User's Guide

MIIC-102 / PCI / PC-CARD / ISA

I²C Bus Monitor Plus

Version 2

MCC
Micro Computer Control Corporataion
Small Area Network Specialists

Micro Computer Control Corporation
www.mcc-us.com

Contents:

Limited Warranty

Micro Computer Control (MCC) Corporation warrants this product against defects in material and workmanship for a period of ninety (90) days for the original date of purchase.

This limited warranty is not applicable to:

1. Normal wear and tear.
2. Abuse, Unreasonable use, mistreatment or neglect.
3. Damage caused by the equipment or system with which the product is used, or
4. Damage caused by modifications or repair not authorized by MCC.

THIS WARRANTY IS EXTENDED TO THE ORIGINAL PURCHASER ONLY AND IS IN LIEU OF ALL OTHER WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event will MCC be liable for any incidental or consequential damages.

During the warranty period, MCC will repair, replace or refund the purchase price of any product found defective at its option. Returned items require an RMA (Return Material Authorization) issued by MCC, must be carefully packaged, insured for the full replacement value, with shipping charges prepaid, before the return will be accepted.

System Requirements

To use the I²C Bus Monitor Plus, your PC must meet the following requirements:

IBM PC or 100% Compatible System
80386, 80486, or Pentium or compatible processor
4 MB of RAM
2 MB Free Hard Disk Space
CD Drive.
Microsoft
    Windows 95, 98, 2000, NT 4.0, ME

Mouse
VGA or Better Monitor
1 Free Interface Card Slot
    ISA, PC-CARD, or PCI.

System Components

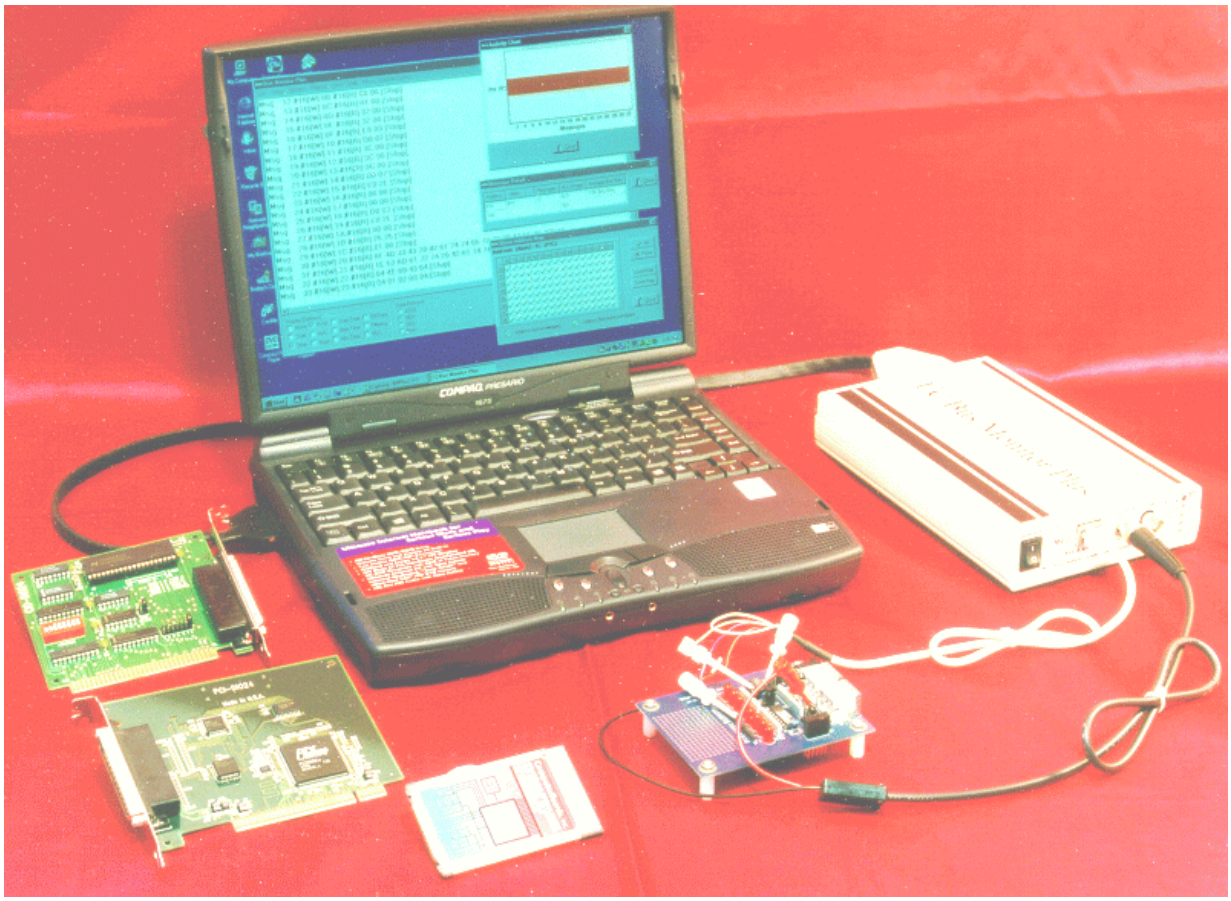
The I²C Bus Monitor Plus package includes the following components:

1. External Pod.
2. Computer Interface Card (ISA, or PC-CARD, or PCI).
3. Computer Interface Cable.
4. I²C Bus Clip Lead Cable (2 foot).
5. I²C/ACCESS.bus Cable (4 foot).
6. BNC to Clip Lead Trigger Cable.
7. Wall transformer (MWT-5VA, MWT-5VAE, MWT-5VAI depending on power configuration selected.)
8. ComputerBoards Interface Board Software CD.
9. I²C Bus Monitor Plus Software diskette.

Power Configurations

Standard (MIIC-102/xxx)	120 VAC 60Hz 6W to 5VDC 300mA Regulated, USA Plug. 120 VAC 60Hz 6W to 5VDC 300mA Regulated, USA Plug, 220/240VAC, 50-60Hz, up to 50 Watts Converter, and International Adapter Set.
European (MIIC-102/xxxE)	220V~50Hz 5W to 5V 300mA Regulated, European Plug.
International(MIIC-102/xxxI)	120 VAC 60Hz 6W to 5VDC 300mA Regulated, USA Plug, 220/240VAC, 50-60Hz, up to 50 Watts Converter, and International Adapter Set.

MIIC-102
I²C Bus Monitor Plus



Introduction

The **I²C Bus Monitor Plus** is a laboratory grade troubleshooting instrument for the Inter-Integrated Circuit (I^2C) Bus developed by Philips Semiconductors. When connected to an I^2C Bus and a host computer, the I^2C Bus Monitor Plus captures and displays I^2C Bus or derived protocol communications.

The complete I^2C Bus Monitor Plus package consists of an external pod, interface card, connecting cables, and Windows based software.

Version 2 Added Features

* PC-CARD and PCI Support
* Packet Error Checking Support
* Protocol Violation Detection, Filtering and Display

Features

The I^2C Bus Monitor Plus includes the following features:

* Non-intrusive trace of bus traffic to 400KHz.
* Compatible with low voltage logic.
* 256K byte data recording memory.
* Microsecond timestamping on bus events and bit, byte, or message data.
* Captures Start/Stop events, device addresses, read/write requests, acknowledgments, and data.
* Display filtering on message Slave Address and up to 8 data bytes.
* Trigger Input for synchronization with external event.

* Trigger Output on bus events or pattern match for triggering external test equipment.
* Smart Battery System (SBS) protocol display and violation detection.

