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Amateur Radio

Winter 2012/2013

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Operating

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The ARRL Operating Manual 10th Edition

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The ARRL Operating Manual is the most complete guide to Amateur Radio operating. For decades, it has been recognized as the trustworthy source of everything you need to know about ham radio operating—from exploring the broad range of activities, to sharpening your on-air skills. It's filled with information every ham needs, from newcomers looking for basic operating techniques to more experienced hams looking for new things to do with their gear.

Whether your interests are more technical or public service oriented, you'll turn to **The Operating Manual** for information on **what to operate, where to operate and how to operate.**

Table of Contents:

- Amateur Radio — All About Operating
- VHF/UHF — FM, Repeaters, Digital Voice and Data
- VHF/UHF — Beyond Repeaters
- Disaster, Public Service and Emergency Communications
- Traffic Handling — Getting the Message Through
- DXing — Contacting Those Faraway Places
- Contesting — Competitive Wireless
- HF Digital Communications
- Image Communications
- Amateur Satellites
- Legally, Safely, Appropriately — The FCC Rules and You
- Remote Station Control Over the Internet
- Operating Awards
- References

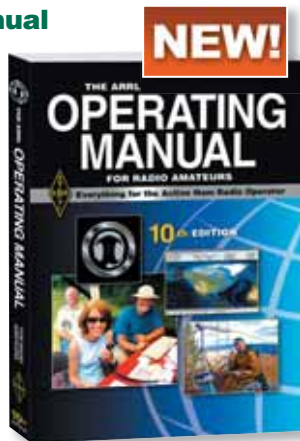
Get on the Air with HF Digital

The Beginner's Guide to PSK31, RTTY and More!

Steve Ford, WB8IMY
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A step-by-step guide that will get you started in the fascinating world of HF digital technology. Written in an easy to understand style, this book will show you how to set up and operate your own HF digital station. A fun and easy way for beginners to get on the air!

- Let's Build an HF Digital Station
- PSK31, RTTY and JT65
- MFSK and Olivia
- FACTOR



Get on the Air!

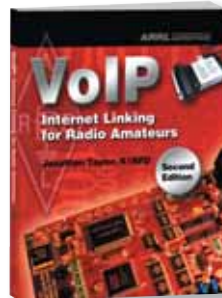
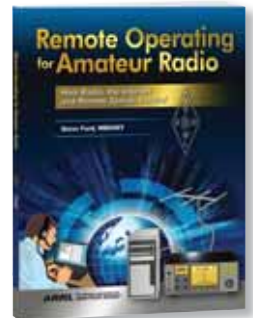


Remote Operating for Amateur Radio

Ham Radio, the Internet and Remote Station Control

Steve Ford, WB8IMY
Order No. 0922 – \$22.95

Learn the basics of how the Internet works, how home networks operate and how to interconnect Amateur Radio hardware and software for remote Internet control. Find station diagrams, software tips and much more.



VoIP: Internet Linking for Radio Amateurs

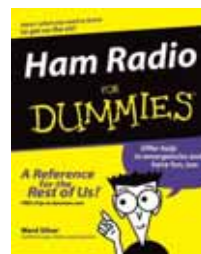
2nd Edition
Jonathan Taylor, K1RFD
Order No. 1431 – \$21.95

Your complete guide to the most widely-used VOIP systems used by hams; with particular attention to **EchoLink** and the Internet Radio Linking Project, or **IRLP**.

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Get on the air now! A guide to your first Amateur Radio station. Select radios and antennas, explore operating modes, and assemble your station.



Ham Radio for Dummies

Ward Silver, N0AX
Order No. 9392 – \$21.99

Here's the scoop, including licensing requirements and how to set up a station. And if you're already licensed, this book will help you start sounding (and feeling) like a pro!

*See page 13 for
more Dummies titles.*



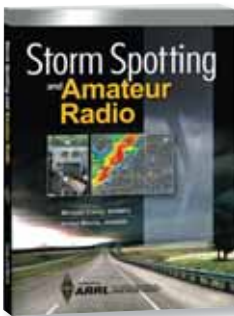
The ARRL Software Library for Hams

CD-ROM, version 4.0
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Quick access to utilities, applications and information: Software defined radio, station logging, digital operating, CW decoding, image editing and much more.

