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New! Available in CD-ROM format in Spring 2003



RF Circuit Fundamentals I

Instructor: Les Besser

RF Circuit Fundamentals I introduces high-frequency analog circuit design. It serves as an introduction for low-frequency or digital engineers to the concepts that are unique to high-frequency circuits. It is also an excellent educational tool for new engineers, as well as a review course for engineers with some experience.

Six one-hour tapes and 205-page manual; includes the book *RF Circuit Design* by Chris Bowick

NP-16 \$595.00

New! Available in CD-ROM format in Spring 2003



RF Circuit Fundamentals II

Instructor: Les Besser

A continuation of Part I, but can also be used for independent instruction or review of fundamental design concepts. Includes physical transmission line models, combiners and dividers, broadband matching, active circuits and statistical analysis and large-signal concepts.

Six one-hour tapes and 238-page manual; includes the book *Transmission Line Transformers* by Jerry Sevick

NP-17 \$595.00



Microwave Transmission Lines and Their Physical Realizations

Instructor: Steven L. March

This course reviews the performance and design parameters of several transmission line styles. March details the necessary algorithms, their limitations and their accuracy for fabricating components or subsystems using transmission line media. The course also covers lumped element capacitor, inductor and resistor components, particularly as they are used in monolithic microwave integrated circuits.

Six one-hour tapes and 341-page manual

NP-18 \$595.00



Introduction to the Smith Chart

Instructor: Glenn Parker

Introduction to the Smith Chart is designed to accompany the book *Electronic Applications of the Smith Chart* by Philip Smith and the winSMITH software. This video is an excellent way for young engineers to study the Smith Chart, the most important visualization tool in microwave and RF design.

One 50-minute video tape and manual

NP-19 \$99.00



Filters and Matching Networks

Instructor: Randall W. Rhea

Filters and Matching Networks covers practical filters and matching networks, emphasizes L-C structures and introduces microwave filter structures. Topics include: Fundamentals I, Fundamentals II, CAE techniques, the real world, matching, bandpass filter symmetry, group delay, direct-coupled microwave filters, and field-coupled microwave filters.

Nine one-hour tapes and 160-page manual; includes the book *HF Filter Design and Computer Simulation* by Randall W. Rhea

NP-12 \$895.00



Oscillator Design Principles

Instructor: Randall W. Rhea

The course covers the design of L-C, transmission line, quartz crystal and SAW oscillators. The negative-resistance and open-loop Bode analysis are presented. A unified approach applies to any active device and any resonator technology, truly demystifying oscillator design.

Six one-hour tapes and 80-page manual; includes the book *Oscillator Design and Computer Simulation* by Randall W. Rhea

NP-13 \$595.00



RF/Microwave Transistor Amplifier Design

Instructor: Les Besser

This course is a comprehensive treatment of classical amplifier design techniques, including computer-aided simulation and synthesis. It is intended as an intermediate level class for engineers with basic design experience. Several "real life" design examples illustrate the principles learned. CAD applications are emphasized throughout the course.

Six two-hour tapes and 286-page manual; includes the book *Microwave Transistor Amplifiers* by Guillermo Gonzales

NP-14 \$1195.00



Microwave Filters, Couplers and Matching Networks

Instructor: Robert Wenzel

This course covers microwave (distributed) structures in detail. Sessions include: common types of filter responses and basic calculations, realization of practical filters, filter design, summary of microwave filters, fundamentals of directional couplers, summary of TEM directional couplers, distributed element matching networks using commensurate line length elements.

Six two-hour tapes and 120-page manual

NP-15 \$1195.00

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NP-20 \$4299.00



Q from A to Z

Instructor: Randy Rhea

Understanding the concept of Q is essential for the design and specification of oscillator resonators, filters and matching networks. Combining audio, video and text, this tutorial presents a comprehensive explanation of Q and includes sample problems and solutions,

along with a bibliography of source materials. Running time for the course is approximately 50 minutes. (For Windows PC)

2001, CD-ROM, ISBN 1-884932-22-3

NP-41 \$79.00



Filter Design by Transmission Zeros

Instructor: Randy Rhea

This practice-oriented course helps you understand the design of L-CD filters based on the specifications of transmission zeros. Mastering this powerful technique will allow you to design customized filters with reduced component count and more easily realized

element values. Session includes sections on classic design methods and practical issues associated with building filters. Running time for the course is approximately 60 minutes. (For Windows PC)

