Applying PIC18 Microcontrollers: Architecture, Programming, And Interfacing Using C And Assembly

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Synopsis

This book provides a comprehensive look into the architecture, programming, and interfacing of the microcontroller. Using the Microchip PIC18 family as a reference, it explains the architecture of the computer and the PIC18 microcontroller, discusses how to program in both assembly and in C-language, and then provides a solid discussion of interfacing, complete with a diverse set of examples. Unique to the book is its goal to introduce and explain as many devices as possible and show many complete system applications. All programs from the book are included on the accompanying CD-ROM and problems and examples further one's proficiency in microcontroller interfacing, programming, and system design. Uses the newest 8-bit microcontroller available from Microchip because of its universality (i.e. what is learned about this family is applicable to the earlier families of microcontrollers from PIC as well as other microcontrollers from other manufacturers). Provides a complete look at microcontroller programming in both assembly language and in C-language. Covers more devices and interfacing examples than other books. Includes timing and details of interfacing to common electronic components. Offers examples of interfaces such as display devices, switches and keypads, motors, solenoids, relays, sensors, interrupts, infra-red remote controls, bar code readers and more. Includes coverage of interfacing with the USB and the CAN and illustrated example applications. Valuable to the experienced practitioner as a reference and to the hobbyist interested in learning about microcontrollers.

Book Information

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Customer Reviews
I am fairly new to the world of PICs and about couple of months back was looking for a starting point. I picked this book because i had used a couple of other books by the same author on intel processors and i liked them quite a bit- i wasnt disappointed this time either. There arent a thousand pages to this book- its handy. The subject matter is precise, to the point. The keyword is "Applying...". There are a lot of good working examples dealing with the commonly used interfaces- barcode scanners, keypads, LCDs, solenoids, relays etc. It even goes into USB at the end- and, like me, if someone is not familiar with the USB protocols, they might need some other references. It gives an intro to assembly language and then goes onto C programming with the microchip C18 compiler, which is perhaps the most widely used compiler out there. The commenting on the programs is not extensive so anybody who’s looking to be spoon-fed will be disappointed. I did have a couple of problems initially following the code in the book- I emailed the author and got a response within 48hrs.

Barry B Brey has an incredible way to explain how to make microprocessors and microcontrollers work. In this book he guides you step by step in the embedded design based on PIC Microcontrollers.

Being a newbe, it is a little too advanced for me right now. It is a college leave text, so it covers a lot of topics. I am going through the Chuck Hellebuyck series first and it should makes the book much more understandable. The book also goes through Assemble and the C languages.

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