

Advancing the Art, Science, and Enjoyment of Amateur Radio

Devoted Entirely to

Amateur Radio



ARRL Publications and Products
Fall 2014/Winter 2015



ARRL The national association for
AMATEUR RADIO®

www.arrl.org/shop

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

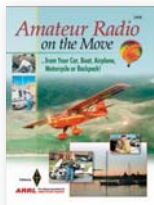
The ARRL Operating Manual is the most complete guide to Amateur Radio operating. It has everything you need to know about ham radio operating—from exploring the broad range of activities, to sharpening your on-air skills. It's filled with information every ham needs, from newcomers looking for basic 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**



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.

Your First Amateur Radio HF Station

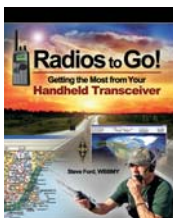
From Antennas to Amplifiers – Everything You Need to Know!

Steve Ford, WB8IMY

Order No. 0079 - \$22.95

ARRL Member Price! \$19.95

The most complete guide to setting up your station and getting started in HF communications. Whether you're new to Amateur Radio or HF operating, live on acres of open property or in a tiny apartment, this book will show you how to get on the air and enjoy all that Amateur Radio has to offer.



Radios to Go!

Getting the Most from your Handheld Transceiver

Steve Ford, WB8IMY

Order No. 3077 – \$17.95

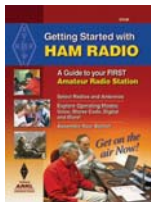
ARRL Member Price! \$15.95

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.

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. Have your license? Get radio-active! Now you can get on the air with confidence



ARRL Software Library for Hams

CD-ROM, version 4.0



Order No. 4364 – \$22.95

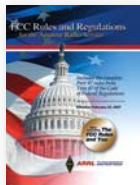
ARRL Member Price! \$19.95

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.



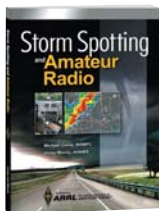
FCC Rules and Regulations for the Amateur Radio Service

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.**

ARRL, the national association for Amateur Radio®



Storm Spotting and Amateur Radio

Order No. 0908 – \$22.95

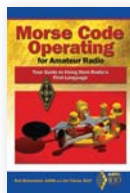
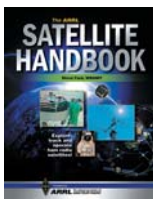
A resource for Amateur Radio operators who volunteer as trained storm spotters. Includes equipment, safety, storm spotter activation procedures, developing a local storm spotter manual, and the experiences of storm spotters from around the country.

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.



Morse Code Operating for Amateur Radio

Order No. 0004 – \$17.95

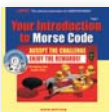
ARRL Member Price! \$15.95

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!

Your Introduction to Morse Code

Order No. 8314 – \$12.95

Don't just learn the code—master it! This set includes two audio CDs with nearly 2-1/2 hours of practice. As you learn Morse code at 5 words-per-minute. Follow the proven ARRL teaching system.



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

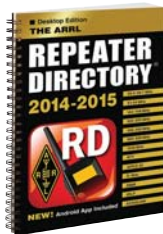
Explore the fun of Morse code! This Morse code straight key includes an adjustment for tension and an adjustment for gap size. The base includes mounting holes. For use with ARRL's Morse Code Oscillator Kit (sold separately).



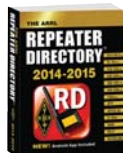
The ARRL Repeater Directory® 2014-2015 Edition

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

- **NEW! Android App included** – enjoy 12 months of the full version app!
- **NEW! Digital Mobile Radio (DMR)** listings.
- Spiral Bound **Desktop Edition!** *Lays flat.*
- Handy indexing tabs on the cover.
- Easy-to-read listings.
- Repeater notes located right up front.



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



Pocket-sized
(3.75 x 5.25 inches)

Pocket-sized
Order No. 0208 – \$14.95

ARRL Member Price! \$12.95

Desktop Edition
Order No. 0215 – \$19.95

ARRL Member Price! \$17.95

ARRL Repeater Directory App

...Powered by TravelPlus™

Order No. 8740 – \$9.95

Download an app to access **The ARRL Repeater Directory®** database from your Android phones and tablets.

Purchase your activation code from ARRL, then visit Google Play™ to download the free application. Grab your phone and go!



Apple App version coming soon.

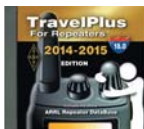
TravelPlus for Repeaters™

CD-ROM, version 18.0

Order No. 0246 – \$39.95

Make **TravelPlus** your traveling companion, and you'll never be alone on the road. Use the integrated maps and repeater data to locate repeaters along your travel route. It's like having the power of **The ARRL Repeater Directory®** on your **COMPUTER!**

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. 0406 – \$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.



2 Technical

www.arrl.org/shop ■ 1-888-277-5289

The ARRL Handbook 2015 Edition

Hardcover. Book with CD-ROM
Order No. 0218 – \$49.95
(retail \$59.95)

Softcover. Book with CD-ROM
Order No. 1920 – \$49.95

The ARRL Handbook is at the forefront of the growing field of wireless telecommunications. The book covers not only the fundamentals of radio electronics—analogue and digital—but also practical circuit and antenna design, computer-aided design, digital operating modes, equipment troubleshooting, and reducing RF interference. Projects help enhance your station and expand your participation as an active radio experimenter. Each edition is updated and revised to reflect the latest advances and technologies.

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
- Transmitters
- Telemetry and Navigation
- 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

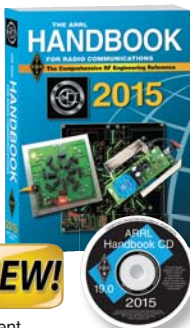
- Component Data and References
- Construction Techniques
- Station Accessories
- Test Equipment and Measurements
- Troubleshooting and Maintenance
- RF Interference

Station Assembly and Management

- Safety
- Assembling a Station

Operating Supplement – on CD-ROM

- Space, Digital, Image Communications
- The ARRL Radio Amateur's Handbook—From Its Beginning
- 2015 Annual Transceiver Survey



NEW!

