Middle East Technical University
Department of Computer Engineering

CENG 336

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Rev 1.0

MCDEV Development Kit Programming Manual with Pickit 3

1 Introduction

This document is intended to give you the necessary information about how to program PIC18F8722 on the MCDEV Development Kit.
You should have MLAB X IDE installed on your system to be able to work with this manual. *** In this document, hw0.hex is just a sample hex file that we want to use while the programming of the PIC.

2 Programming

2.1 Step-0

Make sure that programmer/debugger selection switch on the MikroBoard is at EXT position as illustrated in Figure 1 and STANDALONE jumper on the MikroBoard is removed.

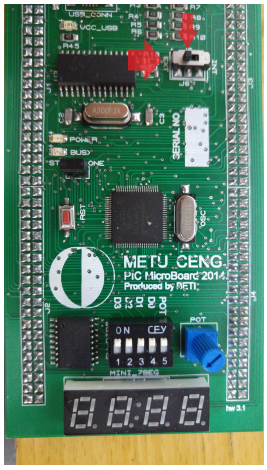

Figure 1: Programmer/debugger selection switch on the MikroBoard.

2.2 Step-1

Connect programming USB cable to the Pickit 3 and then to the PC (Figure 2).

Figure 2: USB port of the Pickit 3.

2.3 Step-2

Now we need to connect Pickit 3 to the MikroBoard by using the following cable in Figure 3. This cable connection is important otherwise you will get the connection error. Try to find the correct connection to program your device properly.

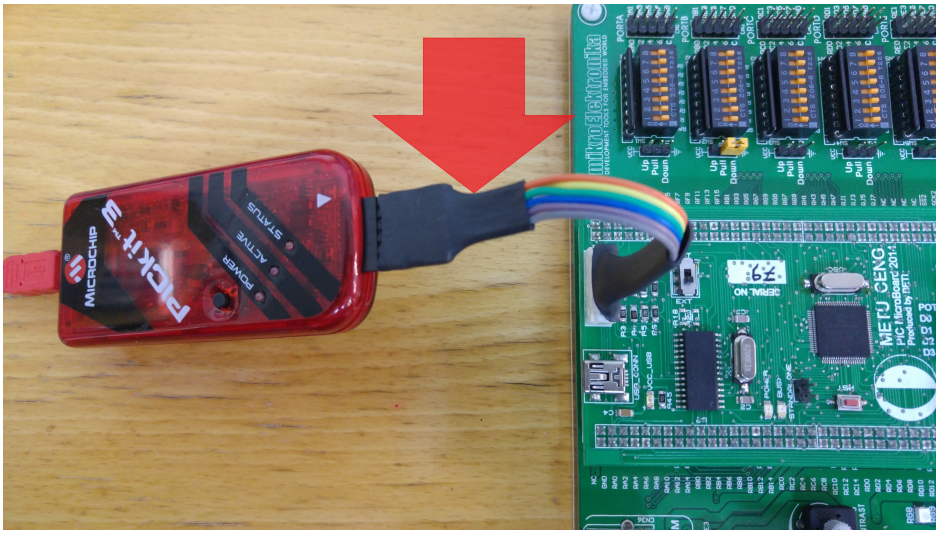

Figure 3: The connection between Pickit 3 and the Mikroboard.

On the MikroBoard side, you should consider the connection points that can be seen in Figure 4.

