Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!
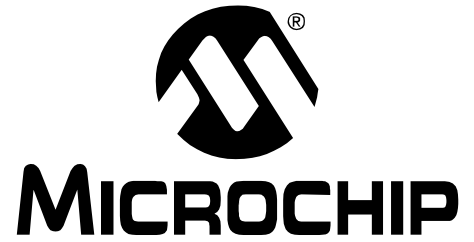
Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

PICkit™ Serial Analyzer
USER'S GUIDE

Note the following details of the code protection feature on Microchip devices:

• Microchip products meet the specification contained in their particular Microchip Data Sheet.

• Microchip believes that its family of products is one of the most secure families of its kind on the market today, when used in the intended manner and under normal conditions.

• There are dishonest and possibly illegal methods used to breach the code protection feature. All of these methods, to our knowledge, require using the Microchip products in a manner outside the operating specifications contained in Microchip's Data Sheets. Most likely, the person doing so is engaged in theft of intellectual property.

• Microchip is willing to work with the customer who is concerned about the integrity of their code.

• Neither Microchip nor any other semiconductor manufacturer can guarantee the security of their code. Code protection does not mean that we are guaranteeing the product as "unbreakable."

Code protection is constantly evolving. We at Microchip are committed to continuously improving the code protection features of our products. Attempts to break Microchip's code protection feature may be a violation of the Digital Millennium Copyright Act. If such acts allow unauthorized access to your software or other copyrighted work, you may have a right to sue for relief under that Act.

Trademarks

QUALITY MANAGEMENT SYSTEM

CERTIFIED BY DNV

ISO/TS 16949:2002

PICkit™ SERIAL ANALYZER USER'S GUIDE

Table of Contents

PICkit™ Serial Analyzer User's Guide

PICkit™ SERIAL ANALYZER USER'S GUIDE

Table of Contents

PICkit™ Serial Analyzer User's Guide

PICkit™ SERIAL ANALYZER USER'S GUIDE

Preface

NOTICE TO CUSTOMERS

All documentation becomes dated, and this manual is no exception. Microchip tools and documentation are constantly evolving to meet customer needs, so some actual dialogs and/or tool descriptions may differ from those in this document. Please refer to our web site (www.microchip.com) to obtain the latest documentation available.

Documents are identified with a "DS" number. This number is located on the bottom of each page, in front of the page number. The numbering convention for the DS number is "DSXXXXXA", where "XXXXX" is the document number and "A" is the revision level of the document.

For the most up-to-date information on development tools, see the MPLAB® IDE on-line help. Select the Help menu, and then Topics to open a list of available on-line help files.

INTRODUCTION

This chapter contains general information that will be useful to know before using the PICkit™ Serial Analyzer User's Guide. Items discussed in this chapter include:

- Document Layout
- Conventions Used in this Guide
- Warranty Registration
- Recommended Reading
- The Microchip Web Site
- Development Systems Customer Change Notification Service
- Customer Support
- Document Revision History

DOCUMENT LAYOUT

This document describes how to use the PICkit™ Serial Analyzer as a development tool to communicate with embedded development systems via serial protocols. The manual layout is as follows:

- **Chapter 1: PICkit™ Serial Analyzer Overview**
- **Chapter 2: Getting Started**
- **Chapter 3: PICkit™ Serial Analyzer PC Program**
- **Chapter 4: I2C™ Master Communications**
- **Chapter 5: SPI Master Communications**
- **Chapter 6: USART Asynchronous Communications**
- **Chapter 7: USART Master Synchronous Communications**
- **Chapter 8**: **User Defined Templates**
- **Chapter 9: PICkit™ Serial Analyzer Firmware**
- **Chapter 10**: **PICkit™ Serial Analyzer DLL**

PICkit™ Serial Analyzer User's Guide

CONVENTIONS USED IN THIS GUIDE

This manual uses the following documentation conventions:

DOCUMENTATION CONVENTIONS

Description	Represents	Examples
Arial font:		
Italic characters	Referenced books	*MPLAB® IDE User's Guide*
	Emphasized text	...is the *only* compiler...
Initial caps	A window	the Output window
	A dialog	the Settings dialog
	A menu selection	select Enable Programmer
Quotes	A field name in a window or dialog	"Save project before build"
Underlined, italic text with right angle bracket	A menu path	*File>Save*
Bold characters	A dialog button	Click **OK**
	A tab	Click the **Power** tab
N'Rnnnn	A number in verilog format, where N is the total number of digits, R is the radix and n is a digit.	4'b0010, 2'hF1
Text in angle brackets < >	A key on the keyboard	Press <Enter>, <F1>
Courier New font:		
Plain Courier New	Sample source code	`#define START`
	Filenames	`autoexec.bat`
	File paths	`c:\mcc18\h`
	Keywords	`_asm, _endasm, static`
	Command-line options	`-Opa+, -Opa-`
	Bit values	`0, 1`
	Constants	`0xFF, 'A'`
Italic Courier New	A variable argument	`file`.o, where `file` can be any valid filename
Square brackets [ ]	Optional arguments	`mcc18 [options] file [options]`
Curly brackets and pipe character: { | }	Choice of mutually exclusive arguments; an OR selection	`errorlevel {0|1}`
Ellipses...	Replaces repeated text	`var_name [, var_name...]`
	Represents code supplied by user	`void main (void) { ... }`

WARRANTY REGISTRATION

Please complete the enclosed Warranty Registration Card and mail it promptly. Sending in the Warranty Registration Card entitles users to receive new product updates. Interim software releases are available at the Microchip web site.

RECOMMENDED READING

This user's guide describes how to use the PICkit™ Serial Analyzer. Other useful documents are listed below. The following Microchip documents are available and recommended as supplemental reference resources.

Readme Files

For the latest information on using other tools, read the tool-specific Readme files in the Readmes subdirectory of the MPLAB IDE installation directory. The Readme files contain update information and known issues that may not be included in this user's guide.

THE MICROCHIP WEB SITE

Microchip provides online support via our web site at www.microchip.com. This web site is used as a means to make files and information easily available to customers. Accessible by using your favorite Internet browser, the web site contains the following information:

- **Product Support** – Data sheets and errata, application notes and sample programs, design resources, user's guides and hardware support documents, latest software releases and archived software
- **General Technical Support** – Frequently Asked Questions (FAQs), technical support requests, online discussion groups, Microchip consultant program member listing
- **Business of Microchip** – Product selector and ordering guides, latest Microchip press releases, listing of seminars and events, listings of Microchip sales offices, distributors and factory representatives

DEVELOPMENT SYSTEMS CUSTOMER CHANGE NOTIFICATION SERVICE

Microchip's customer notification service helps keep customers current on Microchip products. Subscribers will receive e-mail notification whenever there are changes, updates, revisions or errata related to a specified product family or development tool of interest.

