HIGH BANDWIDTH,
UNIQUELY VERSATILE
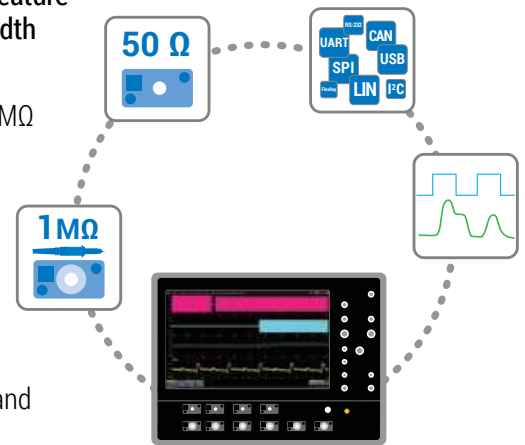

WaveMaster 8 Zi-B
4 GHz – 30 GHz Oscilloscopes

Most Capability

The most complete feature set on a high-bandwidth oscilloscope

- Both 50 Ω and 1 MΩ inputs for widest probe support
- Mixed signal acquisition capability
- Comprehensive serial triggering and decoding

Best for Serial Data & DDR

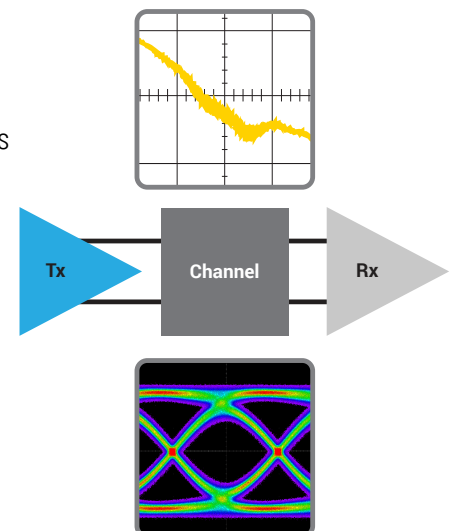**Unmatched high-speed serial tools**

- Simple and powerful compliance test automation
- Interactive DDR Debug Toolkit
- Most complete eye diagram, jitter and noise analysis
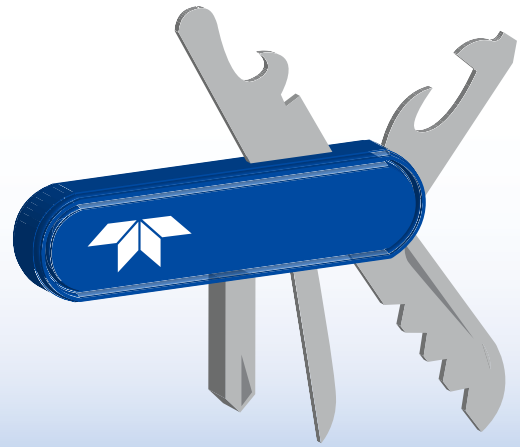
Analyze the Whole Link at Once

End-to-end link signal integrity analysis

- Import S-parameter files from WavePulser 40iX and other instruments
- De-embed fixtures and emulate channels
- Measure transmitter and receiver equalization effects

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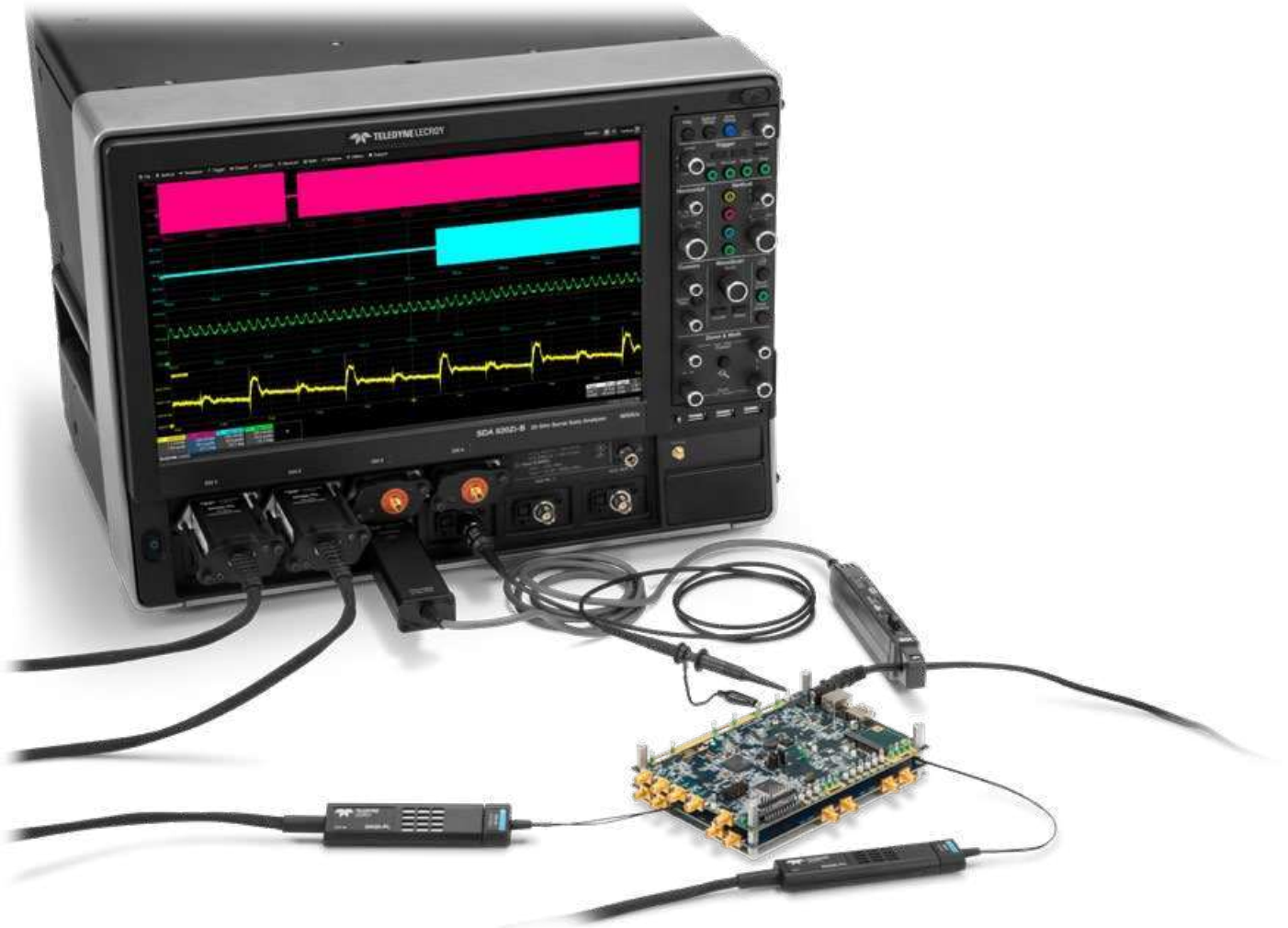
Uniquely Versatile

High Bandwidth, **Uniquely Versatile**

WaveMaster 8 Zi-B

WaveMaster 8 Zi-B's unique combination of high-bandwidth performance (up to 30 GHz) and general purpose features enables the most compehensive validation and debug capabilities. This one oscilloscope platform covers low-speed and high-speed embedded systems, serial data analysis, and DDR debug.

50 Ω and 1 MΩ Inputs for Widest Probe Support

WaveMaster is the only high-bandwidth oscilloscope to also provide built-in 1 MΩ inputs. This permits direct connection of passive probes, and support for the widest variety of low voltage, high voltage and current probes, all without requiring the use of expensive, add-on external adapters that reduce accuracy and go missing when you need them.

Low- and High-speed Mixed Signal Acquisition Capability

Expand your acquisition reach with mixed-signal options for low-speed digital acquisitions with up to 36 channels and 500 MHz digital clock rates or high-speed digital acquisitions with up to 18 channels and 6 Gb/s digital clock rates.

Comprehensive Low-speed Serial Data Triggers/Decoders

Comprehensive low-speed serial data triggers and decoders, plus measure/graph and eye diagram testing, provide the best causal analysis of low-speed events. Easily correlate low-speed serial interactions with high-speed serial data or other events.

**The WaveMaster 8 Zi-B is the best oscilloscope platform for high-speed serial data and memory compliance and debug. The combination of general-purpose capabilities, mixed-signal options, low-speed serial triggers/decoders and comprehensive compliance, analysis and debug software options puts you in the drivers seat.**
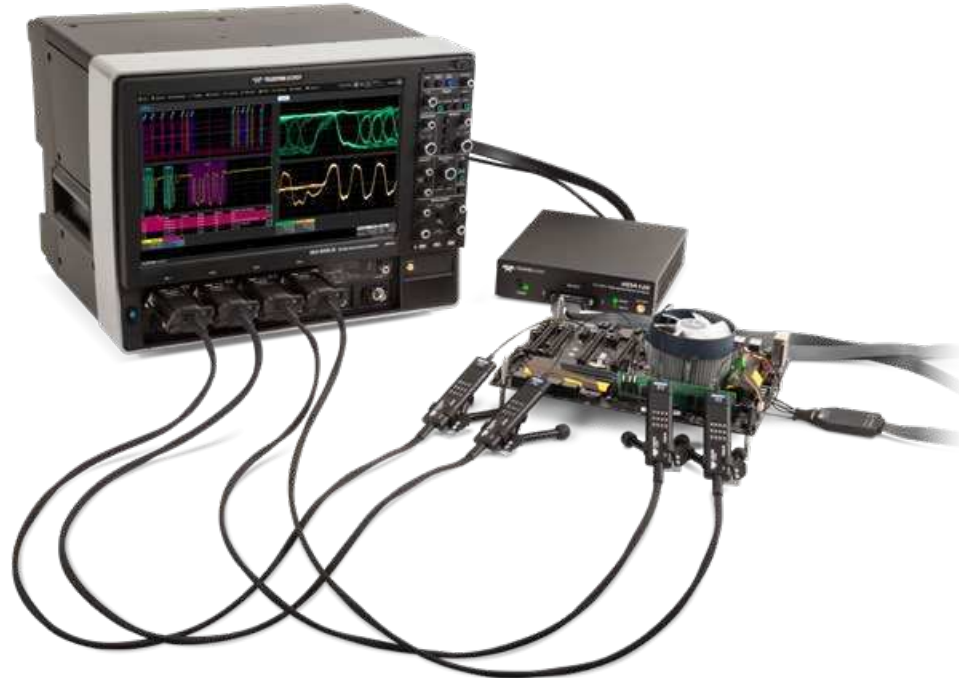
QualiPHY Automated Compliance Testing

- Support for PCI Express®, USB, HDMI™, DisplayPort™, Ethernet, Automotive Ethernet, DDR, and many other serial data standards

- Fully automated transmitter and receiver testing and receiver test calibration

- Step-by-step instructions and automatic report generation

- Automated pass/fail test reports
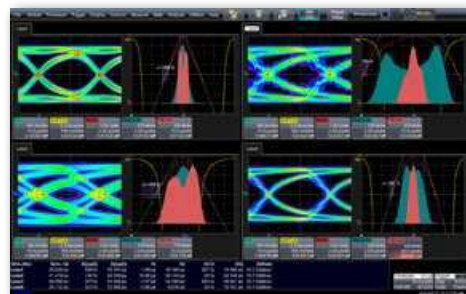
Most Complete Serial Data Analysis Toolset

- Multi-lane jitter and eye analysis

- LaneScape™ comparison modes

- Vertical noise and crosstalk analysis

- Integrated equalization, emulation and de-embedding

- Virtual probing

Comprehensive DDR Test Suite

- Support for DDR/LPDDR3 through DDR/LPDDR5

- JEDEC physical layer compliance test

- Debug Toolkits provide fast problem solving during the DDR design and integration cycle

- HDA125 High-speed Digital Analyzer for flexible, mixed-signal probing

- Unmatched probing versatility up to 30 GHz

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Combining the WavePulser 40iX High-speed Interconnect Analyzer, WaveMaster 8 Zi-B oscilloscope and SDAIII-CompleteLinQ option gives the most complete signal integrity analysis toolkit available. Quickly characterize the entire signal path from transmitter to receiver, acquire high-fidelity waveforms at a convenient test point, and then easily analyze the signal at any point of interest.

Characterize Channel

Characterize Channel

TP1 ← → TP2 ← → TP3

| Tx | Fixture/Test cables | Channel | Fixture/Test cables | Rx |

Acquire signal
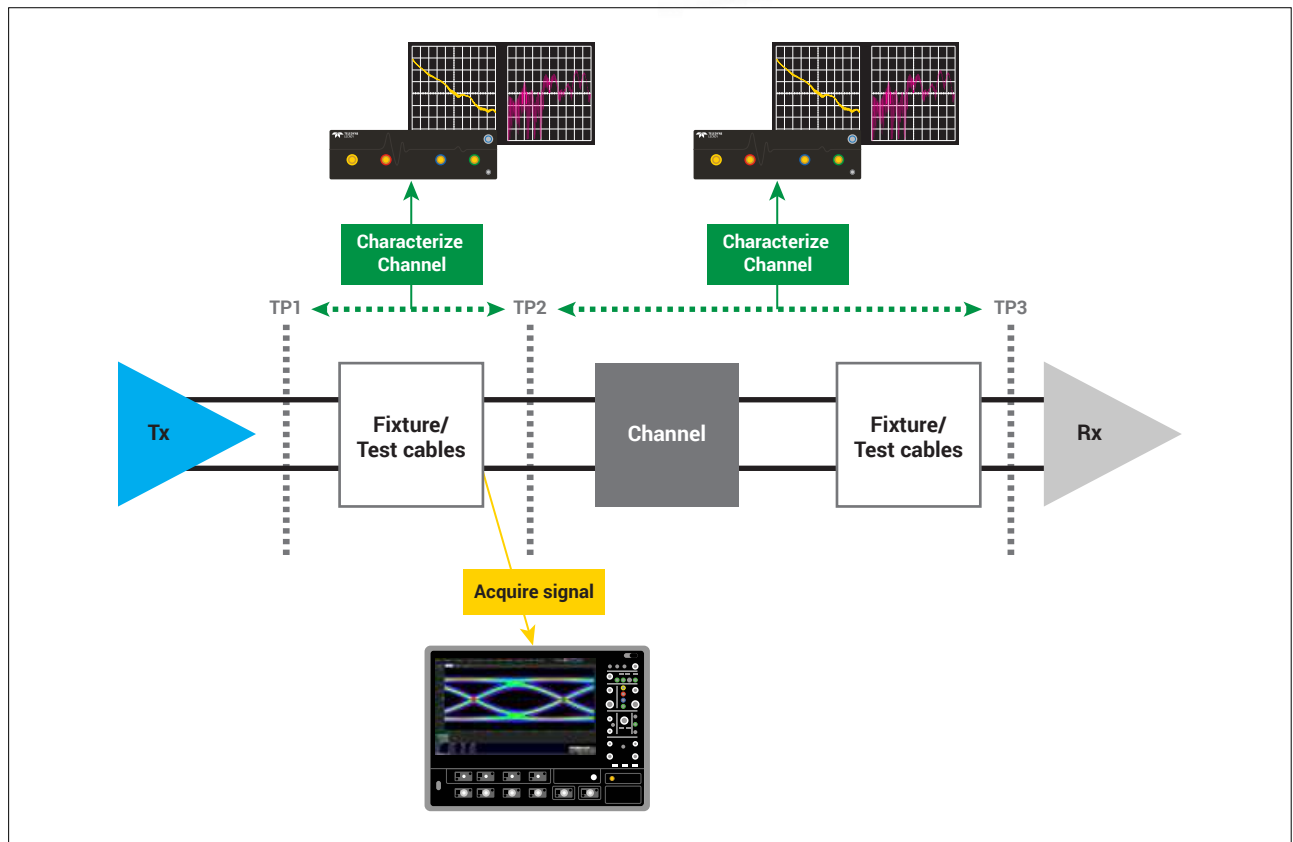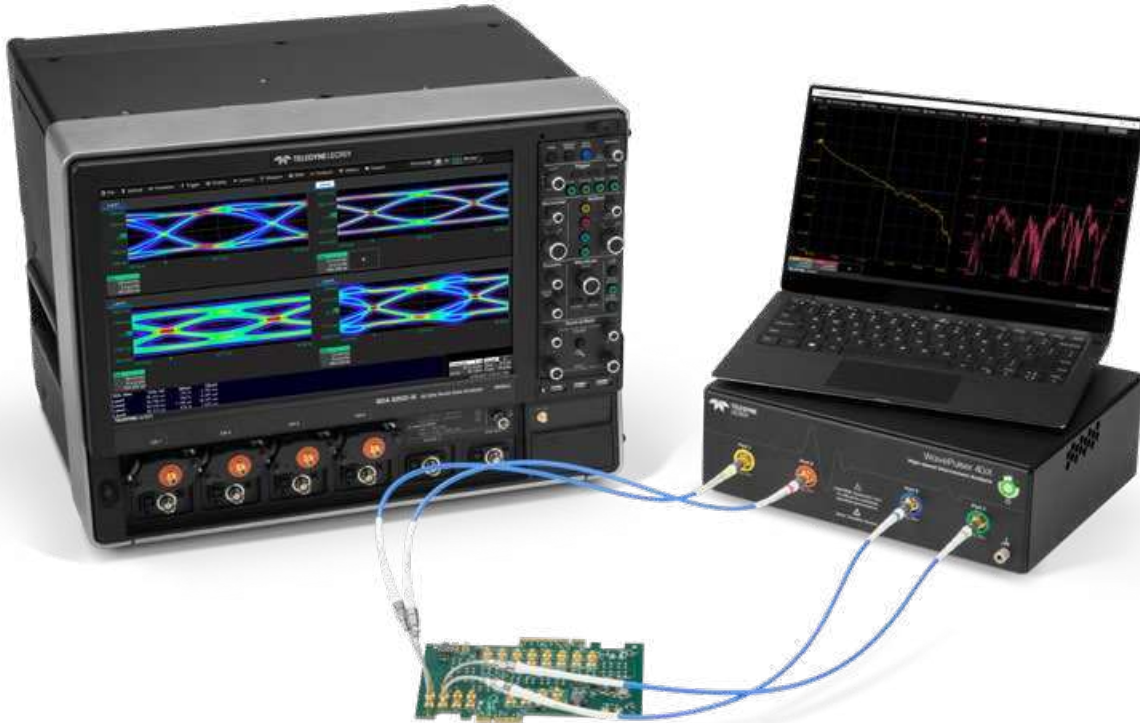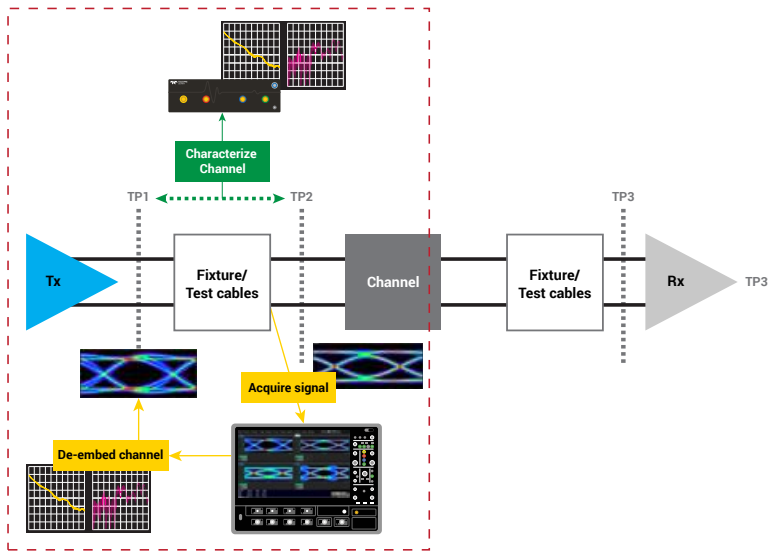
De-embed fixtures and test cables
- Measure S-parameter models using WavePulser 40iX, or import from other measurements or simulation tools