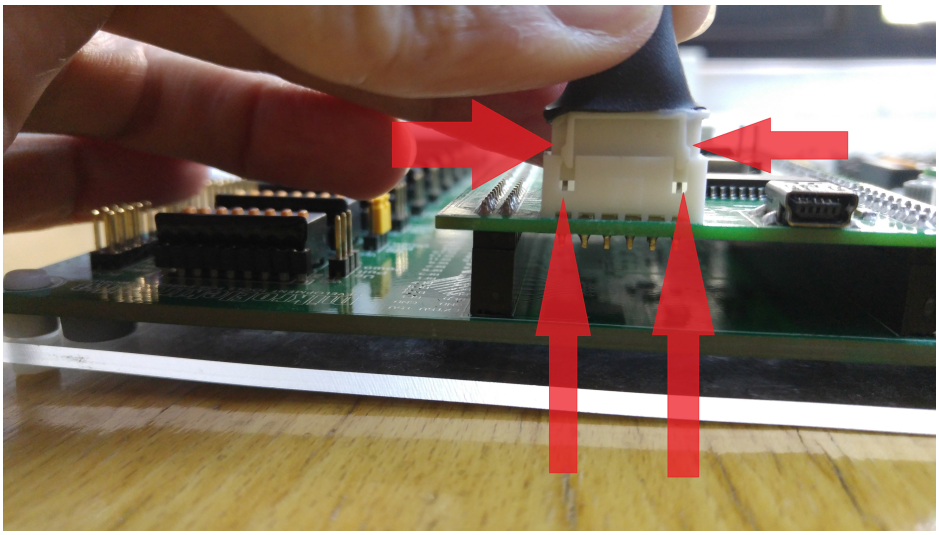

Figure 4: Pickit 3 connection points on MikroBoard side.

2.4 Step-3

Now, we need to turn on the power of the board. You can use the power supply module of the UNIDS6 or you can use the USB connection with the MikroBoard as you can see in the Figure 5 and the Figure 6.

Figure 5: MikroBoard USB connnection

If you want to use the power adaptor of MCDEV kit to power the board, you should connect the power adaptor as seen in Figure 6 in Step-1 just before powering on the board using the power switch.

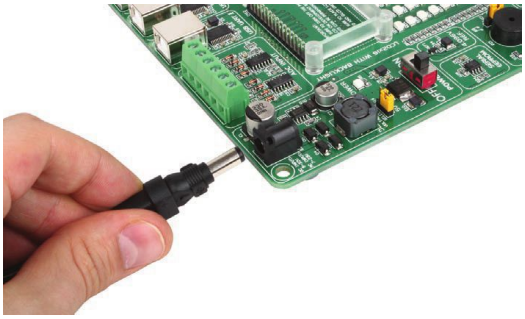

Figure 6: Powering the main board using power adaptor.

Then, power on the board using the power switch of the MCDEV main board seen in Figure 7.

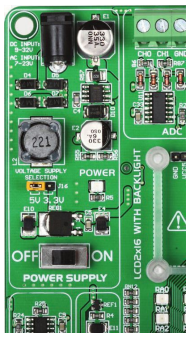

Figure 7: Power switch of the MCDEV main board.

2.5 Step-4

Open MPLAB X IDE, and click the new project button. Select the highlighted choices seen in Figure 8, then click the next button.

2.6 Step-5

As seen in (Figure 9),

- Click the browse button, and specify the path of the hex file,
- Choose the device as PIC18F8722,
- Select the Hardware Tool as Pickit 3 →SN:BUR133654599. Then click the next button.

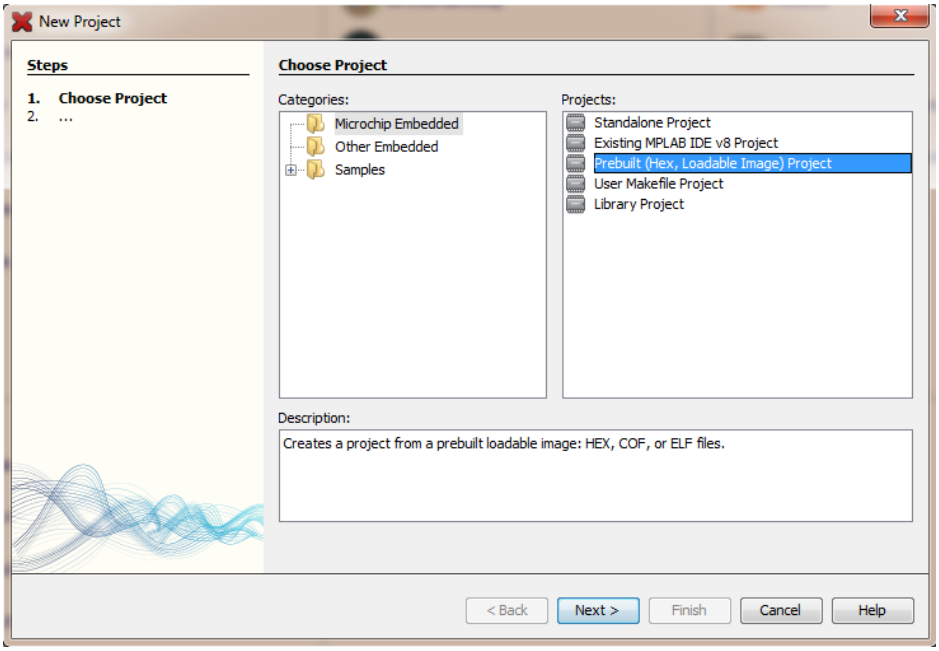

Figure 8: New Project menu in MPLAB X IDE.

