TELEDYNE LECROY
Everywhereyoulook™

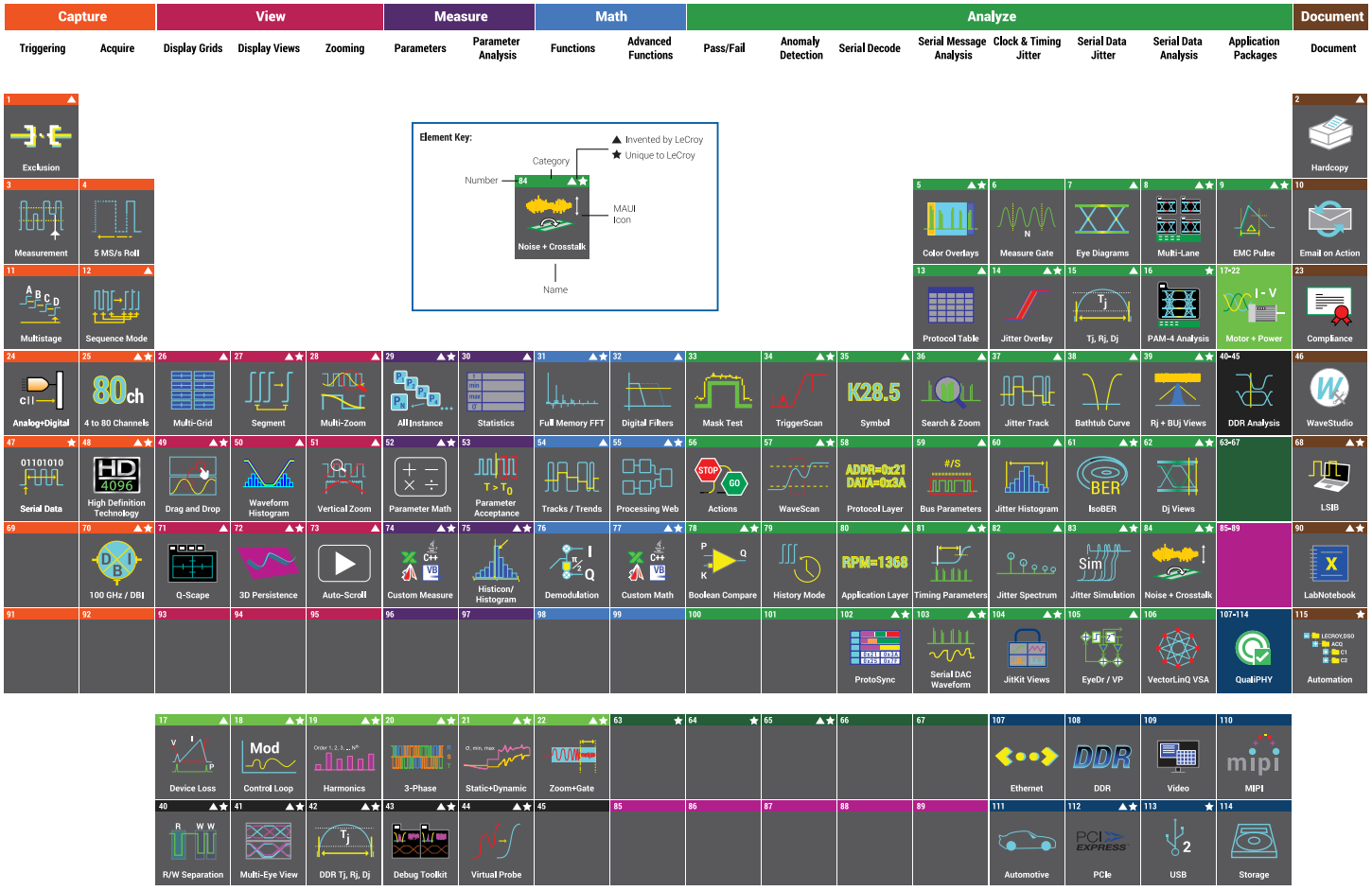
Oscilloscope Features, Options and Accessories

HDO6000B
WaveRunner/MDA 8000HD
WaveRunner 9000
WavePro HD
WaveMaster/SDA 8000HD
WaveMaster/SDA 8 Zi-B
LabMaster 10 Zi-A

POWERFUL, DEEP TOOLBOX

Our “powerful, deep toolbox” starts with all the standard tools listed on the following pages. These standard tools provide exceptional capabilities for Measure & Math, Statistical Analysis, Anomaly Detection, basic Jitter Analysis, Spectrum Analysis—nearly any type of waveform analysis you can name.

Software options integrate seamlessly with the standard tools to extend your capabilities into a wide variety of applications. Our MAUI® with OneTouch user interface and deep toolbox are consistently applied across product lines ranging in bandwidth from 100 MHz to 65 GHz, providing a unified user-experience and set of debug, validation and analysis capabilities that is unique in the industry.



Our heritage

Teledyne LeCroy’s 50+ year heritage is in processing long records to extract meaningful insight. We invented the digital oscilloscope and many of the additional waveshape analysis tools.

Our obsession

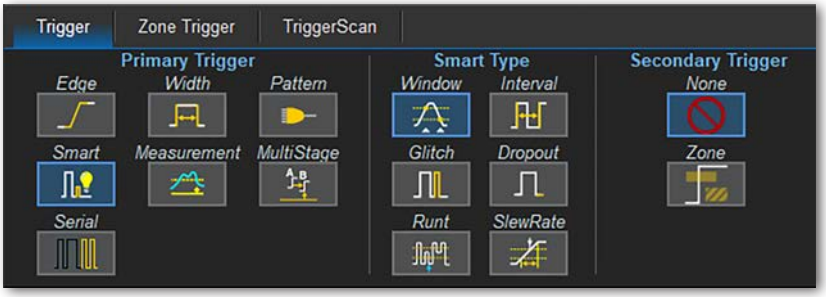
Our tools and operating philosophy are standardized across much of our product line. This deep toolbox inspires insight; and your moment of insight is our reward.

Our invitation

Our Periodic Table of Oscilloscope Tools explains the toolsets that Teledyne LeCroy has deployed in our oscilloscopes. Visit our interactive website to learn more about them. **teledynelecroy.com/tools**

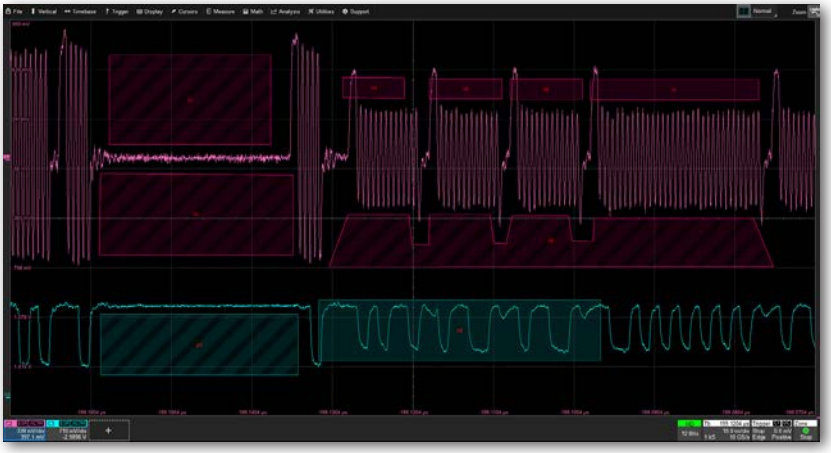
Our Probe Catalog showcases even more accessories for use with your Teledyne LeCroy oscilloscope. Go to **teledynelecroy.com/probes** to download a copy.

WAVEFORM CAPTURE



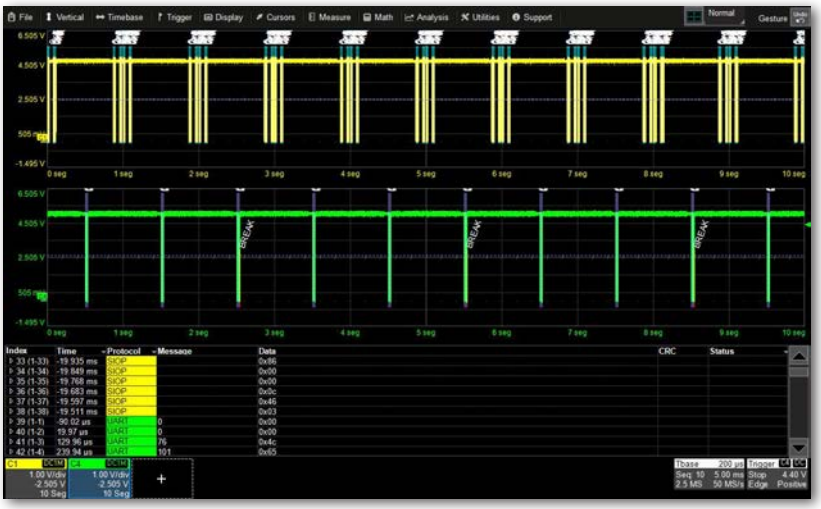
Advanced Triggering

- Multi-stage triggers permit complex qualification of multiple waveform events.
- Smart Triggers® find anomalies such as runts, glitches and dropouts, or incorrect time intervals, slew rates and windows.
- Pattern Triggers permit AND, NAND, OR, or NOR qualification of parallel patterns across analog channels and digital lines.
- Measurement triggers utilize included oscilloscope measurements.
- Serial TDME software options add protocol-specific triggers to the standard set.



Zone Trigger
(ZONETRIGGER Option)

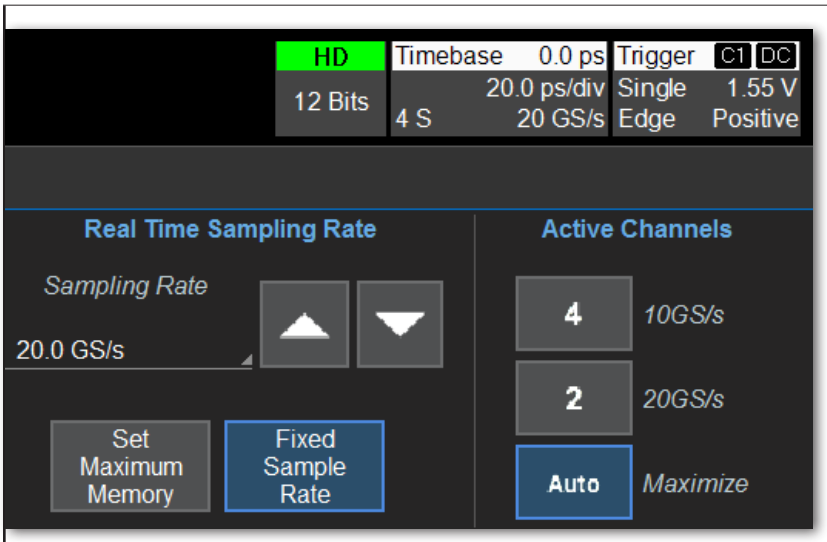
- Simple, graphical drawing tool enables easy triggering on complex signals.
- Quickly tap and draw a wide range of custom or rectangular shapes.
- Visual indicators provide real-time post triggering status.
- Pass-Thru mode reduces troubleshooting and set up time.
- Available on 12-bit HDO/HD Windows oscilloscopes.



Flexible Sampling Modes

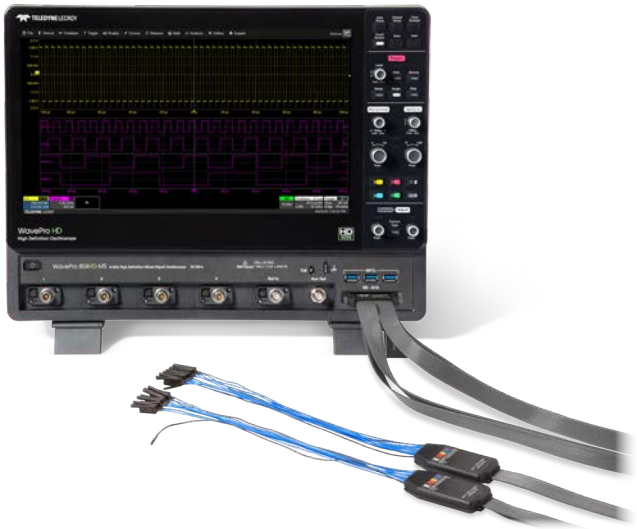
- Sequence Mode provides efficient use of acquisition memory to capture hundreds or thousands of acquisition segments without “dead-time” between.
- Roll Mode displays acquired sample points “rolling” continuously from right to left at sample rates up to 5 MS/s.
- Random Interleaved Sampling (RIS) Mode allows effective sampling rates higher than the maximum single-shot sampling rate (on supported models.)

WAVEFORM CAPTURE



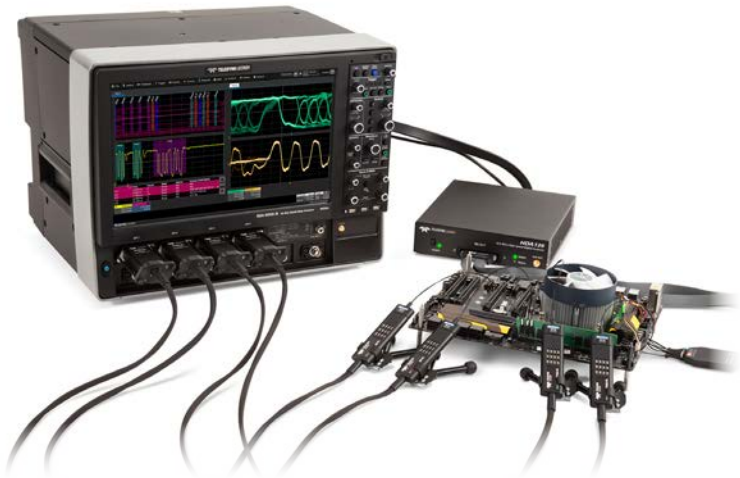
Acquisition Memory Upgrades
(Oscilloscope Options)

- Standard acquisition memory permits long waveform capture times at high sample rates.
- Interleaving doubles the acquisition memory and sample rate (on supported models).
- Memory upgrades available for most oscilloscope models—up to 8 Gpts/channel on some models.