- Sophisticated Eye Doctor and VirtualProbe tools easily and accurately remove effects of fixtures and cables from acquired oscilloscope waveforms

- Apply the full SDAIII-CompeteLinQ toolkit to de-embedded waveforms for full eye, jitter and noise analysis directly at the output pins of the device under test
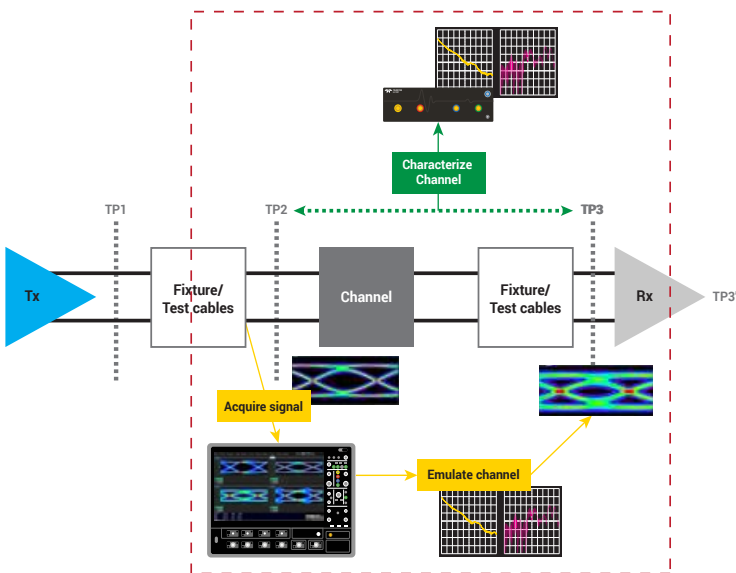
Emulate real-world channel losses
- WavePulser 40iX simplifies and speeds up accurate measurements of test channel loss profiles

- Channel model s-parameter files can be easily imported from the WavePulser 40iX or elsewhere into Eye Doctor and VirtualProbe tools in the oscilloscope

- Acquire waveforms at any point in the signal path, then use VirtualProbe to cleanly embed the effects of the channel

- Use the full analysis capability of SDAIII-CompleteLinQ to compare eye, jitter and noise measurements at multiple test points simultaneously
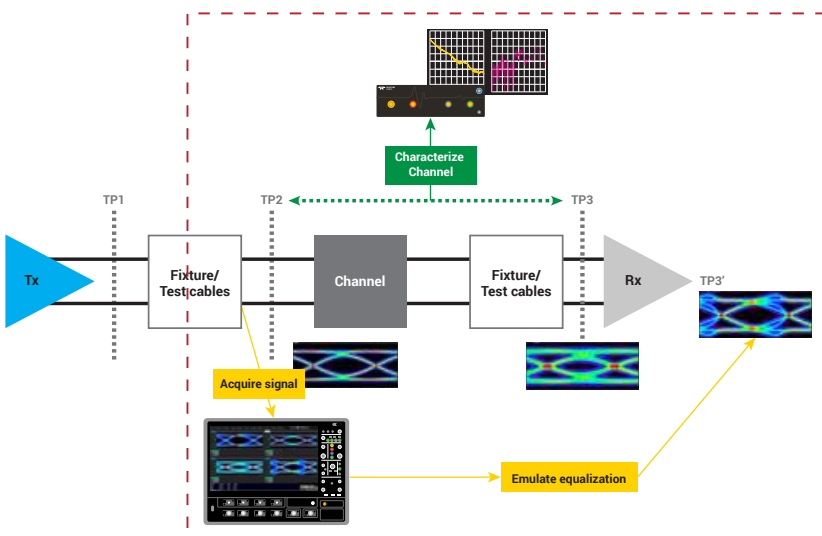
Emulate transmitter and receiver equalization
- SDAIII-CompleteLinQ with Eye Doctor enables the emulation of all common equalization types, including:
  - Transmitter emphasis
  - Receiver FFE
  - Receiver CTLE
  - Receiver DFE

7

The SDAIII software option provides the most comprehensive jitter decomposition, eye diagram and analysis tools with advanced signal integrity tools for emulation, de-embedding and equalization simulation.

Key Attributes

1. Eye diagram (a), eye mask failure (b) and IsoBER eye opening analysis (c)

2. Jitter spectrum (a) with noise floor display (b) and inverse FFT of the periodic jitter (c)

3. Data dependent jitter (DDj) plot for each bit in synch with pattern (a) and with histogram (b)

4. Time interval error (TIE) jitter track analysis

5. Jitter histograms (a) with bathtub curves (b) and CDF plot (c)

6. Intersymbol interference (ISI) plots pinpoint bit sequences that have high ISI and are sources of bit errors

7. Jitter measurements table with full details for one or more "lanes" plus reference

---

Advanced Signal Integrity Tools

Complete set of tools for: channel emulation; fixture, cable or channel de-embedding/embedding; adding or removing emphasis; performing CTLE, FFE or DFE equalization.
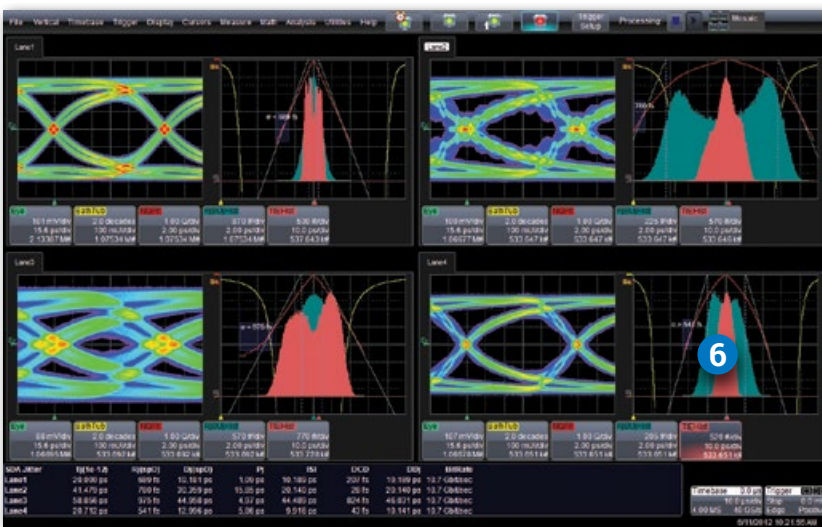
Use the unique crosstalk eye to view and compare noise in a way that cannot be done with a traditional eye diagram.

Fast Single or Multiple Eye Diagrams

- Up to four real-time and one reference comparison eye diagram

- Single lane with multiple-point or multi-configuration analysis

- Analyze multiple lanes simultaneously

- Fast eye diagram creation

- Reference lane simplifies multi-scenario testing

- IsoBER displays expected eye infringement to a user-settable bit error rate (BER)

- Crosstalk eye contour plots display the impact of excessive noise

A comprehensive set of jitter measurements, extrapolations and decompositions, with associated views for complete understanding, provides the best capability to debug problems faster.
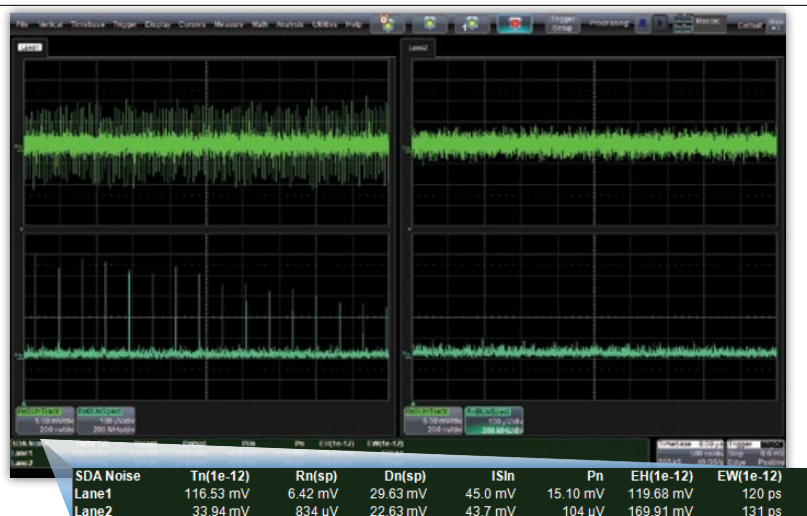
Comprehensive Jitter Decomposition & Analysis

- Complete Tj, Rj and Dj decomposition numerics on up to four lanes/configurations plus a reference

- Three different jitter decomposition models

- Complete random (Rj) and non-data dependent jitter (Rj+BUj) parameters and views

- Comprehensive data dependent jitter (DDj) analysis, including DDj plots and histograms, digital pattern display, and ISI plot by pattern

- Periodic jitter (Pj) inverse FFT

- Other jitter parameters including bounded uncorrelated jitter (BUj) and odd-even jitter (OEj)

View noise measurements in both time and frequency domains for insight into sources of crosstalk leading to bit errors.

Vertical Noise & Crosstalk Analysis

- Tools for complete aggressor/victim analysis

- Measure, extrapolate and decompose vertical noise just as you do with (horizontal) jitter

- Noise tracks, histograms and spectrums providing deep insight into noise sources

- Crosstalk eye contour plot shows probabilistic extent of noise, both inside and outside the eye

Teledyne LeCroy offers a full line of DDR test solutions for system bring-up, debug, performance analysis and compliance. Teledyne LeCroy's DDR test suite combines the right tools for every stage of development.
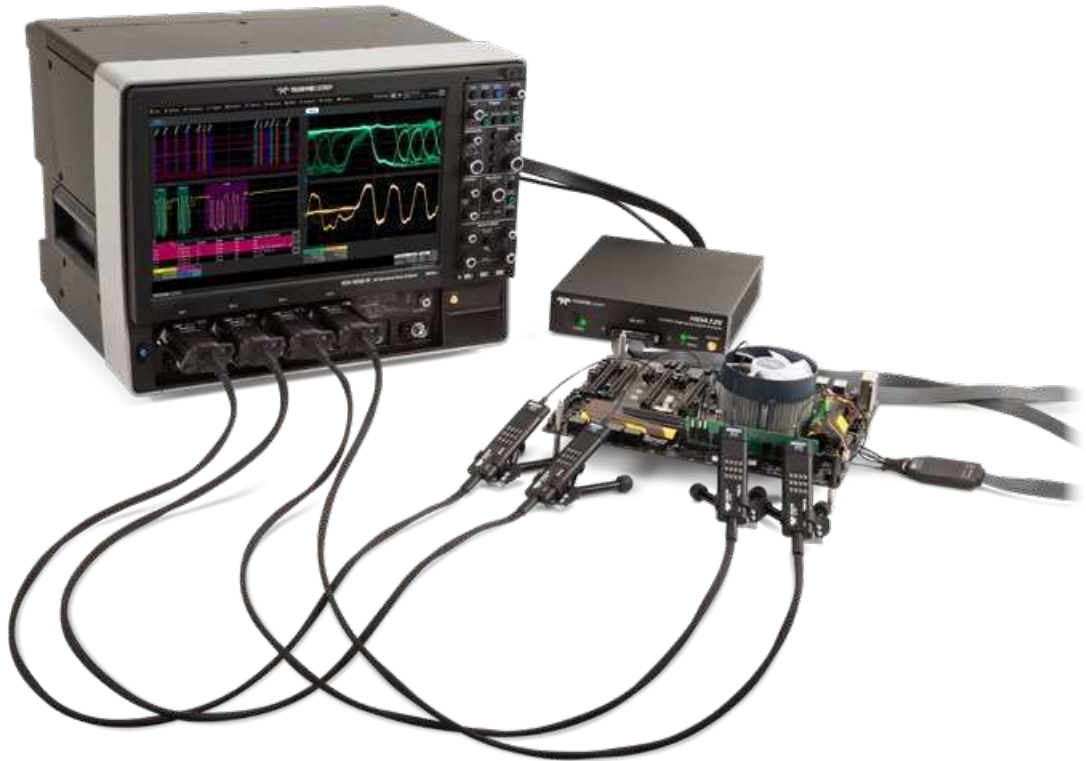
Physical Layer DDR Toolkit

The DDR Debug Toolkit provides test, debug and analysis tools for the entire DDR cycle. All DDR analysis can be performed simultaneously over four different measurement views.
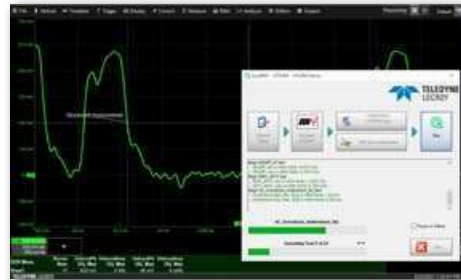
Physical Layer Compliance

The QualiPHY DDR packages perform all clock, electrical and timing tests to conform to the JEDEC specification. Supports all versions of DDR/LPDDR.
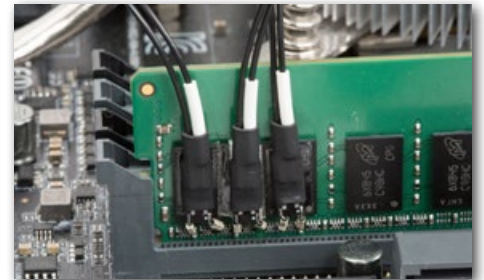
Unmatched Probing Versatility

The HDA125 High-speed Digital Analyzer provides the highest-performance (18 digital inputs, up to 12.5 GS/s), most flexible mixed-signal solution for DDR debug and evaluation. Analog differential probes provide up to 30 GHz bandwidth. QuickLink probe tips work with both the HDA125 and analog probes.

Effortless Burst Separation

- Automatic separation of Read and Write bursts eliminates time-consuming manual burst identification

- Separate bursts based on DQ-DQS skew or based on the command bus (when used with the HDA125)

- Bursted data jitter analysis

- Built-in DDR-specific measurements
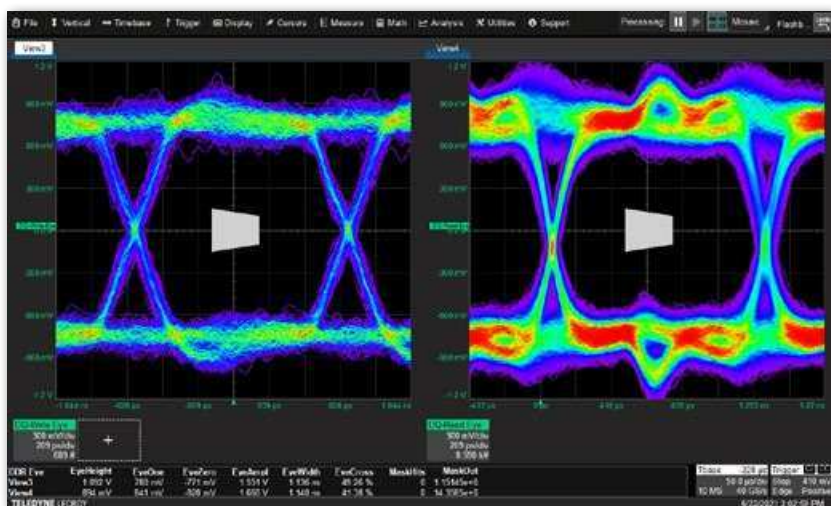
Eye Diagram Analysis

- Up to 10 simultaneous eye diagrams

- Standard or custom-defined pass/fail masks

- Mask violation indicators automatically identify and locate specific unit intervals where mask violations occurred

- Built-in measurements for eye height, eye width and eye opening provide quantitative understanding of system performance

- Compare performance across multiple testing views with simultaneous eye diagrams
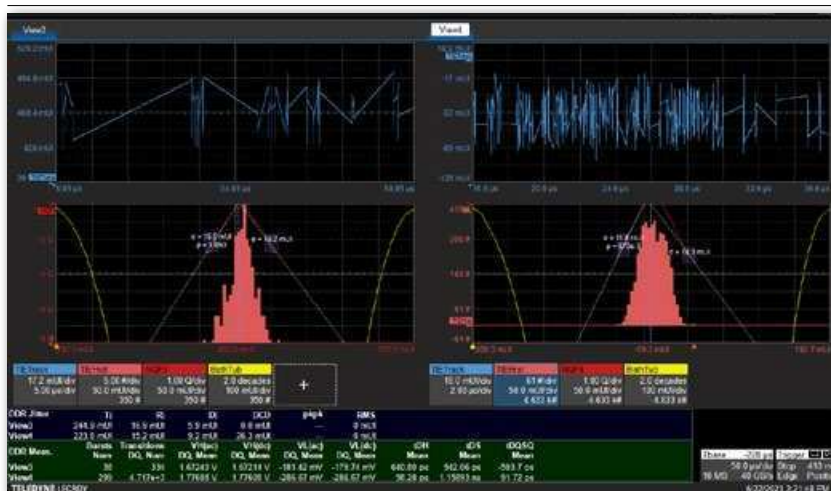
Enhanced Debug Capability with the HDA125

- Command bus digital acquisition capabilities

- Full DDR interface visibility simplifies transition from validation to debug

- Trigger on specific states of the command bus

- Command bus activity is tabulated and time-correlated with the color-coded and labeled physical layer waveforms

