

ECE 218

EXERCISE 0. MPLAB X IDE AND MICROSTICK II SETUP

In this course you will use the Microstick II development board and the MPLAB X IDE, both from Microchip Technology Inc. In this exercise the goal is to get these tools set up so that you can easily work on your projects outside of class using your own computer.

SOFTWARE SETUP

The MPLAB X IDE runs on Windows®, Mac OS® or Linux® to develop application code for the PIC microcontrollers. It can work with several compilers, and we will be using the XC16 C compiler available also from Microchip.

- MPLAB X IDE: <http://www.microchip.com/mplab/mplab-x-ide>
- XC16 C compiler: <http://www.microchip.com/mplab/compilers> [be sure to select this particular 16-bit version of the compiler for YOUR operating system]

We will also use the textbook library and example code. The library is also installed on the lab computers in C:/218. Make a folder on your laptop or a flash drive for your lab exercises: 218/Exercises.

- PIC24 library from textbook: <https://sites.google.com/site/pic24micro//Home/pic24-software-library-collection>
- Click on the "latest version" link to download the compressed folder. Unzip the folder into your "Exercises" directory. The folder hierarchy should look like this:
- Exercises --> pic24_code_examples

HARDWARE SETUP

The Microstick II development kit is available from the bookstore, or directly from Microchip. <http://www.microchip.com/Developmenttools/ProductDetails.aspx?PartNO=DM330013-2>

Figure 1 shows the contents of the Microstick II kit. You should find headers for connecting the board to a breadboard, a programming cable, and 3 PIC microcontrollers that can be used with the evaluation board.

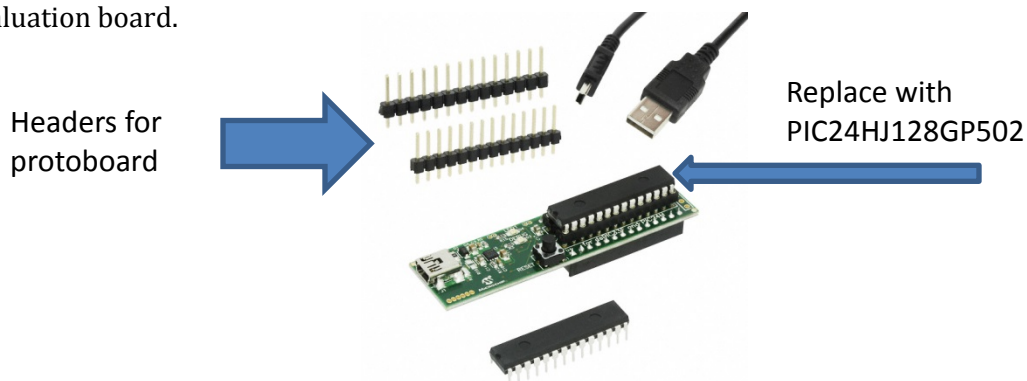


Figure 1. Microstick II Kit Contents

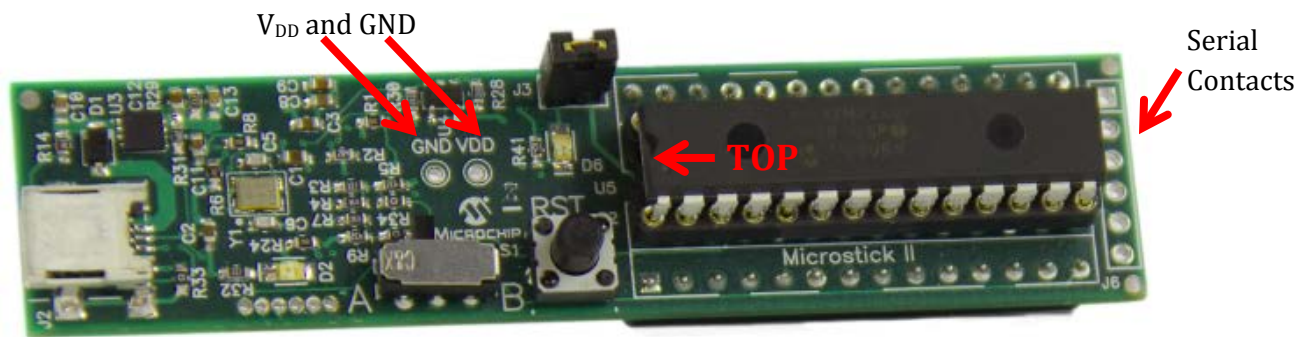


Figure 2. Top View of Microstick II Highlighting GND, VDD and Serial Contacts

Complete the following tasks carefully since mistakes can be difficult to undo. You will be provided with headers (2-pin and 6-pin), solder, a soldering iron, and a small screwdriver for removing the installed microcontroller.

1. Carefully replace the microcontroller that is currently in the socket with the PIC24HJ128GP502 from the kit. Be sure to orient the chip correctly with the notched top lined up with the notched socket.
2. Solder a 2-pin header to the VDD and GND through-hole contacts in the middle of the board. These pins will provide the 3.3V and GND voltages needed for some interface circuits. Be sure the longer pins of the header are on the top of the board and apply solder to the BACK of the board.
3. Solder a 6-pin right angle header to the 6-pin serial contacts at the end of the board. The short size of the header should be placed through the holes so that the long part of the pins stick out parallel to the board. Apply solder to the back of the board.

Excellent! Now you are ready to go!