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Requires Microsoft® Windows® XP or Windows Vista/7.



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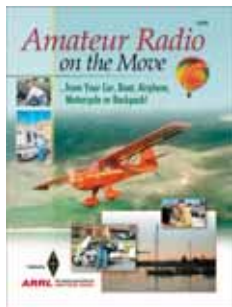
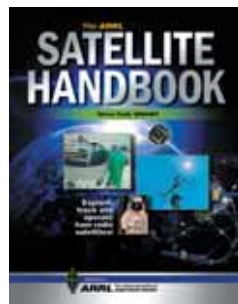
A resource for Amateur Radio operators who volunteer as trained storm spotters. Includes information on training, equipment, safety, storm spotter activation procedures, developing a local storm spotter manual, and the experiences of storm spotters from around the country.

The ARRL Satellite Handbook

Steve Ford, WB8IMY

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Bring the thrill of satellite communications within your reach! Filled with understandable descriptions and illustrations, this book includes all the tools you need to participate in this exciting field.



Amateur Radio on the Move

—from Your Car or RV, Boat, Airplane, Motorcycle or Backpack!

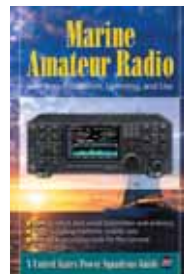
Order No. 9450 – \$19.95

Expert advice for radio operating on the go! Mobile radios, installation, antennas, operating tips, software and more.

Marine Amateur Radio

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All the information you need to operate your station under many types of restrictive situations. Provides details for many real-life examples and techniques for a variety of low profile circumstances.



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The best directory of frequencies for the thousands of repeaters around the country!

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- Easy-to-read listings.
- Repeater notes located right up front.

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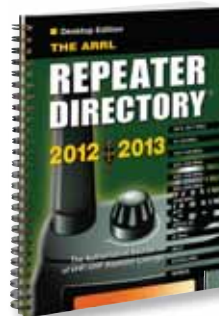
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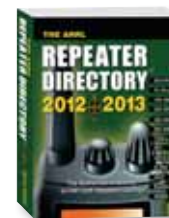
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Requires Microsoft Windows™ XP or Vista. GPS feature requires a GPS device. Upgrade available for previous customers. Contact ARRL for details.

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The ARRL Handbook 2013 Edition

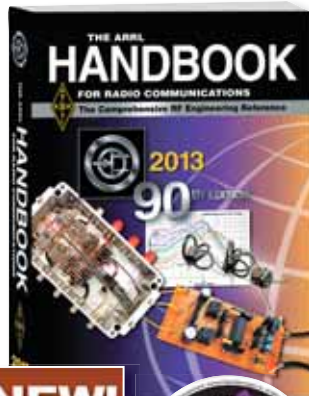
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Softcover. Book with CD-ROM
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The ARRL Handbook is widely recognized as being the standard reference among radio amateurs and other technologists—experimenters, engineers and students. It's filled with essential information from across the expanse of radio communication fundamentals, covering nearly every aspect of radio and antenna design, equipment construction, and station assembly.

90th Edition! Just as was said of the ninth edition can say of this edition: *Anyone who is at all interested in the technical side of radio can ill afford to be without The Radio Amateur's Handbook.*



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It Just Keeps
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Introduction

- What is Amateur (Ham) Radio

Fundamental Theory

- Electrical Fundamentals
- Analog Basics
- Digital Basics

Practical Design and Principles

- RF Techniques
- Computer-Aided Circuit Design
- Power Supplies
- Modulation
- Oscillators and Synthesizers
- Mixers, Modulators and Demodulators
- RF and AF Filters
- Receivers
- Transmitters
- Transceivers
- DSP and Software Radio Design
- Digital Modes
- RF Power Amplifiers
- Repeaters

Antenna Systems and Radio Propagation

- Propagation of Radio Signals
- Transmission Lines
- Antennas

Equipment Construction and Maintenance

- Component Data and References
- Construction Techniques
- Station Accessories
- Test Equipment and Measurements
- Troubleshooting and Maintenance
- RF Interference