Teledyne LeCroy's PCI Express electrical test solutions combine superior instruments with sophisticated software

- Automated Transmitter, Receiver and Link Equalization (LEQ) testing with QualiPHY software options

- Visibility from physical layer through protocol operations

- WaveMaster/SDA 8 Zi-B is gold suite certified for all relevant PCI Express 3.0 (8 GT/s) tests
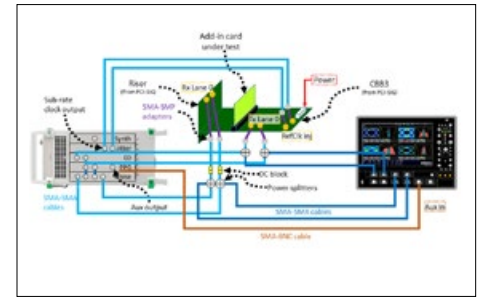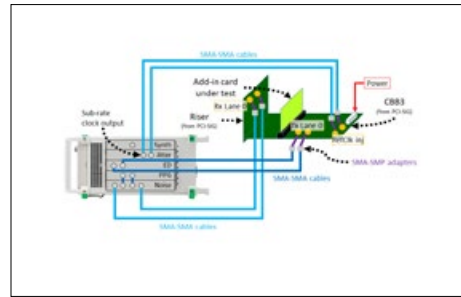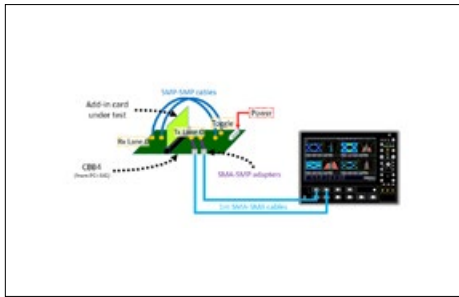
Transmitter (Tx) Testing

- Base specification and compliance testing for add-in cards and systems in CEM, M.2 and U.2 form factors

- QualiPHY fully automates collection and processing of transmitter waveforms

- Supports TF-PCIE4-CTRL controller for full fixture and DUT automation

- Debug electrical compliance issues faster with SDAIII-CompleteLinQ software

Receiver (Rx) Testing

- Receiver calibration and testing using the WaveMaster and Anritsu MP1900A BERT

- QualiPHY controls both the WaveMaster and MP1900A

- Use WavePulser 40iX for receiver channel characterization and calibration

- Single QualiPHY user interface for Tx and Rx testing

Link Equalization (LEQ) Testing

- Fully automated Tx and Rx LEQ testing using QualiPHY with SigTest integration

- Test, fixture and DUT automation for fast throughput without lots of manual steps

- Go directly from compliance test to cross-layer debug using ProtoSync on the WaveMaster and LTSSM analysis on the MP1900A

Remote Control

Rx Calibration

Rx In

Tx Out

DUT

Anritsu
MP1900A SQA-R

100 MHz
Ref. Clock In

Compliance Board

Teledyne LeCroy
WaveMaster 8 Zi-B

Superior PCIe® Test Solutions

- Approved PCI-SIG gold suite solution for PCIe electrical compliance test programs

- High accuracy and repeatability due to superior signal quality

- Fastest receiver test calibration

- Complete DUT and fixture automation
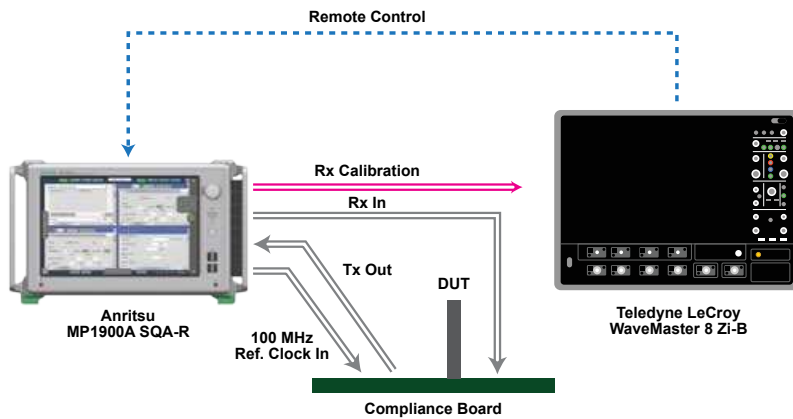
Visibility from Physical Layer Through Protocol Operations

- LTSSM logging and state-machine triggering

- ProtoSync integrates industry-standard protocol display and physical-layer analysis

- Go directly from Link Equalization compliance tests to deep debug
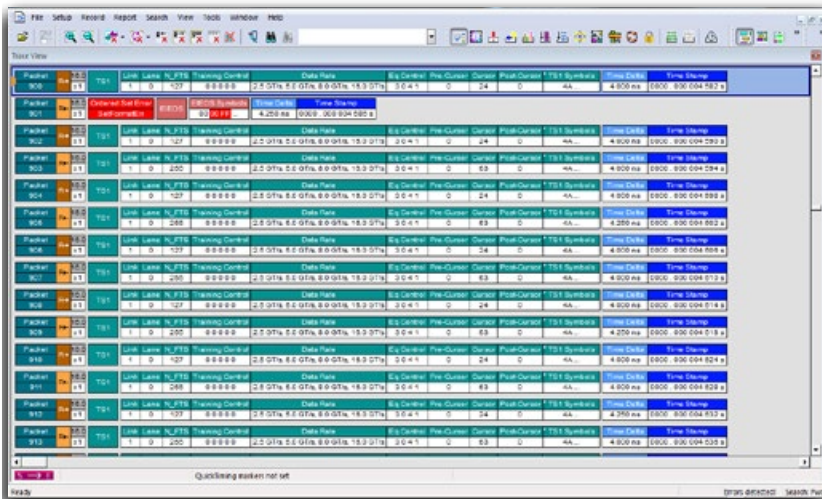
Looking for PCIe 4.0, 5.0, or 6.0?

- LabMaster 10 Zi-A oscilloscope supports electrical Tx and Rx compliance test solutions for PCIe 5.0, 4.0, 3.0 and below

- PAM4 analysis capability for future PCIe 6.0 technology and beyond

- ProtoSync protocol analysis software provides a view of the complete protocol stack, from physical layer to transaction layer

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Interoperability issues can lead to finger-pointing exercises that cost money and time-to-market. Teledyne LeCroy CrossSync PHY software and interposers merge the functions of your Teledyne LeCroy PCI Express protocol analyzer and oscilloscope - giving insight into link behavior that no other instrument can provide.

CrossSync PHY control and integration software

Teledyne LeCroy Oscilloscope

Teledyne LeCroy Protocol Analyzer

Control

Trigger

Endpoint under test

REFCLK

Interposer

Power rails

RP4030

DH-CSPHY Probe tips

High-speed signals: DH series probes

System under test
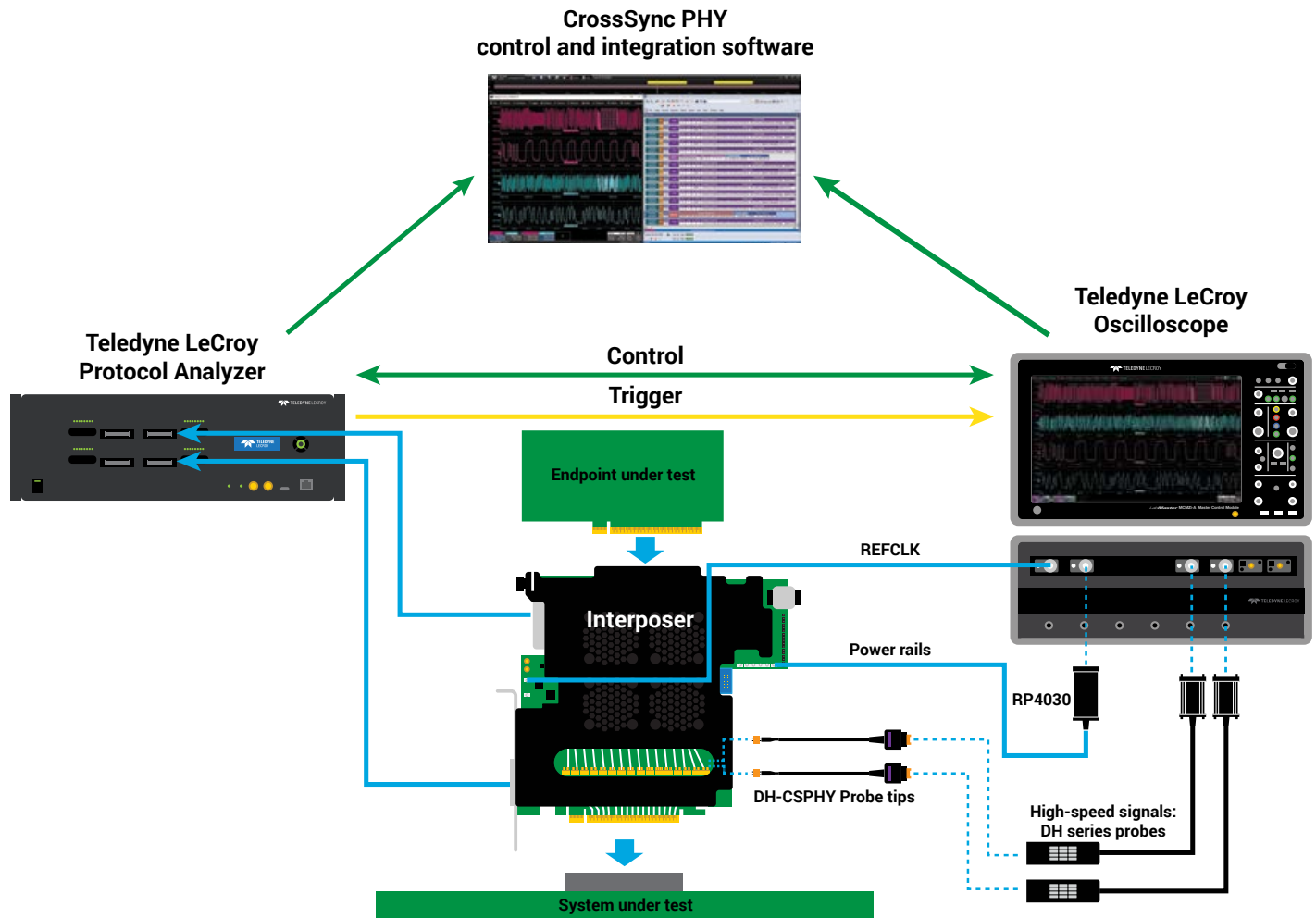
Validate and debug active link operation

- CrossSync PHY capable interposers enable observation of both electrical and protocol behavior without disturbing the link

- Sideband signals, reference clock and power rails are all easily accessible to oscilloscope probes

- Optional high-bandwidth oscilloscope probing points for PCI Express data lanes

Quickly resolve interoperability issues by capturing the entire protocol stack

- Trigger protocol analyzer and oscilloscope captures on the same high-level event

- Easily measure timing relationships between protocol and electrical domains

- Faster root-cause analysis means fewer costly finger-pointing exercises

Analyze link training with integrated physical and protocol views

- Observe electrical-level results of protocol-level commands

- Combined navigation means always knowing which protocol and electrical behaviors happen at the same time

- No single instrument can deliver this level of cross-layer insight into link training behavior

The CrossSync PHY software option for your Teledyne LeCroy oscilloscope enables precise, intuitive navigation between time-correlated protocol analyzer and oscilloscope traces.

Oscilloscope timebase and protocol analyzer acquisition window remain synchronized while navigating through the combined acquisition, for total confidence in timing behavior.

CrossSync PHY capability enhances Teledyne LeCroy's industry-leading set of PCI Express protocol analysis interposers by adding high-fidelity oscilloscope probing points with simple and convenient signal access.

Easily probe and observe:
– High-speed data signals
– Reference clock behavior
– Power rail voltage and current
– Sideband signals

PCI Express 4.0 x4 M.2 M-Key Interposer

PCI Express 5.0 CEM x16 Interposer

In 2011, Teledyne LeCroy became the first USB-IF approved "Gold Suite" for USB 3.0 at 5 Gb/s. Today, the USB Type-C connector carries multiple lanes up to 20 Gb/s data supporting USB4®, USB 3.2, Thunderbolt™ 3/4 and DisplayPort™ 2.0 standards. Teledyne LeCroy continues to be the trusted leader with:

- USB-IF approved "Gold Suite" PHY Tx/Rx compliance testing

- VESA approved DisplayPort over USB Type-C compliance testing

- The deepest signal integrity toolbox

- Unmatched PHY-logic and USB Type-C sideband debug
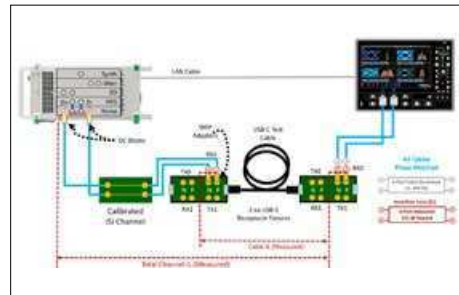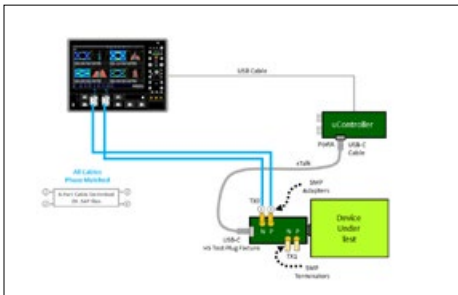
"Gold Suite" PHY Compliance

- QualiPHY software automates all USB-C standard Transmitter (Tx) and Receiver (Rx) compliance tests using a single, friendly user interface

- Accurate, repeatable Rx testing with Anritsu MP1900A BERT

- Support for both USB-IF and 3rd party fixtures and software tools

Deepest SI Toolbox

- Choose either USB-IF SigTest or Teledyne LeCroy SDAIII analysis methodology

- Debug electrical compliance issues faster with SDAIII-CompleteLinQ eye diagrams, jitter and noise analysis software

- WavePulser 40iX simplifies and speeds up receiver channel characterization and calibration

- Single QualiPHY user interface for Tx and Rx testing

PHY-logic & Sideband Debug

- USB 2.0 and 3.2 serial decode options provide decode of USB packets with graphical, intuitive, color-coded decode overlays

- ProtoSync integrates industry-standard protocol display

- USB-PD (Power Delivery) TDMP and DisplayPort-AUX DMP provide unmatched visibility of USB Type-C sideband signals for system debug
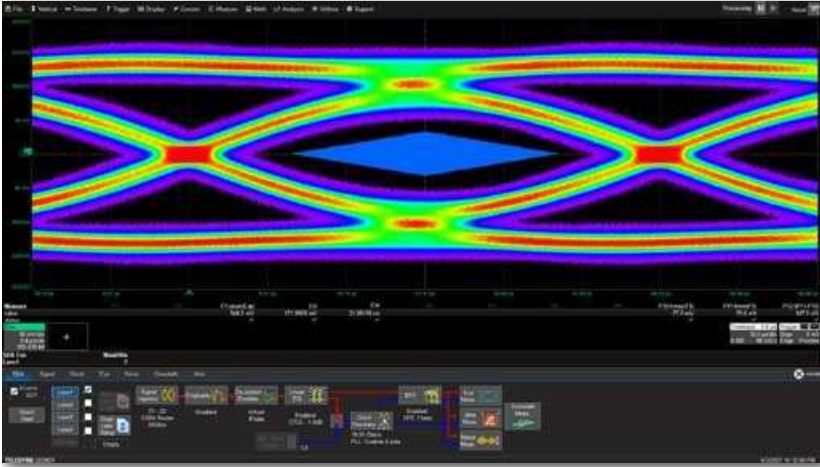
USB4 and Thunderbolt 3/4

- QPHY-USB4-TX-RX provides automated transmitter compliance test automation per the USB4 Gen2 (10 Gb/s) and Gen3 (20 Gb/s); and Thunderbolt Gen2 (10.3125 Gb/s) and Gen3 (20.625 Gb/s) electrical Compliance Test Specifications (CTS)

- Integrates USB4 ETT for DUT control with the Wilder-Tech USB4 test controller, and Thunderbolt electrical scripts with TBT3 controllers

- Fully automates receiver calibration and test with the Anritsu MP1900A high-speed BERT
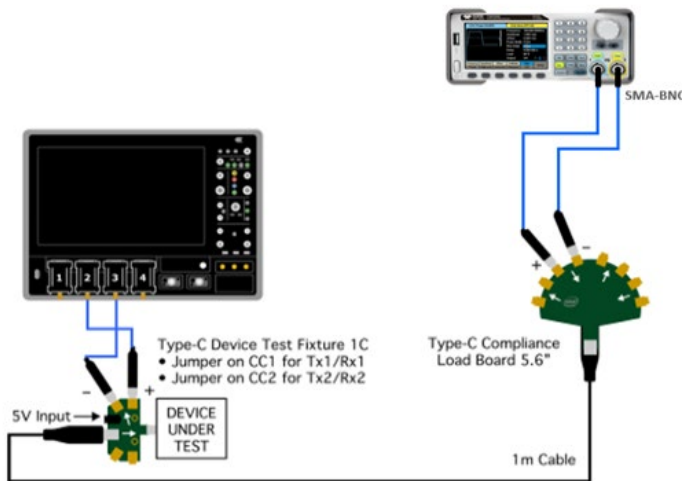
USB 3.2 and USB 2.0

- QPHY-USB3.2-TX-RX fully automates the USB 3.2 Tx and Rx CTS for Gen1 (5 Gb/s) and Gen2 (10 Gb/s), LFPS Tx/Rx and SCD/LBPM tests

- Supports a variety of generators for Tx compliance pattern control including Teledyne Test Tools AFG, Wilder-Tech USB Type-C controllers and Anritsu MP1900A BERT

- Fully automates Rx calibration and test with the Anritsu MP1900A high-speed BERT solution

- QPHY-USB fully automates the USB 2.0 HS, FS and LS CTS

DisplayPort over USB Type-C

- QPHY-DP2.0-SOURCE software automates source (Tx) testing for all DisplayPort 2.0 (UHBR20, UHBR13, UHBR10) and 1.4a (HBR3, HBR2, HBR, RBR) data rates

- QPHY-DP2.0-SINK software automates DisplayPort 2.0 sink (Rx) calibration and testing with the Anritsu MP1900A high-speed BERT solution

- DPAUX DMP provides AUX channel decode, serial data measurements and physical layer measurements

- Supports all VESA approved test fixtures including Standard DP, mDP and USB Type-C

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QUALIPHY AUTOMATED TEST FRAMEWORK

QualiPHY is Teledyne LeCroy's automated test framework for performing standardized tests on high-speed serial interfaces. QualiPHY automation is available for PCI Express, USB, DDR, DisplayPort, HDMI and other technologies - for a full list, see our Oscilloscope Features, Options, and Accessories catalog.
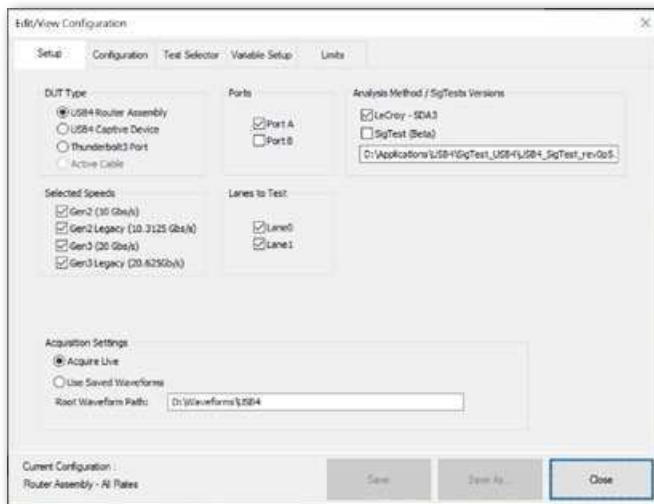
Simplified Setup

QualiPHY dialogs help the user configure all aspects of test execution, including:

- Selecting the set of tests to run
- Configuring test parameters
- Customizing limits
- Options to stop after each test or execute sequentially
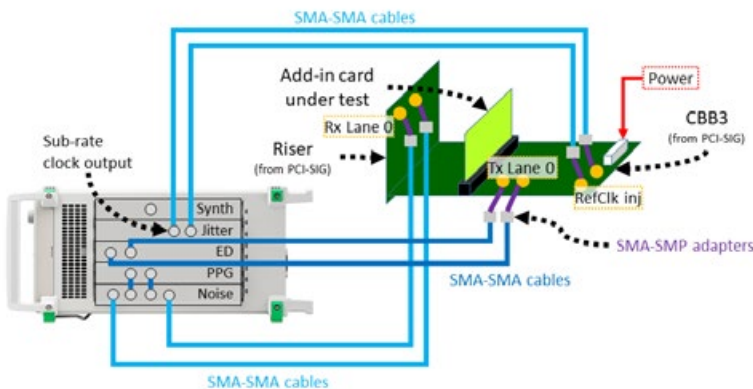
Streamlined Test Execution

QualiPHY guides the user though connection and execution of each test, resulting in increased repeatability.