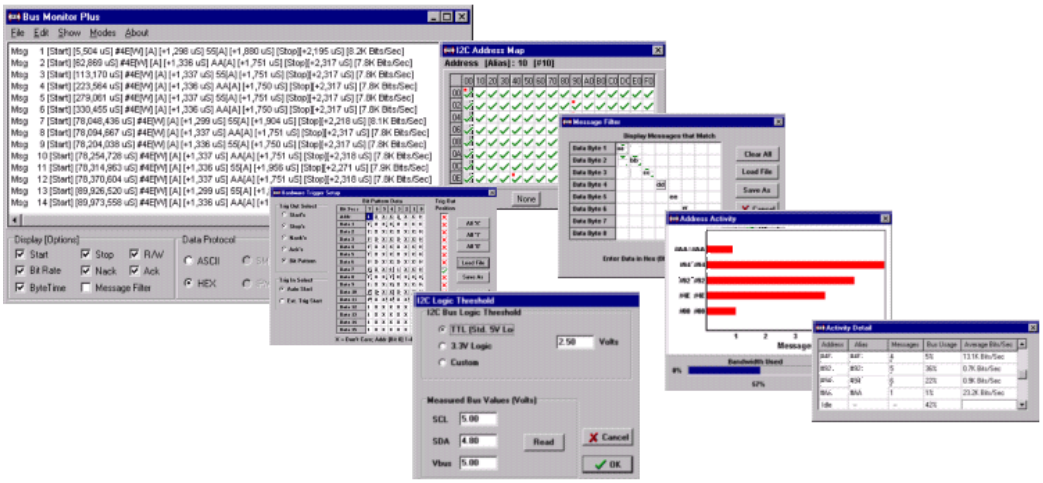
Bus Monitor Plus Software

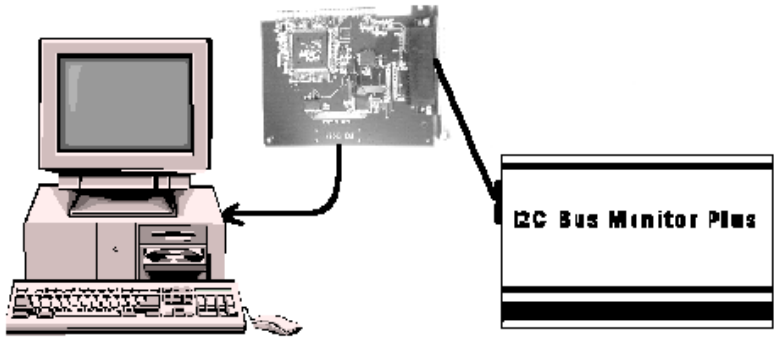
MCC provides both Distribution and Demonstration Editions of the I^{2}C Bus Monitor Plus software.

The Distribution Edition of the software includes full support to capture and display bus messages. The Distribution Edition is distributed as an integral component of the I^{2}C Bus Monitor Plus package.

The Demonstration Edition of the software supports the display of bus messages previously recorded in I^{2}C Bus Monitor Plus log files. The Demonstration Edition of the software is available on diskette, or can be directly downloaded from the MCC Web Site.

Although the Distribution Edition of the software along with the interface card and external pod is required to capture bus traffic, both editions of the software can be used without external hardware to view previously recorded bus message log files.





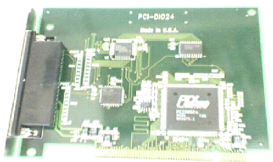
Installation

> WARNING - The instructions that follow require certain technical skills in the field of computer electronics. If you feel that you are not qualified to perform the required setup and installation procedures, we recommend the you seek assistance from a qualified technician.

Installation - PCI Interface Card Version

The following instructions apply to installing and configuring the PCI version of the I^2C Bus Plus interface card in most PCs. Refer to the manual that accompanied your PC for detailed instructions on installing cards in your PC.

The I^2C Bus Monitor Plus uses a ComputerBoards PCI-DIO24 PCI interface board to access the external pod.



Installing the Interface Card Configuration Software

Insert the ComputerBoards CD you received with the I^2C Bus Monitor Plus. Install the InstaCal software by following the instructions on screen, or run the SETUP.EXE program found in the \PRODUCT\DISK1 directory of the CD-ROM drive. Follow the instruction on screen. If asked to modify your AUTOEXEC.BAT or SYSTEM.INI files, respond with yes. Once the InstaCal software is installed, you must restart your computer to complete the installation.

Installing the Interface Card and Driver

This board is completely plug and play capable. To install the interface board:

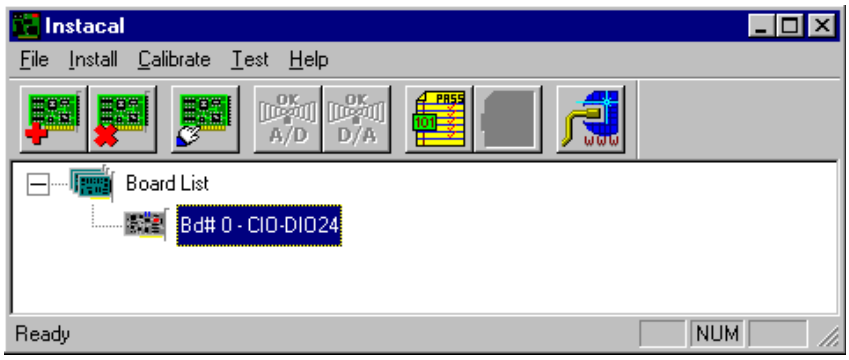
- Turn your computer off, unplug it, open it up and insert the PCI-DIO24 board into any available PCI slot.

- Close your computer up, plug it in, and turn it on.

- Windows will automatically detect the board as it starts up and will install the driver software. If prompted by the Windows Add Hardware Wizard, insert the ComputerBoards CD you received with the I^2C Bus Monitor Plus. Instruct the wizard to search the \PRODUCT\DISK1 directory of the CD-ROM drive for the driver, and follow the instruction on screen.

Configuring the Interface Card

Configure your interface board by running the InstaCal program via the Start|Programs|ComputerBoards|InstaCal menu. InstaCal will automatically detect the new board. Follow the instructions on screen to complete the board configuration and testing.



Installation - PC-CARD Interface Version

The following instructions apply to installing and configuring the PC-CARD version of the I^2C Bus Plus interface card in most PCs. Refer to the manual that accompanied your PC for detailed instructions on installing PC-CARDs in your PC.

The I^2C Bus Monitor Plus uses a ComputerBoards PC-CARD-D24CTR3 interface board to access the external pod.

Installing the Interface Card Configuration Software

Insert the ComputerBoards CD you received with the I^2C Bus Monitor Plus. Install the InstaCal software by following the instructions on screen, or run the SETUP.EXE program found in the \PRODUCT\DISK1 directory of the CD-ROM drive. Follow the instruction on screen. If asked to modify your AUTOEXEC.BAT or SYSTEM.INI files, respond with yes. Once the InstaCal software is installed, you must restart your computer to complete the installation.

Installing the Interface Card and Driver

This board is completely plug and play capable. To install the interface board:

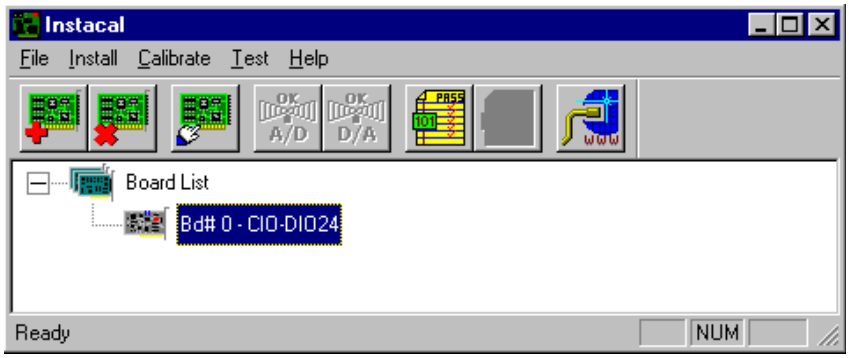
1. Insert the PC-CARD-D24CTR3 board into any available PC-CARD slot.