Mixed Signal Solutions
(-MS Models/MSO Oscilloscope Option)

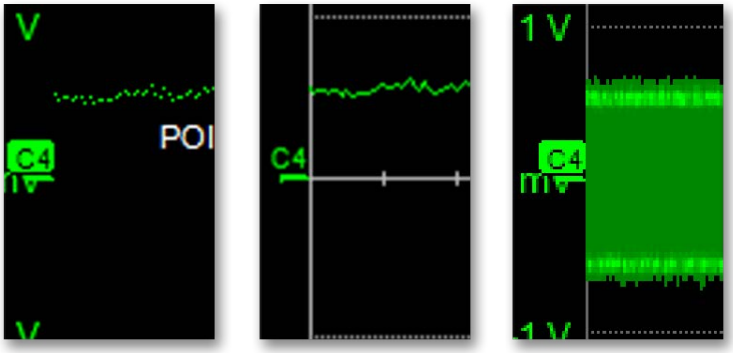
- Integrated Mixed Signal interface enables 16 lines of digital input at 1.25 or 2.5 GS/s.
- Flexible analog and digital cross-pattern triggering across all analog or digital channels.
- Utilize digital inputs for low-speed serial triggering or capture/decode.
- Provides advanced digital debug tools such as parallel pattern search, measurements, and simulation.
- MS-500-36 external logic pod provides similar capabilities.



HDA125 High Speed Digital Analyzer
(Optional Hardware)

- 9- or 18-channel models available.
- 12.5 GS/s sampling rate for 80 ps timing accuracy.
- 3 GHz leadset for capturing digital signals up to 6 Gb/s .
- QuickLink probing system with differential solder-in tips works with both HDA125 digital leadset and analog differential probes.
- Ideal for R/W separation in DDR Debug Toolkit and QualiPHY compliance test software.

COMPREHENSIVE WAVEFORM VIEWING

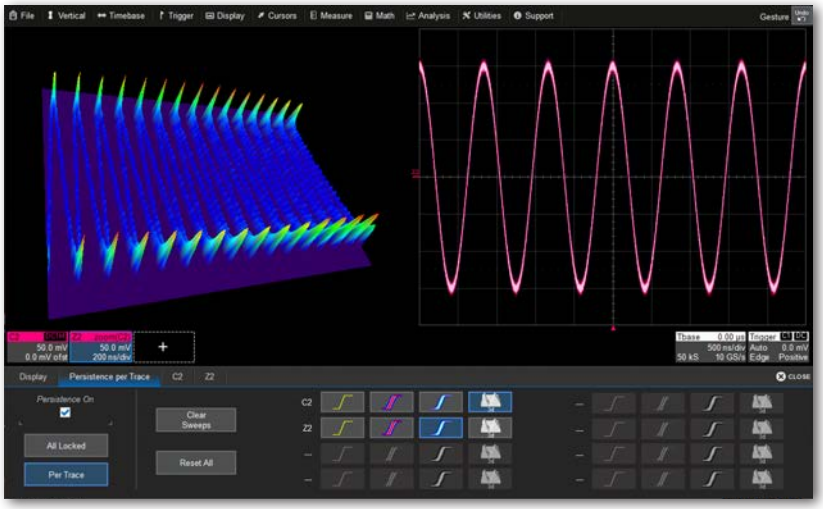


Configurable Displays

- Show/hide axis labels next to grid divisions.
- Add custom trace labels to mark points of interest on waveform.
- Adjust trace intensity to highlight rare or more frequent events in captured waveforms.
- Change intensity of grid lines relative to waveform traces.
- Choose style of waveform traces: series of dots or joined lines.

Multi-Grid Display

- Maintains full vertical resolution when acquired waveforms are minimized in height.
- Many different multi-grid display selections, including X-Y and side-by-side.
- Completely user configurable—use drag-and-drop to arrange traces as desired.
- Locate any Channel, Math, Zoom, Memory, etc. trace in any grid location.



Display Persistence

- Build persistence maps from multiple acquisitions to understand how waveforms change over time.
- Select single-color analog or full-color displays.
- Generate 3D displays of persistence maps, and rotate 3D persistence maps on three axes.
- Global or independent (per-trace) persistence settings.
- Persistence (waveform) histogram capability for both Vertical and Horizontal.

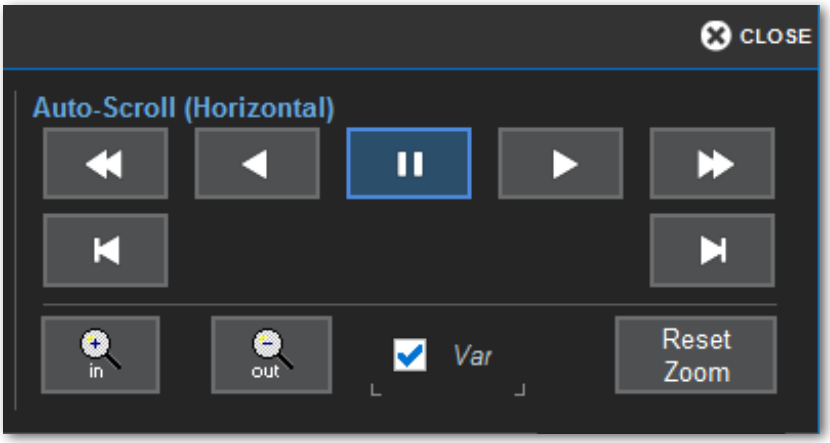
COMPREHENSIVE WAVEFORM VIEWING

Segment Waveform Display

- Show Sequence Mode acquisition segments in five different display modes.
- Adjacent shows segments sequentially, similar to a real-time waveform but without dead-time.
- Overlay mimics persistence by stacking all segments on top of each other, time synchronized.
- Waterfall, Mosaic and Perspective place segments in close proximity for comparison.

Comprehensive Zooming Capabilities

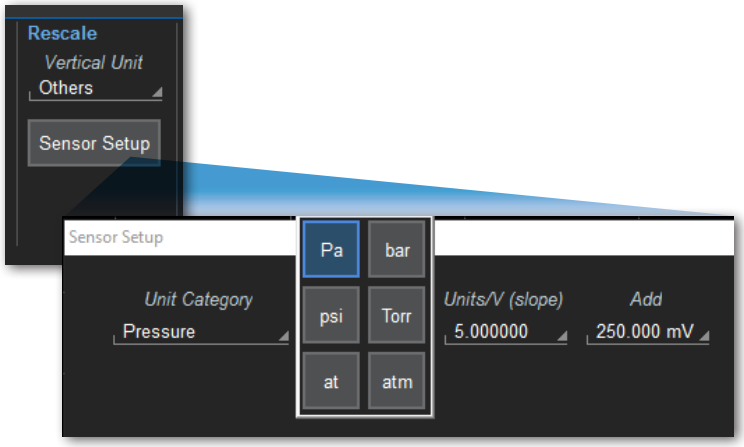
- Quick Zoom all waveforms with a single button press, or touch-and-drag over a trace to create individual zooms.
- Zoom both vertically and horizontally.
- Create time-locked, Multi-Zoom groups, then track all zooms together.
- Touch result tables (Serial Decode, History, WaveScan, etc.) to zoom that part of the source waveform.



Auto Scroll

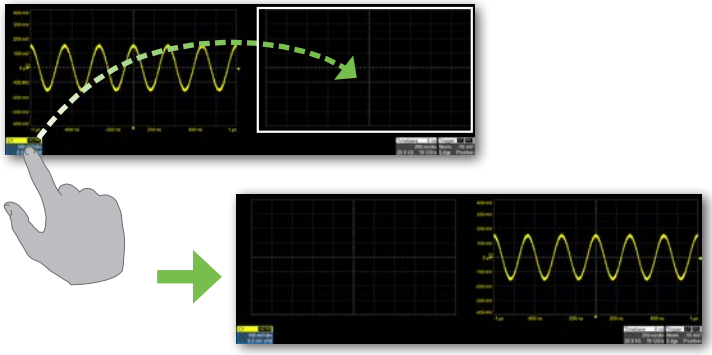
- Auto Scroll applies zoom to navigating History, WaveScan and Decoder search results.
- Automatically scroll through acquisition record without manual knob turning.
- Forward or reverse direction at fast or slow speeds, single-stepped or continuous motion.

COMPREHENSIVE WAVEFORM VIEWING



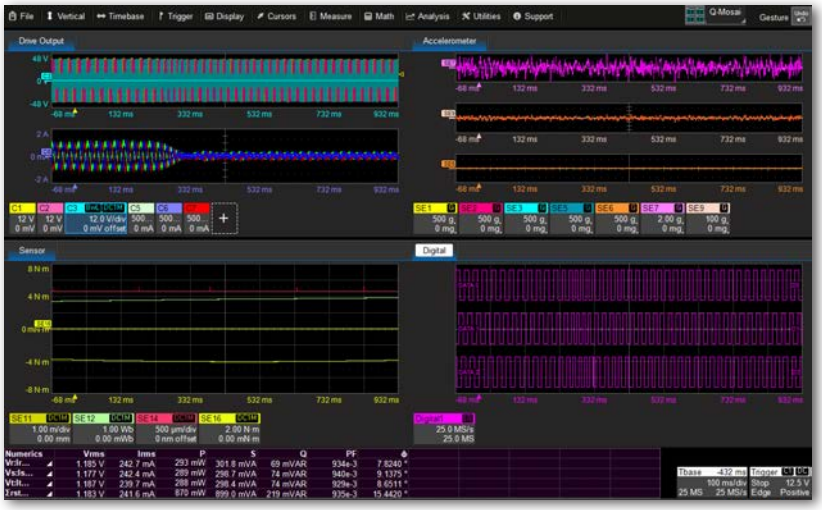
Channel Rescaling and Unit Conversion

- Change the displayed Vertical Scale of any channel or sensor trace using a custom multiplier and/or additive constant.
- Convert to over 65 SI and English units conveniently in chanel setup dialog.
- Math trace units intelligently converted based on input trace units and operation.
- Change the displayed Vertical Scale by entering a user-defined table of calibration data, ideal for non-linear electrical and magnetic field transducers (included with some optional software packages).



MAUI with OneTouch

- Most Advanced User Interface—designed for touch, built for simplicity and made to solve.
- Use gestures to change setups, often with just one touch.
- Swipe to pan traces and lists.
- Drag to add new trace, copy measurement, or change source.
- Drag to move trace to new grid.
- Flick to remove traces and measurements.
- Pinch/unpinch traces to “zoom” in and out.



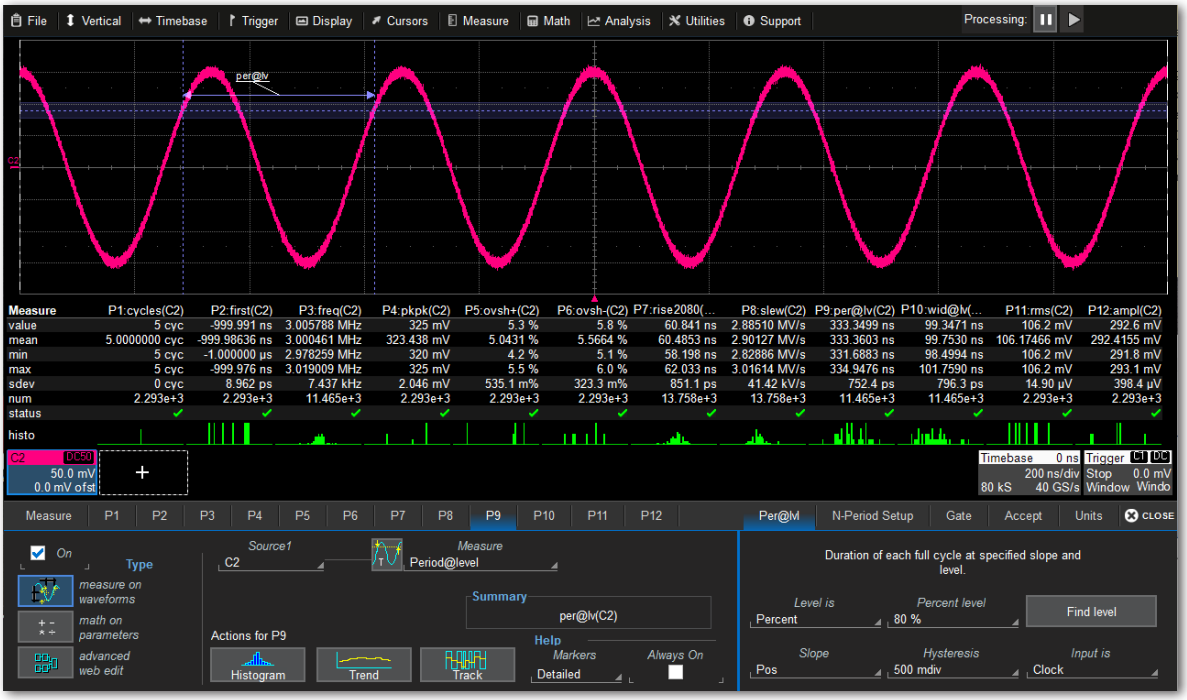
Q-Scape Multi-Tab Display

- Divide the screen into four display tabs to maximize your viewing area.
- Arrange tabs to facilitate waveform comparison: Single (stacked tabs), Dual (side-by-side tabs) or Mosaic (all tabs displayed).
- Configure each tab with different grid modes.
- Drag traces to different tabs just as you can drag them to different grids.
- Standard on all WaveRunner 8000HD and MDA 8000HD models; optional on others.

