1. Record Nr.	UNINA9911019775903321
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Titolo	Spatial audio processing : MPEG surround and other applications / / Jeroen Breebaart, Christof Faller
Pubbl/distr/stampa	Chichester, West Sussex, England ; ; Hoboken, NJ, : John Wiley & Sons, c2007
ISBN	9786612138119 9781282138117 1282138111 9780470723494 0470723491 9780470723487 0470723483
Edizione	[1st edition]
Descrizione fisica	1 online resource (225 p.)
Altri autori (Persone)	FallerChristof
Disciplina	621.389/3
Soggetti	Computer sound processing Sound - Recording and reproducing - Digital techniques Multimedia systems - Programming
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [193]-206) and index.
Nota di contenuto	Spatial Audio Processing; Contents; Author Biographies; Foreword; Preface; 1 Introduction; 1.1 The human auditory system; 1.2 Spatial audio reproduction; 1.3 Spatial audio coding; 1.4 Book outline; 2 Background; 2.1 Introduction; 2.2 Spatial audio playback systems; 2.2.1 Stereo audio loudspeaker playback; 2.2.2 Headphone audio playback; 2.2.3 Multi-channel audio playback; 2.3 Audio coding; 2.3.1 Audio signal representation; 2.3.2 Lossless audio coding; 2.3.3 Perceptual audio coding; 2.3.4 Parametric audio coding; 2.3.5 Combining perceptual and parametric audio coding; 2.4 Matrix surround 2.5 Conclusions3 Spatial Hearing; 3.1 Introduction; 3.2 Physiology of the human hearing system; 3.3 Spatial hearing basics; 3.3.1 Spatial hearing with one sound source; 3.3.2 Ear entrance signal properties and lateralization; 3.3.3 Sound source localization; 3.3.4 Two sound sources: summing localization; 3.3.5 Superposition of signals each

evoking one auditory object; 3.4 Spatial hearing in rooms; 3.4.1 Source localization in the presence of reflections: the precedence effect; 3.4.2 Spatial impression; 3.5 Limitations of the human auditory system 3.5.1 Just-noticeable differences in interaural cues3.5.2 Spectro-temporal decomposition; 3.5.3 Localization accuracy of single sources; 3.5.4 Localization accuracy of concurrent sources; 3.5.5 Localization accuracy when reflections are present; 3.6 Source localization in complex listening situations; 3.6.1 Cue selection model; 3.6.2 Simulation examples; 3.7 Conclusions; 4 Spatial Audio Coding; 4.1 Introduction; 4.2 Related techniques; 4.2.1 Pseudostereophonic processes; 4.2.2 Intensity stereo coding; 4.3 Binaural Cue Coding (BCC); 4.3.1 Time-frequency processing

4.3.2 Down-mixing to one channel4.3.3 'Perceptually relevant differences' between audio channels; 4.3.4 Estimation of spatial cues; 4.3.5 Synthesis of spatial cues; 4.4 Coding of low-frequency effects (LFE) audio channels; 4.5 Subjective performance; 4.6 Generalization to spatial audio coding; 5 Parametric Stereo; 5.1 Introduction; 5.1.1 Development and standardization; 5.1.2 AacPlus v2; 5.2 Interaction between core coder and spatial audio coding; 5.3 Relation to BCC; 5.4 Parametric stereo encoder; 5.4.1 Time/frequency decomposition; 5.4.2 Parameter extraction; 5.4.3 Down-mix

5.4.4 Parameter quantization and coding5.5 Parametric stereo decoder; 5.5.1 Analysis filterbank; 5.5.2 Decorrelation; 5.5.3 Matrixing; 5.5.4 Interpolation; 5.5.5 Synthesis filterbanks; 5.5.6 Parametric stereo in enhanced aacPlus; 5.6 Conclusions; 6 MPEG Surround; 6.1 Introduction; 6.2 Spatial audio coding; 6.2.1 Concept; 6.2.2 Elementary building blocks; 6.3 MPEG Surround encoder; 6.3.1 Structure; 6.3.2 Pre- and post-gains; 6.3.3 Time-frequency decomposition; 6.3.4 Spatial encoder; 6.3.5 Parameter quantization and coding; 6.3.6 Coding of residual signals; 6.4 MPEG Surround decoder

6.4.1 Structure

| Sommario/riassunto | This book collects a wealth of information about spatial audio coding into one comprehensible volume. It is a thorough reference to the 3GPP and MPEG Parametric Stereo standards and the MPEG Surround multi-channel audio coding standard. It describes key developments in coding techniques, which is an important factor in the optimization of advanced entertainment, communications and signal processing applications. Until recently, technologies for coding audio signals, such as redundancy reduction and sophisticated source and receiver models did not incorporate spatial characteristics of sou |