- Clear, informative connection diagrams help simplify complex test setups and reduce mistakes
- Dialogs explain test execution and required Device Under Test (DUT) settings
- Simple, powerful Host Program Control interface enables complete automation of QualiPHY with external scripting environments (for selected QualiPHY products)
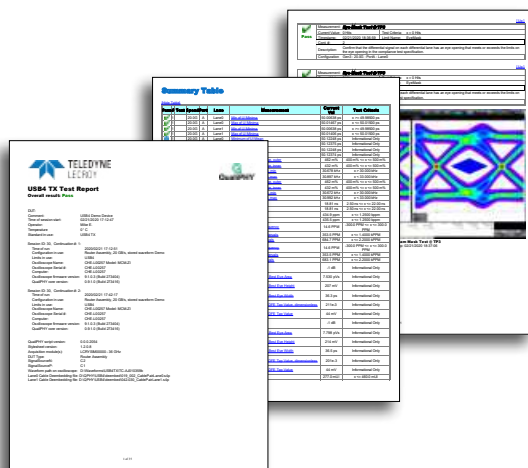
Informative Reporting

QualiPHY produces comprehensive reports documenting test results.

- Save reports in PDF or HTML format
- Screenshots and tabular results included
- Summary table at the start of the report makes it easy to tell pass/fail results at a glance

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Teledyne LeCroy's Trigger (T), Decode (D), Measure (M) or Graph (G), and Eye Diagram (E) and Physical Layer (P) options are the best of their kind. Visit teledynelecroy.com/tdme for complete details.
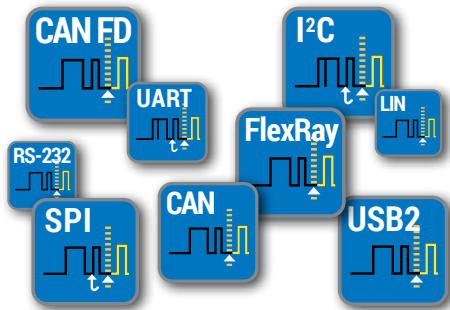
Highest Performance Triggers

Designed by people who know the standards, with the unique capabilities you need to isolate unusual events.

- Powerful, flexible, unique
- Conditional data setup
- Support for proprietary protocols
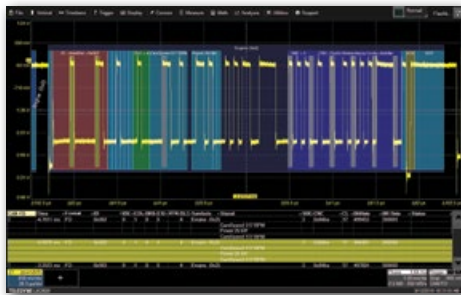
The Most Intuitive Serial Decoder

Decoded protocol information is color-coded and transparently overlaid for an intuitive, easy-to-understand visual record with a single time-interleaved table with touch to zoom.

- Intuitive, color-coded overlays
- Pattern search
- Interactive table summarizes results
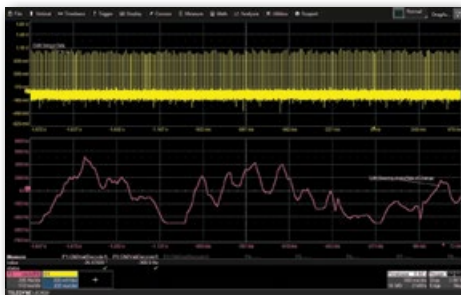
Measure and Graph Tools for Validation Efficiency

Automated timing measurements quickly validate cause and effect and serial data digital-to-analog (DAC) converter enhances understanding.

- Automated timing measurements
- Serial data DAC and graphing tools
- Bus status measurements
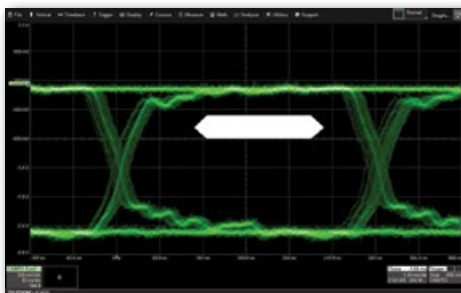
Eye Diagrams and Physical Layer Testing

Rapidly display an eye diagram of low-speed serial data signals. Eye parameters quantify system performance, and eye masks identify anomalies.

- Up to 4 simultaneous eye diagrams
- Eye measurements and masks
- Advanced PHY measurements

HIGH BANDWIDTH DIFFERENTIAL PROBES

The DH series of 8 to 30 GHz active differential probes provides high input dynamic range, large offset capability, low loading and excellent signal fidelity with a range of connection options.

General Purpose Probing up to 30 GHz

Teledyne LeCroy's DH series of 8 GHz to 30 GHz differential probes offer the combination of bandwidth, input range and offset capability to address any high-speed probing requirement - from debugging serial data interfaces to validating DDR memory systems.

Exceptional Signal Fidelity

DH series probes provide superior loading characteristics and are calibrated with a custom "fine-tuned" frequency response. The ultra-low loading and flat frequency response ensure accurate measurements.

Wide Variety of Tips

Two 30 GHz solder-in leads let you choose between a 3.5 Vpp input range for general-purpose applications, or high sensitivity with exceptionally low noise. Also available are a 1-meter long 16 GHz high-temperature tip, a 16 GHz handheld browser tip and an 8 GHz QuickLink adapter for connecting mixed-signal probe tips.

Tip Identification

Each DH series tip has its own data onboard - the oscilloscope software automatically selects the correct tip type and precisely corrects for its effects. The result is superior signal fidelity and superior ease-of-use.

Digital Logic Probing Options

HDA125 High-speed Digital Analyzer

The HDA125 turns your Teledyne LeCroy oscilloscope into the highest-performance, most flexible mixed-signal solution with 12.5 GS/s digital sampling rate (3 GHz digital clock rate) on 18 input channels and the QuickLink probing solution. Ideal for validation of DDR interfaces.

MS-500-36 Mixed Signal Oscilloscope Option

The MS-500-36 adds up to 36 digital channels for acquisition of digital signals at up to a 500 MHz clock rate (2 GS/s digital sample rate) with up to 50 Mpts/Ch for complete mixed-signal acquisition capability.

WaveMaster 8 Zi-B oscilloscopes support a broad range of probes for a variety of applications.

Differential Probes (200 MHz – 1.5 GHz)

Wide dynamic range, low loading and excellent noise performance. From 200 MHz to 1.5 GHz. Specialty AP033 provides 10x gain and high CMRR.

Differential Probes (4 – 6 GHz)

5 Vp-p dynamic range with ±3 V offset and low noise and loading. Solder-in, browser, QuickLink, Quick Connect, square pin and HiTemp leads/tips.

Differential Probes (8 – 30 GHz)

For serial data, DDR or other high-speed signals. Standard and high-sensitivity solder-in, HiTemp, and QuickLink for mixed-signal probing.

60 V Common Mode Differential Probes

The ideal probes for lower voltage GaN power conversion measurement with the highest accuracy, best CMRR and lowest noise. Up to 1 GHz.

High Voltage Differential Probes

1 kV, 2 kV and 6 kV CAT safety rated models. Widest differential voltage ranges, exceptional CMRR, low noise, 1% gain accuracy.

High Voltage Fiber Optically-isolated Probes

Measures small signals floating on an HV bus. Highest CMRR, low DUT loading with optical isolation.

High Voltage Passive Probes

1 kV to 6 kV ratings. Provides ground-referenced high voltage measurements in a wide range of applications.

Active Voltage Probes

1 to 4 GHz models. High signal fidelity and low circuit loading (<1 pF tip capacitance), ±8 V dynamic range, ±12 V offset.

Active Voltage/Power Rail Probe

4 GHz bandwidth, ±30 V offset, ±800 mV dynamic range. High DC input impedance and low noise/attenuation for power rail probing.

Current Probes

For AC, DC and impulse current measurements. Utilizes combination of Hall effect and transformer technology. Up to 500 A, up to 100 MHz.

Rogowski Coil Probes

Wide frequency range and small sense coils for maximum flexibility. From 300 to 6000 Amps, as low as 0.1 Hz to as high as 30 MHz.

Optical to Electrical Converters

DC-coupled detectors up to 9.5 GHz or 36 GHz, with reference receivers for ideal response compensation.

Transmission Line Probes

High-bandwidth passive probe for use with 50 Ω inputs. DC to 7.5 GHz with 0.25 pF input capacitance. 10x or 20x attenuation.

Probe and Current Sensor Adapters

Change between the different Teledyne LeCroy Oscilloscope input types or provide simple interface to 3rd-party probes.

Passive Probes

10x attenuating with 10 MΩ input resistance. Ideal for low-frequency signals.

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

Element Key: Category, Number, MAUI Icon, Name — ▲ Invented by LeCroy, ★ Unique to LeCroy

Elements:

- 1 Exclusion
- 2 Hardcopy
- 3 Measurement
- 4 5 MS/s Roll
- 5 Color Overlays
- 6 Measure Gate
- 7 Eye Diagrams
- 8 Multi-Lane
- 9 EMC Pulse
- 10 Email on Action
- 11 Multistage
- 12 Sequence Mode
- 13 Protocol Table
- 14 Jitter Overlay
- 15 Tj, Rj, Dj
- 16 PAM-4 Analysis
- 17-22 Motor + Power
- 23 Compliance
- 24 Analog+Digital
- 25 4 to 80 Channels
- 26 Multi-Grid
- 27 Segment
- 28 Multi-Zoom
- 29 All Instance
- 30 Statistics
- 31 Full Memory FFT
- 32 Digital Filters
- 33 Mask Test
- 34 TriggerScan
- 35 Symbol
- 36 Search & Zoom
- 37 Jitter Track
- 38 Bathtub Curve
- 39 Rj + BUj Views
- 40-45 DDR Analysis
- 46 WaveStudio
- 47 Serial Data
- 48 High Definition Technology
- 49 Drag and Drop
- 50 Waveform Histogram
- 51 Vertical Zoom
- 52 Parameter Math
- 53 Parameter Acceptance
- 54 Tracks / Trends
- 55 Processing Web
- 56 Actions
- 57 WaveScan
- 58 Protocol Layer
- 59 Bus Parameters
- 60 Jitter Histogram
- 61 IsoBER
- 62 Dj Views
- 63-67
- 68 LSIB
- 69 100 GHz / DBI
- 70 Q-Scape
- 71 3D Persistence
- 72 Auto-Scroll
- 73 Custom Measure
- 74 Histicon/Histogram
- 75 Demodulation
- 76 Custom Math
- 77 Boolean Compare
- 78 History Mode
- 79 Application Layer
- 80 Timing Parameters
- 81 Jitter Spectrum
- 82 Jitter Simulation
- 83 Noise + Crosstalk
- 84 LabNotebook
- 85-89
- 90
- 91 ProtoSync
- 92 Serial DAC Waveform
- 93 JitKit Views
- 94 EyeDr / VP
- 95 VectorLinQ VSA
- 96 QualiPHY
- 97 Automation
- 102 ProtoSync
- 103 Serial DAC Waveform
- 104 JitKit Views
- 105 EyeDr / VP
- 106 VectorLinQ VSA
- 107-114 QualiPHY
- 115 Automation

Lower rows:

- 17 Device Loss
- 18 Control Loop
- 19 Harmonics
- 20 3-Phase
- 21 Static+Dynamic
- 22 Zoom+Gate
- 63 / 64 / 65 / 66 / 67
- 107 Ethernet
- 108 DDR
- 109 Video
- 110 MIPI
- 40 R/W Separation
- 41 Multi-Eye View
- 42 DDR Tj, Rj, Dj
- 43 Debug Toolkit
- 44 Virtual Probe
- 45
- 85 / 86 / 87 / 88 / 89
- 111 Automotive
- 112 PCIe
- 113 USB
- 114 Storage

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
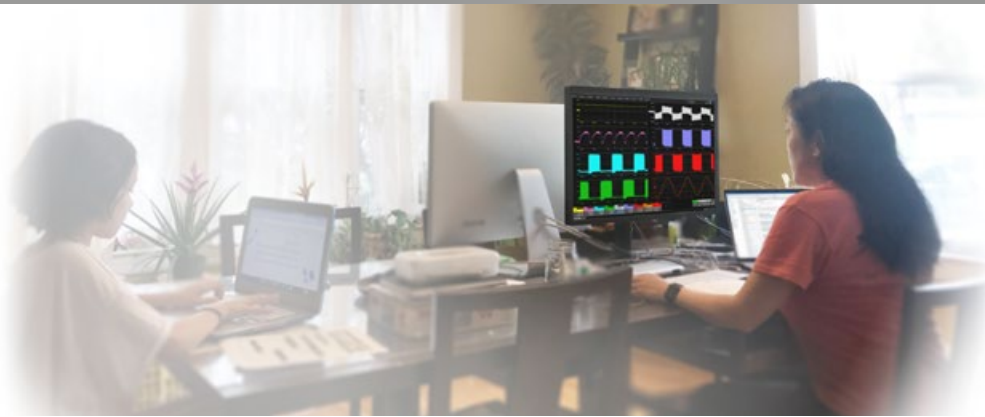
Unleash the power of a Teledyne LeCroy oscilloscope anywhere, using a PC with MAUI Studio Pro. Work remotely from your oscilloscope and collaborate with ease.

Flexibility to Work Anywhere

MAUI Studio provides the flexibility to remotely work anywhere, and allows anyone anywhere to execute real-time analysis by connecting to an oscilloscope through an Ethernet connection or by analyzing a saved LabNotebook.

Collaborate with Ease

Using MAUI Studio, you can share a LabNotebook file saved from an oscilloscope with all of your colleagues, and everyone will have access to the same software options that are found on your oscilloscope.

The Power of MAUI Studio

Get all the unbelievable analytical capabilities of your oscilloscope on your PC. MAUI Studio has all the analysis tools needed to analyze complex waveform data, enabling your lab's oscilloscopes to be freed up for other activities.
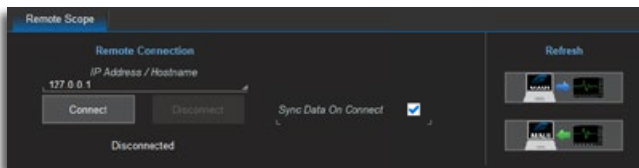
Remote Connection

- Connect to an oscilloscope through an Ethernet connection
- Transfer waveforms and setups from an oscilloscope to MAUI Studio Pro
- Transfer setups from MAUI Studio Pro to an oscilloscope
- Import software options by establishing a remote connection to an oscilloscope
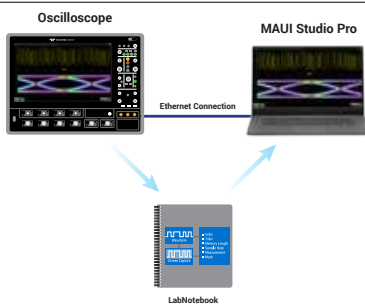
Offline Analysis

- Recall a LabNotebook file to analyze saved waveforms, measurements and setups
- Import software options by recalling a LabNotebook file
- Have access to the same software found on your oscilloscope
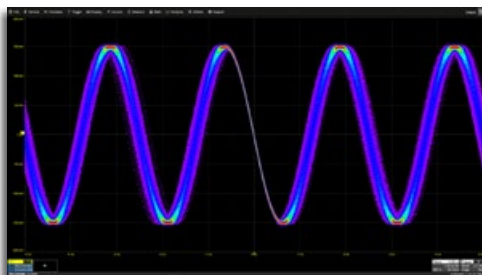
Arbitrary Function Generator

- Generate advance waveforms using the AFG
- Easily generate a PAM4 signal
- Add jitter to a clock signal to simulate real-world signal integrity impairments

Try the free MAUI Studio Pro 30 day trial. Download and register at teledynelecroy.com/mauistudio.