ADVANCED MEASURE & MATH

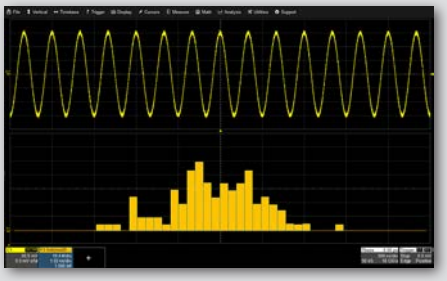
Advanced Measure

Configure up-to-12 parameters using the industry's most extensive set of standard measurements. Use custom scripts of your creation, perform math on measurement parameters, or create complex processing webs using Advanced Web Edit.



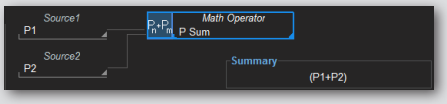
1. All-instance measurements for each acquisition
2. Full statistics (up-to-2 billion events)
3. Histicons provide snapshot and Histograms provide detail of statistical distribution
4. Simple/detailed Help Markers
5. Independent measurement gate for each parameter
6. Measurement Parameter Math
7. Measurement rescaling and unit conversion
8. User-defined measurement accept
9. Cyclic calculation of vertical parameters
10. Advanced Web Edit for complex measurements

Measurement Histograms & Statistics



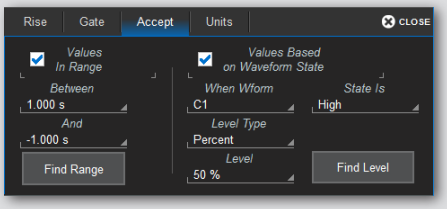
Histogram any measurement for quick visualization of statistical distribution. Apply special measurements to histogram plots for further statistical analysis.

Measurement Parameter Math



Add, subtract, multiply and divide parameters with each other or a constant. Rescale the measured parameter values.

Measurement Accept Capability



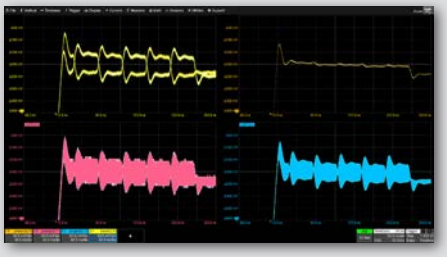
Only "accept" and display the measurement result if values are within a stated range or within another defined waveform state.

Advanced Math

Configure up-to-12 math functions using the industry's most extensive set of standard math operators. As with Measure, you can use custom scripts and algorithms of your creation, or create complex processing webs.

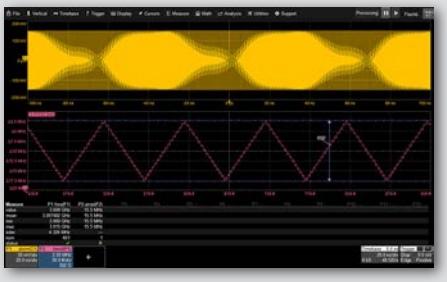
1. Dual-operator functions chain two operations
2. Advanced Web Edit for more complex functions
3. Use custom scripts in oscilloscope's real-time processing stream—MATLAB, Excel, C/C++, or VBS scripts supported (with XDEV option)
4. Vertically zoom math waveforms independently
5. Math waveform units intelligently rescaled and converted based on input trace units and operation
6. Graph histogram, track or trend of measurement
7. Plot X-Y waveforms (on supported models)

Persistence Trace and Histogram



Create math waveforms that show persistence mean (top right), range (bottom left) or standard deviation (bottom right) of multiple acquired waveforms. Waveforms are data and can be used as input for math, measure, pass/fail testing, etc.

Track & Trend Graphing



Use Track to show variation of a measurement parameter over time, time-correlated with original acquisition. Use Trend for chart recorder-like capabilities on the oscilloscope.

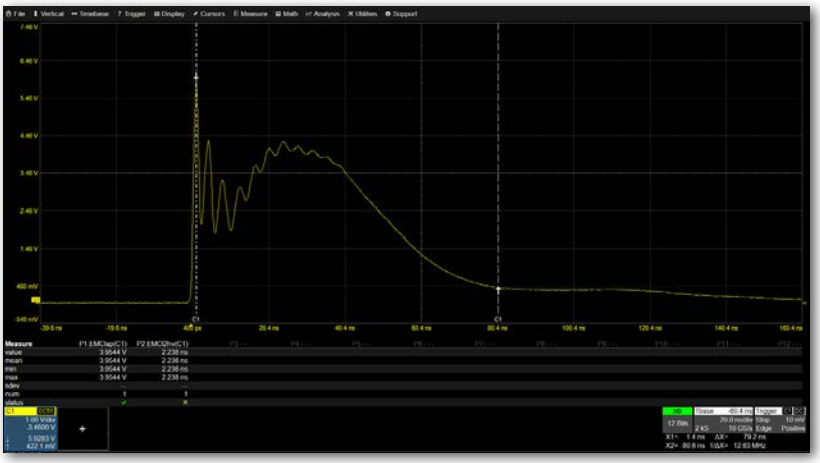
Advanced Web Edit

Create complex measurement or math processing "webs" using standard measurement parameters, math functions, custom scripts (with XDEV option) or any combination thereof. Unlimited chaining of operations permitted.

ADVANCED MEASURE & MATH

Digital Filter Package
(DFP2 Software Option)

- Optional package of 13 IIR and FIR filters added to the set of Math operators.
- Apply filters to eliminate undesired spectral components and enhance the ability to examine important signal components.
- Filters include: Low-pass, High-pass, Band-pass, Band-stop, Raised Cosine, Raised Root Cosine, Gaussian and Custom.
- IIR filters permit Butterworth, Chebyshev, Inverse Chebyshev or Bessel type selection.



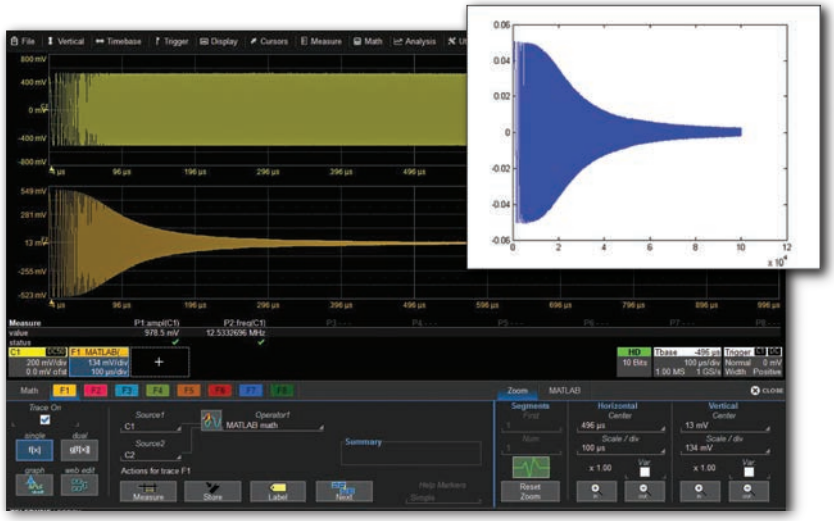
EMC Pulse Parameter Package
(EMC Software Option)

- Ignore undershoot, overshoot or tail perturbations when measuring EMC/ESD pulses.
- Set level for @level parameters using actual Peak-to-Peak, 0V - Max, or 0V – Min.
- Adds customizable measurements for EMC Level After Pulse and EMC Time to Half Value.

ADVANCED MEASURE & MATH

FFT Frequency Analysis

- Full record length FFT (500 Mpts).
- Best resolution bandwidth possible.
- Select for Magnitude, Phase, Power Spectrum, Power Density, Real, Imaginary or Magnitude Squared.
- Five different Window selections.
- Provides highest SNR when used with 12-bit HD4096 oscilloscopes.
- FFT averaging.



Advanced Customization
(XDEV Software Option)

- Insert proprietary measurements and math functions directly into oscilloscope's processing stream using scripts, then view results in real time.
- Create plug-ins that add multiple processes with custom user interfaces.
- Support for VBScript, JavaScript, MATLAB® Script, MathCad Script, Excel® VBA, C/C++.
- Standard on WaveMaster 8 Zi and LabMaster models, available as an option on others.

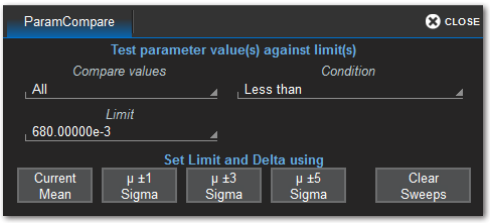
ADVANCED ANOMALY DETECTION

PASS/FAIL Testing

Test waveforms against a custom set of up-to-12 unique “queries” consisting of waveform mask limits, a single parameter comparison or a dual parameter comparison. Define test “PASS” or “FAIL” using complex Boolean criteria involving multiple queries. Start/stop testing after defined number of sweeps, or run indefinitely.

Mask Testing

- Test waveforms against industry-standard or custom masks.
- Easily create new masks from “golden” waveforms.
- Mask violations clearly marked on waveform.



Parameter Compare with Boolean Conditions

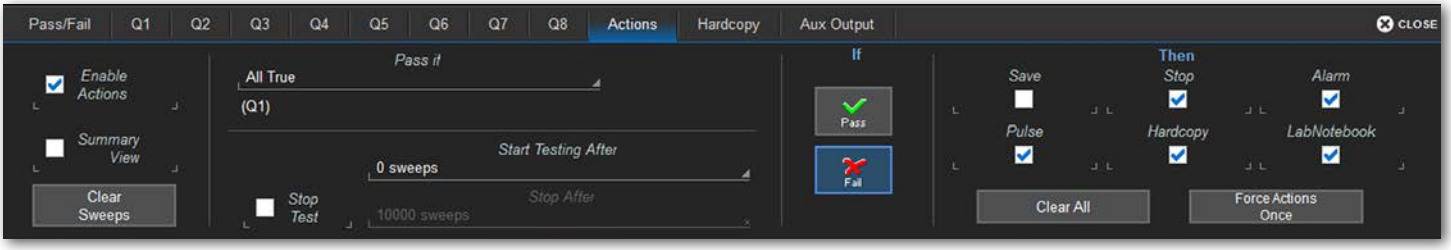
- Test parameter measurement result against a limit or a second measurement, using a wide variety of conditions.
- Define “PASS” or “FAIL” query using complex Boolean criteria.
- Set criteria using absolute values/ranges, Mean or Sigma.

Intuitive Results Display

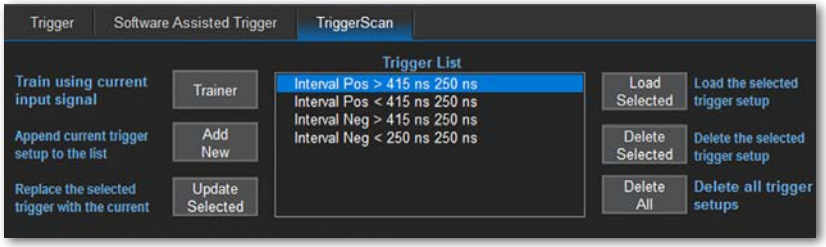
- Test queries all shown on intuitive table, with active queries highlighted.
- PASS or FAIL results over number of sweeps clearly displayed.

Actions

Choose one or more Actions to take when a test is passed or failed: save waveform data, save a screen image, save a LabNotebook, sound an alarm signal, send a pulse or stop acquisition.



ADVANCED ANOMALY DETECTION



TriggerScan®

- "Train" on the type of events found in your signals and automatically configures triggers designed to find those events.
- Edit generated triggers, or manually add triggers to setup.
- Save triggers as setup files for sharing, storage and quick reloading.
- Save only the triggers you want in discrete sets for different projects.

