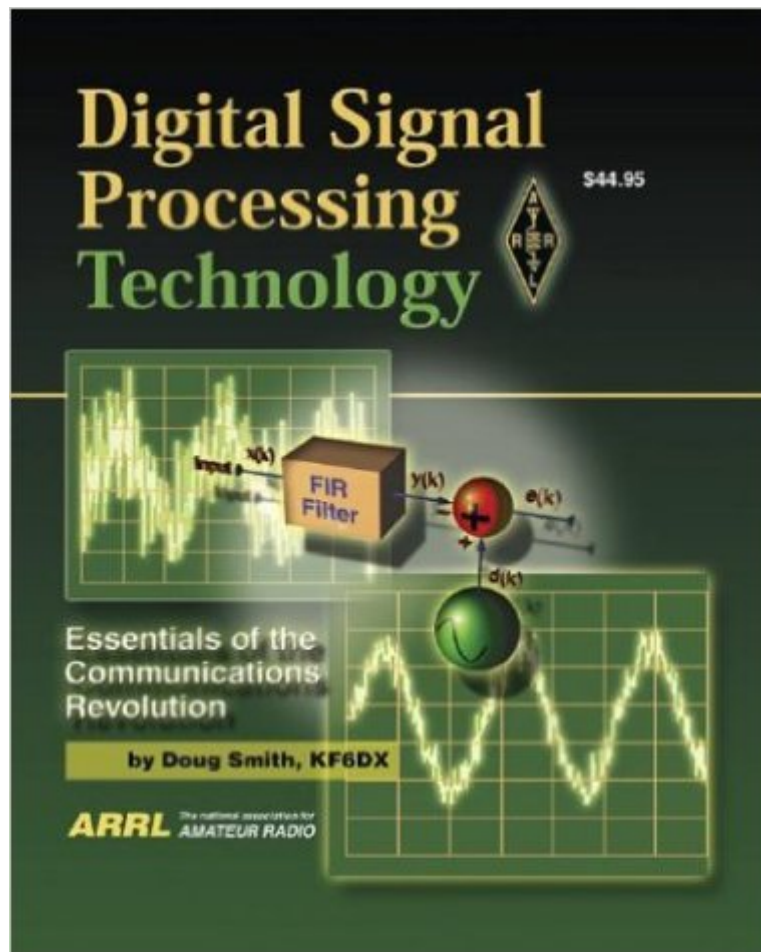# Digital Signal Processing Technology: Essentials Of The Communications Revolution

Synopsis

Readers] interested in advances in DSP and communications processing can learn from the excellent presentation of this needed material Dennis Silage, PhD, K3DS, Professor of Electrical and Computer Engineering, Temple University, Philadelphia, PA In Digital Signal Processing Technology: Essentials of the Communications Revolution, Doug Smith, KF6DX, explains digital signal processing (DSP) concepts in a comprehensive, readable treatise focusing on communications technology. The work is sufficiently analytical for those skilled in math to fully understand DSP and its applications, while simultaneously affording those less mathematically inclined an understandable picture of this exciting technology. Presented from an engineering perspective, the material achieves a balance between theory and practice. Smith gives a complete discussion of contemporary DSP technology, with special emphasis on applications in communications. The author: offers a brief history and an overview of its applications outside communications; explains how DSP gives us higher performance at lower cost; details digital sampling, including fundamental and harmonic sampling, aliasing and mechanisms at play in real data converters; makes clear how numbers are actually stored and manipulated; reviews the design of digital filters and their properties, including adaptive filters; examines the mathematics of modulation and demodulation, digital coding methods for speech and noise-reduction techniques, including Fourier transforms; explores the design of digital transceivers at the block-diagram, DSP hardware and software levels, including direct digital synthesis (DDS);highlights current DSP research that is likely to find its way into future radio systems, such as adaptive beamforming.The book begins with basic concepts and gradually brings in more complex ideas. It assumes no prior knowledge of DSP. Most of the more technical sections require only a working knowledge of algebra. Digital Signal Processing Technology: Essentials of the Communications Revolution is written for engineers, technicians and scientists who want to learn how DSP works and what it can do. It also serves as a reference for DSP experimenters.

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Customer Reviews

If your in it for some in depth DSP then this book skips around a bit. It also makes some (math) assumptions so don't be surprised if you left asking questions

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