Station Assembly and Management

- Safety
- Assembling a Station

ARRL's Hands-On Radio Experiments

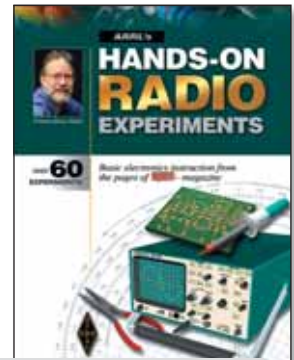
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Over 60 short electronics experiments from the pages of *QST*. Step-by-step Silver expertly leads you through each experiment—and you'll make discoveries along the way.

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- Semiconductor Basics
- Building Block Circuits
- Power Supplies
- Filters
- Oscillators and Buffers
- Transmission Lines & Impedance Matching
- Workshop & Design Techniques

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CD-ROM included with design software, listings for DSP firmware, and supplementary articles.

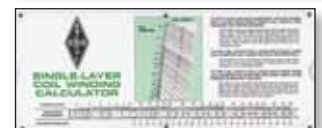
Contents:

- Basic Investigations in Electronics
- Amplifiers, Filters, Oscillators, and Mixers
- Super-heterodyne Transmitters and Receivers
- Measurement Equipment
- Direct Conversion Receivers
- Phasing Receivers and Transmitters
- DSP Components
- DSP Applications in Communications
- Field Operation, Portable Gear and Integrated Stations

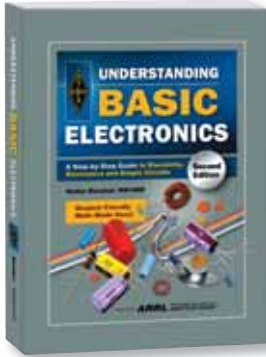
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Use this handy slide rule when you're tinkering with filters, oscillators, impedance matching circuits or antenna coils and traps. Quick and easy circuit calculations.



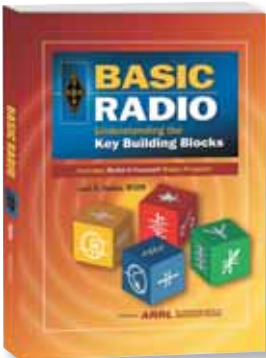
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Understanding Basic Electronics

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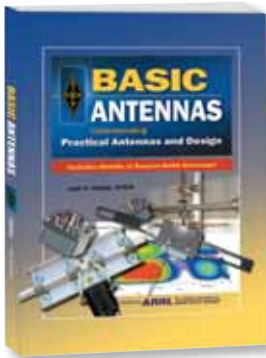
Your gateway into the exciting world of electricity and electronics! This book is written in a friendly, easy-to-understand style that beginners and nontechnical readers will enjoy. Real-world examples and clear illustrations make the study of electronics interesting and fun!



Basic Radio

Understanding the Key Building Blocks
 Joel Hallas, W1ZR
 Order No. 9558 – \$29.95

This is an introduction to radio for everyone. Reveals the key building blocks of radio: **receivers, transmitters, antennas, and propagation**. Includes simple, build-it-yourself projects to turn theory into practice.



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Understanding Practical Antennas and Design
 Joel Hallas, W1ZR
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A comprehensive introduction to antennas. Includes basic concepts, practical designs, and details of easy-to-build antennas. You'll learn how to make antennas that *really* work!

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Your guide to understanding PIC design and development. Written in a building block approach, this book provides readers a strong foundation on the subject. As you explore the potential of these powerful devices, you'll find that working with PICs is simple, educational and most importantly fun.



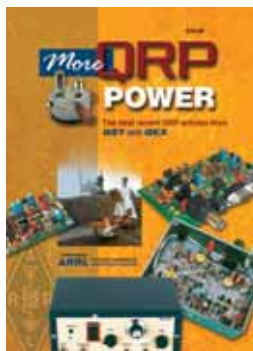
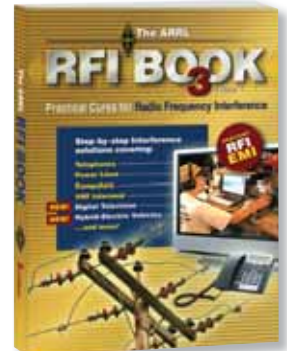
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 Build your own PIC kit!
 Kit and book sold separately.