To register, access the Microchip web site at www.microchip.com, click on Customer Change Notification and follow the registration instructions.

The Development Systems product group categories are:

- **Compilers** – The latest information on Microchip C compilers and other language tools. These include the MPLAB® C18 and MPLAB C30 C compilers; MPASM™ and MPLAB ASM30 assemblers; MPLINK™ and MPLAB LINK30 object linkers; and MPLIB™ and MPLAB LIB30 object librarians.
- **Emulators** – The latest information on Microchip in-circuit emulators.This includes the MPLAB ICE 2000 and MPLAB ICE 4000.
- **In-Circuit Debuggers** – The latest information on the Microchip in-circuit debugger, MPLAB ICD 2.
- **MPLAB® IDE** – The latest information on Microchip MPLAB IDE, the Windows® Integrated Development Environment for development systems tools. This list is focused on the MPLAB IDE, MPLAB SIM simulator, MPLAB IDE Project Manager

and general editing and debugging features.

- **Programmers** – The latest information on Microchip programmers. These include the MPLAB PM3 and PRO MATE® II device programmers and the PICSTART® Plus and PICkit™ 2 development programmers.

CUSTOMER SUPPORT

Users of Microchip products can receive assistance through several channels:

- Distributor or Representative
- Local Sales Office
- Field Application Engineer (FAE)
- Technical Support

Customers should contact their distributor, representative or field application engineer (FAE) for support. Local sales offices are also available to help customers. A listing of sales offices and locations is included in the back of this document.

Technical support is available through the web site at: http://support.microchip.com

DOCUMENT REVISION HISTORY

Revision A (January 2007)

- Initial release of this document.

Chapter 1. PICkit™ Serial Analyzer Overview

1.1 INTRODUCTION

The PICkit™ Serial Analyzer development system enables a personal computer (PC) to communicate with embedded development systems via serial protocols such as I^2C™, SPI, asynchronous and synchronous USART. The PC program uses a graphical interface to enter data and commands to communicate to the target device. Data and commands can be entered using basic or scripting commands. The PICkit™ Serial Analyzer connects to the embedded development system using a 6-pin header.

The PICkit™ Serial Analyzer is a sophisticated and highly configurable device. Please take a few moments to familiarize yourself with the hardware interface and PC program by reading this user's guide. **Chapter 2. "Getting Started"** will guide you through installing the PC program and running a simple demonstration program on the 28-Pin Demo Board (DM164120-3) using the I^2C serial protocol.

1.2 HIGHLIGHTS

This chapter discusses:

• PICkit™ Serial Analyzer Contents
• PICkit™ Serial Analyzer Development System
• PICkit™ Serial Analyzer Hardware
• PICkit™ Serial Analyzer PC Software

1.3 PICkit™ SERIAL ANALYZER CONTENTS

The PICkit™ Serial Analyzer serial communications development system contains the following items:

1. The PICkit™ Serial Analyzer
2. USB cable
3. PICkit™ Serial Analyzer CD-ROM

1.4 PICkit™ SERIAL ANALYZER DEVELOPMENT SYSTEM

The PICkit™ Serial Analyzer consists of several components that together make an embedded serial communications development system. The PC program runs on Microsoft® Windows® compatible computers with a USB port. The PICkit™ Serial Analyzer connects to the PC using a USB cable. Finally, the PICkit™ Serial Analyzer interfaces to the target device using a 6-pin header. Figure 1-1 illustrates the PICkit™ Serial Analyzer embedded serial communications development system.

PICkit™ Serial Analyzer User's Guide

FIGURE 1-1: PICkit™ SERIAL ANALYZER DEVELOPMENT SYSTEM
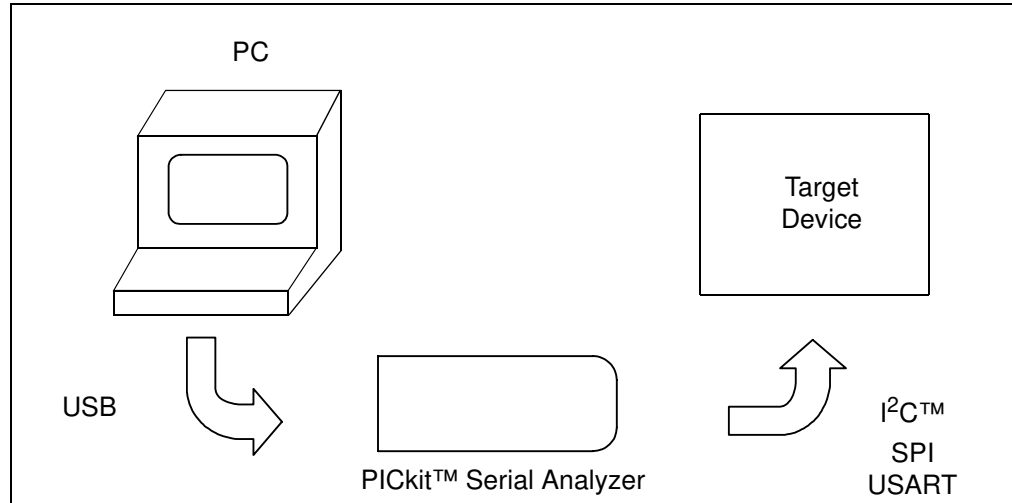
1.5   PICkit™ SERIAL ANALYZER HARDWARE

The PICkit™ Serial Analyzer connects to a Microsoft® Windows® compatible computer using a USB port. It interfaces to the target device using a 6-pin header. Figure 1-2 shows an overview of the PICkit™ Serial Analyzer.

