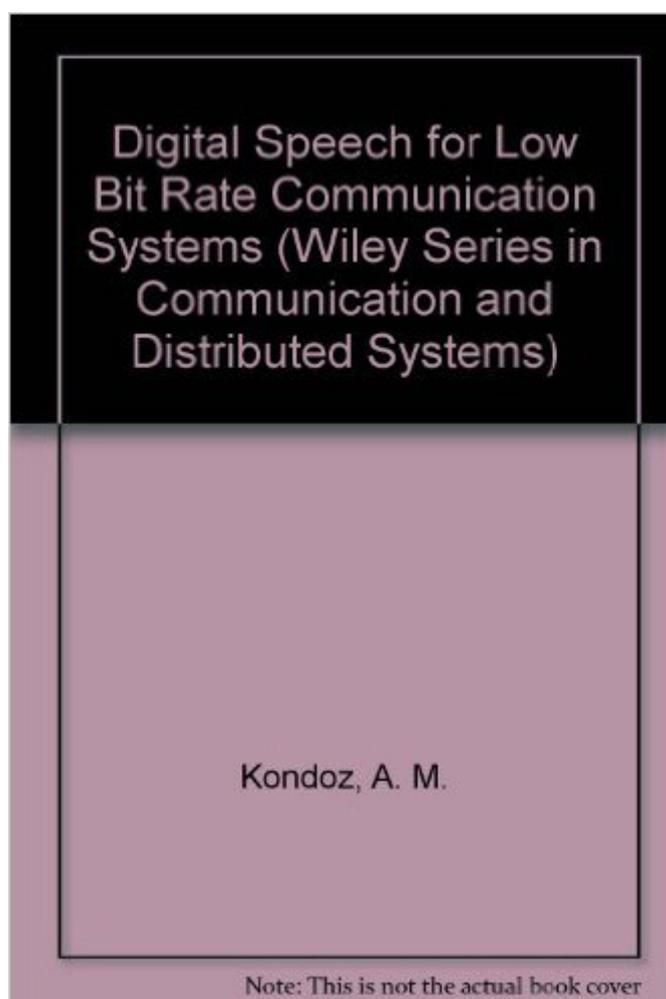# Digital Speech: Coding For Low Bit Rate Communication Systems (Wiley Series In Communication And Distributed Systems)

Digital Speech for Low Bit Rate Communication Systems (Wiley Series in Communication and Distributed Systems)

Kondoz, A. M.

Note: This is not the actual book cover

Synopsis

Digital Speech Coding for Low Bit Rate Communications Systems A. M. Kondoz University of Surrey UK Speech communication is still the dominant service in telecommunications networks. However, modern information requirements, such as multimedia, satellite and mobile communications, have created the need for a more robust and flexible alternative to the traditional analogue system. Digital speech transmission offers many advantages over its analogue counterpart, including consistent quality, versatility, security and successful integration into ISDN. This topical book provides an in-depth account of the latest developments in digital speech coders specifically designed for use in the evolving communications systems. Features include: * Fundamental material on sampling and quantisation. * Detailed coverage of speech signal analysis and modelling. * An examination of the key tools for speech coding. * Essential guidance on coding strategies and standards. * A review of a wide range of speech coding techniques, such as low delay speech coding and multi-band excitation speech coders. * Important information on error control in speech transmission. * A comprehensive assessment of system applications and real-time implementations, including unique coverage of the important code-excited linear prediction (CELP) method of speech coding. A complete examination of the theoretical design and practical applications of speech coders, this book will be invaluable for practising communications engineers, network designers and computer scientists. Advanced students in electrical, electronic and communications engineering, computer networking and digital signal processing will also find this text a helpful reference source.

Book Information

Series: Wiley Series in Communication and Distributed Systems (Book 11)

Paperback: 456 pages

Publisher: Wiley; 1 edition (February 1995)

Language: English

ISBN-10: 0471950645

ISBN-13: 978-0471950646

Product Dimensions: 6.8 x 1.2 x 9.9 inches

Shipping Weight: 2 pounds

Average Customer Review: 3.7 out of 5 starsÂ Â See all reviewsÂ (3 customer reviews)

Best Sellers Rank: #6,615,513 in Books (See Top 100 in Books)   #83 inÂ Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Coding Theory   #176

Customer Reviews

This book covers subjects lpc parameter quantization, coding standards, algorithms (MPLPC, RELP, VSELP briefly and CELP, LD-CELP and MBE in a very detailed manner). Error Control in speech transmission and system application aspects like DTX and echo cancellors are also reviewed. For the ones working on CELP and MBE based coders, this book does not only supply all the needed theory, but also practical issues even for real time applications on DSP processors.

This is the best modern times book about the subject. However part of this qualification comes from the fact it has practically no competitors. Detailed books on speech coding are very rare. Although it deals with almost every aspect of speech coding, it does so with at times awkward notation, introduction of unexplained equation terms, using of non introduced terminology and at times formulas with obvious errors. I believe a second corrected edition should be necessary. Also in such a hypotetic second edition, I hope many explanations should be made clearer, otherwise for a beginner in the field supplemental references would be needed, and the price of this one is already high.

Not very theoretically robust; many issues are touched on the surface without detail explainations. Some topics are clearly not pragmatic but yet the author make a big deal about them (like his own published method of LSF quantization). Organizations and structures are not my favorite as well. However, the book does provide references to the sources where the readers can refer to for the necessary information.

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