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Interference solutions covering telephones, power lines, computers and audio equipment. Resources for addressing new realities of digital cable TV and satellite systems, over-the-air TV signals, trouble-shooting, and hybrid and all-electric automobiles.



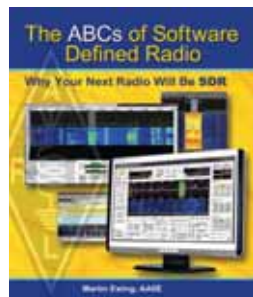
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 Here are *more* projects and articles for low power radio operating, from the pages of *QST* and *QEX* magazines: **construction practices, transceivers, transmitters, receivers, accessories, and antennas.**

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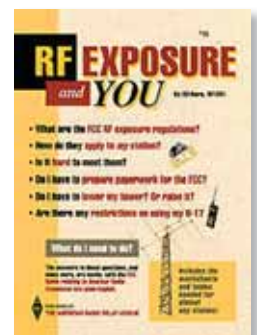
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An introductory guide to SDR and Digital Signal Processing (DSP) technologies. Discover the basic principles of SDR, advantages to SDR technology, and ways to utilize it in Amateur Radio operation.



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ARRL's Low Power Communication

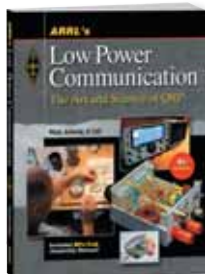
4th Edition

Rich Arland, K7SZ

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Your guidebook to the fascinating world of low power QRP operating. With only 5 W or less — sometimes much less — you can enjoy conversations over hundreds and even thousands of miles. **Bonus!** Includes the complete assembly manual for the MFJ Cub Transceiver Kit (sold separately).



Get the book with the kit!

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ARRL's Low Power Communication with 40-meter CW Cub Transceiver Kit.

Build the kit in just a few hours, and you'll be working the world with low-power fun!

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20-meter CW Cub Transceiver Kit. Book not included.



ARRL Morse Code Oscillator Kit

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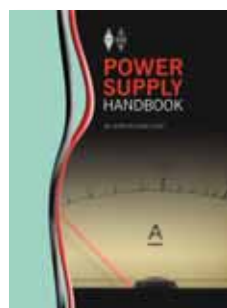
A great "beginners" electronics kit! Ideal for ARRL members, Amateur Radio newcomers, clubs and instructors seeking a classroom kit-building experience.



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John Fielding, ZS5JF

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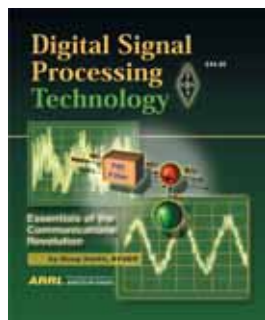
Understand and make power supplies of all types. Explains how power supplies work, selecting each component, building and modifying, measuring the finished supply, and more.

Digital Signal Processing Technology

Doug Smith, KF6DX

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The book begins with basic concepts, details digital sampling including fundamental and harmonic sampling, aliasing and mechanisms at play in real data converters and other current topics.

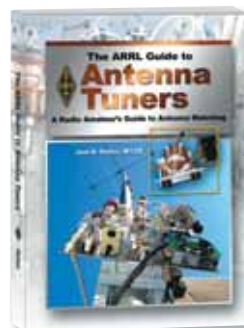
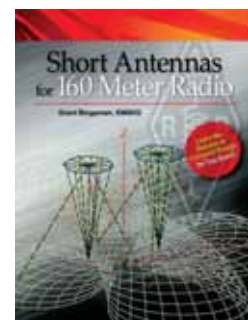


Short Antennas for 160 Meter Radio

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Intended for amateurs with advanced skills in antenna modeling, this book walks through innovative designs for relatively compact antennas. Learn how to enhance bandwidth, minimize loss, and employ other techniques to enjoy 160 meters.