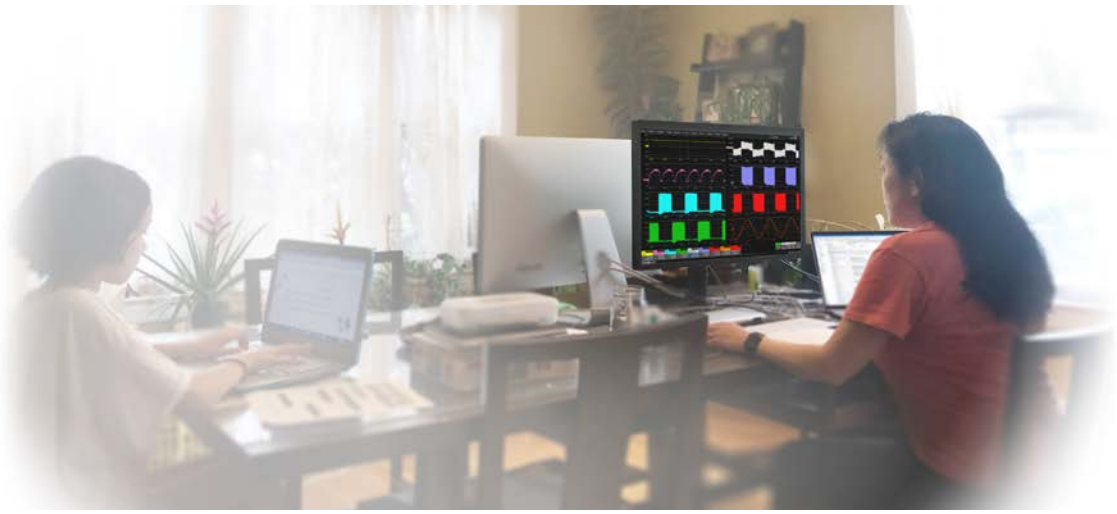
WaveScan® Advanced Search

- Search analog, digital or parallel bus signals using more than 20 different criteria, isolating events hardware triggers alone can't find, like frequencies.
- Set up a condition and scan single or multiple acquisitions over hours or days.
- Touch timestamped WaveScan table to zoom to that event.
- ScanOverlay view marks events on the waveform with color overlays; ScanHistogram view shows statistical distribution of events.

History Mode Waveform Playback

- Never miss a waveform: History Mode stores a buffer of acquisitions for later viewing and analysis.
- Always enabled and easily accessible.
- Touch timestamped History table to display a specific acquisition.
- Cursor readouts and Measure table reflect the visible acquisition.
- Available on HDO6000B, WaveRunner 8000HD, MDA 8000HD, WaveRunner 9000, WavePro HD and WaveMaster 8000HD.

REMOTE CONTROL & CONNECTIVITY



MAUI Studio puts the Teledyne LeCroy MAUI oscilloscope software on your desktop for offline analysis of waveforms and remote control of Teledyne LeCroy oscilloscopes. Work from home or while travelling. Supports Ethernet (TCP/IP) connection only.

MAUI Studio (complimentary)

- Simulates interface of HDO4000A oscilloscopes.
- Import LabNotebooks, trace files *and* other vendors' waveform files (Tek, Keysight, Rohde & Schwarz, Yokogawa) and analyze anywhere.

MAUI Studio Pro (optional with free 30-day trial)

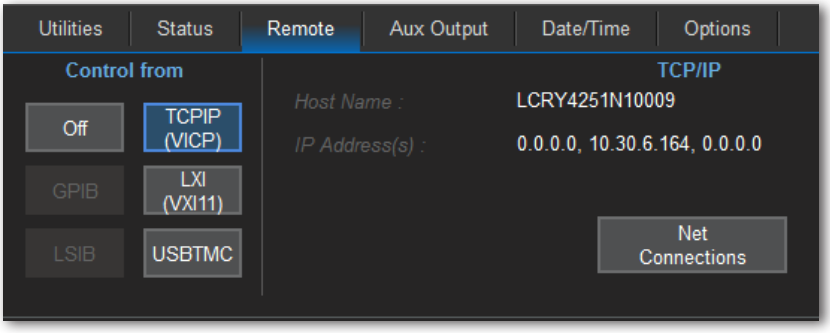
- Simulates oscilloscope interface of your choice.
- Import LabNotebooks, trace files *and* other vendors' waveform files (Tek, Keysight, Rohde & Schwarz, Yokogawa) and analyze anywhere.
- Enhanced LabNotebook replicates source oscilloscope model type and software options with no additional purchase.
- Remote control Teledyne LeCroy oscilloscopes over Ethernet using all the connected oscilloscope's software options.
- Arbitrary Function Generator lets you simulate waveforms with custom noise/jitter characteristics.
- Included with QPHY2-PC option for QualiPHY 2 products to enable offline compliance testing.

PC Requirements

- x64 Windows 10 Pro operating system
- Intel® CoreTM i7 Processor or better, 2.4 GHz or higher
- 4 GB RAM or better
- 2 GB or more available free space for the installed application
- Minimum 1280x780 pixel display, 1920x1080 recommended

Note: The host PC must have an active internet connection to download and register MAUI Studio software.

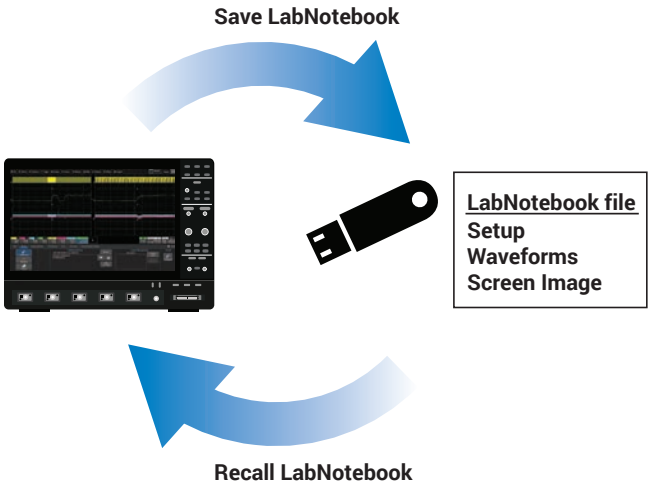
Download at teledynelecroy.com/mauistudio



Microsoft COM Automation and IEEE 488.2 Remote Control

- Connect to oscilloscope via TCP/IP, LXI, USBTMC or GPIB (with optional card/adapter).
- Remote interface via DCOM, ActiveDSO (proprietary ActiveX control) or NI-VISA.
- Proprietary set of IEEE 488.2 remote commands supported on all oscilloscopes.
- Support for COM Automation embedded in IEEE 488.2 remote control programs.

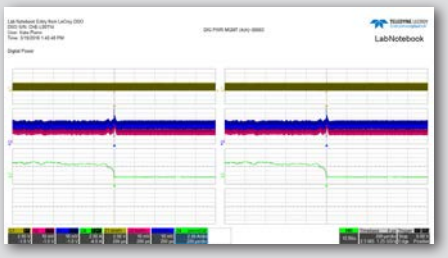
DOCUMENTATION & DATA SHARING



LabNotebook

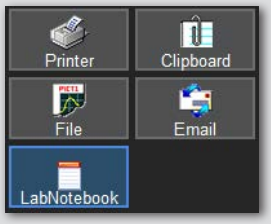
- Store all setups, waveforms and screen image in a single LabNotebook file.
- Add descriptive notes to LabNotebooks, or mark up screen images.
- Recall ("Flashback") LabNotebooks to restore oscilloscope to past state—including all setups, waveforms and table data.
- Extract component files from .LNB format files, or append other files to .LNB.

Generate Reports



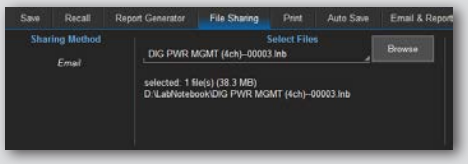
Generate preformatted .PDF, .RTF or .HTML reports from saved LabNotebooks or the oscilloscope current state. Reports can show your company logo or use Print color palette to save ink/toner.

Print/Save

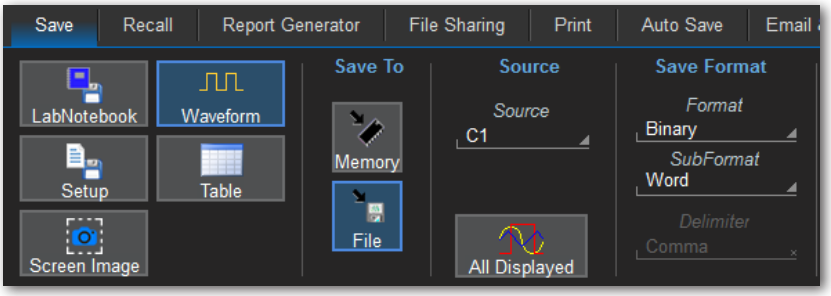


Configure front panel button to create a LabNotebook or screen image file with one press.

Email



Email LabNotebooks and other files from the oscilloscope. Preset the recipient address to save time.



Save/Recall

- Save all setups/waveforms to file or internal memory; recall to quickly set up oscilloscope or analyze waveforms further.
- Capture screen image and save to .JPG, .PNG, .TIF or .BMP file.
- Save table data to Excel or text file for storage and sharing.
- Auto Save waveform and table data to file with each trigger.
- Save/recall files from any network folder accessible to the oscilloscope.

STANDARD TOOLBOX AVAILABILITY

● = standard, o = available as an option

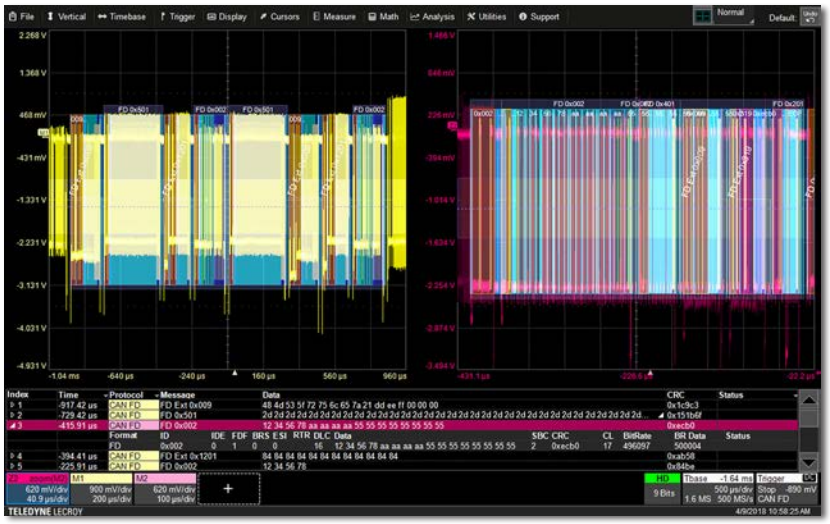
	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD SDA 8000HD	WaveMaster 8 Zi-B SDA 8 Zi-B	LabMaster 10 Zi-A
Waveform Acquisition							
Advanced Triggers	●	●	●	●	●	●	●
Zone Trigger	o	o		o	o		
Sequence Sampling Mode	●	●	●	●	●	●	●
Roll Sampling Mode (5 MS/s)	●	●	●	●		●	
RIS Sampling Mode	●		●			●	
Acquisition System Hardware Modules, Options and Upgrades							
Integrated 16-line Digital Input w/Digital Leadset (-MS models/MSO option)	o[1]	o[1]	o[1]	o[1]	o[1]		
HDA125 High-speed Digital Analyzer with QuickLink Leadset					o[2]	o[2]	o[2]
MS-500 External Mixed Signal Solution						o[2]	
Memory Options or Upgrades	o	o	o	o	o	o	o
Comprehensive Waveform Viewing							
Axis and Trace Labels	●	●	●	●	●	●	●
Trace and Grid Intensity Adjustment	●	●	●	●	●	●	●
Dot or Joined Trace Style Selection	●	●	●	●	●	●	●
Multi-Grid Display	●	●	●	●	●	●	●
X-Y Displays	●	●	●	●	●	●	●
Display Persistence	●	●	●	●	●	●	●
Segment Waveform Displays	●	●	●	●	●	●	●
Comprehensive Zooming Capabilities (Horizontal and Vertical)	●	●	●	●	●	●	●
Auto Scroll	●	●	●	●	●	●	●
Channel Rescaling and Unit Conversion	●	●	●	●	●	●	●
MAUI with OneTouch	●	●	●	●	●	●	●
Q-Scape Multi-Tab Display	o	●					
Advanced Measure & Math							
Comprehensive Standard Measurement Parameters	●	●	●	●	●	●	●
All Instance Measurements	●	●	●	●	●	●	●
Full Statistics (mean, min, max, sdev, number)	●	●	●	●	●	●	●
Histicon Display	●	●	●	●	●	●	●
Parameter Histogram with Histogram Measurements	●	●	●	●	●	●	●
Parameter Help Markers (Simple or Detailed)	●	●	●	●	●	●	●
Measurement Gates (Independent)	●	●	●	●	●	●	●
Parameter Math	●	●	●	●	●	●	●
Measurement Rescaling and Unit Conversion	●	●	●	●	●	●	●
Measurement Accept Capability	●	●	●	●	●	●	●
Cyclic Calculation of Vertical Measurement Parameters	●	●	●	●	●	●	●
Advanced Web Edit Measurements	●	●	●	●	●	●	●
Comprehensive Standard Math Functions	●	●	●	●	●	●	●
Single or Dual Operator Math Functions	●	●	●	●	●	●	●

STANDARD TOOLBOX AVAILABILITY

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD SDA 8000HD	WaveMaster 8 Zi-B SDA 8 Zi-B	LabMaster 10 Zi-A
Advanced Measure & Math (cont'd)							
Track and Trend Graphing of Parameters	●	●	●	●	●	●	●
Persistence Trace, Persistence Histogram	●	●	●	●	●	●	●
Automatic Math Rescaling and Unit Conversion with Manual Unit Override	●	●	●	●	●	●	●
X-Y Waveforms		●					
Advanced Web Edit Math Functions	●	●	●	●	●	●	●
Digital Filter Package	o	o	o	o	o	o	o
EMC Pulse Parameters Package	o	o	o	o	o	o	o
Full Record Length FFT Frequency Analysis	●	●	●	●	●	●	●
Advanced Measure/Math Customization Package	o	o	o	o	o	●	●
Advanced Anomaly Detection							
PASS/FAIL Mask Testing	●	●	●	●	●	●	●
PASS/FAIL Parameter Compare with Boolean Conditions	●	●	●	●	●	●	●
PASS/FAIL Actions	●	●	●	●	●	●	●
TriggerScan	●	●	●	●	●	●	●
WaveScan Advanced Search	●	●	●	●	●	●	●
History Mode Waveform Playback	●	●	●	●	●		
Remote Control & Connectivity							
MAUI Studio	●	●	●	●	●	●	●
MAUI Studio Pro	o	o	o	o	o	o	o
COM Automation	●	●	●	●	●	●	●
IEEE 488.2 Remote Control	●	●	●	●	●	●	●
10/100/1000BaseT Ethernet	●	●	●	●	●	●	●
USBTMC	●						
USBTMC over 3.1 Gen1		●	●	●	●		
IEEE 488.2 GPIB Interface Card						o	o
External USB-to-GPIB Adapter	o	o	o	o	o		
Documentation & Data Sharing							
LabNotebook with Extractable .LNB Files	●	●	●	●	●	●	●
Report Generator	●	●	●	●	●	●	●
Screen Capture	●	●	●	●	●	●	●
Network File Sharing	●	●	●	●	●	●	●
Email	●	●	●	●	●	●	●
Configurable Print/User Button	●	●	●	●	●	●	●
Configurable Print Color Palette	●	●	●	●	●	●	●
Save/Recall Setups, Waveforms, Table Data	●	●	●	●	●	●	●
Auto Save	●	●	●	●	●	●	●

1 Integrated digital input capabilities must be selected at time of initial purchase or require return to factory for installation.
2 External solution can be selected at time of initial purchase or purchased later without return to service center.