FIGURE 1-2: PICkit™ SERIAL ANALYZER

Legend:

1 – Status LEDs	3 – Lanyard Connection	5 – Pin 1 Marker
2 – Push Button	4 – USB Port Connection	6 – Communications Connector
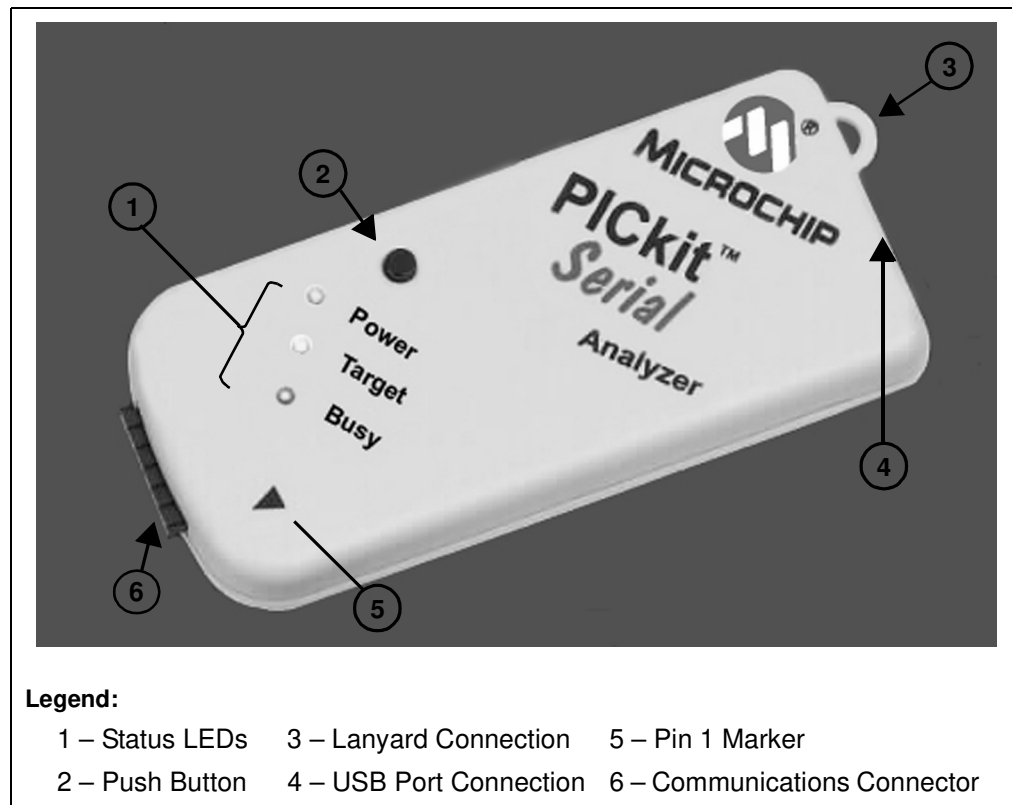
1.5.1 Status LEDs

The Status LEDs indicate the status of the PICkit™ Serial Analyzer.

1. Power (green) – Power is applied to the PICkit™ Serial Analyzer by the USB port.
2. Target (yellow) – The PICkit™ Serial Analyzer is communicating with the target device.
3. Busy (red) – The PICkit™ Serial Analyzer is communicating with the target device.

1.5.2 Push Button

The push button is available for future implementation.

1.5.3 Lanyard Connection

To help prevent possible loss of the PICkit™ Serial Analyzer, a convenient lanyard connection is available.

1.5.4 USB Port Connection

The USB Port Connection is a USB mini-B connector. Connect the PICkit™ Serial Analyzer to the PC using the supplied cable.

1.5.5 Pin 1 Marker

The Pin 1 marker assists in aligning the PICkit™ Serial Analyzer with the target device. Pin assignments are shown in Figure 1-3.

1.5.6 Communication Connector

The communication connector connects to the target device using an inexpensive 6-pin, 0.100" pitch spacing, 0.025" square pin header. Pin assignments are shown in Figure 1-3.

FIGURE 1-3:   PICkit™ SERIAL ANALYZER PIN ASSIGNMENTS

Pin 1 Indicator

Pin Description

	I²C™	SPI	USART
1	—	$\overline{\text{CS}}$	TX
2	+V	+V	+V
3	GND	GND	GND
4	SDA	SDI	—
5	SCL	SCK	—
6	—	SDO	RX

Note: The 6-pin header (0.100" spacing) accepts 0.025" square pins.
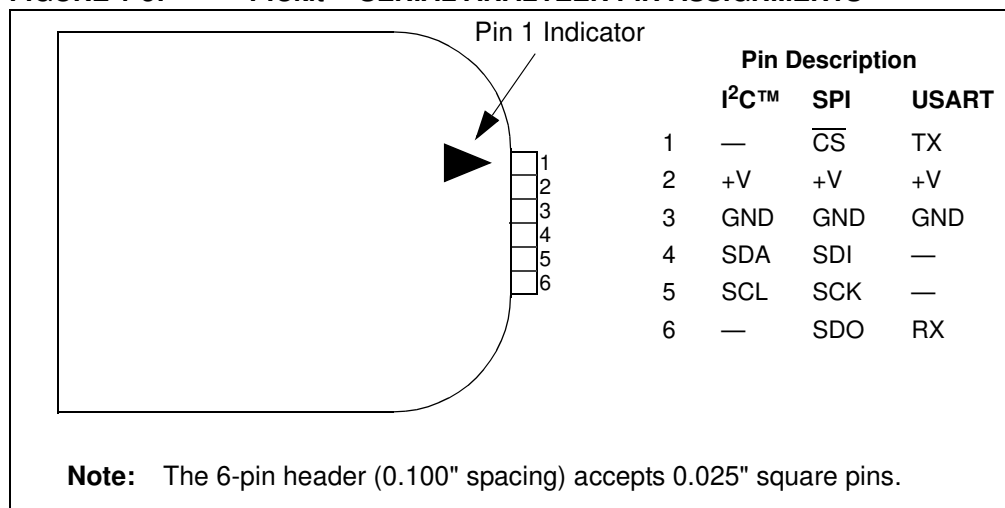
1.6   PICkit™ SERIAL ANALYZER SOFTWARE

1.6.1   PC Program

The PICkit™ Serial Analyzer PC program uses a graphical interface to enter data and commands to communicate to the target device. Data and commands can be entered using basic or scripting commands. **Chapter 3. "PICkit™ Serial Analyzer PC Program"** explains the installation and operation of the program. Following Chapter 3 there are individual chapters that explain the specific serial communications modes and their operation.

1.6.2   Dynamically Linked Library (DLL)

The PICkit™ Serial Analyzer DLL is explained in **Chapter 10. "PICkit™ Serial Analyzer DLL"**.

1.6.3   Firmware

The PICkit™ Serial Analyzer firmware is explained in **Chapter 9. "PICkit™ Serial Analyzer Firmware"**.

The latest version of the PICkit™ Serial Analyzer firmware can be downloaded from the Microchip Technology web site. The firmware is updated by selecting *PICkit Serial Analyzer > Download PICkit Serial Analyzer Firmware* from the menu bar. An open file window will open. Select the *.hex file to be uploaded to the PICkit™ Serial Analyzer and click on the **Open** button. The Firmware Download window will open as shown in Figure 1-4 to indicate the status of the firmware update.