The ARRL Guide to Antenna Tuners

A Radio Amateur's Guide to Antenna Matching

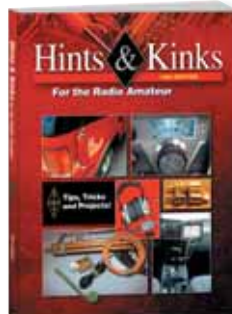
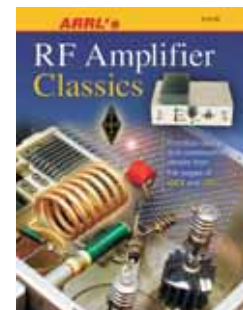
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Explore the design, construction and applications of the different types of antenna tuners. You'll gain a better understanding of your antenna system and the way it can be improved through the use of the appropriate antenna tuner.

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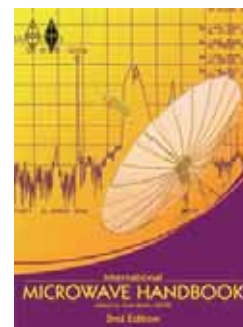
8 years of the best projects and problem-solving techniques from *QST's Hints & Kinks* column, one of the most popular sections of the journal. Projects and practical information you can use every day!

International Microwave Handbook

2nd Edition

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Fundamental principles to designing and constructing equipment for microwave bands. Includes operating techniques, system analysis and propagation, microwave antennas, transmission lines, semiconductors and valves, and more.



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The ARRL Antenna Book is the ultimate reference for antennas, transmission lines and propagation. It describes antennas for nearly any frequency range and operating application: low-band, HF, VHF, UHF and microwave; fixed station, portable, mobile, maritime, satellite and more!

This twenty-second edition of **The ARRL Antenna Book** includes a complete reorganization, new content, and exciting new antenna projects.

Table of Contents:

Basic Antenna Topics

- Antenna Fundamentals
- Effects of Ground
- Loop Antennas
- Log Periodic Dipole Arrays
- Dipoles and Ground-Planes
- Radio Wave Propagation
- Multielement Arrays
- Antenna Modeling

MF and HF Antennas

- Single-Band MF and HF Antennas
- Multiband HF Antennas
- HF Yagi and Quad Antennas
- Broadside and End-Fire Arrays
- Long-Wire and Traveling-Wave Antennas
- HF Antenna System Design

VHF, UHF, and Microwave Antennas

- VHF and UHF Antenna Systems
- Mobile VHF and UHF Antennas
- Space Communications Antenna Systems
- Repeater Antenna Systems

Special Applications

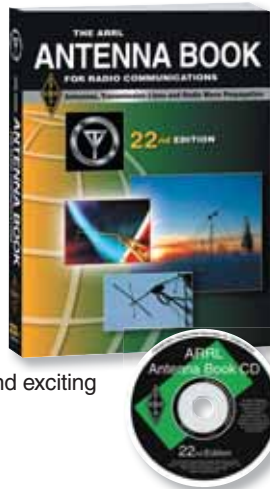
- Portable Antennas
- Stealth and Limited Space Antennas
- Mobile and Maritime HF Antennas
- Receiving and Direction-Finding Antennas

Transmission Lines

- Transmission Lines
- Transmission Line Coupling and Impedance Matching

Building and Maintaining Antenna Systems

- Antenna Materials and Construction
- Putting Up Towers and Antennas
- Antenna and Transmission Line Measurements
- Antenna System Troubleshooting



ARRL's Small Antennas for Small Spaces

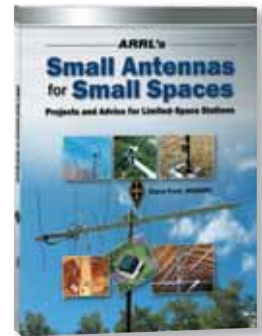
Projects and Advice for Limited-Space Stations

Steve Ford, WB8IMY

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A resource for radio amateurs who live in apartments, condominiums, or houses on small lots. Filled with practical advice, you'll find the right antenna design to fit your space available. Get on the air regardless of where you live!



