1. Record Nr. UNINA9911020032203321

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| Autore | Zolzer Udo |
| Titolo | DAFX : digital audio effects / / edited by Udo Zolzer |
| Pubbl/distr/stampa | Chichester, West Sussex, : Wiley, 2011 |
| ISBN | 9786613405319<br>9780470979679<br>0470979674<br>9781283405317<br>1283405318<br>9781119991304<br>1119991307<br>9781119991298<br>1119991293 |
| Edizione | [2nd ed.] |
| Descrizione fisica | 1 online resource (xxi, 602 pages) |
| Classificazione | TEC008000 |
| Disciplina | 006.5 |
| Soggetti | Computer sound processing<br>Signal processing - Digital techniques<br>Sound - Recording and reproducing - Digital techniques |
| 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 and index. |
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Effects -- 4.4 Exciters and Enhancers -- 4.5 Conclusion -- Sound and Music -- Bibliography -- 5 Spatial Effects (V. Pulkki, T. Lokki, D. Rocchesso) -- 5.1 Introduction -- 5.2 Concepts of spatial hearing -- 5.3 Basic spatial effects for stereophonic loudspeaker and headphone playback -- 5.4 Binaural techniques in spatial audio -- 5.5 Spatial audio effects for multichannel loudspeaker layouts -- 5.6 Reverberation -- 5.7 Modeling of room acoustics -- 5.8 Other spatial effects -- 5.9 Conclusion -- 5.10 Acknowledgements -- References -- 6 Time-Segment Processing (P. Dutilleux, G. De Poli, A. von dem Knesebeck, U. Zolzer) -- 6.1 Introduction -- 6.2 Variable Speed Replay -- 6.3 Time Stretching -- 6.4 Pitch Shifting -- 6.5 Time Shuffling and Granulation -- 6.6 Conclusion -- Sound and Music -- References. -- 7 Time-Frequency Processing (D. Arfib, F. Keiler, U. Zolzer, V. Verfaille, J. Bonada) -- 7.1 Introduction -- 7.2 Phase Vocoder Basics -- 7.3 Phase Vocoder Implementations -- 7.4 Phase Vocoder Effects -- 7.5 Conclusion -- References -- 8 Source-Filter Processing (D. Arfib, F. Keiler, U. Zolzer, V. Verfaille).
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Sommario/riassunto

"This book investigates digital signal processing, its application to sound, and how its effects on sound can be used within music. The first edition developed in association with the annual International Conference on Digital Audio Effects, and this book have been critical in the advancement of the field, both in research and industry. Rapid development in different fields of Digital Audio Effects has led to new algorithms, and this new edition will combine these with improved presentation of the basic concepts and discussion of the related technology. It will cover filters and delays, modulators and demodulators, nonlinear processing, spatial effects, time-segment processing, time-frequency processing, source-filter processing, spectral processing, time and frequency warping musical signals, as well as completely new chapters on the recent developments in virtual analog effects, automatic mixing, and sound source separation. Each effect description will begin with a presentation of the physical and acoustical phenomena, followed by an explanation of the signal processing techniques to achieve the effect, and some musical applications and the control of effect parameters"--