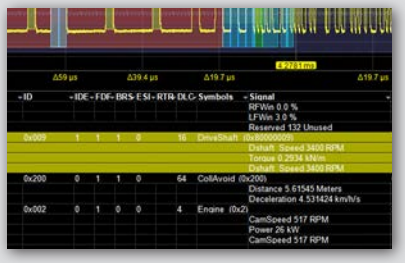
SERIAL MESSAGE ANALYSIS OPTIONS



Serial Trigger & Decode Software
(See Table of Options)

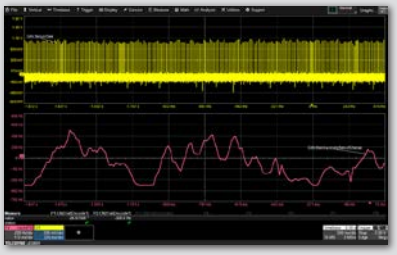
- Trigger on protocol elements or specific DATA patterns. Powerful conditional DATA triggering.
- Simultaneous decode & display of four inputs.
- Interactive table displays interleaved results of active decoders. Touch a row to zoom to the waveform location. Export table data to file.
- Color-coded overlay marks protocol elements (ID, DATA, CRC, frame, etc.) on waveform; decoded data listed on overlay.
- User-defined decoding Filter and Search. Measure/graph full acquisition or filtered data.

Symbolic Trigger & Decode
("Symbolic" Options)



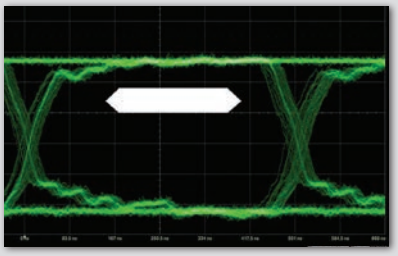
Decode and trigger on application-level values, such as sensor data. Support for custom .dbc or AutoSar .arxml files.

Measure/Graph & Eye Diagram
("-M/-ME" Options)

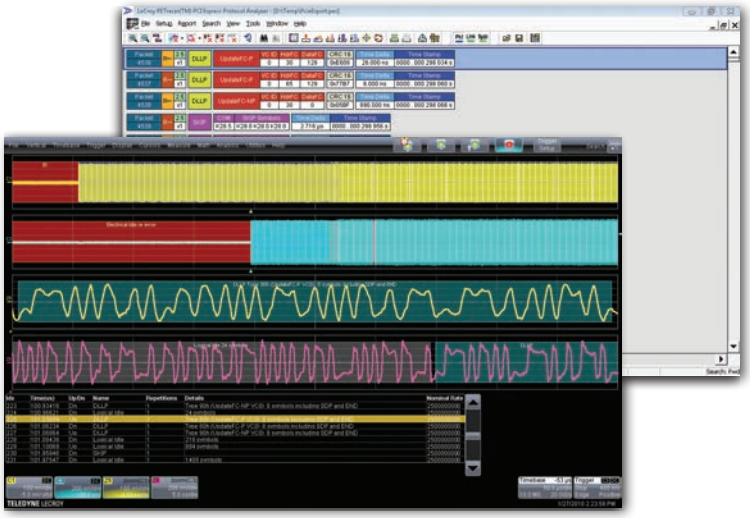


Automated measurement of timing between messages, or digital and analog signals. Graph histogram, track or trend of measurements. Serial data DAC—rescale extracted serial data to an analog value and graph it over time. One step setup of eye diagrams. Eye mask tests with colored failure indicators.

Physical Layer Tests
("-P" Options)



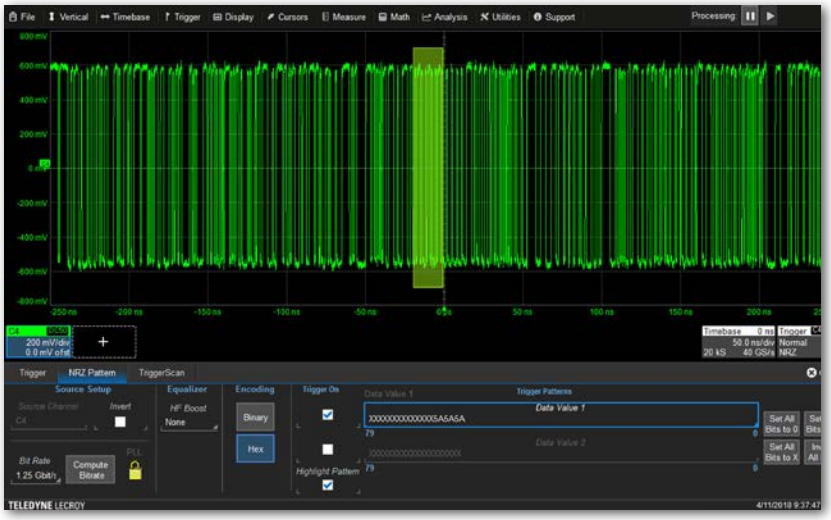
Additional eye diagrams and measurements required by standard for high-speed/complex protocols.



ProtoSync Software
(PROTOSYNC, PROTOSYNC-BT Options)

- View decoded data through same interface used by our Protocol Analyzers.
- Completely integrated with oscilloscope serial decoders; configure and launch ProtoSync view right from decoder software.
- BitTracer option shows bit-level decoding in ProtoSync view.
- Support for many high-speed protocols.

SERIAL MESSAGE ANALYSIS OPTIONS



High-speed Serial Triggers
(6GBIT-80B-Symbol TD, 14GBIT-80B-Symbol TD)

- Hardware serial triggers capable of signal speeds up to 14.1 Gb/s.
- Enable 80-bit NRZ serial pattern, 8b/10b or 64b/66b serial trigger (appropriate for bit rate).
- Include 8b/10b and 64b/66b decoder software.

Serial Message Analysis Options Availability

T = Trigger, D = Decode, M/ME = Measure/Graph & Eye Diagram, P = PHY tests (sold in combinations below, see notes for exceptions)

Note: Highest speed of any protocol decoded depends on oscilloscope sample rate and bandwidth.

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD SDA 8000HD	WaveMaster 8 Zi-B SDA 8 Zi-B	LabMaster 10 Zi-A
10Base-T1S (Automotive Ethernet) TD/TDME	o	o	o	o	o	o	
100Base-T1bus (Automotive Ethernet) TD/TDME	o	o	o	o	o	o	
(MIL-STD) 1553 TD/TDME	o	o	o	o	o	o	o[1]
8b10b D		o		o	o	o	o
64b66b Symbolic D					o	o	o
ARINC429bus D/DME Symbolic	o	o	o	o	o	o	o
AudioBus (I2S) TD/TDG (Graph only, no Measure or Eye Diagram)	o	o	o	o	o	o	o[1]
CAN FDbus TD or TDME Symbolic (incl. Standard CAN)	o	o	o	o	o	o	o[1]
CAN XL TD or TDME Symbolic (incl. Standard CAN and CAN FD)	o	o	o	o	o		
DisplayPort AUX TD/TDMP	o	o	o	o	o	o[2]	o[2]
Ethernet D	o	o	o	o	o	o	o
Fibre Channel D			o[3]	o[3]	o[3]	o[3]	o[3]
FlexRaybus TD/TDMP	o	o	o	o	o	o	o[1]
I2Cbus TD/TDME	o	o	o	o	o	o	o[1]
I3Cbus TD/DME/TDME	o	o	o	o	o[2]	o[2]	o[2]
LINbus TD/TDME	o	o	o	o	o	o	o[1]
Manchester D	o	o	o	o	o	o	o
MDIO D	o	o	o	o	o	o	o

continued...

SERIAL MESSAGE ANALYSIS OPTIONS

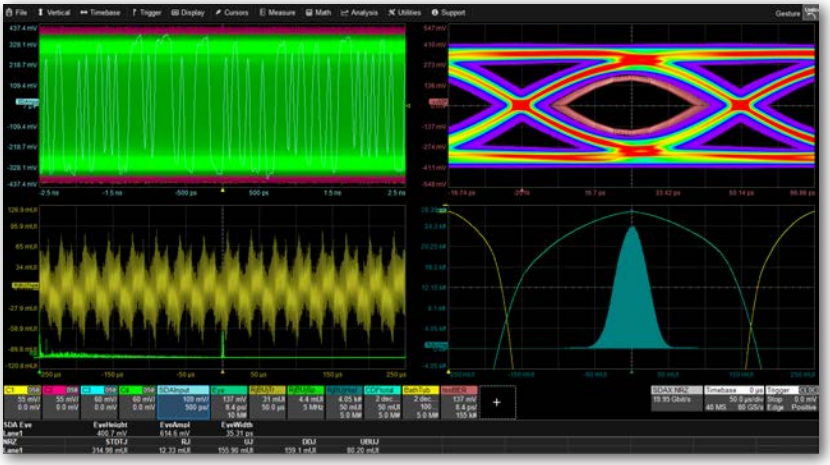
Serial Message Analysis Options Availability

T = Trigger, D = Decode, M/ME = Measure/Graph & Eye Diagram, P = PHY tests (sold in combinations below, see notes for exceptions)

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
MIPI DigRF 3Gbus D	o	o	o	o	o	o	o
MIPI DigRF V4bus D	o	o	o	o	o	o	o
MIPI C-PHYbus D/DMP			o	o	o	o	o
MIPI D-PHYbus D/DP	o	o	o	o	o	o	o
MIPI M-PHYbus D/DP			o	o	o	o	o
MIPI UniProbus D			o[3]	o[3]	o[3]	o[3]	o[3]
(Packetized) NRZ D	o	o	o	o	o		
PCIEbus (1.0 - 5.0) D			o[3]	o[3]	o[3]	o[3]	o[3]
PCIE6bus D					o		o
PMBus TD/TDME	o	o	o	o	o		
SASbus (1.0 - 3.0) D			o[3]	o[3]	o[3]	o[3]	o
SATA (Gen1 - Gen3) TD			o[3]	o[2, 3]	o[2, 3]	o[2, 3]	o[2, 3]
SENTbus TD/TDME	o	o	o	o	o	o[1]	o[1]
SMBus TD/TDME	o	o	o	o	o		
SpaceWirebus D	o	o	o	o	o	o	o
SPIbus TD/TDME	o	o	o	o	o	o	o[1]
SPMIbus TD/TDME	o	o	o	o	o	o[1]	o[1]
UART-RS232bus TD/TDME	o	o	o	o	o	o	o[1]
USB2bus TD/TDME	o	o	o[3]	o[3]	o[3]	o[2, 3]	o[1, 3]
USB2-HSICbus D	o	o	o[3]	o[3]	o[3]	o[3]	o[3]
USB3.2bus D (Gen1 & Gen2)					o[3]	o[3]	o[3]
USB4bus DME (Gen2 & Gen3)					o[3]	o[3]	o[3]
USB4-SB TD/TDMP	o	o	o	o	o	o	o[2]
USB-PD (Power Delivery) TD/TDMP	o	o	o	o	o	o	o[2]
ProtoSync, with or without BitTracer			o	o	o	o	o

1 No Trigger, Measure/Graph or Eye Diagram on these models, only Decode.
2 No Trigger on these models.
3 Supports ProtoSync.

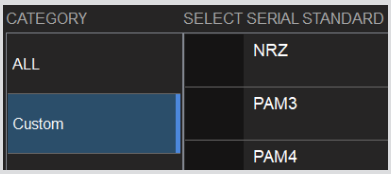
SERIAL DATA VALIDATION & DEBUG OPTIONS



Single-lane SDA Expert
(SDAX-NRZ, SDAX-PAM)

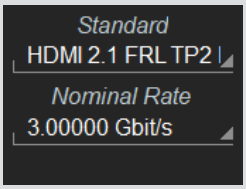
- Generates eye diagrams of all UIs with IsoBER, bathtub, Q-scales & eye measurements.
- Measure and separate jitter into Rj and Dj, with calculation of Tj by selected dual-Dirac model.
- Most comprehensive DDj pattern analysis, including ISI behaviors.
- Complete noise aggressor/victim analysis.
- Measure pulse response and Tx EQ presets.
- Easily accumulate exact number of UIs/ pattern repetitions to be measured.
- One-button "Quick View" setup of most popular graphs and measurements.