*The Comprehensive
RF Engineering
Reference*

Amateur Radio Transceiver Performance Testing

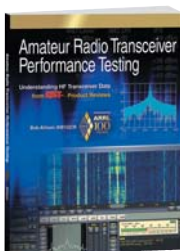
Understanding HF transceiver Data from *QST* Product Reviews

Bob Allison, WB1GCM

Order No. 0086 – \$22.95

ARRL Member Price! \$19.95

Learn the technical terms and parameters presented in *QST*'s Product Review, how published data relates to actual performance, how each major test is performed, and what the numbers mean. Great for Amateur Radio operators looking to purchase a transceiver.



ARRL's Hands-On Radio Experiments

Ward Silver, NØAX

Volume 2

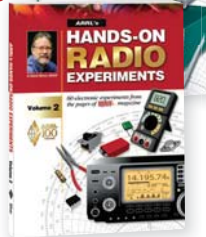
Order No. 3411 – \$25.95

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.**

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

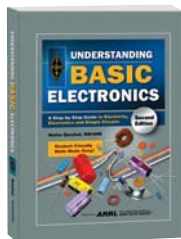
Order No. 9123 – \$12.95

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



ARRL, the national association for Amateur Radio®

ARRL "Basic" Book Series



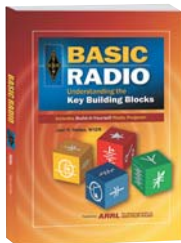
Understanding Basic Electronics

2nd Edition

Order No. 0823 – \$32.95
ARRL Member Price! \$29.95

Your gateway into the exciting world of electricity and electronics! Written in a friendly, easy-to-understand style that beginners and nontechnical readers will enjoy with real-world

examples and clear illustrations make the study of electronics interesting and fun!



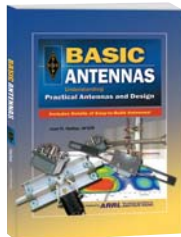
Basic Radio

Understanding the Key Building Blocks

Joel Hallas, W1ZR

Order No. 9558 – \$29.95

An introduction to radio for everyone. Reveals the key building blocks of radio: receivers, transmitters, antennas, and propagation. Simple, build-it-yourself projects 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 easy-to-build antennas. You'll learn how to make antennas that *really* work!

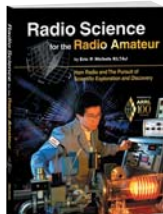
Collect the Entire Set!

Radio Science for the Radio Amateur

Eric P. Nichols, KL7AJ

Order No. 3381 – \$27.95
ARRL Member Price! \$24.95

Explore the 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.

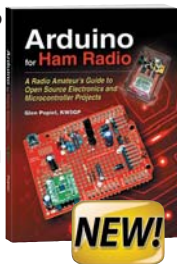


Arduino for Ham Radio

Glen Popiel, KW5GP

Order No. 0161 – \$34.95
ARRL Member Price! \$29.95

An introduction to Arduino microcontrollers and practical projects for the Amateur Radio station. It starts by building a solid foundation through descriptions of various Arduino boards and add-on components, followed by a collection of ham radio-related practical projects.



NEW!



Ham Radio for Arduino and PICAXE

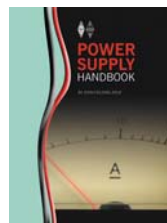
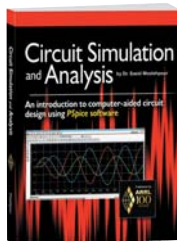
Order No. 3244 – \$34.95
ARRL Member Price! \$29.95

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.

Circuit Simulation and Analysis

Order No. 0055 – \$27.95
ARRL Member Price! \$24.95

An introduction to designing and testing simple circuits using PSpice software. It discusses the tools you'll need to create simple circuits and understand their behavior, prior to building them in the real world. For beginners in PSpice with a background in basic electronics.



Power Supply Handbook

John Fielding, ZS5JF
Order No. 9977 – \$29.95

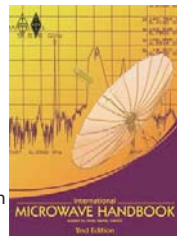
Understand and make power supplies of all types. Explains how power supplies work, selecting each component, building and modifying, measuring the finished supply, and more.

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.



4 Technical

www.arrl.org/shop ■ 1-888-277-5289

ARRL's Low Power Communication

4th Edition

Rich Ariand, 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!

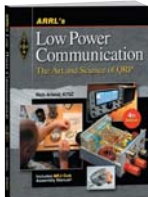
ARRL's Low Power Communication with 40-meter CW Cub Transceiver Kit.

Order No. 5828K – \$105.95

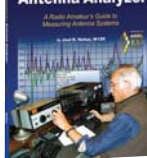
Build the kit in just a few hours, and you'll be working the world with low-power fun!

20-meter CW Cub Transceiver Kit. Book sold separately.

Order No. 0018 – \$89.95



Understanding Your Antenna Analyzer



Understanding Your Antenna Analyzer

Order No. 2889 – \$25.95

ARRL Member Price! \$22.95

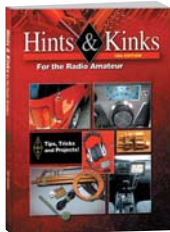
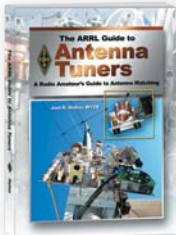
An introduction to the various types of analyzers available, their component parts, how they operate and how to utilize them to get the best possible data. Includes product review testing and an in depth look at antenna analyzers available today.

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.



Hints and Kinks for the Radio Amateur

18th Edition

Order No. 5200 – \$22.95

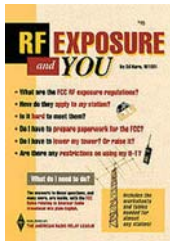
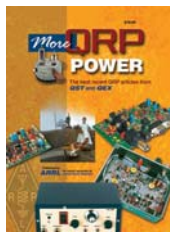
ARRL Member Price! \$19.95

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!

More QRP Power

Order No. 9655 – \$19.95

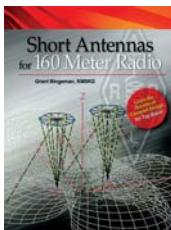
Here are *more* projects and articles for low power radio operating, from the pages of *QST* and *QEX* magazines: construction practices, transceivers, transmitters, receivers, accessories, and antennas.



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.



Short Antennas for 160 Meter Radio

Order No. 5798 – \$22.95

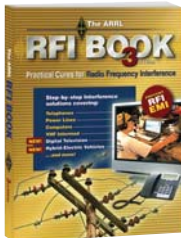
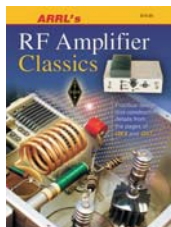
ARRL Member Price! \$19.95

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!



