

Audio Engineering Society

122nd Audio Engineering Society
Convention
2007

May 5-8, 2007
Vienna, Austria

Volume 1 of 3

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-60423-140-3

Some format issues inherent in the e-media version may also appear in this print version.

Audio Engineering Society Convention Papers

This CD-ROM has been produced from the authors' advance manuscripts, without editing, corrections, or consideration by the Review Board. The AES takes no responsibility for the content.

All rights reserved. Individual articles may be copied or printed singly for use in research or teaching, or for personal use. Redistribution or resale of the content is not permitted.

Additional copies of this CD-ROM and other AES publications may be obtained from the addresses listed below.

Headquarters Office:

Audio Engineering Society, Inc.
60 East 42nd Street
New York, NY 10165-2520, USA
Telephone: +1 212 661 8528
FAX: +1 212 682 0477
Email: HQ@aes.org

Continental Europe:

Michael Williams, Ile du Moulin
62 bis Quai de l'Artois, F-94170
Le Perreux sur Marne, France
Telephone: +33 1 4881 4632
FAX: +33 1 4706 0648
Email: PUBEUR@aes.org

United Kingdom:

AES British Section
P.O. Box 645, Slough, SL1 8BJ, UK
Telephone: Burnham +44 1628 663725
FAX: +44 1628 667002
Email: UK@aes.org

Audio Engineering Society Inc.

122nd Audio Engineering Society Convention
2007

TABLE OF CONTENTS

Volume 1

5.1 for Radio -- Too Much Too Soon?	1
<i>Jon McClintock</i>	
A Biologically - Inspired Low-Bit-Rate Universal Audio Coder	5
<i>Ramin Pichevar, Hossein Najaf-Zadeh, Louis Thibault</i>	
To Create Spatial Auditory Events via More Channel Headphones related on Portable 5.1 / 5.0 Surround Reproduction of Sound	15
<i>Florian M. Konig</i>	
Design, Construction and Qualification of the New Anechoic Chamber at Laboratorio de Sonido, Universidad Politecnica de Madrid	24
<i>J. J. Gomez-Alfageme, J. L. Sanchez-Bote, E. Blanco-Martin</i>	
The Relationship between Basic Audio Quality and Selected Artefacts in Perceptual Audio Codecs - Part II - Validation Experiment	39
<i>Paulo Marins, Francis Rumsey, Slawomir Zielinski</i>	
Head-Related Transfer Function Calculation using Boundary Element Method	50
<i>Przemyslaw Plaskota, Andrzej B. Dobrucki</i>	
A Hybrid Artificial Reverberation Algorithm	61
<i>Rebecca Stewart, Damian Murphy</i>	
A Comparison of Modeling Techniques for Small Acoustic Spaces such as Car Cabins	70
<i>Neil Harris</i>	
Spatial Audio Rendering using Sparse and Distributed Arrays	76
<i>Aki Harma, Steven Van De Par, Werner De Bruijn</i>	
Magic Arrays - Multichannel Microphone Array Design applied to Multi-format Compatibility	87
<i>Michael Williams</i>	
The Design and Detailed Analysis of First Order Ambisonic Decoders for the ITU Layout	106
<i>David Moore, Jonathan Wakefield</i>	
Broadcast Loudness: Mixing, Monitoring and Control	118
<i>Alessandro Travaglini</i>	
An Improved Electrical Equivalent Circuit Model for Dynamic Moving Coil Transducers	130
<i>K. Thorborg, A. Unruh, C. J. Struck</i>	
Using Multiple Feature Extraction with Statistical Models to Categorize Music by Genre	143
<i>Ben Fields</i>	
Non-Linear Crosstalk in Personal Computer based Audio Systems	152
<i>R. Allan Belcher, Jonathon Chambers</i>	

