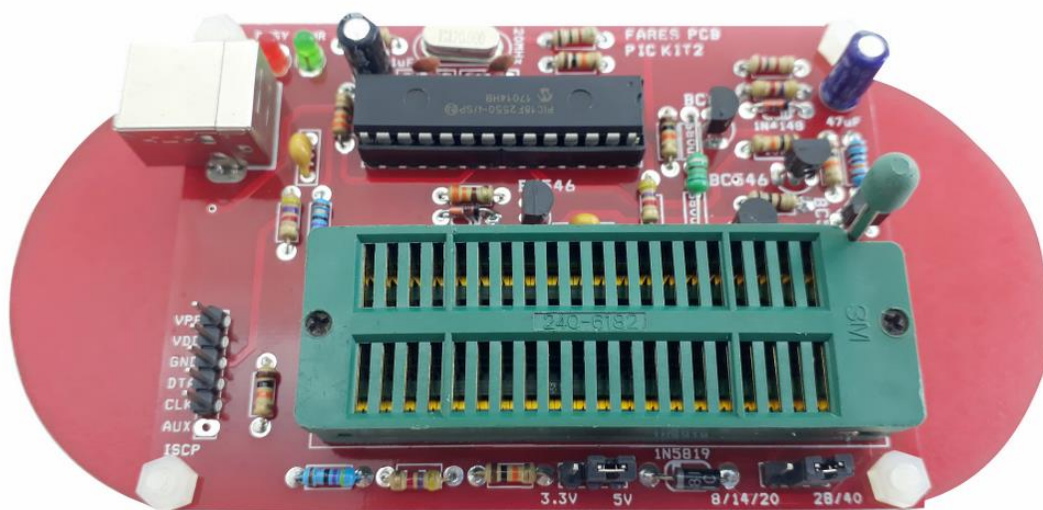


General Description

PICKIT2 is a family of programmers for PIC microcontrollers developed by Microchip Technology. **PICKIT2** is a low-cost development tool with an easy to use interface for programming and debugging Microchip's Flash microcontrollers families. The full featured Windows[®] programming interface supports baseline (PIC10F, PIC12F5xx, PIC16F5xx), midrange (PIC12F6xx, PIC16F), PIC18F, PIC24, dsPIC30, dsPIC33, and PIC32 families of 8-bit, 16-bit, and 32-bit microcontrollers, and many Microchip Serial EEPROM products. With Microchip's powerful MPLAB Integrated Development Environment (IDE) the **PICKIT2** enables in-circuit debugging on most PIC microcontrollers. In-Circuit-Debugging runs, halts and single steps the program while the PIC microcontroller is embedded in the application. When halted at a break point, the file registers can be examined and modified.

PICKIT2 uses an internal PIC18F2550 with Full Speed USB and allows the user to program and debug most of the 8, 16 bit MCUs, 24H, 32Bit and DSP PIC microcontrollers.

PICKIT2 is open to the public, including its hardware schematic, firmware and application programs.



PICKIT2 Features

- a) Support almost all PIC microcontrollers.
- b) No need for external power supply. Just USB connector.
- c) Auto device detection.
- d) Self updating firmware. No need for other programmer.
- e) Built-in ZIF socket for 10F, 12F, 16F, 18F family beside the ICSP programming socket for all devices.
- f) Built-in 3.3V supply for programming 3.3V devices.
- g) Red LED indicator for power
- h) Yellow LED indicator for activity.
- i) USB-B connector for type B cable which is cheap and easy available.
- j) Board is mounted on 3mm thickness acrylic base.
- k) Dimensions 140 X 65 X 25 mm.

