

Digital Systems Design with FPGAs and CPLDs

By Ian Grout

Download now

Read Online ➔

Digital Systems Design with FPGAs and CPLDs By Ian Grout

Digital Systems Design with FPGAs and CPLDs explains how to design and develop digital electronic systems using programmable logic devices (PLDs). Totally practical in nature, the book features numerous (quantify when known) case study designs using a variety of Field Programmable Gate Array (FPGA) and Complex Programmable Logic Devices (CPLD), for a range of applications from control and instrumentation to semiconductor automatic test equipment.

Key features include:

- * Case studies that provide a walk through of the design process, highlighting the trade-offs involved.
- * Discussion of real world issues such as choice of device, pin-out, power supply, power supply decoupling, signal integrity- for embedding FPGAs within a PCB based design.

With this book engineers will be able to:

- * Use PLD technology to develop digital and mixed signal electronic systems
- * Develop PLD based designs using both schematic capture and VHDL synthesis techniques
- * Interface a PLD to digital and mixed-signal systems
- * Undertake complete design exercises from design concept through to the build and test of PLD based electronic hardware

This book will be ideal for electronic and computer engineering students taking a practical or Lab based course on digital systems development using PLDs and for engineers in industry looking for concrete advice on developing a digital system using a FPGA or CPLD as its core.

- Case studies that provide a walk through of the design process, highlighting the trade-offs involved.
- Discussion of real world issues such as choice of device, pin-out, power supply, power supply decoupling, signal integrity- for embedding FPGAs within a PCB based design.

 [**Download** Digital Systems Design with FPGAs and CPLDs ...pdf](#)

 [**Read Online** Digital Systems Design with FPGAs and CPLDs ...pdf](#)

Digital Systems Design with FPGAs and CPLDs

By Ian Grout

Digital Systems Design with FPGAs and CPLDs By Ian Grout

Digital Systems Design with FPGAs and CPLDs explains how to design and develop digital electronic systems using programmable logic devices (PLDs). Totally practical in nature, the book features numerous (quantify when known) case study designs using a variety of Field Programmable Gate Array (FPGA) and Complex Programmable Logic Devices (CPLD), for a range of applications from control and instrumentation to semiconductor automatic test equipment.

Key features include:

- * Case studies that provide a walk through of the design process, highlighting the trade-offs involved.
- * Discussion of real world issues such as choice of device, pin-out, power supply, power supply decoupling, signal integrity- for embedding FPGAs within a PCB based design.

With this book engineers will be able to:

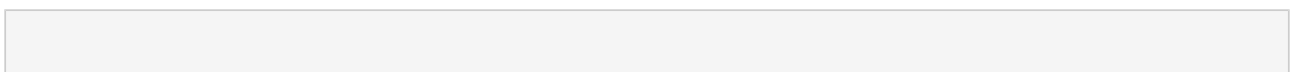
- * Use PLD technology to develop digital and mixed signal electronic systems
- * Develop PLD based designs using both schematic capture and VHDL synthesis techniques
- * Interface a PLD to digital and mixed-signal systems
- * Undertake complete design exercises from design concept through to the build and test of PLD based electronic hardware

This book will be ideal for electronic and computer engineering students taking a practical or Lab based course on digital systems development using PLDs and for engineers in industry looking for concrete advice on developing a digital system using a FPGA or CPLD as its core.

- Case studies that provide a walk through of the design process, highlighting the trade-offs involved.
- Discussion of real world issues such as choice of device, pin-out, power supply, power supply decoupling, signal integrity- for embedding FPGAs within a PCB based design.

Digital Systems Design with FPGAs and CPLDs By Ian Grout Bibliography

- Sales Rank: #3948932 in Books
- Published on: 2008-04-09
- Original language: English
- Number of items: 1
- Dimensions: 9.50" h x 7.50" w x 1.50" l, 3.23 pounds
- Binding: Hardcover
- 784 pages



 [**Download** Digital Systems Design with FPGAs and CPLDs ...pdf](#)

 [**Read Online** Digital Systems Design with FPGAs and CPLDs ...pdf](#)

Editorial Review

From the Back Cover

If you are just starting in the field of digital system design with programmable logic, this book is all you will need!