Custom Signal Analysis



Support for custom NRZ or PAM3 and PAM4 signals. Auto Detect standard signal patterns or upload custom pattern definitions.

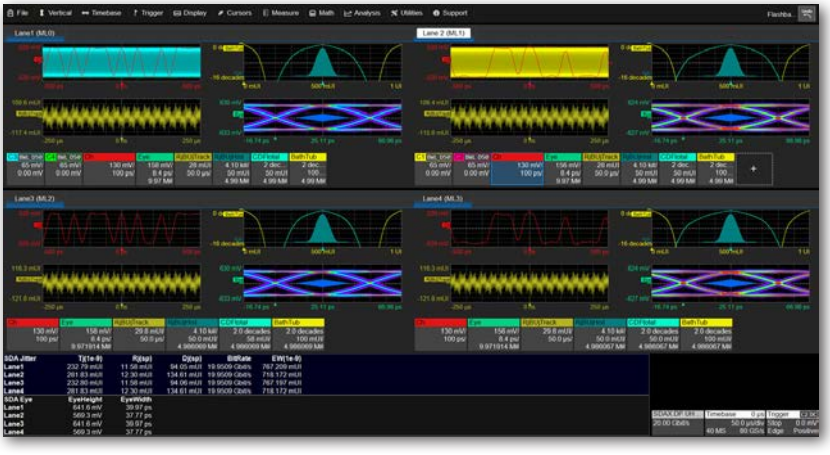
Industry-standard Masks and PLLs



Use one of many included NRZ-based eye masks and PLL definitions, or define custom masks and PLLs.

Integrated Software Framework

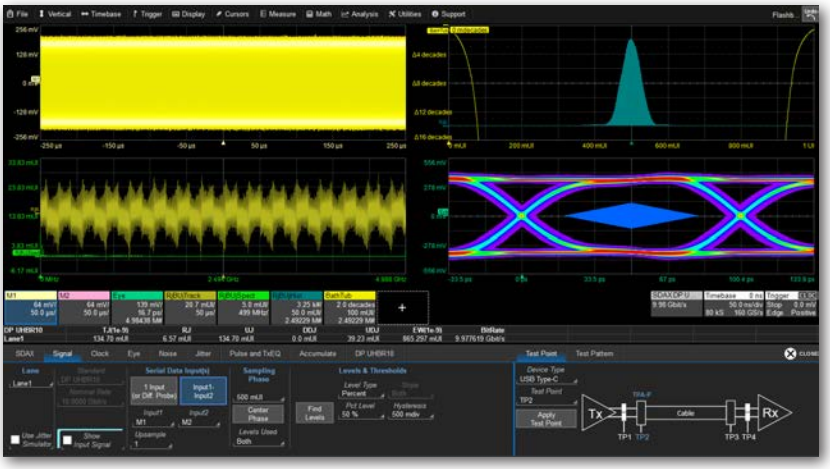
Integrated framework provides easy access to Eye Doctor II or VirtualProbe tools, or the PHY measurements of technology-specific options (when available).



Multi-lane SDA Expert
(SDAX-COMPLETE)

- Everything in SDAX-NRZ and SDAX-PAM, plus...
- Analyze four data lanes and saved Ref Lane.
- Multi-view Comparison Mode shows all active lanes side-by-side.
- Special Crosstalk Eye shows probabilistic extent of noise inside and outside the eye.
- Includes Eye Doctor II and VirtualProbe emphasis, equalization, emulation and deembedding.
- Adds multi-lane capability to any other SDA Expert option.

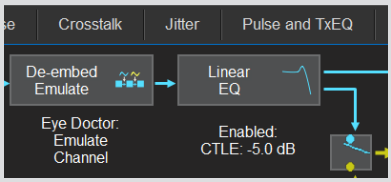
SERIAL DATA VALIDATION & DEBUG OPTIONS



Technology-specific SDA Expert Options
(See Table of Options)

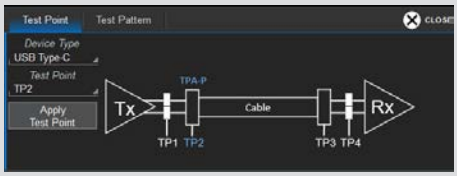
- Everything in single-lane SDA Expert, plus...
- Measures all speed grades of DisplayPort™, PCIe® 1.0-5.0, PCIe 6.0, USB 3.2 or USB4®/ Thunderbolt™ that your oscilloscope supports.
- Technology-specific electrical-PHY measurements and graphs in addition to standard NRZ or PAM analysis tools.
- Easy interaction with compatible decoders; output equalized signals for decoding.

Complete Toolset in One Package



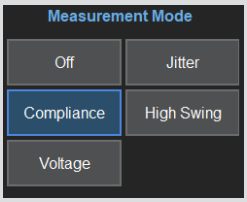
No base installations required—everything needed for characterization and debug in one package. If your technology requires equalizers or de-embedding, you have it!

Expert Test Point Configuration



Just choose the serial standard, device type and test point, and SDA expertly configures pattern detection, clock, equalizers and emulation/de-embedding as required by standard.

Technology-specific PHY Measurements

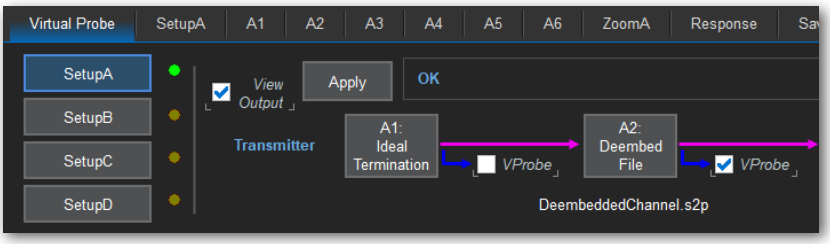


Calculates Tx jitter, noise (compliance), voltage, high swing and SSC measurements according to standard. Three, proprietary oscilloscope noise removal technologies for PCIe 6.0.

SERIAL DATA VALIDATION & DEBUG OPTIONS

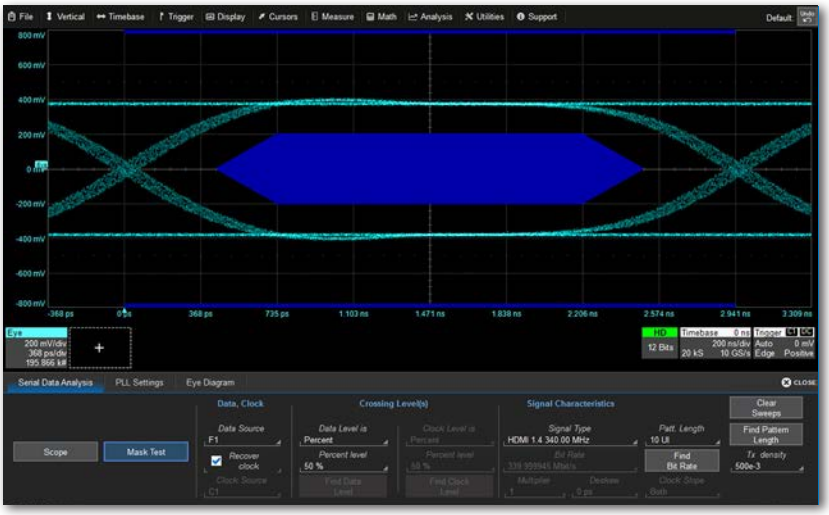
Eye Doctor II
(EyeDrII Software Option)

- De-embed the effects of fixtures, backplanes, etc., from simulated channel models.
- Add transmitter emphasis/de-emphasis to view the effects on channel models.
- Emulate the operation of receiver CTLE, DFE, or FFE equalizers on an acquired signal.
- Integrates with VirtualProbe, SDAIII and SDA Expert options.



VirtualProbe
(VirtualProbe Software Option)

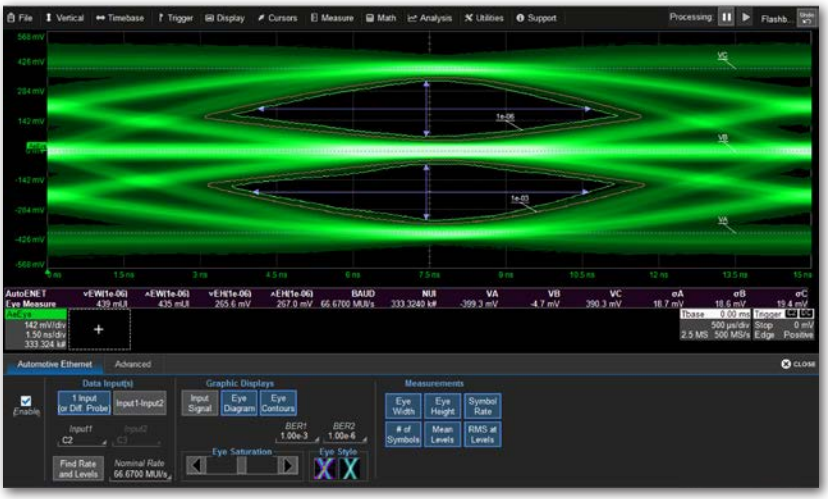
- Use S-parameters to model a multi-block circuit, and VirtualProbe measures the signal as if probed before or after any block.
- Add or remove the electrical behavior of a block to see effect on transmitted signals.
- Remove probe loading effects.
- View the eye at the receiver, even if not in reach of a differential probe.
- Integrates with Eye Doctor II, SDAIII and SDA Expert options.



Serial Data Mask Test
(SDM Software Option)

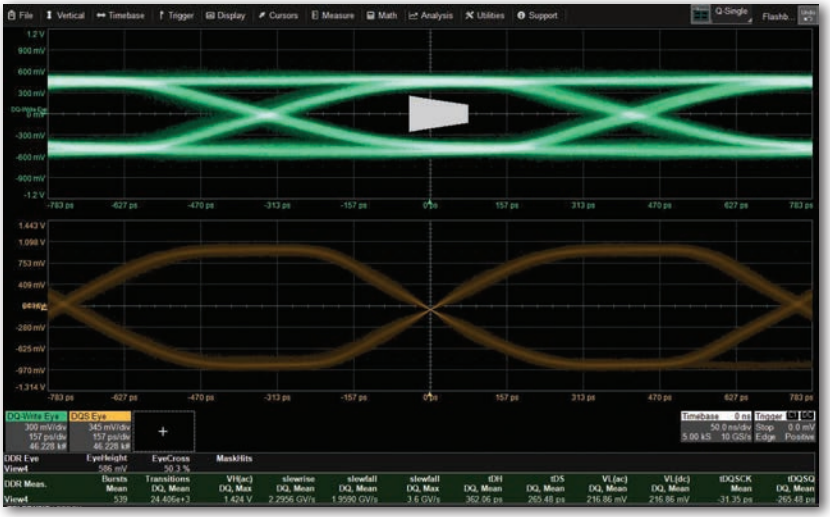
- Create and test eye diagrams using a comprehensive list of standard eye pattern masks or a user-defined mask.
- Removes effects of trigger jitter using a configurable software PLL.
- Mask violations are clearly marked on the display for easy analysis.
- Automatic mask alignment and custom mask adjustments.

SERIAL DATA VALIDATION & DEBUG OPTIONS



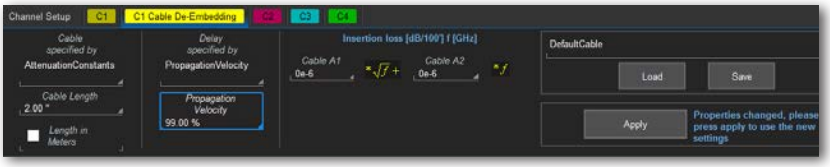
Automotive Ethernet Debug Toolkit
(AUTO-ENET-TOOLKIT Software Option)

- Display eye diagram with/without equalization.
- Measure Eye Height, Eye Width, Mean Levels and RMS Levels.
- BER contours show extrapolated eye at user-defined levels.
- Supports 100Base-T1 (BroadR-Reach) and 1000Base-T1 signals.



DDR Debug Toolkit
(DDR*-TOOLKIT Software Options)

- Support for DDR/LPDDR standards through DDR5 and LPDDR4/4X, plus support for custom speed grades.
- Separates Read/Write bursts for eye diagrams, mask testing, jitter anlysis and DDR-specific measurements.
- Four, multi-scenario Views to compare R/W eyes, and analyze de-embedding and crosstalk.
- Use with the HDA125 to trigger on and decode the JEDEC Command Truth Table for improved R/W separation.



Cable De-embedding
(CBL-DE-EMBED Software Option)

- Remove the effects of propagation delays caused by cable lengths from acquired signals, improving measurement accuracy.
- Specify cable using attenuation constants; build and save table of constants per cable for quick re-loading.