Supported PIC Microcontroller devices

Note "LF" versions of all devices are also supported

- **8 Pin:** PIC10F200, PIC10F202, PIC10F204, PIC10F206, PIC10F220, PIC10F222, PIC12F508, PIC12F509, PIC12F510, PIC12F617, PIC12F519, PIC12F609, PIC12F615, PIC12F629, PIC12F635, PIC12F675, PIC12F679, PIC12F683, PIC12F1822, PIC12F1840
- **14 Pin:** PIC16F505, PIC16F506, PIC16F526, PIC16F610, PIC16F616, PIC16F630, PIC16F636, PIC16F676, PIC16F684, PIC16F688, PIC16F1823, PIC16F1824, PIC16F1825
- **18 Pin:** PIC16F54, PIC16F84A, PIC16F87, PIC16F88, PIC16F627, PIC16F627A, PIC16F628, PIC16F628A, PIC16F648A, PIC16F716, PIC16F818, PIC16F819, PIC16F1826, PIC16F1827, PIC18F1220, PIC18F1230, PIC18F1320, PIC18F1330, PIC16F1847
- **20 Pin:** PIC16F631, PIC16F639, PIC16F677, PIC16F685, PIC16F687, PIC16F689, PIC16F690, PIC16F720, PIC16F721, PIC16F785, PIC16F1828, PIC16F1829, PIC18F13K22, PIC18F13K50, PIC18F14K22, PIC18F14K50, PIC18F13K22, PIC18F13K50, PIC18F14K22, PIC18F14K50
- **28 Pin:** PIC16F57, PIC16F72, PIC16F73, PIC16F76, PIC16F722, PIC16F722A, PIC16F723, PIC16F723A, PIC16F726, PIC16F737, PIC16F767, PIC16F870, PIC16F872, PIC16F873, PIC16F873A, PIC16F876, PIC16F876A, PIC16F882, PIC16F883, PIC16F886, PIC16F913, PIC16F916, PIC16F1516, PIC16F1518, PIC16F1782, PIC16F1783, PIC16F1933, PIC16F1936, PIC16F1938, PIC16LF1902, PIC16LF1903, PIC16LF1906, PIC18F242, PIC18F252, PIC18F248, PIC18F258, PIC18F2220, PIC18F2221, PIC18F2320, PIC18F2321, PIC18F2331, PIC18F2410, PIC18F2420, PIC18F2423, PIC18F2431, PIC18F2450, PIC18F2455, PIC18F2458, PIC18F2480, PIC18F2510,

PIC18F2515, PIC18F2520, PIC18F2523, PIC18F2525, PIC18F2550, PIC18F2553, PIC18F2580, PIC18F2585, PIC18F2610, PIC18F2620, PIC18F2680, PIC18F2682, PIC18F2685, PIC18F24J10, PIC18F24J11, PIC18F24J50, PIC18F25J10, PIC18F25J11, PIC18F25J50, PIC18F26J11, PIC18F26J50, PIC18F23K20, PIC18F23K22, PIC18F24K22, PIC18F25K22, PIC18F24K20, PIC18F25K20, PIC18F26K20, PIC18F26K22

- **40 Pin:** PIC16F59, PIC16F74, PIC16F77, PIC16F707, PIC16F724, PIC16F727, PIC16F747, PIC16F777, PIC16F871, PIC16F874, PIC16F874A, PIC16F877, PIC16F877A, PIC16F884, PIC16F887, PIC16F914, PIC16F917, PIC16F1517, PIC16F1519, PIC16F1934, PIC16F1937, PIC16F1939, PIC16LF1904, PIC16LF1907, PIC18F442, PIC18F452, PIC18F448, PIC18F458, PIC18F4220, PIC18F4221, PIC18F4320, PIC18F4321, PIC18F4331, PIC18F4410, PIC18F4420, PIC18F4423, PIC18F4431, PIC18F4450, PIC18F4455, PIC18F4458, PIC18F4480, PIC18F4510, PIC18F4515, PIC18F4520, PIC18F4523, PIC18F4525, PIC18F4550, PIC18F4553, PIC18F4580, PIC18F4585, PIC18F4610, PIC18F4620, PIC18F4680, PIC18F4682, PIC18F4685, PIC18F44J10, PIC18F45J10, PIC18F45J11, PIC18F45J50, PIC18F43K20, PIC18F44K20, PIC18F45K20, PIC18F46K20, PIC18F43K22, PIC18F44K22, PIC18F45K22, PIC18F46K22

