i2cStick™ I²C Bus Host Adapter

Personal, Powerful, Pocket-Size

MIIC-207

- 5 Volt Version
- 3.3 Volt Version

i2cStick™

The **i2cStick** is our *personal, powerful*, and *pocket-size* I²C Bus host adapter. Just load our free software, plug the **i2cStick** into a USB port, and you will be sending and receiving I²C messages in seconds.

- **USB-Implementers Forum (USB-IF) Certified**
- **Microsoft Windows Hardware Quality Lab (WHQL) Certified**

PRODUCT HIGHLIGHTS

- **Add I²C to Your Windows XP, Vista, or 7 PC.**
- **Supports 7-bit addressing Standard (100k) and Fast (400k) Mode I²C Bus Activity.**
- **High Performance I²C Bus Co-Processor.**
- **Increased I²C Bus Throughput with Low Overhead.**
- **Selectable 23KHz, 86KHz, 100KHz, and 400KHz I²C Bus Clock Rates.**
- **Supports Bus Master and Slave, Transmit and Receive Signaling.**
- **Supports Multi-Master systems with Arbitration Loss Detection.**
- **SMBus Packet Error Check (PEC) Ack/Nack detection.**
- **5 volt and 3.3 volt versions available.**
- **Switch controlled I²C Bus Pull-Ups.**
- **Simple ASCII Text Ccommand Interface.**
- **Download our *free* iPort Utility Pack.**
- **Download our *free* iBurner EEPROM Programming Software.**
- **Download our *free* Microsoft .NET Class Library.**
- **Download our *free* iPortAI LabVIEW VI Library.**
- **Download our *free* Message Center for Linux software.**
- **Use our *free* Sample Programs and Development Tools to build custom I²C applications.**
- **USB Bus Powered.**
- **Virtual Com Port based driver eliminates USB complications.**
- **Built-in ESD and Over/Reverse-Voltage Protection help keep your PC safe.**
- **USB-IF, WHQL, FCC Certified, CE Marked.**
- **Compatible with existing iPort/AI, iPort/AFM, and iPort/USB applications.**
- **eXtended Commands support 2-Wire, "I²C-Like", and low level signaling.**

The **i2cStick** is our personal, powerful, and pocket-size I²C Bus host adapter. *USB-IF and Microsoft WHQL Certified*, the **i2cStick** will operate with any Windows 7, Vista, or XP PC. Typical applications include product development and testing, EEPROM programming, device control and sensor networking.

Over the past few years, the I²C Bus has expanded from simple control to data intensive applications. As new uses arise, bus bandwidth and message overhead have become key issues in product design and testing. The i2cStick, our fifth generation adapter for the I²C Bus, addresses these issues by supporting several I²C bus speeds, including *fast mode* (400kbit/s), and USB transfer rates up to 12 Mb/s. Implemented using a high-performance bus co-processor with optimized instruction set, the adapter also includes large message buffers (256 bytes) to reduce host computer and bus overhead. In addition to operating as a bus master or slave in a multi-master system, the **i2cStick** includes Packet Error Check (PEC) detection for System Management Bus (SMBus), Power Management Bus (PMBus), and other derived protocols.

Thanks to its USB-based *Virtual Communications Port* (VCP) driver, the **i2cStick** will work with RS-232 based applications written for our iPort/AFM or iPort/AI I²C Bus host adapters, and is compatible with applications for our iPort/USB adapter.

Master and Slave, Transmit and Receive, **i2cStick** supports I²C message modes including *Multi-Master*, *Arbitration Loss Detection*, with messages from 1 to 32K bytes in length.

Start sending I²C messages in minutes using our Message Manager or Message Center applications included with each adapter. You can also use your computer's terminal emulation software (like Windows' Hyperterminal Program), or create your own custom I²C applications using any programming tool that can access your computer's (virtual) serial port.

