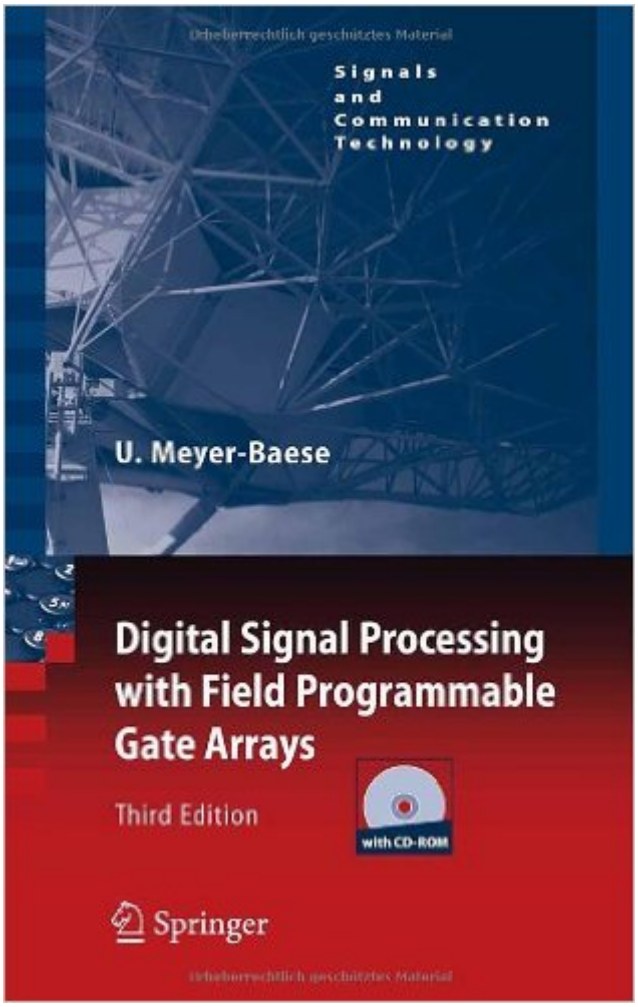
Digital Signal Processing With Field Programmable Gate Arrays (Signals And Communication Technology)



Synopsis

A practical and fascinating book on a topic at the forefront of communications technology. Field-Programmable Gate Arrays (FPGAs) are on the verge of revolutionizing digital signal processing. Novel FPGA families are replacing ASICs and PDSPs for front-end digital signal processing algorithms at an accelerating rate. The efficient implementation of these algorithms is the main goal of this book. It starts with an overview of today’s FPGA technology, devices, and tools for designing state-of-the-art DSP systems. Each of the bookâ ™s chapter contains exercises. The VERILOG source code and a glossary are given in the appendices.

Book Information

Series: Signals and Communication Technology

Hardcover: 744 pages

Publisher: Springer; 3rd edition (November 14, 2007)

Language: English

ISBN-10: 3540726128

ISBN-13: 978-3540726128

Product Dimensions: 9.2 x 1.6 x 6.1 inches

Shipping Weight: 2.9 pounds

Average Customer Review: 3.7 out of 5 starsÂ Â See all reviewsÂ (7 customer reviews)

Best Sellers Rank: #1,995,921 in Books (See Top 100 in Books) #73 inÂ Books > Computers & Technology > Hardware & DIY > Microprocessors & System Design > DSPs #116 inÂ Books > Computers & Technology > Networking & Cloud Computing > Data in the Enterprise > Electronic Data Interchange (EDI) #317 inÂ Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Logic

Customer Reviews

From among the many books on DSP I own, I’ve chosen the 3rd. ed. of Dr. Meyer-Baese "DSP with FPGA", more precisely ch. 8 on "Adaptive Filters", to be the base of a module on adaptive filtering belonging to a DSP course that I teach at a University. The reason behind the choice was that, at first sight, the chapter seemed to have a good balance of conciseness and range of adaptive techniques presented.This means I read carefully ch. 8 and implemented in Scilab some of the adaptive algorithms. As a consequence, I also examined carefully the equations, mainly those on the Widrow-Hoff LMS and the RLS techniques.What I found was several handful of mistakes. From the silly ones (the definition of variance in p. 481 is E{(x-av)^2} instead of E, as the average ’av’ is

not assumed as zero) to errors in vectors transposition in the differentiation of matrix-vector products (e.g. in the gradient definition, in the middle of page 483, there should be x[n] x^T[n] instead of x^T[n] x[n]) which, sometimes, by miracle appear correct in the next equations, and ending in the mess with the use of [n+1] or [n] indexes in many equations in the derivation of RLS algorithms in pages 518-521, the lack of exactness in the theoretical derivations converts what could be a very good presentation/tutorial chapter on the AF topic in, at times, a messy bunch of equations plagued with mistakes.The chapter on AF first appeared in the 2nd ed. of the book (2003). So there has been plenty of time to correct at least most of the mistakes for this 3rd ed. from 2007.I also tried to found an errata, even that of the 1st ed. of the book which is promised in the preface, but I didn't succeed. That was a severe disappointment.

Dmca