2001, CD-ROM, ISBN 1-884932-23-1

NP-42 \$99.00



Lumped-Element Transforms

Instructor: Randy Rhea

This course covers the use of transforms for improving filter realizability. Rhea also explores the design of practical filters using different transforms. Topics include: Canonic filters, the Norton transform, filters with finite frequency zeros, inverters and Norton and

resonator branches. Running time for the course is approximately 60 minutes. (For Windows PC)

2002, CD-ROM, ISBN 1-884932-29-0

NP-46 \$89.00

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Includes NP-41, NP-42 and NP-46

NP-50 \$229.00



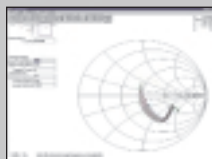
winLINE software

winLINE software computes the impedance and other parameters for a wide range of transmission line geometries. Handles structures such as stripline, microstrip, coaxial, coplanar waveguide, wire above ground, suspended microstrip, coupled microstrip, slabline, coupled stripline, trough line and other

geometries. (For Windows PC)

1996, two 3.5" disks plus 54-page manual

NP-11 \$99.00



winSMITH 2.0 software

Easily creates ladder networks of up to nine elements, which can be transmission line segments, inductors, resistors or capacitors, or user-defined elements. Schematic entry simplifies circuit

definition, and the Smith Chart display makes manipulation of values a simple task. Can do frequency sweeps, fine or coarse tuning as needed, and provides precise numerical results. (For Windows PC)

1998, one 3.5" disk plus 24-page manual

NP-5 \$79.00



RF and Wireless Made Simple

Besser Associates

This training course lets you access definitions and examples of fundamental concepts in RF and wireless technology. As an administrative tool, this CD will allow you to coordinate and track

training for your students and examine and assess test results. (For Windows PC, 4x or higher CD-ROM drive, minimum 1 MB free hard drive space. Sound card and external speakers are recommended.)

1999, Besser Associates, CD-ROM

BE-1 \$495.00



Introduction to Antenna Fundamentals

Steven R. Best, Ph.D.

Introduction to Antenna Fundamentals presents a discussion of basic antenna concepts and definitions used in the antenna industry. Antenna

characteristics such as VSWR, radiation patterns, directivity, gain, polarization, axial ratio, EIRP are defined and their impact on wireless system performance is discussed. The course also introduces different antenna types, including resonant antennas, frequency independent antennas, aperture antennas, arrays and electrically small antennas. (For Windows PC)

2002, CD-ROM, ISBN 1-884932-36-3

NP-53 \$89.00



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2002, CD-ROM, ISBN 1-884932-28-2

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2002, CD-ROM, ISBN 1-884932-32-0

NP-51 \$49.00



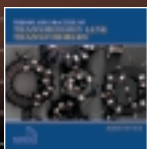
Transmission Line Transformers

Jerry Sevik

This fourth edition contains all the valuable information from earlier editions: the classic techniques of Guanella and Ruthroff and real transformers constructed and measured to establish practical levels of bandwidth and loss performance that can be obtained with transmission transformer techniques. The new chapters clarify the principles behind the operation of TLTs and cover TLT efficiency, power combiners and mixer transforms, equal delay transforms.

2001 (4th edition), 312 pages, ISBN 1-884932-18-5

NP-9 **\$39.00**



Theory and Practice of Transmission Line Transformers

Instructional CD-ROM Series

This tutorial introduces the theory and practice of transmission line transformers (TLT). In an innovative approach to the subject, Sevik divides TLTs into four classes: TLTs with ratios of 1:1, 1:4, less than 1:4 and greater than 1:4. The first two sections in this course cover 1:1 baluns and 1:4 baluns and ununs, as discussed by Guanella and Ruthroff. Additional sections review TLTs with ratios less than 1:4 and greater than 1:4, such as 1:6, 1:9 and 1:12. The course concludes with a discussion of information on diode mixers and power combiners/splitters.

2002, CD-ROM, ISBN 1-884932-33-9

NP-52 **\$99.00**

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Includes NP-9 and NP-52

NP-54 **\$115.00**



Small Signal Microwave Amplifier Design

Theodore Grosch

This book explains classical and modern techniques for designing small signal high frequency amplifiers with practical design examples. Linear network theory and transmission line principles provide the foundation for an in-depth discussion that includes broadband amplifier

design and low-noise techniques. This book is an excellent reference book for RF and microwave designers, as well as a textbook for senior and graduate engineering students.