2. Windows will automatically detect the board as it is inserted and will install the driver software. If prompted by the Windows Add Hardware Wizard, insert the ComputerBoards CD you received with the I^2C Bus Monitor Plus. Instruct the wizard to search the \PRODUCT\DISK1 directory of the CD-ROM drive for the driver, and follow the instruction on screen.

Configuring the Interface Card

Configure your interface board by running the InstaCal program via the Start|Programs|ComputerBoards|InstaCal menu. InstaCal will automatically detect the new board.

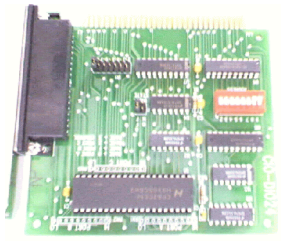
Follow the instructions on screen to complete the board configuration and testing.



Installation - ISA Interface Card Version

The following instructions apply to installing and configuring the ISA version of the I^2C Bus Plus interface card in most PCs. Refer to the manual that accompanied your PC for detailed instructions on installing cards in your PC.

The I^2C Bus Monitor Plus uses a ComputerBoards CIO-DIO24 ISA interface board to access the external pod.



Installing the Interface Card Configuration Software

Insert the ComputerBoards CD you received with the I^2C Bus Monitor Plus. Install the InstaCal software by following the instructions on screen, or run the SETUP.EXE program found in the \PRODUCT\DISK1 directory of the CD-ROM drive. Follow the instruction on screen. If asked to modify your

AUTOEXEC.BAT or SYSTEM.INI files, respond with yes. Once the InstaCal software is installed, you must restart your computer to complete the installation.

Setting Interface Card Address

Each ISA I/O card installed in a PC uses one or more I/O address locations within your computer's I/O address space. These address locations are used by software running on the PC's processor in communicating with electronics on the card.

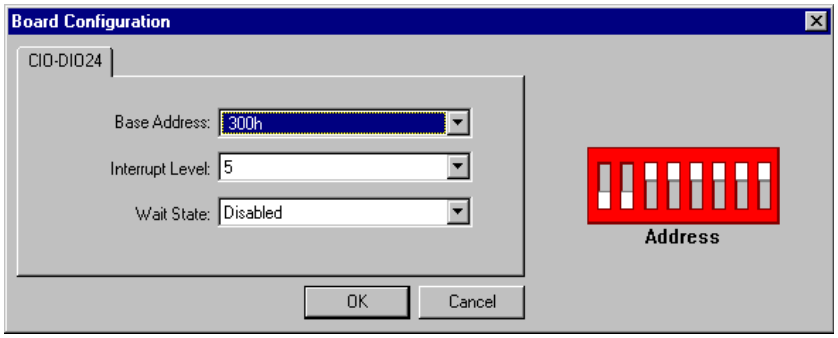
In order to not interfere with other installed cards in the PC, each card must use unique addresses. The interface card address determines the card's location within your computer's I/O address space.

Certain I/O addresses are used by the PC, others are free and may be used by the interface card. Refer to the manual that accompanied your PC for information regarding available address location in your PC.

The CIO-DIO24 ISA interface card uses 4 consecutive addresses starting with the base address selected with the ADDRESS switch on interface card . The factory default setting for the interface card is 300H. We recommend the default factory setting be tried first.

The ADDRESS switch may be set for addresses in the range of 000H to 3FCH. It should not be hard to find a free address area for the card in your PC. Addresses 300H to 31FH are is a prototype card area, and is often available for add-in cards. Addresses 390H to 39F may also be available.

The ComputerBoards Instacal software provides a graphical representation of ADDRESS switch settings. We recommend that you install and run this software before installing the interface card in you PC.



Installing the Interface Card

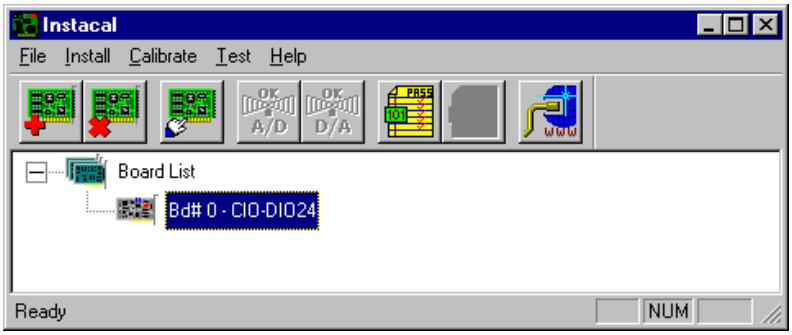
To install the interface board:

1. Turn your computer off, unplug it, open it up and insert the CIO-DIO24 board into any available ISA slot.

2. Close your computer up, plug it in, and turn it on.

Configuring the Interface Card

Configure your interface board by running the InstaCal program via the Start|Programs|ComputerBoards|InstaCal menu. InstaCal will automatically detect the new board. Follow the instructions on screen to complete the board configuration and testing.



Installing - I²C Bus Monitor Plus Software

This section covers software installation procedures for the both the Distribution and Demonstration Editions of the software.

The Distribution Edition of the I²C Bus Monitor Plus software includes full support to capture and display bus messages. This version of the software is distributed as a component of the I²C Bus Monitor Plus package.

The Demonstration Edition of the I²C Bus Monitor Plus software supports the display of bus messages previously recorded in log files. This edition of the software can be used to become familiar with I²C Bus Monitor Plus features, or to view bus message log files captured by users of the Distribution Edition of the software.

1. Insert the distribution diskette into the installation floppy drive.

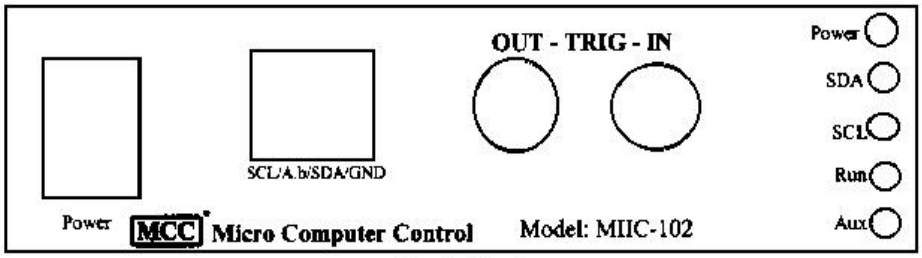
2. Select Start|Settings|Control Panel|Add/Remove Programs. (In versions of Windows without a Start Menu, select File|Run from the Program Manager.) Click Install.

3. When Prompted (Run Installation Program screen) select (or enter) "x:setup", where x is the installation floppy drive.

4. Follow the instructions presented on screen.

Connecting Your PC to the Pod

The I²C Bus Monitor Plus pod contains the electronic circuitry required to capture and record bus events, and communicate these events with the interface card and software installed in your PC.



Front Panel

This section describes how to connect your PC to the I²C Bus Monitor Plus pod.

1. Connect the previously installed interface card to the DB-37 connector at the rear of the I²C Bus Monitor Plus pod using the interfacing cable provided.

2. Connect the regulated 5VDC power supply cable to the power connector on the rear of the pod.

3. Plug the power supply into a 120VAC 60Hz outlet. MCC can provide a 220VAC 50Hz to 120VAC converter (#FT-50) with European plug.

4. Turn the pod power on. The red power light on the front of the pod should illuminate.

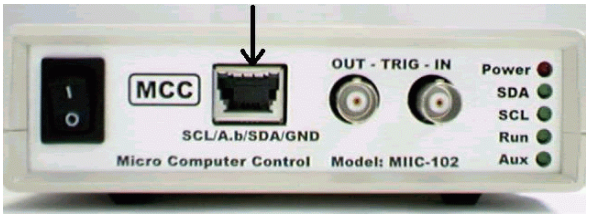
5. To test the pod connection to your PC, run the I²C Bus Monitor Plus Software described below and select "Setup|Initialize External Pod" from the main menu. When pod initialization is complete, the Run light on the front of the pod will blink.

The pod is now ready to be connected to the system under test and optionally to external test equipment. Proceed to the next section, "Connecting to the System Under Test".

