

1. Record Nr.	UNINA9910876618703321
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Titolo	Perceptual audio evaluation : theory, method and application // Sren Bech, Nick Zacharov
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : John Wiley & Sons, c2006
ISBN	1-280-74123-6 9786610741236 0-470-86925-9 0-470-86924-0
Descrizione fisica	1 online resource (464 p.)
Altri autori (Persone)	ZacharovNick
Disciplina	621.389/33
Soggetti	Sound - Recording and reproducing High-fidelity sound systems - Testing Sound - Measurement
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. 389-434) and index.
Nota di contenuto	Perceptual Audio Evaluation-Theory, Method and Application; Contents; Preface; Organisation of the Book; Acknowledgments; 1 Introduction; 1.1 Motivation for Listening Tests; 1.2 Role of Standardisation; 1.3 Role of Predictive Models; I Experimental Considerations; 2 Definition of Research Question and Hypothesis; 2.1 Principle of Empiricism; 2.2 Principle of Rationalism; 2.3 Other Principles of Scientific Argumentation; 2.3.1 Probabilistic Reasoning; 2.3.2 Argumentum ad Hominem; 2.3.3 Conclusion by Analogy; 2.4 Summary; 3 Fundamentals of Experimentation; 4 Quantification of Impression 4.1 Response Attribute 4.1.1 Perceptual Measurements; 4.1.2 Affective Measurements; 4.2 Response Format; 4.2.1 Direct Scaling; 4.2.2 Indirect Scaling; 4.2.3 Selection of an Appropriate Scaling Procedure; 4.2.4 Context and Bias Effects; 4.2.5 Other Bias Effects; 4.3 Overview of Process; 5 Experimental Variables; 5.1 Signal; 5.1.1 Signal Category; 5.1.2 Recording Technique, Storage and Encoding; 5.1.3 Time Domain Characteristics; 5.1.4 Spectral Characteristics; 5.1.5 Spatial Characteristics; 5.1.6 Reference Signals; 5.2 Reproduction System; 5.3 Listening Room; 5.4 Subject Considerations

5.4.1 Categorisation and Applicability; 5.4.2 Listening Panels; 5.4.3 Subject Selection; 5.4.4 Training and Monitoring; 6 Statistics; 6.1 Statistical Experimental Design; 6.2 Statistical Analysis; 6.2.1 Classification of Data Type; 6.2.2 Levels of Analysis; 6.2.3 Descriptive Level; 6.2.4 Inferential Level; 6.2.5 Statistical Checklist; II Technical Considerations; 7 Electroacoustic Considerations; 7.1 Listening Rooms; 7.1.1 IEC 60268-13 Listening Rooms; 7.1.2 ITU-R Recommendation BS.1116-1 Listening Rooms; 7.1.3 EBU 3276 Listening Rooms; 7.1.4 General Characteristics; 7.2 Listening Booths
7.3 Other Spaces; 7.4 Listener and Loudspeaker Positioning; 7.4.1 Monophonic Reproduction; 7.4.2 Stereophonic Reproduction; 7.4.3 Multichannel Reproduction; 7.4.4 Separate Bass Loudspeakers; 7.4.5 Listener Position; 7.5 Accompanying Picture; 7.6 Commonly Encountered Problems; 7.7 Electrical Considerations; 8 Calibration; 8.1 Level Calibration; 8.1.1 Level Calibration Methods; 8.1.2 Level Metric Selection; 8.1.3 Preferred Listening Levels; 8.1.4 Reference Reproduction Levels; 8.2 Loudspeaker Calibration; 8.2.1 Level Calibration; 8.3 Headphone Calibration; 8.3.1 Headphone Types; 8.3.2 Ear Measurement Points; 8.3.3 Headphone Measurement; 8.3.4 Target Frequency Response; 8.3.5 Level Calibration; 9 Test Planning, Administration and Reporting; 9.1 Planning; 9.1.1 Experimental Planning; 9.1.2 Logistic Considerations; 9.1.3 Ethical Considerations; 9.2 Administration; 9.2.1 Subject Matters; 9.2.2 Subject Familiarisation; 9.2.3 Listening Test Software; 9.3 Reporting; III Applications; 10 Commonly Encountered Experimental Paradigms; 10.1 Standards; 10.1.1 ITU-T Recommendation P.800 Methods; 10.1.2 ITU-R Recommendation BS.1116-1; 10.1.3 ITU-R Recommendation BS.1534-1
IV Appendices

Sommario/riassunto

As audio and telecommunication technologies develop, there is an increasing need to evaluate the technical and perceptual performance of these innovations. A growing number of new technologies (e.g. low bit-rate coding) are based on specific properties of the auditory system, which are often highly non-linear. This means that the auditory quality of such systems cannot be measured by traditional physical measures (such as distortion, frequency response etc.), but only by perceptual evaluations in the form of listening tests. Perceptual Audio Evaluation provides a comprehen
