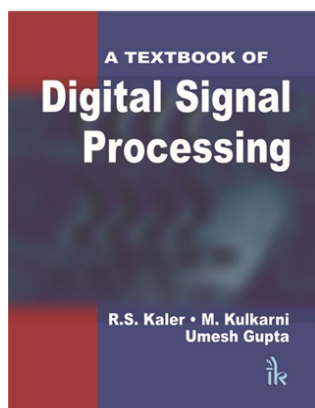


A Textbook of Digital Signal Processing, 1/e

R.S. Kaler, M. Kulkarni & Umesh Gupta



2009	744 pp	Paperback	ISBN: 9789380026152	Price: 575.00
------	--------	-----------	---------------------	---------------

About the Book

This book presents theoretical and application topics in digital signal processing (DSP). The topics here comprise clever DSP "tricks of the trade" not covered in traditional DSP textbooks. Here we go beyond the standard DSP fundamentals textbook and present new, but tried-n-true, clever implementations of digital filter design, spectrum analysis, signal generation, high-speed function approximation and various other DSP functions. With this book we wished to create a resource that is relevant to the needs of the working DSP engineer by helping bridge the theory-to-practice gap between introductory DSP textbooks and the esoteric, difficult to understand, academic journals. This book will be useful to experienced DSP engineers, due to its gentle tutorial style it will also be of considerable value to the DSP beginner. The mathematics used herein is simple algebra and the arithmetic of complex numbers, making this material accessible to a wide engineering and scientific audience. Fortunately, the chapter topics in this book are written in a standalone manner, so the subject matter can be read in any desired order.

Salient Features

Salient Features:

- ▶ Provides a balanced treatment of theoretical and practical aspects of DSP.
- ▶ Each chapter includes a lot of worked examples (more than 160 problems) and is illustrated with line diagrams.
- ▶ Gives proofs of the theorems and lists of useful formulae at appropriate places in the book.
- ▶ Appendices further elaborate and explain random signals, derivatives, definite and indefinite integrals, Fourier series, Chebyshev polynomials, Fourier transforms, and special symbols and notations.
- ▶ A detailed glossary is provided at the end of the book.

Table of Contents

- ▶ Introduction to Digital Signal Processing
- ▶ Review of Signals and Systems
- ▶ Fourier Series and Fourier Transform
- ▶ Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT)
- ▶ Z-Transform
- ▶ Digital Filter Structures and Design
- ▶ Finite Impulse Response Filter Designs
- ▶ IIR Filter Designs
- ▶ Adaptive Filters
- ▶ Multirate Digital Signal Processing
- ▶ Introduction and Basics of Two-Dimensional DSP
- ▶ Equalization Algorithms
- ▶ Digital Signal Processors
- ▶ DSP Applications
- ▶ Appendices
- ▶ Glossary
- ▶ Index.

About the Author

R.S. Kaler :- R.S. Kaler is Dean (Resource Planning and Generation) and Senior Professor at Department of Electronics and Communication Engineering, Thapar University (TU), Patiala. He obtained his Ph.D. from Sant Longowal Institute of Engineering and Technology, Longowal,

Punjab, India. He has over 19 years teaching/research/industry experience at PCL Mohali, ESPL Mohali and various prestigious institutes. He has over 150 research papers out of which more than 100 are in referred international/national journals and rest are in conferences. He has guided 4 Ph.D. students and many are enrolled under him.

M. Kulkarni :- M. Kulkarni

Department of Electronics and Communication Engineering

National Institute of Technology Karnataka (NITK)

Karnataka

Umesh Gupta :- Umesh Gupta Assistant Professor Dept. of Electronics and Communication Engineering, Bhagwan Parshuram College of Engineering Haryana, India.