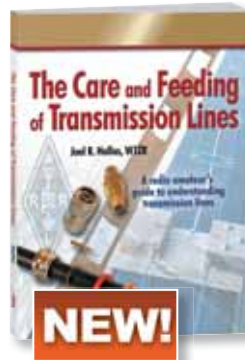
The Care and Feeding of Transmission Lines

Joel Hallas, W1ZR

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ARRL Member Price! \$24.95

A guide to understanding transmission lines. It includes an introduction to the various types of transmission lines, key parameters of coaxial cable and balanced line types, as well as the different types of connectors. You'll learn how to select the most appropriate transmission line for an application and how to install it.



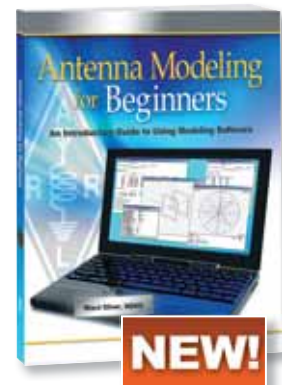
Antenna Modeling for Beginners

Ward Silver, N0AX

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ARRL Member Price! \$34.95

A guide to using modeling software for designing and evaluating antennas. It provides a detailed introduction to EZNEC, the most popular antenna modeling program used by radio amateurs today. You'll set up basic modeling software, evaluate and adjust pre-designed models, and create your own models.



Simple and Fun Antennas for Hams

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More than 70 well-tested, fun and entirely useful projects. Hundreds of photos and illustrations. Build your first VHF or HF antenna. Explore dipoles, verticals, beams and more. **These antennas work!**



The ARRL Antenna Designer's Notebook

Brian Cake, KF2YN

Order No. 1479 – \$34.95

Open a window into the mind of the antenna designer as the design is imagined, perfected, and constructed. It provides a thorough description of new components of antennas – such as the FZ element and the C-pole – and practical antennas made from them. **CD-ROM included!**

6 Antennas

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Full of practical antenna designs and other antenna-related topics.

Volume 1

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The premiere volume includes articles on a multiband portable, quads and loops, baluns, the Smith Chart, and more.



Volume 2

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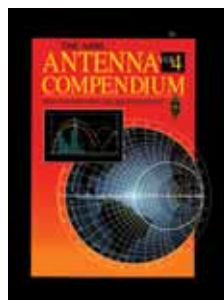
Covers a wide range of antenna types and related topics, including innovative verticals, an attic tri-bander, antenna modeling and propagation.



Volume 3

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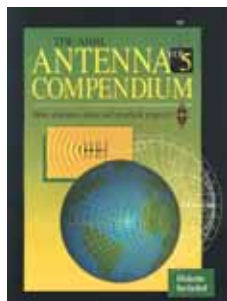
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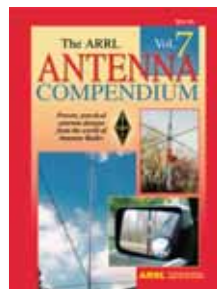
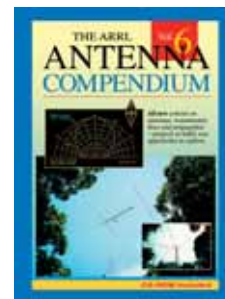


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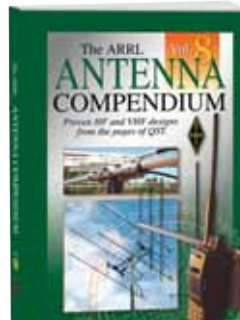
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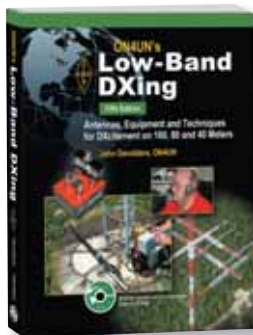
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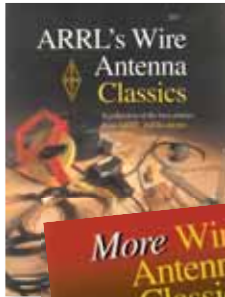
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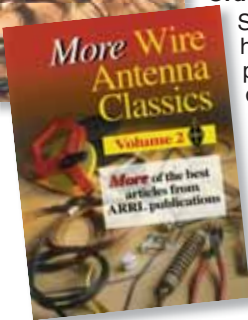


