

# Beagle™ I2C/SPI Protocol Analyzer



## Key Features

### Real-Time Non-Intrusive Monitoring

- I2C (SMBus supported): Up to 5 MHz
- SPI: Up to 24 MHz
- MDIO (Clause 22 and 45): Up to 2.5 MHz<sup>1</sup>

### Data Center™ Software

- Real-time display, search, and filtering of captured data
- Bit-level timing down to a 20 ns resolution
- Capture traces to >25 GB

### Beagle API

- Create custom software applications
- Example files included
- Cross-platform support for Windows, Linux, Mac OS X

### USB Bus-Powered

- Portable
- No extra power adapters needed

### Quality

- CE, REACH, RoHS
- Manufacturing: ISO 9001, ISO 13485, AS9100C, ITAR
- One year warranty

An ever-wider array of devices and the increasing pressure to minimize costs means that you need to get the most out of your embedded systems interface tools - and the Beagle I2C/SPI Protocol Analyzer is expressly designed to enable your competitive edge.

The Beagle I2C/SPI Protocol Analyzer is the ideal tool for debugging and monitoring traffic on your I2C, SPI, or MDIO based applications. The Beagle analyzer provides a high performance bus monitoring solution in a small, portable package. It provides fast, interactive, real-time visibility into the protocol layer of your embedded system.

### Enhanced Visibility

- See data displayed in real-time
- Interactive debugging: make a change and see the results in real-time
- Real-time display filter displays user-defined views
- Longer recording buffer than a scope (data streamed to PC's memory)
- Collaborate easily by sharing saved captures with colleagues with Data Center software

### I2C and SPI Peripherals Use Case

Using the Beagle I2C/SPI analyzer, users can easily debug the communication between a master and slave I2C and SPI peripherals such as EEPROMs, accelerometers, pressure sensors, temperature sensors, touch sensors, and much more.

### I2C in Video Use Case

Video display standards such as VGA, DVI, and HDMI all contain I2C as a means to easily transmit information such as maximum resolution and frequencies between the video controller and the monitor. The Beagle I2C/SPI analyzer can be used to easily monitor and identify any communication issues on the I2C lines for display applications.

<sup>1</sup> MDIO monitoring is available in the current versions of the API and version 2.20 of Data Center

# Beagle™ I2C/SPI Protocol Analyzer

## Applications

### Sensors

Accelerometers  
Pressure  
Temperature  
Light

### Video

VGA  
DVI  
HDMI

### Industrial and Home Automation

Motor controls  
Lighting controls

### Audio Processing

Codecs  
Signal Processing

### Scan for Video



## Specifications

### Software

The Data Center™ Software is a bus monitoring software application that displays captured USB, I2C, SPI, and CAN bus data in true real-time through the Beagle™ line of hardware protocol analyzers and the Komodo™ line of CAN interfaces.

### Data Center Software Features

- LiveDisplay™ technology allows for real-time interactive display and analysis of I2C (SMBus decoding supported), SPI, or MDIO traffic
- LiveFilter™ and LiveSearch™ tools allow for real-time interactive filtering and searching
- Collaborate easily by sharing capture files
- Export saved capture files to CSV format

### Beagle API and LabVIEW Support

- Create custom applications using the flexible, powerful, and well-documented Beagle API
- 32- and 64-bit support for C/C++/C#, Python, .NET, VB.Net, VB 6
- LabVIEW Instrument drivers

### Operating Systems Supported (32-bit and 64-bit)

- Windows: 7, 8, 8.1, 10
- Linux: Red Hat, SuSE, Ubuntu, Fedora
- Mac OS X: 10.7-10.14

### Hardware

#### Target Data Monitoring

I2C: Up to 5 MHz  
SPI: Up to 24 MHz  
MDIO: Up to 2.5 MHz

#### Target Bus Interface

I2C, SPI, MDIO

#### Host Bus Interface

USB 2.0  
Type B receptacle

#### Target Bus Cable

10-pin ribbon cable  
1.27 mm (0.05") pitch  
130.175 mm (5 1/8") length

#### Target Bus Connector

Type: 2x5 IDC female, 2.54 mm (0.10") pitch  
Pinout: Power: GND (2,10), NC/+5V (4,6)  
I2C: SCL (1), SDA (3)  
SPI: MISO (5), SCLK (7), MOSI (8), SS (9)  
MDIO: MDC (7), MDIO (8)

#### DC Characteristics

Target Power: +5V, 25 mA max  
I2C/SPI/MDIO Signal: 3.3V, 10 mA

#### Dimensions (W x D x L)

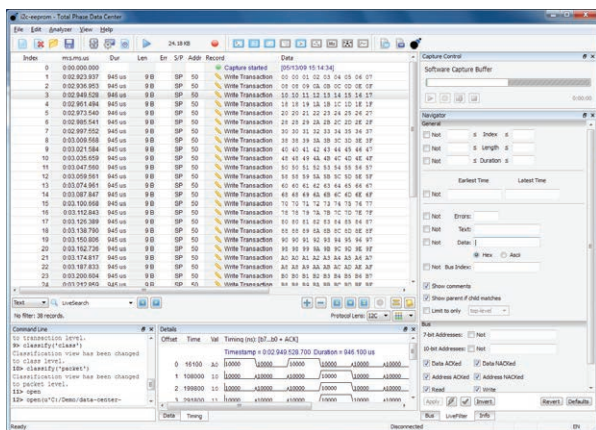
55.6 x 22.2 x 89 mm (2.19" x 0.87" x 3.5")

#### Weight

64 g (0.14 lbs)

#### Operating Temperature

10 to 35 °C (50 to 95 °F)



Data Center

## Ordering information

Beagle I2C/SPI Protocol Analyzer

Part Number TP320121

Country of Origin USA

HTS 9030890100

ECCN EAR99



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R20190524