i2cStick
ASCII Text Interface Commands

Command	Description
	Note: [CR] = Carriage Return Code or Enter Key. **Syntax: [Select], (Optional), xx = [00..FE], n = [1..32767]**
Ctrl/R,Ctrl/R,Ctrl/R	**i2cStick Reset** This command resets the i2cStick to its default state.
//[CR]	**Status Display** Display i2cStick status information.
/B[0|1|2][CR]	**Virtual Com Port Baud Rate Control (See Note)** Set the Virtual Com Port Baud Rate (0=19.2K, 1=57.6K, 2=115.2K). **Note**: For backward compatibility only. i2cStick internally re-maps all three baud rates to 115.2K)
/C[CR]	**Close I²C Connection** Disconnect from the I²C Bus.
/Dxx[CR]	**Set Destination I²C Slave Address** Set the destination I²C Slave Address for subsequent Master Transmit or Receive operations.
/E[0|1][CR]	**Echo/Prompt Control [0 = Disable, 1 = Enable]** Enable/Disable data entry echo and prompts.
/F[0|1][CR]	**Virtual Com Port Flow Control [0 = XON/XOFF, 1 = RTS/CTS]** Select serial communication handshaking protocol.
/G[0|1][CR]	**I²C General Call Control [0 = Disabled, 1 = Enabled]** Enables/Disables i2cStick response to I²C Bus General Call (00) messages.
/H[0|1][CR]	**Hex Only Display Control [0 = Disabled, 1 = Enabled]** Controls display format of received message data.

/Ixx[CR]	**Set i2cStick's Own I²C Slave Address** Sets i2cStick's own I²C Slave Address. i2cStick will respond to I²C Bus messages sent to this address.
/K[0|1|2|3][CR]	**I²C Bus Clock Rate Control** Set I²C Bus Clock Rate Control (0=23, 1=86, 2=100, 3=400 KHz)
/M[CR]	**Command Menu Display** Display i2cStick's Command Menu
/N[0|1|A|R][CR]	**iNterrupt Signal Monitor/Control Status (See Note)** Sets Monitor/Control/Status /INT Line. [0=Disable, 1=Enable, A=Assert, R=Release, [CR] = Status]. **Note**: For backward compatibility only. INT signal not implemented on i2cStick.
/O[CR]	**Open I²C Connection** Activates i2cStick as an I²C device attached to the bus.
/*Rn[CR]	**Master Read Message** Read the specified number of data bytes from the current Destination I²C Slave device. * = No Stop for Repeated Start
/Stext[CR]	**Slave Transmit Message** Write the specified data bytes to a requesting I²C Master Receiver device.
/*Ttext[CR]	**Master Transmit Message** Master Transmit the specified data bytes to the current Destination I²C Slave device. * = No Stop for Repeated Start
/Un[CR]	**I²C Bus Time-oUt** Set the I²C Bus Time-oUt in msec (0=Disable)
/V[CR]	**Display i2cStick Firmware Version** (Major XX.XX Minor)
/X[CR]	**eXtended Commands** Direct control of I²C Clock (SCL) and Data (SDA) lines. See User's Guide for details.
/*Y[CR]	**Display Tx bYte Count** Display number of bytes last sent to slave device. * = Also display Last Acknowledgment Bit (A/N) received from slave device. **Note**: Last Acknowledgment Bit can be used for detection of SMBus Packet Error Check (PEC) acceptance/rejection by slave.

TYPICAL APPLICATIONS

- **Product Development:** Software/Hardware Testing and Troubleshooting.
- **Manufacturing**: Testing and Debugging, EEPROM Programming, Quality Control.
- **Field Service**: Field diagnosis, Repair service and Verification, Product Updates.

Included Parts List:

- i2cStick Host Adapter, 5 volt or 3.3 volt option.(#MIIC-207)
- i2cStick Mini Clip Lead Cable (1 Ft.) (#I2CMCL)
- Quick Start Guide.
- iPort I²C Utility Pack for Windows (iPort Utility Pack)
- Downloadable User's Guide (MIIC-207-UG.pdf)
- FREE Technical Support (via phone, fax, or email)

Optional Add-Ons

- i2cStick Mini Interface Cable 2 Ft. (#I2CMIC)
- i2cStick Mini Clip Lead Cables 1 Ft. (#I2CMCL)
- i2cStick Mini CAB Cable 2 Ft. (#I2CMCC)
- I^2C Bus Low Voltage Level Translator. (#IVOLT)
- I^2C Bus Interface Cables 4, 8 Ft. (#CAB4, #CAB8)
- I^2C Bus Cable Entender (#CABCE)
- I^2C Bus Prototyping Board (#IP-101).
- 4 Channel I^2C Bus Multiplexer Board (#IP-201).
- 7 Port I^2C Bus Distribution Board (#IP-202).

DISTRIBUTOR

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