Connecting to the System Under Test

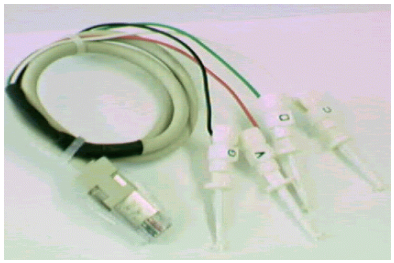
The I²C Bus Monitor Plus pod includes several ports for connecting the pod to a system under test. These ports include:

1. I²C Bus Port



The I²C Bus port is used to connect the pod to the I²C Bus under test. This port is located on the front of the pod, and uses a Molex ACCESS.bus type connector. Input lines are provided for I²C Clock, Data, and Ground, and System Under Test Vcc voltage measurement.

Connect the pod to the I²C Bus under test using the I²C Bus



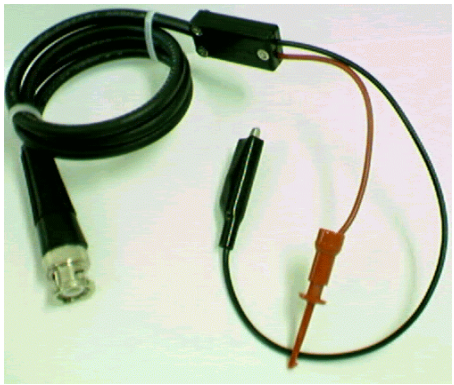
clip lead cable or I²C/ACCESS.bus cable provided.

2. Trigger In Port

The Trigger In port is optionally used to synchronize I^2C Bus data collection with an external event. This port is located on the front of the pod, and uses a BNC type connector. Input lines are provided for signal and ground.

When Trigger In is enabled with the software Trace Control dialog, data capture begins on the first I^2C Bus Start condition after a high to low transition on the Trigger In signal line.

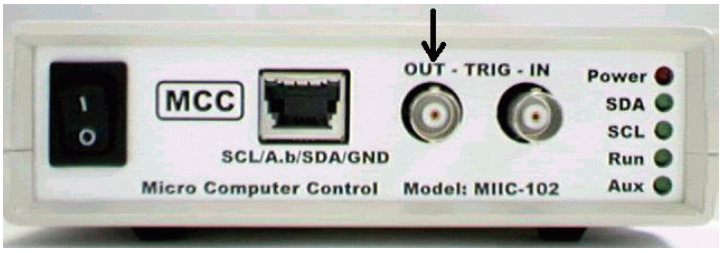
Connect the pod to an external trigger circuit using the BNC to clip lead cable provided.



Connecting to External Test Equipment (Optional)

The I^2C Bus Monitor Plus pod includes two ports for connecting the pod to external test equipment. These ports include:

1. Trigger Out Port



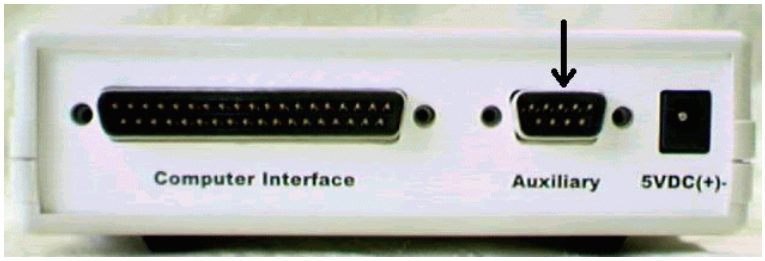
The Trigger Out port is optionally used to synchronize external equipment with I^2C Bus events or data match pattern. This port is located on the front of the pod, and uses a BNC type connector. Output lines are provided for signal and ground.

When Trigger Out is enabled and configured with the software Trigger Out dialog, a high to low transition on the signal line occurs on:

a. I^2C Bus Start events.
b. I^2C Bus Stop events.
c. I^2C Bus Acknowledge event.
d. I^2C Bus Negative Acknowledge event.
e. Bit Pattern Match.

Connect the pod to external equipment using a BNC to external equipment cable (not provided).

2. **Auxiliary Port** (optional)



The Auxiliary port is used to connect the I^2C Bus Monitor pod to external equipment. This port is located on the rear of the pod, and uses a DB-9M type connector. Auxiliary lines include:

Pin 1 - I^2C Bus Data (SDA)
Pin 2 - I^2C Bus Clock (SCL)
Pin 3 - TTL I^2C Bus Clock (TSCL)
Pin 4 - TTL I^2C Bus Data (TSDA)
Pin 5 - Ground (GND)
Pin 6 - Trigger Out (TOUT)
Pin 7 - Trigger In (TIN)
Pin 8 - Optional I/O (OIO)
Pin 9 - Vcc +5 Output (VOUT)

Starting the I²C Bus Monitor Plus Software

The best way to get familiar with the I²C Bus Monitor Plus software is to start it up.

Even without the interface card installed or external pod connected, you can exercise various product features by loading one of the sample log files included with the product.

Viewing Sample Log Files

1. Double-click on the I²C Bus Monitor Plus icon (if you have created a shortcut), or

2. From the Windows Start menu, select Programs|I²C Bus Monitor Plus.

3. Select "Open Log File for Read" in the "Setup" menu for sample data demonstrations.

Viewing Live Messages

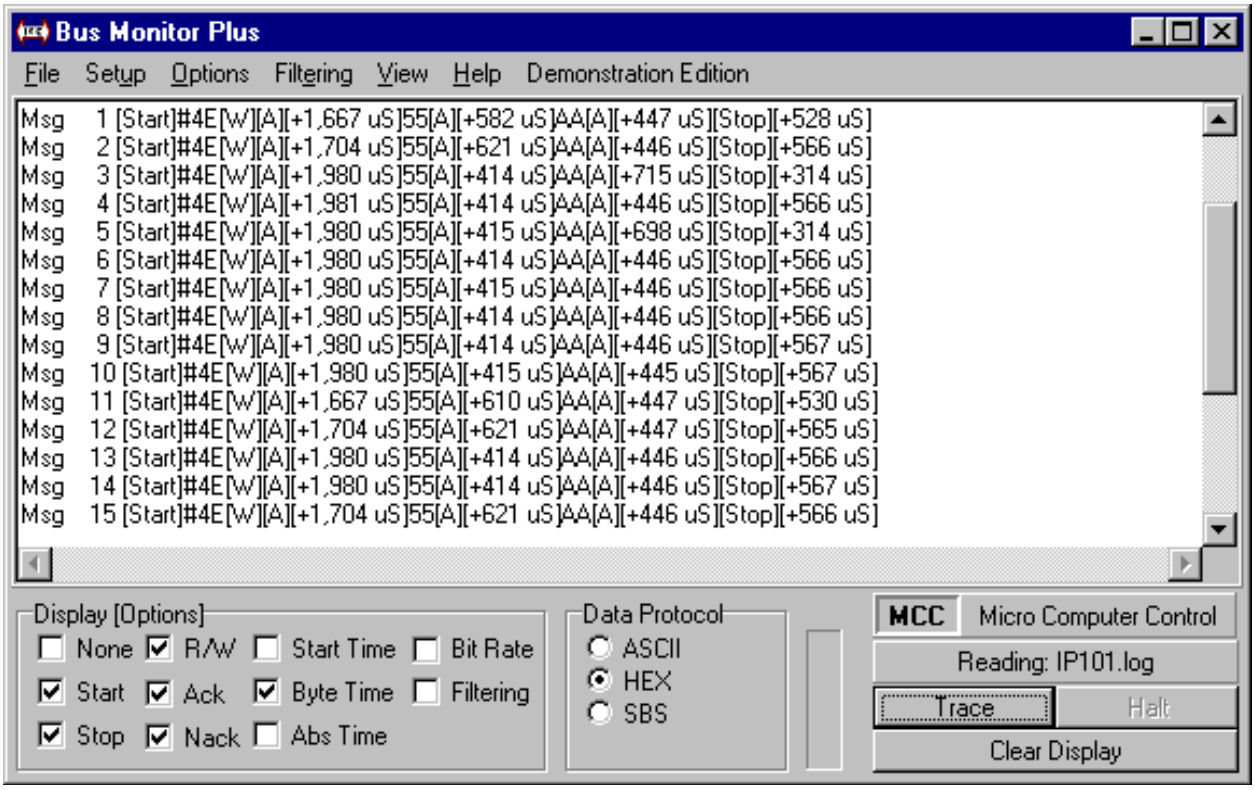
1. Double-click on the I²C Bus Monitor Plus icon (if you have created a shortcut), or

2. From the Windows Start menu, select Programs|I²C Bus Monitor Plus. Live messages will be displayed.

3. Select desired Display (Options) and Data Protocol. Click “Trace”, messages will be displayed with your options.

Program Controls

The I²C Bus Monitor Plus software provides a rich set of features designed to collect, time-stamp, analyze, and display I²C Bus messages. User control of these features is provided by a graphical user interface consisting of Buttons, Check Boxes, Pull-Down Menus, and Pop-Up Menus.



