



Beagle™ USB 5000 SuperSpeed Protocol Analyzer

Beagle USB 5000 USB3.0/2.0 プロトコルアナライザ

The Value Leader
in USB 3.0 Analysis



*Industry-leading
embedded systems tools*



Beagle™ USB 5000 SuperSpeed Protocol Analyzer

The Beagle™ USB 5000 SuperSpeed Protocol Analyzer is an affordable tool for fast and complete USB 3.0 analysis. This innovative and powerful analyzer works with the industry-acclaimed Data Center™ Software to provide real-time interactive capture and analysis of USB 3.0 and USB 2.0 traffic and bus states.

The Beagle USB 5000 analyzer is a comprehensive debugging tool, allowing users to quickly view, filter, and search USB 3.0 and USB 2.0 data. With Total Phase's state-of-the-art LiveDisplay™ technology, LiveSearch™ tool and LiveFilter™ tool, developers can interactively view, filter, and search streaming data in real time.

The Beagle USB 5000 analyzer is the premier choice for any developer looking to debug and develop USB 3.0 systems efficiently and easily.



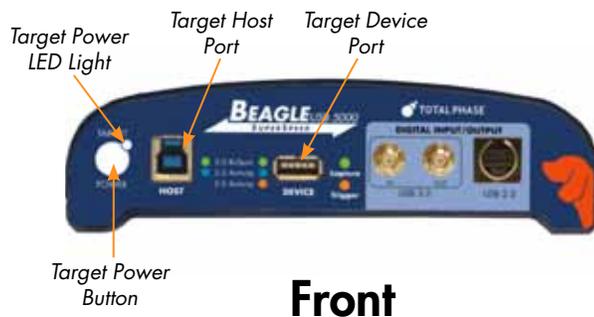
TRUE REAL TIME • View data as it is captured on the bus in real time with LiveDisplay™ Technology.

EASY-TO-READ DATA • Quickly interpret data with intuitive hierarchical data grouping.

FAST DATA ANALYSIS • Instantly filter and search for data of interest.

EASE OF USE • Get up and running quickly with the Data Center™ software's straightforward interface.

COLLABORATION • Share data easily with colleagues around the world using the free Data Center software.

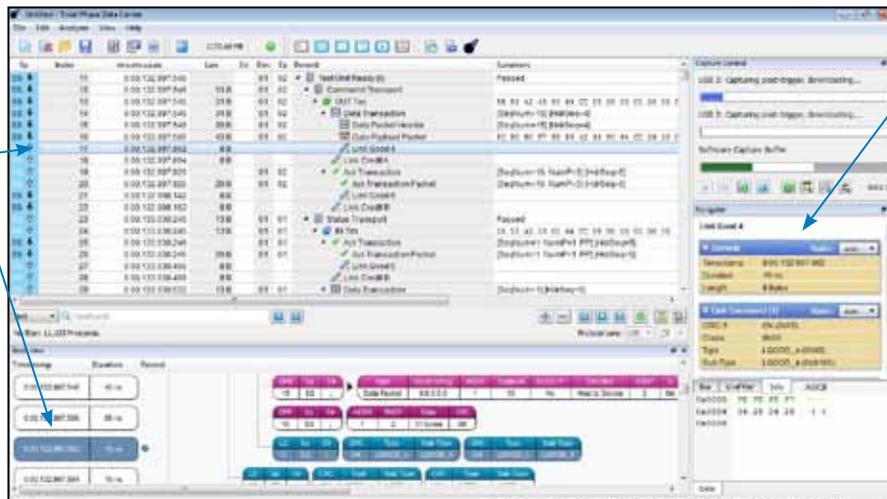




so **Advanced...** it's actually **Simple**

SYNCHRONIZED DATA

When a packet is selected, all panes are updated, allowing users to instantly see the data of interest



INFO NAVIGATION

Detailed information provided for each transaction in a convenient and configurable table view

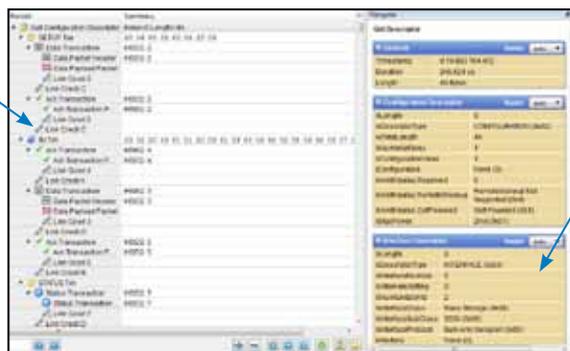
USB analysis just got easier

The Data Center™ Software's interface is incredibly powerful yet simple – there are features to meet the demands of the most advanced engineer, yet bus traffic can easily be captured by a developer who is new to USB.

