1. Record Nr. UNINA9910820974303321

Autore	Rudersdorfer Ralf
Titolo	Radio receiver technology : principles, architectures, and applications / / Ralf Rudersdorfer, Ulrich Graf, Hans Zahnd
Pubbl/distr/stampa	Chichester, West Sussex, United Kingdom : , : Wiley, , 2014 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2013]
ISBN	1-118-64788-2 1-118-65939-2
Descrizione fisica	1 online resource (317 p.)
Altri autori (Persone)	GrafUlrich <1948-> ZahndHans
Disciplina	621.3841/8
Soggetti	Radio - Receivers and reception
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.
Nota di contenuto	About the Author xi -- Preface xiii -- Acknowledgements xv -- I Functional Principle of Radio Receivers 1 -- I.1 Some History to Start 1 -- I.2 Present-Day Concepts 4 -- I.3 Practical Example of an (All-) Digital Radio Receiver 23 -- I.4 Practical Example of a Portable Wideband Radio Receiver 39 -- References 46 -- Further Reading 48 -- II Fields of Use and Applications of Radio Receivers 49 -- II.1 Prologue 49 -- II.2 Wireless Telecontrol 50 -- II.3 Non-Public Radio Services 54 -- II.4 Radio Intelligence, Radio Surveillance 64 -- II.5 Direction Finding and Radio Localization 83 -- II.6 Terrestrial Radio Broadcast Reception 101 -- II.7 Time Signal Reception 104 -- II.8 Modern Radio Frequency Usage and Frequency Economy 107 -- References 109 -- Further Reading 112 -- III Receiver Characteristics and their Measurement 113 -- III.1 Objectives and Benefits 113 -- III.2 Preparations for Metrological Investigations 114 -- III.3 Receiver Input Matching and Input Impedance 118 -- III.4 Sensitivity 121 -- III.5 Spurious Reception 147 -- III.6 Near Selectivity 156 -- III.7 Reciprocal Mixing 162 -- III.8 Blocking 171 -- III.9 Intermodulation 174 -- III.10 Cross-Modulation 199 -- III.11 Quality Factor of Selective RF Preselectors under Operating Conditions 204 -- III.12 Large-Signal Behaviour in General 209 -- III.13 Audio Reproduction Properties 213 -- III.14 Behaviour of the Automatic Gain Control (AGC) 218 -- III.15 Long-Term Frequency Stability 223 --

III.16 Characteristics of the Noise Squelch 226 -- III.17 Receiver Stray Radiation 227 -- III.18 (Relative) Receive Signal Strength and S Units 230 -- III.19 AM Suppression in the F3E Receiving Path 236 -- III.20 Scanning Speed in Search Mode 238 -- References 240 -- Further Reading 242 -- IV Practical Evaluation of Radio Receivers (A Model) 245 -- IV.1 Factual Situation 245 -- IV.2 Objective Evaluation of Characteristics in Practical Operation 245 -- IV.3 Information Gained in Practical Operation 249 -- IV.4 Interpretation (and Contents of the 'Table of operational PRACTICE') 253.
IV.5 Specific Equipment Details 255 -- References 255 -- Further Reading 255 -- V Concluding Information 257 -- V.1 Cascade of Noisy Two-Ports (Overall Noise Performance) 257 -- V.2 Cascade of Intermodulating Two-Ports (Overall Intermodulation Performance) 260 -- V.3 Mathematical Description of the Intermodulation Formation 264 -- V.4 Mixing and Derivation of Spurious Reception 269 -- V.5 Characteristics of Emission Classes According to the ITU RR 272 -- V.6 Geographic Division of the Earth by Region According to ITU RR 272 -- V.7 Conversion of dB. . . Levels 272 -- References 278 -- Further Reading 279 -- List of Tables 281 -- Index 283.

Sommario/riassunto

"The purpose of this book is to provide the users of radio receivers with the required knowledge of the basic mechanisms and principles of present-day receiver technology"--