



Analyze



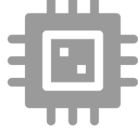
Exercise



Emulate



Test



Program



Automate



## CAS-1000-I2C/E™ I<sup>2</sup>C & SMBus Analyzer, Exerciser, Emulator, and Programmer

### Features

- Supports I<sup>2</sup>C and SMBus monitoring and traffic generation for Standard-mode, Fast-mode, Fast-mode Plus (Fm+) with I<sup>2</sup>C bus data rates up to 5 Mbit/s
- Monitors and emulates simultaneously —up to 1 emulated master and 10 emulated slaves, all running concurrently with high-speed mode (Hs-mode) monitoring
- Measures I<sup>2</sup>C bus electrical & timing parameters with a graphical waveform display
- Injects glitch & signal patterns, protocol errors, & slave clock stretching to override the bus and stress the UUT
- Adjustable bus voltage reference and software, configurable pull-up resistors on the SDA and SCL lines
- Powerful command and script language for emulation control and automated testing
- Passive traffic monitoring with state and timing recording, time stamping, message filtering, and symbolic translating
- Unlimited and continuous logging of transaction data to file
- Captures advanced trigger events to highlight and display bus transactions of interest
- In-System Programming of I<sup>2</sup>C serial EEPROMs
- High-speed, bus-powered USB 2.0 interface with I2C Exerciser software for Microsoft Windows

### Benefits

- Monitor displays high-level view of I<sup>2</sup>C bus traffic, including graphical display of bit and protocol level information as a timing waveform.
- Debugger, Emulator, and Test Script functions provide direct read/write access on the I<sup>2</sup>C bus. The CAS-1000-I2C/E acts as a master to generate or a slave to respond to I<sup>2</sup>C transactions while simultaneously monitoring the traffic on the bus.
- I2C Exerciser software is easy to learn and use. The graphical interface allows quick access to powerful functionality and filters out the noise, so you focus on the trace data that you actually need to see.
- Parameters Scope enables fast, automatic measurement and verification of common target bus electrical and timing parameters.

While the I<sup>2</sup>C interface seems simple on the surface, this straightforward architecture is not immune to intermittent glitches, device misbehaviors, and protocol violations. Likewise, tracking down these errors can be tedious business if the right tool is not utilized.

The **CAS-1000-I2C/E** bus analyzer is a bloodhound when it comes to sniffing out I<sup>2</sup>C irregularities. The ability to spot complex problems and identify invisible obstacles make it the preferred I<sup>2</sup>C development solution. Advanced logging, debugging, emulation, and verification capabilities offer power and versatility, yet the Windows-based user interface makes the most complex features simple to use.

The **CAS-1000-I2C/E** succeeds where simple monitoring and interactive I/O tools fall short—a complete solution to monitoring, emulating, stressing, and characterizing I<sup>2</sup>C and SMBus interfaces.

### Applications

#### Software Development

Monitor and log I<sup>2</sup>C bus traffic in real-time.

#### Hardware Debug

Generate traffic to exercise the bus and communicate with its peripheral components.

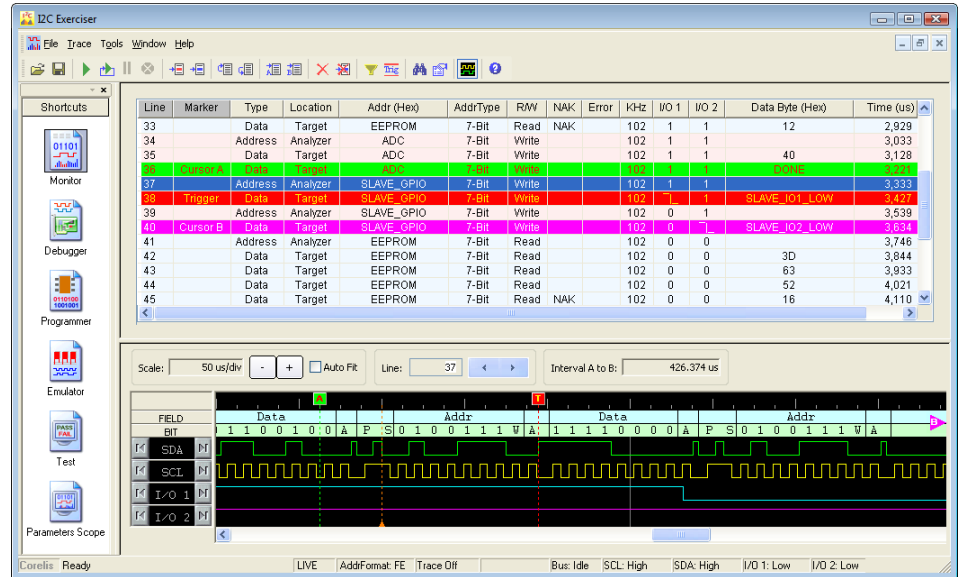
#### Factory Test

Create automated test sequences, including bus electrical and timing measurement.



The CAS-1000-I2C/E is an advanced, feature-packed and powerful I<sup>2</sup>C debugging and analysis system. By providing full visibility as well as detailed control of the I<sup>2</sup>C bus, the CAS-1000-I2C/E enables engineers to save time and resources, replacing multiple instruments with a single intuitive and specialized tool. The Corelis hardware and software provide a convenient easy to use environment for hardware debugging, software development, bus validation, and in-system programming.

The CAS-1000-I2C/E leaves standard serial bus analyzers behind by providing a complete, peerless set of tools to generate bus traffic, inject glitches and protocol errors, measure bus electrical and timing parameters, program serial EEPROMs, emulate I<sup>2</sup>C masters and slaves, and more—all while simultaneously monitoring the bus, logging trace and timing data, and verifying I<sup>2</sup>C bus behavior on the fly. The I2C Exerciser software interface, included with the CAS-1000-I2C/E, provides a consolidated and intuitive GUI (Graphical User Interface) for host PC control and visualization of all bus monitoring and traffic generation features.



I2C Exerciser Monitor: Log, analyze, and display trace and timing data.

### CAS-1000-I2C/E Hardware Specifications

#### General

Mechanical Dimensions	5.48 × 1.00 × 4.66 ± 0.25 inches
Certifications	RoHS Compliant

#### USB Interface

USB Transfer Rate	High-speed USB 2.0
USB Cable	Ships with a 6 foot USB 2.0 A to B cable

#### I2C Interface

I <sup>2</sup> C Bus Connector	RJ45 (AMP P/N 406549-1)
I <sup>2</sup> C Bus Cable	Ships with a 12 inch interface cable that terminates in flying leads suitable for connection to 0.025" square posts. Test clips are included.

### Ordering Information

#### Part Number - 90002

For more information, or to order this product online, please visit our website at [www.corelis.com/CAS-1000](http://www.corelis.com/CAS-1000)

View the CAS-1000-I2C/E whitepaper at [www.corelis.com/whitepapers](http://www.corelis.com/whitepapers)



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