



ARRL The national association for
AMATEUR RADIO®

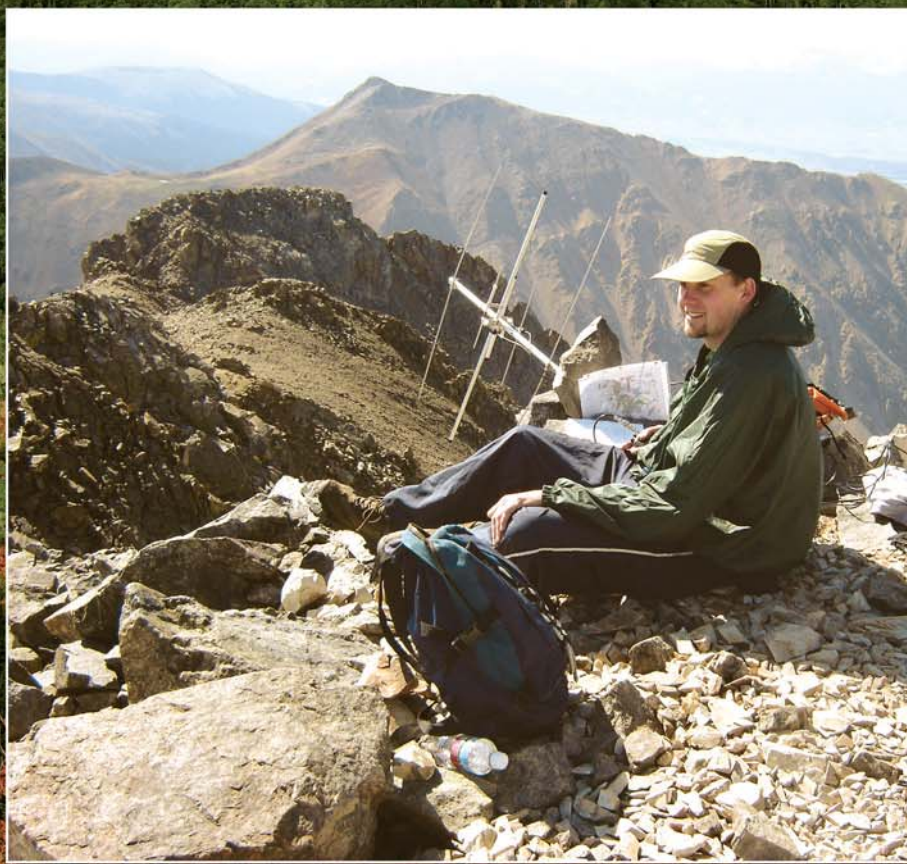
www.arrl.org/shop

Devoted Entirely to

Amateur Radio



Fall 2013/Winter 2014
ARRL Publications & Products



See What's New...

Operating

www.arrl.org/shop ■ 1-888-277-5289

The ARRL Operating Manual 10th Edition

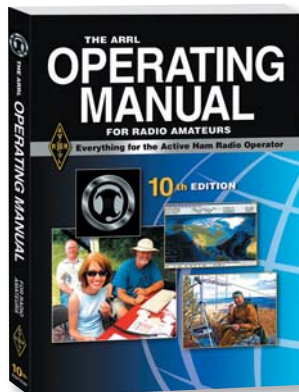
Order No. 5965 – \$34.95
ARRL Member Price! \$29.95

The ARRL Operating Manual is the most complete guide to Amateur Radio operating. It has 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:

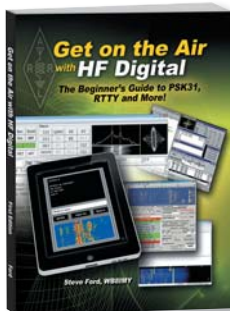
- Amateur Radio — All About Operating
- VHF/UHF — FM, Repeaters, Digital Voice and Data
- VHF/UHF — Beyond Repeaters
- Disaster, Public Service and Emergency Communications
- Traffic Handling — Getting the Message Through
- DXing — Contacting Those Faraway Places
- Contesting — Competitive Wireless
- 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

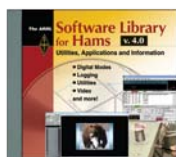
Steve Ford, WB8IMY
Order No. 6016 – \$25.95
ARRL Member Price! \$22.95

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!



ARRL Software Library for Hams

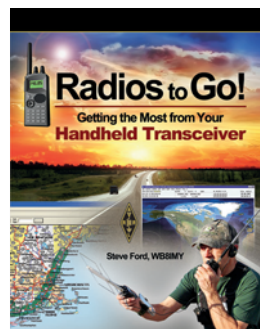
CD-ROM, version 4.0
Order No. 4364 – \$22.95
ARRL Member Price! \$19.95



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

Downloadable version available online at www.arrl.org/shop.

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



Radios to Go!

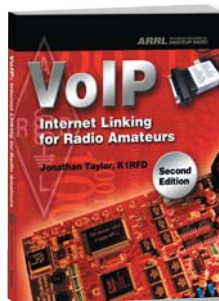
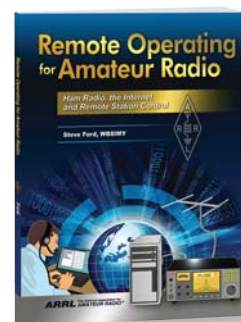
Getting the Most from your Handheld Transceiver
Steve Ford, WB8IMY
Order No. 3077 – \$17.95
ARRL Member Price \$15.95

If you own a handheld transceiver, or trying to decide which one to buy, this is an essential guide! Unlock "hidden" capabilities that aren't described in user manuals.

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

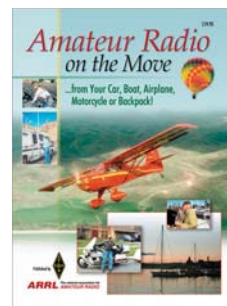
2nd Edition
Jonathan Taylor, K1RFD
Order No. 1431 – \$21.95

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**.

Getting Started with Ham Radio

Order No. 9728 – \$19.95

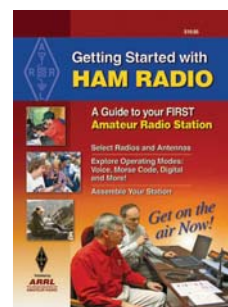
Get on the air now! A guide to your first Amateur Radio station. Select radios and antennas, explore operating modes, and assemble your station.



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.



ARRL2014

Centennial Events & Programs



ARRL
100
YEARS

- **ARRL National Centennial Convention—July 2014**



ARRL National Centennial Convention at the Connecticut Convention Center in Hartford, July 17-19, 2014

Thursday, July 17, 2014

All Day Training Tracks: public service, technology, radiosport, and more!

Friday & Saturday, July 18-19, 2014

- ◆ Exhibit Hall featuring ARRL exhibits, Amateur Radio manufacturers, equipment sellers, and an indoor flea market
- ◆ Dozens of forums & presentations
- ◆ License Exams
- ◆ Friday Night Banquet

**July 17-20, 2014
(Thurs-Sun)**
Tours of ARRL headquarters and W1AW

**Hotel and
Travel details
available
NOW**

- **Regional Centennial Events**
- **Donate Now to the Second Century Campaign for the ARRL Endowment**
www.arrl.org/scc
- **Yearlong On-Air Operating Event and Awards**
- **Plus commemorative publications, regional events, special QST features, and more! Additional details coming soon...**



ARRL2014.org
Registration begins
in January

Advancing the Art and Science of Radio—Since 1914
ARRL2014.org

2 Technical

www.arrl.org/shop ■ 1-888-277-5289

2014 ARRL Handbook ARRL Centennial Edition

Hardcover. Book with CD-ROM
Order No. 0000 – \$59.95
Softcover. Book with CD-ROM
Order No. 0007 – \$49.95

Celebrate ARRL's first 100 years of advancing the art and science of radio with this commemorative **ARRL Centennial Edition of The Handbook**. Always updated, this edition has been extensively revised to reflect the latest technology and innovation in the field of applied electronics and communications.



ARRL Centennial Edition includes historical highlights from previous editions of *The Handbook*.

Commemorative hardcover edition is gold foil embossed and serial numbered. *While supplies last.*

Table of Contents:

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

Ward Silver, NØAX

Volume 2

Order No. 3411 – \$25.95

ARRL Member Price! \$22.95

Volume 1

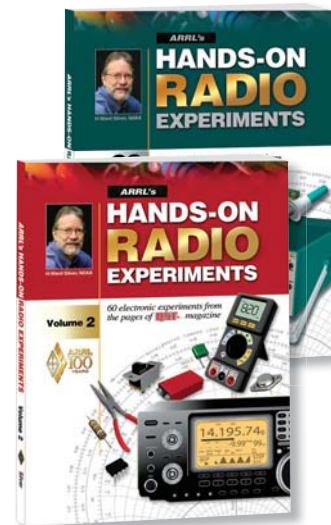
Order No. 1255 – \$19.95

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. Each book includes a complete **parts list**!

Hands-On Radio Parts Kit

Order No. 1255K – \$89.95

Use the parts kit to build the experiments in Volume 1 and 2 yourself! Books sold separately.



Experimental Methods in RF Design

Revised 1st Edition

Order No. 9239 – \$49.95

Explore wide dynamic range, low distortion radio equipment, the use of direct conversion and phasing methods, and digital signal processing. Use the models and discussion to design, build and measure equipment at both the circuit and the system level.

CD-ROM included with design software and supplementary articles.



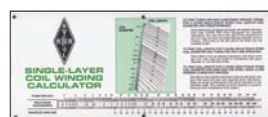
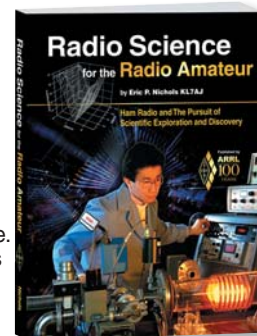
Radio Science for the Radio Amateur

Eric P. Nichols, KL7AJ

Order No. 3381 – \$27.95

ARRL Member Price! \$24.95

Explore the often profound differences between science and technology and "nooks and crannies" of the radio universe. You'll find solving long-standing mysteries of radio doesn't require expensive hardware, but a scientific mindset and attention to detail.

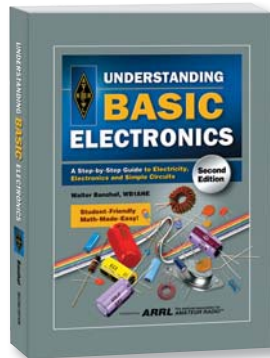


L/C/F and Single-Layer Coil Winding Calculator

Order No. 9123 – \$12.95

Handy slide rule when tinkering with filters, oscillators, impedance matching circuits or antenna coils and traps. Quick and easy circuit calculations.

ARRL "Basic" Book Series



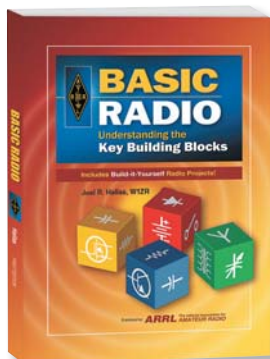
Understanding Basic Electronics

2nd Edition

Order No. 0823 – \$32.95

ARRL Member Price! \$29.95

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!



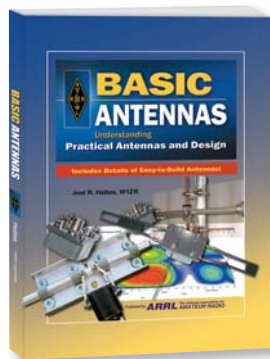
Basic Radio

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.



Basic Antennas

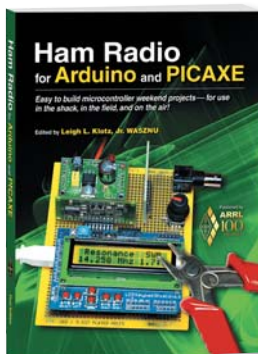
Understanding Practical Antennas and Design

Joel Hallas, W1ZR

Order No. 9994 – \$29.95

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!

Collect the Entire Set!



Ham Radio for Arduino and PICAXE

Order No. 3244 – \$34.95

ARRL Member Price! \$29.95

An introduction to the fun and rewards of experimenting with microcontrollers. Features projects that will enhance your ham radio station and operating capabilities. Or, you can take it to the next step, using these projects as a launch pad for creating your own projects.

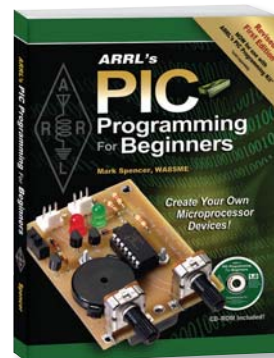
ARRL's PIC Programming for Beginners

Revised First Edition

Order No. 0892 – \$44.95

ARRL Member Price! \$39.95

Your guide to understanding PIC design and development. As you explore the potential of these powerful devices, you'll find that working with PICs is simple, educational and most importantly fun.