FIGURE 1-4:   FIRMWARE DOWNLOAD WINDOW
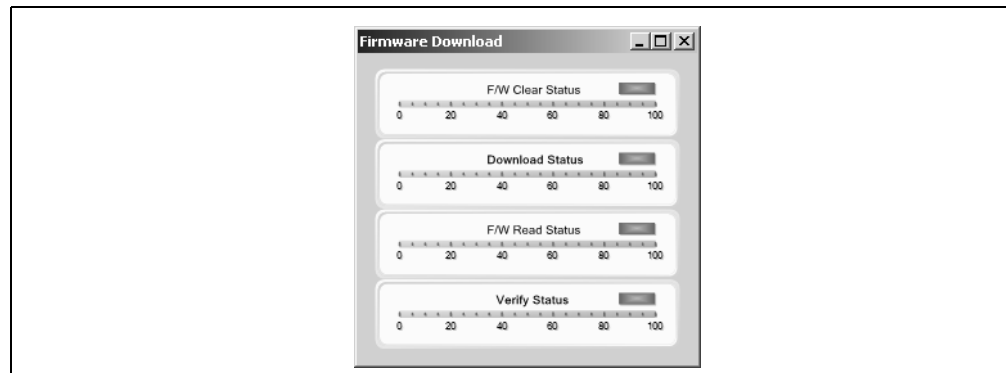
Chapter 2. Getting Started

2.1 INTRODUCTION

This chapter will get you started using the PICkit™ Serial Analyzer with the 28-Pin Demo Board. In this demo, the PICkit™ Serial Analyzer will communicate with the 28-Pin Demo Board using the I^{2}C serial protocol. The PICkit™ Serial Analyzer will be the I^{2}C Master and the 28-Pin Demo Board will be the I^{2}C Slave device. The 28-Pin Demo board is programmed to emulate an I^{2}C real-time clock and Serial EEPROM.

For more information about the 28-Pin Demo Board hardware, see the **28-Pin Demo Board User's Guide** (DS41301).

For more information about the 28-Pin Demo Board I^{2}C™ demo firmware, see **Appendix B. "28-Pin Demo Board I^{2}C™ Demonstration Firmware".**

The demo program source code and *.hex file can be found on the PICkit™ Serial CD-ROM at _D:\28-pin Demo Board\Firmware_.

2.2 HIGHLIGHTS

This chapter discusses:

• Installing the PICkit™ Serial Analyzer Software
• Connecting the PICkit Serial Analyzer to the PC
• Connecting the PICkit Serial Analyzer to the 28-Pin Demo Board
• Starting the PICkit Serial Analyzer Program
• Running The 28-Pin Demo I^{2}C™ Demonstration Program
• I^{2}C Communications – Basic Operations
• 28-Pin Demo I^{2}C™ Source Code and Firmware

2.3 INSTALLING THE PICkit™ SERIAL ANALYZER SOFTWARE

Insert the PICKit™ Serial Analyzer CD-ROM into the CD-ROM drive. In a few moments the introductory screen should be displayed. Follow the directions on the screen to install the PICkit Serial Analyzer software.

If the introductory screen does not appear, browse to the CD-ROM directory and select the AutorunPro.exe program.

> **Note:** The PICkit™ Serial Analyzer program requires the Microsoft® .NET Framework Version 2.0. If the .NET Framework is not installed on your computer (or if in doubt), select the application plus Microsoft® .NET Framework installation.

2.4 CONNECTING THE PICkit™ SERIAL ANALYZER TO THE PC

Connect the PICkit Serial Analyzer to the PC using the supplied USB cable. There are no USB drivers to install. The green Power indicator should light indicating that the PICkit Serial Analyzer is powered.
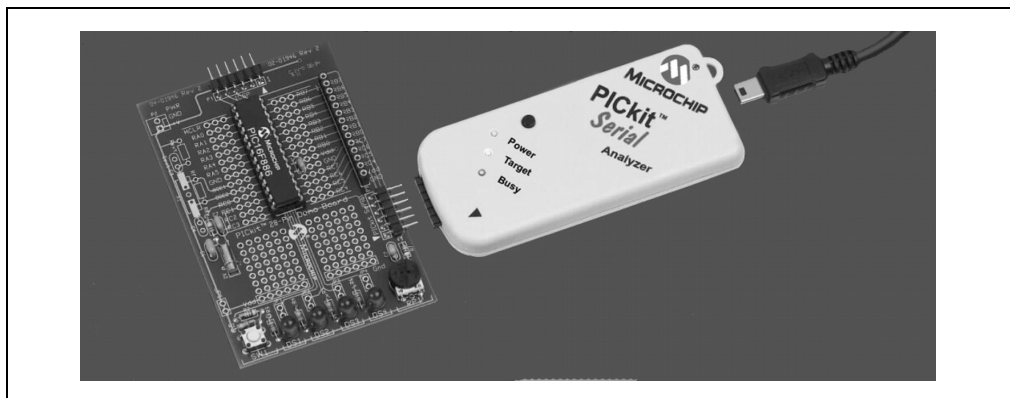
PICkit™ Serial Analyzer User's Guide

2.5 CONNECTING THE PICkit™ SERIAL ANALYZER TO THE 28-PIN DEMO BOARD

Connect the PICkit Serial Analyzer to P3 on the 28-Pin Demo Board as shown in Figure 2-1. The PICkit Serial Analyzer will supply power to the 28-Pin Demo Board and perform a power on routine:

- LEDs will flash in sequence DS1, DS2, DS3, DS4, DS3, DS2, and DS1 twice
- All LEDs will turn off
- All LEDs will turn on
- All LEDs will turn off
- LEDs will display in hexadecimal: A, D, C
- LEDs will display the top 4 bits of the ADC value read from potentiometer RP1

FIGURE 2-1: **CONNECTING PICkit™ SERIAL TO THE 28-PIN DEMO BOARD**

2.6 STARTING THE PICkit™ SERIAL ANALYZER PROGRAM

You can start the program by:

- Clicking on the desktop icon, or
- Navigating to *Start>All Programs>Microchip>PICkit Serial Analyzer*

After a few moments, the program will start and display the main window as shown in Figure 2-2.

If this is the first time you are running the program, the Configuration Wizard will automatically run. Click on the **Next** button and accept the default settings for I^{2}C Master mode. For more information about using the I^{2}C Master mode, see **Chapter 4. "I^{2}C™ Master Communications**."

