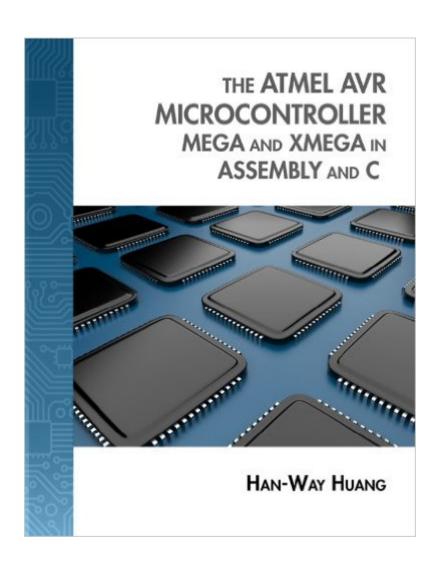# The Atmel AVR Microcontroller: MEGA And XMEGA In Assembly And C (Explore Our New Electronic Tech 1st Editions)

THE **ATMEL AVR**
MICROCONTROLLER
MEGA AND **XMEGA** IN
ASSEMBLY AND **C**

HAN-WAY HUANG

Synopsis

Offering comprehensive, cutting-edge coverage, THE ATMEL AVR MICROCONTROLLER: MEGA AND XMEGA IN ASSEMBLY AND C delivers a systematic introduction to the popular Atmel 8-bit AVR microcontroller with an emphasis on the MEGA and XMEGA subfamilies. It begins with a concise and complete introduction to the assembly language programming before progressing to a review of C language syntax that helps with programming the AVR microcontroller. Emphasis is placed on a wide variety of peripheral functions useful in embedded system design. Vivid examples demonstrate the applications of each peripheral function, which are programmed using both the assembly and C languages.Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

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Customer Reviews

This is the first book that I have every wrote a review on it and it will also be the the first book I ever return. I bought this book hoping that it would supplement what Atmel already has in its data sheets but what I found was this book was essentially the datasheet to either line of processors with a hard cover. Almost every figure is ripped straight from the data sheet as you can tell with the citations

crediting Atmel and the text does very little to go beyond what is already explained in the free datasheets themselves.The book does have some example projects that are unique and goes through them pretty well and the assembly code sections are more in depth that what you will find in the datasheets.If you are looking for a textbook to help you with microcontroller programming save yourself the time and money and look elsewhere because this book gives you very little compared to the free datasheets that Atmel already provides.

I think "repackaging of the data sheet" is a bit harsh. I found this book to be well worth my time. If you are one to read from the data sheet and go forth and create fine. If you are experienced with another manufacturers' microcontroller (e.g PIC) but are new to the AVR/XMEGA microcontroller series or new to embedded programming and have decided to use the AVR/XMEGA microcontroller for your project then I think this book is one of the best on the market. It does have some out of date material; primarily with the description of the evaluation boards and AVR Studio (to a lessor degree). This is to be expected in a rapidly changing market. The content of the book explaining the architecture and C/assembly programming are still very good. Having a print of the latest schematic for the evaluation board you are using (unless you build your own) is helpful. What I find useful about this book are the examples demonstrating the peripherals of the AVR/XMEGA devices but also the examples with other manufactures parts (e.g. Microchip DAC and temperature sensor and TI shift register using the SPI). So before slamming this book for including a good portion of the data sheet I'd find a referral to a better book more constructive. Thus far, I found this book worth my time.In addition to this book, I would highly recommend the application not on the Atmel site describing C and assembly interfacing. Yahoo or search the Atmel site for "Mixing Assembly and C with AVRGCC"

Well, I have got this text few months ago and I was reading through it in parallel with the datasheets and app notes provided by Atmel. Let's put aside the plenty of Assembly Examples given in this text, which I liked the most since I'm more comfortable programming low-level drivers, USART, SPI, and most device's peripherals in Assembly rather than in C, the rest of the book is a re-phrasing for what was given by Atmel on its website. Yes, "Repackaging" of datasheets as stated in a previous review is the perfect yet very fair description to what this text is all about!I have found the "C Language Programming" chapter very helpful to brush up on skills I have forgotten years ago and it was a very quick review of the most important concepts in embedded C. However, for the rest of the book, I found that learning from datasheets and app notes is much easier and straight-forward for

me.Anyway, if you're a beginner, or you're looking for a tutorial-like text for learning AVRs or embedded programming, this book is an overkill for you. If you have some experience in C and uC programming, and just looking for a pure technical stuff in a very abstract manner, then go to Atmel's website as you'll find what you want. Again, this book is not beginners-friendly!I had this impression about this book for so long now, but I just wanted to avoid being unfair in giving my opinion. Perhaps others would find it more helpful to them.Finally, I regret buying this book and this is the last book I will buy for HAN-Way Huang.

Enjoyed the fact that the example code was done in both assembly language and "C". It was a good introduction to Atmel microprocessors.

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