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SPECIFICATIONS

	WaveMaster 804Zi-B (SDA)	WaveMaster 806Zi-B (SDA)	WaveMaster 808Zi-B (SDA)	WaveMaster 813Zi-B (SDA)
Vertical System				
Analog Bandwidth @ 50 Ω (-3 dB) (ProLink Input)	4 GHz (≥ 10 mV/div)	6 GHz (≥ 10 mV/div)	8 GHz (≥ 10 mV/div)	13 GHz (≥ 10 mV/div)
Analog Bandwidth @ 50 Ω (-3 dB) (ProBus Input)	3.5 GHz (≥ 10 mV/div)	3.5 GHz (≥ 10 mV/div)	3.5 GHz (≥ 10 mV/div)	3.5 GHz (≥ 10 mV/div)
Analog Bandwidth @ 1 MΩ (-3 dB) (ProBus Input)	500 MHz (typical, ≥ 2 mV/div)			
Rise Time (10–90%, 50 Ω - test limit)	95 ps (test limit, flatness mode)	63 ps (test limit, flatness mode)	49 ps (test limit, flatness mode)	32.5 ps (test limit, flatness mode)
Rise Time (20–80%, 50 Ω - typical)	71 ps (flatness mode)	47 ps (flatness mode)	37 ps (flatness mode)	24.5 ps (flatness mode)
Input Channels	4 (Any combination of ProLink and ProBus inputs)			
Vertical Resolution	8 bits; up to 11 bits with enhanced resolution (ERES)			
Effective Number of Bits (ENOB) **	6.5	6.2	6.0	5.9
Vertical Noise Floor (rms, typical, 50 Ω)				
1 mV/div	0.21 mV	0.26 mV	0.3 mV	0.37 mV
2 mV/div	0.21 mV	0.26 mV	0.3 mV	0.37 mV
5 mV/div	0.21 mV	0.26 mV	0.3 mV	0.37 mV
10 mV/div	0.21 mV	0.26 mV	0.3 mV	0.37 mV
20 mV/div	0.33 mV	0.41 mV	0.47 mV	0.56 mV
50 mV/div	0.75 mV	0.93 mV	1.05 mV	1.23 mV
100 mV/div	1.47 mV	1.83 mV	2.08 mV	2.41 mV
200 mV/div	3.11 mV	3.89 mV	4.48 mV	5.35 mV
500 mV/div	7.47 mV	9.32 mV	10.62 mV	12.39 mV
1 V/div	15.04 mV	18.66 mV	21.11 mV	24.31 mV

Sensitivity

50 Ω (ProLink): 2 mV–1 V/div, fully variable (2–9.9 mV/div via zoom)
50 Ω (ProBus): 2 mV–1 V/div, fully variable
1 MΩ (ProBus): 2 mV–10 V/div, fully variable

DC Vertical Gain Accuracy (Gain Component of DC Accuracy)

±1% F.S. (typical), offset at 0 V; ±1.5% F.S. (test limit), offset at 0 V

Channel-Channel Isolation

DC to 10 GHz: 50 dB (> 315:1)
10 to 15 GHz: 46 dB (> 200:1)
15 to 20 GHz: 40 dB (> 100:1)
(For any two ProLink input channels, same or different V/div settings, typical)

Offset Range

50 Ω (ProLink):
±500 mV @ 2 mV/div–100 mV/div
±4 V @ > 100 mV/div–1 V/div

50 Ω (ProBus):
±750 mV @ 2 mV/div–100 mV/div
±4 V @ > 100 mV/div–1 V/div

1 MΩ:
±1 V @ 2 mV/div–140 mV/div
±10 V @ 142 mV/div–1.40 V/div
±100 V @ 1.42 V/div–10 V/div

DC Vertical Offset Accuracy

±(1.5% of offset setting + 1.5% F.S. + 1 mV) (test limit)

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SPECIFICATIONS

	WaveMaster 816Zi-B (SDA)	WaveMaster 820Zi-B (SDA)	WaveMaster 825Zi-B (SDA)	WaveMaster 830Zi-B (SDA)
Vertical System				
Analog Bandwidth @ 50 Ω (-3 dB) (2.92 mm Input)			25 GHz	30 GHz
Analog Bandwidth @ 50 Ω (-3 dB) (ProLink Input)	16 GHz (≥ 10 mV/div)	20 GHz (≥ 10 mV/div)	25 GHz (≥ 10 mV/div)	30 GHz (≥ 10 mV/div)
Analog Bandwidth @ 50 Ω (-3 dB) (ProBus Input)	3.5 GHz (≥ 10 mV/div)	3.5 GHz (≥ 10 mV/div)	3.5 GHz (≥ 10 mV/div)	3.5 GHz (≥ 10 mV/div)
Analog Bandwidth @ 1 MΩ (-3 dB) (ProBus Input)	500 MHz (typical, ≥ 2 mV/div)			
Rise Time (10−90%, 50 Ω - test limit)	28.5 ps (test limit, flatness mode)	22 ps (test limit, flatness mode)	17.5 ps (test limit, flatness mode)	15.5 ps (test limit, flatness mode)
Rise Time (20−80%, 50 Ω - typical)	21.5 ps (flatness mode)	16.5 ps (flatness mode)	13 ps (flatness mode)	11.5 ps (flatness mode)
Input Channels	4 (Any combination of ProLink and ProBus inputs)		4 (Any combination of 20 GHz ProLink inputs or 3.5 GHz ProBus inputs), 3 (1 @ full BW, 2 with ProLink or ProBus input), or 2 (@ full BW)	
Vertical Resolution	8 bits; up to 11 bits with enhanced resolution (ERES)			
Effective Number of Bits (ENOB) **	5.7	5.4	5.2	5.0
Vertical Noise Floor (rms, 50 Ω)				
1 mV/div	0.43 mV	0.49 mV	0.50 mV	0.53 mV
2 mV/div	0.43 mV	0.49 mV	0.50 mV	0.53 mV
5 mV/div	0.43 mV	0.49 mV	0.50 mV	0.53 mV
10 mV/div	0.43 mV	0.49 mV	0.50 mV	0.53 mV
20 mV/div	0.65 mV	0.73 mV	0.77 mV	0.84 mV
50 mV/div	1.45 mV	1.57 mV	1.84 mV	2.04 mV
100 mV/div	2.86 mV	3.04 mV	4.17 mV	4.43 mV
200 mV/div	6.34 mV	7.27 mV	7.61 mV	8.28 mV
500 mV/div	14.26 mV	15.41 mV	17.95 mV	19.95 mV
1 V/div	28.63 mV	30.26 mV	N/A	N/A
Sensitivity	**50 Ω (ProLink) at 40 GS/s:** 2 mV−1 V/div, fully variable (2-9.9 mV/div via zoom) **50 Ω (ProLink) at 80 GS/s:** 2 mV−1 V/div, fully variable (2-19.9 mV/div via zoom) **50 Ω (ProBus):** 2 mV−1 V/div, fully variable **1 MΩ (ProBus):** 2 mV−10 V/div, fully variable		**50 Ω (2.92 mm):** 10 mV−500 mV/div, fully variable **50 Ω (ProLink):** 2 mV−1 V/div, fully variable (2−9.9 mV/div via zoom) **50 Ω (ProBus):** 2 mV−1 V/div, fully variable **1 MΩ (ProBus):** 2 mV−10 V/div, fully variable	
DC Vertical Gain Accuracy (Gain Component of DC Accuracy)	±1% F.S. (typical), offset at 0 V; ±1.5% F.S. (test limit), offset at 0 V			
Channel-Channel Isolation	**DC to 10 GHz:** 50 dB (> 315:1) **10 to 15 GHz:** 46 dB (> 200:1) **15 to 20 GHz:** 40 dB (> 100:1) (For any two ProLink input channels, same or different V/div settings, typical)		**DC to 10 GHz:** 50 dB (> 315:1) **10 to 15 GHz:** 46 dB (> 200:1) **15 to 20 GHz:** 40 dB (> 100:1) **20 GHz to Max BW:** 30 dB (> 32:1) (For any two ProLink or 2.92 mm input channels, same or different V/div settings, typical)	
Offset Range	**50 Ω (ProLink):** ±500 mV @ 2−100 mV/div ±4 V @ > 100 mV/div−1 V/div **50 Ω (ProBus):** ±750 mV @ 2−100 mV/div ±4 V @ > 100 mV/div−1 V/div **1 MΩ:** ±1 V @ 2−140 mV/div ±10 V @ 142 mV−1.40 V/div ±100 V @ 1.42 V−10 V/div		**50 Ω (2.92 mm):** ±500 mV @ 10−79 mV/div ±4 V @ 80 mV/div−500 mV/div **50 Ω (ProLink):** ±500 mV @ 2−100 mV/div ±4 V @ >100 mV/div−1 V/div **50 Ω (ProBus):** ±750 mV @ 2−100 mV/div ±4 V @ >100 mV/div−1 V/div **1 MΩ:** ±1 V @ 2−128 mV/div ±10 V @ 130 mV−1.28 V/div ±100 V @ 1.3 V−10 V/div	
DC Vertical Offset Accuracy	±(1.5% of offset setting + 1.5% F.S. + 1 mV) (test limit)			

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SPECIFICATIONS

	WaveMaster 804Zi-B (SDA)	WaveMaster 806Zi-B (SDA)	WaveMaster 808Zi-B (SDA)	WaveMaster 813Zi-B (SDA)
Vertical System				
Maximum Input Voltage	**50 Ω (ProLink):** ±2 V max. @ ≤ 100 mV/div, 5.5 V_{rms} @ > 100 mV/div **50 Ω (ProBus):** ±5 V max., 3.5 V_{rms} **1 MΩ (ProBus):** 250 V max. (peak AC: < 10 kHz + DC)			
Input Coupling	**ProLink Inputs:** 50 Ω: DC, GND **ProBus Inputs:** 1 MΩ: AC, DC, GND; 50 Ω: DC, GND			
Input Impedance	**ProLink Inputs:** 50 Ω ±2% for ≤ 100 mV/div, 50 Ω ±3% for > 100 mV/div **ProBus Inputs:** 50 Ω ±2% or 1 MΩ ‖ 16 pF, 1 MΩ ‖ 11 pF with supplied Probe			
Bandwidth Limiters	20 MHz, 200 MHz, 1 GHz	20 MHz, 200 MHz, 1 GHz, 4 GHz	20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz	20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz
Rescaling	**Length:** meters, inches, feet, yards, miles; **Mass:** grams, slugs; **Temperature:** celsius, fahrenheit, kelvin; **Angle:** radian, arcdegr, arcmin, arcsec, cycles, revolutions, turns; **Velocity:** m/s, in/s, ft/s, yd/s, miles/s; **Acceleration:** m/s2, in/s2, ft/s2, g0; **Volume:** liters, cubic meters, cubic inches, cubic feet, cubic yards; **Force (Weight):** newton, grain, ounce, pound; **Pressure:** pascal, bar, atmosphere (technical), atmosphere (standard), torr, psi; **Electrical:** volts, amps, watts, volt-amperes, volt-amperes reactive, farad, coulomb, ohm, siemen, volt/meter, coulomb/m2, farad/meter, siemen/meter, power factor; **Magnetic:** weber, tesla, henry, amp/meter, henry/meter; **Energy:** joule, Btu, calorie; **Rotating Machine:** radian/second, frequency, revolution/second, revolution/minute, N·m, lb-ft, lb-in, oz-in, watt, horsepower; **Other:** %.			
Horizontal - Analog Channels				
Timebases	Internal timebase common to 4 input channels			
Time/Division Range	20 ps/div–128 s/div, depending on memory length **Real-time Mode:** 20 ps/div–64 s/div **RIS Mode:** 20 ps/div–10 ns/div; user selectable at ≤ 10 ns/div **Roll Mode:** 100 ms/div up to 128 s/div, user selectable at ≥ 100 ms/div and ≤ 5 MS/s			
Clock Accuracy	< 1 ppm + (aging of 0.5ppm/yr from last calibration)			
Sample Clock Jitter	Up to 10 μs Acquired Time Range: 100 fsrms (Internal Timebase Reference) Up to 6.4 ms Acquired Time Range: 150 fsrms (Internal Timebase Reference)			
Delta Time Measurement Accuracy	$\sqrt{2} * \sqrt{\left(\dfrac{Noise}{SlewRate}\right)^2 + (Sample\ Clock\ Jitter)^2}$ (RMS) + (clock accuracy * reading) (seconds)			
Jitter Measurement Floor	$\sqrt{\left(\dfrac{Noise}{SlewRate}\right)^2 + (Sample\ Clock\ Jitter)^2}$ (RMS, seconds, TIE)			
Channel-Channel Deskew Range	±9 x time/div. setting, or 25 ns max., each channel			
External Timebase Reference (Input)	10 MHz; 50 Ω impedance, applied at the rear input			
External Timebase Reference (Output)	10 MHz; 50 Ω impedance, output at the rear			

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SPECIFICATIONS

	WaveMaster 816Zi-B (SDA)	WaveMaster 820Zi-B (SDA)	WaveMaster 825Zi-B (SDA)	WaveMaster 830Zi-B (SDA)
Vertical System				
Maximum Input Voltage	**50 Ω (ProLink):** ±2 V max. @ ≤ 100 mV/div, 5.5 V_{rms} @ > 100 mV/div **50 Ω (ProBus):** ±5 V max., 3.5 V_{rms} **1 MΩ (ProBus):** 250 V max. (peak AC: < 10 kHz + DC)		**2.92 mm Inputs:** ±2 Vmax @ ≤ 100 mV/div, 5.5 V_{rms} @ > 100 mV/div **50 Ω (ProLink):** ±2 Vmax @ ≤ 100 mV/div, 5.5 V_{rms} @ > 100 mV/div **50 Ω (ProBus):** ±5 Vmax, 3.5 V_{rms} **1 MΩ (ProBus):** 250 Vmax (peak AC: < 10 kHz + DC)	
Input Coupling	**ProLink Inputs:** 50 Ω: DC, GND **ProBus Inputs:** 1 MΩ: AC, DC, GND; 50 Ω: DC, GND		**2.92 mm Inputs:** 50 Ω: DC, GND **ProLink Inputs:** 50 Ω: DC, GND **ProBus Inputs:** 1 MΩ: AC, DC, GND; 50 Ω: DC, GND	
Input Impedance	**ProLink Inputs:** 50 Ω ±2% for ≤ 100 mV/div, 50 Ω ±3% for > 100 mV/div **ProBus Inputs:** 50 Ω ±2% or 1 MΩ ‖ 16 pF, 1 MΩ ‖ 11 pF with supplied probe		**2.92 mm Inputs:** 50 Ω ±2% for ≤ 79 mV/div, 50 Ω ±3% for > 79 mV/div **ProLink Inputs:** 50 Ω ±2% for ≤ 100 mV/div, 50 Ω ±3% for > 100 mV/div **ProBus Inputs:** 50 Ω ±2% or 1 MΩ ‖ 16 pF, 1 MΩ ‖ 11 pF with supplied probe	
Bandwidth Limiters	**40 GS/s mode:** 20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz **80 GS/s Mode:** 13 GHz	**40 GS/s mode:** 20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz **80 GS/s Mode:** 13 GHz, 16 GHz	**For ≤20 GHz Mode:** 20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz **For >20 GHz Mode:** 20 GHz	**For ≤20 GHz Mode:** 20 MHz, 200 MHz, 1 GHz, 4 GHz, 6 GHz, 8 GHz, 13 GHz, 16 GHz **For >20 GHz Mode:** 20 GHz, 25 GHz
Rescaling	**Length:** meters, inches, feet, yards, miles; **Mass:** grams, slugs; **Temperature:** celsius, fahrenheit, kelvin; **Angle:** radian, arcdegr, arcmin, arcsec, cycles, revolutions, turns; **Velocity:** m/s, in/s, ft/s, yd/s, miles/s; **Acceleration:** m/s2, in/s2, ft/s2, g0; **Volume:** liters, cubic meters, cubic inches, cubic feet, cubic yards; **Force (Weight):** newton, grain, ounce, pound; **Pressure:** pascal, bar, atmosphere (technical), atmosphere (standard), torr, psi; **Electrical:** volts, amps, watts, volt-amperes, volt-amperes reactive, farad, coulomb, ohm, siemen, volt/meter, coulomb/m2, farad/meter, siemen/meter, power factor; **Magnetic:** weber, tesla, henry, amp/meter, henry/meter; **Energy:** joule, Btu, calorie; **Rotating Machine:** radian/second, frequency, revolution/second, revolution/minute, N·m, lb-ft, lb-in, oz-in, watt, horsepower; **Other:** %.			
Horizontal - Analog Channels				
Timebases	Internal timebase common to 4 input channels			
Time/Division Range	**Real-time Mode at 80 GS/s:** 20 ps/div−640 µs/div, depending on memory length **Other sample rates:** 20 ps/div−128 s/div, depending on memory length **Real-time Mode:** 20 ps/div−64 s/div; **RIS Mode:** 20 ps/div−10 ns/div; selectable at ≤10 ns/div; **Roll Mode:** 100 ms/div up to 128 s/div, selectable at ≥ 100 ms/div and ≤ 5 MS/s		**For ≥ 25 GHz Mode (Real-time only):** 20 ps/div−640 µs/div, depending on memory length **For ≤ 20 GHz Mode:** 20 ps/div−128 s/div, depending on memory length **Real-time Mode:** 20 ps/div−64 s/div; **RIS Mode:** 20 ps/div−10 ns/div, selectable at ≤10 ns/div; **Roll Mode:** 100 ms/div up to 128 s/div, selectable at ≥ 100 ms/div and ≤ 5 MS/s	
Clock Accuracy	< 1 ppm + (aging of 0.5 ppm/yr from last calibration)			
Sample Clock Jitter	Up to 10 µs Acquired Time Range: 100 fsrms (Internal Timebase Reference) Up to 6.4 ms Acquired Time Range: 150 fsrms (Internal Timebase Reference)			
Delta Time Measurement Accuracy	$\sqrt{2} * \sqrt{\left(\frac{Noise}{SlewRate}\right)^2 + (Sample\ Clock\ Jitter)^2}\ (RMS) + (clock\ accuracy * reading)\ (seconds)$			
Jitter Measurement Floor	$\sqrt{\left(\frac{Noise}{SlewRate}\right)^2 + (Sample\ Clock\ Jitter)^2}\ (RMS,\ seconds,\ TIE)$			
Channel-Channel Deskew Range	±9 x time/div. setting, or 25 ns max., each channel			
External Timebase Reference (Input)	10 MHz; 50 Ω impedance, applied at the rear input			
External Timebase Reference (Output)	10 MHz; 50 Ω impedance, output at the rear			