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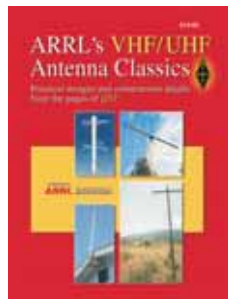


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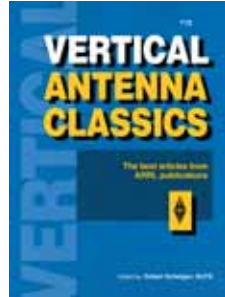
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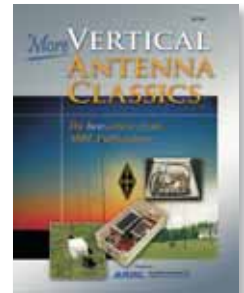
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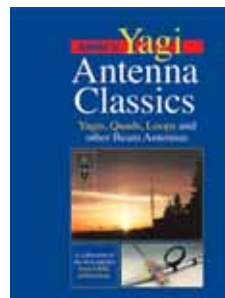
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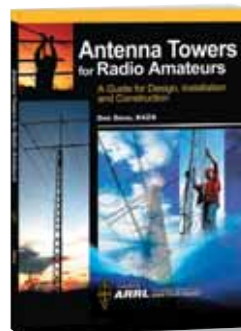


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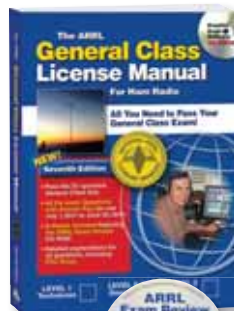
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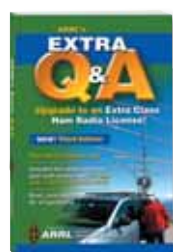
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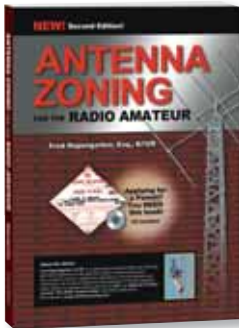
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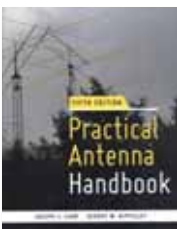
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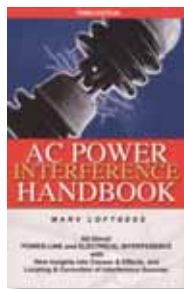
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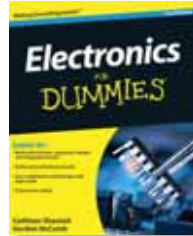
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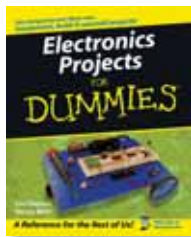
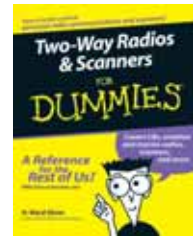
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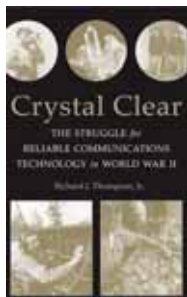
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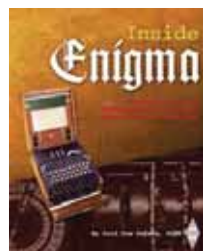
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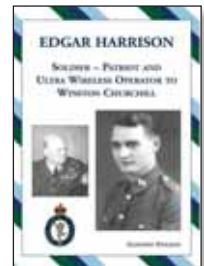
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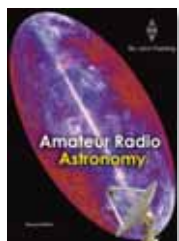
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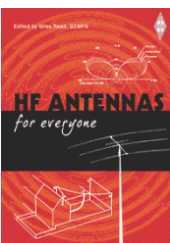
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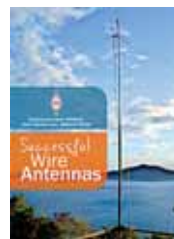
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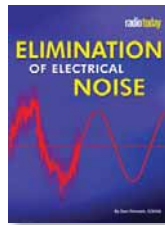
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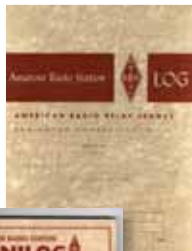
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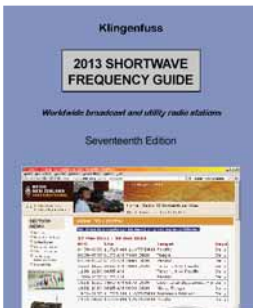
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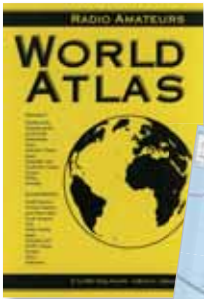
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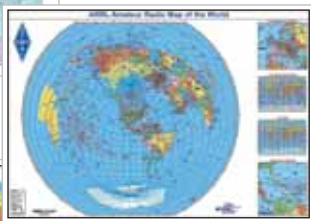
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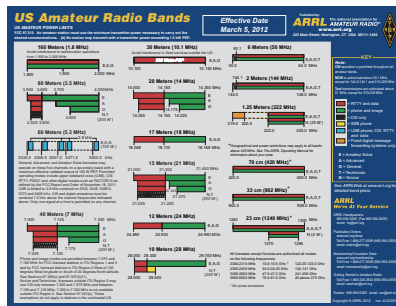
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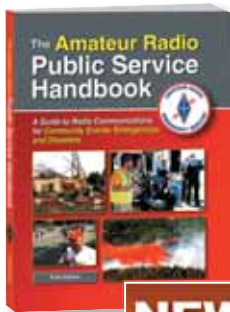
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18 Emergency Communications