FIGURE 2-2: PICkit™ SERIAL ANALYZER MAIN WINDOW
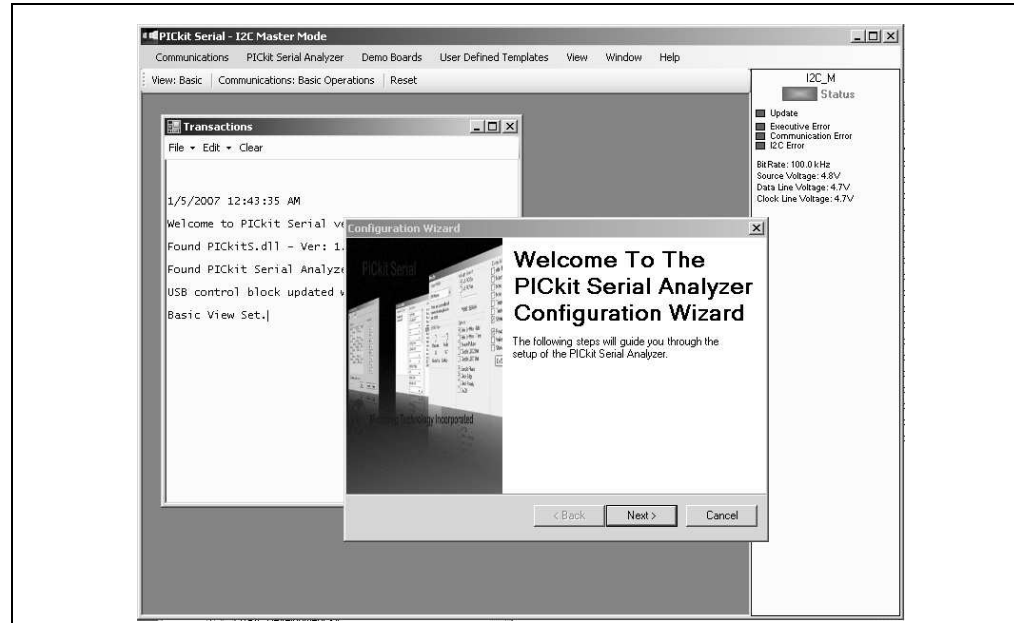
2.7   RUNNING THE 28-PIN DEMO I²C™ DEMONSTRATION PROGRAM

Select the 28-Pin Demo I²C demonstration by clicking on *Demo Boards > 28 Pin Demo I²C* from the menu bar. The 28-Pin Demo I²C demonstration window will be displayed as shown in Figure 2-3.

The Real-Time Clock (RTC) will be displayed first. Note the tabs to select between the RTC, EEPROM and ADC demonstrations. The demonstration program will constantly poll the 28-Pin Demo Board and display the contents of the real-time clock and the ADC.

2.7.1   Real-Time Clock (RTC)

Clicking on the **Real-Time Clock** tab will display calendar and clock contents of the real-time clock function running on the 28-Pin Demo Board. The 28-Pin Demo Board has been programmed to emulate a stand-alone serial I²C clock-calendar device. The I²C commands are very similar to the commands used in these devices. The demonstration program will constantly poll the 28-Pin Demo Board and display the contents of the real-time clock.

The Real-Time Clock window displays calendar and clock controls. Notice the date and time when the 28-Pin Demo Board has first been powered on. The date and time start at January 1, 2000 at midnight (12:00 AM).

The user can manually enter calendar and clock values and send the values to the real-time clock by clicking on the **Update RTC** button. Or the user can click on the **Set RTC to System Time** button to set the real-time clock to the date and time of the computer.

FIGURE 2-3: **28-PIN DEMO I²C™ – RTC**
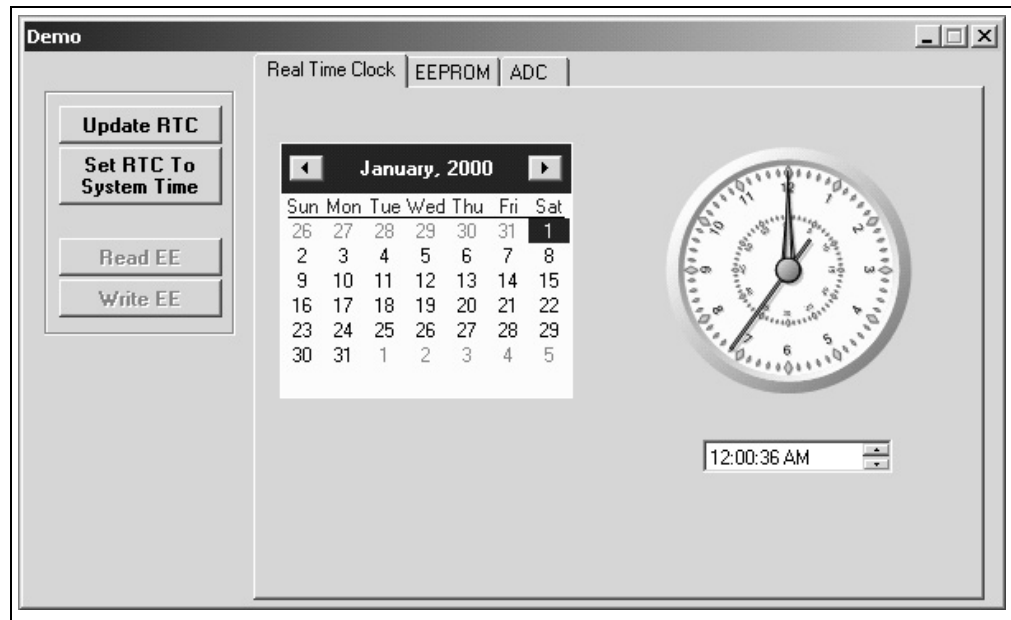
2.7.2   Serial EEPROM (EEPROM)

Clicking on the EEPROM tab will display the 256 byte array of EEPROM memory as shown in Figure 2-4. The 28-Pin Demo Board has been programmed to emulate a stand-alone serial I²C EEPROM device such as a 24LC02. The I²C commands are very similar to the commands used in these devices.

The Serial EEPROM tab displays the contents of a serial EEPROM implemented on the 28-Pin Demo Board. When this tab is first displayed, the values are grayed out. This means that the display does not match the contents of the emulated serial EEPROM. Click on **Read EE** button and the program will read and display the contents of the 28-Pin Demo Board. Notice that the displayed values are now black.