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SPECIFICATIONS

	WaveMaster 804Zi-B (SDA)	WaveMaster 806Zi-B (SDA)	WaveMaster 808Zi-B (SDA)	WaveMaster 813Zi-B (SDA)

Acquisition - Analog Channels

Sample Rate (Single-Shot)	40 GS/s (80 GS/s on 2 Ch using optional WM8Zi-2X80GS External Interleaving Device)
Random Interleaved Sampling (RIS)	200 GS/s for repetitive signals (20 ps/div to 10 ns/div)
Standard Memory	WaveMaster: 32 Mpts, 5,000 segments max SDA models: 64 Mpts, 15,000 segments max DDA models: 128 Mpts, 15,000 segments max (Memory and Sample Rate can be doubled in 1 or 2 Ch mode with use of WM8Zi-2X80GS External Interleaving Device)

Memory Options

Option	Mem/Ch	Max Segments
M-64	64 Mpts	15,000
L-128	128 Mpts	15,000
VL-256	256 Mpts	15,000

(Memory and Sample Rate can be doubled in 1 or 2 Ch mode with use of WM8Zi-2X80GS External Interleaving Device)

Intersegment time	1 µs
Averaging	Summed averaging to 1 million sweeps; continuous averaging to 1 million sweeps
Interpolation	Linear or Sin x/x

Vertical, Horizontal, Acquisition - Digital Channels with HDA125-18-SYNC

Maximum Input Frequency	3 GHz
Minimum Detectable Pulse Width	167ps
Input Dynamic Range	±10V on any single ended input ±7.5V max differential
Input Impedance (Flying Leads)	QL-SI tips: 110 kΩ, 0.12pF differential
Input Channels	18 Digital Channels
Maximum Input Voltage	±15V on any single ended input ±15V max differential
Minimum Input Voltage Swing	150 mV p-p
Threshold Selections	User defined
Threshold Accuracy	±(25mV + 3% of threshold setting)
User Defined Threshold Range	±5V, settable per channel in 5 mV steps
User Defined Hysteresis Range	50mV - 600mV settable per channel
Sample Rate	12.5 GS/s
Channel-to-Channel Skew	±160ps
Deskew Range	±1.6ns in 80ps steps

SPECIFICATIONS

	WaveMaster 816Zi-B (SDA)	WaveMaster 820Zi-B (SDA)	WaveMaster 825Zi-B (SDA)	WaveMaster 830Zi-B (SDA)

Acquisition - Analog Channels

Sample Rate (Single-Shot)	40 GS/s on 4 Ch 80 GS/s on 2 Ch	40 GS/s on 4 Ch 80 GS/s on 2 Ch when operated in ≥ 25 GHz Mode
Random Interleaved Sampling (RIS)	200 GS/s for repetitive signals (20 ps/div to 10 ns/div)	For ≥ 25 GHz Mode: Not applicable For < 25 GHz Mode: 200 GS/s for repetitive signals (20 ps/div to 10 ns/div)
Standard Memory	4 channels: 32 Mpts, 5,000 segments max (SDA: 64 Mpts, 15,000 segments max) (DDA: 128 Mpts, 15,000 segments max) 2 channels: (SDA: 128 Mpts, 15,000 segments max) (DDA: 256 Mpts, 15,000 segments max)	4 channels: 32 Mpts, 5,000 segments max (SDA: 64 Mpts, 15,000 segments max) (DDA: 128 Mpts, 15,000 segments max) 2 channels: (SDA: 128 Mpts, 15,000 segments max) (DDA: 256 Mpts, 15,000 segments max)

Memory Options

Option	Mem/Ch	Max Segments
M-64	64 Mpts	15,000
L-128	128 Mpts	15,000
VL-256	256 Mpts	15,000

		4 channels		2 channels	
Option	Mem/Ch	Max Segments	Mem/Ch	Max Segments
M-64	64 Mpts	15,000	128 Mpts	10,000
L-128	128 Mpts	15,000	256 Mpts	15,000
VL-256	256 Mpts	15,000	512 Mpts	15,000

Intersegment time	1 µs
Averaging	Summed averaging to 1 million sweeps; continuous averaging to 1 million sweeps
Interpolation	Linear or Sin x/x

Vertical, Horizontal, Acquisition - Digital Channels with HDA125-18-SYNC

Maximum Input Frequency	3 GHz
Minimum Detectable Pulse Width	167 ps
Input Dynamic Range	±10 V on any single ended input ±7.5 V max differential
Input Impedance (Flying Leads)	QL-SI tips: 110 kΩ, 0.12 pF differential
Input Channels	18 Digital Channels
Maximum Input Voltage	±15 V on any single ended input ±15 V max differential
Minimum Input Voltage Swing	150 mV p-p
Threshold Selections	User Defined
Threshold Accuracy	±(25 mV + 3% of threshold setting)
User Defined Threshold Range	±5 V, settable per channel in 5 mV steps
User Defined Hysteresis Range	50 mV - 600 mV settable per channel
Sample Rate	12.5 GS/s
Channel-to-Channel Skew	±160 ps
Deskew Range	±1.6 ns in 80 ps steps

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SPECIFICATIONS

	WaveMaster 804Zi-B (SDA)	WaveMaster 806Zi-B (SDA)	WaveMaster 808Zi-B (SDA)	WaveMaster 813Zi-B (SDA)
Triggering System				
Modes	Normal, Auto, Single and Stop			
Sources	Any input channel, Ext, Ext/10, Line, or Fast Edge; slope and level unique to each source (except line trigger)			
Coupling	DC, AC, HFRej, LFRej			
Pre-trigger Delay	0 to 100% of memory size			
Post-trigger Delay	0–10,000 divisions in real time mode, limited at slower time/div settings or in roll mode			
Hold-off	From 2 ns up to 20 s or from 1 to 99,999,999 events			
Trigger and Interpolator Jitter	<0.1 ps rms (typical, software assisted), 2 ps rms (typical, hardware)			
Internal Trigger Level Range	±4.1 div from center			
External Trigger Level Range	Ext (±0.4 V); Ext/10 (±4 V)			
Maximum Trigger Rate	1,000,000 waveforms/second (in Sequence Mode, up to 4 channels)			
Trigger Sensitivity with Edge Trigger 2.92mm Inputs	Not Applicable			
Trigger Sensitivity with Edge Trigger (Ch 1–4) ProBus Inputs	2 div @ < 3.5 GHz 1.5 div @ < 1.75 GHz 1.0 div @ < 200 MHz (for DC coupling, ≥ 10 mV/div, 50 Ω)			
Trigger Sensitivity with Edge Trigger (Ch 1–4) ProLink Inputs	2 div @ < 4 GHz, 1.5 div @ < 3 GHz, 1.0 div @ < 200 MHz, (for DC, AC, LFRej coupling, ≥ 10 mV/div, 50 Ω)	2 div @ < 6 GHz 1.5 div @ < 3 GHz 1.0 div @ < 200 MHz (for DC, AC, LFRej coupling, ≥ 10 mV/div, 50 Ω)	2 div @ < 8 GHz 1.5 div @ < 3 GHz 1.0 div @ < 200 MHz (for DC, AC, LFRej coupling, ≥ 10 mV/div, 50 Ω)	3 div @ < 13 GHz 1.5 div @ < 3 GHz 1.0 div @ < 200 MHz (for DC, AC, LFRej coupling, ≥ 10 mV/div, 50 Ω)
External Trigger Sensitivity, (Edge Trigger)	2 div @ < 1 GHz, 1.5 div @ < 500 MHz, 1.0 div @ < 200 MHz, (for DC coupling)			
Max. Trigger Frequency, SMART Trigger	2.0 GHz @ ≥ 10 mV/div (minimum triggerable width 200 ps)			
Trigger Types				
Edge	Triggers when signal meets slope (positive, negative, or either) and level condition.			
Width	Triggers on positive, negative or both (widths selectable as low as 200ps to 20 s) or on intermittent faults.			
Glitch	Triggers on positive or negative glitches (widths selectable as low as 200ps to 20 s) or on intermittent faults.			
Window	Triggers when signal exits a window defined by adjustable thresholds.			
Pattern	Logic combination (AND, NAND, OR, NOR) of 5 inputs (4 channels and external trigger input). Each source can be high, low or don't care. The high and low level can be selected independently. Triggers at start or end of the pattern.			
TV-Composite Video	Triggers NTSC or PAL with selectable line and field; HDTV (720p, 1080i, 1080p) with selectable frame rate (50 or 60 Hz) and line; or CUSTOM with selectable fields (1-8), lines (up to 2000), frame rates (25, 30, 50, or 60 Hz), interlacing (1:1, 2:1, 4:1, 8:1) or synch pulse slope (positive or negative).			
Runt	Trigger on positive or negative runts defined by two voltage limits and two time limits. Select between 1 ns and 20 ns.			
Slew Rate	Trigger on edge rates. Select limits for dV, dt and slope. Select edge limits between 1 ns and 20 ns.			
Interval	Triggers on intervals selectable between 1 ns and 20 s.			
Dropout	Triggers if signal drops out for longer than selected time between 1 ns and 20 s.			
Exclusion Triggering	Trigger on intermittent faults by specifying the expected behavior and triggering when that condition is not met.			
Measurement Trigger	Select from a large number of measurement parameters trigger on a measurement value with qualified limits. Can be used as only trigger or last event in a Cascade Trigger.			
Multi-stage: Qualified	Triggers on any input source only if a defined state or edge occurred on another input source. Holdoff between sources is selectable by time or events.			
Multi-stage: Qualified First	In Sequence acquisition mode, triggers repeatably on event B only if a defined pattern, state or edge (event A) is satisfied in the first segment of the acquisition. Holdoff between sources is selectable by time or events.			
High and Low Speed Serial Protocol Triggering (Optional)				
	Please refer to the *Oscilloscope Features, Options, and Accessories Catalog* for the latest offerings on all our instruments			
Measurement Tools				
Measurement Functionality	Display up to 12 measurement parameters together with statistics including mean, minimum, maximum, standard deviation, and total number. Each occurrence of each parameter is measured and added to the statistics table. Histicons provide a fast, dynamic view of parameters and waveshape characteristics. Parameter math allows addition, subtraction, multiplication or division of two different parameters. Parameter gates define the location for measurement on the source waveform. Parameter accept criteria define allowable values based on range setting or waveform state.			
Measurement Parameters - Horizontal + Jitter	Cycles (number of), Cycle to Cycle, Delay (from trigger, 50%), Δ Delay (50%), Duty Cycle (50%, @level), Edges (number of, @level), Fall Time (90-10, @levels), Frequency (50%, @level), Half Period (@level), Hold Time (@level), N Cycle Jitter (peak-peak), Number of Points, Period (50%, @level), Δ Period (@level), Phase (@level), Rise Time (10-90, @levels), Setup (@levels), Skew (@levels), Slew Rate (@levels), Time Interval Error (@level), Time (@level), Δ Time (@level), Width (50%, @level), Δ Width (@level), X(value)@max, X(value)@min			
Measurement Parameters - Vertical	Amplitude, Base, Level@X, Maximum, Mean, Median, Minimum, Peak-to-Peak, RMS, Std. Deviation, Top			
Measurement Parameters - Pulse	Area, Base, Fall Time (90-10, 80-20, @levels), Overshoot (positive, negative), Rise Time (10-90, 80-20, @levels), Top, Width (50%)			
Measurement Parameters - Statistical (on Histograms)	Full Width (@ Half Max, @%), Amplitude, Base, Peak@MaxPopulation, Maximum, Mean, Median, Minimum, Mode, Range, RMS, Std. Deviation, Top, X(value)@Peak, Peaks (number of), Percentile, Population (@bin, total)			

SPECIFICATIONS

	WaveMaster 816Zi-B (SDA)	WaveMaster 820Zi-B (SDA)	WaveMaster 825Zi-B (SDA)	WaveMaster 830Zi-B (SDA)

Triggering System

Modes	Normal, Auto, Single and Stop
Sources	Any input channel, Ext, Ext/10, Line or Fast Edge; slope and level unique to each source (except line trigger)
Coupling	DC, AC, HFRej, LFRej
Pre-trigger Delay	0 to 100% of memory size
Post-trigger Delay	No limitation
Hold-off	From 1 ns up to 20 s or from 1 to 99,999,999 events
Trigger and Interpolator Jitter	≤ 2.5 ps RMS (typical), < 0.1 ps RMS (typical, software assisted)
Internal Trigger Level Range	±4.1 div from center
External Trigger Level Range	Ext (±0.4 V); Ext/10 (±4 V)
Maximum Trigger Rate	61,000,000 waveforms/second (in Sequence Mode, up to 4 channels)

	816Zi-B / 820Zi-B	825Zi-B / 830Zi-B
Trigger Sensitivity with Edge Trigger 2.92mm Inputs	Not Applicable	3 div @ < 15 GHz 1.5 div @ < 3 GHz 1.0 div @ < 200 MHz (for DC coupling, ≥ 10 mV/div, 50 Ω)

Trigger Sensitivity with Edge Trigger (Ch 1–4) ProBus Inputs	2 div @ < 3.5 GHz 1.5 div @ < 1.75 GHz 1.0 div @ < 200 MHz (for DC coupling, ≥ 10 mV/div, 50 Ω)

	816Zi-B	820Zi-B	825Zi-B	830Zi-B
Trigger Sensitivity with Edge Trigger (Ch 1–4) ProLink Inputs	0.75 div	0.75 div	0.75 div @ < 5 GHz 1.5 div @ < 6 GHz	2.25 div @ < 8 GHz 1.25 div @ < 4.5 GHz 0.75 div @ < 1 GHz

External Trigger Sensitivity, (Edge Trigger)	2 div @ < 3.5 GHz 1.5 div @ < 1.75 GHz 1.0 div @ < 200 MHz (for DC coupling, ≥ 10 mV/div, 50 Ω)
Max. Trigger Frequency, SMART Trigger	2.0 GHz @ ≥ 10 mV/div (minimum triggerable width 200 ps)

Trigger Types

Edge	Triggers when signal meets slope (positive, negative or either) and level condition.
Width	Triggers on positive, negative or both widths (widths selectable as low as 200 ps to 20 s) or on intermittent faults.
Glitch	Triggers on positive or negative glitches (widths selectable as low as 200 ps to 20 s) or on intermittent faults.
Window	Triggers when signal exits a window defined by adjustable thresholds.
Pattern	Logic combination (AND, NAND, OR, NOR) of 5 inputs (4 channels and external trigger input). Each source can be high, low or don't care. The high and low level can be selected independently. Triggers at start or end of the pattern.
TV-Composite Video	Triggers NTSC or PAL with selectable line and field; HDTV (720p, 1080i, 1080p) with selectable frame rate (50 or 60 Hz) and line; or CUSTOM with selectable fields (1-8), lines (up to 2000), frame rates (25, 30, 50 or 60 Hz), interlacing (1:1, 2:1, 4:1, 8:1) or synch pulse slope (positive or negative).
Runt	Trigger on positive or negative runts defined by two voltage limits and two time limits. Select between 1 ns and 20 ns.
Slew Rate	Trigger on edge rates. Select limits for dV, dt and slope. Select edge limits between 1 ns and 20 ns.
Interval	Triggers on intervals selectable between 1 ns and 20 s.
Dropout	Triggers if signal drops out for longer than selected time between 1 ns and 20 s.
Exclusion Triggering	Trigger on intermittent faults by specifying the expected behavior and triggering when that condition is not met.
Measurement Trigger	Select from a large number of measurement parameters trigger on a measurement value with qualified limits. Can be used as only trigger or last event in a Cascade Trigger.
Multi-stage: Qualified	Triggers on any input source only if a defined state or edge occurred on another input source. Holdoff between sources is selectable by time or events.
Multi-stage: Qualified First	In Sequence acquisition mode, triggers repeatably on event B only if a defined pattern, state or edge (event A) is satisfied in the first segment of the acquisition. Holdoff between sources is selectable by time or events.

High- and Low-speed Serial Protocol Triggering (Optional)

	Please refer to the *Oscilloscope Features, Options and Accessories Catalog* for the latest offerings on all our instruments.