A Parametric Model of Head-related Transfer Functions for Sound Source Localization	159
<i>Youngtae Kim, Junggho Kim, Sangchul Ko</i>	
Optimized Binaural Modeling for Immersive Audio Applications	167
<i>Christos Tsakostas, Andreas Floros</i>	
Low Level Audio Signal Transfer Through Transformers Conflicts with Permeability Behavior Inside their Cores	174
<i>Menno Van Der Veen</i>	
A New Method for Measuring Time Code Quality	183
<i>Michael Beckinger, Rene Rodigast And Florian Mueller-Kaehler</i>	
Spatial Distribution Meter: A New Method to Display Spatial Impression Over Time	189
<i>Joerg Bitzer</i>	
Relation Between Correlation Characteristics of Sound Field and Width of Listening Zone	196
<i>E. Prokofieva</i>	
Analysis and Restoration of Faulty Audio CDs	202
<i>Laurent Daudet, Helene Galiegue, Jean-Marc Fontaine</i>	
Virtual Hearing Aid - A Computer Application for Simulating Hearing Aids Performance	208
<i>Andrzej Czyzewski, Bozena Kostek, Lukasz Kosikowski</i>	
Acoustic Factors of Auditory Distance Perception by the Blind While Walking	216
<i>Takahiro Miura, Shuichi Ino, Teruo Muraoka, Tohru Irukube</i>	
Hybrid Sound Field Processing for Wave Field Synthesis System	223
<i>Hyunjoo Chung, Hwan Shim, Junseok Lim, Jae Hyoun Yoo, Koeng-Mo Sung</i>	
Acoustical and Musical Design of the Sea Organ in Zadar	228
<i>Ivan Stamac</i>	
Steganographic Approach to Copyright Protection of Audio	234
<i>Suthikshn Kumar</i>	
The Flexible Bass Absorber	238
<i>Niels W. Adelman-Larsen, Eric R. Thompson, Anders C. Gade</i>	
Mass Nonlinearity and Intrinsic Friction of the Loudspeaker Membrane	246
<i>Ivan Djurek, Antonio Petosic, Danijel Djurek</i>	
Low Power Stereo Perceptual Audio Coding Based on Adaptive Masking Threshold Reuse	253
<i>Evelyn Kurniawati, Sapna George</i>	
The Practice and Study of Ear Training on Discrimination of Sound Attributes	260
<i>Zhi Liu, Fan Wu, Qing Yang</i>	
The Training and Analysis on Listening Discrimination of Pure Tone Frequency	264
<i>Zhi Liu, Fan Wu, Qing Yang</i>	
EBU Tests of Multi-Channel Audio Codecs	268
<i>Andrew Mason, David Marston, Franc Kozamernik, Gerhard Stoll</i>	
Comparison of Different Sound Capture and Reproduction Techniques in a Virtual Acoustic Window	277
<i>Timo Haapsaari, Werner De Bruijn, Aki Harma</i>	

The Study of Audio Equipment Evaluations Using the Sound of Music	288
<i>Shunsuke Ishimitsu, Koji Sakamoto, Keitaro Sugawara, Toshikazu Yoshimi, Atsushi Makino, Katsuhiko Sasaki, Hirofumi Yanagawa</i>	
Influence of Interaction on Perceived Quality in Audio Visual Applications: Subjective Assessment with n-Back Working Memory Task, II	294
<i>Ulrich Reiter, Mandy Weitzel</i>	
Parametric Loudspeaker Equalization. Results and Comparison with other Methods	304
<i>German Ramos, Jose J. Lopez</i>	
Creating Directed Microphones from Undirected Microphones	312
<i>Emil Milanov, Elena Milanova</i>	
Semi-Automatic Mono to Stereo Up-Mixing using Sound Source Formation	316
<i>Mathieu Lagrange, Luis Gustavo Martins, George Tzanetakis</i>	
Rhythm based Error Correction Approach for Scalable Audio Streaming over the Internet	323
<i>J. C. Cuevas-Martinez, P. Vera-Candeas, N. Ruiz-Reyes</i>	
Demystifying the Measurement of Impulse Response in Condenser Microphones - Part I	330
<i>Christian Langen</i>	
Efficient and High-quality Equalization Using a Multirate Filterbank and Fir Filters	348
<i>Riitta Väänänen, Jarmo Hiipakka</i>	
Design and Implementation of a Web-based Software Framework for Real time Intelligent Audio Coding based on Speech/Music Discrimination	356
<i>J. E. Munoz-Exposito, N. Ruiz-Reyes, S. Garcia-Galan, P. Vera-Candeas</i>	
Method Comparison of Pick-up and Pre-Processing of Bias Signal for Wow and Flutter Correction	363
<i>Nadja Wallaszkovits, Franz Pavuza, Heinrich Pichler</i>	
Quantization of Laguerre-based Stereo Linear Predictors	375
<i>Albertus C. Den Brinker, Arijit Biswas</i>	
Multi Core / Multi Thread Processing in Object Based Real Time Audio Rendering: Approaches and Solutions for an Optimization Problem	391
<i>Ulrich Reiter, Andreas Partzsch</i>	
Non Contact Phonographic Discs Digitisation Using Structured Colour Illumination	401
<i>Louis Laborelli, Jean-Hugues Chenot, Alain Perrier</i>	
A Wireless PDA-based Acoustics Measurement Platform	412
<i>Petros Alexandridis, Nicolas-Alexander Tatlas, Panos Hatziantoniou, John Mourjopoulos</i>	
A New Digital Module for Variable Acoustics and Wave Field Synthesis: Design and Applications	421
<i>Diemer De Vries, Jasper Van Dorp Schuitman, At Van Den Heuvel</i>	
Aspects of Scalable Audio Coding	428
<i>Chris Dunn</i>	
Development of Camera Mountable 5.0 Surround Microphone and Method of 3ch to 5ch Signal Re-composing System	436
<i>Minoru Kobayashi, Satoshi Kikkawa, Setsu Komiyama, Takako Kawashima</i>	
Acoustics in Rock and Pop Music Halls	442
<i>Niels W. Adelman-Larsen, Eric R. Thompson, Anders C. Gade</i>	