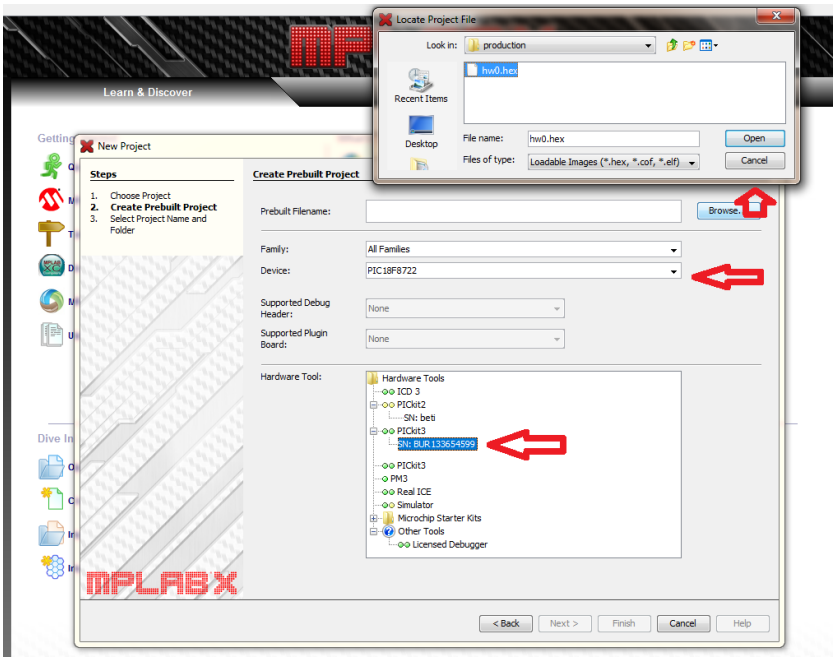

Figure 9: Create Prebuilt Project menu in MPLAB X IDE.

2.7 Step-6

Write the project name, and click the Finish button (Figure 10).

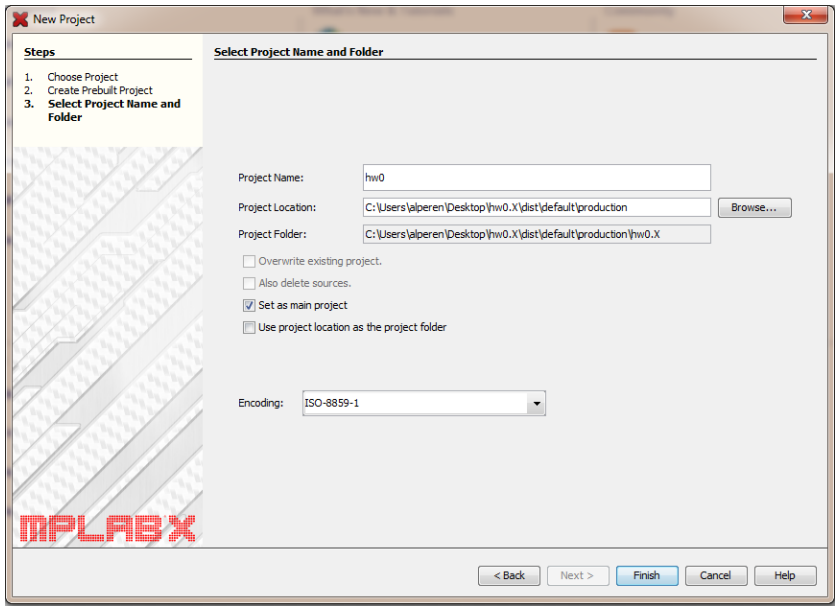

Figure 10: Last window to create a Prebuilt Project in MPLAB X IDE.