ARRL's PIC Programming Kit

Order No. 0030 – \$149.95

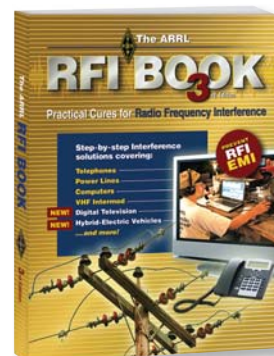
Build your own PIC kit! Kit and book sold separately.

The ARRL RFI Book

3rd Edition

Order No. 0915 – \$29.95

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.



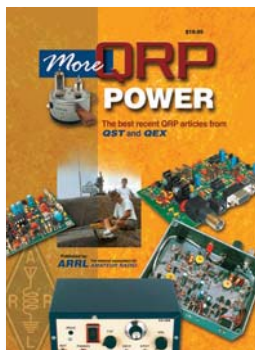
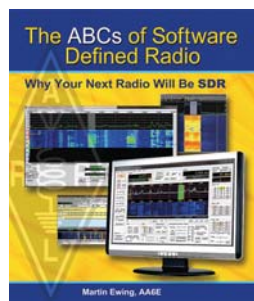
The ABCs of Software Defined Radio

Why Your Next Radio Will Be SDR

Order No. 6320 – \$22.95

ARRL Member Price! \$19.95

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.



More QRP Power

Order No. 9655 – \$19.95

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.**

4 Technical

www.arrl.org/shop ■ 1-888-277-5289

ARRL's Low Power Communication

4th Edition

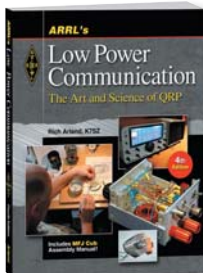
Rich Arland, K7SZ

Order No. 5828 – \$27.95

ARRL Member Price! \$24.95

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!

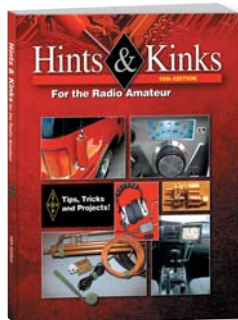
Order No. 5828K – \$105.95

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!

Order No. 0018 – \$89.95

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



Hints and Kinks for the Radio Amateur

18th Edition

Order No. 5200 – \$22.95

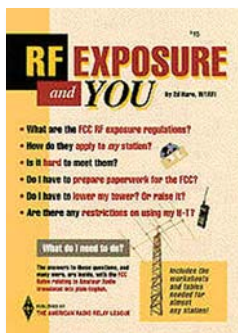
ARRL Member Price! \$19.95

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!

RF Exposure and You

Order No. 6621 – \$22.95

Meet the FCC RF exposure regulations! It's not complicated! Learn how to operate your station safely and legally using simple step-by-step ARRL worksheets and tables.

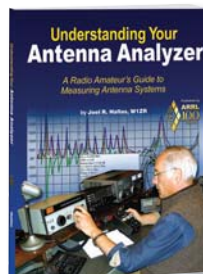
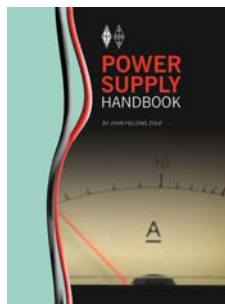


Power Supply Handbook

John Fielding, ZS5JF

Order No. 9977 – \$29.95

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.



Understanding Your Antenna Analyzer

Order No. 2889 – \$25.95

ARRL Member Price! \$22.95

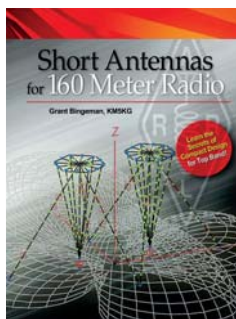
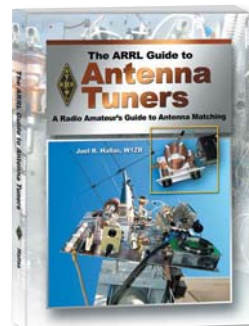
An introduction to the various types of analyzers available, their component parts, how they operate and how to utilize them to get the best possible data. Includes product review testing and an in depth look at antenna analyzers available today.

The ARRL Guide to Antenna Tuners

A Radio Amateur's Guide to Antenna Matching

Order No. 0984 – \$22.95

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.



Short Antennas for 160 Meter Radio

Order No. 5798 – \$22.95

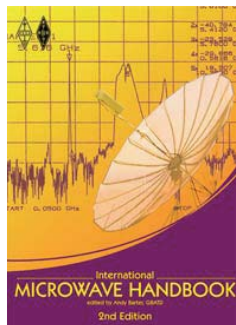
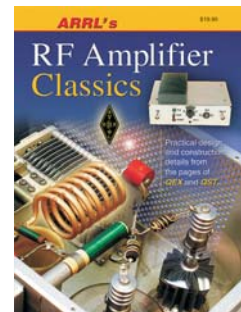
ARRL Member Price! \$19.95

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

ARRL's RF Amplifier Classics

Order No. 9310 – \$19.95

Two-dozen projects and articles to help shorten your discovery work. There are amps for HF, MF, VHF and microwave. Build safe and reliable amplifiers. Produce loud and clean signals!



International Microwave Handbook

2nd Edition

Order No. 0330 – \$29.95

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.

The ARRL Antenna Book 22nd Edition

Softcover. Book with CD-ROM
Order No. 6948 – \$49.95

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.

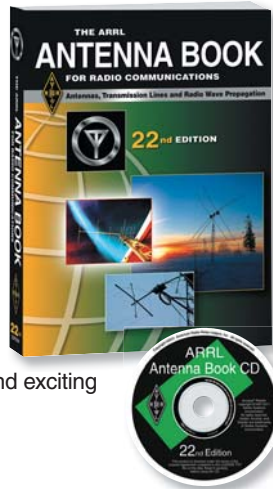


Table of Contents:

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

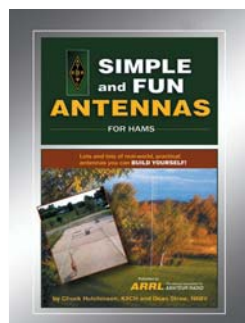
- Portable Antennas
- Stealth and Limited Space Antennas
- Mobile and Maritime HF Antennas
- Receiving and Direction-Finding Antennas

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



Simple and Fun Antennas for Hams

Order No. 8624 – \$22.95

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!

ARRL's Small Antennas for Small Spaces

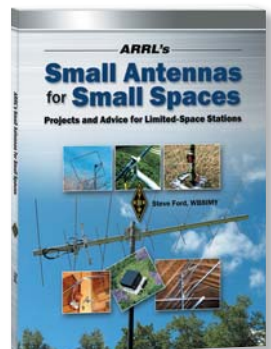
Projects and Advice for Limited-Space Stations

Steve Ford, WB8IMY

Order No. 8393 – \$25.95

ARRL Member Price! \$22.95

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!



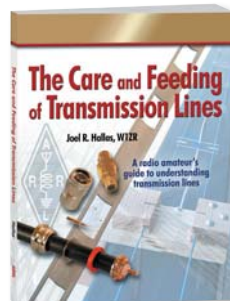
The Care and Feeding of Transmission Lines

Joel Hallas, W1ZR

Order No. 4784 – \$27.95

ARRL Member Price! \$24.95

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.



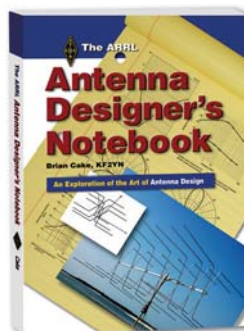
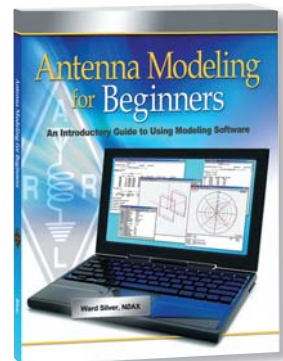
Antenna Modeling for Beginners

Ward Silver, N0AX

Order No. 3961 – \$38.95

ARRL Member Price! \$34.95

A guide to using modeling software for designing and evaluating antennas. It provides an 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.



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!**

All you need to Design your own complete antenna system!

6 Antennas

www.arrl.org/shop ■ 1-888-277-5289

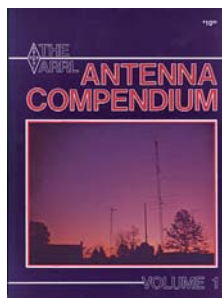
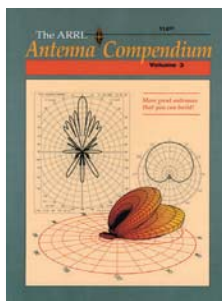
The ARRL Antenna Compendium Series

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

Volume 1

Order No. 0194 – \$20

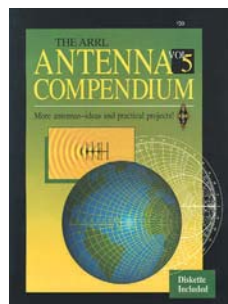
The premiere volume includes articles on a multiband portable, quads and loops, baluns, the Smith Chart, and more.



Volume 3

Order No. 4017 – \$14

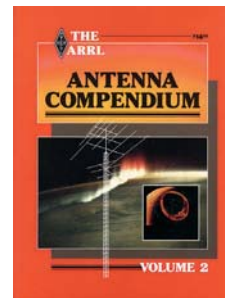
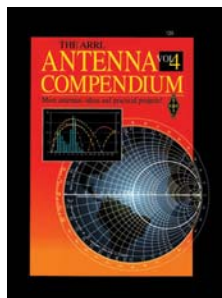
Quench your thirst for new antenna designs, from Allen's Log Periodic Loop Array to Zavrel's Triband Triangle. Discover a 12-meter quad, a discone, modeling with MININEC and VHF/UHF ray tracing.



Volume 2

Order No. 2545 – \$14

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



Volume 4

Order No. 4912 – \$20

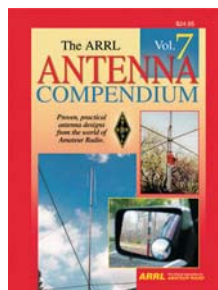
38 articles covering a wide range of topics. Includes simple, practical antenna projects, and heavy-duty, theoretical treatments of complex arrays.

Volume 5

Order No. 5625 – \$20

—Includes software

Enjoy excellent coverage of baluns, an HF beam from PVC, low-band Yagis, quads and verticals, curtain arrays, and more!



Volume 7

Order No. 8608 – \$24.95

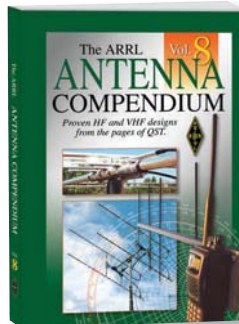
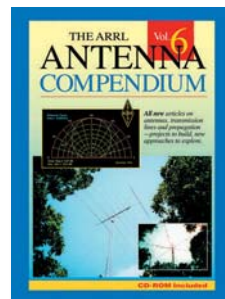
Proven, practical antenna designs from the world of Amateur Radio. This volume includes even more articles on low-band antennas and operating, and great designs for operating on the road—from cars, vans or motor homes.

Volume 6

Order No. 7431 – \$22.95

—Includes software

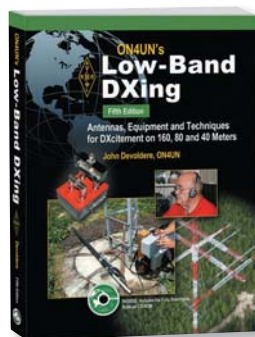
All new articles covering low-band antennas and operating, 10-meter designs, multiband antennas, propagation and terrain assessment. CD-ROM included with propagation prediction software!



Volume 8

Order No. 0991 – \$24.95

Inside are 60 articles from *QST* magazine featuring practical ideas, tips and some of the best antenna projects. You'll find designs such as the Handy Yagi Antenna, Compact 40 Meter HF Loop, 20 and 40 Meter Verticals on "Autopilot" and much more.



ON4UN's Low Band DXing

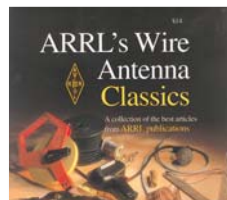
Antennas, Equipment and Techniques for DXcitement on 160, 80 and 40 Meters
5th Edition

John Devoldere, ON4UN

Order No. 8560 – \$44.95

Includes antenna designs, operating guidelines, and an insider's scoop on low-band DXing. There's something for every active low-band operator, contester, and DX chaser! This edition features new insights and new design techniques for receiving antennas, dipole antennas and phased arrays. Bundled with the fully searchable and complete book on CD-ROM!

The Classics

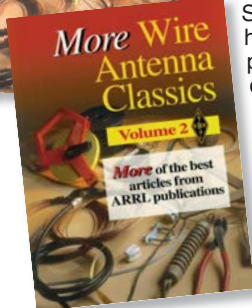


ARRL's Wire Antenna Classics and More Wire Antenna Classics

Volume 1
Order No. 7075 – \$14

Volume 2
Order No. 7709 – \$17.95

So many wire antenna designs have proven to be first class performers! Here are two volumes devoted to wire antennas, from the simple to the complex. Includes articles on dipoles, loops, rhombics, wire beams and receive antennas—and some time-proven classics!

