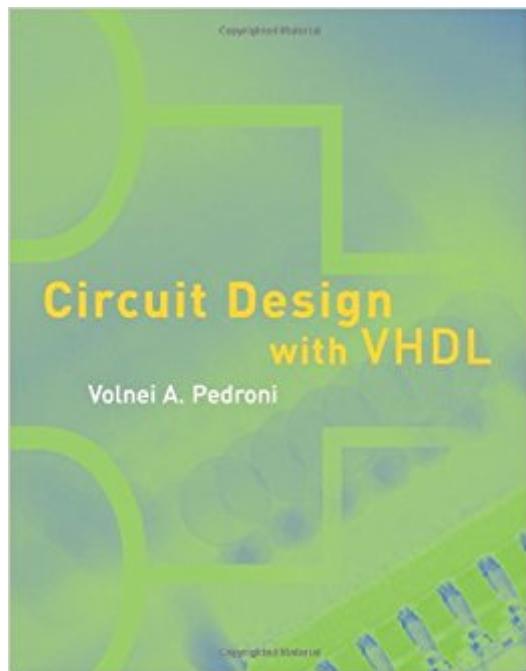The book was found

Circuit Design With VHDL

Synopsis

This textbook teaches VHDL using system examples combined with programmable logic and supported by laboratory exercises. While other textbooks concentrate only on language features, Circuit Design with VHDL offers a fully integrated presentation of VHDL and design concepts by including a large number of complete design examples, illustrative circuit diagrams, a review of fundamental design concepts, fully explained solutions, and simulation results. The text presents the information concisely yet completely, discussing in detail all indispensable features of the VHDL synthesis. The book is organized in a clear progression, with the first part covering the circuit level, treating foundations of VHDL and fundamental coding, and the second part covering the system level (units that might be located in a library for code sharing, reuse, and partitioning), expanding upon the earlier chapters to discuss system coding.   Part I, "Circuit Design," examines in detail the background and coding techniques of VHDL, including code structure, data types, operators and attributes, concurrent and sequential statements and code, objects (signals, variables, and constants), design of finite state machines, and examples of additional circuit designs. Part II, "System Design," builds on the material already presented, adding elements intended mainly for library allocation; it examines packages and components, functions and procedures, and additional examples of system design. Appendixes on programmable logic devices (PLDs/FPGAs) and synthesis tools follow Part II. The book's highly original approach of teaching through extensive system examples as well as its unique integration of VHDL and design make it suitable both for use by students in computer science and electrical engineering.

Book Information

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Customer Reviews

Volnei A. Pedroni received his PhD in Electrical Engineering from the California Institute of Technology. He is Professor of Electronics Engineering at Brazil's Federal University of Technology.

Just started getting into VHDL/Verilog on CPLD like the Xilinx XC9536XL and this book's straightforward and easy to understand VHDL examples from the start made "getting" the concepts very easy. Coming from an Atmel AVR and Arduino IDE programming background, this book made it very easy to bridge the difference in mindset required for getting into programmable logic.I originally borrowed the book from a local library and after I found how useful it was, I decided to buy a used copy. Great introduction to VHDL and I suspect I will be running through the examples in the book and playing off of them for a while.

This is my favorite reference book when coding VHDL. It covers most of the bases and is to the point without a lot of extra material. This book barely touches the topic of Test Benches. If you have the basics down and need a reminder or want to try a new construct this is a excellent book.If you are just starting out you will find this book to be somewhat cryptic in that many of the examples are "out of context" snippets. You would do better with the 2nd addition which has complete examples, or Pong Chu's book which also has complete examples.

Pedroni's book is an inexpensive and great introduction to VHDL. However, you should know what you're buying.Here's what the book is:1. an excellent overview of all the major features in VHDL, independent of platform2. a series of good examples that illustrate: a. how to use an HDL to describe various logic circuits, including FIR/IIR filters and division circuits b. good code styleHere's what the book is NOT:1. an introduction to logic and digital circuits2. an introduction to RTL design3. an advanced discussion of VHDL synthesis or modellingTo make full use of this book you should have synthesis/modelling software (basic ISE or Quartus is fine) and an FPGA development board.You also have to have a reasonable understanding of logic circuits before you read the book, or VHDL will not make much sense to you.I'd highly recommend it if you're looking for a good introductory or reference book. However, if you need an intro to logic circuits or a book covering advanced design techniques, look elsewhere.

This concise and interesting book provides a detailed approach to FPGA-based digital circuit and system design using VHDL. It presents the basic concepts in organized and progressive phases. The textbook covers the constructs of the VHDL programming language with a large number of implementable examples. A multitude of complete illustrative examples are also included.The second part of the book discusses other important features of the design aspects using VHDL such as components, functions, and procedures. The book is intended for computer and electrical engineering students and practicing engineers. See alsoDigital Electronics and Design with VHDL

This book does a great job of teaching you how the VHDL language works, and how to use it.It has many explained examples, and problems you can try.I agree with others that he does jump around a bit, and you will have to look back or ahead.It could also use a VHDL Quick Reference and a glossary.If the index clear should where a key word was first defined, this would work too. It does have an index, but it is not a great index.I used Xilinx ISE Webpack 9i - which is a free down load - the test and simulate the examples.

I purchased this book when I took my first FPGA design lab in my junior year. I went from zero to designing complex VHDL systems in very little time. Pedroni teaches synthesizable VHDL, the kind actually used by electronic design automation tools to make real circuits, and he manages to introduce the language, application, and software tool at the same time. The book is probably too basic for a practitioner wishing to brush up on the language or synthesis, but for the beginner it rocks.

This book is laid out by language concept (operators, architecture, etc), but features many fully coded examples to get you started - such as RAM, ROM, adders, counters, shifters, etc. Whether you're beginning VHDL, or haven't coded in a while (which is my case), this book is a great instruction or refresher. Additionally, there are mini tutorials in the back for Altera tools (Quartus II and MaxPlus) as well as the Xilinx ISE & modelsim.

Very concise introduction to VHDL...just what I needed

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