dsPIC/PIC24F Microcontroller

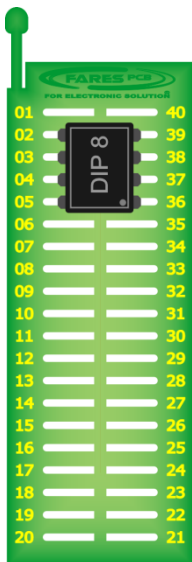
- **18 Pin:** PIC24HJ12GP201, dsPIC30F2011, dsPIC30F3012, dsPIC33FJ12GP201
- **20 Pin:** PIC24F04KA201, PIC24F08KA101, PIC24F16KA101
- **28 Pin:**
 - a. PIC24HJ12GP202, PIC24F08KA102, PIC24F16KA102, PIC24FJ32GB002, PIC24FJ64GB002, PIC24HJ32GP202, PIC24HJ32GP302, PIC24HJ64GP202, PIC24HJ64GP802, PIC24HJ128GP202, PIC24HJ128GP502, PIC24HJ128GP802, PIC24FJ16GA002, PIC24FJ32GA002, PIC24FJ48GA002, PIC24FJ64GA002, PIC24FJ32GA102, PIC24FJ64GA102
 - b. dsPIC30F1010, dsPIC30F2010, dsPIC30F2012, dsPIC30F2020, dsPIC30F3010, dsPIC30F3013, dsPIC30F4012
 - c. dsPIC33FJ12GP202, dsPIC33FJ64GP802, dsPIC33FJ32GP302, dsPIC33FJ64GP202, dsPIC33FJ64GP802, dsPIC33FJ128GP202, dsPIC33FJ128GP802, dsPIC33FJ06GS102, dsPIC33FJ06GS202, dsPIC33FJ16GS402, dsPIC33FJ16GS502, dsPIC33FJ12MC202, dsPIC33FJ32MC202, dsPIC33FJ32MC302, dsPIC33FJ64MC202, dsPIC33FJ64MC802, dsPIC33FJ128MC202, dsPIC33FJ128MC802
- **40 Pin:** dsPIC30F3011, dsPIC30F4011

Serial EEPROM

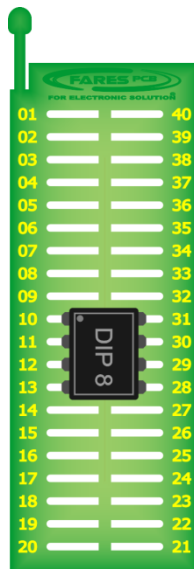
- **11LCXX**: 11LC010, 11LC020, 11LC040, 11LC080, 11LC160
- **24LCXX**: 24LC00, 24LC01B, 24LC02B, 24LC32A, 24LC64, 24LC128, 24LC256, 24LC512, 24LC1025
- **25LCXX**: 25LC010A, 25LC020A, 25LC040A, 25LC080A, 25LC080B, 25LC128, 25LC160A, 25LC160B, 25LC256, 25LC320A, 25LC512, 25LC640A, 25LC1024
- **93LCXX[A/B/C]**: 93LC46, 93LC56, 93LC66, 93LC76, 93LC86
- **HCSXX**: HCS200, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS362

