Beagle USB 480 Protocol Analyzer Part Number: **TP320510**

The Beagle™ USB 480 Protocol Analyzer is a low cost, non-intrusive High-speed USB 2.0 bus monitor that now includes real-time USB class-level decoding.

The Beagle analyzer is capable of capturing, displaying, and filtering high-speed USB bus-states and traffic in real-time with timing at 16.7 ns resolution and comes complete with software and royalty-free API. Thanks to an on-board 64 MB buffer, sustained bursts of 480 Mbps traffic can be captured with no loss of data.

Key Features

Overview

- Non-intrusively monitor High-speed USB 2.0 (up to 480 Mbps)
- Real-time USB class-level decoding with the Data Center Software
- Two capture modes: real-time and delayed-download
- High-speed USB chirp detection
- Robust automatic speed detection
- Hardware-based packet suppression
- Digital inputs and outputs for synchronizing with external logic
- Detect suspend/resume events and unexpected signals
- Free software and API available
- Fully Windows, Linux, and Mac OS X compatible .

What is Included

Every unit comes complete with the following items:

- Beagle USB 480 Protocol Analyzer unit
- (1) 6 foot USB A->B cable
- (1) 1 foot USB A->B cable
- (1) 1.5 foot Mini-DIN 9 Digital I/O cable
- Software CD
    - Windows USB Drivers
    - Linux USB Hot Plug Configuration files
    - Data Center Software
    - Datasheets
    - Documentation

Specifications

Real-time capture and delayed-download capture

The Beagle USB 480 Protocol Analyzer has two different capture modes: real-time capture and delayed-download capture. The real-time capture mode allows developers to see all the high-speed data over USB as it happens. As the data is streamed in real-time, the capture size is only limited by the amount of RAM available on the analysis computer.

The delayed-download capture can be very useful in certain situations, such as when the Beagle USB 480 Protocol Analyzer is on the same high-speed bus as the target device. In these configurations, the Beagle analyzer is able to consume minimal USB bandwidth so that it does not obscure problems that occur only when the target is operating at the full USB bandwidth.

USB Class-Level Decoding

Real-time USB class-level decoding in the Data Center Software is available with the Beagle USB 480 Protocol Analyzer

High-Speed USB Chirp Detection

The Beagle USB 480 Protocol Analyzer can capture and display the K and J chirp patterns used in high-speed speed negotiations.

Automatic Speed Detection

The Beagle USB 480 Protocol Analyzer is able to robustly and reliably detect the correct speed of the USB data it is monitoring.

Hardware-based packet suppression

A hardware input filter is available to suppress packets in order to reduce the amount of data captured. The filter can remove empty packet pairs such as IN/NAK and PING/NAK pairs.

Digital I/O for synchronizing

To assist in identifying problems, the Beagle USB 480 Protocol Analyzer provides four digital inputs that allow users to capture additional hardware events in-line with the captured USB data from the target device.

Four digital outputs are available to provide for synchronization of the Beagle analyzer with scopes and logic analyzers. These digital outputs are able to match patterns in the captured data as well as idle bus states.

Detect Bus Events and Unexpected Signals

The Beagle USB 480 Protocol Analyzer can intelligently detect suspend and resume events as well as unexpected signals on the bus.

Packet-Level Timing

Get packet-level timing with 16.67 ns resolution.

Low Cost

The Beagle USB 480 Protocol Analyzer comes complete with software for $1200. Additional discounts are available for larger volumes. There are no additional yearly support contracts and no fees for software updates.

This low price means that it is immediately affordable for a company to provide every developer with their own analyzer.

The benefits of the Beagle analyzer's low cost are:

- **Less time wasted** because developers do not have to share analyzers or go to the lab to debug simple problems
- **Shorter development cycles** because developers can identify and fix problems quickly and easily
- Less wasted time means **higher productivity**

Future-Proof

The Beagle monitor is completely field-upgradable via USB. Total Phase is committed to improving the Beagle USB analyzer and making these improvements available to our customers free of charge. There are no yearly support contracts and no software update fees.

Updates will be available for download from the www.totalphase.com

Software

Data Center Software

The Data Center Software is the free software that is included with the Beagle™ USB 480 Protocol Analyzer. Everyone is welcome to download this software from the Total Phase website to allow for easy collaboration through the sharing of capture data files.

Features include:

- Capture and display USB traffic in true real time with LiveDisplay™ technology
- Interactive filtering and searching in real time with LiveFilter™ and LiveSearch™ tools
- Packets data grouped in an expandable tree view format

Rosetta Language Bindings - Development API

The full power of the Beagle analyzer is available for custom software applications through a free and royalty-free API. Developers have access to the same API used by the Data Center Software. Full functionality is available for automated test suites, production test fixtures, and more.

- Develop custom solutions in C/C++, C#, VB, .NET, Python
- Custom parsing of proprietary protocols
- Clean API is well-documented and easy to integrate
- Fully Windows, Linux, and Mac OS X compatible
- Separate 32-bit and 64-bit versions are available for all three platforms
- Royalty-free API can be used without licensing fees

Compatibility

The Beagle Protocol Analyzer was engineered from the very beginning to be a cross-platform device. The software and utilities for the Beagle Protocol Analyzer function on Windows, Linux and Mac OS X so that you can develop software for your preferred platform.

Windows

The software is officially supported on Windows XP (SP2 or later, 32-bit only), Windows Vista (32-bit and 64-bit), and Windows 7 (32-bit and 64-bit).

Linux

The software has been designed for Red Hat Enterprise Linux 4 and 5 with kernel 2.6. Customers have reported successful operation with SuSE and Ubuntu distributions. Please be aware that there may be significant differences and idiosyncracies in the way that different distributions of Linux operate. As such, Total Phase may not be able to support your particular distribution of Linux. Support will be offered on a case-by-case basis.

Mac OS X

The software is supported on Intel versions of Mac OS X 10.4 Tiger, 10.5 Leopard, and 10.6 Snow Leopard.

64-bit Support

The graphical software will run on 64-bit Windows, Linux, and Mac OS X systems as a 32-bit application. However, separate 32-bit and 64-bit versions of the API libraries are provided to allow custom applications to be built for either architecture.

You will never have to worry about being out of step with the latest software features. Software and firmware upgrades are always freely available in the
www.totalphase.com

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