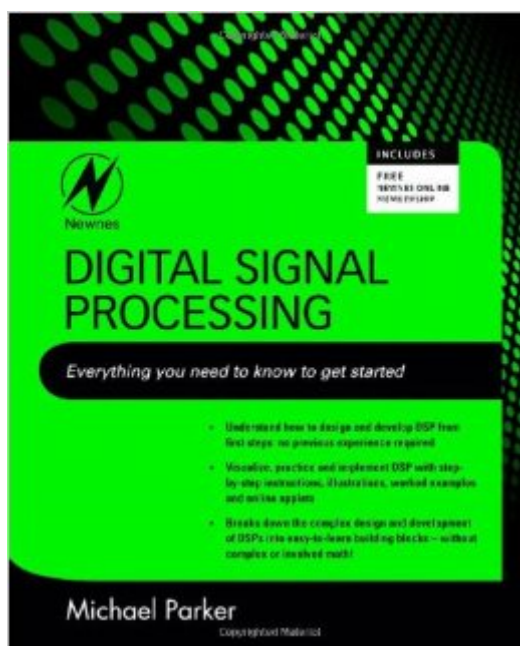# Digital Signal Processing 101: Everything You Need To Know To Get Started

Synopsis

Digital Signal Processing 101: Everything You Need to Know to Get Started provides a basic tutorial on digital signal processing (DSP). Beginning with discussions of numerical representation and complex numbers and exponentials, it goes on to explain difficult concepts such as sampling, aliasing, imaginary numbers, and frequency response. It does so using easy-to-understand examples and a minimum of mathematics. In addition, there is an overview of the DSP functions and implementation used in several DSP-intensive fields or applications, from error correction to CDMA mobile communication to airborne radar systems. This book is intended for those who have absolutely no previous experience with DSP, but are comfortable with high-school-level math skills. It is also for those who work in or provide components for industries that are made possible by DSP. Sample industries include wireless mobile phone and infrastructure equipment, broadcast and cable video, DSL modems, satellite communications, medical imaging, audio, radar, sonar, surveillance, and electrical motor control.Dismayed when presented with a mass of equations as an explanation of DSP? This is the book for you!Clear examples and a non-mathematical approach gets you up to speed with DSPIncludes an overview of the DSP functions and implementation used in typical DSP-intensive applications, including error correction, CDMA mobile communication, and radar systems

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Customer Reviews

I purchased this book to help get me to a level where I could implement understand FFT's at a

fundamental level and also help me to figure out a methodology to measure Doppler shift. In both respects the book was a definite asset.The author has made a conscientious effort to provide good examples of various issues. Unlike some math books I'm sure we've all experienced, he does not lead you down a logical path in a solution only to leave you with "...the rest should be obvious...".However (here comes the other shoe), DSP is a VAST and complicated subject. There is no way 260 pages can cover the subject enough to bring a novice such as myself up to the level of understanding most of it. I have been downloading/reading everything I could find on FFT's on the web. I found this book good to fill in the gaps in my ignorance on FFT's. I tried to read some of the other chapters as well for background info. I found that you have to have some background info/experience to understand some of the chapters. Chapter 5, for instance, is titled "Finite Infinite Response Filters". My background is hardware in general and I have done a little work with standard op-amp active filters. I read through the chapter twice and still have little idea what it's saying. The author seems to assume the reader has heard of FIR's before.All in all, I like the author's style. It's informal and seems to flow in a logical manner with a lot of well laid out examples as to what he's saying. I wish he (or someone) would write a book twice this size, and narrow the subject field somewhat. For me it was worth the money. If you want to get introduced to DSP this is a good place to start.

This is really two books in one. The first section deals with basic DSP concepts; and the 2nd section deals with applications.I think the author has only moderate success in explaining basic concepts. (I doubt that a true novice will understand basic DSP from reading this.) And he also omits importanat information such as convolution, which is really the key to understanding DSP. For understanding key concepts, I'd recommend Steven Smith's book instead.However, the second half does a fine job of explaining TDMA, CDMA, OFDM and Radar applications.

This was an easy read the finally showed the how all that Fourier analysis an time domain mathematics has a practical applications. When I left university there were no mobile phones so it was very interesting reading how the this technology developed from AMPS through to 4G/LTE.

This book is a great read for Managers of HW or SW design teams that are working on DSP designs. It provides an appreciation of DSP concepts, without getting bogged down in the mathematical details of DSP design.The book covers the theory that most EE graduates have covered in College with the added benefit of detailing the relevance of the theory to different

application spaces, ranging from Wireless communication to Radar to Video Processing.

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