The right positions of chips is as following

10FXXX



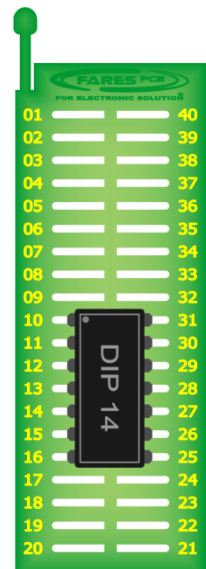
12FXXX



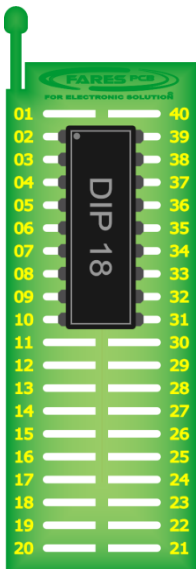
24LCXX



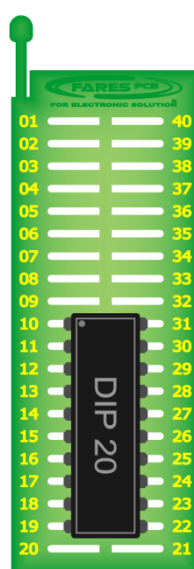
14 pin MCU



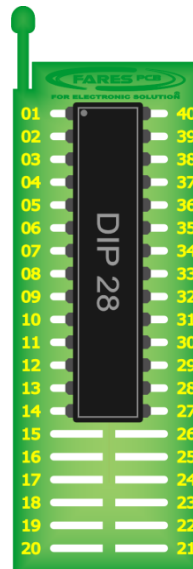
18 pin MCU



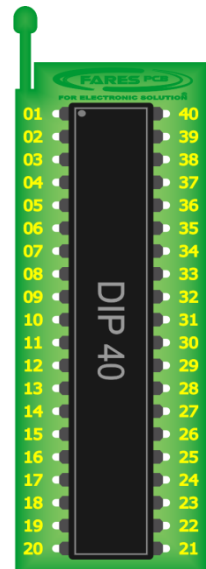
20 pin MCU



28 pin MCU



40 pin MCU



Note: dsPIC family programmed only on ICSP socket.

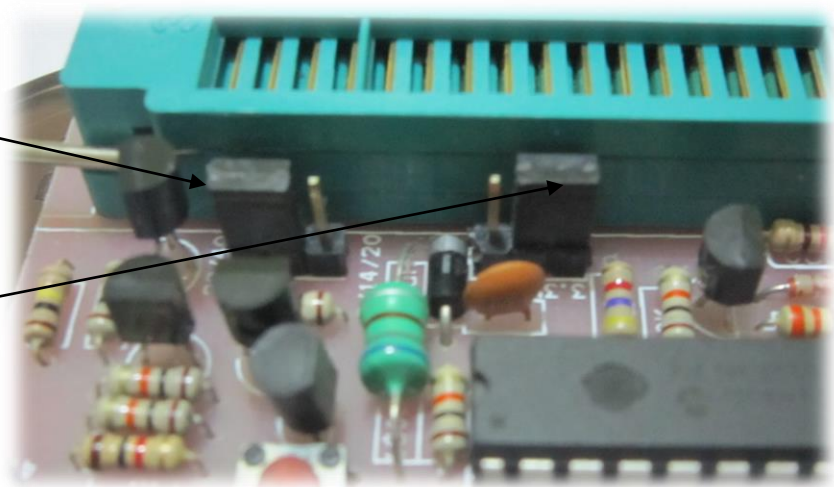
How to Start

1- Hardware installation

- Unplug the chip from ZIF socket and/or ICSP cable from the target device.
- Set "Family" jumper to the appropriate position according to the device number.
- Set the target supply -if required- to the required value 5V/3.3V.
- Plug in USB cable and insure that Power LED (Red LED) is turned on.

