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# Advanced PIC Microcontroller Projects In C: From USB To RTOS With The PIC 18F Series



## Synopsis

This book is ideal for the engineer, technician, hobbyist and student who have knowledge of the basic principles of PIC microcontrollers and want to develop more advanced applications using the 18F series. The architecture of the PIC 18FXXX series as well as typical oscillator, reset, memory, and input-output circuits is completely detailed. After giving an introduction to programming in C, the book describes the project development cycle in full, giving details of the process of editing, compilation, error handling, programming and the use of specific development tools. The bulk of the book gives full details of tried and tested hands-on projects, such as the I2C BUS, USB BUS, CAN BUS, SPI BUS and real-time operating systems. \* A clear introduction to the PIC 18FXXX microcontroller's architecture\* 20 projects, including developing wireless and sensor network applications, using I2C BUS, USB BUS, CAN BUS and the SPI BUS, which give the block and circuit diagram, program description in PDL, program listing and program description.\* Numerous examples of using developmental tools: simulators, in-circuit debuggers (especially ICD2) and emulators\* A CDROM of all the programs, hex listings, diagrams, data sheets and tables

## Book Information

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## Customer Reviews

This book is well-written and is of the "something for everybody" variety. Actually as I review the contents of the book, I realize how much ground was covered. There are a lot topics in this book that are directly on-target for a lot of practicing engineers. As an example, in the last 12 months

(before having this book at my fingertips, actually), I implemented USB, SD card functionality, CAN and an RTOS. All of these topics, and more, are covered in this single book. I will say that the material is not covered in depth, and does seem to betray the "advanced" moniker in the title. The other ding on the book is that it is heavily geared towards the mikroC compiler, which is not very well-known or respected in the PIC community. Chapter 1 covers the requisite "introduction to computers & microcontrollers" topics, such as number systems, memories, etc.. This will be review / skippable for most readers, but it's good that the author included it. Chapter 2 is a good survey of the PIC18F. Sure, most of the information is in the datasheets, but here in the book it's digested/summarized, and in some cases, in my opinion, explained better than the Microchip documentation. Worth the read. Chapter 3 covers the C programming language. I glossed over this chapter, since I've been using C for more than half of my life. Chapters 4 and 5 cover the mikroC compiler, which is included with the book (limited version), as well as the libraries, development toolset & some sample code. Worth some time, especially if you're new to the toolset. If the author hadn't used this toolset, these chapters wouldn't be as necessary. Chapter 6 starts with some simple projects. Blinking LEDs, serial communications, basic electronics....

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