



## Signal Processing First

By McClellan, James H.; Schafer, Ronald W.; Yoder, Mark A.

Prentice Hall, 2003. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: 1. Introduction. Mathematical Representation of Signals. Mathematical Representation of Systems. Thinking about Systems. 2. Sinusoids. Tuning Fork Experiment. Review of Sine and Cosine Functions. Sinusoidal Signals. Sampling and Plotting Sinusoids. Complex Exponentials and Phasors. Phasor Addition. Physics of the Tuning Fork. Time Signals: More Than Formulas. 3. Spectrum Representation. The Spectrum of a Sum of Sinusoids. Beat Notes. Periodic Waveforms. More Periodic Signals. Fourier Series Analysis and Synthesis. Time-Frequency Spectrum. Frequency Modulation: Chirp Signals. 4. Sampling and Aliasing. Sampling. Spectrum View of Sampling and Reconstruction. Strobe Demonstration. Discrete-to-Continuous Conversion. The Sampling Theorem. 5. FIR Filters. Discrete-Time Systems. The Running Average Filter. The General FIR Filter. Implementation of FIR Filters. Linear Time-Invariant (LTI) Systems. Convolution and LTI Systems. Cascaded LTI Systems. Example of FIR Filtering. 6. Frequency Response of FIR Filters. Sinusoidal Response of FIR Systems. Superposition and the Frequency Response. Steady State and Transient Response. Properties of the Frequency Response. Graphical Representation of the Frequency Response. Cascaded LTI Systems. Running-Average Filtering. Filtering Sampled Continuous-Time Signals. 7. z-Transforms. Definition of the z-Transform. The z-Transform and Linear Systems. Properties of the z-Transform. The z-Transform as...



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