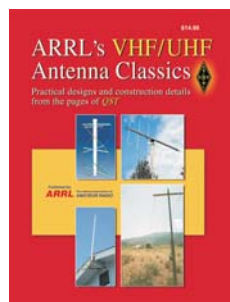


ARRL's VHF/UHF Antenna Classics

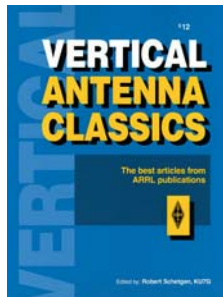
Build portable, mobile and fixed antenna designs

Order No. 9078 – \$14.95

Ground planes, J-poles, mobile antennas, Yagis and more. Build a better antenna for your hand-held radio. Construct a 2-meter Yagi that will rival similar commercial antennas. Build a dual-band vertical for 146 and 445-MHz. The results will be rewarding! Includes projects gathered from the 1980 to 2003 issues of *QST*.



Practical designs and construction details from the pages of QST.



Vertical Antenna Classics

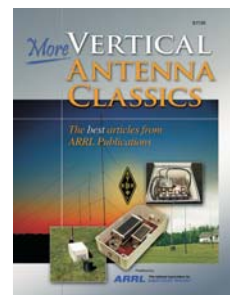
Order No. 5218 – \$12

Vertical antennas are everywhere—on cell phones, broadcast towers, portable radios and vehicles. And for good reason! Here are the best articles from ARRL publications in one book. Vertical antenna theory and modeling, VHF and UHF, HF, directional arrays, radials, product suppliers and more.

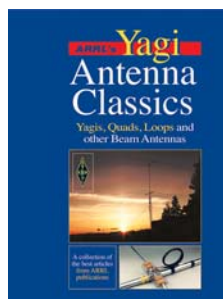
More Vertical Antenna Classics

Order No. 9795 – \$17.95

This second edition includes updated material on the art and science of the vertical antenna. Designs for a variety of operating preferences and bands, ground systems, portable antennas, phased vertical arrays, and more.



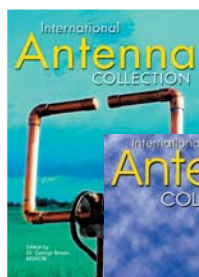
ARRL's Yagi Antenna Classics



Yagis, Quads, Loops and other Beam Antennas

Order No. 8187 – \$17.95

Includes some of the very best articles written about beam antennas, from ARRL publications. The antennas covered in this book will provide the reader with a historical perspective, new and ambitious ideas, and computer-optimized designs for all-around best performance.

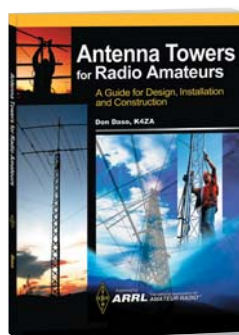
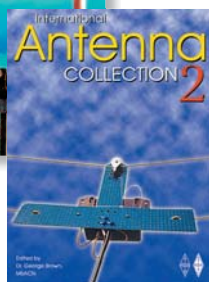


International Antenna Collection

Volume 1
Order No. 9156 – \$19.95

Volume 2
Order No. 9465 – \$21.95

Collections of antenna designs from around the world—from 136 kHz to 1.3 GHz, receiving and transmitting, fixed and mobile designs.



Antenna Towers for Radio Amateurs

A Guide to Design, Installation and Construction

Order No. 0946 – \$34.95

With years of experience as a professional tower climber, Don Daso, K4ZA, leads you through designing and building your own antenna tower. You'll learn the skills, tools, climbing techniques, and safety measures necessary to improve your antenna system.

*For more ARRL products visit
www.arrl.org/shop*

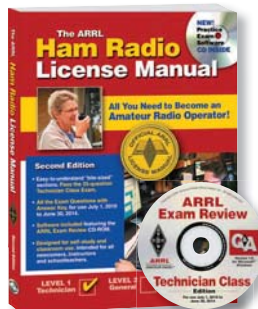
8 Licensing

www.arrl.org/shop ■ 1-888-277-5289

Level 1 – Technician

The ARRL Ham Radio License Manual

All you need to become an Amateur Radio Operator!



Revised 2nd Edition

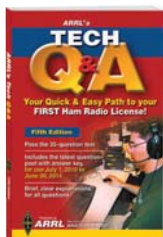
Book with CD-ROM

Order No. 0977 – \$29.95

The most popular introduction into the world of Amateur Radio! Every page presents information you will need to pass the exam and become an effective operator.

- Easy-to-understand “bite-sized” sections. Use this book, and **pass the 35-question license test.**

- Includes the latest question pool with answer key, for use through June 30, 2014.
- Software included featuring the **ARRL Exam Review** CD-ROM.
- Designed for self-study and for class-room use. Intended for all newcomers, instructors and schoolteachers.



ARRL's Tech Q & A

5th Edition

Order No. 0847 – \$17.95

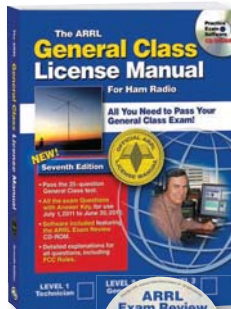
Earn your FIRST Amateur Radio license NOW! It's quick and easy with this study guide and the convenient question and answer format. Using ARRL's Tech Q & A is the best way to review for the exam with confidence.

- Pass the 35-question test
- Includes the latest question pool with answer key, for use through June 30, 2014.
- Brief, clear explanations for all questions

Level 2 – General

Upgrade from Technician

Enjoy the thrill of high-power communications on all HF bands!



The ARRL General Class License Manual

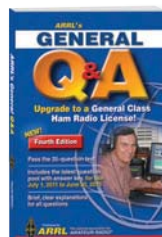
All You Need to Pass your General Class Exam!

7th Edition

Book with CD-ROM

Order No. 8119 - \$29.95

- Pass the 35-question General Class exam.
- All the Exam Questions with Answer Key, for use through June 30, 2015.
- Software included featuring the **ARRL Exam Review** CD-ROM.
- Detailed explanations for all questions, including **FCC rules.**



ARRL's General Q&A

4th Edition

Order No. 8089 - \$17.95

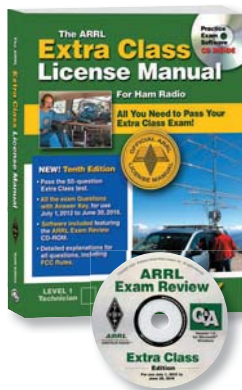
- Pass the 35-question General test.
- Includes the latest question pool with answer key, for use through June 30, 2015.
- Brief, clear explanations for all questions.

“Any time is a good time to upgrade your knowledge and (if you're not already Amateur Extra) your class of license, but for Technicians this is an especially good year to go for at least the General.”

David Sumner, K1ZZ
ARRL Chief Executive Officer

Level 3 – Amateur Extra

Upgrade from General Achieve the highest level in Amateur Radio!



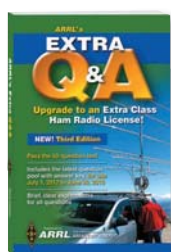
The ARRL Extra Class License Manual

10th Edition

Book with CD-ROM

Order No. 5170 – \$29.95

- Pass the 50-question Extra Class exam.
- All the Exam Questions with Answer Key, for use through June 30, 2016.
- Software included featuring the **ARRL Exam Review** CD-ROM.
- Detailed explanations for all questions, including **FCC rules.**



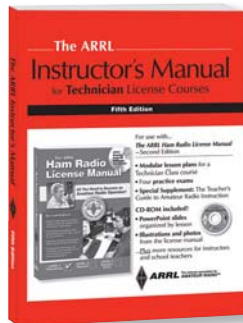
ARRL's Extra Q&A

3rd Edition

Order No. 4708 – \$17.95

- Pass the 50-question Extra test.
- Includes the latest question pool with answer key, for use through June 30, 2016.
- Brief, clear explanations for all questions.

ARRL Licensing References



The ARRL Instructor's Manual for Technician License Courses

5th Edition

Order No. 8737 – \$19.95

For use with The ARRL Ham Radio License Manual – Second Edition

- Lesson plans for a Technician Class Course
- Four practice exams
- Special Supplement: The Teacher's Guide to Amateur Radio Instruction

CD-ROM Included!

- Powerpoint slides organized by lesson
- Illustrations and photos from the license manual
- ... Plus, more resources for instructors and schoolteachers

ARRL Exam Review for Ham Radio

Version 3.0 – Platinum Edition

Order No. 4982 – \$39.95

Practice exam software to prepare for all three Amateur Radio license examination levels:

Technician, General and Amateur Extra.

Includes review questions, answers, plus short explanations to help make sure you understand the answers. Take randomly-generated practice exams using questions from the examination pools.



Downloadable version available online at www.arrrl.org/shop.

Minimum System Requirements: Pentium computer or comparable processor, Microsoft® Windows 7/Vista/2000/ XP (with all OS service packs and Microsoft Updates), and a CD-ROM drive. True Color Display. 20 MB free hard drive space. Internet Explorer 4.0 or greater. An Internet connection is required for software updates.

Flash and Pass Card Sets

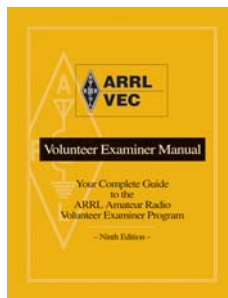
Flashcards are absolutely the fastest most efficient way to learn! You get the actual test questions that will appear on the exam. Simply read the question, decide on an answer, and flip the card over for the correct answer.

The flashcards allow you to break up the learning task into smaller, more manageable segments. Save time by focusing only on the questions you don't know. When you've mastered all of the cards, you're ready to take the test!



- Technician Class Flash Card Set
Order No. 1345 – \$24.95
- General Class Flash Card Set
Order No. 1357 – \$39.95
- Extra Class Flash Card Set
Order No. 1366 – \$39.95

Volunteer Examiner Items



ARRL/VEC Volunteer Examiner Manual

9th Edition

Order No. 1328 – \$10

Your Complete Guide to the ARRL Amateur Radio Volunteer Examiner Program. Whether you have ever thought about becoming a Volunteer Examiner or you are a seasoned VE, this book is packed with everything ARRL VEs need to know.



VE Challenge Coin

Order No. 0711 – \$9.95

This commemorative ARRL VEC challenge coin is in the second in the series. The ARRL diamond and words "Amateur Radio Service" are depicted on the back. 1-1/2" round.

VE Pin

Order No. 0023 – \$5.00

Symbolize your involvement as an ARRL Volunteer Examiner with this attractive black and gold pin. Wear it proudly! Size 1" round.



VE Patch Round

Order No. 0013 – \$5

VE Patch Rectangular

Order No. 0121 – \$2



VE ID Badge Lanyard

Order No. 1342 – \$3.95

Designed specifically for ARRL VEs, this lanyard is imprinted with the words "ARRL Volunteer Examiner" and "Amateur Radio". Great for identifying volunteers at VE exams!

VE Zippered Portfolio

Order No. 5001 – \$7.95

Carry your VE exam supplies in style! Black portfolio is imprinted with words "ARRL VEC Exams" and features a zipper closure on top.