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 systems, over-the-air TV signals, trouble-shooting, and hybrid and all-electric automobiles.

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.

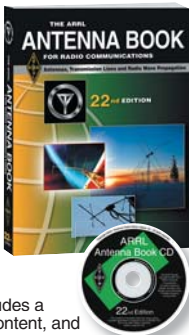


Table of Contents:

Basic Antenna Topics

- Antenna Fundamentals
- Effects of Ground
- Loop Antennas
- Log Periodic Dipole Arrays
- Dipoles & 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

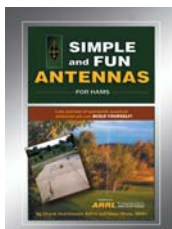
- Portable Antennas
- Stealth and Limited Space Antennas
- Mobile and Maritime HF Antennas
- Receiving and Direction-Finding Antennas

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 really work!

ARRL's Small Antennas for Small Spaces

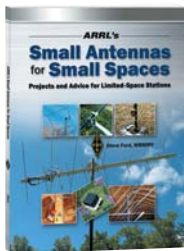
Projects and Advice for Limited-Space Stations

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!



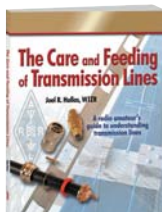
The Care and Feeding of Transmission Lines

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.

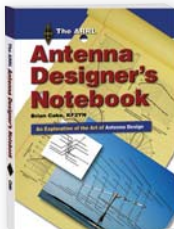
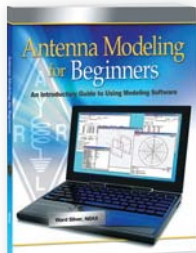
Antenna Modeling for Beginners

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, and create your own.



The ARRL Antenna Designer's Notebook

An Exploration of the Art of Antenna Design

Brian Cake, KF2YN

Order No. 1479 – \$34.95

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

CD-ROM included!

6 Antennas

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

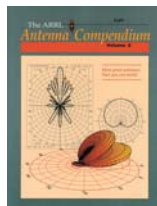
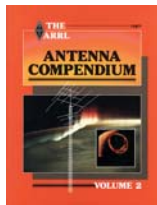
The premiere volume includes articles on a multiband portable, quads and loops, baluns, the Smith Chart, and more.



Volume 2

Order No. 2545 – \$14

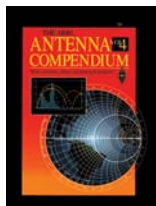
Covers a wide range of antenna types and related topics, including innovative verticals, an attic tri-bander, antenna modeling and propagation.



Volume 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 4

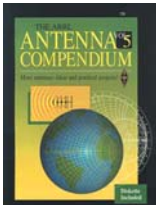
Order No. 4912 – \$20

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

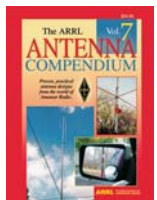
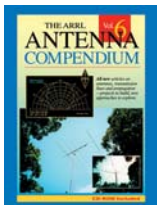
Enjoy excellent coverage of baluns, an HF beam from PVC, low-band Yagis, quads and verticals, curtain arrays, and more!



Volume 6

Order No. 7431 – \$22.95

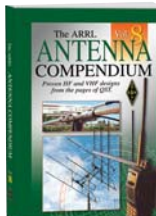
All new articles covering low-band antennas and operating, 10-meter designs, multiband antennas, propagation and terrain assessment. CD-ROM included with propagation prediction software!



Volume 7

Order No. 8608 – \$24.95

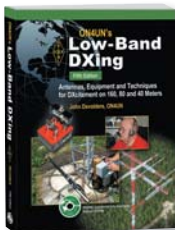
Proven, practical antenna designs from the world of Amateur Radio. This volume includes even more articles on low-band antennas and operating, and great designs for operating on the road—from cars, vans or motor homes.



Volume 8

Order No. 0991 – \$24.95

60 articles from *QST* 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

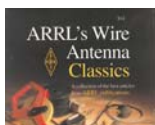
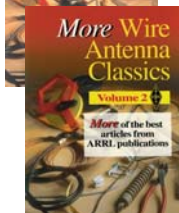
John Devoldere, ON4UN

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!

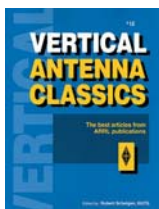
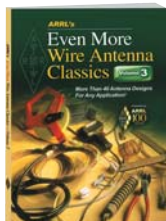
ARRL, the national association for Amateur Radio®

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!

Practical Designs for Wire Antennas, from Simple Projects to More Complex.

ARRL's Even More Wire Antenna Classics
Volume 3
Order No. 0239 – \$22.95
ARRL Member Price! \$19.95

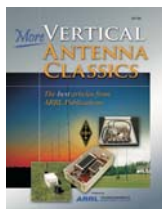
 The best antenna projects and innovative designs from *QST*, from 2002 through 2013. Features more than 40 practical designs for a wide range of wire antennas. Discover new ways to experiment with wire antennas and why they are so rewarding to use.

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

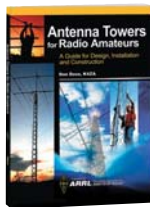
Includes some of the best articles written about beam antennas, from ARRL publications. Will provide the reader with new and ambitious ideas, and computer-optimized

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 Antenna Books visit
www.arrl.org/shop*

Devoted Entirely to Amateur Radio

Level 1 – Technician

Brand New Third Edition!

The most popular introduction into the world of Amateur Radio!



The ARRL Ham Radio License Manual

All You Need to Pass your Technician Class Exam!

3rd Edition

Order No. 0222 – \$29.95

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 test**.
- Includes the **latest question pool with answer key**, for use through June 30, 2018.
- **NEW!** Use with **ARRL’s online Exam Review for Ham Radio**.
- **Designed for self-study and for class-room use.** Intended for all newcomers, instructors and school teachers.

ARRL’s Tech Q & A

6th Edition

Order No. 0178 – \$17.95

Earning your **FIRST** Amateur Radio license is 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.

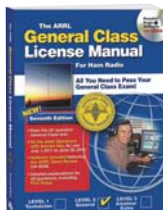


- Pass the 35-question test
- Includes the latest question pool with answer key, for use through June 30, 2018.
- Brief, clear explanations for all questions.