Subordinate Audio Channels	449
<i>Tim D. Jackson, Keith Yates, Francis F. Li</i>	
Binaural Response Synthesis from Center-of-Head Position Measurements for Stereo Applications	456
<i>Sunil Bharitkar, Chris Kyriakakis</i>	
Enhanced Bass Reinforcement Algorithm for Small-Sized Transducer	464
<i>Han-Gil Moon, Manish Arora, Chiho Chung, Seong-Cheol Jang</i>	
Speech Codec Enhancements Utilizing Time Compression and Perceptual Coding	469
<i>Maciej Kulesza, Andrzej Czyzewski</i>	
On the Design of Low Power MPEG-4 HE-AAC Encoder	483
<i>Han-Wen Hsu, Cheng-Lun Hu, Chi-Min Liu, Wen-Chieh Lee</i>	
Idle Tone Behavior in Sigma Delta Modulation	492
<i>Enrique Perez Gonzalez, Joshua Reiss</i>	
Transducer with the Direct D/A Conversion Using Optoacoustic Principle	505
<i>Libor Husnik</i>	
Low Distortion Sound Reproduction using 8bit uC and ZePoC-Algorithms	509
<i>Jan Wellmann, Olaf Schnick, Wolfgang Mathis</i>	
Effects of Acoustic Damping on Current-Driven Loudspeakers	513
<i>Rosalfonso Bortoni, Sidnei Noceti Filho, Homero Sette Silva</i>	
Perceptually-motivated Audio Morphing: Brightness	535
<i>Duncan Williams, Tim Brookes</i>	
Multiple Description Coding for Audio Transmission Using Conjugate Vector Quantization	544
<i>Mylene Kwong, Roch Lefebvre, Soumaya Cherkaoui</i>	
Applications of the Acoustic Centre	556
<i>John Vanderkooy</i>	

Volume 2

A Low-Distortion Fast-Settling Audio Oscillator: A Tribute to the late Peter Baxandall, Analog Audio Expert	567
<i>John Vanderkooy</i>	
Noise-Robust Recognition System Making Use of Body-Conducted Speech Microphone	577
<i>Shunsuke Ishimitsu, Masashi Nakayama, Toshikazu Yoshimi, Hirofumi Yanagawa</i>	
Correction of Crossover Phase Distortion Using Reversed Time All-Pass IIR Filter	585
<i>Veronique Adam, Sebastien Benz</i>	
JAVA Library for Automatic Musical Instruments Recognition	591
<i>Piotr Aniola, Ewa Lukasik</i>	
Development of a Finite Element Headphones Model	598
<i>Dominik Biba, Martin Opitz</i>	
Multiple Exponential Sweep Method for Fast Measurement of Head Related Transfer Functions	609
<i>Piotr Majdak, Peter Balazs, Bernhard Laback</i>	
Improved Magneto-Optical 1/4" Audio Tape Player for Preservation	616
<i>Marcel Guwang</i>	