Programmable logic has made it possible to create digital systems that are malleable allowing for updates, changes, and enhancements on the same chip making digital systems cost effective and quickly available. This book focuses on two types of this logic: field programmable gate arrays (FPGAs) and complex programmable logic devices (CPLDs). Critical insight is provided via detailed discussions, worked examples, and case studies of circuit design principles and common design decisions. VHDL (VHSIC Hardware Description Language) is introduced and used throughout the book as it is one of the primary languages used in programmable logic.

Design Fundamentals and Concepts Include

- The Basics: Flow Charts, Block Diagrams, Formal Verification, Design Specifications
- Printed Circuit Boards (PCB): Design, Testing, and Environmental Issues
- Software and Hardware Programming Languages
- Digital Logic Design Principles with VHDL
- Digital Signal Processing
- Interfacing Analog and Digital: DAC and ADC
- Systems Level Design Including 2 Cases Studies

About the Author

Ian A. Grout received his B.Eng in Electronic Engineering (1991) and PhD (1994) from Lancaster University (UK). He has worked in both industry and the academic field in microelectronic circuit and electronics design and test. He currently works in the areas of mixed-signal integrated circuit (IC) design for testability (DfT) and digital electronic circuit design using programmable logic. The author is currently a lecturer within the Department of Electronic and Computer Engineering at the University of Limerick (Ireland). He currently teaches programmable logic and integrated circuit design and test principles within the university and has worked in Limerick since 1998. Prior to this he was a lecturer in the Engineering Department at Lancaster University (UK).

Users Review

From reader reviews:

Louis Watson:

The experience that you get from Digital Systems Design with FPGAs and CPLDs is a more deep you excavating the information that hide inside words the more you get interested in reading it. It does not mean that this book is hard to be aware of but Digital Systems Design with FPGAs and CPLDs giving you excitement feeling of reading. The writer conveys their point in specific way that can be understood by anyone who read the item because the author of this book is well-known enough. This particular book also makes your own vocabulary increase well. It is therefore easy to understand then can go along with you, both in printed or e-book style are available. We propose you for having that Digital Systems Design with FPGAs and CPLDs instantly.

Kathleen Allen:

This book untitled Digital Systems Design with FPGAs and CPLDs to be one of several books that will best seller in this year, that is because when you read this publication you can get a lot of benefit onto it. You will easily to buy that book in the book retailer or you can order it through online. The publisher on this book sells the e-book too. It makes you more readily to read this book, because you can read this book in your Smartphone. So there is no reason for you to past this e-book from your list.

Cassandra Tucker:

The book untitled Digital Systems Design with FPGAs and CPLDs contain a lot of information on it. The writer explains the girl idea with easy way. The language is very simple to implement all the people, so do certainly not worry, you can easy to read it. The book was published by famous author. The author will take you in the new age of literary works. You can read this book because you can please read on your smart phone, or model, so you can read the book throughout anywhere and anytime. If you want to buy the e-book, you can available their official web-site and also order it. Have a nice learn.

Julio Canfield:

A lot of publication has printed but it differs. You can get it by internet on social media. You can choose the most effective book for you, science, comedy, novel, or whatever by searching from it. It is identified as of book Digital Systems Design with FPGAs and CPLDs. You'll be able to your knowledge by it. Without making the printed book, it could possibly add your knowledge and make an individual happier to read. It is most critical that, you must aware about reserve. It can bring you from one location to other place.

Download and Read Online Digital Systems Design with FPGAs and CPLDs By Ian Grout #IMQ7C35AYZL

Read Digital Systems Design with FPGAs and CPLDs By Ian Grout for online ebook

Digital Systems Design with FPGAs and CPLDs By Ian Grout Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Digital Systems Design with FPGAs and CPLDs By Ian Grout books to read online.

Online Digital Systems Design with FPGAs and CPLDs By Ian Grout ebook PDF download

Digital Systems Design with FPGAs and CPLDs By Ian Grout Doc

Digital Systems Design with FPGAs and CPLDs By Ian Grout Mobipocket

Digital Systems Design with FPGAs and CPLDs By Ian Grout EPub