Main Screen

The operation of these controls are described below:

Button Controls:

Trace - Enter Trace mode. The Bus Monitor Plus displays I²C Bus traffic or log file data using the selected display format and filtering in the main display window. If a log file is Open for Read, log data will be displayed.

More - Continue display of log file data when main display is full.

Halt - Stop display of data and enter Halt mode.

Clear - Clear the main display window.

Check Box Controls:

Display [Options]

None - Disables all message parsing and display activities. Use this option along with “Open Log File for Write” to maximize pod recording memory utilization.

Start, Stop, Ack, NAck and R/W - Controls display of I^2C events.

Start Time, Byte Time, and Bit Rate - Controls display of message timing information.

Filtering - Enables Slave Address and Message Data filtering. See Address Map dialog and Message Data dialog for information on establishing filtering parameters.

Abs Time - Message Start, Byte, and Bit timing can be displayed in Relative Time or Absolute Time mode.

Relative Time Mode

Relative Mode displays timing information relative to the previous I^2C Bus event. Displayed Start timing is the time since the previous Stop. Displayed Byte or Bit timing is the time since the previous Start, Byte, or Bit event.

Absolute Time Mode

Absolute Mode displays timing information from a fixed I^2C Bus event. Displayed Start timing is the time since the first I^2C Bus Start event. Displayed Byte or Bit timing is the time since the current message I^2C Bus Start event.

Data Protocol

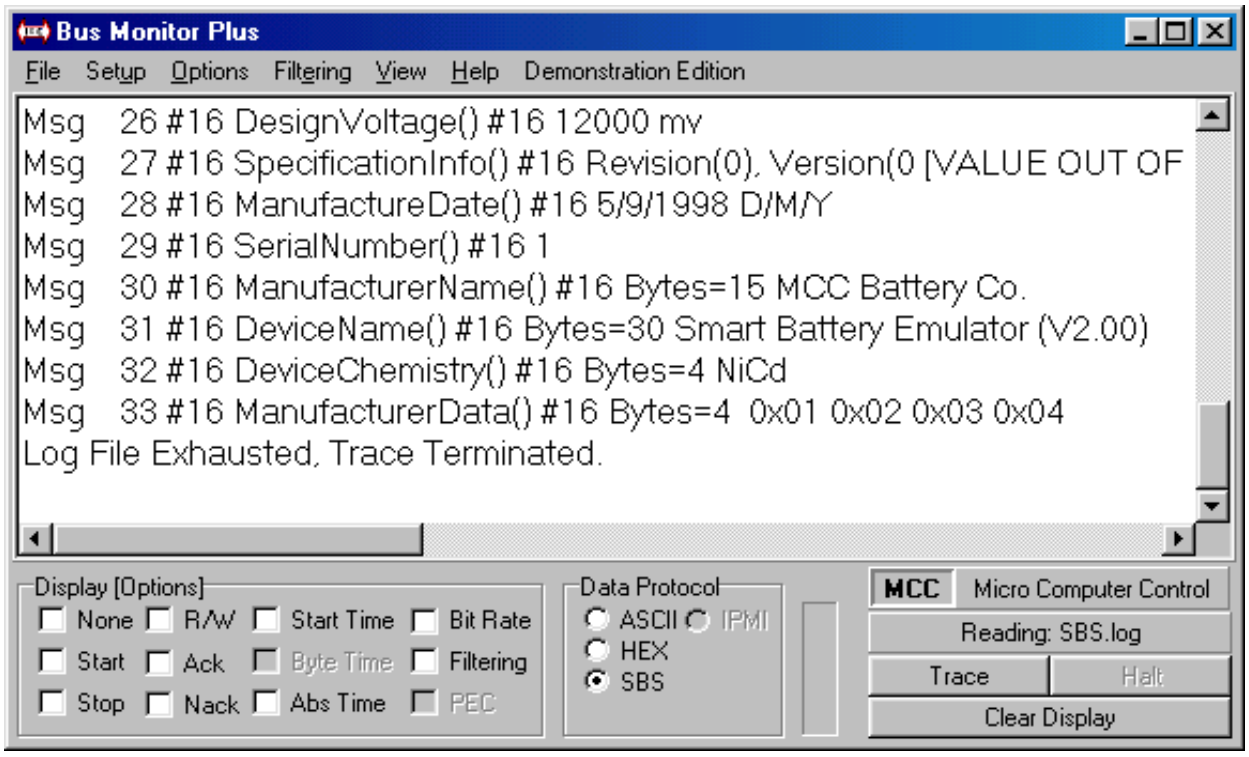
Captured message data can be displayed using several standard protocols. These protocols include:

ASCII - Display printable data in ASCII format.

HEX - Display data in Hexadecimal format.

SBS - Display SBS data in Smart Battery System format.

Pull-Down Menu Controls:

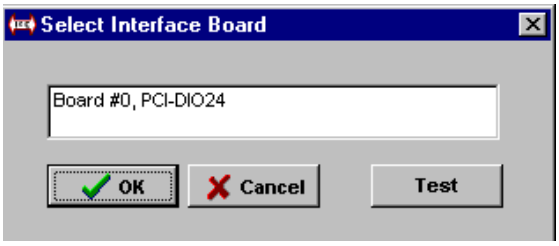


File|Print Setup - Setup printer.

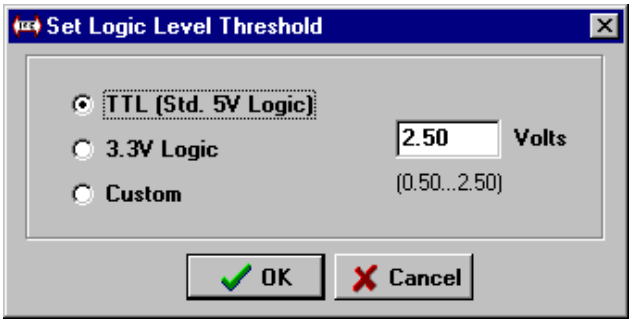
File|Print - Print Displayed Data with option to print selected text only.

File|Exit - Terminate program.

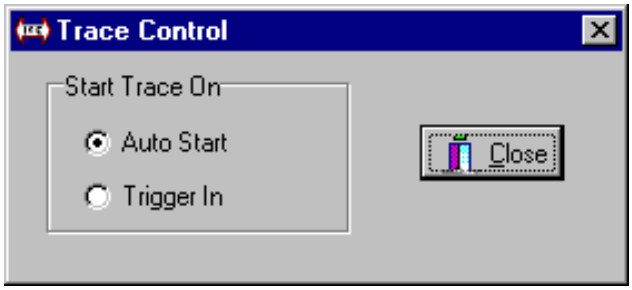
Setup|Interface Board - Displays the Interface Board dialog box. Use the Interface Board dialog box to select the interface board connected to the external pod.



