TELEDYNE LECROY
Everywhere**you**look™

ProtoSync™
Decode Annotation and Protocol Analyzer Software Synchronization

ProtoSync links physical layer waveforms (1), decode annotation and table information (2), and full transaction layer protocol analysis (3). Simply touch a decode table entry in the oscilloscope or a packet in the protocol analysis software and all views are automatically synchronized and aligned. Example shown is USB 3.2 Gen2x2.

Key Features

Simultaneously view physical layer signals, data link layer decode annotation, and full transaction with industry-standard Teledyne LeCroy protocol analysis software

Protocol analyzer view of bus traffic using the oscilloscope's acquisition system

Simultaneous "Zooms of all information"

Compatible with:
- PCI Express 1.0 through 5.0 (Up to 4 lanes Tx/Rx, or 1 lane Tx+Rx)
- USB 3.2 (Up to Gen2x2)
- USB 1.x, 2.0
- USB2 HSIC
- SATA Revision 1.0, 2.0, 3.0
- SAS Gen1, 2, 3
- Fibre Channel 1, 2, 4, 8GFC

Ideal for understanding dynamic equalization behaviors, as in PCI Express and USB 3.x

Simplifies debug coordination between physical layer and logic layer design teams

ProtoSync leverages Teledyne LeCroy's oscilloscope decode annotation capabilities to provide simultaneous views of the complete protocol stack, from physical layer to transaction layer. The oscilloscope acts as the acquisition system, passing digital data to industry-standard protocol analysis software tools.

Debug Dynamic Equalization Issues
Dynamic equalization is a link initialization process where training sequences communicate transmitter and receiver parameters to establish a link, such as in PCI Express and USB 3.x. Debugging dynamic equalization is much easier if analog waveforms and high level protocol packet data are available simultaneously.

Ideal for Embedded Designs
More mature standards are increasingly becoming embedded in system designs. It is usually simple to connect an oscilloscope to the embedded system, and the debug and validation system engineer is quite familiar with the operation of an oscilloscope. By providing protocol analysis views using physical layer oscilloscope captures as a source, complex problems can be more easily debugged.

Support on Multiple Oscilloscope Platforms
ProtoSync runs on WaveRunner, WavePro, WaveMaster, and LabMaster platforms, from 400 MHz to 65 GHz.

Product Description	Product Code
Decode Annotation and Protocol Analyzer Synchronization Option for WaveRunner 9000	WR9K-PROTOSYNC
Decode Annotation and Protocol Analyzer + BitTracer Synchronization Option for WaveRunner 9000	WR9K-PROTOSYNC-BT
Decode Annotation and Protocol Analyzer Software Synchronization Option for WavePro HD	WPHD-PROTOSYNC
Decode Annotation and Protocol Analyzer + BitTracer Software Synchronization Option for WavePro HD	WPHD-PROTOSYNC-BT
Decode Annotation and Protocol Analyzer Software Synchronization Option for WaveMaster and SDA 8 Zi	WM8ZI-PROTOSYNC
Decode Annotation and Protocol Analyzer Software Synchronization Option for WaveMaster and SDA 8 Zi	WM8ZI-PROTOSYNC
Decode Annotation and Protocol Analyzer + BitTracer SW Synchronization Option for WaveMaster 8 Zi	WM8ZI-PROTOSYNC-BT
Decode Annotation and Protocol Analyzer Software Synchronization Option for LabMaster 10 Zi	LM10ZI-PROTOSYNC
Decode Annotation and Protocol Analyzer + BitTracer SW Synchronization Option for LabMaster 10 Zi	LM10ZI-PROTOSYNC-BT

Supported oscilloscope decode annotation options *(Required to enable ProtoSync for the corresponding serial technology)*	HDO6000B	WaveRunner 8000HD, MDA 8000HD	WaveRunner 9000	WavePro HD	WaveMaster/SDA 8 Zi-B	LabMaster 10 Zi-A
Fibre Channel D			▪	▪	▪	▪
MIPI UniProbus D			▪	▪	▪	▪
PCIe (1.0 - 5.0) D			▪	▪	▪	▪
SASbus (1.0 - 3.0) D			▪	▪	▪	▪
SATA (Gen1 - Gen3) TD			▪	▪	▪	▪
USB2bus D/TD/TDME	▪	▪	▪	▪	▪	▪
USB2-HSICbus D	▪	▪	▪	▪	▪	▪
USB3.2bus D (Gen1 & Gen2; incl. USB2bus TD)					▪	▪

See **Oscilloscope Features, Options, and Accessories datasheet** for more details on decode and annotation options.

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

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