Other Links

- Buy/Sample Options DV164005
- Contact Microchip
- Development Tool Selector
- Microchip Advanced Parts Selector (MAPS)

Programming

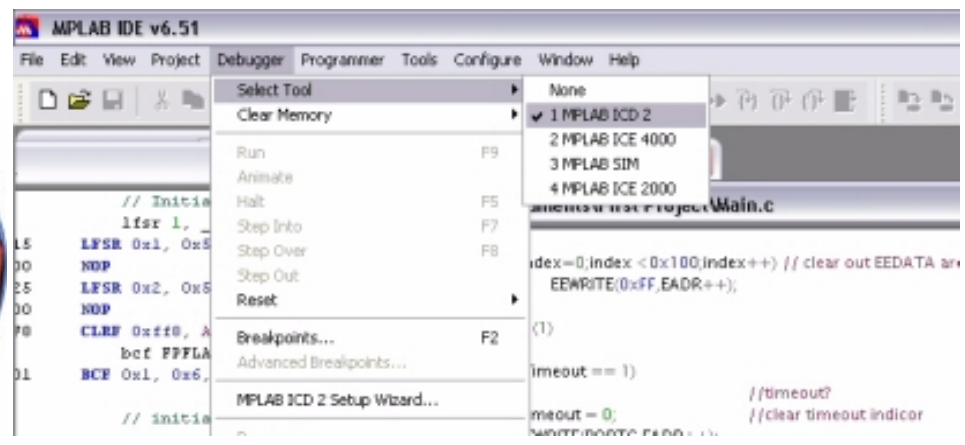
- Design Center Home
- Programming Home
- Programming Specifications
- Code Examples
- Code Templates
- Firmware Drivers
- Gerber Files
- Application Maestro ™ Software

Resources

- Technical Support
- 24/7 Technical Support
- Third Party Development Tools and Design Resources
- Online Discussion Groups

MPLAB ICD 2 Buy it Now

Part Number: DV164005



Summary

An all-in-one debugger/programmer solution : MPLAB® ICD 2 is a low cost, real-time debugger and programmer for selected PIC® MCUs and dsPIC® DSCs. Using Microchip Technology's proprietary In-Circuit Debug functions, programs can be downloaded, executed in real time and examined in detail with the debug functions of MPLAB. Set watch variables and breakpoints from symbolic labels in C or assembly source code, and single step through C source lines or into assembly code. MPLAB ICD 2 can also be used as a development programmer for supported MCUs.

The secret behind In Circuit Debugging is two dedicated hardware lines (microcontroller pins used only during debugging mode) that control In Circuit Serial Programming™ (ICSP™) of the device and, afterwards, debugging through proprietary, on -chip firmware. The ICD 2 debug features are built into the microcontroller and activated by programming the debug code into the target processor. There is some shared overhead expense that includes one stack level, some general purpose file registers and a small area of program memory when in the debug mode.
IMPORTANT NOTE: MPLAB ICD 2 requires minimal design guidelines be followed to ensure stable communications between the unit and the target. Check this page for some useful tips: **http://www.microchip.com/icd2help**

Features

- USB (Full Speed 2 M bits/s) & RS-232 interface to host PC
- Real time background debugging
- MPLAB IDE GUI (free copy included)
- Built in over-voltage/short circuit monitor
- Firmware upgradeable from PC
- Totally enclosed
- Supports low voltage to 2.0 volts. (2.0 to 6.0 range)
- Diagnostic LEDs (Power, Busy, Error)
- Reading/Writing memory space and EEDATA areas of target microcontroller
- Programs configuration bits
- Erase of program memory space with verification
- Peripheral freeze-on-halt stops timers at breakpoints

The MPLAB ICD 2 connects using USB or RS-232 between the design engineer's PC operating with MPLAB IDE and their product board (target) being developed. It acts as an intelligent interface/translator between the two, allowing the engineer to look into the active target board's microcontroller, viewing variables and registers at breakpoints with MPLAB watch windows. A breakpoint can be set to halt the program at a specific location. The program can be single-stepped or run at full speed. At breakpoints, data and program memory can be read and modified. Additionally, the MPLAB ICD 2 can be used to program or reprogram the Flash-based microcontroller while installed on the board.

Kit Part Number	
DV164005	MPLAB ICD 2 module, an ICD interface cable and USB cable
DV164006	MPLAB ICD 2 Evaluation Kit (DV164005), PICDEM 2 Plus demonstration board, power supply, serial cable and USB cable
DV164007	Same as DV164005, but adds RS-232 serial cable and power supply
DV164033	MPLAB ICD 2 with Explorer 16 Demo Board and MPLAB C30 C Compiler
AC162069	Breadboard cable, RJ -11 to flying leads for connection to breadboard

Notes about MPLAB ICD 2 Headers
Some 8-, 14- and 18-pin devices use small header boards with a special MCU for debugging. This special MCU has extra pins for ICD 2 communication and therefore allows the use of all pins on the part for the application. The header board is not used or needed for programming. However, when debugging these devices the header must be used. See the "*MPLAB ICD 2 Header Information*" document below.

Downloads

Title	Date Published	Size	D/L
MPLAB® ICD 2 In-Circuit Debugger User's Guide	11/9/2007 3:29:00 PM	3571 KB	
Using MPLAB® ICD 2 Poster	3/29/2005 1:13:00 PM	2149 KB	
Header Specification	2/8/2008 9:43:00 AM	644 KB	
MPLAB ICD 2 Advisory	10/28/2005 11:34:00 AM	83 KB	
MPLAB IDE Current Release Notes	6/26/2008 2:22:56 PM	248 KB	
MPLAB ICD 2 In-Circuit Debugger/Programmer	10/11/2004 10:51:00 AM	4221 KB	
Uninstalling Incorrect USB Device Drivers	12/21/2006 11:25:36 AM	431 KB	
MPLAB® ICD 2 In-Circuit Debugger User's Guide (Chinese)	12/20/2007 12:19:00 AM	4387 KB	
MPLAB® ICD 2 In-Circuit Debugger User's Guide (Japanese)	1/11/2005 11:53:00 PM	3472 KB	
MPLAB Integrated Development Environment (IDE) Brochure	4/24/2008 1:04:10 PM	1847 KB	
Universal Programming Module Instruction Sheet	10/23/2007 8:53:00 AM	34 KB	
PIC18F Development Tools Product Overview	12/19/2006 1:19:04 PM	97 KB	

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