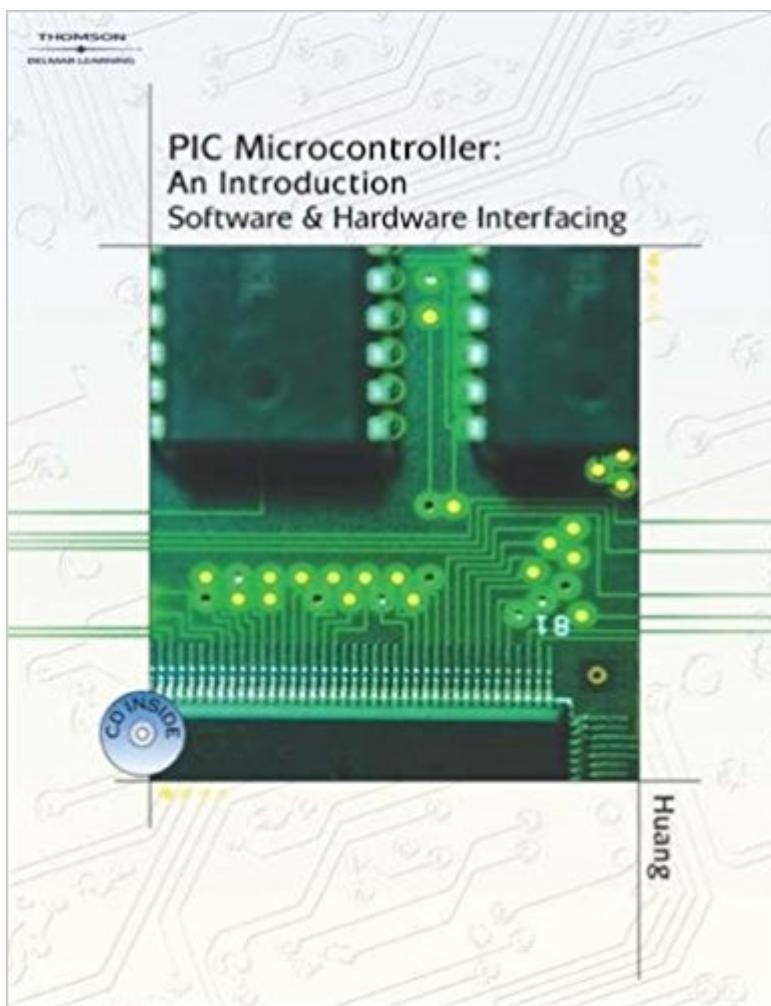


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# **PIC Microcontroller: An Introduction To Software & Hardware Interfacing**



## Synopsis

This book presents a thorough introduction to the Microchip PIC microcontroller family, including all of the PIC programming and interfacing for all the peripheral functions. A step-by-step approach to PIC assembly language programming is presented, with tutorials that demonstrate how to use such inherent development tools such as the Integrated Development Environment MPLAB, PIC18 C compiler, the ICD2 in-circuit debugger, and several demo boards. Comprehensive coverage spans the topics of interrupts, timer functions, parallel I/O ports, various serial communications such as USART, SPI, I2C, CAN, A/D converters, and external memory expansion.

## Book Information

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## Customer Reviews

Introduction to the PIC18 Microcontroller. PIC18 Assembly Language Programming. PIC18 Development Tools. Advanced Assembly Programming. Using the C Compiler. Interrupts, Resets, and Configuration. Parallel Ports. Timers and CCP Modules. Addressable Universal Synchronous Asynchronous Receiver Transceiver. Serial Peripheral Interface (SPI). Inter-Integrated Circuit (I2C) Interface. Analog to Digital Converter. Controller Area Network. External memory Extension.

Han-Way Huang is a Professor in the Department of Electrical and Computer Engineering and Technology at Minnesota State University, Mankato. A member of both IEEE and ASEE, he has 25 years of teaching experience in microprocessors and microcontrollers. A well-respected author, he

has also written THE HCS12/9S12: AN INTRODUCTION TO HARDWARE AND SOFTWARE (Delmar Learning), EMBEDDED SYSTEM DESIGN WITH M8051 (Cengage Engineering), THE PIC MICROCONTROLLER: AN INTRODUCTION TO SOFTWARE AND INTERFACING (Delmar Learning), THE HC12 MICROCONTROLLER: AN INTRODUCTION (Delmar Learning), and THE HC11 MICROCONTROLLER: AN INTRODUCTION (Delmar Learning). Dr. Huang earned an MS and Ph.D. in Computer Engineering from Iowa State University and the BSEE degree from National Taiwan University. Mr. Chartrand holds a Bachelor of Science degree in electrical engineering from QueenÂ¿s university in Kingston Ontario. He has been teaching digital courses for 20 years at Niagara College in Welland , Ontario. Mr. Chartrand has made industry contributions with various designs including interfacing an infrared camera to a PC, creating a digital circuit board used as a PC training system, and designing a control pendant for an air-filled medical bed. He also worked as a plant engineer for General Motors.

Having a background in software development (C/C++), having written a lot of assembly language in the distant past, and being familiar with processor architecture, I found the book to be straightforward and useful to me. I was able to make rapid progress through the text, sometimes skipping ahead to sections to find just what I needed. Plenty of useful source code in both asm and C as well. The professor who wrote this put together what seems like a very clean, easy to understand text (where "easy" may depend on your background - I found it easy). It is true that you can probably find much of the information in the processor specification PDF file available from Microchip or in other online sources, yet I found it very convenient to have it all available in one organized textbook. I do recommend the book for others wishing to learn more about the PIC18.

Writing style is clear and easy to follow. Detailed and straightforward explanations. I bought this book in 2016 because I had to instruct students in a lab-based course, and they had learnt PIC18F MCU in a previous course, from this book. I had no exposure to PIC MCUs before but I have a background on CPU architecture and assembly programming based on the 86x processors. The book fulfilled its purpose for me and I had no difficulties following along.

required book

I have virtually all of the major PIC books available and this one is, by far, the best PIC18 book on the market. That may be because it is written as a textbook by an obviously experienced academic

as well a microprocessor engineer. Each chapter follows a natural progression from the basics of instruction set, tools such as MPLAB, assembly, C programming, and on to the details of the PIC18 architecture. Its clear organization makes it equally useful as a reference and may be dipped into for solutions to many PIC issues such as I2C, timer and A/D use and interfacing details for many applications. For the earlier PIC16, the best reference is "The Quintessential PIC Microcontroller" by Sid Katzen for many of the same reasons. Buy these two books and you have both the PIC16 and PIC18 covered.

WORST BOOK EVER. seriously- hardest book to reference; even the teacher had trouble with it- unfortunately, its the only book out there for this microcontroller :/

Good Book, not very interesting subject. Just a book that we have to buy for our class. Edition changed quickly, but content are almost identical.

PIC!!!

It's perfect and helped me many times!

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