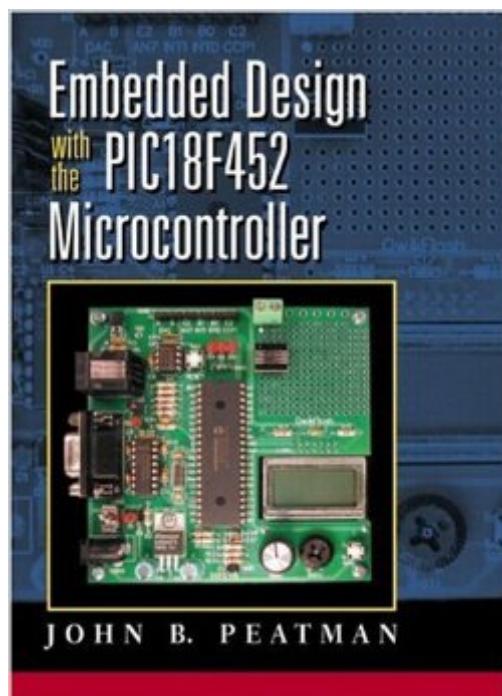


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# Embedded Design With The PIC18F452



## Synopsis

This book is developed around Microchip's latest family of parts, the PIC18FXXX family. It focuses on the PIC18F452, a new part brought to market in May 2002. It is intended that the reader will find a smooth path to the creative process of writing enhanced application code. This book attempts to organize and unify the development of these three capabilities: to understand and use components, to exploit powerful algorithmic processes, and to break down the complexity of an instrument or device so as to meet its specifications. The book is dedicated toward the development of creative design capability. Throughout this book, the approach taken is to introduce a template of assembly language code that encompasses a set of features of the PIC18F452 plus its interactions with some of the I/O devices resident on a small 4"x4" development board. For electrical engineers who work with the PIC18FXXX family.

## Book Information

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## Customer Reviews

Writing a book as complete and well-thought-out as this one takes a Herculean effort, which is why most technical books are lacking in detail. Somehow, John Peatman has pulled it off, producing a book that is complete and detailed in every way. He completely describes the new, juicy, full-featured PIC18F452 and does it well. Two years ago, I wrote a disparaging review of Peatman's "Design With Pic Microcontrollers," feeling it was sketchy and lacking examples. Now, in "Embedded Design," he has produced a clear, well-written and complete package. Each chapter

has a nice set of problems at the end, for those who will use it as a text. Appendices describe an inexpensive demo board and free debugging software. He shows you what to buy to set up a development lab and how to use it. .... If you want to buy one book that contains everything you need to learn about PIC chips, buy this one!

Although some material in the book can be read from spec sheets found on the net, the book really helps to sort through a lot of the clutter in spec sheets. A major benefit of this book is that it provides plenty of detailed illustrations to help you understand the facilities of the PIC instead of simply giving you page after page of technical specs. It also provides plenty of "template" code to help you get up and running if you're kind of new to microcontroller assembly. If you do the sample projects throughout the book, they really help you better understand most of the facilities of the PIC. One thing to note is that the book is written for a semester long college course though I think it's doable for self-study if you have at least some background with PICs. It even provides a PCB on the back cover whereby you can build your own board (I think you can order a package from digikey that has all the parts you need to build one) to run your code on.

John's book is a great follow on to his original book, "Design with PIC Microcontrollers. The book is not a cut and paste solution (As are two other good books "Easy PIC'n" and "PIC'n Up The Pace") and is intended to teach the student how to best use the architecture. The intent of the book is to give the student enough theory to use the PIC18F452 and understand the design philosophy of the architecture. The book is a great compliment to the Microchip datasheet service as a "user's guide". Great examples of how the 18F452 architecture can be best utilized, well organized diagrams (Which, by the way do not require "flicking back and forth" any more than a typical technical book I've read). The subject material covers all of the highlights of the PIC18F452, giving examples for typical usages of LCD displays, A/D, Interrupts, I/O pin considerations, timers, math subroutines, I2C/SMBus usage, UART, etc. There are supporting code template designed to suggest possible code organization. The book develops a very useful utility (SASM) to preprocess PIC assembly in an attempt to make assembly language more structured. The utility IS NOT required and the rest of the book may be read without using the utility. I had no problem obtaining the components for the included circuit board (All required parts can be purchased as a kit from Digi-Key at a discount) and found it very comparable to Microchip's own demo boards.

I have used this book extensively for several designs. The book contains practical examples that

can be adapted to many types of designs. The code examples are well written with text that explains the code and strategy behind it. The author has taken the time to fully explain the many aspects of microcontroller design, pitfalls to avoid and methods to get around the limitations of an 8-bit micro. The book is down to earth but challenges you at the same time. I found the hardware data in the book to also be of great value. I highly recommend the book to any student or engineer serious about learning PIC microcontrollers. Kudos to John Peatman.

Make no mistake -- this book would be at home in an Engineering Class. It will make you THINK and examine his teaching of Single Board Systems at a higher level.+ If you want a "cut & paste" book to get thru a rough spot & finish a project that is due, you'll be disappointed.+ If you want to understand what you are doing so that you can apply your skills better, you'll like it. No free lunch, remember?

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