Measurement Tools

Measurement Functionality	Display up to 12 measurement parameters together with statistics including mean, minimum, maximum, standard deviation and total number. Each occurrence of each parameter is measured and added to the statistics table. Histicons provide a fast, dynamic view of parameters and waveshape characteristics. Parameter math allows addition, subtraction, multiplication or division of two different parameters. Parameter gates define the location for measurement on the source waveform. Parameter accept criteria define allowable values based on range setting or waveform state.
Measurement Parameters - Horizontal + Jitter	Cycles (number of), Cycle to Cycle, Delay (from trigger, 50%), Δ Delay (50%), Duty Cycle (50%, @level), Edges (number of, @level), Fall Time (90-10, @levels), Frequency (50%, @level), Half Period (@level), Hold Time (@level), N Cycle Jitter (peak-peak), Number of Points, Period (50%, @level), Δ Period (@level), Phase (@level), Rise Time (10-90, @levels), Setup (@levels), Skew (@levels), Slew Rate (@levels), Time Interval Error (@level), Time (@level), Δ Time (@level), Width (50%, @level), Δ Width (@level), X(value)@max, X(value)@min
Measurement Parameters - Vertical	Amplitude, Base, Level@X, Maximum, Mean, Median, Minimum, Peak-to-Peak, RMS, Std. Deviation, Top
Measurement Parameters - Pulse	Area, Base, Fall Time (90-10, 80-20, @levels), Overshoot (positive, negative), Rise Time (10-90, 80-20, @levels), Top, Width (50%)
Measurement Parameters - Statistical (on Histograms)	Full Width (@ Half Max, @%), Amplitude, Base, Peak@MaxPopulation, Maximum, Mean, Median, Minimum, Mode, Range, RMS, Std. Deviation, Top, X(value)@Peak, Peaks (number of), Percentile, Population (@bin, total)

SPECIFICATIONS

	WaveMaster 804Zi-B (SDA)	WaveMaster 806Zi-B (SDA)	WaveMaster 808Zi-B (SDA)	WaveMaster 813Zi-B (SDA)
Math Tools				
Math Functionality	Display up to 12 math functions traces (F1-F12). The easy-to-use graphical interface simplifies setup of up to two operations on each function trace, and function traces can be chained together to perform math-on-math.			
Math Operators - Basic Math	Average (summed), Average (continuous), Difference (−), Envelope, Floor, Invert (negate), Product (x), Ratio (/), Reciprocal, Rescale (with units), Roof, Sum (+)			
Math Operators - Digital (incl. with MSO models/options)	Digital AND, Digital DFlipFlop, Digital NAND, Digital NOR, Digital NOT, Digital OR, Digital XOR			
Math Operators - Filters	Enhanced resolution (to 15 bits vertical), Interpolate (cubic, quadratic, sinx/x)			
Math Operators - Frequency Analysis	FFT (power spectrum, magnitude, phase, power density, real, imaginary, magnitude squared) up to full analysis memory length. Select from Rectangular, VonHann, Hamming, FlatTop and Blackman Harris windows.			
Math Operators - Functions	Absolute value, Correlation (two waveforms), Derivative, Deskew (resample), Exp (base e), Exp (base 10), Integral, Invert (negate), Log (base e), Log (base 10), Reciprocal, Rescale (with units), Square, Square root, Zoom (identity)			
Math Operators - Other	Segment, Sparse			
Measurement and Math Integration				
	Histograms to display statistical distributions of up to 2 billion measurement parameters. Trend (datalog) of up to 1 million measurement parameters. Track (display parameter vs. time, time-correlated to acquisitions) any parameter. Persistence histogram and persistence trace (mean, range, sigma).			
Pass/Fail Testing				
	Display up to 12 Pass/Fail queries using a Single or Dual Parameter Comparison (compare All values, or Any value <, ≤, =, >, ≥, within limit ±Δ value or %) or Mask Test (pre-defined or user-defined mask, waveform All In, All Out, Any In, or Any Out conditions). Combine queries into a boolean expression to Pass or Fail IF "All True", "All False", "Any True", "Any False", or groups of "All" or "Any", with following THEN Save (waveforms), Stop, Alarm, (send) Pulse, Hardcopy (send email, save screen image, save to clipboard, send to printer), or (save) LabNotebook.			
Display System				
Size	Color 15.3" flat panel TFT-Active Matrix LCD with high-resolution touch screen			
Resolution	WXGA; 1280 x 768 pixels			
Number of Traces	Display a maximum of 16 traces (up to 40 with some software options). Simultaneously display channel, zoom, memory and math traces.			
Grid Styles	Auto, Single, Dual, Quad, Octal, X-Y, Single+X-Y, Dual+X-Y			
Waveform Representation	Sample dots joined, or sample dots only			
Processor/CPU				
Type	Intel® Core™ i7-4770S Quad, 3.1 GHz (up to 3.9 GHz in Turbo mode) or better			
Processor Memory	16 GB standard for STD memory (32 Mpt) and M-64 memory options 32 GB standard for L-128 and VL-256 memory options			
Operating System	Microsoft Windows® 10			
Real-Time Clock	Date and time displayed with waveform in hardcopy files. SNTP support to synchronize to precision internal clocks.			
Connectivity				
Ethernet Port	Supports 10/100/1000BaseT Ethernet interface (RJ45 port)			
USB Host Ports	4 rear USB 3.0 ports, 3 front panel USB 2.0 ports support Windows-compatible devices			
GPIB Port (Optional)	Supports IEEE−488.2			
External Monitor Port	Full-size DisplayPort connector, includes support for extended desktop operation with second monitor			
Remote Control	Via Microsoft COM Automation or via LeCroy Remote Command Set			
Network Communication Standard	VXI-11 or VICP, LXI Class C (v1.2) compliant			
Power Requirements				
Voltage	100−240 VAC ±10% at 45-66 Hz; 100-120 VAC ±10% at 380-420 Hz; automatic AC voltage selection, Installation Category II			
Max Power Consumption	975 W / 975 VA			
Environmental				
Temperature (Operating)	+5 °C to +40 °C			
Temperature (Non-Operating)	−20 °C to +60 °C			
Humidity (Operating)	5% to 90% RH (non-condensing) up to +31 °C, upper limit derating to 50% RH (non-condensing) at +40 °C			
Humidity (Non-Operating)	5% to 95% RH (non-condensing) as tested per MIL-PRF-28800F			
Altitude (Operating)	Up to 10,000 ft (3048 m) at or below +30 °C			
Altitude (Non-Operating)	Up to 40,000 ft (12,192 m)			
Random Vibration (Operating)	0.5 grms 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes			
Random Vibration (Non-Operating)	2.4 grms 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes			
Functional Shock	20 g peak, half sine, 11 ms pulse, 3 shocks (positive and negative) in each of three orthogonal axes, 18 shocks total			
Size and Weight				
Dimensions (HWD)	14" H x 18.4" W x 16" D (355 x 467 x 406 mm)			
Weight	51.5 lbs. (23.4 kg)			
Certifications				
CE Certification UL and cUL Listing	CE compliant, UL and cUL listed; conforms to EN 61326, EN 61010-1, EN61010-2-030, UL 61010-1 3rd edition and CSA C22.2 No. 61010-1-12			
Warranty and Service				
	3-year warranty; calibration recommended annually. Optional service programs include extended warranty, upgrades and calibration services.			

SPECIFICATIONS

	WaveMaster 816Zi-B (SDA)	WaveMaster 820Zi-B (SDA)	WaveMaster 825Zi-B (SDA)	WaveMaster 830Zi-B (SDA)

Math Tools

Math Functionality	Display up to 12 math functions traces (F1-F12). The easy-to-use graphical interface simplifies setup of up to two operations on each function trace, and function traces can be chained together to perform math-on-math.
Math Operators - Basic Math	Average (summed), Average (continuous), Difference (−), Envelope, Floor, Invert (negate), Product (x), Ratio (/), Reciprocal, Rescale (with units), Roof, Sum (+)
Math Operators - Digital (incl. with MSO models/options)	Digital AND, Digital DFlipFlop, Digital NAND, Digital NOR, Digital NOT, Digital OR, Digital XOR
Math Operators - Filters	Enhanced resolution (to 15 bits vertical), Interpolate (cubic, quadratic, sinx/x)
Math Operators - Frequency Analysis	FFT (power spectrum, magnitude, phase, power density, real, imaginary, magnitude squared) up to full analysis memory length. Select from Rectangular, VonHann, Hamming, FlatTop and Blackman Harris windows.
Math Operators - Functions	Absolute value, Correlation (two waveforms), Derivative, Deskew (resample), Exp (base e), Exp (base 10), Integral, Invert (negate), Log (base e), Log (base 10), Reciprocal, Rescale (with units), Square, Square root, Zoom (identity)
Math Operators - Other	Segment, Sparse

Measurement and Math Integration

Histograms to display statistical distributions of up to 2 billion measurement parameters. Trend (datalog) of up to 1 million measurement parameters. Track (display parameter vs. time, time-correlated to acquisitions) any parameter. Persistence histogram and persistence trace (mean, range, sigma).

Pass/Fail Testing

Display up to 12 Pass/Fail queries using a Single or Dual Parameter Comparison (compare All values, or Any value <, ≤, =, >, ≥, within limit ±Δ value or %) or Mask Test (pre-defined or user-defined mask, waveform All In, All Out, Any In, or Any Out conditions). Combine queries into a boolean expression to Pass or Fail IF "All True", "All False", "Any True", "Any False", or groups of "All" or "Any", with following THEN Save (waveforms), Stop, Alarm, (send) Pulse, Hardcopy (send email, save screen image, save to clipboard, send to printer) or (save) LabNotebook.

Display System

Size	Color 15.3" flat panel TFT-Active Matrix LCD with high-resolution touch screen
Resolution	WXGA; 1280 x 768 pixels
Number of Traces	Display a maximum of 16 traces (up to 40 with some software options). Simultaneously display channel, zoom, memory and math traces.
Grid Styles	Auto, Single, Dual, Quad, Octal, X-Y, Single+X-Y, Dual+X-Y
Waveform Representation	Sample dots joined, or sample dots only

Processor/CPU

Type	Intel® Core™ i7-4770S Quad, 3.1 GHz (up to 3.9 GHz in Turbo mode), or better
Processor Memory	16 GB standard for STD memory (32 Mpt) and M-64 memory options 32 GB standard for L-128 and VL-256 memory options
Operating System	Microsoft Windows® 10
Real-Time Clock	Date and time displayed with waveform in hardcopy files. SNTP support to synchronize to precision internal clocks.

Connectivity

Ethernet Port	Supports 10/100/1000BaseT Ethernet interface (RJ45 port)
USB Host Ports	4 rear USB 3.0 ports, 3 front panel USB 2.0 ports support Windows-compatible devices
GPIB Port (Optional)	Supports IEEE−488.2
External Monitor Port	Full-size DisplayPort connector, includes support for extended desktop operation with second monitor
Remote Control	Via Microsoft COM Automation, or via LeCroy Remote Command Set
Network Communication Standard	VXI-11 or VICP, LXI Class C (v1.2) compliant

Power Requirements

	816Zi-B / 820Zi-B	825Zi-B / 830Zi-B
Voltage	100−240 VAC ±10% at 45-66 Hz; 100-120 VAC ±10% at 380-420 Hz; automatic AC voltage selection, Installation Category II	
Max Power Consumption	975 W / 975 VA	1025 W / 1025 VA

Environmental

Temperature (Operating)	+5 °C to +40 °C
Temperature (Non-Operating)	−20 °C to +60 °C
Humidity (Operating)	5% to 90% RH (non-condensing) up to +31 °C, upper limit derating to 50% RH (non-condensing) at +40 °C
Humidity (Non-Operating)	5% to 95% RH (non-condensing) as tested per MIL-PRF-28800F
Altitude (Operating)	Up to 10,000 ft (3048 m) at or below +30 °C
Altitude (Non-Operating)	Up to 40,000 ft (12,192 m)
Random Vibration (Operating)	0.5 grms 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes
Random Vibration (Non-Operating)	2.4 grms 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes
Functional Shock	20 g peak, half sine, 11 ms pulse, 3 shocks (positive and negative) in each of three orthogonal axes, 18 shocks total

Size and Weight

	816Zi-B / 820Zi-B	825Zi-B / 830Zi-B
Dimensions (HWD)	14" H x 18.4" W x 16" D (355 x 467 x 406 mm)	
Weight	51.5 lbs. (23.4 kg)	58 lbs. (26.4 kg)

Certifications

CE Certification UL and cUL Listing	CE compliant, UL and cUL listed; conforms to EN 61326, EN 61010-1, EN61010-2-030, UL 61010-1 3rd edition and CSA C22.2 No. 61010-1-12

Warranty and Service

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

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ORDERING INFORMATION

Product Description	Product Code
WaveMaster 8 Zi-B Series Oscilloscopes	
4 GHz, 40 GS/s, 4ch, 32 Mpts/Ch WaveMaster with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs	WaveMaster 804Zi-B
6 GHz, 40 GS/s, 4ch, 32 Mpts/Ch WaveMaster with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs	WaveMaster 806Zi-B
8 GHz, 40 GS/s, 4ch, 32 Mpts/Ch WaveMaster with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs	WaveMaster 808Zi-B
13 GHz, 40 GS/s, 4ch, 32 Mpts/Ch WaveMaster with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs	WaveMaster 813Zi-B
16 GHz, 80 GS/s, 64 Mpts/Ch WaveMaster with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs. Also operates in 4ch, 40 GS/s, 32 Mpts/Ch mode.	WaveMaster 816Zi-B
20 GHz, 80 GS/s, 64 Mpts/Ch WaveMaster with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs. Also operates in 4ch, 40 GS/s, 32 Mpts/Ch mode.	WaveMaster 820Zi-B
25 GHz, 80 GS/s, 64 Mpts/Ch Digital Bandwidth Interleaved (DBI) Oscilloscope with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs. Also operates in 20 GHz, 40 GS/s, 4ch, 32 Mpts/Ch mode.	WaveMaster 825Zi-B
30 GHz, 80 GS/s, 64 Mpts/Ch Digital Bandwidth Interleaved (DBI) Oscilloscope with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs. Also operates in 20 GHz, 40 GS/s, 4ch, 32 Mpts/Ch mode.	WaveMaster 830Zi-B
SDA 8 Zi-B Series Serial Data Analyzers	
4 GHz, 40 GS/s, 4ch, 64 Mpts/Ch Serial Data Analyzer with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, 8b/10b and 64b/66b decode.	SDA 804Zi-B
6 GHz, 40 GS/s, 4ch, 64 Mpts/Ch Serial Data Analyzer with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, 8b/10b and 64b/66b decode.	SDA 806Zi-B
8 GHz, 40 GS/s, 4ch, 64 Mpts/Ch Serial Data Analyzer with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, 8b/10b and 64b/66b decode.	SDA 808Zi-B
13 GHz, 40 GS/s, 4ch, 64 Mpts/Ch Serial Data Analyzer with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, 8b/10b and 64b/66b decode.	SDA 813Zi-B
16 GHz, 80 GS/s, 128 Mpts/Ch Serial Data Analyzer with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, 8b/10b and 64b/66b decode. Also operates in 4ch, 40 GS/s, 64 Mpts/Ch mode.	SDA 816Zi-B
20 GHz, 80 GS/s, 128 Mpts/Ch Serial Data Analyzer with 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, 8b/10b and 64b/66b decode. Also operates in 4ch, 40 GS/s, 64 Mpts/Ch mode.	SDA 820Zi-B
25 GHz,80 GS/s, 128 Mpts/Ch Digital Bandwidth Interleaved (DBI) Serial Data Analyzer - 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, and 8b/10b and 64b/66b decode. Also operates in 20 GHz, 40 GS/s, 4ch, 64 Mpts/Ch mode.	SDA 825Zi-B
30 GHz,80 GS/s, 128 Mpts/Ch Digital Bandwidth Interleaved (DBI) Serial Data Analyzer - 15.3" WXGA Color Display. 50 Ω and 1 MΩ Inputs, 6.5 Gb/s Serial Trigger, and 8b/10b and 64b/66b decode. Also operates in 20 GHz, 40 GS/s, 4ch, 64 Mpts/Ch mode.	SDA 830Zi-B
Included with Standard Configuration	
÷10, 500 MHz Passive Probe (Qty. 4 on 4 – 20 GHz units, Qty. 2 on 25 – 45 GHz units)	
ProLink to SMA Adapter: 4 each (for 4 – 8 GHz units)	LPA-SMA-A
ProLink to K/2.92 mm Adapter: 4 each (for 13 – 45 GHz units)	LPA-K-A
Optical 3-button Wheel Mouse, USB 2.0	
Protective Front Cover	
Printed Getting Started Guide	
Anti-virus Software (Trial Version)	
Microsoft Windows® 10 License	
Commercial NIST Traceable Calibration with Certificate	
Power Cable for the Destination Country	
3-year Warranty	

Product Description	Product Code
Memory and Sample Rate Options	
80 GS/s on 2 Ch Sampling Rate Option for WaveMaster 8 Zi-B (not available for 816Zi-B, 820Zi-B, 825Zi-B or 830Zi-B), includes two separate external interleaving devices with storage case	WM8Zi-2X80GS
32 Mpts/Ch Standard Memory for WaveMaster 8 Zi-B, includes 16 GB of RAM	WM8Zi-STD
64 Mpts/Ch Standard Memory for SDA 8 Zi-B, includes 16 GB of RAM	SDA8Zi-STD
64 Mpts/Ch Memory Option for WaveMaster 8 Zi-B, includes 16 GB of RAM	WM8Zi-M-64
128 Mpts/Ch Memory Option for WaveMaster 8 Zi-B, includes 32 GB of RAM	WM8Zi-L-128
128 Mpts/Ch Memory Option for SDA 8 Zi-B, includes 32 GB of RAM	SDA8Zi-L-128
256 Mpts/Ch Memory Option for WaveMaster 8 Zi-B, includes 32 GB of RAM	WM8Zi-VL-256
256 Mpts/Ch Memory Option for SDA 8 Zi-B, includes 32 GB of RAM	SDA8Zi-VL-256
CPU, Computer and Other Hardware Options	
16 GB to 32 GB CPU RAM Option (Included with -L and -VL Memory options)	WM8ZI-16-UPG-32GBRAM
Additional Removable Solid State Drive	WM8ZI-RSSD-02
Cross-layer Analysis Software	
CrossSync PHY Protocol Analyzer Synchronization Software	WM8ZI-CROSSSYNC-PHY
Serial Data and CrossTalk Analysis	
Multi-lane SDA LinQ framework, incl. Eye, Jitter, Noise, Crosstalk measurements, Eye Doctor II and VirtualProbe	WM8Zi-SDAIII-CompleteLinQ SDA8Zi-CompleteLinQ
Single-lane SDA framework, including Eye and Jitter measurements	WM8Zi-SDAIII
PAM4 Signal Analysis	WM8ZI-PAM4
Signal Integrity Toolkits	
Advanced De-embedding, Emulation and Virtual Probing Toolkit	WM8Zi-VIRTUALPROBE
Signal Integrity Toolkit - Channel & Fixture De-embedding/Emulation, Tx/Rx Equalization	WM8Zi-EYEDRII
Bundle - Eye Doctor II and VirtualProbe Toolkits	WM8Zi-EYEDRII-VP
Cable De-embedding Option	WM8Zi-CBL-DE-EMBED
Modulated Signal Analysis	
VectorLinQ − Flexible vector signal analysis for electrical signals (RF and baseband I-Q)	WM8Zi-VECTORLINQ
VectorLinQ − Advanced vector signal analysis, includes OFDM	WM8Zi-VECTORLINQ-ADV
Optical-LinQ − Coherent optical modulation analysis	WM8ZI-OPTICAL-LINQ
High-speed Digital Analyzer Systems	
12.5 GS/s High-speed Digital Analyzer with 18 Ch QuickLink leadset and LBUS connection	HDA125-18-LBUS
12.5 GS/s High-speed Digital Analyzer with 9 Ch QuickLink leadset and LBUS connection	HDA125-09-LBUS
Ethernet and DDR Debug Tookits	
100Base-T1 and 1000Base-T1 Debug Toolkit	WM8ZI-AUTO-ENET-TOOLKIT
DDR2 and LPDDR2 Debug Toolkit	WM8ZI-DDR2-TOOLKIT
DDR3, DDR3L, LPDDR3, DDR2, and LPDDR2 Debug Toolkit	WM8ZI-DDR3-TOOLKIT
DDR4, DDR3, DDR3L, LPDDR3, DDR2, and LPDDR2 Debug Toolkit	WM8ZI-DDR4-TOOLKIT
DDR5. DDR4, DDR3, DDR2 and LPDDR5, LPDDR4, LPDDR3, LPDDR2 Debug Toolkit	WM8ZI-DDR5-TOOLKIT
DDR3, DDR3L, LPDDR3, DDR2, and LPDDR2 Debug Toolkit Upgrade	WM8ZI-UPG-DDR3-TOOLKIT
DDR4, DDR3, DDR3L, LPDDR3, DDR2, and LPDDR2 Debug Toolkit Upgrade	WM8ZI-UPG-DDR4-TOOLKIT

