Signals and Systems for Speech and Hearing: Second Edition

Stuart Rosen
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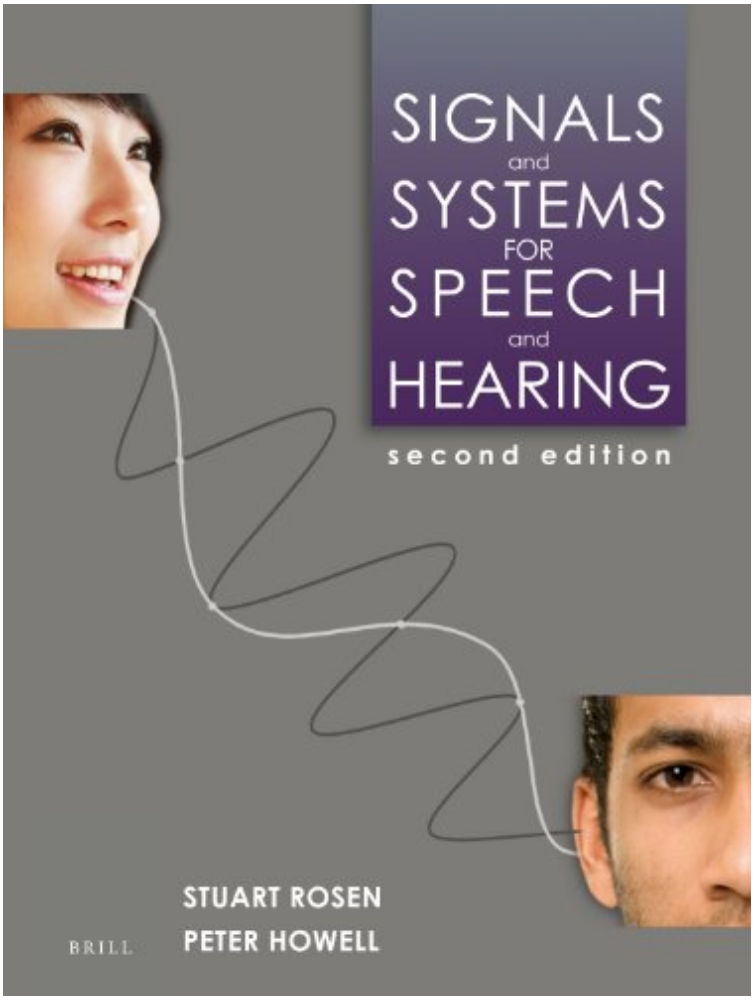

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Stuart Rosen : Signals and Systems for Speech and Hearing: Second Edition before purchasing it in order to gage whether or not it would be worth my time, and all praised Signals and Systems for Speech and Hearing: Second Edition:

4 of 4 people found the following review helpful. Supplementary background for acoustic phoneticsBy Karen ChungIf you read this book, it should be somewhere after the first but not much beyond the second or third work you tackle on acoustic phonetics. If you read it too early, you probably won't get what is meant by 'systems' in this context, or their relevance to acoustic phonetics and speech processing; if you read it too late, you will have already learned most of the material elsewhere.Topics covered in this volume include: properties of sinusoid waves; LTI (linear time-invariant) systems; amplitude responses; frequency, period, and phase (this book offers greater coverage of phase than most books of its kind); the dB scale; systems that filter sound signals, like the ear and the vocal tract; spectra and

spectrograms; and digitization of signals: quantization, sampling, aliasing, and reconversion to analogue.This book is not an introduction to acoustic phonetics, and it does not go into great detail on any one topic; it attempts, rather, to provide reader-friendly technical background on many of the central concepts and tools of acoustic phonetics to non-engineering types, and to help the reader feel more comfortable with them. There are exercises at the end of each chapter which I generally found more difficult than mastering the chapter content, but they are useful in determining how well you grasped the material.I wouldn't call this book an absolute must-read, but it's a leisurely way to review key concepts of acoustic phonetics and pick up a few new ones on the way.

Provides the reader with an introduction to the concepts of signals and systems analysis that play a role in the speech and hearing sciences. This book can be used at many levels, from the student who hasn't heard of a spectrum before, to the experienced worker who has only a fuzzy understanding of the notion of an impulse response.

I fully expect it to become a standard for both advanced undergraduate and graduate courses in Communication Sciences and Disorders. At the present time, it has no competition. --Irving Hochberg, CUNYFrom the Back CoverMany people working in the speech and hearing sciences come from non-technical backgrounds, making it difficult for them to master the essential technical underpinnings of the area. This book provides a thorough introduction to the concepts of signals and systems analysis that play a role in the speech and hearing sciences, using only minimal mathematics. Although not an introduction to speech and hearing per se, all of the examples discussed in the text are drawn from relevant areas-primarily theperipheral auditory system and the source-filter theory of speech production. The theoretical principles behind commom instrumentation used (such as tape recorders and sound spectrographs) is also discussed. An informal yet informative style is maintained throughout. Because much of the story is told through some 300 illustrations (all newly prepared specifically for this text), great care has been taken to make them clear and accurate. Exercises are provided at the end of each chapter.This book provides a comprehensive course for the student entirely new to the field, while also providing a reference for the experienced worker. It will be essential for students of audiology, speech therapy, phonetics and psychology.About the AuthorBy Stuart Rosen, and Peter Howell