Individual memory locations can be changed by clicking on the value and typing in a new value in hexadecimal. Notice that the changed values will be displayed in red. This means the value has changed but has not been written to the emulated serial EEPROM. Click on the **Write EE** button and the values will be written. The color of the value will turn to black indicating that the value has been written and the display matches the contents of the emulated serial EEPROM.

FIGURE 2-4: **28-PIN DEMO I²C™ – EEPROM**
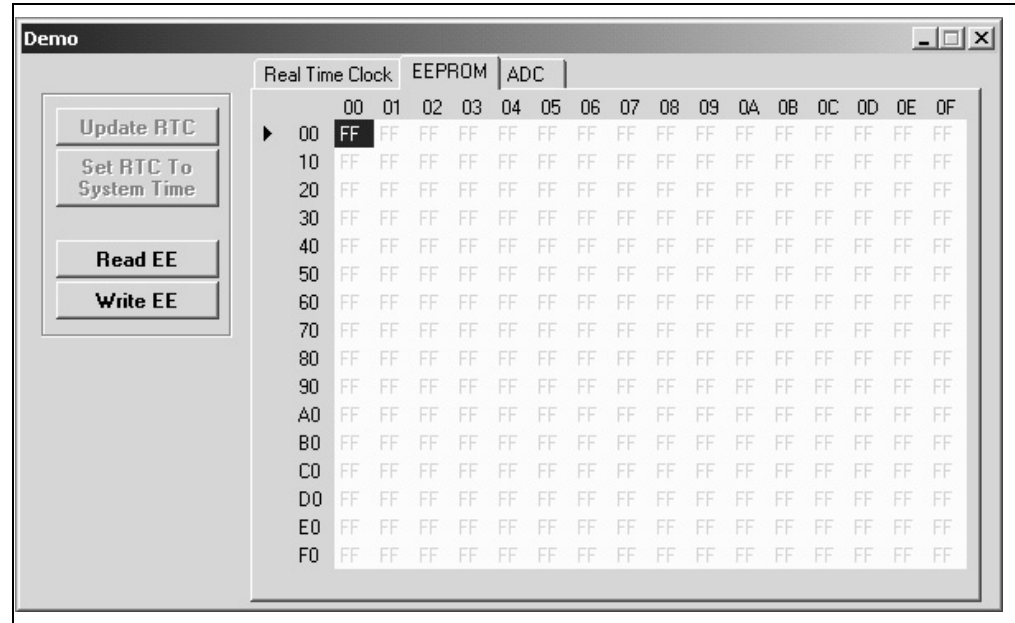
2.7.3 Analog-to-Digital Converter (ADC)

Clicking on the ADC tab will show a meter gauge displaying the value of the ADC as read from potentiometer RP1 as shown in Figure 2-5.

The meter gauge displays the Most Significant 8 bits of the 10-bit ADC internal to the PIC® microcontroller. Rotate potentiometer RP1 and the display changes almost instantaneously. The demonstration program will constantly poll the 28-Pin Demo Board and display the contents of the ADC.

FIGURE 2-5: **28-PIN DEMO I²C™ – ADC**
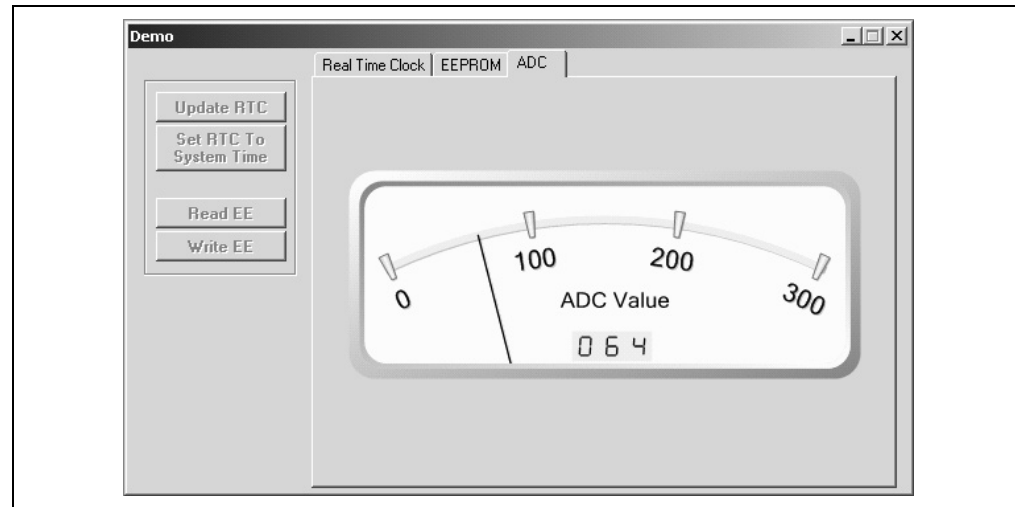
2.8 I²C™ COMMUNICATIONS – BASIC OPERATIONS

Individual I²C commands and data can be read and written to the 28-Pin Demo Board from the Basic Operations window as shown in Figure 2-6. Ensure that the PICkit Serial Analyzer program is in I²C Master mode by selecting *PICkit Serial Analyzer > Run Configuration Wizard* from the menu bar and selecting I²C Master.

> **Note:** The 28-Pin Demo I²C window and the Basic Operations window cannot be opened at the same time. When the 28-Pin Demo I²C window is opened, the Basic Operations window will automatically close.

FIGURE 2-6: I²C™ BASIC OPERATIONS
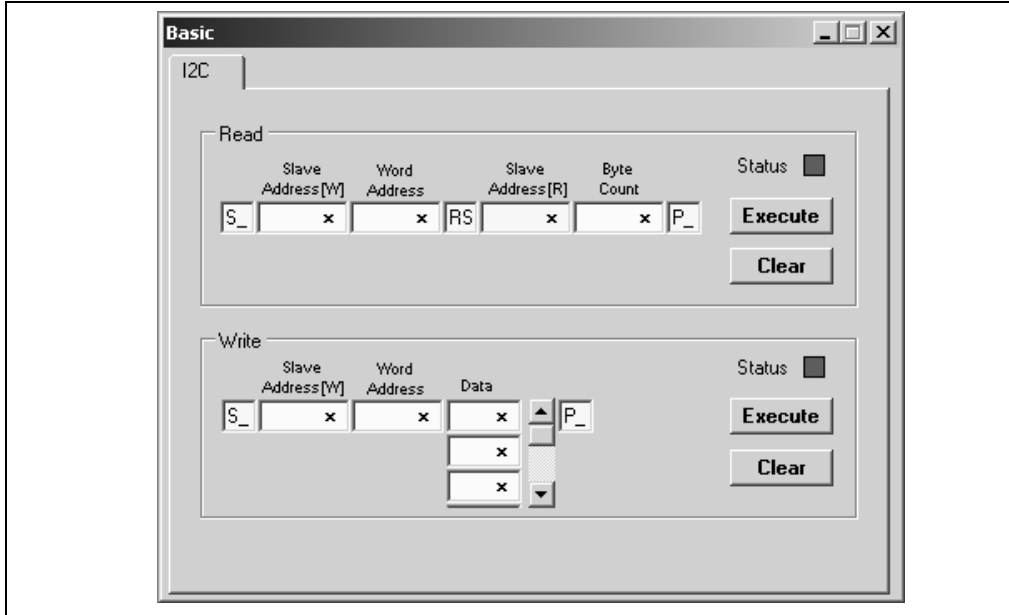
2.8.1 Real-Time Clock (RTC)

