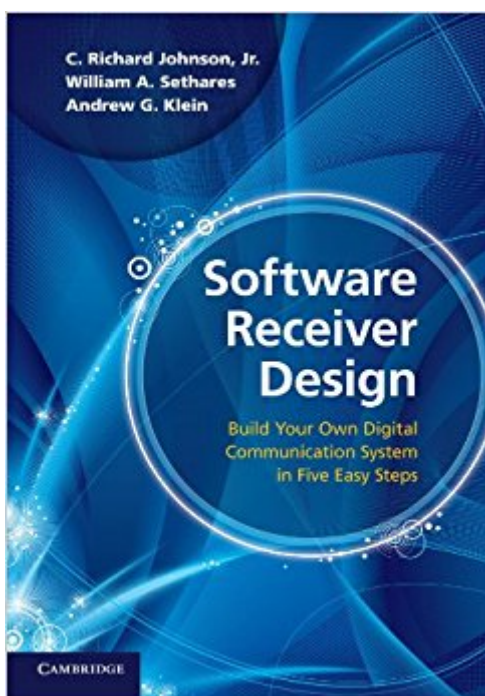The book was found

Software Receiver Design: Build Your Own Digital Communication System In Five Easy Steps

Synopsis

Have you ever wanted to know how modern digital communications systems work? Find out with this step-by-step guide to building a complete digital radio that includes every element of a typical, real-world communication system. Chapter by chapter, you will create a MATLAB realization of the various pieces of the system, exploring the key ideas along the way, as well as analyzing and assessing the performance of each component. Then, in the final chapters, you will discover how all the parts fit together and interact as you build the complete receiver. In addition to coverage of crucial issues, such as timing, carrier recovery and equalization, the text contains over 400 practical exercises, providing invaluable preparation for industry, where wireless communications and software radio are becoming increasingly important. A variety of extra resources are also provided online, including lecture slides and a solutions manual for instructors.

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Customer Reviews

With this hands-on, step-by-step guide, students use MATLAB to construct the various pieces of a communication system and learn to integrate all the elements into a fully functional software receiver. Coverage of crucial issues, such as timing, carrier recovery and equalization, is included, together with over 400 practical exercises.

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of Telecommunication Breakdown (2004, with William A. Sethares) and Theory and Design of Adaptive Filters (2001).William A. Sethares is a Professor in the Department of Electrical and Computer Engineering at the University of Wisconsin, Madison. He is the author of Rhythm and Transforms (2007) and Tuning, Timbre, Spectrum, Scale (2005).Andrew G. Klein is an Assistant Professor at Worcester Polytechnic Institute. In addition to working in academia, he has also held industry positions at several wireless start-up companies.

I like this book because it's very practical. I have read books with lots of theory and more or less understand the fundamentals but examples in this book helped to bridge the gap between theory and application. As a result I have gained more intuition into the underlying mathematical principles and am understanding the receiver operations above and beyond standard text book equations. Seeing how a signal is generated and goes through a ideal channel and later with added impairments helped me with the overall picture. Breaking things into pieces with small amount of Matlab code facilitated grasping of a particular aspect of receiver design. I do think though one must be somewhat grounded in basic DSP/COMM theory such as sampling, up-conversion, down-conversion, and filtering to get a better appreciation of this book. In my opinion, this is NOT a standalone book to learn DSP or COMM. But if you use it right, there's a lot to practical insights to gain. The book is nicely structured and I commend the authors for a very well-written book. I considers this a gem,

This is by far the best book on the subject that I have found. I am only a short way through (starting chapter 4) but it is obvious the authors not only fully understand the material, but also know how to organize it and communicate it to the reader. Theory is explained and supported by MatLab examples. A nice side benefit is all of the MatLab examples will also execute on Octave, the free Linux version of MatLab.

Awesome book

Ok

I received this item within the expected time frame in excellent condition and meets all of my expectations.

