

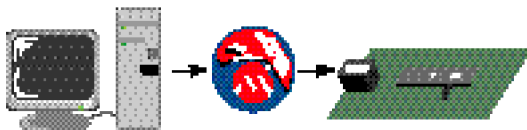
# MPLAB® ICD 2 In-Circuit Debugger

## ALL-IN-ONE DEBUGGER/PROGRAMMER SOLUTION FOR PIC® FLASH PRODUCTS

The MPLAB® ICD 2 (In-Circuit Debugger 2) is the next advanced step for In-Circuit Debugging from Microchip Technology. The MPLAB ICD 2 allows debugging of selected PIC® FLASH microcontrollers using the powerful graphical user interface of the MPLAB Integrated Development Environment (IDE) which is available as a free tool and included with each unit. It is the ideal tool for embedded control designers looking for a low cost alternative to expensive in-circuit emulators.

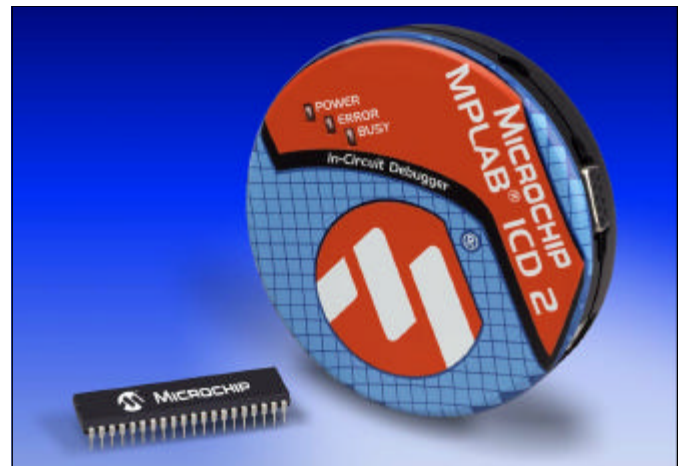
In-Circuit Debugging is achieved using the two dedicated hardware lines (microcontroller pins used only during debugging mode) that allow In-Circuit Serial Programming (ICSP™) of the device and debugging capability through proprietary firmware. The MPLAB ICD 2 debug feature is built into the microcontroller and activated by programming the debug code into the target processor. Shared overhead is one stack level, several general purpose file registers and a small bank of program memory when in the debug mode.

The MPLAB ICD 2 firmware is FLASH-based, which allows it to be enhanced to support future microcontroller products and new features, extending the life of the tool – making it a good investment. Firmware downloads are available from the Microchip web site at: [www.microchip.com](http://www.microchip.com).



## MPLAB ICD 2 In-Circuit Debugger Set-Up

The MPLAB ICD 2 is connected using USB or RS-232 interfaces between the design engineer's PC operating with MPLAB IDE and the product board (target) being developed. The in-circuit debugger acts as an intelligent interface/translator between the two allowing the engineer to look into the active target board's microcontroller permitting real-time viewing of variables and registers using watch windows. A single break point can be set, halting the program at a specific point. Memory read/writes can also be achieved. Additionally, the MPLAB ICD 2 can be used to program or reprogram the PIC FLASH microcontroller while installed on the target board.



## Features

- USB (Full Speed 2 Mbits/s) and RS-232 interface to host PC
- Real-time background debugging
- MPLAB IDE compatible (free copy included)
- Built-in over voltage/short circuit monitor
- Firmware upgradeable from PC/web download
- Totally enclosed
- Supports low voltage to 2.0 volts (2.0 to 6.0 range)
- Diagnostic LED's (Power, Busy, Error)
- Reading/Writing memory space and stack of target microcontroller
- Erase of program memory space with verification
- Freeze on Halt

## PIC® FLASH Products Supported

The PIC FLASH microcontrollers currently supported include: PIC18C601, PIC18C801, PIC18F452, PIC18F248, PIC18F258, PIC18F442, PIC18F448, PIC18F452, PIC18F458, PIC18F6620, PIC18F6720, PIC18F8620 and PIC18F8720.

The MPLAB ICD 2 firmware is continually being updated. A review of the README.ID2 file located in MPLAB IDE is recommended for the most current list of supported parts. As new device firmware becomes available, free downloads are available at [www.microchip.com](http://www.microchip.com).



## Ordering Information:

**Model Name:** MPLAB® ICD 2

Part Number	Description
DV164005	ICD 2 Module (Includes ICD 2 Module and USB Cable)
DV164006	ICD 2 Evaluation Kit (Includes ICD 2 Module, USB Cable, RS-232 Cable, Power Supply and PICDEM 2 Plus Demonstration Board-DV163022)
DV164007	ICD 2 Module ws (Includes ICD 2 Module, USB Cable, RS-232 Cable and Power Supply)
DV162049	Programming Module (Works With DV164005, DV164006 and DV164007 Above)
DV162048	RS-232 and Power Supply Kit (Use With DV164005 Above For RS-232 Communication)
DV163022	PICDEM 2 Plus Demonstration Board (Includes PIC18F452, PIC16F877, LCD 2 x 16 Display, LED's, RS-232 Port, Piezo Sounder, Temperature Sensor, Demonstration Programs, Unassembled Source Code and More)

## Host System Requirements:

- PC-compatible system with an Intel® 80486 class or higher processor, or equivalent
- A minimum of 16 MB RAM
- A minimum of 40 MB available hard drive space
- CD-ROM drive (for use with the accompanying CD)
- Available USB or RS-232 port
- Microsoft® Windows 98, Windows NT® 4.0 or Windows 2000

## Customer Support:

Microchip maintains a worldwide network of distributors, representatives, local sales offices, Field Application Engineers and Corporate Application Engineers. Microchip's Internet home page can be reached at: [www.microchip.com](http://www.microchip.com).

### Development Tools from Microchip

MPLAB® IDE	Integrated Development Environment (IDE)
MPASM™ Assembler	Universal PICmicro Macro-assembler
MPLINK™ Linker/MPLIB™ Librarian	Linker/Librarian
MPLAB C18	C Compiler for PIC18XXXX MCUs
C Compiler	Sold by Third-party Vendors (HI-TECH, IAR, CCS)
MPLAB SIM Simulator	Software Simulator
MPLAB ICE 2000	Full-featured Modular In-Circuit Emulator
PICSTART® Plus Programmer	Entry-level Development Kit with Programmer
PRO MATE® II Device Programmer	Full-featured, Modular Device Programmer
KEELOQ® Evaluation Kit	Encoder/Decoder Evaluator
KEELOQ Transponder Evaluation Kit	Transmitter/Transponder Evaluator
microID™ Developer's Kit	125 kHz and 13.56 MHz RFID Development Tools
MCP2510 CAN Developer's Kit	MCP2510 CAN Evaluation/Development Tool

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China – Shenzhen	86-755-2350361
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Italy	39-039-65791-1
United Kingdom	44-118-921-5869

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