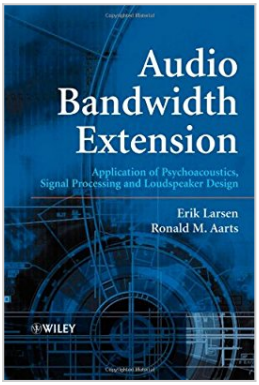

Audio Bandwidth Extension: Application of Psychoacoustics, Signal Processing and Loudspeaker Design

By Erik Larsen, Ronald M. Aarts

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Bandwidth extension (BWE) refers to various methods that increase either the perceived or real frequency spectrum (bandwidth) of audio signals. Such frequency extension is desirable if at some point the frequency content of the audio signal has been reduced, as can happen for example during recording, transmission or reproduction.

This volume, significant in dealing exclusively with BWE, discusses applications to music and speech and places particular emphasis on signal processing techniques.

- Presents an all-encompassing approach to BWE by covering theory, applications and algorithms
- Reviews important concepts in psychoacoustics, signal processing and loudspeaker theory
- Develops the theory and implementation of BWE applied to low-frequency sound reproduction, perceptually coded audio, speech and noise abatement
- Includes a BWE patent overview

Audio Bandwidth Extension pulls together recent developments in to a single volume and presents a coherent framework to the reader. Such an approach will have instant appeal to engineers, specialists, researchers and postgraduate students in the fields of audio, signal processing and speech.

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Review
"Readers active in this or related fields will find the work of significant value as a reference…also highly suitable for students who are beginning research in these areas." (J*ournal of the Audio Engineering Society*, September 2005)

"…full of information on bandwidth extension for audio signals that is difficult to find in other sources; it is recommended to anyone involved in audio or digital audio design." (*Computing Reviews.com*, May 12, 2005)

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