

Assignment #10 – Visual Basic (VB)

Objectives

The proficient student will write a program to receive information that is sent serially with a PIC microcontroller.

Goal

Use the setup from assignment #8 (ADC) and #9 (Serial & Computers) to transmit data to the computer and display the results in custom program.

Materials

- Breadboard – wire w/ 5V power regulator, switch, and LED
- PIC18F45K22
- Computer w/ MPLAB XC 8
- PICKit 3
- Newhaven 2x16 Serial LCD (optional)
- Potentiometer
- MCP9700-E/TO Linear Active Thermistor IC
- MAX202 w/ capacitors
- Serial cord
- Visual Basic Express 2010

Directions

- You will be working in pairs.
- You will be documenting your work in your lab notebook.
- Task 1: (You may use the open source code that Mr. Evans provided a link for.)
 - Write and implement a program written in VB the complete the following...
 - GUI
 - Com port selection
 - Baud rate selection
 - Method for connecting a com port
 - Method for disconnecting a com port
 - Area the text is displayed
 - Method for clearing displayed text
 - Once you connect to the com port, display whatever you select to send data from the PIC to the computer.
- Task 2:
 - Write and implement a program written in VB with all of the features above and the following...
 - Receives data from the PIC that corresponds to the voltage at a test point.
 - Data is displayed on the computer. It does not scroll, flash, or show previous data, only the live value.
- Task 3:
 - Write and implement a program written in VB with all of the features above and the following...
 - Show a graphical representation of the voltage and/or temperature.
 - The graphic could be an “analog” dial, a simulation of a mercury thermometer, or another approved graphic.

Grading:

- Task 1: _____ 10 points
- Task 2: _____ 5 points
- Task 3: _____ 10 points
- Lab notebook: _____ (10 points)