The Slave address for the emulated real-time clock on the 28-Pin Demo Board is hexadecimal A2 (0xA2). The Word Address selects the following memory locations:

TABLE 2-1: MEMORY LOCATIONS

Word Address	Contents
0x00	Configuration 1
0x01	Configuration 2
0x02	Seconds
0x03	Minutes
0x04	Hours
0x05	Days
0x06	Weekdays
0x07	Months
0x08	Years

For example, to read seconds from the real-time clock:

Step 1 – Enter 0xA2 into the Slave Address[W] block in the Read section of the Basic Operations window (top half of window)

Step 2 – Enter 0x02 into the Word Address block

Step 3 – Note that the Slave Address[R] has already been entered for you (the Read bit is set).

Step 4 – Enter 0x01 into the Byte Count block

Step 5 – Click on the **Execute** button

The I2C combination command (Write then Read) will be sent to the 28-Pin Demo Board. The command and the contents of Word Address 0x02 (seconds) will be displayed in the transaction window as shown in Figure 2-7.

FIGURE 2-7:   RTC TRANSACTIONS DEMO
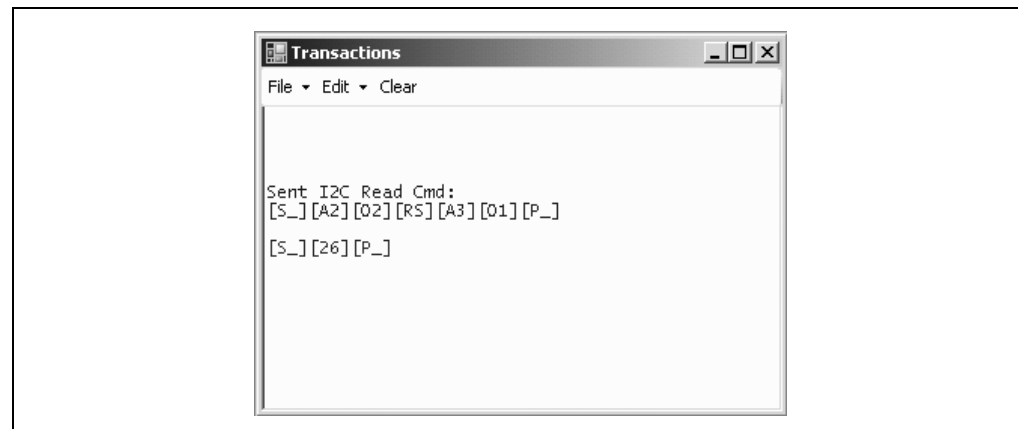
2.8.2   EEPROM

The Slave address for the emulated Serial EEPROM on the 28-Pin Demo Board is hexadecimal A8 (0xA8). The Word Address selects one of 256 8-bit memory locations:

TABLE 2-2:   WORD ADDRESS CONTENTS

Word Address	Contents
0x00	Memory Contents
…	…
0xFF	Memory Contents

2.8.3   ADC

The Slave address for the ADC on the 28-Pin Demo Board is hexadecimal AA (0xAA). The Word Address 0x01 selects the memory location containing the Most Significant 8 bits of the 10-bit ADC of the PIC microcontroller.

2.9   28-PIN DEMO I2C™ SOURCE CODE AND FIRMWARE

The demo program source code and *.hex file can be found on the PICkit Serial CD-ROM at *D:\28-pin Demo Board\Firmware*.

PICkit™ Serial Analyzer User's Guide

NOTES:

Chapter 3. PICkit™ Serial Analyzer PC Program

3.1 INTRODUCTION

This chapter covers the installation, starting and high level operations of the PICkit Serial Analyzer program. Detailed information about the entering of data and commands for specific serial communications modes are given in the following chapters.

3.2 HIGHLIGHTS

This chapter discusses:
• Installing The PICkit Serial Analyzer Software
• Starting the Program
• Configuration Wizard
• Main Window
• Specific Communications Modes

3.3 INSTALLING THE PICkit™ SERIAL ANALYZER SOFTWARE

Insert the PICKit Serial Analyzer CD-ROM into the CD-ROM drive. In a few moments the introductory screen should be displayed. Follow the directions on the screen to install the PICkit Serial Analyzer software.

If the introductory screen does not appear, browse to the CD-ROM directory and select the AutorunPro.exe program.

