DATA SHEET

BUS DOCTOR™ SATA ANALYZER

Protocol, Timing & Statistical Analysis

Modular Bus Protocol Analyzer for 1.5 and 3.0 Gb/s Serial ATA

BENEFITS

- Invaluable for troubleshooting SATA protocol and interoperability issues
- Logic analysis and SATA protocol analysis in the same compact unit
- Patented hardware search feature locates any SATA event in the trace buffer in seconds

OVERVIEW

Serial ATA (SATA) is an evolutionary replacement for the Parallel ATA physical storage interface. Offering scalability and easier configuration than its parallel predecessor, SATA products such as hard drive are already available in the market. CDs, DVDs, and tape drives will be the next devices to benefit from SATA technology.

By using a SATA protocol analyzer, storage product manufacturers can reduce their development times and improve their delivery times.

PRODUCT DESCRIPTION

The Bus Doctor™ RX from Finisar is a powerful modular bus protocol Analyzer. With advanced features such as large trace buffers and 4 nanosecond capture resolution, the RX is a unique platform able to analyze SATA technology.

By connecting a SATA Pod to a RX, the RX becomes a dedicated SATA protocol Analyzer. The Analyzer operates at line rate up to 3.0 Gb/s. There is also support for SSC (Spread Spectrum Clocking), Serial ATA-II Extensions and ATAPI.

The Analyzer is controlled by a Microsoft Windows™ PC through a USB connection; Finisar's powerful Bus Doctor Graphical User Interface (GUI) software runs on the PC.

The software provides an easy-to-use interface that allows engineers to configure the instrument and to view and analyze captured SATA traffic.

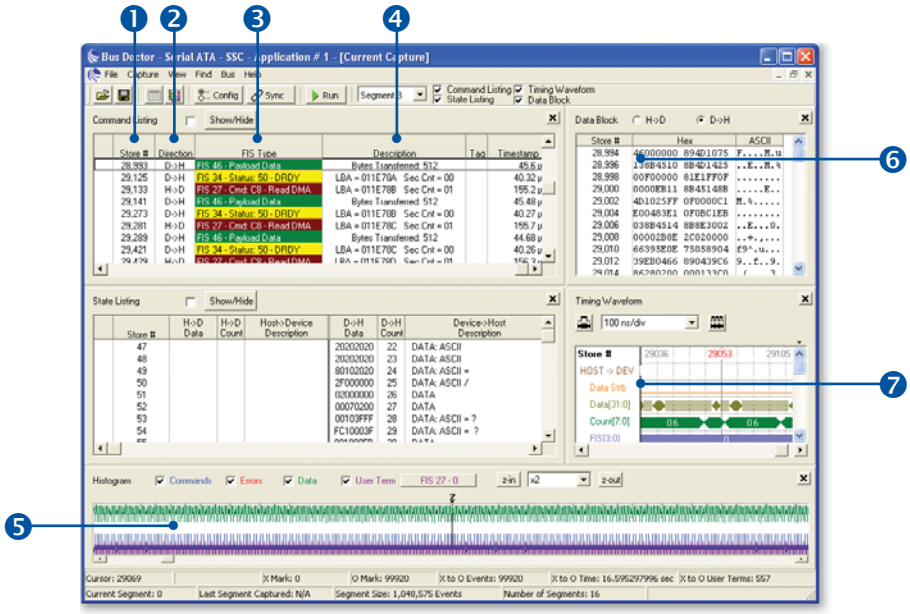
High-level dialogs provide for the quick creation of powerful triggers and pre- and post-capture filters. These filters allow engineers to home in, and capture and analyze only those events and sequences of interest. One can filter on a Primitive (e.g. ALIGN), FIS (e.g. FIS 39 - DMA ACTIVATE) or Error (e.g. OOB) in either the host to device or device to host direction.

The powerful trigger sequencer has 12 levels, including 2 timer and 2 counter levels. This allows for triggering on such things as FIS Types, Primitives and ATAPI commands. Triggers may also be setup for a variety of hardware and software errors.

Once data is captured, the software simplifies analysis by organizing and grouping the captured bus data into different displays.

Finisar

BUS DOCTOR™ SATA ANALYZER



Bus Doctor SATA Analyzer Software

Command sequences are summarized in the command listing display. A summary of each SATA frame including Store Number ❶, Direction ❷, FIS Type ❸, Description ❹, Tag Number and Timestamp is shown.

The State Listing displays a chronological list of all captured events. For each event, this display shows reference Store Number, Data (host to device and device to host directions), Count (host to device and device to host directions), Description (host to device and device to host directions) and Timestamp.

The histogram's ❺ primary purpose is a navigation aid, showing an overall map view of the entire trace. Commands, data, and errors are shown in blue, green, and red, respectively. A User Term can be defined and is shown in purple.

Payload data ❻ is shown in the Data Block display. The information is presented in both hexadecimal and ASCII formats.

The Timing Waveform ❼ shows a signal level representation of the trace with each row representing a channel or channel group. The rows can be reordered and the colors can be changed. Data may be displayed in decimal, binary or ASCII formats.

The RX is available in three configurations: SLIM, FIT and BUFF. These models have capture buffers of 16, 64 and 256 million events respectively; a 256 million event buffer translates to over 4 GBs of physical memory. There are two SATA Pods available: a 1.5 Gb/s SATA Pod and a 3.0 Gb/s SATA Pod; the 3.0 Gb/s Pod also supports 1.5 Gb/s line rates.

The Finisar Bus Doctor SATA protocol Analyzer is an important tool for manufacturers working with this important new storage technology.

PRODUCT ORDERING INFORMATION

Model Number	Description
	Bus Doctor RX Analyzers
RX-108P-SLIM	Bus Doctor RX, 108 Channels, 16M Events Buffer
RX-108P-FIT	Bus Doctor RX, 108 Channels, 64M Events Buffer
RX-108P-BUFF	Bus Doctor RX, 108 Channels, 256M Events Buffer
	Bus Doctor RX Pods and Tap Boards
DR-SATA-3000	Serial ATA (1.5 & 3.0 Gb/s) Pod

Please specify model number, name and quantity when ordering. Please contact Finisar or one of its Sales Representatives or Distributors for the latest pricing and availability.

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