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

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.

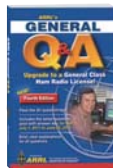
- **Software** included featuring the **ARRL Exam Review CD-ROM**.
- Detailed explanations for all questions, including **FCC rules**.

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.

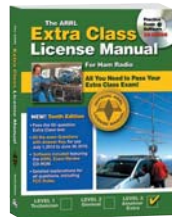


Online Review and Practice Exams

Use ARRL’s online **Exam Review for Ham Radio** in addition to ARRL license manuals to help prepare you for exam day. This web-based service uses the question pool to construct chapter-by-chapter reviews. Take practice exams with the same number and variety of questions that you’ll encounter on exam day. www.arrl.org/examreview

Level 3 – Amateur Extra

Upgrade from General! Achieve the highest level in Amateur Radio!

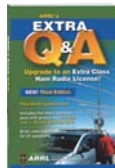


The ARRL Extra Class License Manual

10th Edition

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

Flash and Pass Card Sets

Flashcards are 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.

Flashcards allow you to break up the learning task into smaller, more manageable segments. Save time by focusing 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



HamTestOnline™

HamTestOnline™

Web-based online training for the Amateur Radio licensing exams. This convenient format allows you to study when you want, at your own pace. All platforms are always up-to-date with the latest question pools. Guaranteed – pass the exam, or get a full refund!

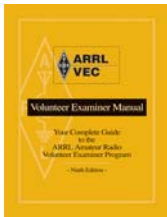
- Technician Class Course
Order No. 0132 – \$24.95
- General Class Course
Order No. 0141 – \$29.95
- Extra Class Course
Order No. 0150 – \$34.95

Volunteer Examiner Items

ARRL/VEC Volunteer Examiner Manual

9th Edition
Order No. 1328 – \$10

A complete guide to the ARRL Amateur Radio Volunteer Examiner program. Whether you have ever thought about becoming a VE or you are a seasoned VE, this is everything ARRL VEs need to know.



VE Polo Shirt Black

Order No. 0281 – \$19.95
Black polo shirt embroidered with the words "Volunteer Examiner" on the front left chest. Superior wrinkle and shrink resistant. Sizes, S-4XL.



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 Challenge Coin

Order No. 0711 – \$9.95

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



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 Patch Round

Order No. 0013 – \$5



VE Patch Rectangular

Order No. 0121 – \$2



VE Pin

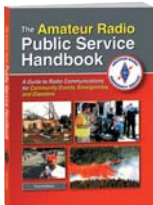
Order No. 0023 – \$5.00

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

*Become an ARRL
Volunteer Examiner today!*

10 Public Service

www.arri.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.arri.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.arri.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.arri.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.

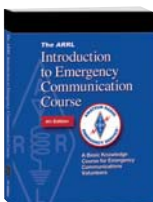


The ARRL Introduction to Emergency Communication Course

4th Edition

Order No. 7303 – \$24.95

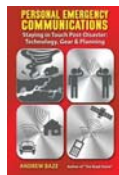
An introductory course designed for Amateur Radio volunteers who want to serve as part of an ARES® response team. This book is the course transcript for the EC-001 course and is an optional resource.



ARES Deployment Gear

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

- 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



Personal Emergency Communications

Order No. 0081 – \$14.95

Staying in touch post-disaster! Learn modern communications technologies and how to implement a realistic backup communication system.

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”.



ARRL, the national association for Amateur Radio®

Get on the Air with HF Digital

The Beginners Guide to PSK31, RTTY and More!

Steve Ford, WB8IMY

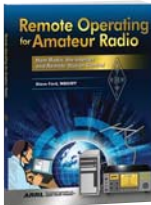
Order No. 6016 – \$25.95

ARRL Member Price! \$22.95

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

Includes:

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



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 to interconnect Amateur Radio hardware and software for remote Internet control. Station diagrams, software tips and more.

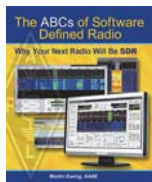
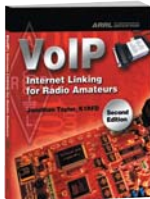
VoIP: Internet Linking for Radio Amateurs

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**.



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

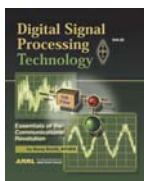
principles of SDR, advantages to SDR technology, and ways to utilize it in Amateur Radio operation.

Digital Signal Processing Technology

Order No. 8195 – \$44.95

Closeout Price! \$34.95

An understandable presentation and reference on DSP in contemporary communications technology. Presented from an engineering perspective, the material achieves a balance between theory and practice.



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.



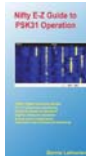
RTTY/PSK31 for Radio Amateurs

2nd Edition

Order No. 5003 – \$15.95

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.

Nifty E-Z Guides



Nifty E-Z Guide to D-STAR Operation

Order No. 0125 – \$13.95

Using easy to understand explanations and illustrations, this book is an ideal resource for discovering the full range of operating modes and opportunities available to D-STAR users. 135 pages.

Nifty E-Z Guide to PSK31 Operation

Order No. 0370 – \$12.95

Learn how to setup your station for PSK operation. Light on theory, this book concentrates on the practical issues of getting things connected and making PSK31 QSOs. 70 pages.



Nifty E-Z Guide to EchoLink Operation

Order No. 1094 – \$13.95

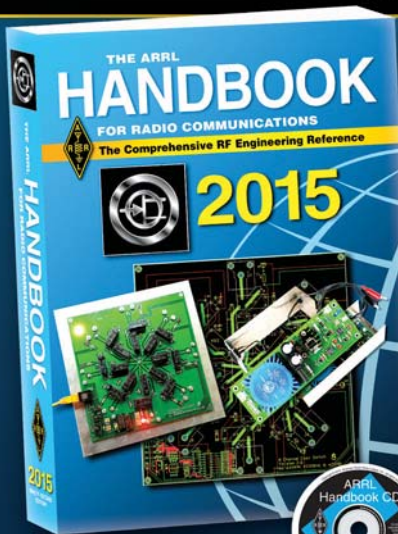
Your complete guide to EchoLink installation and operation. Discover how to use your radio or personal computer to make EchoLink contacts anywhere in the world! 140 pages.

Experience the Excitement of Digital Communications!

Devoted Entirely to Amateur Radio



The ARRL HANDBOOK for Radio Communications



2015 Edition

Discover the theory, practical information and construction details to expand your knowledge and skill as an Amateur Radio operator and experimenter.

