
Preface

The aim of this book is to enable the reader to program the 18F series of PIC Microcontrollers in the C language using Microchip's MPLAB C18 compiler. The program examples demonstrate the power of the C language, yet the reader does not have to be a C programmer in order to benefit from this technology as the C language is added and explained as required.

The chapters show numerous applications starting with switching outputs on, then using digital inputs such as switches and keypads. This book continues with making measurements from analogue inputs, writing to alpha numeric displays, using timers and interrupts, and transmitting data via radio links.

There is a section on fault finding using the MPLAB simulator and in-circuit debugger. So that faults can be located easier.

All of the chapters show applications on how to use the program examples. The programs are complete and are clearly explained.

My aim has been to show the reader how to use the Microcontroller to develop programs for projects. I have tried to keep the technical detail down to a minimum and have not gone into a deeper understanding of how the microcontroller is working inside. An understanding of the electronics inside the microcontroller is not necessary to enable the reader to program it.

The reader is encouraged to build the programs, see how they work, and then modify the code to enable a clearer understanding of the principles involved; a development kit is available to do this. My own students have been ingenious in developing faults in code and I have used their efforts, hopefully, to produce an easy-to-understand guide to programming the PIC micro in C.

The programs listed in this book and the details of the development kit are available from the book's companion website: <http://booksite.elsevier.com/9780080971513>.

DW Smith BSc., MSc.

Lecturer in Electronics, Manchester Metropolitan University

April 2013