*VE Polos and Long Sleeve Oxfords
available at www.arrrl.org/shop.*

License Study Materials

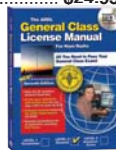
Technician Class

Exam: 35-question Technician test (Element 2)
The ARRL Ham Radio License Manual—Revised 2nd Edition.
 Ham radio's most popular license manual! Organized in easy-to-understand "bite-sized" sections, this is all you need to become an Amateur Radio operator. Includes practice exam software.
 Order No. 0977 \$29.95
ARRL's Tech Q & A—5th Edition. Order No. 0847 \$17.95
The ARRL Instructor's Manual for Technician License Courses.
 Order No. 8737 \$19.95
NEW! Ham Radio for Dummies. 2nd Edition. Order No. 0502 \$24.99
Technician Class Flash Card Set. Order No. 1345 \$24.95



General Class (upgrade from Technician)

Exam: 35-question General test (Element 3)
The ARRL General Class License Manual—7th Edition.
 All the exam questions with answer key, for use through June 30, 2015. Includes practice exam software.
 Order No. 8119 \$29.95
ARRL's General Q & A—4th Edition. Order No. 8089 \$17.95
General Class Flash Card Set. Order No. 1357 \$39.95



Extra Class (upgrade from General)

Exam: 50-question Extra test (Element 4)
The ARRL Extra Class License Manual—10th Edition.
 Achieve the highest level of Amateur Radio licensing! Includes practice exam software.
 Order No. 5170 \$29.95
ARRL's Extra Q & A—3rd Edition. Order No. 4708 \$17.95
Extra Class Flash Card Set. Order No. 1366 \$39.95



Prepare for all 3 Levels

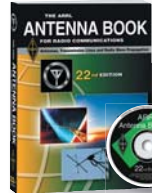
ARRL Exam Review for Ham Radio. CD-ROM, Ver 3.0
 Order No. 4982 \$39.95
ARRL Exam Review for Ham Radio Download. Order No. 4982D \$39.95

Operating and Reference

The ARRL Operating Manual for Radio Amateurs. 10th Edition.
 Order No. 5965 **ARRL Member Price \$29.95** ~~\$34.95~~
The ARRL Repeater Directory®. 2013/2014 Edition.
 Pocket-sized. Order No. 2575 **ARRL Member Price \$10.95** ~~\$12.95~~
 Desktop Edition. Order No. 2605 **ARRL Member Price \$15.95** ~~\$17.95~~
TravelPlus for Repeaters™. 2013-2014 Edition. CD-ROM, Ver 17.0.
 Order No. 2919 \$39.95
TravelPlus Mobile GPS™. Download. 2013/2014 Edition.
 Order No. 2171 \$24.95
Radios to Go! Order No. 3077 **ARRL Member Price \$15.95** ~~\$17.95~~
The ARRL DXCC List. April 2012 Edition. Order No. 3862 \$5.95
ARRL's Hamspeak—A Dictionary for Radio Amateurs.
 Order No. 8423 **ARRL Member Price \$15.95** ~~\$17.95~~
RF Exposure and You. Order No. 6621 \$22.95
50 Years of Amateur Radio Innovation. Order No. 0228 \$39.95
50 Years of Amateur Radio CD-ROM. Order No. 3558 \$22.95
Hints & Kinks for the Radio Amateur. 18th Edition.
 Order No. 5200 **ARRL Member Price \$19.95** ~~\$22.95~~
Low Profile Amateur Radio. 2nd Edition. Order No. 9744 \$19.95
The ARRL Field Day Handbook. Order No. 0885 \$19.95
FCC Rules and Regulations. 2nd Edition. Order No. 1173 \$5.95
Getting Started with Ham Radio. Order No. 9728 \$19.95
ARRL Software Library for Hams. CD-ROM, Ver 4.0
 Order No. 4364 **ARRL Member Price \$19.95** ~~\$22.95~~
ARRL Software Library for Hams Download. Order No. 4364D \$19.95
Remote Operating for Amateur Radio. Order No. 0922 \$22.95
Amateur Radio on the Move. Order No. 9450 \$19.95
Radio Science for the Radio Amateur.
 Order No. 3381 **ARRL Member Price \$24.95** ~~\$27.95~~
Storm Spotting and Amateur Radio. Order No. 0908 \$22.95
Morse Code Operating for Amateur Radio.
 Order No. 0004 **ARRL Member Price \$15.95** ~~\$17.95~~
Your Introduction to Morse Code. Order No. 8314 \$12.95
Two-Way Radios & Scanners for Dummies. Order No. 9696 \$21.99
Pocket Ref (by Glover). Order No. 1148 \$12.95
Marine Amateur Radio. Order No. 9723 \$12.95
Shortwave DX Handbook. Order No. 9953 \$34.95
A Year of DX. Order No. 0040 \$20
The Complete DX'er. Order No. 9073 \$19.95
MAPS
ARRL Map of North America. 27" x 39". Order No. 8977 \$15
ARRL Map of the World (Azimuthal). 27" x 39". Order No. 7717 \$15
ARRL Map of the World (Robinson). 26" x 34.5". Order No. 8804 \$15
ARRL Worked All States (WAS) Map. 11" x 17". Order No. 1126 \$3
The Radio Amateur's World Atlas. Order No. 5226 \$12.95
RSGB Amateur Radio Operating Manual. Order No. 2300 \$29.95
RSGB Amateur Radio Mobile Handbook. Order No. 5225 \$19.95
RSGB IOTA Directory. 2011 Edition. Order No. 0032 \$19.95
RSGB 6 Metre Handbook. Order No. 0340 \$24.95

RSGB LF Today. 2nd Edition. Order No. 0220 \$24.95
RSGB Radio Orienteering. Order No. 0131 \$19.95
RSGB Prefix Guide. 10th Edition. Order No. 0147 \$19.95
NEW! RSGB Morse Code for Radio Amateurs. 11th Edition.
 Order No. 0221 \$15.95
NEW! RSGB Computers in Amateur Radio. 2nd Edition.
 Order No. 6193 \$24.95
NEW! 2014 Super Frequency List on CD-ROM.
 Order No. 9993 \$44.95
NEW! 2014 Shortwave Frequency Guide. Order No. 9931 \$59.95

Antennas and Transmission Lines



The ARRL Antenna Book—22nd Edition.
 All the information you need for complete antenna systems—from planning, to design and construction. CD-ROM included! The 22nd edition includes a complete reorganization, new content, and exciting new antenna projects.

Softcover Antenna Book. Book with CD-ROM.

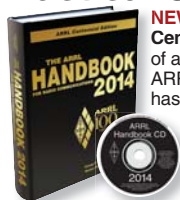
Order No. 6948 \$49.95
Basic Antennas. Order No. 9994 \$29.95
The ARRL Antenna Designer's Notebook.

Order No. 1479 \$34.95
Antenna Modeling for Beginners.
 Order No. 3961 **ARRL Member Price \$34.95** ~~\$39.95~~
Short Antennas for Small 160 Meter Radio.
 Order No. 5798 **ARRL Member Price \$19.95** ~~\$22.95~~
ON4UN's Low-Band DXing. 5th Edition. Order No. 8560 \$44.95
ARRL's Small Antennas for Small Spaces.
 Order No. 8393 **ARRL Member Price \$22.95** ~~\$25.95~~
Antenna Towers for Radio Amateurs. Order No. 0946 \$34.95
The ARRL Guide to Antenna Tuners. Order No. 0984 \$22.95
Understanding Your Antenna Analyzer.
 Order No. 2889 **ARRL Member Price \$22.95** ~~\$25.95~~
ARRL's Yagi Antenna Classics. Order No. 8187 \$17.95
Simple and Fun Antennas for Hams. Order No. 8624 \$22.95
ARRL's Wire Antenna Classics. Order No. 7075 \$14
More Wire Antenna Classics—Volume 2.
 Order No. 7709 \$17.95
More Vertical Antenna Classics. Order No. 9795 \$17.95
Vertical Antenna Classics. Order No. 5218 \$12
ARRL's VHF/UHF Antenna Classics. Order No. 9078 \$14.95
ARRL Antenna Compendium. Vol. 1. Order No. 0194 \$20
ARRL Antenna Compendium. Vol. 2. Order No. 2545 \$14
ARRL Antenna Compendium. Vol. 3. Order No. 4017 \$14
ARRL Antenna Compendium. Vol. 4. Order No. 4912 \$20
ARRL Antenna Compendium. Vol. 5. Order No. 5625 \$20
ARRL Antenna Compendium. Vol. 6. Order No. 7431 \$22.95
ARRL Antenna Compendium. Vol. 7. Order No. 8608 \$24.95
ARRL Antenna Compendium. Vol. 8. Order No. 0991 \$24.95
The Care and Feeding of Transmission Lines.
 Order No. 4784 **ARRL Member Price \$24.95** ~~\$27.95~~
RSGB Practical Wire Antennas. Order No. R878 \$17
RSGB Practical Wire Antennas 2. Order No. 9563 \$24.95
RSGB Successful Wire Antennas. Order No. 0363 \$24.95
RSGB HF Antennas for Everyone. Order No. 0145 \$24.95
RSGB HF Antennas for All Locations. Order No. 4300 \$34.95
RSGB Antennas for VHF and Above. Order No. 0501 \$29.95
RSGB Building Successful HF Antennas.
 Order No. 0800 \$34.95
RSGB Stealth Antennas. Order No. 3208 \$24.95
RSGB Backyard Antennas. Order No. RBYA \$34.95
RSGB Antenna File. Order No. 8129 \$29.95
Practical Antenna Handbook. Order No. 0371 \$50
Antenna Zoning. 2nd Edition. Order No. 1192 \$49.95
Antennas: Fundamentals, Design, Measurement.
 Standard Edition. Order No. 0320 \$99
 Deluxe Edition. Order No. 0175 \$149
Up the Tower. Order No. 1260 \$35
Tower Climbing Safety & Rescue. Order No. 1108 \$29.95
Transmission Line Transformers. Order No. TLT4 \$75

CD-ROM/DVD Collections

2012 Periodicals on DVD. Order No. 3152 \$24.95
2011 Periodicals on CD-ROM. Order No. 5651 \$24.95
2010 Periodicals on CD-ROM. Order No. 2001 \$24.95
2009 Periodicals on CD-ROM. Order No. 1486 \$24.95
2008 Periodicals on CD-ROM. Order No. 9406 \$24.95
2007 Periodicals on CD-ROM. Order No. 1204 \$19.95
2005 Periodicals on CD-ROM. Order No. 9574 \$19.95
2003 Periodicals on CD-ROM. Order No. 9124 \$19.95
2002 Periodicals on CD-ROM. Order No. 8802 \$19.95
2001 Periodicals on CD-ROM. Order No. 8632 \$19.95
1999 Periodicals on CD-ROM. Order No. 7881 \$19.95
1997 Periodicals on CD-ROM. Order No. 6729 \$19.95
1996 Periodicals on CD-ROM. Order No. 6109 \$19.95
Radio Amateur Callbook CD-ROM w/USB Drive.
 Summer 2013 Edition. Order No. 0010 \$49.95
HamCall™ CD-ROM. Order No. 8991 \$49.95

Practical Circuits and Design



NEW! The ARRL Handbook – 2014 ARRL Centennial Edition. Celebrate ARRL's first 100 years of advancing the art and science of radio with this ARRL Centennial Edition of **The Handbook**. This edition has been extensively revised to reflect the latest technology and innovation in the field of applied electronics and communications. **Commemorative hardcover edition** is gold foil embossed and serial numbered (while supplies last).

Hardcover Handbook. Book with CD-ROM.	
Order No. 0000	\$59.95
Softcover Handbook. Book with CD-ROM. Order No. 0007	\$49.95
Understanding Basic Electronics. 2nd Edition.	
Order No. 0823	ARRL Member Price \$29.95 \$32.95
Basic Radio Order No. 9558	\$29.95
Digital Signal Processing Technology.	
Order No. 8195	Closeout Special \$34.95 \$44.95
ARRL's Hands-On Radio Experiments. Order No. 1255	\$19.95
ARRL's Hands-On Radio Experiments—Volume 2.	
Order No. 3411	ARRL Member Price \$22.95 \$25.95
Hands-On Radio Parts Kit. Order No. 1255K	\$89.95
The ARRL RFI Book. 3rd Edition. Order No. 0915	\$29.95
Experimental Methods in RF Design. Revised 1st Edition.	
Order No. 9239	\$49.95
Ham Radio for Arduino and PICAXE.	
Order No. 3244	ARRL Member Price \$29.95 \$34.95
ARRL's Pic Programming for Beginners. Revised 1st Edition.	
Order No. 0892	ARRL Member Price \$39.95 \$44.95
ARRL PIC Programming Kit. Order No. 0030	\$149.95
ARRL Morse Code Oscillator Kit. Order No. 0022	\$24.95
Morse Code Key. Order No. 0242	\$15.95
Keyer Touch Paddle Kit. Order No. 0670	\$49.95
L/C/F and Single-Layer Coil Winding Calculator. Order No. 9123	\$12.95
ARRL's RF Amplifier Classics. Order No. 9310	\$19.95
ARRL's Low Power Communication. 4th Edition.	
Order No. 5828	ARRL Member Price \$24.95 \$27.95
ARRL's Low Power Communication with CW Kit.	
Order No. 5828K	\$105.95
MFJ 20-meter CW Cub Transceiver Kit. Order No. 0018	\$89.95
More QRP Power. Order No. 9655	\$19.95
QRP Romps. Order No. 0160	\$18
NEW! Raspberry Pi for Dummies. Order No. 2945	\$24.99
Do-It-Yourself Circuitbuilding for Dummies. Order No. 0015	\$24.99
Electronics for Dummies. 2nd Edition. Order No. 0196	\$24.99
Electronics Projects for Dummies. Order No. 9944	\$24.99
Practical Digital Signal Processing. Order No. 9331	\$61.95
Power Supply Handbook. Order No. 9977	\$29.95
Electromagnetic Compatibility Engineering. Order No. 0192	\$120
Discrete-Signal Analysis and Design. Order No. 0140	\$125
Wireless Receiver Design for Digital Communications. 2nd Edition.	
Order No. 0080	\$139
Build Your Own Low-Power Transmitters. Order No. 9458	\$65.95
Build Your Own Transistor Radios. Order No. 1367	\$50
AC Power Interference Handbook. Order No. 1103	\$34.95
Batteries in a Portable World. Order No. 1156	\$29.95
Power Supply Cookbook. Order No. 8599	\$65.95
Instruments of Amplification. Order No. 9163	\$19.95
RSGB Radio Communications Handbook. Order No. 4450	\$59.95
RSGB Homebrew Cookbook. Order No. 0232	\$24.95
RSGB Elimination of Electrical Noise. Order No. 1082	\$12.95
RSGB International QRP Collection. Order No. 0020	\$24.95
RSGB QRP Basics. 2nd Edition. Order No. 6401	\$24.95
RSGB Low Power SPRAT Book. Order No. 7157	\$24.95
RSGB Test Equipment for the Radio Amateur. Order No. 1027	\$24.95
RSGB Weekend Projects for the Radio Amateur. Order No. 0123	\$24.95
RSGB Valves Revisited. Order No. 0212	\$29.95