This 92nd edition of **The ARRL Handbook** is at the forefront of the growing field of wireless telecommunications. The book covers not only the fundamentals of radio electronics—analogue and digital—but also practical circuit and antenna design, computer-aided design, digital operating modes, equipment troubleshooting, and reducing RF interference. Many projects and construction articles are included to help enhance your station and expand your participation as an active radio experimenter. Practical applications and solutions make **The Handbook** a must-have for hobbyists and technical professionals, finding its way onto workbenches, operating desks, and into university libraries and classrooms.

Dozens of contributors help ensure that each edition is updated and revised to reflect the latest advances and technologies:

New Projects

- Simple Adjustable Tracking Power Supply
- Tri-Band Moxon Yagi Antenna
- A Legal-Limit Bias-T
- An Eight-Channel Remote Control Antenna Switch

New Information

- Updated material on the state of Solar Cycle 24
- Recommended parts for modifying circuit designs and fine-tuning performance
- A package of useful applications on CD-ROM from Tonne Software, including a new version of the ELSIE™ filter design program
- Annual transceiver model review

CD-ROM Inside

Includes the fully searchable text and illustrations in the printed book, as well as expanded supplemental content, software, PC board templates, and other support files.

Special Offer!

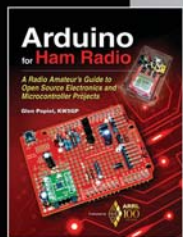
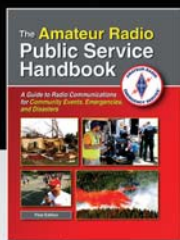
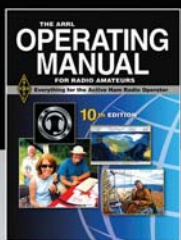
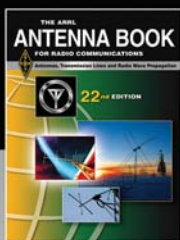
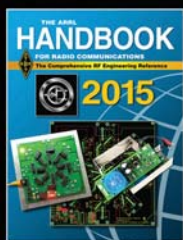
The **BEST DEAL** in Amateur Radio is back! Save \$10.00 and get the **Hardcover edition** at the Softcover price, while supplies last.

Softcover Book and CD-ROM

ARRL Order No. 1920
Only \$49.95*

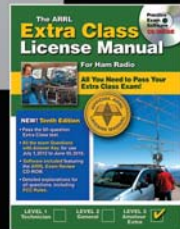
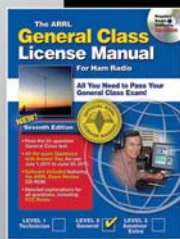
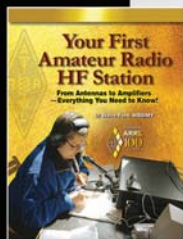
Hardcover Book and CD-ROM

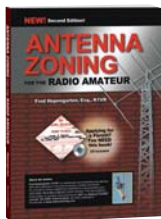
ARRL Order No. 0218
BONUS! Save \$10.00 while supplies last
Only \$49.95* (retail \$59.95)



Stay in the Know!

ARRL Publications and Journals
www.arrl.org/shop





Antenna Zoning for the Radio Amateur

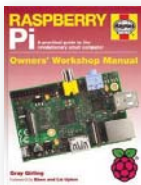
2nd Edition
Order No. 1192 – \$49.95

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.



Ham and Shortwave Radio for the Electronics Hobbyist

Order No. 0097 – \$25.00

Practical guide perfect for those interested in shortwave listening. Covers communications modes, frequency ranges, details on fixed, mobile, and portable ham stations, antennas, and more. Keep the lines of communication open in any situation!



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!



Tower Climbing Safety & Rescue

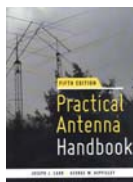
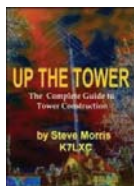
4th Edition
Order No. 1108 – \$29.95

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.



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.



Marine Amateur Radio

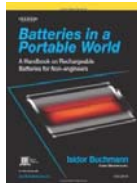
Order No. 9723 – \$12.95

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.

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.



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.



Heil Ham Radio Handbook

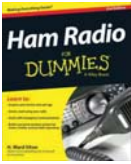
2nd Edition
Order No. 7238 – \$14.95

Enjoy the experiences that legendary author Bob Heil, K9EID, has had since being first licensed in 1956. Written in a playful style, the technical material is made easy and fun to understand. Photos and drawings guide you along the way.



“For Dummies” Series

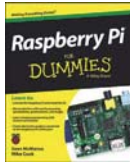
Ham Radio for Dummies



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.

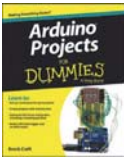
Raspberry Pi for Dummies

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.



Arduino Projects for Dummies

Order No. 8102 – \$29.99
 Featuring an array of projects, this beginner guide walks you through each one so you can acquire a clear understanding of the different aspects of the Arduino board. Turn everyday electronics and simple old projects into incredible innovations!



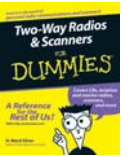
Arduino for Dummies

Order No. 7000 – \$24.99
 Leap into the fascinating world of physical computing. You'll discover how to build a variety of circuits that can sense or control real-world objects, prototype your own product, and even create interactive artwork. What you make is up to you!



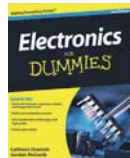
Two-Way Radios & Scanners For Dummies

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 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.



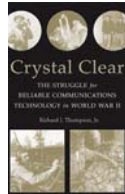
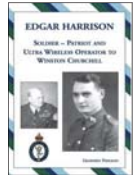
The Secret Wireless War

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

Soldier, Patriot and Ultra Wireless Operator to Winston Churchill
Order No. 0270 – \$29.95

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

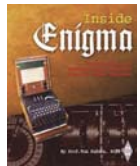


Crystal Clear

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

- AC Power Interference Handbook. Order No. 1103 \$34.95
- Array of Light. Order No. 0026 \$35.00
- 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
- Electronic Projects for Dummies. Order No. 9944 \$24.95
- 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 \$19.95
- 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
- Radio. Order No. 0115 \$19.95
- 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 Day After. Order No. 3006 \$12.99
- The Road Home. Order No. 0427 \$12.99
- The Story of the Enigma CD. Order No. 1296 \$15
- Transmitter Hunting. Order No. 2701 \$27
- 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

16 RSGB Catalog

www.arrl.org/shop ■ 1-888-277-5289

Radio Communication Handbook

12th Edition

Order No. 2040 – \$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.