This user-friendly design allows engineers to quickly monitor and filter USB 3.0 data. With synchronized information panes, different aspects of the same data can be viewed all at once. The versatile and straightforward interface allows engineers to gain the visibility they need to easily debug and develop their USB 3.0 systems.

EXPANDED DATA

Instantly drill down from class-level decoded data to low-level link commands by simply expanding transactions



ENUMERATION

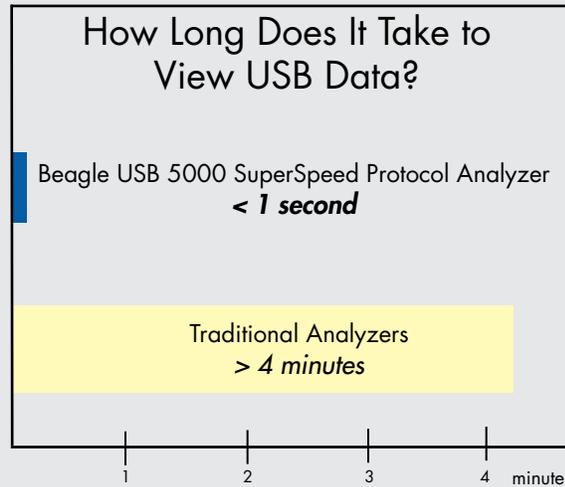
Device information available immediately in the Info Pane

BUS TREE

See all USB devices in a convenient tree hierarchy with configuration information and traffic statistics

Description	Trans	Bytes
USB 3.0	16704	16261258
Unconfigured Device (2)	0	0
USB3.0 Hub (2)	0	0
Default Endpoint (EP 0)	0	0
BOS (3)	0	0
Clg 1, Self Powered, 38mA	16704	16261258
My Passport 0730 (3)	111	2567
Default Endpoint (EP 0)	111	2567
BOS (2)	0	0
Clg 1, Bus Powered, 224mA	16593	16258891

See Results Immediately



Based on capturing, uploading, and displaying 128 MB of USB data.

The Beagle™ USB 5000 analyzer streams captured USB data to the Data Center™ Software, which instantly decodes the USB data and presents it to the user in real time.

In contrast, other analyzers suffer from “Developer Lag.” First, the memory buffer must be filled and downloaded over a slow uplink. Then, the data is processed by inefficient software. Much time is lost before any USB data can be analyzed.

Save time with the Beagle USB 5000 analyzer and start debugging immediately.

Modern problems require modern solutions

To maximize efficiency, the high-speed USB downlink of the Beagle USB 5000 analyzer has been highly optimized to deliver sustained throughput of over 40 MB/s. In side-by-side comparisons, the Beagle USB 5000 analyzer’s download speed is up to 10x faster than competing analyzers.

Software should not hold you back. The Data Center Software takes advantage of the latest technologies to provide a fast and responsive user experience. Its modern and platform-independent software architecture has been engineered from the ground up to make large USB 3.0 captures easy to manage. 4GB captures of 20 million records can be navigated with ease, searched nearly instantly, and filtered in less than a minute.

Modern Software Architecture

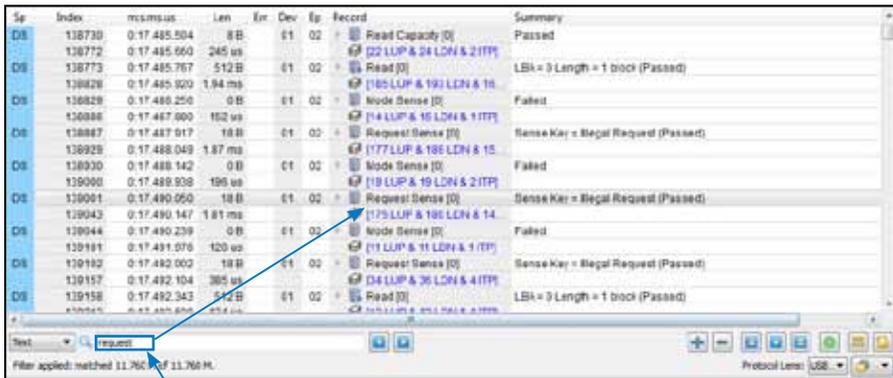
Multi-Core Support • Data Center can take advantage of multiple processor cores to download and process data faster.

64-bit Support • Work with large USB 3.0 captures of more than 4 GB at a time.