2000, 280 pages, ISBN 1-884932-06-1

NP-31 **\$69.00**

Solutions Guide

2000, ISBN 1-884932-09-6

NP-32 **\$19.00**

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Smith Chart Toolset

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Includes: **Introduction to the Smith Chart**

NP-19 (if purchased alone) **\$99.00**

Electronic Applications of the Smith Chart

NP-4 (if purchased alone) **\$59.00**

winSMITH 2.0 software

NP-5 (if purchased alone) **\$79.00**

Total if purchased individually **\$237.00**

► **Save \$38 by ordering the Toolset**



Advanced Digital Communications

Kamilo Feher

This extensive reference book now available again in hardcover format, includes data on systems and techniques for ISDN, speech coding, echo cancellation, digital speech interpolation, digital television, modulation and demodulation methods, correlative coding, interference considerations, mobile radio and satellite systems, and adaptive equalization. One of the most complete books on digital communications engineering.

1997 (reprint), 726 pages, ISBN 1-884932-02-9

NP-22 **\$34.00**



Digital Communications: Microwave Applications

Kamilo Feher

An early classic in digital communications. Coverage includes: transmission system environment, statistical analysis methods, digital modulation, microwave amplifiers, system gain, M-ary PSK and QAM systems and correlative techniques, plus material on system design and measurements. Provides a foundation in digital transmission techniques.

1997 (reprint), 268 pages, ISBN 1-884932-00-2

NP-23 **\$24.00**



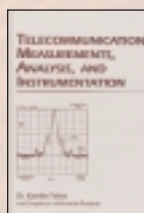
Digital Communications: Satellite/Earth Station Engineering

Kamilo Feher

In the 1980s, digital communications replaced analog techniques in most satellite transmission systems. This book addresses the specific needs of satellite systems, including link calculations, the terrestrial interface, baseband systems and signal processing, modulation techniques, coding, synchronization, TDMA and on-board processing.

1997 (reprint), 468 pages, ISBN 1-884932-01-0

NP-24 **\$29.00**



Telecommunications Measurements, Analysis and Instrumentation

Kamilo Feher and Hewlett-Packard Engineers

A rare text dedicated to high-performance measurement techniques in modern communications. Covers performance measurement for digital transmission systems and digital signal processing in telephone channels, PCM channels, digital radio, FDM, and analog microwave.

1997 (reprint), 412 pages, ISBN 1-884932-03-07

NP-25 **\$29.00**

► **Save 35% by ordering all four of Dr. Feher's Digital Communications books**

Includes NP-22, NP-23, NP-24 and NP-25

NP-26 **\$95.00**

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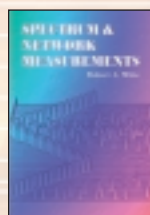
RF Power Amplifiers

Mihai Albu

In addition to discussing the basic concepts used in the analysis and design of RF power amplifiers, detailed mathematical derivations indicate the assumptions and limitations of the presented results, allowing the reader to calculate their usefulness in practical designs. Covered are amplification classes, circuit topologies, bias circuits, and matching networks.

2001, 368 pages, ISBN 1-884932-12-6

NP-36 \$75.00



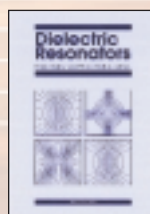
Spectrum & Network Measurements

Robert A. Witte

This classic volume covers the theory and practice of spectrum and network measurements in electronic systems. Witte's thorough discussion enables the reader to understand the basic theory of signals and systems, relate it to measured results, and apply it when creating new designs.

2001 (reprint of 1993 original), 320 pages, ISBN 1-884932-16-9

NP-38 \$59.00



Dielectric Resonators

Darko Kajfez and P. Guillon, editors

A book for engineers who design and build filters of all types, including lumped element, coaxial, helical, dielectric resonator, stripline and microstrip types. A thorough review of classic and modern filter design techniques is presented, with extensive practical design information on passband characteristics, topologies and transformations, component effects and matching. An excellent text for the design and construction of microstrip filters.