> **Note:** The PICkit Serial Analyzer program requires the Microsoft® .NET Framework Version 2.0.
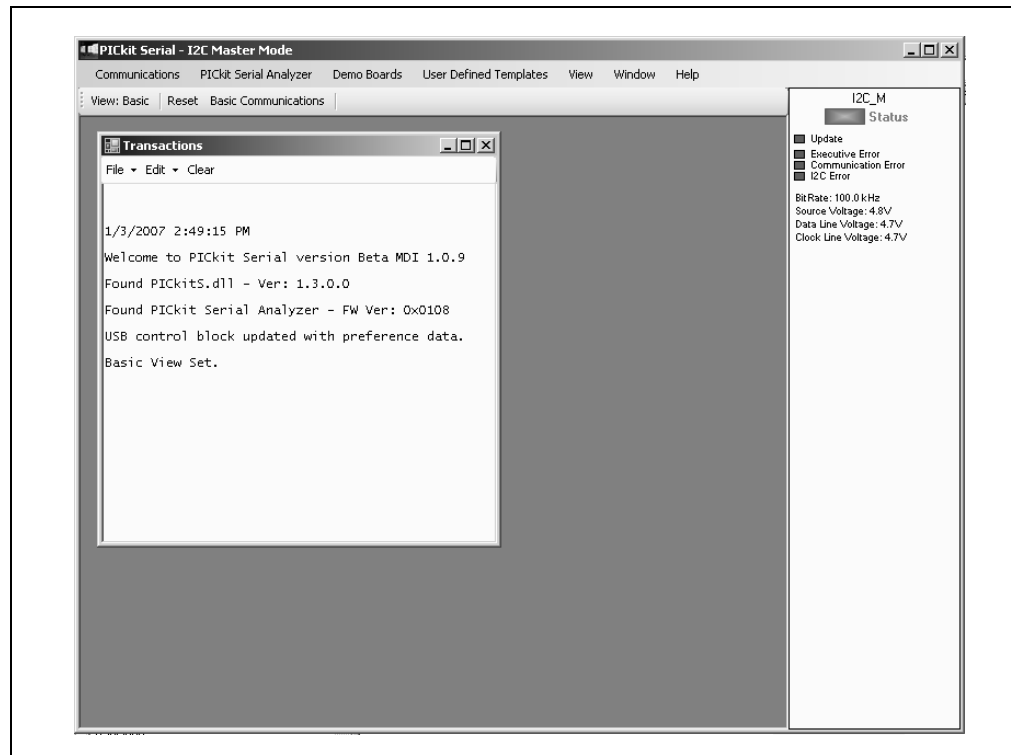
3.4 STARTING THE PROGRAM

You can start the program by
• Clicking on the desktop icon, or
• Navigating to *Start>All Programs>Microchip>PICkit Serial Analyzer*

After a few moments, the program will start and display the main window as shown in Figure 3-1.

PICkit™ Serial Analyzer User's Guide

FIGURE 3-1: **PICkit™ SERIAL ANALYZER MAIN WINDOW**
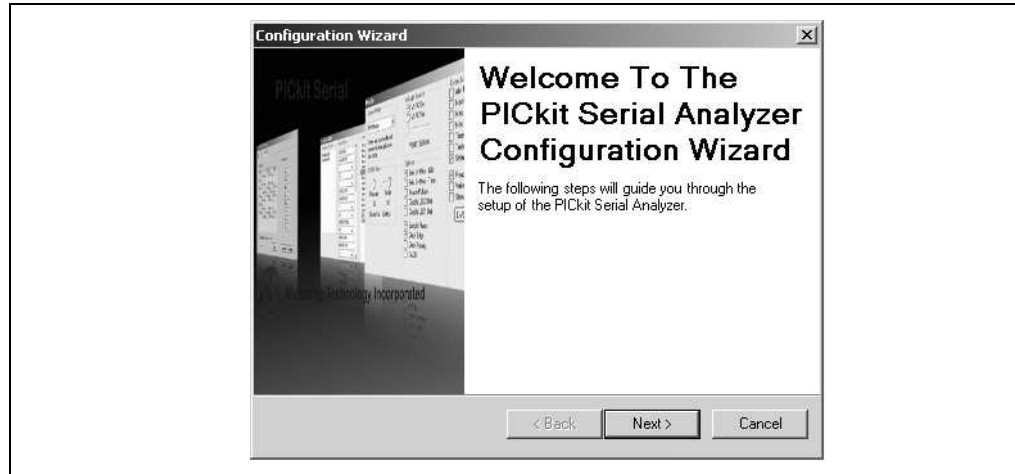

3.5   CONFIGURATION WIZARD

If it is the first time that the PICkit Serial Analyzer program is run, the Configuration Wizard will run automatically. The Configuration Wizard can be manually invoked by selecting *PICkit Serial Analyzer > Run Configuration Wizard* from the menu bar.

The Configuration Wizard will guide you through the basic steps to configure the PICkit Serial Analyzer program for a specific communications mode (I^2C, SPI, USART). Advanced configuration can be done from the Configuration Window by selecting *PICkit Serial Analyzer > Configure Communications Mode* from the menu bar.

As an example, Figure 3-2 through Figure 3-7 show how to configure for I^2C Master mode. Refer to the specific communications chapter for detailed information on the Configuration Wizard for that communications mode.
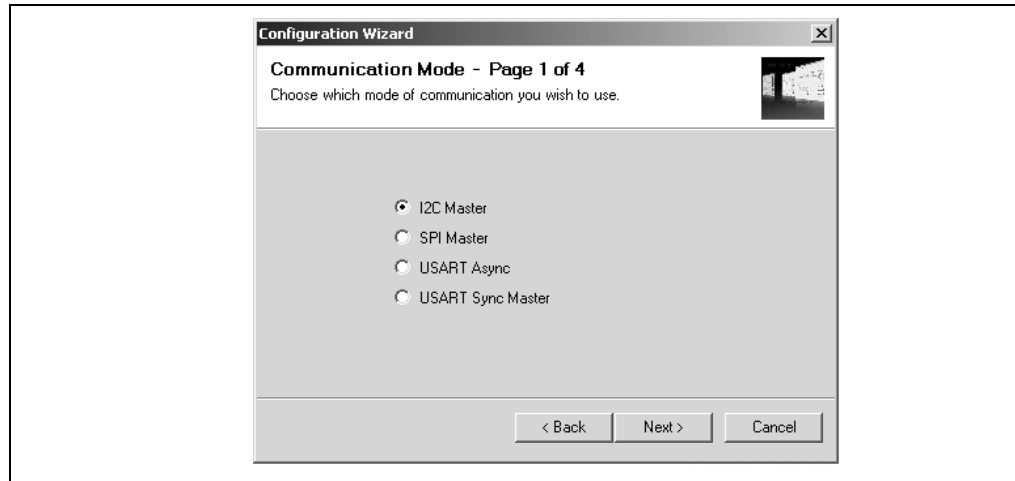
The Configuration Wizard Welcome window is shown in Figure 3-2. You may choose to continue by clicking on the **Next** button or canceling the wizard by clicking on the **Cancel** button.

FIGURE 3-2: **CONFIGURATION WIZARD – WELCOME**

The Configuration Wizard Page 1 of 4, as shown in Figure 3-3, displays the available communications modes and allows you to choose one of the modes.

FIGURE 3-3: **CONFIGURATION WIZARD – PAGE 1 OF 4**

In this example, I^{2}C Master Communication's mode is selected. The Configuration Wizard Page 2 of 4, as shown in Figure 3-4, allows you to select the bus speed. A more comprehensive list of bus speeds can be chosen from the Configuration Window by selecting *PICkit Serial Analyzer > Configure Communications Mode* from the menu bar.