MPLAB® ICD 2 In-Circuit Debugger

DEBUGGER 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.

MPLAB ICD 2 In-Circuit Debugger Set-Up

The MPLAB ICD 2 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.
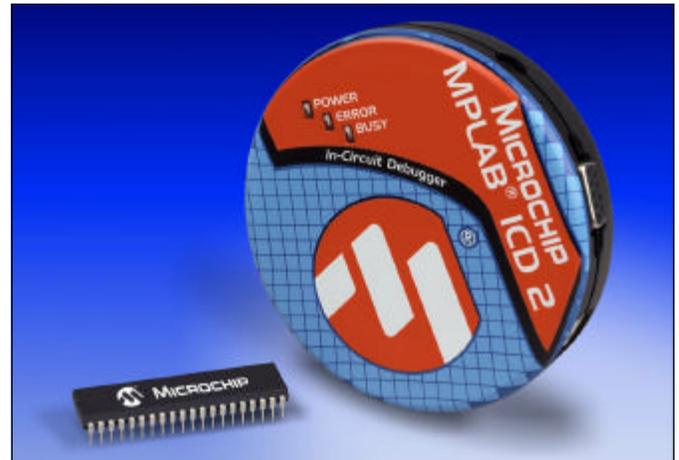
Features

- 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 debug to 2.0 volts
- 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.

MICROCHIP
Development Systems

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)
AC162049	Programming Module (Works with DV164005, DV164006 and DV164007 above)
AC162048	RS-232 and Power Supply Kit (Use with DV164005 above for RS-232 communication)
DM163022	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)

*USB Ready – To enable the USB feature, please check the Microchip web site for version 6.00 or later of MPLAB IDE. This is a free download at www.microchip.com

Host System Requirements:

- PC-compatible system with a Intel Pentium® 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 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.

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

Americas		Asia/Pacific		Europe	
Atlanta	(770) 640-0034	Australia	61-2-9868-6733	Denmark	45-4420-9895
Boston	(978) 692-3848	China – Beijing	86-10-85282100	France	33-1-69-53-63-20
Chicago	(630) 285-0071	China – Chengdu	86-28-6766200	Germany	49-89-627-144-0
Dallas	(972) 818-7423	China – Fuzhou	86-591-7503506	Italy	39-039-65791-1
Detroit	(248) 538-2250	China – Shanghai	86-21-6275-5700	United Kingdom	44-118-921-5869
Kokomo	(765) 864-8360	China – Shenzhen	86-755-2350361		
Los Angeles	(949) 263-1888	Hong Kong	852-2401-1200		As of 4/1/02
New York	(631) 273-5305	India	91-80-2290061		
Phoenix	(480) 792-7966	Japan	81-45-471-6166		
San Jose	(408) 436-7950	Korea	82-2-554-7200		
Toronto	(905) 673-0699	Singapore	65-6334-8870		
		Taiwan	886-2-2717-7175		

Microchip Technology Inc. • 2355 W. Chandler Blvd. • Chandler, AZ 85224-6199 USA • (480) 792-7200 • FAX (480) 792-9210

DS51271B