1998 (2nd edition), 576 pages plus disk, ISBN 1-884932-05-3

NP-28 \$59.00



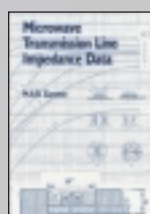
Electromagnetic Field Measurements in the Near Field

Hubert Trzaska

This book discusses the specific problems of EMF measurements in the near field and the main factors limiting measurement accuracy. Measuring methods are examined for EMF, electric fields and magnetic fields; measurement discussions include power density and photonic EMF measurements.

2001, 232 pages, ISBN 1-884932-10-X

NP-37 \$69.00



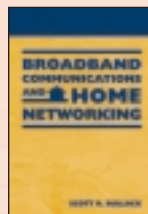
Microwave Transmission Line Impedance Data

M.A.R. Gunston

A compendium of data for computing the characteristic impedance of transmission lines based on physical dimensions. Covers both conventional structures and unusual geometries, including: coaxial, eccentric and elliptic coaxial, twin-wire, wire-above-ground, microstrip and derivatives, stripline, slabline and trough line. Also details numerous configurations of coupled lines.

1997 (2nd edition, original 1972), 281 pages, ISBN 1-884932-57-6

NP-10 \$54.00



Broadband Communications and Home Networking

Scott R. Bullock

This easy-to-read book takes a close look at current high-speed digital communications, data distribution and networking solutions for homes and small offices. Bullock also offers a review of the basic principles and terminology surrounding telephony, modems, digital modulation and orthogonal signals.

2001, 160 pages, ISBN 1-884932-19-3

NP-40 \$49.00



Transceiver and System Design for Digital Communications

Scott R. Bullock

Covers digital communications, building on principles required for military applications and translating those concepts for widely used commercial applications. Includes information on GPS navigation, jamming and interference reduction, direction-finding and positioning.

2000 (2nd edition), 280 pages, ISBN 1-884932-14-2

NP-7 \$59.00



Radio Receiver Design

Kevin McClaning and Tom Vito

This comprehensive and well-written reference presents a systematic discussion of the characteristics of individual receiver components and their interaction in cascade. Numerous practice examples and exercises serve as an integral part of each component's specification. Written by engineers for engineers, *Radio Receiver Design*

focuses on useful and proven concepts that can be used daily by working engineers.

2001, 796 pages, ISBN 1-884932-07-X

NP-35 \$89.00



Radio-Electronic Transmission Fundamentals

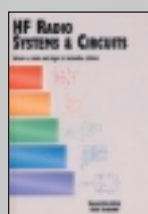
B. Whitfield Griffith, Jr.

Hailed for its clear and concise explanation of antenna, transmission lines and RF networks, this classic volume is highly recommended for both new and experienced engineers who must know about the four key areas of radio: electrical networks, transmission lines, radio

antennas and radio transmitters.

2000 (2nd edition, original 1962), 648 pages, ISBN 1-884932-13-4

NP-34 \$75.00



HF Radio Systems & Circuits

William E. Sabin and Edgar O. Schoenike, editors

A comprehensive reference book for the design of high-frequency communications systems and equipment. Previously published as *Single Sideband Systems & Circuits*, this revised edition has been retitled to better describe the wide range of its content. Its approach follows the needs of an engineer from system definition and performance requirements down to the individual circuit elements that make up radio transmitters and receivers. Includes disk with filter and other programs.

1998, 672 pages, ISBN 1-884932-04-5

NP-30 \$75.00



Microwave Field-Effect Transistors

Raymond S. Pengelly

Thorough coverage of MESFET devices in microwave circuits (low-noise amplifiers, mixers, oscillators, power amplifiers, switches and multipliers). Includes such topics as semiconductor theory and transistor performance, CAD considerations, intermodulation, noise figure, signal handling, S-parameter mapping, narrow- and broadband techniques, packaging and thermal considerations. A comprehensive text on GaAs MESFET technology and applications.

1994 (3rd edition), 704 pages, ISBN 1-884932-50-9

NP-8 \$79.00



Microwave Semiconductor Engineering

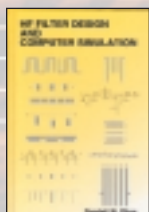
Joseph F. White

Focuses on microwave diodes in switches, limiters, attenuators, phase shifters and delay networks. Covers device physics and operating principles as they relate to requirements in driving circuitry. Includes CAD techniques, FORTRAN routines, numerous design

examples, and appendices for basic constants and formulas, materials, transmission line structures and other key microwave engineering topics.