Up-mixing and Localisation - Localisation Performance of Up-mixed Consumer Multichannel Formats	618
<i>B. G. Shirley, R. Chaffey</i>	
Holographic Sound Field Analysis with a Scalable Spherical Microphone-Array	630
<i>Anton Schlesinger, Giovanni Del Galdo, Jorg Lotze, Stephan Husung, Bernhard Albrecht</i>	
Development of a Highly Directive Endfire Loudspeaker Array.....	637
<i>Marinus M. Boone, Wan-Ho Cho, Jeong-Guon Ih</i>	
Recording of Acoustical Concerts Using a Soundfield Microphone	646
<i>Markus Schellstede, Christof Faller</i>	
On the Implementation of a Room Acoustics Modeling Software using Finite-Difference Time-Domain Methods	651
<i>Jose J. Lopez, Jose Escolano, Basilio Pueo</i>	
Listener Loudspeaker Preference Ratings Obtained in situ Match Those Obtained via a Binaural Room Scanning Measurement and Playback System	664
<i>Sean E. Olive, Todd Welti, William L. Martens</i>	
A Hybrid Warped Linear Prediction (WLP) AAC Audio Coding Algorithm	678
<i>Jaseong Lee, Young-Cheol Park, Dae-Hee Youn, Hong-Goo Kang</i>	
Subjective Assessment of Quality of Multimedia Signals by Means of A-B Test	685
<i>Stefan Brachmanski</i>	
Measurement and Optimization of Acoustic Feedback of Control Elements in Cars.....	695
<i>Alexander S. Treiber, Gerhard Gruhler</i>	
On the Application of Sound Source Separation to Wave-Field Synthesis	700
<i>Maximo Cobos, Jose J. Lopez</i>	
A Novel Approach to Robotic Monaural Sound Localization	708
<i>F. Keyrouz, A. Bou Saleh, K. Diepold</i>	
Artificial Speech Synthesis using LPC	713
<i>Manjunath D. Kadaba</i>	
Physical and Filter Pinna Models Based on Anthropometry.....	718
<i>Patrick Satarzadeh, V. Ralph Algazi, Richard O. Duda</i>	
A Distributed Real-Time Virtual Acoustic Rendering System for Dynamic Geometries.....	738
<i>Raine Kajastila, Samuel Siltanen, Peter Lunden, Tapio Lokki, Lauri Savioja</i>	
Towards Multimodal Interfaces for Intrusion Detection.....	750
<i>Miguel A. Garcia-Ruiz, Miguel Vargas Martin, Bill Kapralos</i>	
Direct Current Offset and Balance for Audio Transformers used with Paralleled Tubes or Solid State Devices	759
<i>Aristide Polisois, Pierre Touzelet</i>	
50 Years of Sound Control Room Design.....	783
<i>Jan Voetmann</i>	
Revisiting Proximity Effect using Broadband Signals	791
<i>Laurent Millot, Mohammed Elliq, Manuel Lopes, Gerard Pele, Dominique Lambert</i>	
A New Structure for Stereo Acoustic Echo Cancellation Based on Binaural Cue Coding	827
<i>Yoomi Hur, Young-Choel Park, Dae Hee Youn</i>	