Six and Four

Order No. 3764 – \$24.95

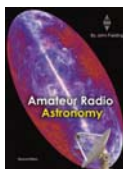
Explore the excitement of the “magic band” with this complete guide to 6 meters, as well as 4 meters. With new countries gaining temporary or permanent access on a regular basis, you'll discover both bands are exciting and fun! 288 pages.

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

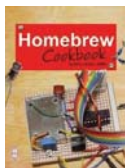
Order No. 1208 – \$12.95

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.



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

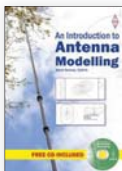
Learn how to measure the performance of your station. You'll find it's easy to make useful test equipment yourself. 256 pages.



An Introduction to Antenna Modeling

Order No. 9500 – \$19.95

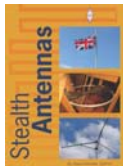
Learn how to input antennas designs into MMANA-GAL, adapt designs you are given and optimize your designs for the best performance. You'll learn how to model a whole host of antennas including dipoles, the G5RV, the W3DZZ trapped dipole, verticals, magnetic loop antennas and more. 80 pages.



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

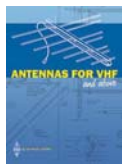
Order No. 0363 – \$24.95

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.

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.



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.



Building Successful HF Antennas

Order No. 0800 – \$34.95

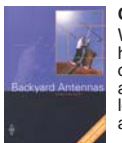
Learn what makes an effective HF antenna, how to build one, and measure its performance. This book uses real places, so you're able to obtain optimum performance at any location. 224 pages.



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.



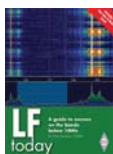
ARRL, the national association for Amateur Radio®

Building a Transceiver

NEW!

Order No. 6959 – \$24.95

Home construction is alive and well amongst Amateur Radio operators. Based on the RadCom column "Homebrew", discover how making something as complex as an HF transceiver can be achieved with very simple equipment and techniques. 176 pages.



LF Today

3rd Edition

Order No. 0387 – \$24.95

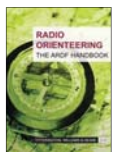
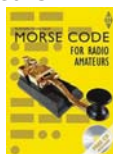
All the information you need to succeed on 136 & 500 kHz. Advice for amateurs just starting out, and reference information for those who already have some experience in LF. 192 pages.

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.



Radio Orienteeing - 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.

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.



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.



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. 176 pages.



IOTA Directory

Order No. 9916 – \$19.95

Now celebrating 50 years of the Island on the Air (IOTA) program. To mark this golden anniversary the fully updated IOTA Directory provides the essential guide to participating in the IOTA award program. 128 pages.

Prefix Guide

11th Edition

Order No. 9992 – \$19.95

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

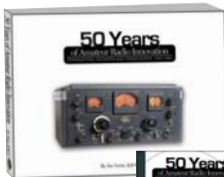
For details, contact ARRL: 1-888-277-5289 • circulation@arrl.org

More RSGB Publications

- **Antenna File.** Order No. 8129 \$29.95
- **HF Antennas for All Locations.** Order No. 4300 \$34.95
- **Low Power Spatbook.** Order No. 7157 \$24.95
- **Power Supply Handbook.** Order No. 9977 \$29.95
- **Practical Wire Antennas 2.** Order No. 9563 \$24.95
- **QRP Basics.** 2nd Edition. Order No. 6401 \$24.95
- **Radio Propagation.** Order No. 9328 \$29.95
- **SWR Explained.** Order No. 8910 \$15.95
- **Valves Revisited.** Order No. 0212 \$29.95
- **Weekend Projects for the Radio Amateur.** Order No. 0123. \$24.95

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).

A History of QST – Volume 1: Amateur Radio Technology 1915-2013



Edited by Ward Silver, N0AX

Order No. 0003 – \$34.95

ARRL Member Price! \$29.95

Discover the technical contributions made throughout Amateur Radio's first century. Begin in the era of spark and continue through advances in radio electronics, antenna design, and the dawn of satellites and digital communications.

A History of QST – Volume 2: Advertising 1915-2013



Joe Veras, K9OCO

Order No. 0048 – \$34.95

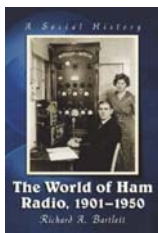
ARRL Member Price! \$29.95

Trace the history of receivers, transmitters, antennas, and other station gear through this collection of QST pages and advertising. It's a nostalgic journey, as told through the creative marketing, advertising and photography of yesteryear.

The World of Ham Radio: 1901 – 1950

Order No. 0257 – Only \$55

Explore the history of ham radio operators, their social history and their many contributions to the technological development of worldwide communications. This book highlights ham radio in major events of the half century, exploration and aviation “firsts”.



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 Story of the Queen Mary and W6RO DVD

Order No. 1344 – Only \$15.95

A story about W6RO, the Amateur Radio station located aboard the historic Queen Mary. With 35 years of continuous operation, W6RO has presented a positive image to millions of visitors. 28 minutes.



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.



Where Discover Sparks Imagination

Order No. 1660 - \$34.95

Examine the early history of radio and electricity, presented via a marvelous collection of over 600 photographs. Anyone who appreciates the amazing workmanship and artistry of old technology will love this book.



ARES Polo Shirt

Order No. 0006 – \$21.95

Designed for public service and ARES volunteers, this sport polo is embroidered with the **Amateur Radio Emergency Service®** (ARES) logo on front left chest. A perfect way to symbolize your commitment to Amateur Radio and the Emergency Service program. Size, S–4XL. Color, Navy.



ARES T-Shirt

Order No. 1331 – \$12.95

Show your participation in the Amateur Radio Emergency Service program with an **ARES®** t-shirt, featuring the logo on the front left chest and **“Radio Communications”** on the back. Perfect for public service events. Size, S–4XL. Color, Navy.



HAM Hat

Order No. 0014 – \$12.95

Black hat embroidered with the HAM logo and the ARRL web address. Adjustable Velcro strap closure. One size fits most.