1995, 558 pages, ISBN 0-9647454-0-2

NP-21 \$39.00



HF Filter Design and Computer Simulation

Randall W. Rhea

A book for engineers who design and build filters of all types, including lumped element, coaxial, helical, dielectric resonator, stripline and microstrip types. A thorough review of classic and modern filter design techniques is presented, with extensive practical design information on passband

characteristics, topologies and transformations, component effects and matching. An excellent text for the design and construction of microstrip filters.

1994, 448 pages, ISBN 1-884932-25-8

NP-2 \$59.00



Oscillator Design and Computer Simulation

Randall W. Rhea

This second edition of the number one guide to oscillator design presents a comprehensive, unified approach to oscillator design that can be used with a wide range of active devices and resonator types. Valuable to experienced engineers and to those new to oscillator design. Resonator

types covered include: L-C, crystal, SAW, dielectric resonator, coaxial line, stripline and microstrip. Covers modern CAD synthesis and analysis techniques.

1995 (2nd edition), 320 pages, ISBN 1-884932-30-4

NP-1 \$64.00



Filtering in the Time and Frequency Domains

Herman J. Blinichoff and Anatol I. Zverev

This book stands as the most comprehensive treatment of filtering techniques, devices and concepts.

Discussed are the derivation of filtering functions, Fourier, Laplace, Hilbert and z transforms, low-pass responses, the transformation of low-pass into other

filter types, the all-pass function and more.

2001 (reprint of 1987 Krieger edition), 520 pages, ISBN 1-884932-17-7

NP-39 \$69.00



Electronic Applications of the Smith Chart

Phillip Smith

The legendary Smith chart inventor's original, classic reference book describing how the chart is used for designing lumped element and transmission line circuits. Includes tutorial material on transmission line theory and behavior, circuit representation on the chart, matching

networks, network transformations and broadband matching. Includes a new chapter with example designs solved using winSMITH.

1995, 264 pages, w/ mylar Smith chart overlays, ISBN 1-884932-39-8

NP-4 \$59.00

Applied Microwave & Wireless Design Guides



Practical Filters and Couplers

Offers 13 articles on classic as well as current design and testing techniques for filters, couplers and baluns. Provides quick access to crucial concepts, practical solutions and original design ideas.

80 pages, large format softcover, ISBN 1-884932-21-5

NP-43 \$24.95



Power Amplifier Design

Over twenty experts put everything you need to know about power amplifier linearization, measuring, modeling and distortion at your fingertips. (Re)discover how to improve amplifiers and amplifier applications, model and suppress amplifier distortion, specify amplifier linearity.

112 pages, large format softcover, ISBN 1-884932-26-6

NP-45 \$29.95



More Practical Filters and Couplers

A continuation of *Practical Filters and Couplers*, this guide collects 18 additional articles of interest on practical filters, couplers and baluns. Focuses on articles covering tunable structures and couplers featuring lumped-element, planar and active component approaches.

120 pages, large format softcover, ISBN 1-884932-31-2

NP-49 \$29.95



Small-Signal Amplifier Design

Compiles design articles on S-parameter design, stability, low-noise amplifiers, amplifier distortion and modeling. Focuses on amplifier design, LNA design, distortion prediction and reduction, computer simulation and device modeling.

104 pages, large format softcover, ISBN 1-884932-24-X

NP-44 \$29.95

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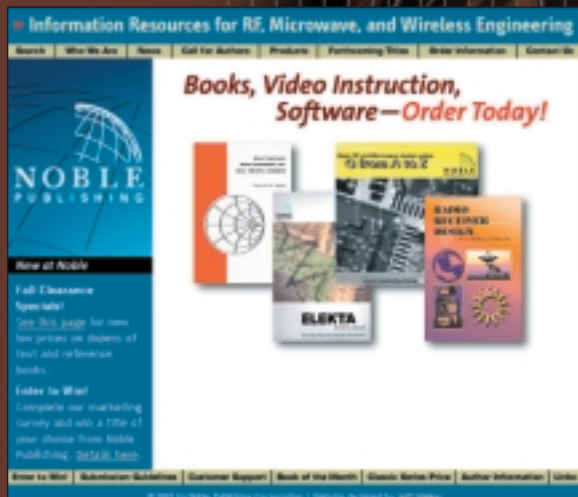
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