Setup|Logic Level Threshold - Displays the Logic Level Threshold dialog box. Use the Logic Level Threshold dialog box to set the logic level threshold on the I^2C Clock and Data lines. Logic levels for TTL (5V Logic), 3.3V Logic, and Custom levels for 0.50V to 2.50V are supported.



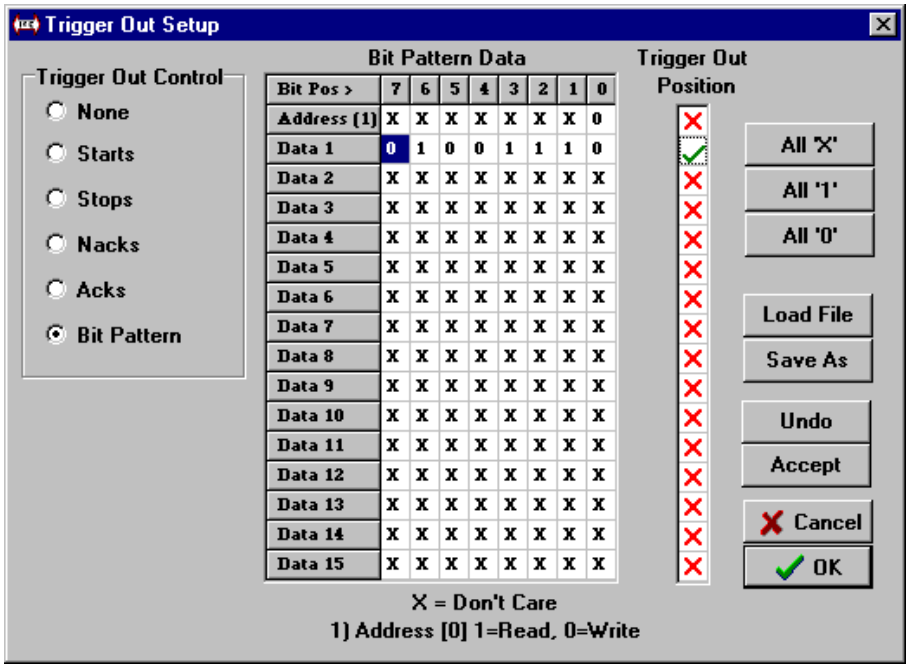
Setup|Trace Control - Displays the Trace Control dialog box. Use the Trace Control dialog box to set Trace start conditions.



Select "Auto Start" to start tracing messages on the first I^2C Bus Start event.

Select "Trigger In" to start tracing messages on the first I^2C Bus Start event after the Trigger In port goes low. Use this setting to synchronize data collection with external signals.

Setup|Trigger Out - Displays the Trigger Out dialog box. Use the Trigger Out dialog box to set Trigger Out port low pulse conditions.



Select "Start", "Stop", "Ack", or "Nack" to generate a low pulse on the Trigger Out port each time the selected I^2C Bus event occurs.

Select "Bit Pattern" to generate a low pulse on the Trigger Out port when the Bit Pattern Data match and Trigger Out Position conditions occurs.

Bit Pattern data and Trigger Position selection is provided for the I^2C Bus address and first 15 data bytes within a message. Bits may be specified as 0, 1, or Don't Care.

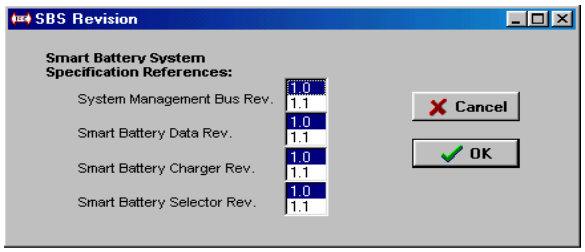
The Trigger Out port low pulse occurs if the Bit Pattern match is true when the Trigger Out position occurs. Trigger Out low pulse occurs on the I^2C Bus Acknowledge bit following the Trigger Out position byte.

The Trigger Out signal can be used to synchronize external data collection devices such as storage scopes or logic analyzers with I^2C Bus events.

Setup|Enable Bit Timing - Enable collection of I^2C Bus Bit Timing information. Bit timing information is available in the "Show Message Timing" pop-up menu described below.

Bit Timing causes the external pod to generate a 9 times increase in data, and can result in pod data recording memory overflow on high bandwidth or high speed bus traffic.

Setup|Select SBS Revision - Displays the Smart Battery System (SBS) Revision dialog box.



Use this dialog box to select the SBS revision used by system components. When displaying messages in SBS protocol, the I^2C Bus Monitor Plus software will detect and display the following protocol violations using the selected specification revision.

SBS Protocol violation detection includes:

[VALUE RANGE VIOLATION]
[STRING LENGTH < MINIMUM]
[STRING LENGTH > MAXIMUM]
[BLOCK LENGTH < MINIMUM]
[BLOCK LENGTH > MAXIMUM]
[RESERVED BIT VIOLATION 0xXXXX]
[NO CHARGER ALARM VIOLATION]
[NO HOST ALARM VIOLATION]
[INVALID ERROR CODE 0xXXXX]
[RESERVED ERROR CODE 0xXXXX]
[RESERVED VALUE VIOLATION 0xXXXX]
[VALUE VIOLATION 0xXXXX]
[SINGLE BIT VIOLATION 0xXXXX]
[SLAVE ADDRESS NACK]
[0xXX RESERVED FUNCTION]
[READ ONLY ACCESS VIOLATION]
[PEC=XX CRC=XX ERR]
[PEC ACK ERROR]
[PEC NACK ERROR]
[MSG TOO LONG]
[WRITE ONLY ACCESS VIOLATION]
[UNITIALIZED READ OPERATION]
[MSG BYTES MISSING]
[INVALID REPEATED START ADDRESS]
[ALERT RESPONSE READ ONLY ACCESS VIOLATION]

For details on the SBS protocol, visit the Smart Battery Implementors Forum at www.sbs-forum.org

Setup|Open Log File for Write - Open a log file (*.log) to record data from I^2C Bus Monitor Plus pod. Recorded log files can be displayed with the Setup|Open Log File for Read menu item below.

Setup|Open Log File for Read - Load a previously stored file for processing and display. The I^2C Bus Monitor Plus can display log files (*.log) previously collected from the external pod. Log files are displayed with the currently selected display, filtering and protocol options.

Setup|Initialize External Pod - Select Initialize External Pod to initialize or re-initialize the I^2C Bus Monitor Plus external pod. Initialization also automatically occurs when performing activities that require the pod.

Setup|Program Settings|Save/Load/Restore Default - Select this menu item to Save, Load, or Restore Default I2C Bus Monitor Plus software parameters.