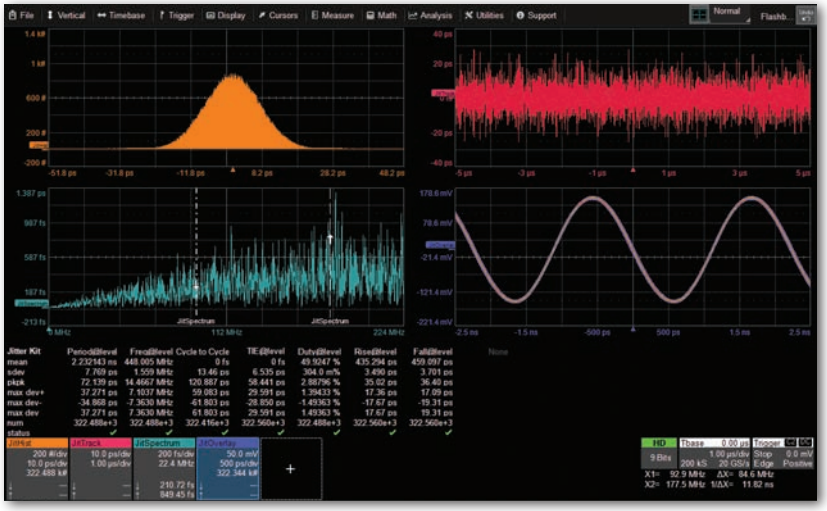
SERIAL DATA VALIDATION & DEBUG OPTIONS

Serial Data Validation & Debug Options Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD SDA 8000HD	WaveMaster 8 Zi-B SDA 8 Zi-B	LabMaster 10 Zi-A
SDAX-NRZ Single-lane NRZ Eye, Jitter & Noise Analysis	o	o	o	o	o[1]	o[1]	o[1]
SDAX-PAM Single-lane PAM3/PAM4 Eye, Jitter & Noise Analysis	o	o	o	o	o	o	o
SDAX-COMPLETE Multi-lane NRZ & PAM*n* Eye, Jitter, Noise & Crosstalk Analysis with integrated Eye Doctor II and VirtualProbe				o	o	o	o
SDAX-DP Single-lane DisplayPort Eye, Jitter & Noise Analysis				o	o	o	o
SDAX-PCIE-NRZ Single-lane PCIe 1.0-5.0 Eye, Jitter & Noise Analysis				o	o	o	o
SDAX-PCIE6 Single-lane PCIe 6.0 Eye, Jitter & Noise Analysis					o		o
SDAX-USB3.2 Single-lane USB 3.2 Eye, Jitter & Noise Analysis				o	o	o	o
SDAX-USB4-TBT Single-lane USB4/Thunderbolt Eye, Jitter & Noise Analysis					o	o	o
Eye Doctor II De-embedding, Emulation and Equalization		o	o	o	o	o	o
Eye Doctor II and VirtualProbe Bundle				o		o	o
VirtualProbe Advanced De-embedding, Emulation and Virtual Probing		o	o	o	o	o	o
Serial Data Mask Test	o	o	o	o	o	o	o
Automotive Ethernet Debug Toolkit		o	o	o	o	o	o
DDR2 Debug Toolkit (DDR2 and LPDDR2)			o	o	o	o	o
DDR3 Debug Toolkit (all speeds through DDR3, DDR3L and LPDDR3)			o	o	o	o	o
DDR4 Debug Toolkit (all speeds through DDR4 and LPDDR4/4X)				o	o	o	o
DDR5 Debug Toolkit (all speeds through DDR5 and LPDDR4/4X)					o	o	o
Cable De-embedding		o	o	o	o	o	o

1 Standard on SDA models.

CLOCK VALIDATION & DEBUG OPTIONS



JITKIT Clock/Clock-Data Jitter Analysis (JITKIT Software Option)

- Understand the basic system jitter performance of clock signals and clock-data activities.
- Four views of jitter—statistical, time, spectral and overlay.
- Direct display of jitter measurement values—max deviation + or -, worst case, peak-peak and standard deviation.
- Tabular readout of any eight (of more than 25 provided) jitter measurements.

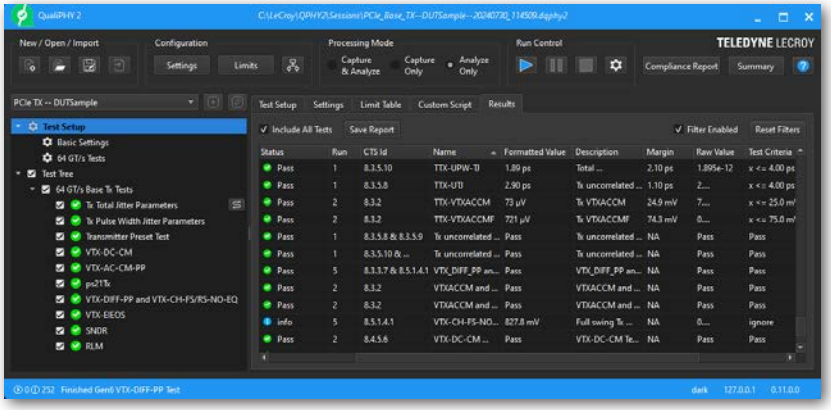
Clock Expert Clock Jitter & Phase Noise Analysis (CLKX Software Option)

- Highest precision and most sophisticated clock jitter analysis software.
- Most versatile and efficient clock measurement toolset; designed especially for clocks in circuit.
- Improve measurement accuracy with unique noise reduction tools.
- Basic and separated (Rj, Dj) clock jitter measurements.
- Clock Expert Pro version adds Phase Noise, SSC and Accumulated (*N*Cycle) Jitter measurements to basic set.

Clock Validation & Debug Options Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
JITKIT Clock/Clock-Data Jitter Analysis Software	o	o	o	o	o	o	o
Clock Expert Clock Jitter Analysis Framework	o	o	o	o	o	o	o
Clock Expert Pro Clock Jitter Analysis Framework	o	o	o	o	o	o	o

SERIAL DATA COMPLIANCE TEST OPTIONS



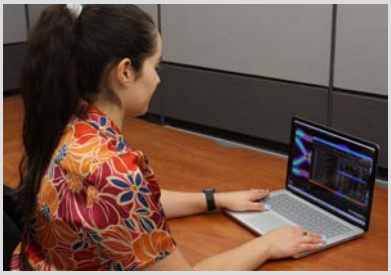
QualiPHY® 2 Compliance Test Software
(QPHY2 Software Options)

- Redesigned software with remote and offline testing for most efficient use of lab resources.
- Conduct multiple tests on different devices in the same session and include in a single report.
- Integrate custom Python functions into test sequence; loop standard or custom variables.
- "Quick access" connection diagrams show hardware set up before or during tests.
- Comprehensive result database can be filtered & viewed on screen or output to many formats: XML, HTML or PDF report, .csv file, etc.

BERT, TDR and AFG Automation

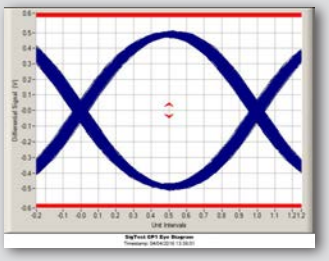
QualiPHY and QualiPHY 2 automate the connection to the Anritsu MP1900A BERT and various TDRs and AFGs for Rx and LEQ calibration/testing, channel characterization, and S-parameter/MDI measurements.

QPHY2-PC Offline Analysis

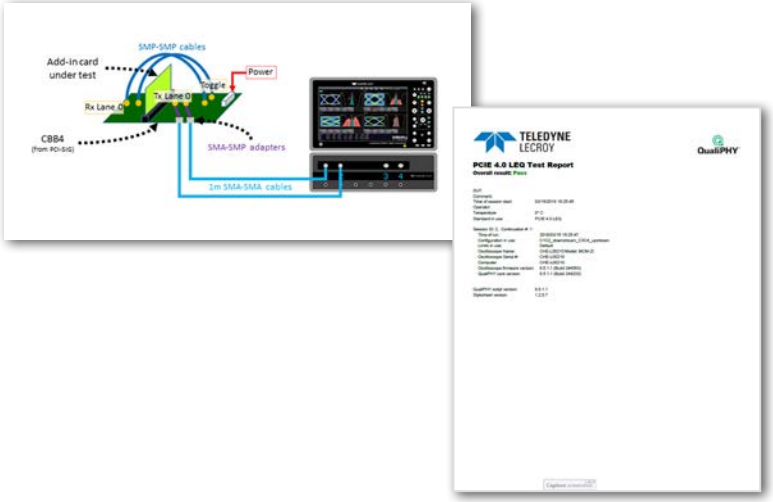


End the bottleneck: after acquiring and calibrating on an oscilloscope, analyze on a disconnected PC for "compliance on time, from anywhere" with the QPHY2-PC option for QualiPHY 2.

3rd-Party Software Integration



QualiPHY and QualiPHY 2 automate the interface to SigTest, ETT, Seasim, Clock Jitter Tool, MATLAB and other required 3rd-party software.



QualiPHY® Compliance Test Software
(QPHY Software Options)

- Automated physical layer compliance testing with support for legacy oscilloscope models.
- Generates a comprehensive report of test results, including oscilloscope screen images.
- Demos and diagrams guide you step-by-step through each test, with instructions for connecting all compliance test hardware.
- Compliance test hardware available.
- Host program control for factory automation (depending on standard).

Serial Data Compliance Test Options Availability

Note: QualiPHY and QualiPHY 2 products may require other software options or compliance test hardware. Oscilloscope model minimum bandwidth requirements apply. Consult your Teledyne LeCroy representative.	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
QPHY-10Base-T1S[1] and QPHY-10Base-T1L[1]	o	o	o	o	o	o	o
QPHY-1000Base-T1[1]		o	o	o	o	o	o
QPHY-100Base-T1 (BroadR-Reach)[1]	o	o	o	o	o	o	o
QPHY-MultiGBase-T1			o	o	o	o	o
QPHY-10GBASE-KR and QPHY-10GBASE-T (Tx and Return Loss)					o	o	o
QPHY-56G-PAM4						o	o
QPHY-DDR5-SYS (all speeds through DDR5 and LPDDR4/4X)					o	o	o
QPHY-DDR4 (all speeds through DDR4 and LPDDR4/4X)					o	o	o
QPHY-DDR3 (all speeds through DDR3, DDR3L and LPDDR3)			o	o	o	o	o
QPHY-DDR2 and QPHY-LPDDR2			o	o	o	o	
QPHY-DP2-SOURCE (incl. DisplayPort 1.4 Source)					o	o	o
QPHY-DP2-SINK (incl. DisplayPort 1.4 Sink)					o	o	o
QPHY-eDP (Embedded DisplayPort Source)					o	o	o
QPHY-ENET (incl. 10Base-T, 100Base-T, 1000Base-T)	o	o	o	o	o	o	
QPHY-HDMI 2.1					o	o	o
QPHY-MIPI-C-PHY					o	o	o
QPHY-MIPI-D-PHY			o	o	o	o	
QPHY-MIPI-M-PHY					o	o	o
QPHY-MOST150		o	o	o		o	
QPHY-MOST50	o	o	o	o		o	
QPHY2-PCIE4/5/6-TX-RX (Base TX-RX, CEM TX-RX & LEQ, Reference Clock, PLL, Fixture Characterization available for PCIe 4.0 through 6.0)					o		o
QPHY-PCIE4/5/6-TX-RX (Base TX-RX, CEM TX-RX & LEQ, Reference Clock, PLL, Fixture Characterization available for PCIe 4.0 through 6.0)					o		o
QPHY-PCIE3-TX-RX (Base TX-RX, CEM TX-RX, LEQ, Reference Clock, PLL)					o	o	o
QPHY-PCIE (CEM TX 1.1 and 2.0, Reference Clock[2], PLL)				o	o	o	o
QPHY-SAS3 (incl. 1.5, 3.0, 6.0 and 12.0 Gbps)					o	o	o
QPHY-SAS2 (incl. 1.5, 3.0 and 6.0 Gbps)						o	o
QPHY-SATA-TSG-RSG (incl. PHY, TSG, RSG and OOB)					o	o	o
QPHY-SFI					o	o	o
QPHY2-USB4-TX-RX (USB4 Gen2/3/4 or Thunderbolt 3/4/5)					o		o
QPHY-USB4-TX-RX (USB4 Gen2/3 or Thunderbolt 3/4)					o	o	o
QPHY-USB3.2-TX-RX (all speeds through USB3 Gen2)					o	o	o
QPHY-USB (USB2 High/Full/Low-speed TX)	o[3]	o	o	o	o	o	
QPHY2-PC Offline Analysis Option (incl. MAUI Studio Pro)[4]				o	o		o

1 Complementary TDR test options available for WavePulser 40iX. See the Options tab on the WavePulser product page.
2 Enables QPHY2 PCIe Reference Clock tests.
3 Supports full- and low-speed only.
4 Compatible only with QPHY2 options.

CROSS-LAYER ANALYSIS OPTIONS

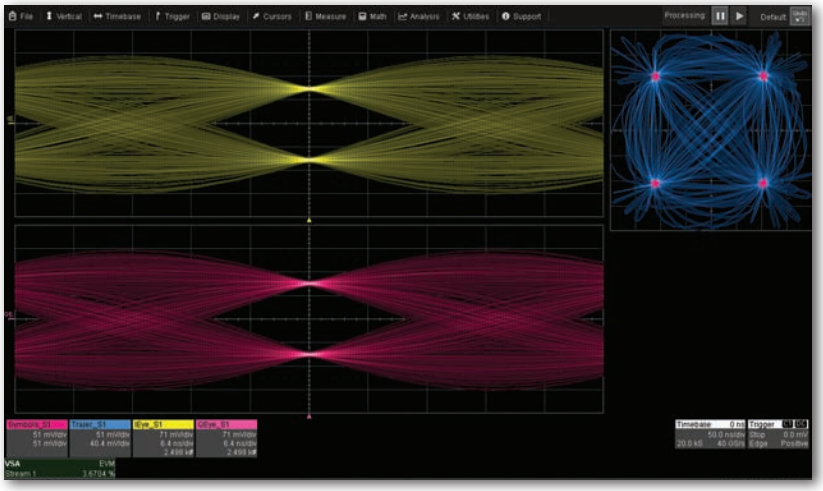
*Cross*Sync™ PHY
(CROSSSYNC-PHY Software Options)

- Simultaneously trigger oscilloscope and Teledyne LeCroy PCI Express®, USB 3.2 (Gen1/Gen2), USB4® or Thunderbolt (Gen2/Gen3) protocol analyzer on same high-level event.
- Synchronously acquire all electrical and protocol behaviors.
- Navigate and analyze synchronous oscilloscope and protocol analyzer acquisitions using the integrated *Cross*Sync PHY display.
- Requires *Cross*Sync PHY-compatible equipment; see product datasheet.