Cross-Platform • Data Center works on Windows®, Linux®, and Mac OS® X allowing engineers to work on their platform of choice.



Find the Problem Faster

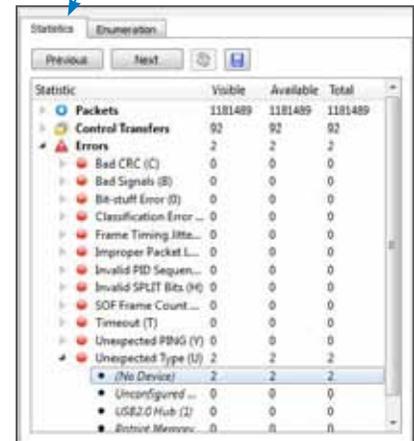


LIVESHARCH™ TOOL

Instantly locate specific data patterns while a capture is in progress

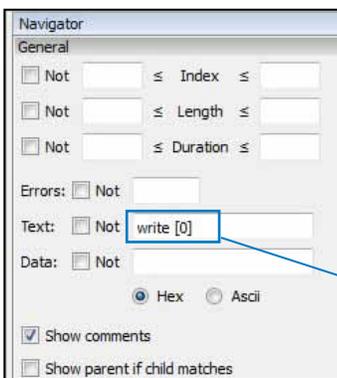
STATISTICS PANE

Packets and errors can be found with the click of a button



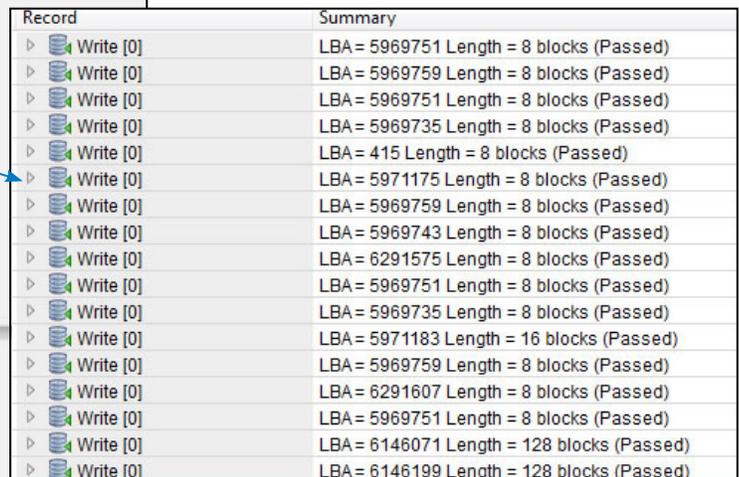
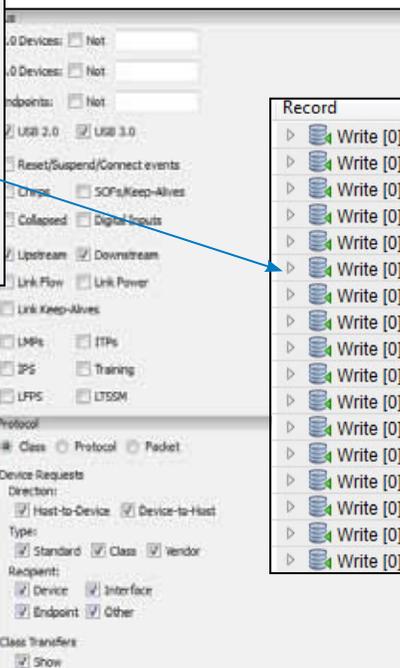
Get to the core of the matter in real time

The Data Center™ Software is capable of true real-time analysis. Avoid missing key events by seeing data as it is generated on the bus with state-of-the-art LiveDisplay™ technology. Use the LiveFilter™ tool to quickly find bugs by filtering live traffic against any number of parameters. Developers can also use the LiveSearch™ tool to instantly locate hex or ASCII data patterns. With multiple features that can be used during a live USB 3.0 capture, engineers can immediately see results.



LIVEFILTER™ TOOL

Instantly apply parametric filters to an active capture





USB 3.0 Product Specifications

Key Features

- Real-time interactive capture and display
- Powerful and user-friendly Data Center™ Software
- LiveDisplay™ technology eliminates wait times as data is streamed immediately to the software
- LiveFilter™ tool quickly finds bugs by filtering live traffic with multiple parameters
- LiveSearch™ tool instantly locates hex and ASCII patterns
- Real-time USB class-level decoding for Audio, CDC, DFU, HID, Hub, Mass Storage, UAS, Video, and more
- Precise timing down to 2 ns resolution
- Automatic support for data scrambling, polarity detection, spread spectrum clocking, and receiver detection
- Hardware-based packet suppression
- Multiple digital inputs and outputs for synchronizing with external devices
- Basic packet and event matching
- Complex, state-based matching
- Simultaneous USB 3.0/2.0 traffic capture

