

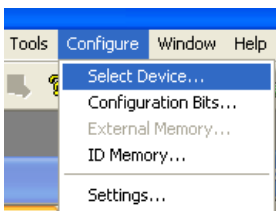
How to Program a XT Micro
APP- 042

Application:

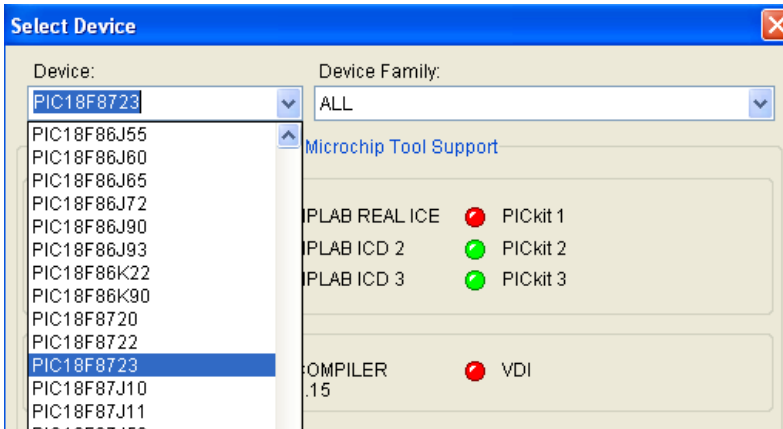
The XT Micro has a different microprocessor than the XT panel. It uses the hockey puck programmer, but a different setup.

Program Steps:

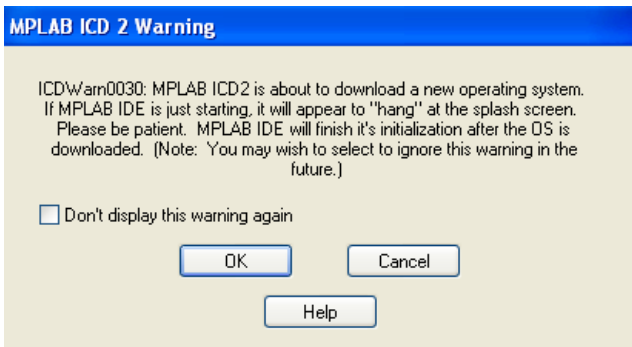
Power the XT Micro off and plug in the hockey puck to J9. Power the hockey puck up and open the Microsoft MPLab program.



Click on the Configure tap and then on Select Device.



For the XT Micro select the PIC18F8723 processor. For the CR-110, ER-110, SDX and XT-70 select the PIC18F452 processor.



Note - anytime you change processors you will get this message wanting to download a new operating system. Click on OK.

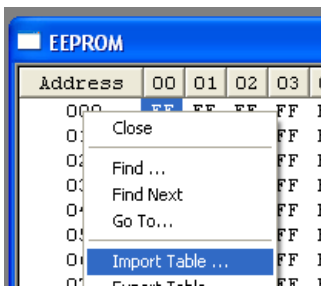
EEPROM																
Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
010	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
020	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

Note - when viewing the EEPROM with the 8723 processor you will see the address shown as three digits.

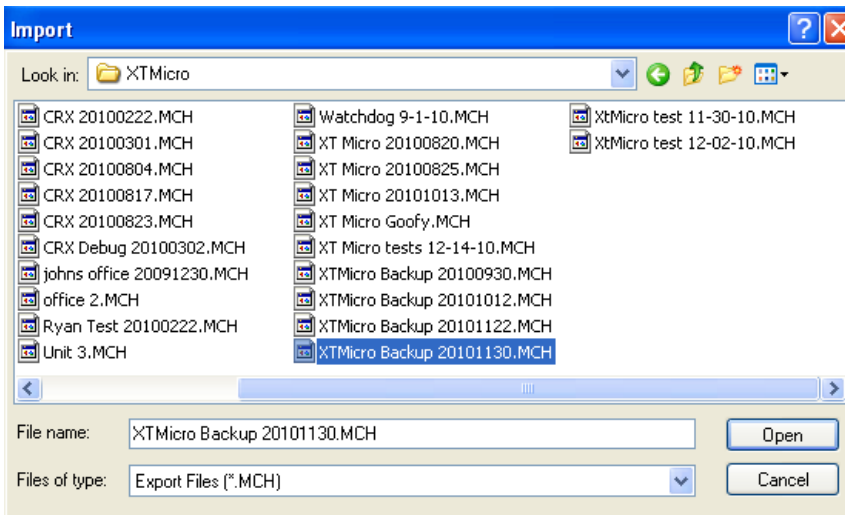
The XT Micro has a lot larger E2 memory and if programming for the first time would advice to use a MCH file. A MCH file is a complete E2 file for a given application. If the processor is already running then you can do a read and get all the latest E2 settings from the processor.