Digital Communications

Get on the Air with HF Digital.	
Order No. 6016	ARRL Member Price \$22.95 \$25.95
The ABCs of Software Defined Radio.	
Order No. 6320	ARRL Member Price \$19.95 \$22.95
VoIP: Internet Linking for Radio Amateurs. 2nd Edition.	
Order No. 1431	\$21.95
GPS and Amateur Radio. Order No. 9922	\$18.95
Your Guide to HF Fun. Order No. 0153	\$16
NEW! RSGB RTTY/PSK31 for Radio Amateurs. 2nd Edition.	
Order No. 5003	\$15.95
Nifty E-Z Guide to PSK31 Operation. Order No. 0370	\$12.95
Nifty E-Z Guide to D-STAR Operation. Order No. 0125	\$13.95
Nifty E-Z Guide to EchoLink Operation. Order No. 1094	\$13.95

Public Service and Emergency Communications

The Amateur Radio Public Service Handbook.	
Order No. 4845	ARRL Member Price \$34.95 \$39.95
The ARRL Introduction to Emergency Communication Course.	
4th Edition. Order No. 7303	\$24.95
ARES Field Resource Manual. Order No. 5439	\$12.95
Emergency Power for Radio Communications. 2nd Edition.	
Order No. 6153	ARRL Member Price \$24.95 \$27.95
Personal Emergency Communications. Order No. 0081	\$14.95
Eton Microlink FR160 Radio. Order No. 1150	\$35
Solar Crank Flashlight. Order No. 0173	\$40
2 in 1 Flashlight/Lantern. Order No. 0264	\$20
ARES Hat. Order No. 0099	\$14.95
ARES Mesh Vest. (M-3XL) Order No. 0128	\$15.95
ARES Solid Vest with Pockets. (M-3XL) Order No. 0136	\$24.95
PR-101 Course on CD-ROM. Order No. 0133	\$19.95
The DIY Magic of Amateur Radio. DVD. Order No. 6047	\$10.95

Space and VHF/UHF/Microwave Communications

The ARRL Satellite Handbook. Order No. 9857	\$24.95
NOVA for Windows. CD-ROM. Order No. 8724	\$59.95
RSGB Radio Auroras. Order No. 1208	\$12.95
RSGB Radio Nature. Order No. 0240	\$24.95
RSGB Amateur Radio Astronomy. 2nd Edition. Order No. 0388	\$32.95
International Microwave Handbook. 2nd Edition. Order No. 0330	\$29.95
RSGB VHF/UHF Handbook. 2nd Edition. Order No. 1229	\$29.95
RSGB Microwave Projects. Order No. 9022	\$29.95
RSGB Microwave Know How. Order No. 0303	\$21.95

History and Adventure

The Secret Wireless War—Softcover Edition. Order No. 0262	\$39.95
Edgar Harrison. Order No. 0270	\$29.95
Hiram Percy Maxim. Order No. 7016	\$19.95
200 Meters and Down. Order No. 0011	\$12
The Gil Cartoon Book. Order No. 0364	\$15.95
The ARRL Film Collection. DVD. Order No. 3725	\$15.95
Riding the Shortwaves. Order No. 1210	\$18.95
The Story of W6RO and the Queen Mary. DVD. Order No. 1344	\$15.95
Crystal Clear. Softcover Edition. Order No. 0353	\$39.95
Don C. Wallace: W6AM, Amateur Radio's Pioneer. Order No. 0016	\$29.95
World War II Radio Heroes. 2nd Edition. Order No. 9705	\$19.95
Perera's Telegraph Collector's Guide. Order No. 1277	\$19.95
Perera's Telegraph Collectors Reference CD-ROM. Order No. 1282	\$15
The Story of the Enigma CD-ROM. Order No. 1296	\$15
Inside Enigma. Order No. 0611	\$19.95
Keys II: The Emporium. Order No. 1372	\$16
Keys III: The World of Keys. Order No. 1381	\$18
Oscar's Amateur Radio Adventure. Order No. 0341	\$19.95
Mouse Code. Order No. 0116	\$12.95
Full Circle: A Dream Denied, A Vision Fulfilled. Order No. 0152	\$13.95
Frozen in Time. Order No. 0098	\$14.95
The Road Home. Order No. 0427	\$12.99
Where Discovery Sparks Imagination. Order No. 1660	\$34.95
Zone of Iniquity. Order No. 0243	\$12.99

Ordering Information

For a complete publications listing or to place an order, please contact us:

- To order or obtain the address of an ARRL Dealer near you, call toll-free (US): 1-888-277-5289 (non-US call 860-594-0355) 8 AM-5 PM Eastern time, Monday-Friday.
- Fax 1-860-594-0303 24 hours a day, 7 days a week.
- By mail to: ARRL, 225 Main St, Newington CT 06111-1494
- Visit our World Wide Web site: <http://www.arrl.org/shop>

Shipping and Handling Rates: Add the following amounts to your order to cover shipping and handling (S/H). US orders will be shipped via a ground delivery method. Orders outside of the US will be shipped via International Mail Services. Express delivery options are available. Please call, write or email American Radio Relay League (ARRL) for more information.

Sales Tax: CT add 6.35% state sales tax (including S/H). VA add 5% sales tax (excluding S/H). Canada add 5% GST (excluding S/H).

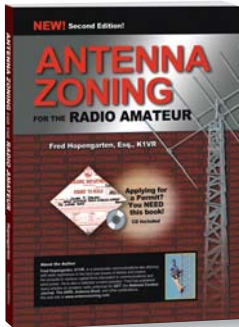
Order Value	US	International Mail Service 2-3 weeks delivery
Up to \$20.00	\$7.50	\$25.00
\$20.01 to \$50.00	\$10.50	\$35.00
\$50.01 to \$250.00	\$12.50	\$45.00
Single CD-ROM	First Class Mail \$2.75	n/a
Over \$250	Contact ARRL for shipping options and rates: orders@arrl.org	

We accept the following major credit cards: American Express, MasterCard, Visa and Discover. Prices and product availability are subject to change without notice.



12 Marketplace

www.arri.org/shop ■ 1-888-277-5289



Antenna Zoning for the Radio Amateur

2nd Edition

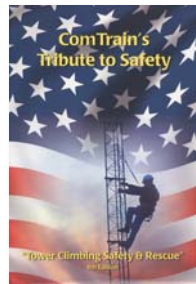
Order No. 1192 – \$49.95

Techniques and strategies that a ham and his or her attorney can use to obtain an antenna-structure permit. Keep peace with the neighbors and enjoy ham radio!

Raspberry Pi Workshop Manual

Order No. 1007 – \$28.95

An introduction to the affordable small computer. Printed in full color throughout, this manual is aimed at those switching on their Pi for the first time, guiding them through the full process of setup and configuration.



Tower Climbing Safety & Rescue

4th Edition

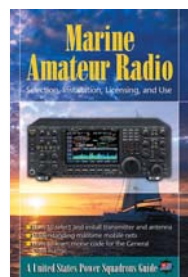
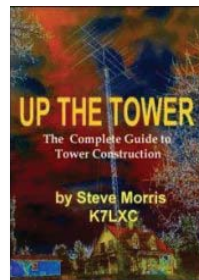
Order No. 1108 – \$29.95

Essential for Tower Riggers and Technicians, Radio Amateurs, Supervisors and Project Managers. Includes environmental hazards, structure hazards, tools and tasks, safety equipment, rescue and more.

Up the Tower

Order No. 1260 – \$35

The complete guide to tower construction. Over 220 pages of facts, techniques, hardware and lots of answers to your tower construction questions.



Marine Amateur Radio

Order No. 9723 – \$12.95

Use ham radio for coastal, high-seas, or worldwide communications. Select, install, and operate a ham radio system on any boat, power or sail. Produced by United States Power Squadrons.

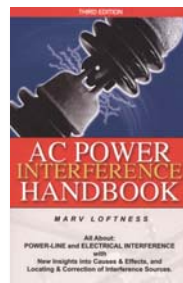
AC Power Interference Handbook

3rd Edition

Marv Loftness, KB7KK

Order No. 1103 – \$34.95

All About: POWER-LINE and ELECTRICAL INTERFERENCE with New Insights into Causes & Effects, and Locating & Correction of Interference Sources.



Antennas: Fundamentals, Design, Measurement

Standard Edition

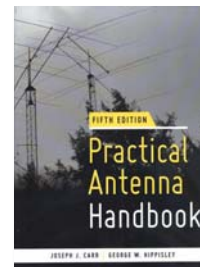
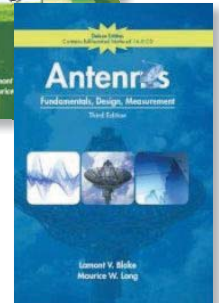
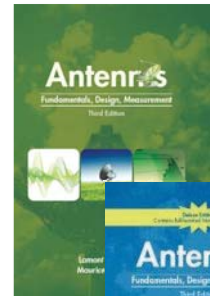
Order No. 0320 – \$99

For anyone seeking solid grounding in the basics of antenna design and performance. Covers antenna principles, concept design, performance analysis, and measurements. CD-ROM included!

Deluxe Edition

Order No. 0175 – \$149

Includes a full-featured copy of Mathcad 14.0!



Practical Antenna Handbook

5th Edition

Order No. 0371 – \$50

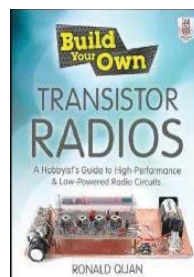
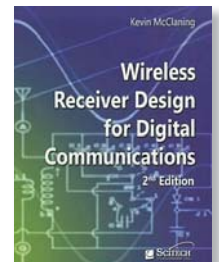
Design and build your own antennas! Provides clear answers to questions frequently asked by hobbyists and electronics technicians, while bending theoretical concepts with hands-on experience.

Wireless Receiver Design for Digital Communications

2nd Edition

Order No. 0080 – \$139

A reference for electrical engineers and radio communication experimenters. Includes proven concepts, illustrations, and design examples that help clarify each component within the system design.



Build Your Own Transistor Radios

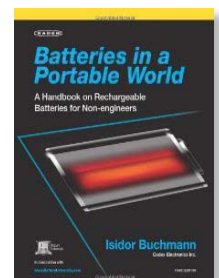
Order No. 1367 – \$50

A hobbyist's guide to designing and building high-performance and low-powered radios. Includes complete projects and detailed schematics.

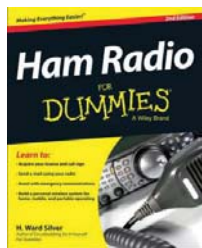
Batteries in a Portable World

Order No. 1156 – \$29.95

A book on rechargeable batteries for non-engineers. You'll learn the strengths and limitations of the battery, different battery types and what conditions are best for a battery.



"For Dummies" Series



Ham Radio for Dummies

Ward Silver, NØAX
2nd Edition
Order No. 0502 – \$24.99

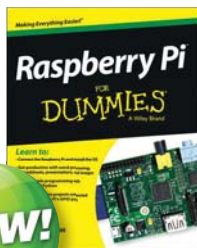
This beginner guide reflects the operational and technical changes to Amateur Radio over the past decade. Includes licensing requirements, changes in digital communication, and using e-mail via radio.

NEW!

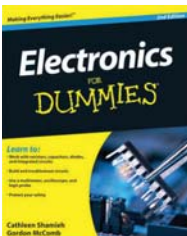
Raspberry Pi for Dummies

Order No. 2945 – \$24.99

Embrace the exciting new technology of Raspberry Pi! You'll quickly discover how to download and install the operating system, use the installed applications, and much more.



NEW!



Electronics for Dummies

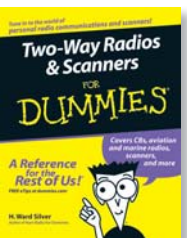
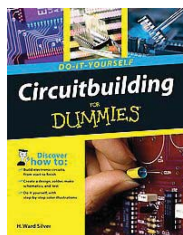
2nd Edition
Order No. 0196 – \$24.99

Make something fascinating of electronics. Learn how electricity functions, how to put it to work, what tools you need to build circuits, what you can make with them, and more.

Circuitbuilding for Dummies

Order No. 0015 – \$24.99

A fun and easy way to start building circuits for your projects. Includes all the tools and techniques you need, with illustrated, step-by-step directions.



Two-Way Radios & Scanners For Dummies

Order No. 9696 – \$21.99

Discover how to choose and operate different types of radios, program a scanner, help out in emergencies and more.