Technical Specifications

Analyzer Characteristics

- Supported specifications: USB 3.0, USB 2.0 and USB 1.x
- Supported link speeds: 5 Gb/s, 480 Mb/s, 12 Mb/s, and 1.5 Mb/s
- 2 GB memory, upgradeable to 4 GB
- Data is continuously streamed directly to analysis PC once triggered
- Timestamp accuracy: 2 ns timing resolution for USB 3.0 and 16.7 ns for USB 2.0
- Low-level error detection: invalid PID, bad CRC, timeout, frame sequence errors, state transition errors, and more
- Bus states: detection of USB 3.0 link operating states and all USB 2.0/1.x bus states
- Cross-platform support: Windows®, Linux®, Mac OS® X

Product Warranty

- Two years

Front-Panel Indicators

- Analyzer Power
- Target Power
- USB 3.0 RxTerm Host and Device
- USB 3.0 Activity Host and Device
- USB 2.0 Activity
- Capture
- Trigger

Rear-Panel Connectors

- On/Off Power Switch
- Analysis PC high-speed USB Port
- DC Power

Power Requirements

- 100-240 V, 50/60 Hz

Enclosure

- 16.0 x 15.4 x 4.7 cm (6.3" x 6.1" x 1.8")
- 800 g (1.75 lbs)



USB 3.0 Product Specifications

Upgrade Options

Expert Option

- Advanced state-based matching with up to 8 states and up to 6 matches per state
- Simultaneously capture USB 3.0 and 2.0 data

4 GB Memory Option

- Upgrade on-board memory buffer to 4GB

Ordering Information

Product Description	Part Number
Beagle USB 5000 SuperSpeed Protocol Analyzer - Standard Includes hardware analyzer, software CD, 2 USB 3.0 cables, 1 USB 2.0 cable, 1 Mini-DIN-9 cable, AC adapter, power cord, and convenient carrying case	TP320910
Upgrade - Expert Option Includes advanced state-based matching and USB 3.0/2.0 simultaneous capture	TP321210
Upgrade - 4GB Memory Option Includes 4 GB memory upgrade	TP321310



Other Total Phase Products

Host Adapters



Aardvark™ I2C/SPI Host Adapter

One tool, limitless applications

- Seamlessly communicate over I²C or SPI in master or slave mode
- Reconfigure I²C or SPI lines with six GPIOs to suit any application



Cheetah™ SPI Host Adapter

Get in the fast lane

- High-speed 40+ MHz SPI master for fast programming
- Precise timing and delays for accurate testing of SPI slave device tolerances during characterization
- Pipelined architecture for gapless shifting

Protocol Analyzers



Beagle™ USB 480 Protocol Analyzer

An engineer's best friend

- Non-intrusively monitor high-, full- and low-speed USB data
- Automatically decode USB class data as it is captured on the bus



Beagle™ USB 12 Protocol Analyzer

Sniff out bugs

- Non-intrusively monitor full- and low-speed USB data
- Accelerate your debugging by viewing decoded descriptor parsing in real time



Beagle™ I²C/SPI Protocol Analyzer

Always reliable, always helpful

- Non-intrusively monitor I²C or SPI data
- See bit-level timing down to 20 ns resolution



Other Total Phase Products

CAN to USB Interface



Komodo™ CAN Duo Interface

Multiple uses, numerous benefits

- Non-intrusively monitor CAN data and actively inject CAN messages on the bus
- Two CAN channels can be independently configured to simultaneously monitor and send CAN data



Total Phase is an industry-leading provider of embedded systems development tools for engineers all over the world. Total Phase's mission is to create powerful, high-quality, and affordable solutions for the embedded engineer. Over the years, Total Phase products have become tools of choice for Fortune 500 companies, small businesses, and research institutions alike.

The simplicity and ease of integration of Total Phase products have led to many unique engineering solutions. As customers use Total Phase products with their systems, Total Phase actively incorporates their feedback, building the solutions that engineers find most valuable. Customers are able to leverage these solutions to build higher-quality products for their own markets.

<http://www.dsp-tdi.com>

国内代理店 立野電腦株式会社 0428-77-7000 sales@dsp-tdi.com

Total Phase, Inc.	Main	408 850-6500	
735 Palomar Ave.	Sales	408 850-6501	sales@totalphase.com
Sunnyvale, CA 94085 USA	Support	408 850-6502	support@totalphase.com

www.totalphase.com