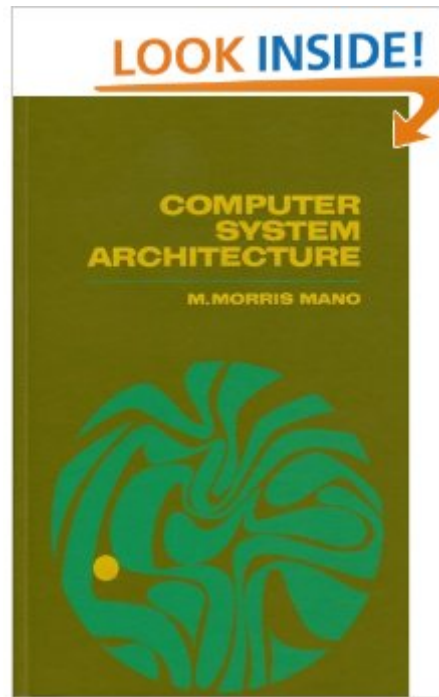


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# Computer System Architecture



## Synopsis

Dealing with computer architecture as well as computer organization and design, this fully updated book provides the basic knowledge necessary to understand the hardware operation of digital computers. Written to aid electrical engineers, computer engineers, and computer scientists, the volume includes:

**KEY FEATURES:** the computer architecture, organization, and design associated with computer hardware • the various digital components used in the organization and design of digital computers • detailed steps that a designer must go through in order to design an elementary basic computer • the organization and architecture of the central processing unit • the organization and architecture of input-output and memory • the concept of multiprocessing • two new chapters on pipeline and vector processing • two sections devoted completely to the reduced instruction set computer (RISC) • and sample worked-out problems to clarify topics.

--This text refers to the Paperback edition.

## Book Information

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Average Customer Review: 3.1 out of 5 stars • See all reviews (32 customer reviews)

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## Customer Reviews

I refer to the latest edition of this text by Mano and Kime. I tried to teach Comp. Architecture to a senior level BS class (in CS) from this book. The problem is that this book attempts to do too much and it wanders all over the subject area, leaving the students lost since they just cannot grasp the "big picture". This book gets progressively worse with every new edition! I had to extensively edit the contents to prepare lecture notes which could be comprehended. Halfway through the semester, when I came to the part on "microprogrammed control", I gave up and switched to Tanenbaum

(Structured Comp Organization) instead. I would appreciate it if anyone could tell me about a better book on this subject. All the ones that I have looked at seem to be terrible in one way or another.

Like almost all other reviewers of this book I must say this is an awful book to learn from. If you are taking a class from a teacher who is teaching from this book that will tell you a lot about the professor. Being that this book is from the early 90's, it is filled with very generic information that you're not sure is even still used in today's technology. The book has one generic(if any) example throughout the text pertaining to the homework questions at the end of the chapter. Everyday in class I was told my homework was wrong for following the example in the book because it is only a "suggestion" of how one would design the system. This is fine if the book is intriguing and leads you in the right direction, however this book does the opposite. It should be out of print and not used for classes taught in the 21st century.

The book isn't really all that bad, the problem is that it can be confusing to some readers. Instead of giving a list of problems, I am going to go into some detail about one specific thing wrong with the book, which could be a BIG problem for some readers. It is this:It seems like once or twice every couple paragraphs, Mano will give a one-sentence explanation or description of something; and then a sentence or two later in the same paragraph, he will attempt to make the same point again but by rewording and rearranging the original sentence. I found this so incredibly distracting that I could not finish the book. I think Mano is doing this, i.e. repeating himself, to embed a concept into the student's mind. Not a bad idea, but it is poorly implemented by Mano...what was so distracting about this, is that even if the reader feels he understands the concept the first time it is presented, when he then reads the reworded version, the tendency is to say "hey, wait a minute, is this the same thing he said before, or do the two statements conflict? or is it new information? Or did I not understand the first time??" So then I, at least, would go back and reread the first statement, then again compare it to the second, until I was able to answer these questions for myself. So it really slowed down my reading. I don't know, maybe it's just the way I read.I should mention that I was mainly trying to learn from the book by self-study, i.e. no professor, although I did take a microprocessors course about 15 years ago.Well, I guess I was verbose :-> but I wanted to inform so that anyone who thinks that they also will be distracted by this, buy a different book (like Rafiquzzaman)

I have three of M. Mano's books and this one is the one I've liked the most. I found the author's

exposition of the material good on average. I'm using this book for self-study. The book provides a nice overview of computer architecture by focusing on the basic concepts in manner that is not dependent on a particular real-life architecture. I must say however that I gotten up to chapter 11 and have become totally unmotivated to finish the book (only two chapters left). I've gone through most of the interesting problems of each chapter but have no clue to the 'correctness' of some of them since the book doesn't come with solutions. One thing that I really dislike about a book is the lack of an errata sheet. All of Mano's books I own lack an errata sheet. I've noticed some errors in the book although nothing major. Recommendation: As far as I know there are no really good books in the area of computer architecture. If you're looking for a simple introductory book on computer architecture, I would recommend this book. Avoid this book if you're looking for a more technical treatment on the subject.

Explains everything in a convoluted way. You'll learn very little from this book. While doing a problem in class, my professor told me outright that the book WOULD NOT HELP. So I'm wondering why the hell did he demand that we buy it?! I hate this book. It's useless. There are better ways to learn about computer architecture.

This book is not very hard to follow if you dive down into it. Everything presented is presented in an easy to understand, clear way. The exercises and hypothetical computer architecture gets a little annoying, why learn a language that doesn't exist when there are hundreds out there that could actually be used for something other than a course in hardware? The problems are several. First of all, the author leaves many many avenues of obvious questions unexplored. This is a nice introduction to hardware, but it really doesn't get into much detail on some of the more complex areas such as ALU design. In keeping with his "skimming the surface" paradigm, the exercises at the end of the chapter are trivial to say the least. They will not challenge you if you were even remotely attentive while reading. The book isn't the worst out there, but I'm sure there are better.

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