ARRL Amateur Radio Hat

- **Black Hat**
Order No. 5004 – \$10.95
- **Khaki Hat**
Order No. 4094 – \$10.95

Show off your support for ARRL and Amateur Radio with a stylish hat! These medium profile caps with sandwich visor feature contrasting undersvisor, mesh lining and an adjustable cloth strap closure. Comes in two colors, black and khaki. Black with the ARRL logo embroidered in white and khaki with the ARRL logo embroidered in black and white. One size fits most.



ARRL Polo Shirt Red

Order No. 7319 – \$19.95

Designed specifically for ARRL Members, this sport polo features the ARRL diamond logo with the words **“ARRL, Amateur Radio”** on the front left chest. Sizes, S–4XL. Color, Red.



W1AW T-Shirt

Order No. 9885 – \$14.95

Celebrate 75 years of W1AW with this t-shirt featuring **“W1AW EST. 1938”** on the front. The ARRL diamond logo and **“Ham Radio”** are along the top back. Sizes, S–4XL. Color, Charcoal.

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



Celebrate 100 Years!

ARRL Centennial Polo Shirt

Order No. 9028 – \$20.00

Polo shirt embroidered with the official ARRL **“100 Years”** Centennial logo in white. Celebrate the Centennial in style! Sizes, S–4XL. Color, Blue.



ARRL Centennial T-Shirt

Order No. 9893 – \$15.00

Blue t-shirt silk screened with the official ARRL **“100 Years”** Centennial logo in white. A comfortable way to celebrate the Centennial! Sizes, S–4XL. Color, Blue.



ARRL Centennial Hat

Order No. 0399 – \$10.00

Black hat embroidered with the ARRL 100 Years logo in gold. Adjustable Velcro strap closure. One size fits most.



20 Station Resources

www.arrl.org/shop ■ 1-888-277-5289

Pocket Ref



Thomas J. Glover

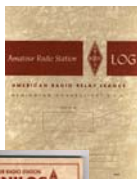
Order No. 1148 – \$12.95

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

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 Book

Order No. 7539 – \$4.95

Wire-bound (6.25 x 4")



Log Sheets

Order No. 1265 – \$4

Klingenfuss Publications

2015 Shortwave Frequency Guide

19th Edition

Order No. 5006 – \$59.95

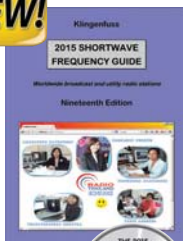
The latest schedules of worldwide broadcast and utility radio stations.

2015 Super Frequency List CD-ROM

Order No. 6017 – \$44.95

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

NEW!



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 newwone, and the agony of defeat.

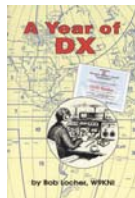


A Year of DX

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.



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!



Radiograms For Traffic Handlers

Order No. 1310 – \$2

Message Delivery Cards (package of 20)

Order No. 1320 – \$2

Message Pad with 70 sheets



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.



Amateur Radio All Weather Minilog

Order No. 1374 – Only \$8.95

Waterproof logbook made of synthetic paper. Takes extreme variations in temperature and humidity in stride. Ideal for harsh field conditions, maritime use, mobile use, as well as regular ham shack use. 50 pages. Size: 3" x 5".



ARRL All Weather Pen

Order No. 6108 – Only \$13.95

All weather click pen writes on wet paper, upside down and in temperatures from -30F to 250F. Flat black metal barrel, ink black. Size: 5 1/4" long.



ARES All Weather Notebook

Order No. 5580 – Only \$6.95

Pocket notebook conveniently sized to take with you—anywhere, anytime, in any weather! Great for public service volunteers, it features the ARES logo on a Polydura cover. 100 waterproof writing pages (50 sheets). Size: 3" x 5".



ARRL, the national association for Amateur Radio®

2013 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. 0093 – \$24.95

System Requirements: Microsoft Windows™, 1999-2013 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).



Additional sets available on CD.

- 2012 Edition, **Order No. 3152 – \$24.95**
- 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**

ARRL at 100: A Century of Ham Radio

Order No. 0109 – \$10.95

ARRL Membership DVD promoting the art, science and enjoyment of Amateur Radio for 100 years. By being an ARRL member you not only reflect the commitment and enthusiasm of American hams, but also provide leadership as the voice of Amateur Radio in the USA.



The DIY Magic of Amateur Radio DVD

Order No. 6047 – \$10.95

Directed toward the "Do It Yourself" movement, this video features innovative and fun ways hams use radio technology. 8 minutes 32 seconds.



The Story of the Enigma: History, Technology and Deciphering

Order No. 1296 – \$15.00

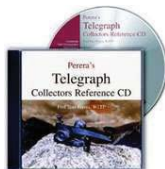
The complete story of the Enigma cipher machine, the primary device used by the German Military during WWII. Organized in a logical sequence of topics it begins with the history of codes and progresses through the development of code machines, the Enigma, and other cipher machines.



Perera's Telegraph Collectors Reference CD

Order No. 1282 – \$15.00

A complete source of information for those interested in telegraph keys, from beginner to avid collector. It explains the history and technology of telegraph keys and even gives their current values. Access to over 7,000 photographs and an array of descriptions, prices, books, maps, videos and lists.



Radio Amateur Callbook CD-ROM



Winter 2015 Edition

Order No. 4198 – \$49.95

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



Nova for Windows

Order No. 8724 – \$59.95

An innovative, real-time satellite tracking program.



30 Years of QRP Quarterly DVD

Order No. 9668 – \$34.95

A collection of 30 years (1979-2009) of the popular magazine for low power operators, QRP Quarterly, on DVD. Over 100 issues and filled with projects!

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.

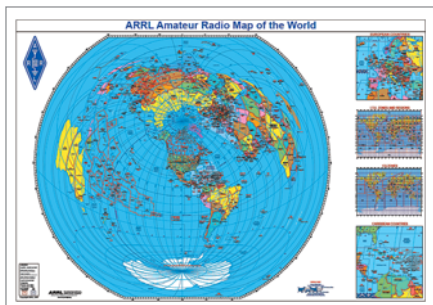


For more CD's & DVD's visit
www.arrrl.org/shop

Devoted Entirely to Amateur Radio

22 Maps

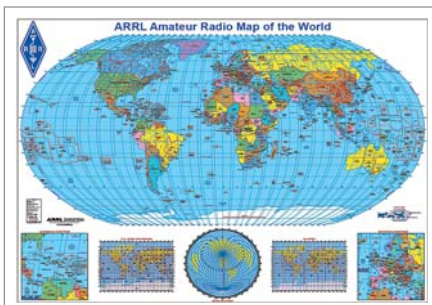
www.arrrl.org/shop ■ 1-888-277-5289



ARRL Map of the World Azimuthal

Order No. 7717 – \$15

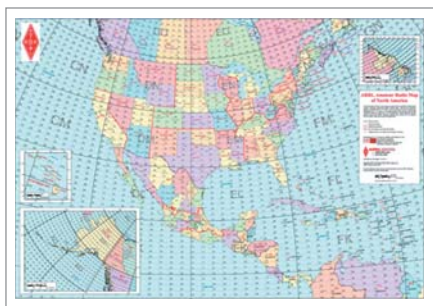
27 x 39 inches.