Electronics Projects for Dummies

Order No. 9944 – \$24.99

Build fun gadgets and gain knowledge of how various electronic parts work. Step-by-step directions for ten cool creations – remote control gizmos, talking toys, and more.



The Secret Wireless War

Softcover Edition

Order No. 0262 – \$39.95

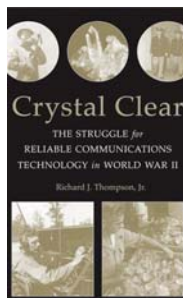
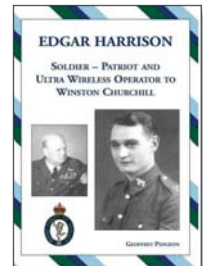
The most complete book yet written on Britain's secret radio communications during WWII. It's an extraordinary story that includes hams among those patriots that undoubtedly helped the allied war effort.



Edgar Harrison

Order No. 0270 – \$29.95

A remarkable story of Edgar Harrison and the adventures he encountered throughout WWII.



Crystal Clear

Softcover Edition

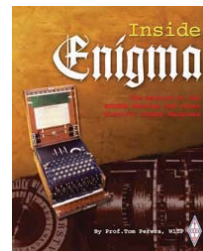
Order No. 0353 – \$39.95

A story of the quartz crystal—from its early days as a curiosity for Amateur Radio enthusiasts to its use by the United States Armed Forces.

Inside Enigma

Order No. 0611 – \$19.95

Secrets of the Enigma machine! How they were used, how the messages were coded and why the code was unbreakable.



More Marketplace Publications

- **NEW! Heil Ham Radio Handbook.** 2nd Edition. Order No. 7238 ... \$14.95
- **Build Your Own Low Power Transmitters.** Order No. 9458 \$65.95
- **Digital Communication Systems Using SystemVue.**
Order No. 1084 \$49.99
- **Discrete Signal Analysis and Design.** Order No. 0140 \$125
- **Don C. Wallace, W6AM.** Order No. 0016 \$29.95
- **Electromagnetic Compatibility Engineering.** Order No. 0192 \$120
- **Fracture Gradient.** Order No. 5002 \$16
- **Frozen in Time.** Order No. 0098 \$14.95
- **Full Circle** Order No. 0152 \$13.95
- **Hiram Percy Maxim.** Order No. 7016 \$19.95
- **Instruments of Amplification.** Order No. 9163 \$65.95
- **Keys II: The Emporium.** Order No. 1372 \$16
- **Keys III: The World of Keys.** Order No. 1381 \$18
- **Mouse Code.** Order No. 0116 \$12.95
- **Oscar's Amateur Radio Adventure.** Order No. 0341 \$19.95
- **Perera's Telegraph Collectors Guide.** Order No. 1277 \$19.95
- **Perera's Telegraph Collectors CD.** Order No. 1282 \$15
- **Personal Emergency Communications.** Order No. 0081 \$14.95
- **Practical Digital Signal Processing.** Order No. 9331 \$61.95
- **Power Supply Cookbook.** Order No. 8599 \$65.95
- **QRP Romps.** Order No. 0160 \$18
- **Riding the Shortwaves.** Order No. 1210 \$18.95
- **Shortwave DX Handbook.** Order No. 9953 \$34.95
- **Ten-Tec: The First 40 Years.** Order No. 0111 \$19.95
- **The Road Home.** Order No. 0427 \$12.99
- **The Story of the Enigma CD.** Order No. 1296 \$15
- **Transmitter Hunting.** Order No. 2701 \$24.95
- **World of Amateur Radio.** Order No. 0257 \$55
- **World War II Radio Heroes.** 2nd Edition. Order No. 9705 \$19.95
- **Your Guide to HF Fun.** Order No. 0153 \$16
- **Zone of Iniquity.** Order No. 0243 \$12.99

14 RSGB Catalog

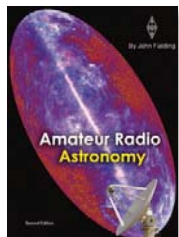
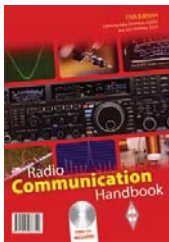
www.arri.org/shop ■ 1-888-277-5289

Radio Communication Handbook

11th edition

Order No. 4450 – \$59.95

Everything you need to build or understand amateur radio equipment. Expanded chapters cover HF Transmitters and Receivers, LF, Microwaves, VHF/UHF Antennas, and more. CD-ROM included! 864 pages.



Amateur Radio Astronomy

2nd Edition

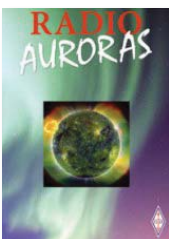
Order No. 0388 – \$32.95

Explore the science of radio astronomy and how the average amateur can make and set up equipment to study the signals coming from space. 384 pages.

Radio Auroras

Order No. 1208 – \$12.95

The fascinating story of the radio amateurs who discovered this mode of propagation and how they made use of it. Includes details of how auroras are caused, how they can be forecast, and how best to use them to work DX. 64 pages.



Radio Nature

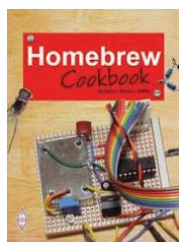
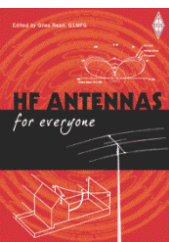
Order No. 0240 – \$24.95

A fascinating look at naturally originating radio signals. Includes signal descriptions, explanations of where they come from, and the proper way to receiving and analyzing them. 256 pages.

HF Antennas for Everyone

Order No. 0145 – \$24.95

Divided into horizontal, vertical and loop antennas, this book features a combination of both the traditional and most recent designs. 366 pages.



Homebrew Cookbook

Order No. 0232 – \$24.95

Features a number of construction projects including receiver designs, simple circuits, and SSB transmitters. Projects use simple techniques with obtainable components. 208 pages.

Test Equipment for the Radio Amateur

Order No. 1027 – \$24.95

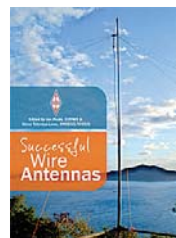
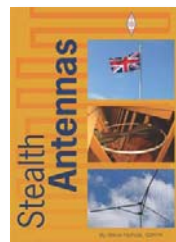
Learn how to measure the performance of your station. You'll find it's easy to make useful test equipment yourself. 256 pages.



Stealth Antennas

Order No. 3208 – \$24.95

Practical solutions for hams unable to put up large antenna towers and get on the air! 208 pages.



Successful Wire Antennas

Order No. 0363 – \$24.95

Packed with the latest wire antenna designs and developments, this book is a must-have for wire enthusiasts of all levels. Part of the popular family of *Practical Wire Antennas*. 240 pages.

Practical Wire Antennas 2

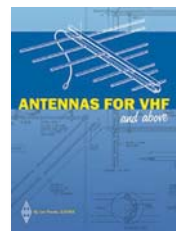
Order No. 9563 – \$24.95

Easy to understand designs for a wide range of wire antennas: feed lines, dipoles, antennas with tuned feeders, loop antennas, end-fed wires and verticals. 176 pages.



Practical Wire Antennas 1

Order No. R878 – \$17



Antennas for VHF and Above

Order No. 0501 – \$29.95

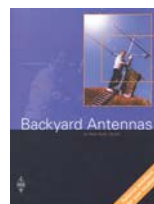
Discover what can be achieved on the VHF, UHF, and microwave bands. Includes all the details you need for understanding and experimenting with antennas. 144 pages.



Building Successful HF Antennas

Order No. 0800 – \$34.95

Learn what makes an effective HF antenna, how to build one, and measure its performance. This book uses real places, so you're able to obtain optimum performance at any location. 224 pages.



Backyard Antennas

Order No. RBYA – \$34.95

With simple techniques, you can build high performance antennas. Create compact multi-band antennas, end-fed and center-fed antennas, rotary beams, loops, tuning units, VHF/UHF antennas, and more! 208 pages.

IOTA Directory

Order No. 0032 – \$19.95

More than 45 Years of the IOTA (Islands on the Air). Plus, everything you need to enjoy this popular worldwide program! 128 pages.



Prefix Guide

10th Edition

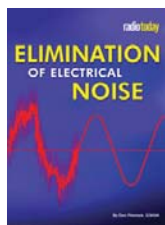
Order No. 0147 – \$19.95

Complete guide to call sign prefix identification and information. DXCC listings, award details and more. 80 pages.

Elimination of Electrical Noise

Order No. 1082 – \$12.95

Learn about the types of noise radio operators experience, how it's generated, and the most practical way to deal with it. 64 pages.



RTTY/PSK31 for Radio Amateurs

2nd Edition

Order No. 5003 – \$15.95

Expanded and fully updated, this edition provides everything you need to know to get the most out of this fascinating area of Amateur Radio. **CD-ROM included.** 48 pages.

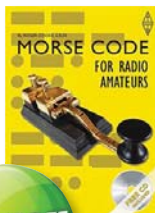
NEW!

Morse Code for Radio Amateurs

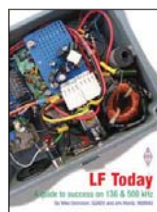
11th Edition

Order No. 6096 – \$15.95

Learn Morse code and get the maximum enjoyment from using it. Includes how to get started, learning techniques, increasing your speed and more. **CD-ROM included.** 48 pages.



NEW!



LF Today

2nd Edition

Order No. 0220 – \$24.95

All the information you need to succeed on 136 & 500 kHz. Advice and techniques for amateurs just starting out, and reference information for those who already have some experience in LF. 160 pages.

Computers in Amateur Radio

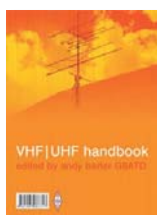
2nd Edition

Order No. 6193 – \$24.95

An insight into the Amateur Radio uses for the home computer. Includes material on the possibilities of Raspberry Pi and the wide variety of data modes now available. **CD-ROM included.** 256 pages.



NEW!

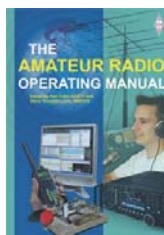


VHF/UHF Handbook

2nd Edition

Order No. 1229 – \$29.95

Your guide to theory and practice in the VHF and UHF bands. Topics include getting started, antennas, constructing your own equipment, satellite operation, local nets, and specialized modes such as data and TV. 320 pages.



The Amateur Radio Operating Manual

Order No. 2300 – \$29.95

Practical information on the different aspects of Amateur Radio, including basic operating practices and setting up your station. Especially useful for DX'ers and Contesters. 224 pages.

Radio Orienteering—The ARDF Handbook

Order No. 0131 – \$19.95

Everything you need to become involved in this great amateur racing sport! Fun for both new and experienced amateurs, competitors use their skills to locate a number of hidden transmitters. 112 pages.



Amateur Radio Mobile Handbook

Order No. 5225 – \$19.95

For hams who regularly "go mobile" or are interested in doing so. Covers all the basics, installing equipment and antennas in a vehicle, maritime mobile, bicycles mobile, and more. 128 pages.

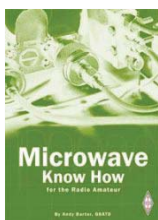
Microwave Projects

Order No. 9022 – \$29.95

Complete designs and ideas for the microwave experimenter: signal sources, transverters, power amplifiers, test equipment and more. 200 pages.

Microwave Projects 2

Order No. 9682 – \$29.95



Microwave Know How

Order No. 0303 – \$21.95

A compilation of articles for building equipment for the Amateur Radio microwave bands. All projects use modern techniques and up to date components. 192 pages.

International QRP Collection

Order No. 0020 – \$24.95

A compilation of the art and science of QRP. Contains articles from many Amateur Radio magazines including RadCom, QST, Sprat, Break In, as well as new material. Something for all low-power enthusiasts! 176 pages.



RadCom Magazine

Subscriptions are available for the UK's biggest and best radio magazine, published by the Radio Society of Great Britain (RSGB). Enjoy 15 monthly issues for the price of 12 (new members only). And, Airmail Delivery!

For details, contact ARRL:
1-888-277-5289 • circulation@arrrl.org

More RSGB Publications

- **Antenna File.** Order No. 8129.....\$29.95
- **HF Antennas for All Locations.** Order No. 4300.....\$34.95
- **HF Antennas for Everyone.** Order No. 0145.....\$24.95
- **Low Power Spatbook.** Order No. 7157.....\$24.95
- **Power Supply Handbook.** Order No. 9977.....\$29.95
- **QRP Basics.** 2nd Edition. Order No. 6401.....\$24.95
- **Technical Topics Scrapbook 50 Years.** Order No. 0130.....\$29.95
- **Weekend Projects for the Radio Amateur.** Order No. 0123.....\$24.95

16 Station Resources

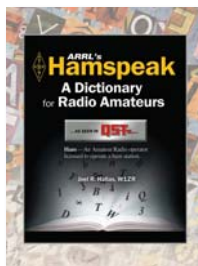
www.arrl.org/shop ■ 1-888-277-5289

ARRL's Hamspeak— A Dictionary for Radio Amateurs

Order No. 8423 – \$17.95

ARRL Member Price! \$15.95

A collection of terms and phrases commonly used in the ham radio community. As seen in QST magazine, it was created to make articles easier for newcomers to understand. Over 1,300 entries!