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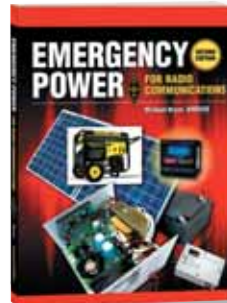


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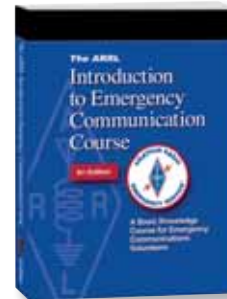


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Dave Bell, W6AQ

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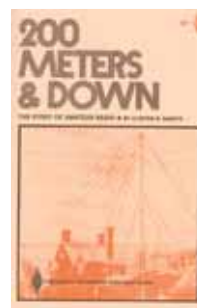
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ARRL as an Advocate — www.arrl.org/regulatory-advocacy

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QSL Service – www.arrl.org/qs1
Logbook of the World – www.arrl.org/lotw

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Radio Clubs (ARRL-affiliated clubs) – www.arrl.org/clubs
Hamfests and Conventions – www.arrl.org/hamfests
ARRL Field Organization – www.arrl.org/field-organization

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ARRL Continuing Education Program – www.arrl.org/courses-training
Books, Software and Operating Resources – www.arrl.org/shop

Quick Links and Resources

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QEX – *A Forum for Communications Experimenters* – www.arrl.org/qex
NCJ – *National Contest Journal* – www.arrl.org/ncj
Support for Instructors – www.arrl.org/instructors
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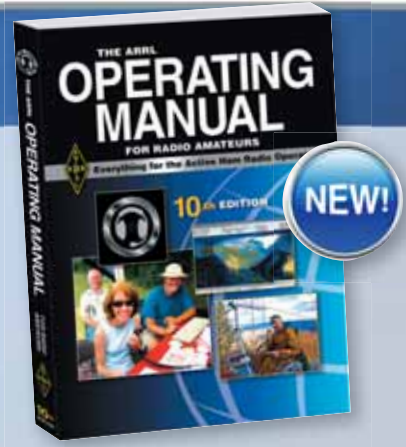
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