Family selecting jumper

Target voltage selecting jumper

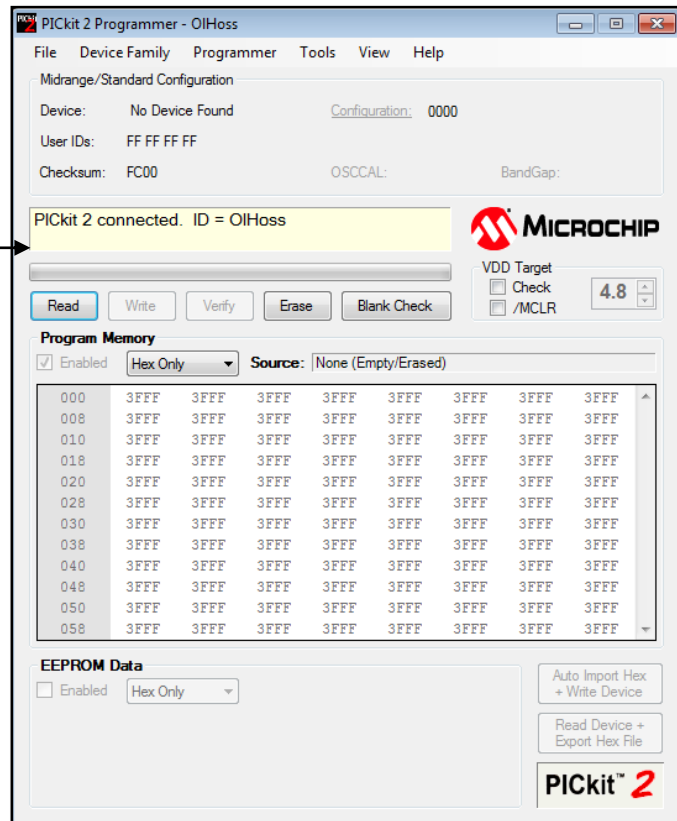


2 – Software installation

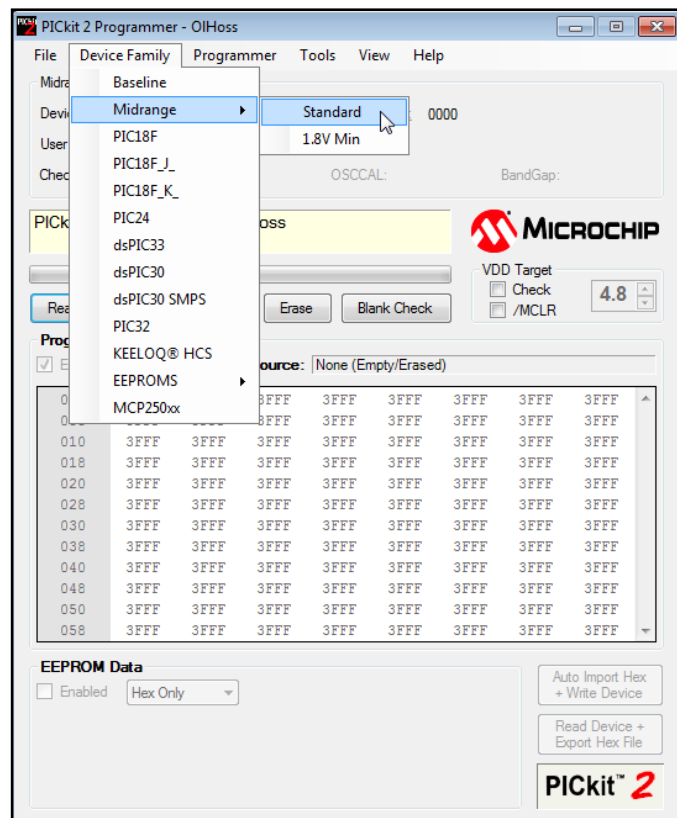
- Download program from this link [pickit2setup](#).
 - Install (PICKit2Setup.exe) program.
 - Run the program from a shortcut created on the desktop (PICKit 2 v2.61)
 - Follow the next steps to complete your task.