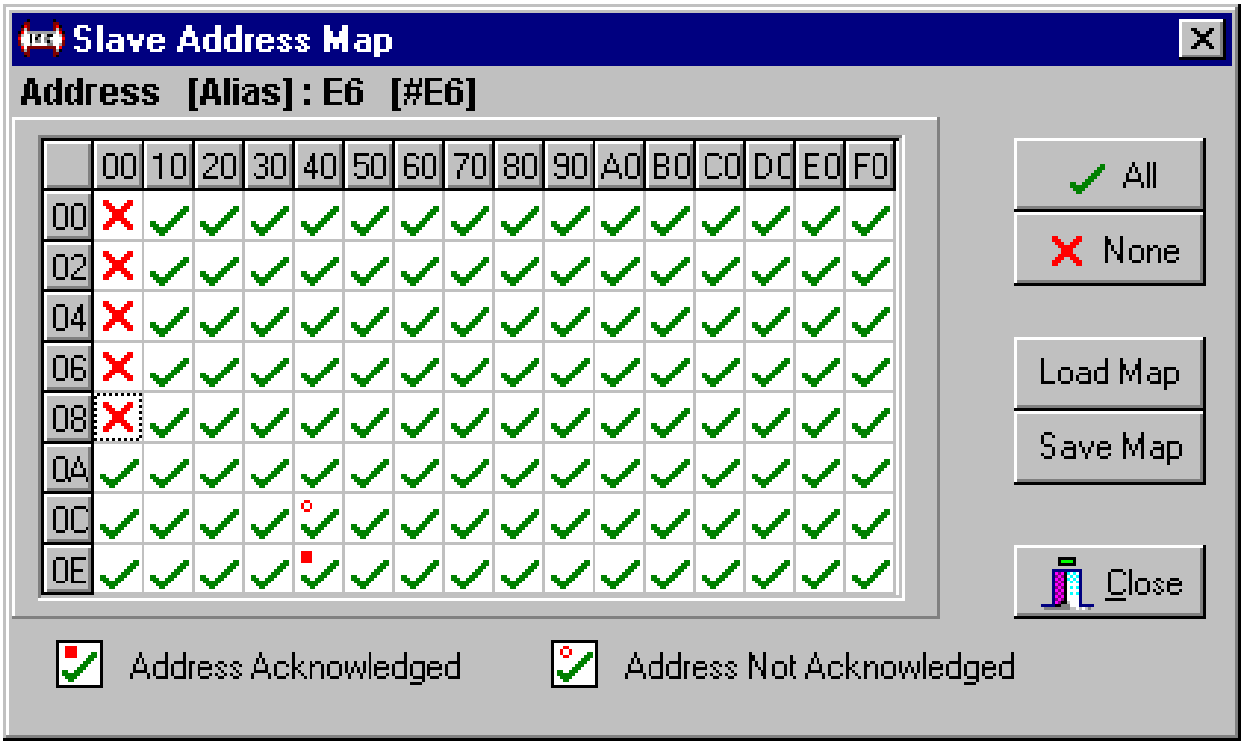
Setup|System Diagnostics - Select System Diagnostics display system diagnostic data used for product support.

Options|Show Hints - Enable display of cursor sensitive help.

Options|Set Line Length - Set display line length for message wrap.

Options|Set Font - Select display font and size.

Filtering|Slave Address - Displays the Slave Address Map dialog box.



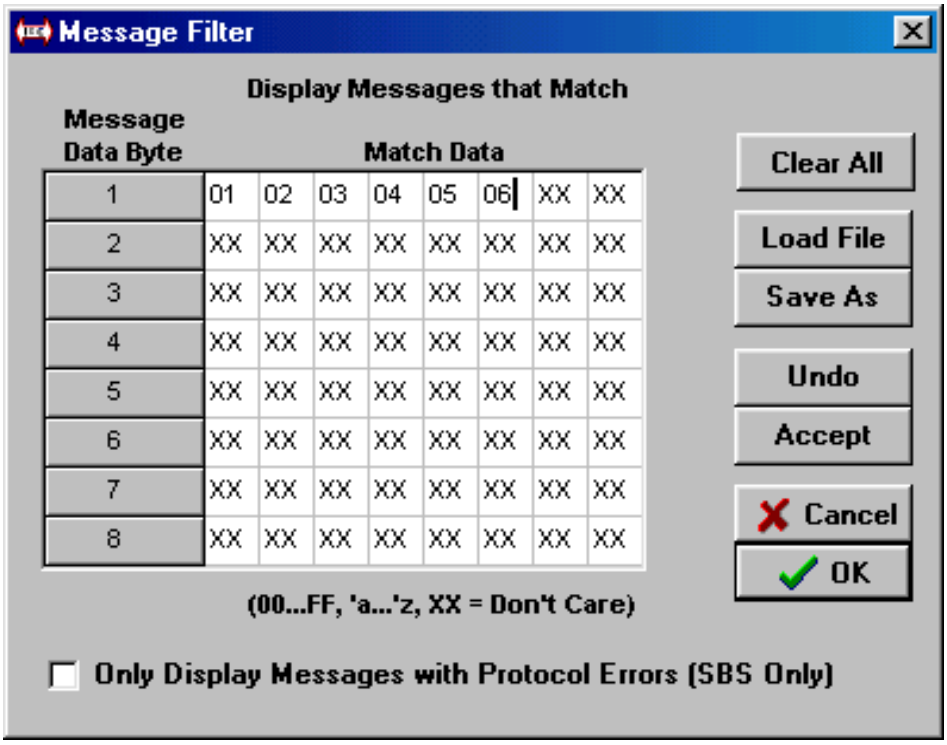
Use the Slave Address Map dialog box to select I^2C messages to display by Slave Address, and to globally monitor all address activity.

Click on grid cells to Enable (checked) or Disabled (x) address for display.

Enabled slave addresses show acknowledged bus messages with a solid dot. Negative acknowledged bus messages with a hollow dot. Selecting a grid cell clears traffic indicator.

Slave Address Map display filtering is enabled with the Filtering check box on the main screen.

Filtering|Message Data - Displays the Message Data Filter dialog box.



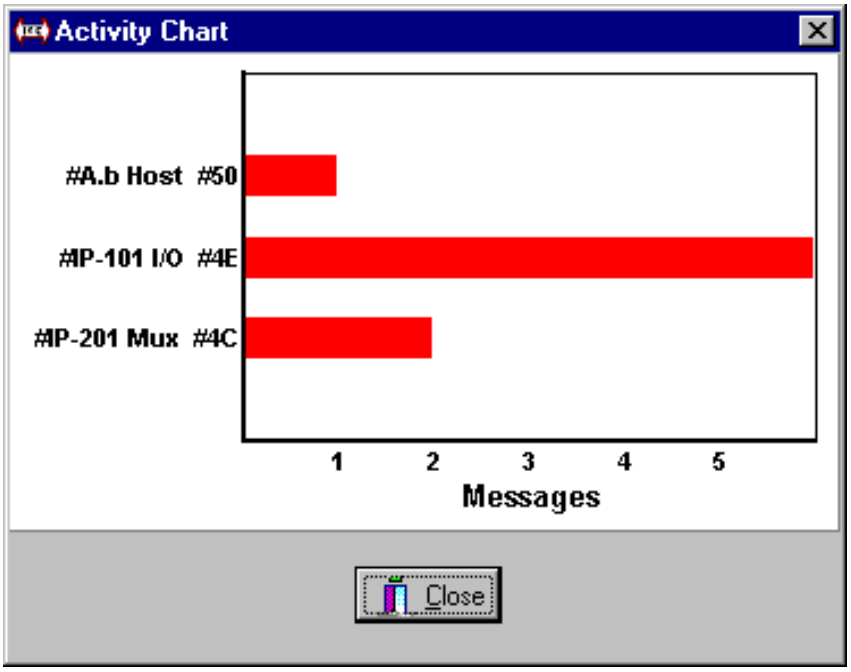
Use the Message Data Filter dialog box to select I2C messages to display by data content and by protocol error detection.

Click on a grid cell to enter match data in hexadecimal digits (00...FF), ASCII codes (i.e. 'a for the letter a), or XX for don't care. Enter up to 8 match data per message byte.

Check the Protocol Error checkbox to display only messages with detected Smart Battery System (SBS) protocol errors for the currently selected SBS specification revision.

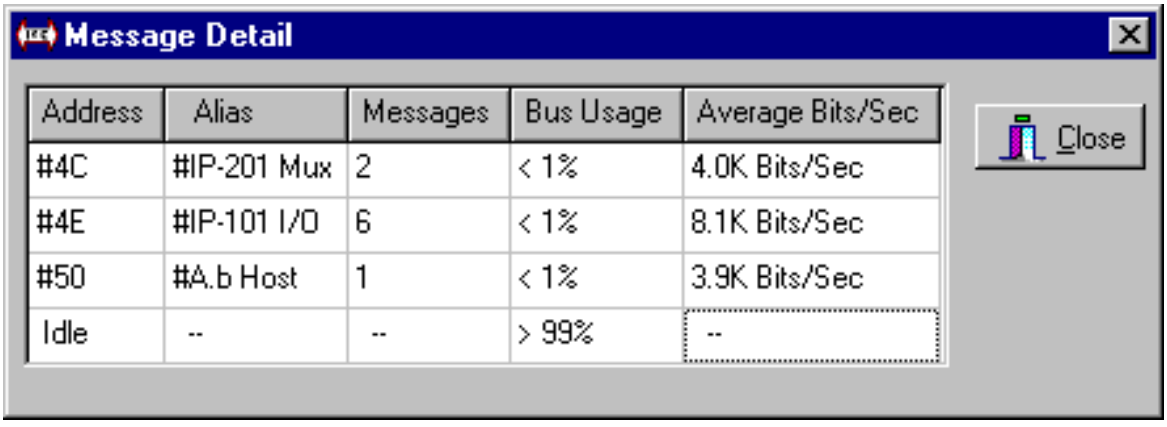
Message Data display filtering is enabled with the Filtering check box on the main screen.