Using a MCH file:

To use an existing MCH file, right click on the address 000.



Click on Import Table.



Select the correct file and click on Open.

Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
000	00	28	06	14	1E	00	3C	00	00	00	32	5A	5A	03	03	05
010	05	00	00	64	64	03	88	01	01	03	03	FD	FD	F6	FF	12
020	12	14	14	0A	64	03	03	02	02	40	46	14	14	14	14	C8
030	C8	05	00	02	02	00	00	00	00	00	64	02	02	0A	00	0A
040	0F	00	00	00	00	00	00	1E	00	00	00	1E	1E	FF	FF	00
050	00	00	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
060	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
070	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

The E2 address should now be populated.

Select the correct program and program the chip. The E2 memory file can also be exported using the same procedure once you have read the

E2. This is helpful if you are customizing units.

Appendix A (Installation and Use of the Microchip ICD2 Programmer):

This Programmer is commonly referred to as the “puck” programmer, primarily because it looks like a hockey puck.

It can be purchased from Digikey - part number - DV164006-ND
It costs about \$200.00

It is used to program the PIC 18 series Microchip microprocessors

The following is a step by step process to install the software that comes with the programmer.

Before installation - **DO NOT CONNECT** ICD2 to PC computer.

Start: Double-click on the setup.exe file.

At Welcome screen, click next

Click “I Accept” then next

Make sure “Complete” is checked, then click on Next

At Choose Destination Directory window, click Next

At the “Copying Files” window, click Next.

After copying the files, several windows will pop up, asking if you want to view the installation instructions. Click No on all of them. One window may only have OK as a choice. Choose OK to close.

Click Finish.

Close the Document Viewer program.

In Windows Explorer, go to “C:\Program Files\MPLAB IDE\Utilities
\MPUsbIRU

Double-click on MPUsbIRU.exe

Check ICD 2 and click on Pre-Install.

When it says Done in the lower box, click Close.

Click No when asked to save the log.

With nothing else running, plug in the ICD2 into the USB port
DO NOT HAVE ICD2 PLUGGED INTO CIRCUIT BOARD

A “Found New Hardware wizard” will start - click Next.

A message may come up asking if it is okay to install the driver. Click Yes.

Click Finish

Repeat process when the next “Found New Hardware” window comes up.

BEFORE STARTING MPLAB:

Plug the ICD2 into the device to be programmed and power up the device.

Start MPLAB IDE

MPLAB defaults to the PIC 18F452. If you are programming a different chip, click “configure” on the menu bar, then “select device.”

Change the drop down box to the desired chip - then click OK

Import the hex file by clicking on File > Import..... Browse to the location of the hex file, select the hex file, then click open.

Next, enable the programmer. On the menu bar, click Programmer > Select Programmer > MPLAB ICD2

A wizard starts up, click next

Make sure USB is selected, then click next

Make sure “target has own power supply” is selected, click next

Check the “MPLAB IDE automatically connects to the MPLAB ICD2” box, then click next.

Click Next on the next screen

Click Finish

Click OK when asked about downloading new operating system.

At the FYI window, click OK

MPLAB will download the operating system. When finished, you should see the message "MPLAB ICD2 ready" in the output window.

To program a chip, click on Programmer > Program on the menu bar.

When the output window reads "Programming succeeded, MPLAB ICD2 ready," shut down MPLAB and disconnect the ICD2 from the device.

Default the device, and cycle the power.

Quick steps for programming a device

- 1) Connect the ICD2 to the device to be programmed and power up the device.
- 2) Start MPLAB IBE
- 3) Select the ICD2 programmer
- 3) View the E2 Memory
- 4) Read the E2 Memory
- 5) Import the Hex file
- 6) Program device
- 7) Shut down MPLAB IDE
- 8) Disconnect ICD2
- 9) Default the device, and cycle power.