The first screen appear after running program is shown below

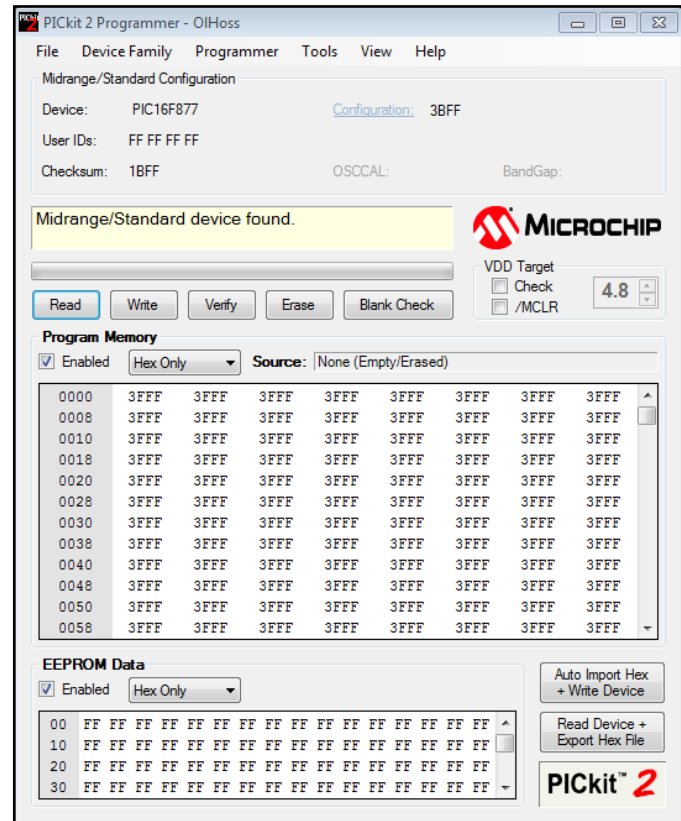
Not PICKit2 is connected successfully as shown in message. But no device detected.



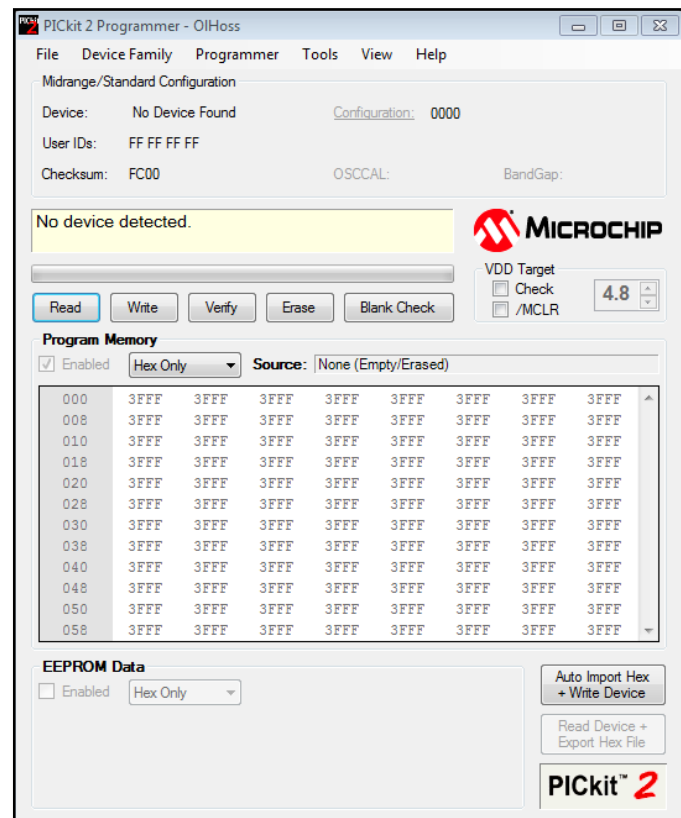
Plug-in the chip in the right position or insert ICSP cable in the target Kit. And select device family as shown.