View|Activity Chart - Displays the Activity Chart dialog box.



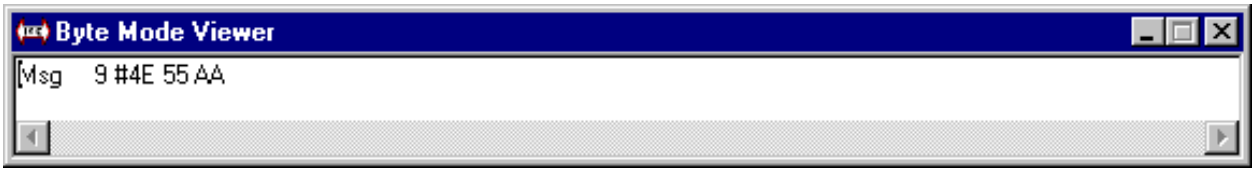
Use the Activity Chart dialog box to display a bar chart of message activity for the top 16 most frequently used slave addresses.

View|Message Detail - Displays the Message Detail dialog box.



Use the Message Detail dialog box to display a report of message activity for all active slave addresses.

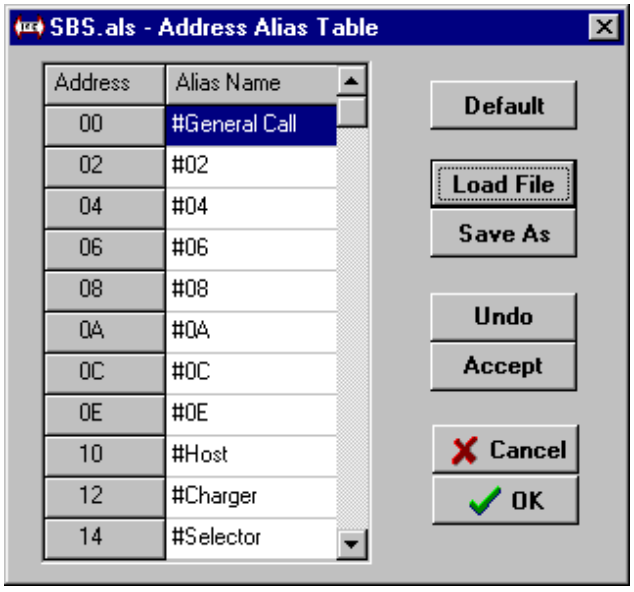
View|Byte Mode Viewer - Displays the Byte Mode Viewer.



The main message screen displays filtered I^2C messages upon detecting an I^2C Bus STOP event at end of message.

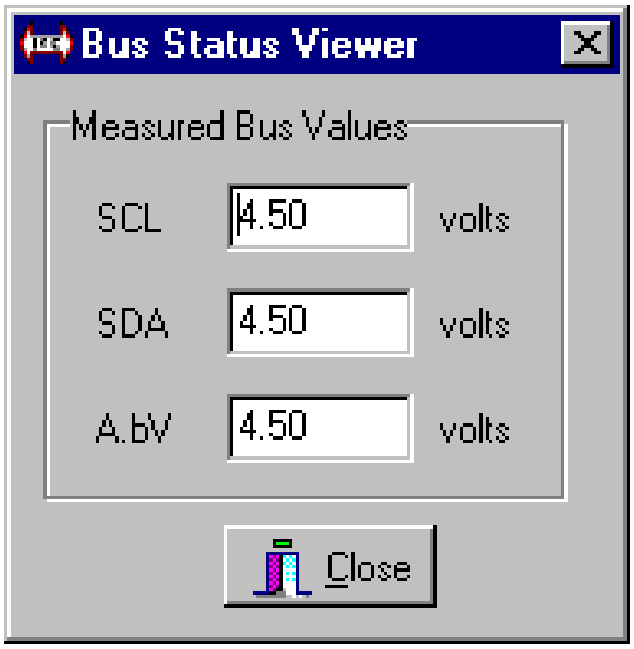
The Byte Mode Viewer displays unfiltered I^2C Bus events as they cross the bus, displaying message data even if the bus stalls within a message.

View|Address Alias Table - Displays the Address Alias Table dialog box.



Use the Address Alias Table dialog box to specify an alias name for slave addresses. Alias names are used to customize the display of slave addresses.

View|Bus Status Viewer - Displays the Bus Status Viewer dialog box.



Use the Bus Status Viewer dialog box to view the current voltage levels on the I^2C Bus Clock, Data, and A.bV lines. This viewer is useful in determining if the Clock or Data lines are stuck low.

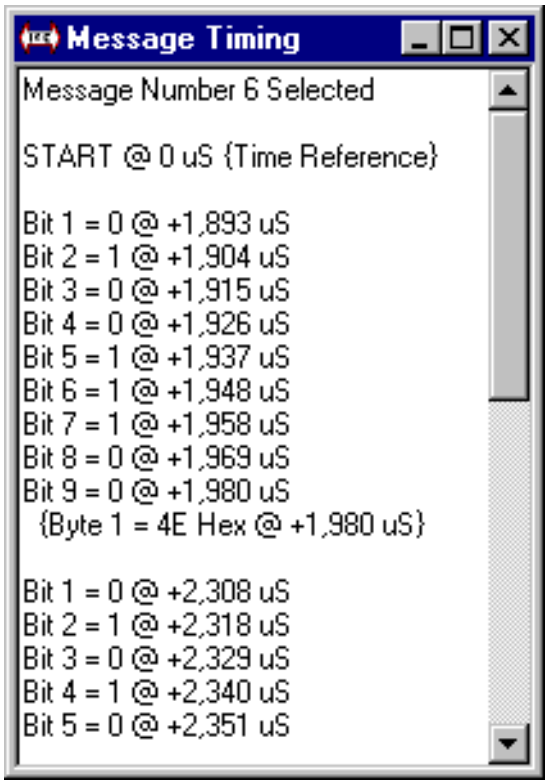
Pop-Up Menu Controls:

The Pop-Up Menu is used to view details on a specific displayed message. This menu is available on the main screen when displayed I^2C Bus messages are present and the system is in Halt mode.

To access the Pop-Up Menu, left mouse click to select a message, then right mouse click to pop-up the menu. Left mouse click to select a menu item.

Show Message Timing

Select the Message Timing menu item to display timing information on the currently selected message. I^2C Bus Start/Stop events and Data bytes are displayed. Bit timing data is displayed if "Enable Bit Timing" (see Setup Menu) was enabled when the message data was collected.



Show Message Diagnostics

Select the Message Diagnostics menu item to display diagnostic data used for product support.

Filename Convention:

The I^2C Bus Monitor Plus uses a variety of file types to save or record information. These file types include:

*.als Address Alias Table File - This file type is used to save Slave Address name aliasing information.

*.bps Setup File - This file is used to save software setup parameters.

*.dmf Data Match File - This file type is used to save Message Filter match data.

*.log Log File - This file type is used to record data packets from the external pod.

*.map Slave Address Map File - This file type is used to save Slave Address Map filter information.

*.pod Pod Configuration File - This file contains pod configuration data.

*.trg Trigger Out File - This file type is used to store Trigger Out setup information.

Direct Comments/Feedback to:

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