Fixed-Point Processing Optimization of MPEG Audio Encoder Using Statistical Model	834
<i>Keun-Sup Lee, Young-Cheol Park, Dae Hee Youn</i>	
The Relation between Active Radiating Factor and Frequency Responses of Loudspeaker Line Arrays	840
<i>Yong Shen, Dayi Ou, Kang An</i>	
Efficient Binaural Filtering in QMF Domain for BRIR	846
<i>D. Virette, P. Philippe, G. Pallone, R. Nicol, J. Faure, M. Emerit, A. Guerin</i>	
Perceptual Distortion Maps for Room Reverberation	858
<i>Thomas Zarouchas, John Mourjopoulos</i>	
Audio Effects for Real-Time Performance Using Beat Tracking	866
<i>A. M. Stark, M. D. Plumbley, M. E. P. Davies</i>	
Sound Levels of TV Advertisements Relative to the Adjacent Programs and Cross-National Comparison of the Way of their Insertion into Programs	873
<i>Eiichi Miyasaka, Akiko Kimura</i>	
Alternative Encoding Techniques for Digital Loudspeaker Arrays	881
<i>Fotios Kontomichos, Nicolas-Alexander Tatlas, John Mourjopoulos</i>	
Production and Live Transmission of 22.2 Multichannel Sound with Ultrahigh-definition TV	890
<i>Toshiyuki Nishiguchi, Yasushige Nakayama, Reiko Okumura, Takehiro Sugimoto, Atsushi Imai, Masakazu Iwaki, Kimio Hamasaki, Akio Ando, Shoji Kitajima, Yutaka Otsuka, Satoko Shimaoka</i>	
Online Identification of Linear Loudspeakers Parameters	901
<i>Bo Rohde Pedersen, Per Rubak</i>	
On Development of New Audio Codecs	909
<i>Imre Varga</i>	
Natural Timbre in Room Correction Systems	916
<i>Jan Abildgaard Pedersen, Henrik Green Mortensen</i>	
Finite Element Analysis of Near Field Beam Forming in Safety Relevant Workspaces	927
<i>Roman Beigelbeck, Heinrich Pichler</i>	
Ambience Sound Recording Utilizing Dual MS (Mid-Side) Microphone Systems based upon Frequency Dependent Spatial Cross Correlation (FSCC)	938
<i>Teruo Muraoka, Takahiro Miura, Tohru Ifukube</i>	
Benefits of Using Sip for Audio Broadcasting Applications	950
<i>Serge De Jaham</i>	
Wide Listening Area with Exceptional Spatial Sound Quality of a 22.2 Multichannel Sound System	957
<i>Kimio Hamasaki, Toshiyuki Nishiguchi, Reiko Okumura, Yasushige Nakayama</i>	
Improvement of Cylindrical Record Reproduction Utilizing Inharmonic Frequency Analysis GHA	979
<i>Teruo Muraoka, Shota Nakagomi, Tohru Ifukube</i>	
Research on Widening the Virtual Listening Space in Automotive Environment	989
<i>Jeong-Hun Seo, Lae-Hoon Kim, Hwan Shim, Koeng-Mo Sung</i>	
Using Transient Suppression in Blind Multi-channel Upmix Algorithms	993
<i>Andreas Walther, Christian Uhle, Sascha Disch</i>	

High Quality, Low Power QMF Bank Design for SBR, Parametric Coding, and MPEG Surround Decoders	1003
<i>Han-Wen Hsu, Hsin-Yao Tseng, Chi-Min Liu, Wen-Chieh Lee, Chung-Han Yang</i>	
Quality Taxonomies for Auditory Virtual Environments	1013
<i>Andreas Silzle</i>	
Intelligent Editing of Studio Recordings with the Help of Automatic Music Structure Extraction	1031
<i>Gyorgy Fazekas, Mark Sandler</i>	
Some Effects of the Torso on Head-Related Transfer Functions	1045
<i>Ole Kirkeby, Eira T. Seppala, Asta Karkkainen, Leo Karkkainen, Tomi Huttunen</i>	
New Audio Editor Functionality Using Harmonic Sinusoids	1053
<i>Wen Xue, Mark Sandler</i>	
Artificial Reverberator with Location Control in Multi-channel Recording	1063
<i>Hwan Shim, Jeong-Hun Seo, Koeng-Mo Sung</i>	
Sound Source Localization and B-format Enhancement Using Soundfield Microphone Sets	1069
<i>C. A. Dimoulas, K. A. Avdelidis, G. M. Kalliris, G. V. Papanikolaou</i>	
An Investigation into Head Movements Made When Evaluating Various Attributes of Sound	1077
<i>Chungeun Kim, Russell Mason, Tim Brookes</i>	
Modeling of an Electrodynamical Loudspeaker using Runge-Kutta ODE Solver	1094
<i>Antonio Petosic, Ivan Djurek, Danijel Djurek</i>	
New Techniques for Measuring Speech Privacy & Efficiency of Sound Masking Systems	1104
<i>Peter Mapp</i>	
Chaotic State in an Electrodynamical Loudspeaker	1117
<i>Danijel Djurek, Ivan Djurek, Antonio Petosic</i>	
Verbal Elicitation and Scale Construction for Evaluating Perceptual Differences between Four Multichannel Microphone Techniques	1123
<i>William L. Martens, Sungyoung Kim</i>	