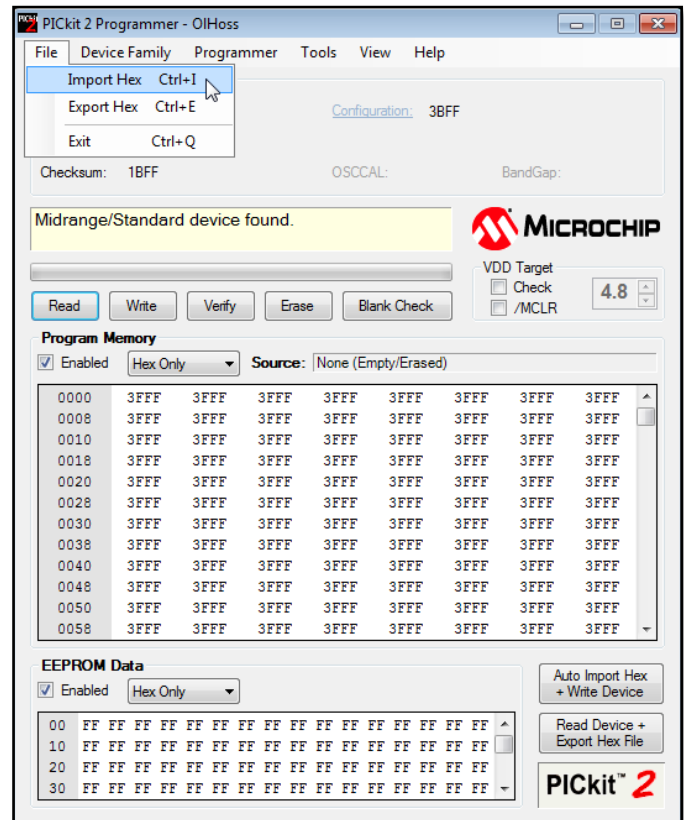
If the programmer is work properly and chip is installed successfully then the software well detects the chip automatically and state the device name and the next screen will appear.



Otherwise "No device detected" message will appear as shown



Load hex file from <File> <Import Hex>

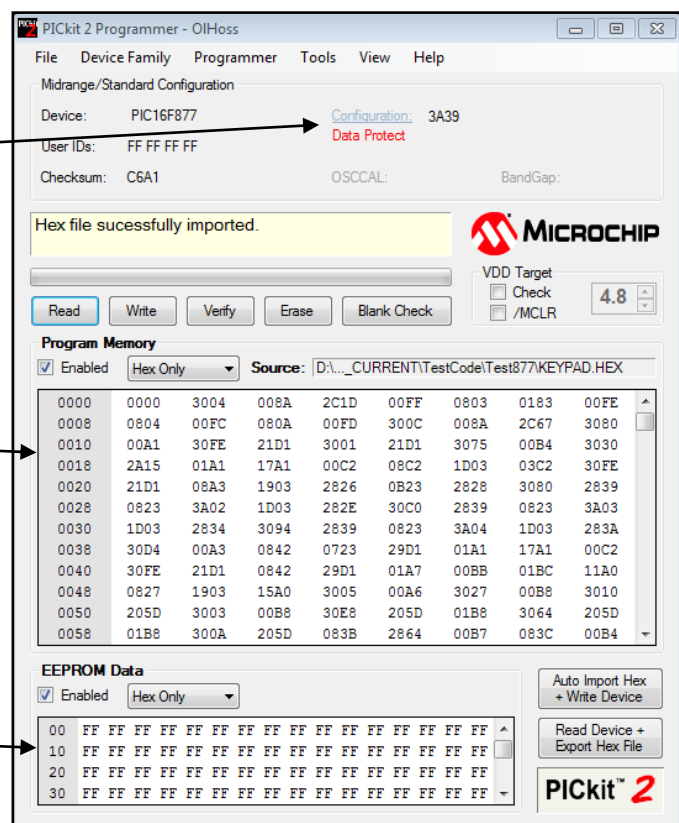


If the hex file is loaded successfully then this screen will appear and data is displayed as shown

To set fuses click
"Configuration"

Program memory data

EEPROM memory data



Programmer functions

<Read> read all chip data include Program memory, data EEPROM memory, user-ID and configuration bits.

<Write> Program all hex data to chip include Program memory, data memory, user-ID and configuration bits.

<Verify> Verifies program memory, data EEPROM memory, ID locations and configuration bits read from the target MCU against the hex code loaded.

<Erase> Erase all chip data include Program memory, data EEPROM memory, user-ID and configuration bits.

< Blank Check > performs a blank check of program memory, data EEPROM memory, ID locations and configuration bits.

To save a hex file read from a microcontroller chip click <File> <Export file>

For more information about programming and debugging PIC MCUs refer to PDF documents included in this link [PICKIT2](#).

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