement of small signals (gate-drives, sensors, etc.) floating on an HV bus in power electronics designs, or for EMC, EFT, ESD, and RF immunity testing sensor monitoring. Suitable for up to 35 kV common-mode. 140 dB CMRR.

High Voltage Differential Probes

ADP300 20 MHz High-Voltage Differential Probe, 1,400 V

HVD3102 25 MHz High Voltage Differential Probe, 1,500 V_{p-p} Differential Voltage Range

ADP305 100 MHz High-Voltage Differential Probe, 1,400 V

HVD3106 120 MHz High Voltage Differential Probe, 1,500 V_{p-p} Differential Voltage Range

HVD3106-6M 80 MHz High Voltage Differential Probe, 1,500 V_{p-p} Differential Voltage Range, 6 m cable

HVD3206 2 kV, 120 MHz High Voltage Differential Probe

HVD3605 6 kV, 100 MHz High Voltage Differential Probe

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster



Low cost active differential probes are intended for measuring higher voltages. The differential techniques employed permit measurements to be taken at two points in a circuit without reference to the ground, allowing the oscilloscope to be safely grounded without the use of opto-isolators or isolating transformers.

High Voltage Passive Probes

HVP120 400 MHz High Voltage Passive Probe, 900 ps Rise time, 1000 V_{rms} Max. Input, Up to 6 kV Transient Overvoltage

PPE4KV 400 MHz, 100:1, 50 MΩ High-Voltage Probe 4kV Max. Volt. DC

PPE5KV 400 MHz, 100:1, 50 MΩ High-Voltage Probe 5kV Max. Volt. DC

PPE6KV 400 MHz, 1000:1, 5 MΩ/50 MΩ High-Voltage Probe, 6kV Max. Volt. DC

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster



The High Voltage Passive Probes product range includes fixed-attenuation probes covering a range from 1 kV to 6 kV. All fixed-attenuation, standard probes automatically rescale compatible Teledyne LeCroy oscilloscopes for the appropriate attenuation of the probe.

High Performance Differential Amplifier

DA1855A 1 Ch, 100 MHz Differential Amplifier with Precision Voltage Source

DA1855-PR2 2 Ch, 100 MHz, Differential Amplifier with Precision Voltage Source

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster



The DA1855A is a stand-alone, high-performance differential amplifier providing the fastest overdrive recovery of any commercially available product. This unique capability allows the amplifier to make measurements that would normally be limited by oscilloscope overdrive recovery.

WaveLink® Differential Probes (4 GHz – 25 GHz)

D610/D620, D410/D420, D600A-AT, D400A-AT, D610-PS, D620-PS, D410-PS, D420-PS 4 GHz – 6 GHz

D830, D830-PS, D1030, D1030-PS, D1330, D1330-PS, D1305-A, D1305-A-PS, 8 GHz – 13 GHz

D1605-A, D1605-A-PS, D2005-A, D2005-APS, D2505-A, D2505-A-PS 16 GHz – 25 GHz

WaveJet	WaveSurfer	HDO	WaveRunner	WavePro	WaveMaster	LabMaster



WaveLink® probes provide industry leading technology for wideband signal connection to test instruments. The first differential probes to employ SiGe technology, they deliver full system bandwidth of the connected oscilloscopes up to 25 GHz.

Verify with Insight on message layer

Teledyne LeCroy is a leading provider of protocol analyzers, exercisers/emulators, jammers and verification tools for existing and emerging digital communications standards. Designed to generate, capture, and analyze high-speed communications traffic, Teledyne LeCroy's tools help developers to discover and correct persistent and intermittent errors and flaws in their product design.



Frontline Test Equipment

The Market Leader in Analysis and Test Tools for Wireless Protocols including **Bluetooth®**, **802.11 (Wi-Fi)**, and **Near Field Communication (FNC)**.

- Bluetooth Analyzers
- NFC Analyzer
- USB Analyzer
- 802.11 Analyzer
- SD/SDIO Analyzer
- HSU Analyzer

frontline
Debug Communications Faster™



Quantum Data

The Market Leader in Analysis and Test Tools for Video Protocols, including **HDMI** and **SDI**.

- Analyzers & Generators for
 - HDMI
 - SDI
 - MHL
 - DVI
 - DisplayPort
 - Analog RGB & Component Analysis

quantumdata



Teledyne Test Systems



Critical Valve Testing – OEM Torque Sensory & Load Cells – Automotive Torque Testing

With a lineage dating back to the 1930s, the Test Services business unit of Teledyne Instruments has a reputation for high-quality, cost-effective products and technical support services. We have provided equipment and analytical services for use in hostile environments, including temperatures greater than 550 degrees C and ocean depths of 7 kilometers. Our transducers are found in highly diverse applications such as on the Space Shuttle robotic arm, deep-sea oil-drilling risers, natural-gas storage tanks, automobile test vehicles and nuclear power plant valves.