Volume 3

Reproduction of Arbitrarily Shaped Sound Sources with Wave Field Synthesis - Physical and Perceptual Effects	1145
<i>Marije A. J. Baalman</i>	
Managing the Leap from Synchronous to IP for Radio Broadcasters	1156
<i>Simon Daniels</i>	
Constant Complexity Reverberation for any Reverberation Time	1163
<i>Tobias May, Daniel Schobben</i>	
Improvements to Binary Amplitude Diffusers	1173
<i>Elizabeth C. Payne-Johnson, Gillian A. Gehring, Jamie A. S. Angus</i>	
Hybrid Time Scale Modification of Audio	1191
<i>Patrick-André Savard, Philippe Gournay, Roch Lefebvre</i>	
Investigating Classroom Acoustics by means of Advanced Reproduction Techniques	1201
<i>Nicola Prodi, Andrea Farnetani, Yuliya Smyrnova, Janina Fels</i>	

Enhanced MPEG-4 Low Delay AAC - Low Bitrate High Quality Communication	1211
<i>Markus Schnell, Ralf Geiger, Markus Schmidt, Manuel Jander, Markus Multrus, Gerald Schuller, Jurgen Herre</i>	
Signal Processing Parameters for Tonality Estimation	1224
<i>Katy Noland, Mark Sandler</i>	
Source-Controlled Variable Bit Rate Extension for the AMR-WB+Audio Codec.....	1230
<i>Amelie Marty, Roch Lefebvre</i>	
Reproduction of Virtual Reality with Multichannel Microphone Techniques	1240
<i>Timo Hiekkanen, Tero Lempinen, Martti Mattila, Ville Veijanen, Ville Pulkki</i>	
An MLS Method for Non-Stationary and Outdoor Acoustic Paths.....	1247
<i>Jamie A. S. Angus, David C. Waddington</i>	
Time Signature Detection by Using a Multi-Resolution Audio Similarity Matrix	1260
<i>Mikel Gainza, Eugene Coyle</i>	
Comparison of Stereo Redundancy Reduction Schemes for an Ultra Low Delay Audio Coder	1268
<i>Tobias Albert, Gerald Schuller, Stefan Wabnik, Ulrich Kramer, Jens Hirschfeld</i>	
An XML-Based Approach to Audio Connection Management	1276
<i>Richard Foss, Brad Klinkrad</i>	
Outdoor and Indoor Recording for Motion Picture. A Comparative Approach on Microphone Techniques	1288
<i>Christos A. Goussios, Christos V. Sevastiadis, George M. Kalliris</i>	
Sound-Transformation and Remixing in Real-Time	1294
<i>Hannes Raffaseder</i>	
Challenges of MP3 Player Testing.....	1300
<i>Steve Temme, Pascal Brunet, Zachary Rimkunas</i>	
Extraction of Long-term Rhythmic Structures using the Empirical Mode Decomposition	1310
<i>Peyman Heydarian, Joshua D. Reiss</i>	
Techniques for the Authentication of Digital Audio Recordings	1316
<i>Eddy B. Brixen</i>	
VirtualPhone - A Rapid Virtual Audio Prototyping Environment	1324
<i>Nick Zacharov</i>	
A Rapid Listening Test Environment - Helping Managers Make Better Decisions	1340
<i>Nick Zacharov</i>	
Accoustical Issues and Proposed Improvements for NASA Spacesuits	1353
<i>Durand R. Begault, James L. Hieronymus</i>	
Training Versus Practice in Spatial Audio Attribute Evaluation Tasks	1361
<i>Rafael Kassier, Tim Brookes, Francis Rumsey</i>	
Room Equalization Based on Acoustic and Human Perceptual Features	1370
<i>Lae-Hoon Kim, Mark Hasegawa-Johnson, Jun-Seok Lim, Koeng-Mo Sung</i>	
Onset Detection Method in Piano Music: Sensibility to Threshold Values.....	1375
<i>Luis Ortiz-Berenguer, Javier Casajus-Quiros, Marisol Torres-Guijarro, Jon Beracochea</i>	
The Effect of Head Diffraction on Stereo Localization in the Mid-Frequency Range.....	1383
<i>Eric Benjamin, Phil Brown</i>	