Cross-Layer Analysis Options Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi
*Cross*Sync PHY for PCI Express					o	o	o
*Cross*Sync PHY for USB (USB 3.2, USB4 and Thunderbolt on M4X analyzer only)					o	o	o

MODULATION ANALYSIS OPTIONS



Vector Signal Analysis
(VECTORLINQ, VECTORLINQ-ADV Options)

- Demodulation and analysis of eight data streams of RF modulated or direct I-Q inputs.
- Supports PSK, QAM, Circular QAM, ASK, FSK and Custom input signal types.
- Use built-in signal processing blocks or insert custom MATLAB processing blocks anywhere in the chain.
- I-Q constellation plots, eye diagrams, spectral views and comprehensive measurements.
- OFDM visualization and analysis with VectorLinQ Advanced.

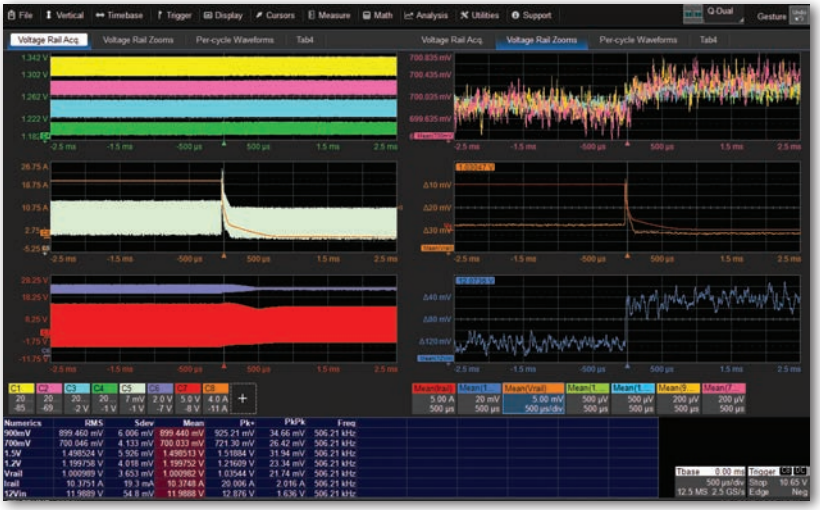
Modulation Analysis Options Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi
VectorLinQ Vector Signal Analysis Software		o	o	o	o	o	o
VectorLinQ Advanced Vector Signal Analysis Software					o	o	o

POWER ANALYSIS OPTIONS

Device and Switch-Mode Power Supply Power Analysis
(PWR Software Option)

- Control loop and time domain response analysis.
- Automatically identifies device measurement zones with color-coded overlays.
- Line power and harmonics tests to IEC 61000-3-2. Total harmonic distortion table shows frequency contribution.
- Measurement parameters provide details of single cycle or average device power losses.
- B-H Curve shows magnetic device saturation.



Digital Power Management Analysis
(DIG-PWR-MGMT Software Option)

- Provides complete and fast understanding of power rail behaviors, such as ripple, ringing, droop, noise, settling time, etc.
- Translates DC rail behaviors into easy-to-understand device switching cycle measurements and Waveforms.
- Ideally used with the RP4030 Active Voltage/ Power Rail Probes.

Power-Device Analysis
(PWR-DEVICE Software Option)

- Performs Turn On/Off Delay, Switch On/Off Loss and Conduction Loss measurements of power devices according to JEDEC standards.
- Measure from 1-5 pulses acquired in a "double pulse test" setup.
- Help Markers and overlays show measurement points on pulses.
- Use interactive Numerics table to track power measurement results from all pulses.
- Generates I^2*R power waveform.

POWER ANALYSIS OPTIONS

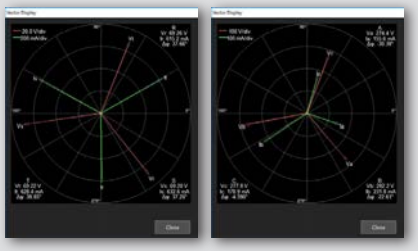
3-Phase Power Analysis
(THREEPHASEPOWER Software Option)

- Complete static and dynamic 3-phase electrical power analysis, with results in a convenient Numerics table.
- Correlate high-speed control system behaviors with lower-speed power system behaviors.
- Calculate power during conventional power periods or during device switching cycles.
- Zoom+Gate mode permits fast understanding of complex, dynamic events.
- Standard on MDA 8000HD with additional motor speed, position and torque sensor interface.

Harmonics Option
(THREEPHASEHARMONICS)

Rigorous software DFT method precisely separates frequency content on AC line-side or inverter/drive output. Adds "Fundamental + N" and "Range" harmonic filters, THD calculations and per-cycle Waveforms, harmonic order table and up-to-nine spectral displays.

Vector Display Option
(THREEPHASEVECTOR)



Generate two, simultaneous vector plots. Zoom+Gate and harmonically filter to show vector changes during dynamic events.

dq0 Transforms Option
(THREEPHASEDQ0)

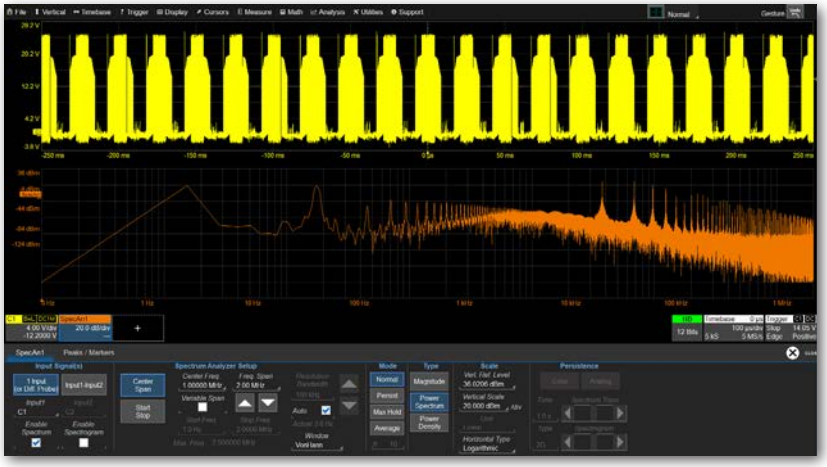
View two, simultaneous αβγ (Clarke) or dq0 (Park) real-time transformations. X-Y plot capability for d vs. q and α vs. β components.

Power Analysis Options Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
Device and Switch-Mode Power Supply Power Analysis Software	o	o	o	o	o	o	o
Digital Power Management Analysis Software	o	o		o			
Power-Device Analysis Software	o	o	o	o	o	o	o
3-Phase Power Analysis Software	o	o[1]		o			
Harmonics Option for 3-Phase Power Analysis Software	o[2]	o[2]		o[2]			
Vector Display Option for 3-Phase Power Analysis Software	o[2]	o[2]		o[2]			
dq0 Transforms Option for 3-Phase Power Analysis Software	o[2]	o[2]		o[2]			

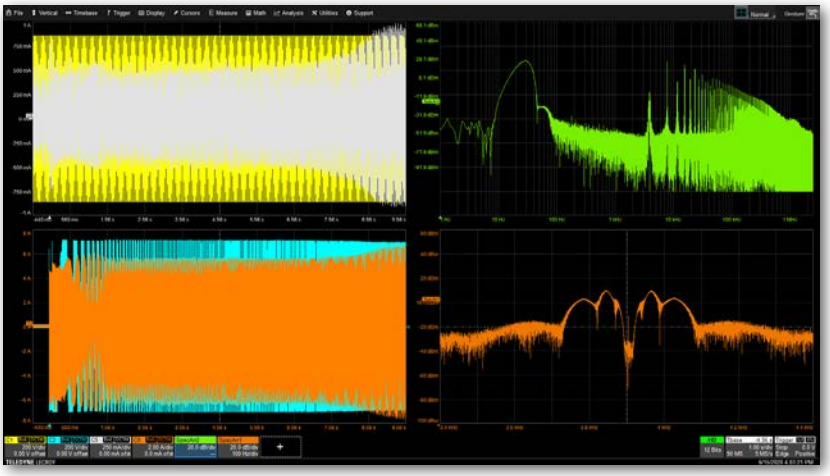
1 Standard on MDA 8000HD, optional on WaveRunner 8000HD.
2 Requires base installation of 3-Phase Power Analysis or Motor Drive Analyzer software.

SPECTRAL ANALYSIS OPTIONS



Spectrum Analyzer
(SPECTRUM-1 Software Option)

- One Magnitude, Power or Density spectrum integrated with other MAUI displays.
- Logarithmic horizontal and vertical scales.
- Non-linear "sniffer" probe correction factors.
- Peaks and markers tables.
- Persistence and averaging.
- 2D or 3D color spectrograms.



Advanced Spectrum Analyzer
(SPECTRUM-PRO-2R Software Option)

- Two, simultaneous Magnitude, Power or Density spectrums plus third, Reference spectrum integrated with other MAUI displays.
- Logarithmic horizontal and vertical scales.
- Non-linear "sniffer" probe correction factors.
- Spectral mask testing using .csv data masks.
- Background noise removal.
- Peaks and markers tables.
- Persistence and averaging.
- 2D or 3D color spectrograms.

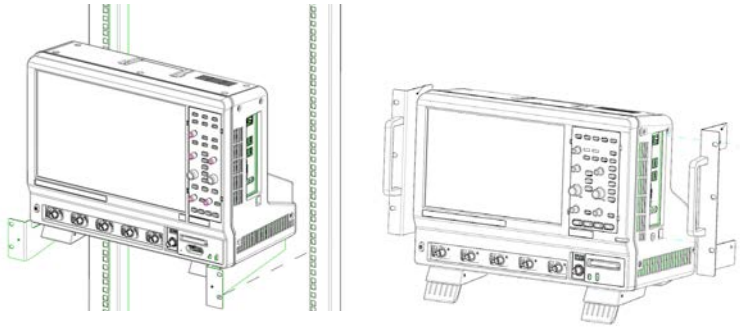
Spectral Analysis Options Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
SPECTRUM-1 Spectrum Analyzer Software	o	o	o	o	o	o	o
SPECTRUM-PRO-2R Spectrum Analyzer Software	o	o	o	o	o	o	o

OSCILLOSCOPE ACCESSORIES

Soft Cases
(SOFTCASE, CARRYCASE Accessories)

Soft cases protect and transport the oscilloscope with less size/weight than a hard transit case. Either foam-reinforced soft case or collapsible soft bag.



Rackmounts
(RACK, RACKMOUNT Accessories)

Rackmount shelf or ears uniquely designed for each model support the oscilloscope for 19" rack installation. Contact Customer Support for correct model.

Oscilloscope Cart
(OC1024-A Accessory)

Cart supports larger/deeper oscilloscopes while allowing full mobility. Ideal for oscilloscopes frequently used with other test equipment or shared between labs.

Oscilloscope Accessories Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
Soft Case	o	o	o	o		o	o
Rackmount	o	o	o	o	o	o	o
OC1024-A Oscilloscope Cart (with additional shelf and drawer)			o			o	
Standard Removable Drive with Optional Additional Removable Drives	o	o		o	o	o	o

MAINTENANCE AGREEMENTS

5-Year Annual Traceable Calibration (C5)

- C5 provides Annual NIST Traceable Calibration.
- C5/MIL provides Annual Z540 Traceable Calibration (before and after data included).
- C5/17025 provides Annual ISO17025 Accredited Calibration with Uncertainties (before and after data included).

5-Year Extended Warranty (W5)

- W5 extends total warranty coverage to 5 years (including oscilloscope standard 3-year warranty).

5-Year Extended Warranty with Annual Traceable Calibration (T5)

- T5 extends total warranty coverage to 5 years (including oscilloscope standard 3-year warranty) and also includes an annual NIST Traceable Calibration.
- T5/MIL extends total warranty coverage to 5 years (including oscilloscope standard 3-year warranty) and also includes an annual Z540 Traceable Calibration (before and after data included).

Worry Free (WF5)

- WF5 extends total warranty coverage to 5 years (including oscilloscope standard 3-year warranty) and also includes coverage for EOS/ESD events or minor mechanical damage.

Maintenance Agreements Availability

	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster 8000HD, SDA 8000HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
5-Year Annual Traceable Calibration	o	o	o	o	o	o	o
5-Year Extended Warranty	o	o	o	o	o	o	o
5-Year Extended Warranty with Annual Traceable Calibration	o	o	o	o	o	o	o
Worry Free Warranty	o	o	o	o	o	o	o

TELEDYNE LECROY
Everywhereyoulook™

1-800-5-LeCroy
teledynelecroy.com

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