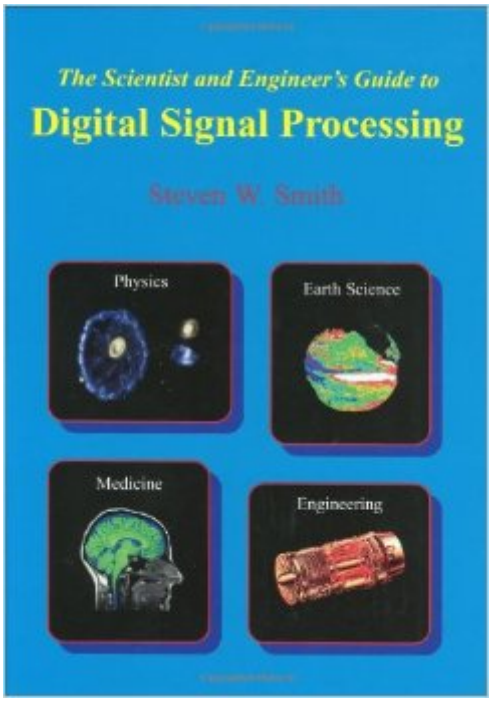
The Scientist & Engineer's Guide To Digital Signal Processing



Synopsis

Clear and concise explanations of practical DSP techniques. Written for scientists and engineers needing the power of DSP, but not the abstract theory and detailed mathematics.

Book Information

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Customer Reviews

No other DSP text even comes close. I cannot even begin to describe the worth of this volume in 1000 words, but I will do my best:1) The author explicitly reviewed important fundamental concepts such as convolution, system response, sampling theorems, etc. He did so with incredible clarity and mathematical precision, while maintaining readability. This is key, as it forms an excellent foundation for using the book as a "from-the-ground-up" DSP trainer.I (also) highly recommend this text to anyone NEEDING TO LEARN DSP UNDER DEADLINE! I have used this text to mentor undergraduates through capstone design courses involving DSP, with tremendous success.2) The author makes excellent usage of graphical examples to ensure a solid grasp of the concepts. He does so with equally clear descriptive text.3) The author presents UNDERSTANDABLE techniques and methodologies for solving real-world DSP problems. His presentation consistently relates the results and examples to the fundamentals, reinforcing the reader’s grasp as he or she progresses through the material.4) Worth mentioning twice: This DSP text is EASY to read!!!!!If only my entire engineering library were this good. (Note: I am in no way affiliated with the author or publisher.)(...)

It takes an expert to be able to explain a complicated subject, and Steve Smith is one of those rare experts.I had no previous experience with signal processing. Within a week of reading this book, I

was able to write FFTs, high pass, low pass, and windowed sinc filters in C.As a bonus, his clear description of convolution, complex numbers, Fourier transform, Laplace transform and Z transform made them all "click".The only other book I've read that has been able to explain a complicated subject with this level of clarity is Richard Feynman's Physics Lecture series.Thanks Steve!

Evarything that the other reviewers say is true. However, his newer book is an update with added material, improve typesetiing, and a CD with programs.Buy the new book, which has a slightly different title, "DSP for Engineers and Scientists..."Added note, of November, 2011: I have just edited my old review, changing the rating from one star to four stars. I did not mean to give it a bad review, eight years ago. I just had wanted to alert people of the newer edition of the book. I apologize for not making my message more clear. I think (as I always have) that the author has written the best book on the subject. -J.D.S.

I am a mechanical engineer, but lately I have been doing a lot of signal processing and data analysis using MatLab. This book was a great way to get back up to speed. Its clear and concise without geting too bogged down in theory - lots of directly applicable tips and info.Its also free for download on the author's website, [...] and from Analog Devices website in their training materials area, [...].

First, a disclaimer: I am not a practitioner of digital signal processing (DSP), so I am probably not the best person to review a textbook on this subject. The reason I'm writing this review is to give praise to the author's wonderful coverage of certain fundamental topics for the benefit of his readers.Too many authors make the mistake of assuming strong competence in certain subjects on the part of the reader. As a teacher, I know all too well how students (of any subject) bring a patchwork of understanding to their exploration of more advanced topics. Never, ever assume all your readers (or students) "know the basics" before launching into an explanation of any complex topic! Steven Smith is well aware of this in his writing, and has accordingly provided wonderful chapters explaining fundamental concepts to ensure his readers do have the necessary foundational framework to understand DSP.Case in point: chapter 30 on the Laplace Transform is by far the clearest explanation I have ever encountered. For anyone who has ever struggled to understand what Laplace Transforms are and how they work, this book is for you! His use of the "probing waveform" to illustrate how the kernel of a Laplace integral (e^-st) works is worth the price of the book all on its own. Wonderful stuff, this is!

I've really needed to know about DSP for a while, so I decided to dive in. The inter-webs said that this was the right book, and it sure is. Cleanly written, it has nicely filled in the math fuzzy patches from classes 40 years ago, and then proceeded into the good stuff. I am getting it strictly under self-study, and it is helping with an app I am building.I bought the book, but couldn't wait to start, so downloaded all of the on-line chapters and started working through them. When the book arrived, I found it wasn't an exact match: the author's web page has a few extra chapters near the end. But it is the same great stuff. I will continue through all this on the beach over the next week. It has been a while since I have been this excited about math.

I started reading this book online by chapters because I wanted to learn about Fourier Transforms. That reading exceeded my expectations on my understanding without getting deep into the weeds of mathematics. I was reading it online so often, I decided to go for this hard copy. I find new chapters in the hard copy such as digital image processing and the Z-transform that were not in the online version.The chapters are well organized and any engineer or serious experimenter or inventor will be able to select a specific topic and understand the concepts of Digital Signal Processing without a deep mathematics background. You will need a good foundation in high school Analytic Geometry and the Pythagorean Theorem. Basic calculus would help but you only need to understand logarithms and what the Sigma summation symbol means. With that basic understanding, you will be on your way to being a DSP expert.

Processing: Processing and Perception of Speech and Music Handbook of Neural Networks for Speech Processing (Artech House Signal Processing Library) Digital Signal Processing: A Practical Guide for Engineers and Scientists A Self-Study Guide for Digital Signal Processing Prentice hall literature (common core edition) (teachers edition grade 6) (Prentice Hall and Texas Instruments Digital Signal Processing Series) Schaums Outline of Digital Signal Processing, 2nd Edition (Schaum's Outlines) Think DSP: Digital Signal Processing in Python VLSI Digital Signal Processing Systems: Design and Implementation Digital Signal Processing and the Microcontroller