2.8 Step-7

Your prebuilt project can be loaded to the PIC18F8722 by using the button seen in Figure11 and named as "Make and Program Device Main Project".

2.9 Step-8

While using Pickit 3, you will see the following warnings and screens as an output in the MPLAB X IDE:

This caution is just a warning that is why you can accept it and go on the further step.

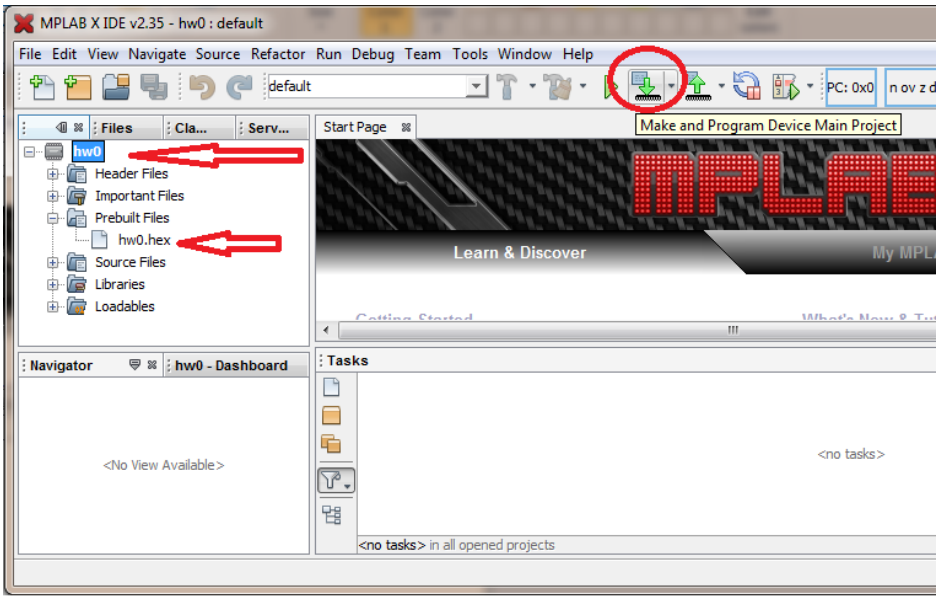

Figure 11: Example Prebuilt Project for hw0.hex file and program button in MPLAB X IDE.

