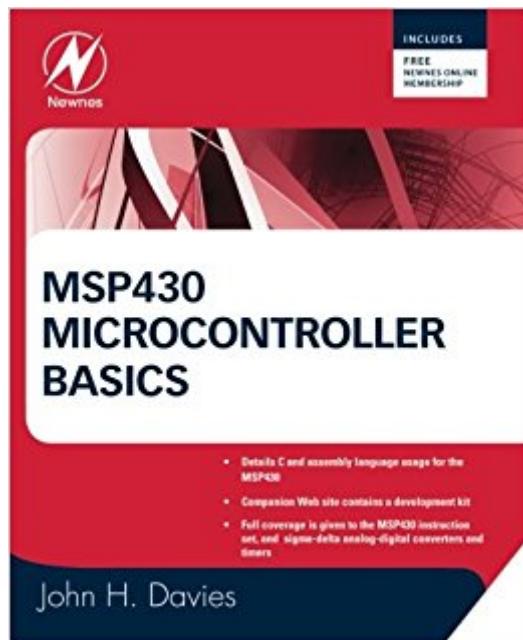


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# MSP430 Microcontroller Basics



## Synopsis

The MSP430 microcontroller family offers ultra-low power mixed signal, 16-bit architecture that is perfect for wireless low-power industrial and portable medical applications. This book begins with an overview of embedded systems and microcontrollers followed by a comprehensive in-depth look at the MSP430. The coverage included a tour of the microcontroller's architecture and functionality along with a review of the development environment. Start using the MSP430 armed with a complete understanding of the microcontroller and what you need to get the microcontroller up and running! Details C and assembly language for the MSP430 Companion Web site contains a development kit. Full coverage is given to the MSP430 instruction set, and sigma-delta analog-digital converters and timers.

## Book Information

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## Customer Reviews

The book is excellent. The electronic format sucks. Keeping in mind this is a reference book: 1. The index of my book has no page numbers or links to the content, rendering it of no use. It consists literally of text, nothing else. 2. References to page numbers in the text have no links, rendering these also useless. 3. There are no page numbers (no rendering as a page). This is a book without pages. Strange, and the "location" marker is of absolutely no use. 4. There is no search feature. If it existed, then I could at least search for the text that I wish to find. 5. I paid almost \$50 for a reference book without a means of finding the contents within it.

This is just the book to read if you are somewhat familiar with digital electronics and microprocessors and want to get moving quickly in programming a TI MSP430. While it is pretty thick, it covers all the capabilities of a 430 in just the right level of detail for someone with some digital logic experience and a cursory understanding of assembly language. **Pro:** chapters are organized by topic with lots of examples; covers both C and assembly language; written at just the right level for someone to get started with a 430; explains what's going on in assembly to help understand what C will do; lots of details about real-world interface examples such as driving an LCD (harder than one thinks); this is the book TI has in their booth at trade shows. **Cons:** a little too much focus on assembly as a target language; some topics get introduced in a chapter before the chapter dedicated to them, which leads to more hopping around in the book than I care for. If you buy only one book on the 430, this one would be money well spent.

If I were to teach a college course on microcontrollers, I would probably use this book. It is quite thick and full of detailed information. If you are looking for a basic beginner intro on how to use your MSP430 then I would look for a more basic book. This book goes into detail on the CPU and memory architecture, C programming, Assembly programming, and more. It does assume a very basic former knowledge of electronics and programming. It includes example programs you can try. I am learning a lot reading this book.

This book is so readable, understandable, and enjoyable that as I sat down to begin learning about the MSP430, I ended up reading the book like a novel. The conversational, straightforward style makes a perfect book for self-education. I do recommend obtaining an MSP430 kit from TI so that you can immediately begin programming through the examples. If you get the text and start reading, you won't be able to wait! Kudos to the author. Absolutely excellent job!

I bought this book for my Microcontrollers class as part of my Electrical Engineering curriculum. This book is great for someone new to writing assembly and new to microcontrollers in general! Explains programming keywords and gives many examples. **Note:** As much as I love this book, I would not recommend it for someone who is programming a microcontroller different than the MSP430.

This book is a great value if you like to have a print reference for a lot of general embedded c programming concepts. I bought this initially to take full advantage of my msp430 dev board but

never got a chance since I started an embedded project at work using microchip PIC products. For someone that has only done some assembly programming, this book has been a great reference for learning the C tricks to that enable fast and readable programming, such as bit fields in C. This book also has great theory on a lot of embedded technologies, such as memory architectures and ADC's. I definitely recommend this book for the beginner to intermediate embedded developer.

My main motivation for buying this book was to generally learn how to program in C with the MSP-430 Launchpad development kit from Texas Instruments. It is a truly awesome text in practice because you not only learn how to start 'thinking embedded' but you actually come away with learning about microcontroller architectures in general. Having done some Assembly programming for a school project over 10 years ago with an older Motorola Microcontroller all in Hexadecimal, I was at first a bit reluctant to follow through the examples the author gives in Assembly as I believed they were not too relevant anymore. In contrast, the author points out through various examples where Assembly makes sense. And to that note, Assembly language now seems much more 'cleaned up' than I remember it being years ago. I had previously explored the possibility of getting into programming embedded devices and considered an Arduino kit; thanks to some advice from a co-worker who actually develops for embedded Medical Devices at my workplace, I decided to pursue the launchpad MSP-430 series as an introduction for the following reasons: 1) you can learn C 2) it can be seen as a more 'professional' solution compared to an Arduino setup which has its own language. This book is a must-have as others have pointed out if you are serious about learning to develop for the MSP-430 family of Microcontrollers.

Arrived in a timely manner and contains all the information I was looking for on the MSP430 series. I will be continuing to use this book for a while.

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