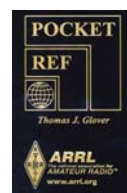


The ARRL DXCC List

April 2012 Edition

Order No. 3862 – \$5.95

The official source of DXCC awards information. Record the DXCC Entities you've worked and QSLed. A "must have" for every DXer!



Pocket Ref

Thomas J. Glover

Order No. 1148 – \$12.95

All the information you need in one essential reference book. The cover is embossed with ARRL's logo and logotype—making this a particularly special edition of this popular guide.

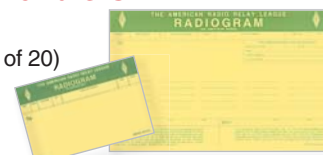
Radiograms For Traffic Handlers

Order No. 1310 – \$2

Message Delivery Cards (package of 20)

Order No. 1320 – \$2

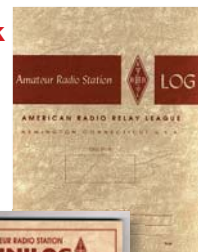
Message Pad with 70 sheets



Amateur Radio Station Log Book

Order No. 1250 – \$7.95

52 log pages with room for 25 contacts per page (1,300 total log entries). Spiral bound (8.5 x 11")



MINILOG

Order No. 7539 – \$4.95

Wire-bound (6.25 x 4")



Log Sheets

Order No. 1265 – \$4

Klingenfuss Publications

2014 Shortwave Frequency Guide

18th Edition

Order No. 9931 – \$59.95

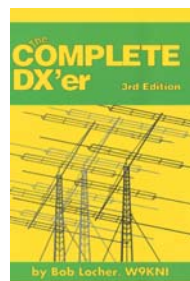
The latest schedules of worldwide broadcast and utility radio stations.



2014 Super Frequency List CD-ROM

Order No. 9993 – \$44.95

More than 40,000 entries cover both broadcast and utility stations. Hundreds of fascinating new digital data decoder screenshots! Requires Windows.



The Complete DX'er

3rd Edition

Bob Locher, W9KNI

Order No. 9073 – \$19.95

Covers nearly every aspect of DXing. Learn how to REALLY listen, how to snatch the rare ones out of the pile-ups, the excitement of landing the new one, and the agony of defeat.

Radio Setup Guides

Consider step-by-step guides that simplify setup and operation. Mini-manuals and pocket reference cards available are available for select Kenwood, Icom, Yaesu, Baofeng and Wouxun models.

Order Nifty! Ham Radio Guides online at www.arrl.org/shop.



Nifty E-Z Guide to D-STAR Operation

Order No. 0125 – \$13.95

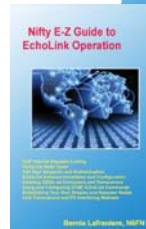
The first comprehensive reference to the world of D-STAR operation!



Nifty E-Z Guide to PSK31 Operation

Order No. 0370 – \$12.95

A complete guide for implementing PSK31!



Nifty E-Z Guide to EchoLink Operation

Order No. 1094 – \$13.95

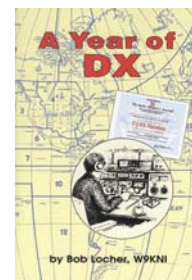
Your complete guide to EchoLink installation and operation!

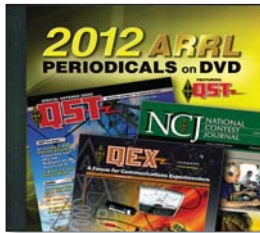
A Year of DX

Bob Locher, W9KNI

Order No. 0040 – \$20

A personal journey of the challenges, joys and sorrows experienced in pursuit of winning the CQ DX Marathon.





2012 ARRL Periodicals on DVD

Fully-searchable collections of popular ARRL journals, *QST*, *QEX*, and *NCJ*. Every word and photo published throughout the year is included!

SEARCH the full text of every article by entering titles, call signs, names—almost any word.

SEE every word, photo (including color images), drawing and table in technical and general-interest features, columns and product reviews, plus all advertisements.

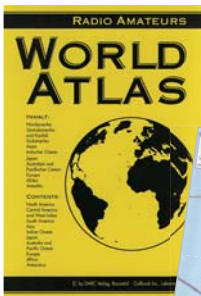
PRINT what you see, or copy it into other applications.

Order No. 3152 – \$24.95



System Requirements: Microsoft Windows™. 1999-2012 editions support Windows and Macintosh systems, using the industry standard Adobe® Acrobat® Reader® software. The Acrobat Reader is a free download at www.adobe.com (included on CD through 2007).

Maps



The Radio Amateurs World Atlas

Order No. 5226 – \$12.95

Booklet of full-color maps, call-sign prefixes and more.

- ARRL World Grid Locator Atlas
Order No. 2944 – \$5.95
- Grid Locator (US Grid Squares)
Order No. 1290 – \$1
- Polar Map (for OSCAR)
Order No. 1300 – \$1

ARRL Map of North America

Order No. 8977 – \$15

27 x 39 inches.

ARRL Map of the World

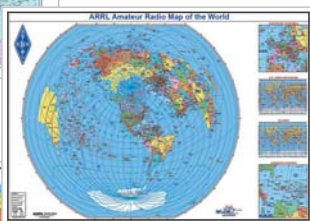
Order No. 7717 – \$15

(Azimuthal) 27 x 39 inches.

ARRL Map of the World

Order No. 8804 – \$15

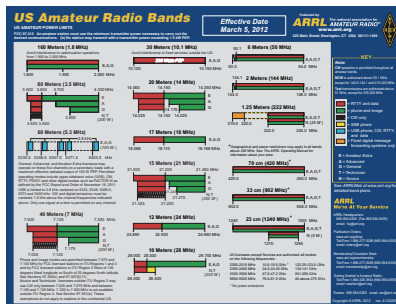
(Robinson) 26 x 34.5 inches.



US Amateur Radio Bands Chart

Order No. 1126 – \$3

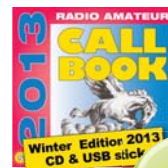
Size 11x17 inches. ARRL Worked All States (WAS) map on backside.



Additional sets available on CD-ROM.

- 2011 Edition, Order No. 5651 – \$24.95
- 2010 Edition, Order No. 2001 – \$24.95
- 2009 Edition, Order No. 1486 – \$24.95
- 2008 Edition, Order No. 9406 – \$24.95
- 2007 Edition, Order No. 1204 – \$19.95
- 2005 Edition, Order No. 9574 – \$19.95
- 2003 Edition, Order No. 9124 – \$19.95
- 2002 Edition, Order No. 8802 – \$19.95
- 2001 Edition, Order No. 8632 – \$19.95
- 1999 Edition, Order No. 7881 – \$19.95
- 1997 Edition, Order No. 6729 – \$19.95
- 1996 Edition, Order No. 6109 – \$19.95

More CDs



Radio Amateur Callbook CD-ROM

Winter 2014 Edition

Order No. 9915 – \$49.95

Feature-packed!
More than
1,600,000 licensed
radio amateurs.



Buckmaster's HamCall™ CD-ROM

Order No. 8991 – \$49.95

Look up hams by call, name, street address, city, state, postal code, county, and country. Over 2,000,000 worldwide call sign listings.



Nova for Windows

Order No. 8724 – \$59.95

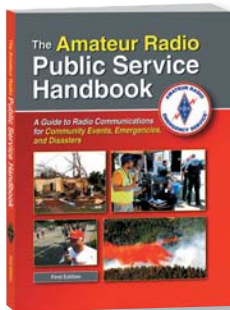
An innovative, real-time satellite tracking program.



For more ARRL products visit
www.arrl.org/shop

18 Emergency Communications

www.arrrl.org/shop ■ 1-888-277-5289



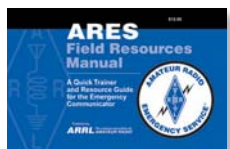
The Amateur Radio Public Service Handbook

First Edition

Order No. 4845 – \$39.95

ARRL Member Price! \$34.95

For all hams that volunteer their time and skill to serve their communities. It provides knowledge needed for communicating quickly and effectively during disasters, emergencies, and community events, as well as an opportunity to learn more about the Amateur Radio Service and its unique role in supporting the public.



ARES® Field Resources Manual

Order No. 5439 – \$12.95

A quick trainer and field resource guide for the emergency communicator.

ARES Magnetic Sign

Order No. 9413 – \$12.95

Perfect for use at public service and emergency communications support activities. Size 8 x 18 inches.



"When All Else Fails..." Supplies

These items are a great reminder that Amateur Radio provides immediate high-quality communications that work every time, when all else fails.

WAEF t-shirts, pins, stickers and more are available at www.arrrl.org/shop.



ARES Pin

Order No. 0241 – \$5

This colorful pin will symbolize your involvement in the Amateur Radio Emergency Service (ARES). Wear it proudly! Size 1" round.

ARES decals, stickers, and patches are also available at www.arrrl.org/shop.



NTS Pin

Order No. 2606 – \$5

Symbolize your involvement in the National Traffic System (NTS). Wear it proudly! Size 1" round.

NTS stickers, patches and mugs are also available at www.arrrl.org/shop

Emergency Power for Radio Communications

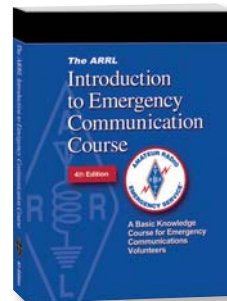
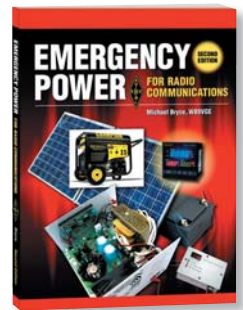
2nd Edition

Michael Bryce, WB8VGE

Order No. 6153 – \$27.95

ARRL Member Price! 24.95

Explore the various means of electric power generation, from charging batteries, to keeping the lights on. Covers the foundation of any communications installation — the power source.



The ARRL Introduction to Emergency Communication Course

4th Edition

Order No. 7303 – \$24.95

An introductory course designed for Amateur Radio volunteers who want to serve as part of an ARES® response team. This book is the course transcript for the EC-001 course and is an optional resource.

ARES Deployment Gear

■ Neon Mesh Vest (M-3XL)

Order No. 0128 – \$15.95

■ Neon Solid Vest (M-3XL)

Order No. 0136 – \$24.95

■ Neon Hat

Order No. 0099 – \$14.95

Great for ARES volunteers, emergency and public service use. One size fits most. ANSI/ISEA 107-2004 Class 2 compliant.



Two in One Flashlight/Lantern

Order No. 0264 – \$20

Never be without light! Unique design allows you to enable flashlight mode and extend for lantern use.



Solar Crank Flashlight

Order No. 0173 – \$40

Be prepared for any emergency with this powerful LED flashlight. Charge with the solar panel, hand crank, or AC/DC input.

Eton Microlink FR160 Radio

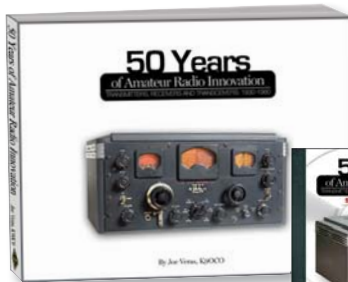
Order No. 1150 – \$35

Self-powered AM/FM/NOAA weather radio with built-in LED flashlight, solar power and USB cell phone charge. Get one radio for your disaster supplies kit and another for your ham radio "go kit".



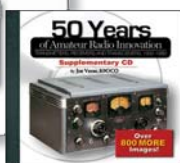
Revisit the Ham Radio of Yesteryear!

50 Years of Amateur Radio Innovation Transmitter, Receivers and Transceivers: 1930-1980



Joe Veras, K9OCO
Order No. 0228 – \$39.95

This book takes you on a guided tour of more than 400 legendary radios from 1930 – 1980, the “golden age” of American Radio Technology. This 50-year span saw the introduction of receivers, transmitters and transceivers that would become famous throughout the world. Each photo includes a brief description, the year the radio was introduced and its selling price at the time.



50 Years Supplementary CD

Order No. 3558 – \$19.95

Over 800 fascinating images, photographed by Joe Veras, K9OCO, not featured in the book **50 Years of Amateur Radio Innovation** (sold separately).

ARRL Globe Supplies

ARRL Backpack

Order No. 0127 – \$19.95

Black and silver backpack imprinted with the ARRL diamond against a hemisphere of the world. Features two zippered main compartments, front pocket and side mesh water bottle pocket. Great for carrying ham radio supplies! Size 18” H x 15”W x 6”D.



