Ellisys USB Explorer 200 Analyzer

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High End USB Protocol Analyzer

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Better Analysis.

Powerful USB 2.0 Protocol Analyzer for Developing Robust USB Systems

Overview

The USB Explorer 200 is a high end USB 2.0 protocol analyzer that helps produce better USB devices in less time. It monitors USB events and records traffic exchanged over a USB cable, usually between a host and a device. When capturing traffic, a real-time statistics window displays advanced information about the nature of transmitted transactions.

USB transactions are displayed in a chronological list together with the device address and endpoint number. A second window decodes USB descriptors and requests according to the USB specification to help in finding sought-after information. Several functions make it even easier to identify packets of interest, as for example element filtering and packet color coding. With its easy to use yet advanced capabilities, the USB Explorer 200 is the ideal companion for anyone developing USB devices, embedded software or drivers.

Typical Applications

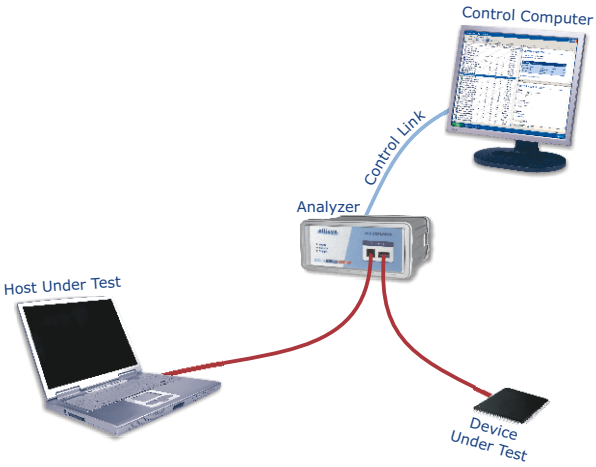
- ✓ Captures USB traffic to assist in development of USB devices, hosts, firmware, drivers and software applications
- ✓ Monitors USB communication reliability and efficiency
- ✓ USB enumeration verification and validation

Key Features

- ✓ Displays USB protocols in an easy to use hierarchical view
- ✓ Compatible with all USB 2.0 speeds
- ✓ Designed to be used in the field with a laptop computer

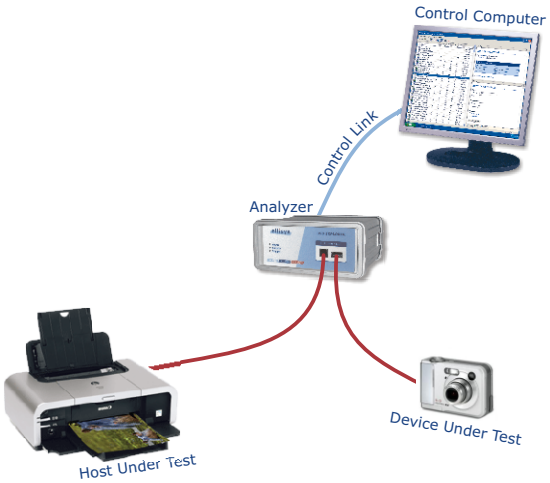
Typical Analysis Setup

The figure below shows a setup that is used to efficiently analyze a USB link. The Analyzer is connected in pass-through mode and records any traffic exchanged between the Host Under Test and the Device Under Test. USB transactions are collected to be displayed on the Analysis Computer. This setup can be used for example to verify and validate device enumeration and to optimize device and driver performance.



Advanced Analysis Setup

A similar setup shown in the figure below can be used to analyze more elaborate USB links. The Analyzer can also be used when the Host Under Test is not a PC. With the Professional Edition, the companion software can even decode high level class-specific requests and descriptors to help specialists focus on a specific application. This setup is proficient in solving communications issues and detecting interoperability problems.



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Features

General

- ✓ Non-intrusively captures traffic from any USB link
- ✓ Compatible with all three USB 2.0 speeds
- ✓ Automatically determines the Link Under Test speed
- ✓ Displays USB protocols in an easy to use hierarchical view
- ✓ Records USB bus state and protocols
- ✓ Affordable pricing scheme allowing you to provide one unit per developer

Software

- ✓ Highlights protocol errors or misuse
- ✓ Efficiently decodes all standard requests and data structures
- ✓ Groups similar packets and hides redundant fields to reduce information burden
- ✓ Free viewer software to exchange recorded traffic with other users
- ✓ Free software updates

Hardware

- ✓ Powered by USB, no need for a bulky external power supply
- ✓ Communication over USB 2.0 allows usage of a notebook computer
- ✓ Instantly operational upon power up
- ✓ No fan, noiseless
- ✓ Small and robust enclosure

Technical Specifications

Bus analysis

- Automatic speed detection
- 16.67 ns (60 MHz) timestamp
- Bus states: detection and measurement of Reset, Suspend, Keep Alive and High-Speed Handshake states
- Low-level errors: detection of bit-stuffing, CRC-5 and CRC-16 errors

Memory

- 32 MBytes of FIFO memory
- Analyzed traffic is transmitted in real time

Indicators

- Power: analyzer powered on
- Activity: traffic detected
- Trigger: trigger event detected

Power supply

- No external power supply needed (USB bus powered)
- 500 mA during normal operation
- 500 µA when suspended

Enclosure

- 150 x 120 x 65 mm (5.91 x 4.72 x 2.56'')
- 850 g (1.9 lbs)

Analysis Computer Connector

- USB 2.0 high speed (480 Mbps)

Trigger Connector

- Type: BNC
- Input: 5 V max, 1 MΩ
- Output: 3.3 V, 20 mA max
- Absolute maximum ratings: -0.5 V .. +6.5 V, 50 mA

Hardware upgrade

- The decoding engine is automatically updated with each software release

Product warranty

- Two years warranty

Minimum requirements

- Pentium 4, 1.8 Ghz or compatible processor
- 128 MBytes of RAM (512 MBytes recommended)
- 800x600 display resolution with at least 256 colors
- USB 2.0 host controller
- Windows® 2000 Service Pack 4 or higher, Windows® XP Service Pack 2 or higher

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