Binaural Resynthesis for Comparative Studies of Acoustical Environments	1394
<i>Alexander Lindau, Torben Hohn, Stefan Weinzierl</i>	
New Enhancements to Immersive Sound Field Rendition (ISR) System	1404
<i>Chandresh Dubey, Raghuram Annadana, Deepen Sinha, Anibal Ferreira</i>	
Perceptual Evaluation of Mobile Multimedia Loudspeakers	1412
<i>Gaetan Lorho</i>	
Detection and Lateralization of Sinusoidal Signals in Presence of Dichotic Pink Noise	1430
<i>Tuomo Raitio, Heidi-Maria Lehtonen, Petteri Laine, Ville Pulkki</i>	
Adaptive Design of the Preprocessing Stage for Stereo Lossless Audio Compression	1435
<i>Florin Ghido, Ioan Tabus</i>	
Evaluation of HE-AAC, AC-3, and E-AC-3 Codecs	1442
<i>Leslie Gaston, Richard Sanders</i>	
Automated Audio Detection, Segmentation and Indexing, with Application to Post-production Editing	1462
<i>C. Dimoulas, C. Vegiris, K. Avdelidis, G. Kalliris, G. Papnikolaou</i>	
Tracking Harmonics and Artifacts in Spectra using Sinusoidal and Sprial Maps	1472
<i>Palmyra Catravas</i>	
Refinements of Transmission Line Loudspeaker Models	1479
<i>Juha Backman</i>	
Acoustic Treatment of the Regional Flight Control Center Hall in Zagreb, Croatia	1500
<i>Marko Horvat, Hrvoje Domitrovic, Sanja Grubesa</i>	
Headphones Technology for Surround Sound Monitoring - A Virtual 5.1 Listening Room	1507
<i>Renato Pellegrini, Clemens Kuhn, Mario Gebhardt</i>	
On the Audibility of Comb-Filter Distortions	1513
<i>Stefan Brunner, Hans-Joachim Maempel, Stephan Weinzierl</i>	
Influence of Visual Stimuli on the Sound Quality Evaluation of Loudspeaker Systems	1520
<i>Alex Karandreas, Flemming Christensen</i>	
150 Years of Time-base in Acoustic Measurement and 100 years of Audio's Best Publicity Stunt - 2007 as a Commemorative Year	1525
<i>George Brock-Nannestad</i>	
MPEG Surround - The ISO/MPEG Standard for Efficient and Compatible Multi-Channel Audio Coding	1544
<i>Jürgen Herre, Kristofer Kjörling, Jeroen Breebaart, Christof Faller, Sascha Disch, Heiko Purnhagen, Jeroen Koppens, Johannes Hilpert, Jonas Rödén, Werner Oomen, Karsten Linzmeier, Kok Seng Chong</i>	
On the Training of Multilayer Perceptrons for Speech/Non-Speech Classification in Hearing Aids	1567
<i>Lorena Alvarez, Enrique Alexandre, Lucas Cuadra, Manuel Rosa-Zurera</i>	
Coding of "2+2+2" Surround Sound content using the MPEG Surround Standard	1577
<i>Andreas Ehret, Alexander Groschel, Heiko Purnhagen, Jonas Roden</i>	
Knowledge: The Missing Element in Archiving and Restoration	1587
<i>S. W. Davies</i>	

Perception of Concert Hall Acoustics in Seats where the Reflected Energy is Stronger than the Direct Energy	1591
<i>David Griesinger</i>	
A Novel Approach to Up-mix Stereo to Surround Based on MPEG Surround Technology	1600
<i>Heiko Purnhagen, Andreas Ehret, Jonas Roden, Alexander Groschel</i>	
Individual Localization behavior for Perception of Virtual Sound Sources	1609
<i>Cornelius Bradter, Klaus Hobohm</i>	
Advancements in Impulse Response Measurements by Sine Sweeps	1626
<i>Angelo Farina</i>	
The Use of Negative Source Impedance with Moving Coil Loudspeaker Drive Units: An Analysis and Review	1647
<i>Michael J. Turner, David A. Wilson</i>	
A Fast Multipole Boundary Element Method for Calculating HRTFs	1678
<i>Wolfgang Kreuzer, Zhensheng Chen</i>	
A Zero-Pole Vocal Tract Model Estimation Method Accurately Reproducing Spectral Zeros	1684
<i>Damian Marelli, Peter Balazs</i>	
Anechoic Measurements of Particle-Velocity Probes Compared to Pressure Gradient and Pressure Microphones	1690
<i>Wieslaw Woszczyk, Masakazu Iwaki, Takehiro Sugimoto, Kazuho Ono, Hans-Elias de Bree</i>	
Author Index	