I like this book, very much. When I started to try to learn something about software (digital) radios the first two digital communications books I looked at were so mathematically intense, with what I thought was insufficient explanation, that I made little progress. Then I found this book. It's gentle and clear in its approach. This book contains plenty of mathematics, but the authors do not overwhelm the reader with page after page of equations (as is unfortunately common in so many engineering books). And the provided Matlab code is simply terrific in helping me learn digital radio. I also appreciated that the code listings were given, and explained, in the text of the book. That made for easy reading and improved my knowledge of Matlab. The authors introduce various digital radio topics, explain the topics rather well (in my opinion), and then provide the Matlab code to demonstrate those topics. Following that, the authors then provide suggestions to the reader on modifying the Matlab code so the reader can learn the effects of changing signal and processing parameter values. That's a VERY effective way to start learning software radio! While the book assumes you know something about digital signal processing (DSP), the authors do sufficiently explain the DSP topics as necessary. So if you're new to digital radio, and you have Matlab software available to you, I highly recommend this book because it is so down-to-earth and practical. Then, if need be, you'll be much better prepared to move on to the more complicated and mathematically-intense digital communications books.

I'm a retired engineer with an interest in software defined radio. I found this book to be an outstanding introduction to the subject, and well suited to independent study. Using Octave (a mathematics software system freely available on the internet) I have been able to work through all of the mathematical projects in the book -- and doing this has contributed greatly to my understanding of not just SDR, but digital signal processing in general.I would recommend this very accessible book highly to people interested in both SDR and DSP.

I felt compelled to write a review for this book! I have been in the wireless field for almost 20 years. I wish this book was available when I was studying in school since it would have helped immensely in my communications and DSP related courses.It explains all the important receiver design concepts in a simple and logical way and the diagrams/matlab code supplement the text. The maths is not overwhelming especially for this subject matter.This book would also be useful for wireless engineers in industry to brush up and fill gaps in their knowledge. The only reason I did not give this 5 stars is that it does not cover any wireless standard such as 2G/3G/4G. It would have been very useful to have a chapter or two showing how these principals are applied in the real world systems.

Also, it would have been beneficial to have some information on non-linear modulation schemes, OFDM, MIMO and Wideband CDMA with the last three items being hot topics right now.So in conclusion, the book would be very useful for advanced undergraduate students and for wireless engineers. It is supposed to be a first course but hopefully there can be a second edition or another book from the same authors that covers the more advanced topics mentioned earlier.Happy reading!

Software Receiver Design: Build your Own Digital Communication System in Five Easy Steps Rain Gardens For the Pacific Northwest: Design and Build Your Own (Design & Build Your Own) Software Engineering: The Current Practice (Chapman & Hall/CRC Innovations in Software Engineering and Software Development Series) Build Your Own AR-15 Rifle: In Less Than 3 Hours You Too, Can Build Your Own Fully Customized AR-15 Rifle From Scratch...Even If You Have Never Touched A Gun In Your Life! Radio Receiver Projects You Can Build How to Plan, Contract, and Build Your Own Home, Fifth Edition: Green Edition (How to Plan, Contract & Build Your Own Home) Build Your Own Telescope: Complete Plans for Five Telescopes You Can Build with Simple Hand Tools Don't Buy Software For Your Small Business Until You Read This Book: A guide to choosing the right software for your SME & achieving a rapid return on your investment Build-You-Own Toolbox 1-2-3 (Home Depot Build-Your-Own 1-2-3) Radio Receiver Design The DIY Sprinkler Book: Install Your Own Automatic Sprinkler System. Save Thousands and Get the Satisfaction of Knowing You Did it Yourself and Did it ... Own Automatic Sprinkler System, Lawn Care) Easy European Cookbook Box Set: Easy English Cookbook, Easy Greek Cookbook, Easy French Cookbook, Easy Irish Cookbook, Easy German Cookbook, Easy Portuguese ... Portuguese Recipes, Irish Recipes 1) Event Planning: Plan Events Like a Professional, Impress Your Clients and be Your Own Boss in 12 Simple Steps (event planning, experience, organise, manage, ... be your own boss, work from home Book 4) Software Agreements Line by Line, 2nd ed.: A Detailed Look at Software Agreements and How to Draft Them to Meet Your Needs Build a Book to Build a Business: Discover the Power of Authority Marketing in 5 Easy Steps Graphic Design Success: Over 100 Tips for Beginners in Graphic Design: Graphic Design Basics for Beginners, Save Time and Jump Start Your Success (graphic ... graphic design beginner, design skills) A Field Guide to Fabric Design: Design, Print & Sell Your Own Fabric; Traditional & Digital Techniques; For Quilting, Home Dec & Apparel Speed Receiver (Team Jake Maddox Sports Stories) Radio Receiver Technology: Principles, Architectures and Applications Modern Receiver Front-Ends: Systems, Circuits, and Integration