ORDERING INFORMATION

Product Description	Product Code
Serial Data Compliance Test Software	
QualiPHY Enabled 1000Base-T1 (Automotive Ethernet) Software Option	QPHY-1000BASE-T1
QualiPHY Enabled 100Base-T1 (Automotive Ethernet) Software Option	QPHY-100BASE-T1
QualiPHY Enabled 10Base-T1S (Automotive Ethernet) Software Option	QPHY-10BASE-T1S
QualiPHY Enabled 10GBase-KR Software Option	QPHY-10GBASE-KR
QualiPHY Enabled 10GBase-T Software Option	QPHY-10GBASE-T
QualiPHY Enabled 56G PAM4 Software Option	QPHY-56G-PAM4
QualiPHY Enabled DDR2 Software Option	QPHY-DDR2
QualiPHY Enabled DDR3 Software Option	QPHY-DDR3
QualiPHY Enabled DDR4 Software Option	QPHY-DDR4
QualiPHY Enabled DisplayPort 1.4 Source Software Option	QPHY-DP14-SOURCE
QualiPHY Enabled DisplayPort 2.0 Sink Software Option	QPHY-DP20-SINK
QualiPHY Enabled DisplayPort 2.0 Source Software Option (Includes QPHY-DP14-SOURCE)	QPHY-DP20-SOURCE
QualiPHY Enabled Embedded DisplayPort Software Option	QPHY-eDP
QualiPHY Enabled Ethernet 10/100/1000BT Software Option	QPHY-ENET*
QualiPHY Enabled HDMI 2.0/1.4b TMDS Software Option	QPHY-HDMI2
QualiPHY Enabled HDMI 2.1 FRL and TMDS Software Option	QPHY-HDMI21
QualiPHY Enabled LPDDR2 Software Option	QPHY-LPDDR2
QualiPHY Enabled MIPI C-PHY Software Option	QPHY-MIPI-CPHY
QualiPHY Enabled MIPI D-PHY Software Option	QPHY-MIPI-DPHY
QualiPHY Enabled MIPI M-PHY Software Option	QPHY-MIPI-MPHY
QualiPHY Enabled MOST50 ePHY Software Option	QPHY-MOST50
QualiPHY Enabled MOST150 oPHY Software Option	QPHY-MOST150
QualiPHY Enabled PCIe 1.0/2.0 Software Option	QPHY-PCIE
QualiPHY Enabled PCIe 3.0 Tx/Rx Software Option	QPHY-PCIE3-TX-RX
QualiPHY Enabled SATA Software Option	QPHY-SATA-TSG-RSG
QualiPHY Enabled SAS-2 Software Option	QPHY-SAS2
QualiPHY Enabled SAS-3 Software Option	QPHY-SAS3
QualiPHY Enabled SFI Software Option	QPHY-SFI
QualiPHY Enabled USB 2.0 Software Option	QPHY-USB‡
QualiPHY Enabled USB 3.2 Tx-Rx Software Option	QPHY-USB3.2-TX-RX
QualiPHY USB4 Transmitter and Receiver Software Option	QPHY-USB4-TX-RX

*TF-ENET-B required. †TF-HDMI-3.3V-QUADPAK required. ‡ TF-USB-B required. PCI Express, SuperSpeed USB (USB 3.0) and SATA Complete Hardware/Software Test Solutions are available. Consult Factory.

Product Description	Product Code
Serial Data Test Fixtures	
Test Fixture for 10GBase-T	TF-10GBASE-T
Automotive Ethernet Breakout Test Fixture for 100Base-T1 and 1000Base-T1 Debug	TF-AUTO-ENET
4 Pack of SMA Connector Boards for TF-AUTO-ENET	TF-AUTO-ENET-SMA
10/100/1000Base-T Ethernet Test Fixture	TF-ENET-B*
HDMI Pull-Up Terminator Quad Pack - for use with the Wilder-Tech HDMI-TPA-P Plug Test Adapter	TF-ET
HDMI Pull-Up Terminator Quad Pack	TF-HDMI-3.3V-QUADPAK
SATA 1.5 Gb/s, 3.0 Gb/s and 6.0 Gb/s Compliance Test Fixture Measure Kit	TF-SATA-C-KIT
USB 2.0 Compliance Test Fixture	TF-USB-B
USB 3.0 and 3.1 Compliance Test Fixture	TF-USB3
2 x BNC to SMA Adapter	ENET-2ADA-BNCSMA
2 x 18 inch SMA to SMA Cable	ENET-2CAB-SMA018
2 x 36 inch SMA to SMA Cable	ENET-2CAB-SMA036
100 ps Rise Time Filter	RISE-TIME-FILTER-100PS
150 ps Rise Time Filter	RISE-TIME-FILTER-150PS
20 dB SMA Attenuators	20DB-SMA-ATTENUATOR

*Includes ENET-2CAB-SMA018 and ENET-2ADA-BNCSMA

Product Description	Product Code
Serial Data Triggers and Decoders	
100Base-T1 Trigger and Decode Option	WM8Zi-100Base-T1bus TD
100Base-T1 Trigger, Decode, Measure/Graph, and Eye Diagram Option	WM8Zi-100Base-T1bus TDME
MIL-STD-1553 Trigger and Decode Option	WM8Zi-1553 TD
MIL-STD-1553 Trigger, Decode, Measure/Graph, and Eye Diagram Option	WM8ZI-1553 TDME

Product Description	Product Code
Serial Data Triggers and Decoders (cont'd)	
64b/66b Decode Option	WM8Zi-64b66b D
80-bit NRZ, 8b/10b and 64b/66b 14.1 Gbps Serial Trigger Option, includes 8b/10b and 64b/66b Decode Options	WM8Zi-14GBIT-80B-SYMBOL-TD SDA8ZI-UPG-14GBIT-80B-SYMBOL-TD
80-bit NRZ, 8b/10b, and 64b/66b 6.5 Gbps Serial Trigger Option, includes 8b/10b and 64b/66b Decode Options (Standard on SDA 8 Zi-B)	WM8Zi-6GBIT-80B-SYMBOL-TD
8b10b Decode Option	WM8Zi-8B10B D
ARINC 429 Bus Symbolic Decode, Measure/Graph, Eye Diagram Option	WM8Zi-ARINC429BUS DME SYMBOLIC
ARINC 429 Bus Symbolic Decode Option	WM8Zi-ARINC429bus DSymbolic
Trigger and Decode Option for I2S, LJ, RJ, and TDM	WM8Zi-AUDIOBUS TD
Trigger, Decode and Graph Option for I2S, LJ, RJ, and TDM	WM8Zi-AUDIOBUS TDG
CAN FD Trigger and Decode Option	WM8Zi-CAN FDbus TD
CAN FD Trigger, Decode, Measure/Graph and Eye Diagram Option	WM8ZI-CAN FDBUS TDME
CAN FD Symbolic Trigger, Decode, Measure/Graph, Eye Diagram Option	WM8ZI-CAN FDBUS TDME SYMBOLIC
CAN Trigger and Decode Option	WM8Zi-CANbus TD
CAN Trigger, Decode, Measure/Graph and Eye Diagram Option	WM8ZI-CANBUS TDME
CAN Symbolic Trigger, Decode, Measure/Graph and Eye Diagram Option	WM8ZI-CANBUS TDME SYMBOLIC
C-PHY (DSI-2/CSI-2) Decode Option	WM8Zi-CPHYBUS D
C-PHY (DSI-2/CSI-2) Decode, Measure/Graph and Physical Layer Test Option	WM8Zi-CPHYBUS DMP
DigRF 3G Decode Option	WM8Zi-DigRF3Gbus D
DigRF v4 Decode Option	WM8Zi-DigRFV4bus D
DisplayPort AUX Decode Option	WM8ZI-DPAUX D
DisplayPort AUX Decode, Measure/Graph, and Physical Layer Test Option	WM8ZI-DPAUX DMP
MIPI D-PHY Decode Option	WM8Zi-DPHYbus D
MIPI D-PHY Decode and Physical Layer Test Option	WM8Zi-DPHYbus DP
I2C, SPI, UART-RS232 Trigger and Decode Bundle	WM8ZI-EMB TD
I2C, SPI, UART-RS232 Trigger, Decode, Measure/Graph and Eye Diagram Bundle	WM8ZI-EMB TDME
Ethernet 10G Decode Option	WM8Zi-ENET10Gbus D
ENET Decode Option	WM8Zi-ENETbus D
Fibre Channel Decode Option	WM8Zi-FCbus D
FlexRay Trigger and Decode Option	WM8Zi-FlexRayBus TD
FlexRay Trigger, Decode, Measure/Graph and Physical Layer Option	WM8ZI-FLEXRAYBUS TDMP
I2C Bus Trigger and Decode Option	WM8ZI-I2Cbus TD
I2C Trigger, Decode, Measure/Graph, and Eye Diagram Option	WM8Zi-I2CBUS TDME
I3C Decode Option	WM8Zi-I3CBUS D
I3C Decode, Measure/Graph and Eye Diagram Option	WM8ZI-I3CBUS DME
LIN Trigger and Decode Option	WM8Zi-LINbus TD
LIN Trigger, Decode, Measure/Graph and Eye Diagram Option	WM8ZI-LINBUS TDME
Manchester Decode Option	WM8Zi-Manchesterbus D
MDIO Decode	WM8Zi-MDIObus D
MIPI M-PHY Decode Option	WM8Zi-MPHYbus D
MIPI M-PHY Decode and Physical Layer Test Option	WM8Zi-MPHYbus DP
MS-500-36 with I2C, SPI, UART-RS-232 Trigger, Decode, Measure/Graph and Eye Diagram Bundle	WM8ZI-MSO-EMB TDME
PCI Express Decode Option	WM8Zi-PCIEbus D
Decoder-Protocol Analyzer Synchronization Software Option	WM8Zi-ProtoSync
Decoder-Protocol Analyzer Synchronization with Bit Tracer Software Option	WM8Zi-ProtoSync-BT
SAS Decode Annotation Option	WM8Zi-SASbus D
SATA Decode Annotation Option	WM8Zi-SATAbus D
SENT Decode Option	WM8Zi-SENTbus D
SpaceWire Decode Option	WM8Zi-SpaceWirebus D
SPI Trigger and Decode Option†	WM8Zi-SPIbus TD
SPI Trigger, Decode, Measure/Graph, and Eye Diagram Option	WM8ZI-SPIBUS TDME
SPMI Decode Option	WM8Zi-SPMIbus D
UART and RS-232 Trigger and Decode Option	WM8Zi-UART-RS232bus TD

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Product Description	Product Code
Serial Data Triggers and Decoders (cont'd)	
UART-RS232 Trigger, Decode, Measure/Graph and Eye Diagram Option	WM8ZI-UART-RS232BUS TDME
MIPI UniPro Protocol Decoder	WM8ZI-UNIPRObus D
USB-PD Trigger and Decode Option	WM8ZI-USBPD TD
USB-PD Trigger, Decode, Measure/Graph and Physical Layer Test Option	WM8ZI-USBPD TDMP
USB2-HSIC Decode Option	WM8Zi-USB2-HSICbus D
USB 2.0 Decode Option	WM8Zi-USB2bus D
USB 2.0 Decode, Measure/Graph and Eye Diagram Option	WM8ZI-USB2BUS DME
USB 3.2 Decode Option	WM8ZI-USB32BUS D
Mixed Signal Testing Options	
250 MHz, 1 GS/s, 36 Ch, 25 Mpts/Ch (500 MHz, 18 Ch, 2 GS/s, 50 Mpts/Ch Interleaved) Mixed Signal Oscilloscope Option	MS-500-36
General Purpose and Application Specific Software Options	
Spectrum Analyzer for WaveMaster 8 Zi (1 trace)	WM8ZI-SPECTRUM-1
Spectrum Analyzer for WaveMaster/SDA 8 Zi (2 traces + reference trace)	WM8ZI-SPECTRUM-PRO-2
MAUI Studio Pro Software	MAUI STUDIO PRO
Coherent Optical Analysis Software	WM8ZI-OPTICAL-LINQ
Digital Filter Software Package	WM8Zi-DFP2
Serial Data Mask Software Package	WM8Zi-SDM
Disk Drive Measurements Software Package	WM8Zi-DDM2
Disk Drive Analyzer Software Package	WM8Zi-DDA
Advanced Optical Recording Measurement Package	WM8ZI-AORM
Electrical Telecom Mask Test Software Package	WM8Zi-ET-PMT
EMC Pulse Parameter Software Package	WM8Zi-EMC
Power Analysis Option	WM8Zi-PWR
Clock Jitter Analysis with Four Views Software Package	WM8Zi-JITKIT
General Accessories	
Soft Carrying Case	WM8Zi-SOFTCASE
Rackmount Accessory for WM8Zi	WM8Zi-RACKMOUNT
ProLink to SMA Adapter	LPA-SMA-A
ProLink to 2.92mm Adapter with Probe Power and Communication Pass Through	LPA-2.92
ProLink to K/2.92 mm Adapter	LPA-K-A
Kit of ProLink to K/2.92 mm Adapters	LPA-K-KIT-A
Oscilloscope Cart with Additional Shelf and Drawer	OC1024-A
Probes and Probe Accessories	
High Voltage Fiber Optic Probe, 150 MHz Bandwidth	HVFO108
Power/Voltage Rail Probe. 4 GHz Bandwidth, 1.2x Attenuation, ±30 V Offset, ± 800 mV	RP4030
500 MHz 60 V Common Mode Differential Probe	DL05-HCM
1 GHz 60 V Common Mode Differential Probe	DL10-HCM
1.0 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS1000
1.5 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS1500
2.5 GHz, 0.9 pF, 1 MΩ High Impedance Active Probe	ZS2500
4.0 GHz, 0.6 pF, 1 MΩ High Impedance Active Probe	ZS4000
200 MHz, 3.5 pF, 1 MΩ Active Differential Probe	ZD200
400 MHz, 1kV Vrms High-Voltage Passive Probe	HVP120
400 MHz, 4kV High-Voltage Passive Probe	PPE4KV
400 MHz, 5kV High-Voltage Passive Probe	PPE5KV
400 MHz, 6kV High-Voltage Passive Probe	PPE6KV
25 MHz High Voltage Differential Probe	HVD3102A
1 kV, 25 MHz High Voltage Differential Probe (without tip accessories)	HVD3102A-NOACC
120 MHz High Voltage Differential Probe	HVD3106A

Product Description	Product Code
Probes and Probe Accessories (cont'd)	
1 kV, 120 MHz High Voltage Differential Probe (without tip accessories)	HVD3106A-NOACC
80 MHz, High Voltage Differential Probe with 6 m Cable	HVD3106A-6M
2 kV, 120 MHz High Voltage Differential Probe	HVD3206A
2 kV, 80 MHz High Voltage Differential Probe with 6 m Cable	HVD3206A-6M
2 kV, 400 MHz High Voltage Differential Probe	HVD3220
6 kV, 100 MHz High Voltage Differential Probe	HVD3605A
700 V, 25 MHz High-Voltage Differential Probe	AP031
500 MHz Differential Probe	AP033
500 MHz, 1.0 pF Active Differential Probe, ±8 V	ZD500
1 GHz, 1.0 pF Active Differential Probe, ±8 V	ZD1000
1.5 GHz, 1.0 pF Active Differential Probe, ±8 V	ZD1500
4 GHz ProBus2 Differential Probe w/ Dx10-SI, Dx10-QC, Dx10-SP	D410-A-PB2
4 GHz ProBus2 Differential Probe w/ Dx20-SI, Dx20-QC, Dx20-SP	D420-A-PB2
6 GHz ProBus2 Differential Probe w/ Dx10-SI, Dx10-QC, Dx10-SP	D610-A-PL
6 GHz ProBus2 Differential Probe w/ Dx20-SI, Dx20-QC, Dx20-SP	D620-A-PL
4 GHz ProBus2 Differential Probe with Adjustable Tip	D400A-AT-PB2
6 GHz ProLink Differential Probe with Adjustable Tip	D600A-AT-PL
8 GHz differential probe with ProLink interface	DH08-PL
13 GHz differential probe with ProLink interface	DH13-PL
16 GHz differential probe with ProLink interface	DH16-PL
20 GHz differential probe with ProLink interface	DH20-PL
25 GHz differential probe with 2.92mm interface	DH25-2.92MM
30 GHz differential probe with 2.92mm interface	DH30-2.92MM
Optical-to-Electrical Converter, DC to 9.5 GHz, 785 to 1550 nm	OE695G
Optical-to-Electrical Converter, DC to 36 GHz, 830 to 1600 nm	OE6250G-M
Programmable Current Sensor to ProBus Adapter (for use with third party current sensors)	CA10
30 A, 50 MHz Current Probe - AC/DC, 30 A rms, 50 A Peak Pulse, 1.5 meter cable	CP030
30 A, 10 MHz Current Probe - AC/DC, 30 A rms, 50 A Peak Pulse, 3 meter cable	CP030-3M
30 A, 50 MHz High Sensitivity Current Probe - AC/DC, 30 A rms, 50 A Peak Pulse, 1.5 meter cable	CP030A
30A, 100 MHz Current Probe - AC/DC, 30 A rms, 50 A Peak Pulse, 1.5 meter cable	CP031
30 A, 100 MHz High Sensitivity Current Probe - AC/DC, 30 A rms, 50 A Peak Pulse, 1.5 meter cable	CP031A
150 A, 10 MHz Current Probe - AC/DC, 150 A rms, 500 A Peak Pulse, 2 meter cable	CP150
150 A, 5 MHz Current Probe - AC/DC, 150 A rms, 500 A Peak Pulse, 6 meter cable	CP150-6M
500 A, 2 MHz Current Probe - AC/DC, 500 A rms, 700 A Peak Pulse, 6 meter cable	CP500
7.5 GHz Low Capacitance Passive Probe (÷10, 1 kΩ; ÷20, 500 Ω)	PP066
500 MHz Passive Probe, 2.5mm	PP021-1
500 MHz Passive Probe, 5mm	PP025-1
TekProbe to ProBus Probe Adapter	TPA10

* For a complete probe, order a WL-PLink-CASE Platform/Cable Assembly with the Adjustable Tip Module.

† For a complete probe, order a WL-PBUS-CASE Platform/Cable Assembly with the Adjustable Tip Module

A variety of other active voltage and current probes are also available. Consult Teledyne LeCroy for more information.

Customer Service

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

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

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