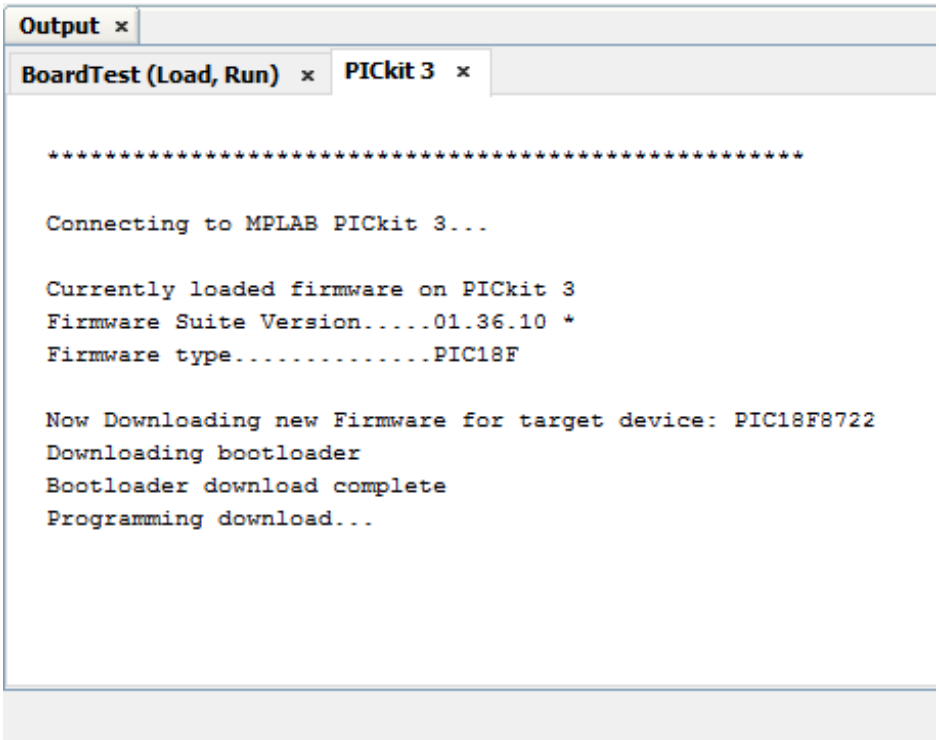

Figure 12: a screen shot while MPLAB X IDE is trying to connect Pickit3.

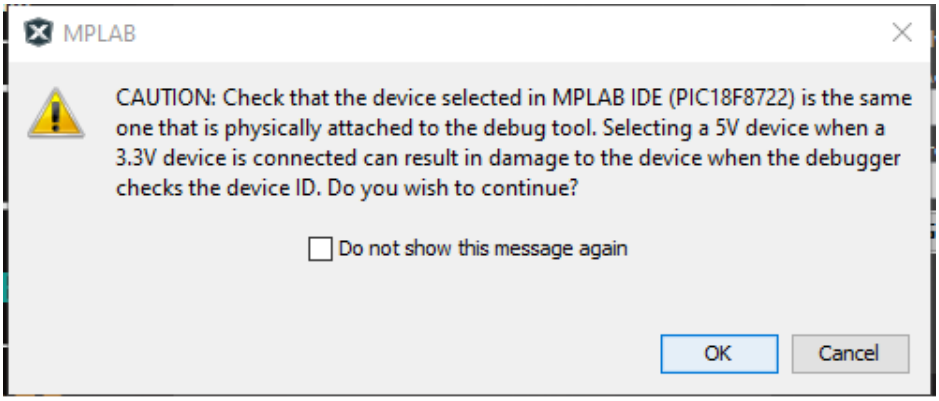

Figure 13: A Caution related to Pickit 3

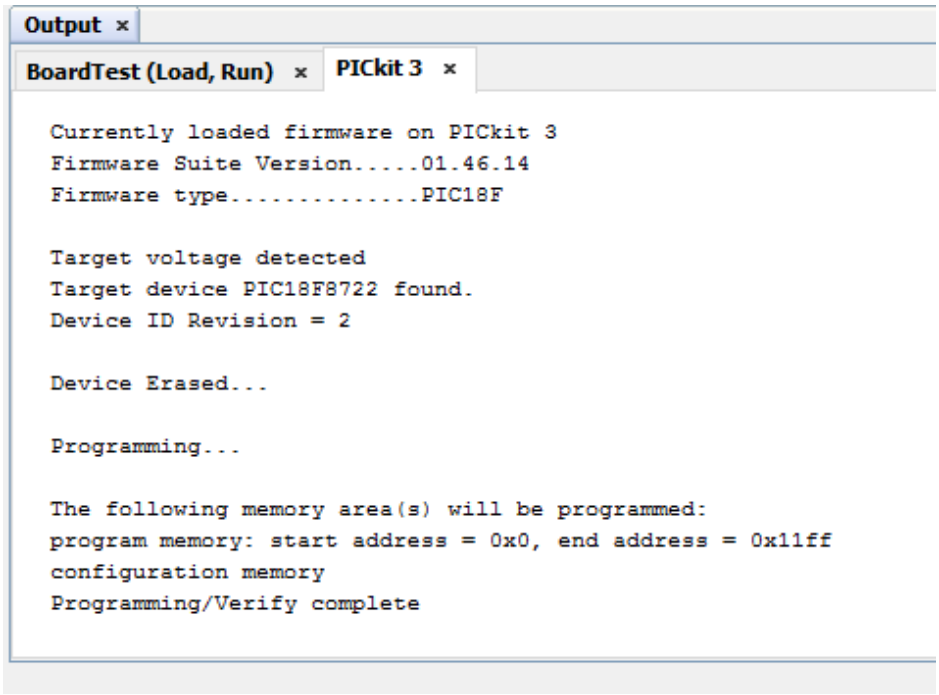

Figure 14: The end of the Programming with Pickit 3.