ARRL Globe Polo Shirt

- Royal Blue Globe Polo (S-4XL)
Order No. 0146 – \$19.95
- Stone Globe Polo (S-4XL)
Order No. 0211 – \$19.95

Classic sport polo featuring the ARRL diamond logo against a hemisphere of the world. Around the perimeter are the words **ARRL - the national association for AMATEUR RADIO** on the front left chest.

ARRL Globe T-Shirt

Order No. 0041 – \$12.95

Steel blue t-shirt featuring the ARRL diamond on the front left chest, with a large diamond against a hemisphere of the world on the back. Sizes: S-4XL.



ARRL Globe Pin

Order No. 1065 – \$5.00

This colorful blue and gold pin will symbolize your support of Amateur Radio and ARRL. Size 1” round. Globe decals and stickers are also available at www.arrl.org/shop.

The ARRL Film Collection DVD

Dave Bell, W6AQ

Order No. 3725 – \$15.95

Take a journey back as ARRL presents a series of videos beginning in the late 1950s. From the original “Hams Wide Word” to “Amateur Radio Today”, you will watch the evolution of Amateur Radio unfold before your eyes.



The Gil Cartoon Book

Order No. 0364 – \$15.95

The work of Philip “Gil” Gildersleeve, W1CJD, became a tradition. In tribute to this talented, creative and devoted artist and ham, the ARRL presents in this book a reprint of a portion of the best of his work.



W1AW Supplies

W1AW Challenge Coin

Order No. 3895 – \$9.95

This medallion features the W1AW Memorial Station. ARRL diamond and “Amateur Radio Service” are depicted on back. 1-1/2” round.



W1AW
EST. 1938



W1AW T-Shirt

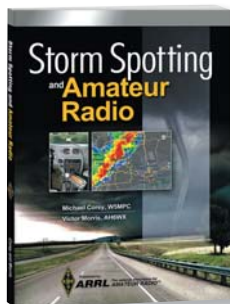
Order No. 9885 – \$14.95

Celebrate 75 years of W1AW with a charcoal t-shirt featuring “W1AW EST. 1938” on the front. The ARRL diamond logo and “Ham Radio” are along the top back. Sizes: S-4XL.

\$5 from every shirt purchased goes directly to the W1AW Endowment Fund.

20 operating

www.arrrl.org/join ■ 1-888-277-5289



Storm Spotting and Amateur Radio

Order No. 0908 – \$22.95

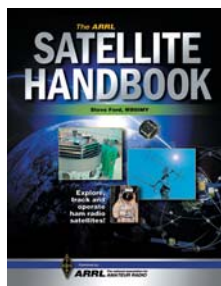
A resource for Amateur Radio operators who volunteer as trained storm spotters. Includes information on training, equipment, safety, storm spotter activation procedures, developing a local storm spotter manual, and the experiences of storm spotters from around the country.

The ARRL Satellite Handbook

Steve Ford, WB8IMY

Order No. 9857 – \$24.95

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.



FCC Rules and Regulations for the Amateur Radio Service

2nd Edition

Order No. 1173 – \$5.95

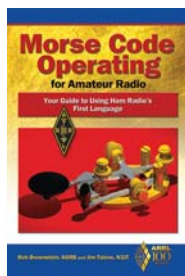
Includes the complete Part 97 rules from Title 47 of the Code of Federal Regulations. Now including: *The FCC Rules and You*.

Morse Code Operating for Amateur Radio

Order No. 0004 – \$17.95

ARRL Member Price! \$15.95

Discover the advantages to learning and using Morse code, how to set up your station for CW and how to adjust your Morse code key. You'll gain the confidence you need to try out your new skills on the air!



ARRL Morse Code Oscillator Kit

Order No. 0022 – \$24.95

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

Morse Code Key

Order No. 0242 – \$15.95

Explore the fun of Morse code with this straight key. For use with ARRL's Morse Code Oscillator Kit (sold separately).



The ARRL Repeater Directory® 2013-2014 Edition

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

- Spiral Bound **Desktop Edition!** *Lays flat.*
- Handy indexing tabs on the cover.
- Easy-to-read listings.
- Repeater notes located right up front.

Desktop Edition

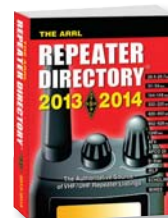
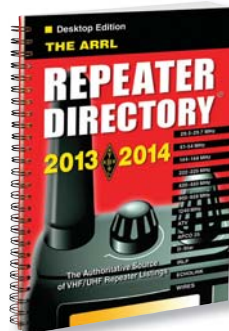
Order No. 2605 – \$17.95

ARRL Member Price! \$15.95

Pocket-sized

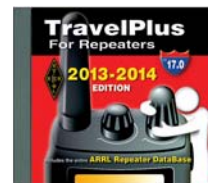
Order No. 2575 – \$12.95

ARRL Member Price! \$10.95



Pocket-sized
(3.75 x 5.25 inches)

Desktop Edition
Easy-to-Read
Size (6 x 9 inches)



TravelPlus for Repeaters™

CD-ROM, version 17.0

Order No. 2919 – \$39.95

Locate repeaters along your travel route.

- Map your travel route and tune in. Supports GPS.
- View and print maps and repeater lists.
- Access **The ARRL Repeater DataBase**, global Internet linked nodes, broadcast television, NOAA weather stations, USA and Canadian licenses, and ham radio points of interest.
- Export data for radio programming, handheld devices, and more.

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

TravelPlus Mobile GPS™

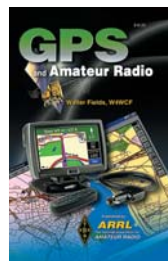
Order No. 2171 – \$24.95

It's like having the power of **The ARRL Repeater Directory** on your Garmin GPS!

For more information and to place an order visit www.arrrl.org/shop. You will receive an email confirmation with instructions for downloading and installing to your GPS.



Minimum System Requirements: Garmin nüvi, dēzl or zūmo GPS with at least 3.0 MB free memory space available for a POI file.



GPS and Amateur Radio

Walter Fields, W4WCF

Order No. 9922 – \$18.95

With this book, you'll explore GPS: its history, how it works, and navigating with a GPS receiver. You'll also learn how Amateur Radio operators have made use of GPS technology for direction finding and public service.

Order Form

Join ARRL:

ARRL Membership dues:

US rates: ☐ 1 Year¹ \$39 ☐ 2 Years² \$76 ☐ 3 Years³ \$111

Date of Birth ____/____/____
MM DD YYYY

¹1-year membership dues include \$15 for a 1-year subscription to QST. ²2-year membership dues include \$30 for a 2-year subscription to QST. ³3-year rates include \$45 for a 3-year subscription to QST. Life, Blind, International, First Class QST and Youth Memberships available at special rates. Contact ARRL for details.

ARRL Subscriptions for one year (US rates):

☐ QEX—Forum for Communications Experimenters, \$24
(non-ARRL members \$36)

☐ NCJ—National Contest Journal, \$20

Subscription amount \$ _____

Name _____ Call _____

Address _____ Apt# _____

City _____ State _____ ZIP _____

Order Publications:

Shipping Address:

Name _____ Call _____

Address _____ Apt# _____

City _____ State _____ ZIP _____

☐ Check here if gift. Gift from _____

www.arrl.org/shop ■ 1-888-277-5289

Shipping and Handling Rates:

Add the following amounts to your order to cover shipping and handling (S/H). US orders will be shipped via a ground delivery method. Orders outside of the US will be shipped via International Mail Services. Express delivery options and other specialty forwarding services are available. Please call, write or email for more information.

Order Value	US	International Mail Service 2-3 weeks delivery
Up to \$20.00	\$7.50	\$25.00
\$20.01 to \$50.00	\$10.50	\$35.00
\$50.01 to \$250.00	\$12.50	\$45.00
Single CD-ROM	First Class Mail \$2.75	n/a
Over \$250	Contact ARRL for shipping options and rates: orders@arrl.org	

Sales Tax:

CT add 6.35% state sales tax (including S/H). VA add 5% sales tax (excluding S/H). Canada add 5% GST (excluding S/H).

Save time—order by credit card:

Toll-free: **1-888-277-5289**

Mon-Fri, 8 AM to 5 PM ET

www.arrl.org/shop

*Thank you
for your order!*

Item Number	Quantity	Title or Item Name	Price Each	Total

CAT 10/2013

Subtotal

☐ Check here if you do not wish your name and address made available for non-ARRL mailings.

Enter Shipping and Handling fee (see fee schedule)

Delivery to CT, VA and Canada, add applicable tax (see note)

If joining ARRL or subscribing to QEX or NCJ, please insert total here

Total

\$

Method of payment: ☐ Check/Money order payable to ARRL \$ _____ ☐ MasterCard ☐ Visa ☐ Discover ☐ American Express
(must be in US funds drawn on a US bank)

Credit Card Number: _____ MM/YY Expiration ____/____

Your Signature _____ Daytime Phone _____

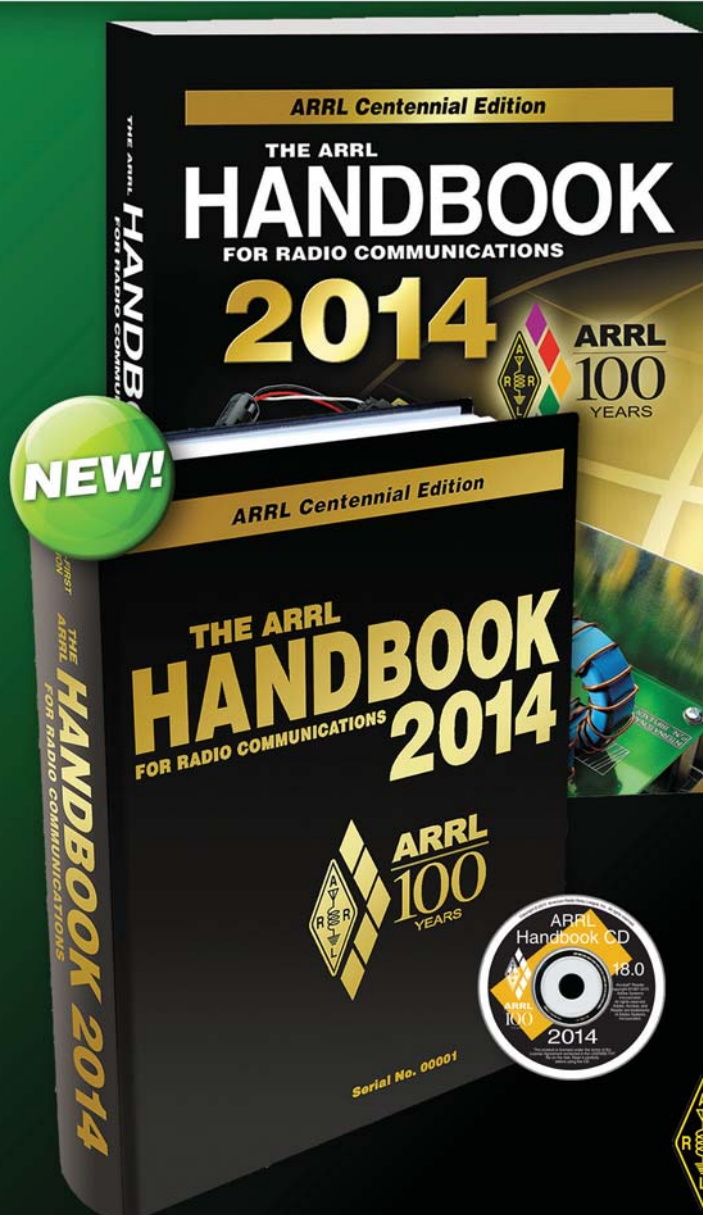
Mail your order to: ARRL, 225 Main Street, Newington, CT 06111-1494 USA



ARRL The national association for
AMATEUR RADIO®
225 Main Street ■ Newington, CT 06111-1494

Non-Profit Org.
US Postage
PAID
Permit #601
Burlington, VT

100 Years of Advancing the Art and Science of Radio



This 91st edition of **The ARRL Handbook for Radio Communications** marks a milestone: the **2014 ARRL Centennial**. For 100 years, ARRL has been at the forefront of promoting technical advancement and improvements in radio operating practices. And since 1926, **The ARRL Handbook** has defined the latest innovations in the field of applied electronics and communications. **The Handbook** is written by radio amateurs...for radio amateurs, experimenters, engineers and students.

This commemorative ARRL Centennial Edition has been extensively updated and revised.

New Projects

- A one- or two-tube linear amp for beginning builders
- VHF and UHF signal sources
- QSK controllers for amplifiers (analog and digital)

New Information

- MOSFET design for power amplifiers
- Telemetry and navigation data including GPS
- Oscillators and synthesizers
- Current battery technology
- The new *Codec2* software for HF digital voice
- New material on microwave techniques
- Annual transceiver model review

ARRL Centennial Edition

- Includes historical highlights from previous editions of **The Handbook** ...and more!

Fully searchable CD-ROM included!

Hardcover and Softcover Editions Available. Hardcover is gold foil embossed and serial numbered (while supplies last).

See page 2 for details.



ARRL
100
YEARS

www.arrl.org/shop

Toll-Free US 888-277-5289,
or elsewhere +1-860-594-0355