ARRL Map of the World Robinson

Order No. 8804 – \$15

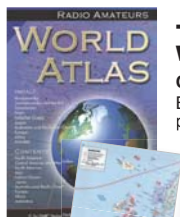
26 x 34.5 inches.



ARRL Map of North America

Order No. 8977 – \$15

27 x 39 inches.

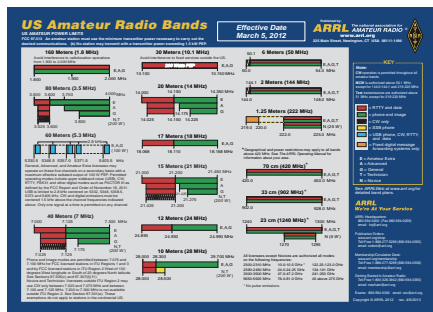


The Radio Amateurs World Atlas

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



US Amateur Radio Bands Chart

Order No. 1126 – \$3

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



Ham Oval Stickers

(set of 25)

Order No. 0169 – \$30.00

These stickers are a great way to get the word out! Ideal for the bumper or rear window of your car, van or RV (vinyl with adhesive on the back).



I'm a Member... Stickers

(roll of 100)

Order No. 1037 – \$5.00

1 3/8" diameter.

ARRL 100 Years Magnets

(set of 25)

Order No. 0124 – \$12.00

Full colored magnets in celebration of ARRL's 100 Years. The perfect give-away for all ham radio events! Size 3.5" x 2".



ARRL Pens

(set of 25)

Order No. 0170 – \$13.00

Red push pen imprinted with "ARRL the national association for AMATEUR RADIO". The perfect give-away for all ham radio events!



ARRL Banner

Order No. 1302 – \$50

Nylon fabric banner imprinted with "ARRL The national association for AMATEUR RADIO". Size 3' x 8'.



Amateur Radio Bookmark and Ruler

(set of 25)

Order No. 1063 – \$8.00

A bookmark on one side and ruler on the other. A great recruitment tool for scouts and young hams.

ARRL Ribbons

(set of 25)

- ARRL Member Ribbons Order No. 1123 – \$15.00
- ARRL Life Member Ribbons Order No. 0280 – \$15.00

ARRL Members and ARRL Life Members, show off your support with an attractive ARRL ribbon!

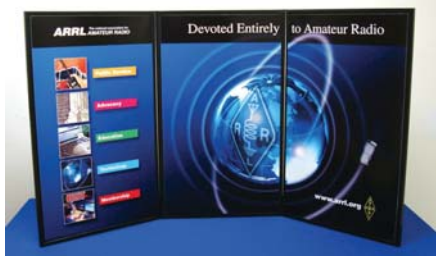


Wouff Hong Pins

(set of 25)

Order No. 0060 – \$40

Symbolize your participation in the traditional ham ritual with these antique copper plated pins. Perfect for Clubs!



ARRL Tabletop Display

Order No. 0185 – \$220

Three panel "Dedicated Entirely to Amateur Radio" display, featuring the ARRL five pillars. A great addition to any trade show or exhibit! 54" x 30" x 3/4".



ARRL Banner Stand Display

Order No. 0310 – \$150

Vibrant banner imprinted with "Advancing the Art, Science and Enjoyment of Amateur Radio" and the ARRL five pillars. Includes carrying case. A striking visual for all your ham radio events! Size 29.50" x 69".

*Advocacy
Membership
Public Service
Education
Technology*

24 ARRL Product Listing

www.arrl.org/shop ■ 1-888-277-5289

License Study Materials

Technician Class

Exam: 35-question Technician test (Element 2)
The ARRL Ham Radio License Manual, 3rd Edition.
Order No. 0222 \$29.95
ARRL's Tech Q & A—6th Edition, Order No. 0178 \$17.95

General Class (upgrade from Technician)

Exam: 35-question General test (Element 3)
The ARRL General Class License Manual, 7th Edition.
Order No. 8119 \$29.95
ARRL's General Q & A—4th Edition, Order No. 8069 \$17.95

Extra Class (upgrade from General)

Exam: 50-question Extra test (Element 4)
The ARRL Extra Class License Manual, 10th Edition.
Order No. 5170 \$29.95
ARRL's Extra Q & A—3rd Edition, Order No. 4708 \$17.95

Operating and Reference

The ARRL Operating Manual for Radio Amateurs, 10th Edition.
Order No. 5965 ~~ARRL Member Price \$29.95~~ **\$94.95**

The ARRL Repeater Directory[®], 2014/2015 Edition.
Pocket-sized Edition.
Order No. 0208 ~~ARRL Member Price \$12.95~~ **\$14.95**

Desktop Edition.
Order No. 0215 ~~ARRL Member Price \$17.95~~ **\$19.95**

TravelPlus for Repeaters[™] 2014-2015 Edition, CD-ROM, Ver 18.0.
Order No. 0246 \$39.95

TravelPlus Mobile GPS[™] Download, 2014/2015 Edition.
Order No. 0406 \$24.95

Your First Amateur Radio HF Station.
Order No. 0079 ~~ARRL Member Price \$19.95~~ **\$26.95**

Radios to Go! Getting the Most from Your Handheld Transceiver.
Order No. 3077 ~~ARRL Member Price \$15.95~~ **\$17.95**

The ARRL DXCC List, April 2012 Edition, Order No. 3862 \$5.95

RF Exposure and You, Order No. 6621 \$22.95

Hints & Kinks for the Radio Amateur, 18th Edition.
Order No. 5200 ~~ARRL Member Price \$19.95~~ **\$22.95**

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**

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

Antennas and Transmission Lines

The ARRL Antenna Book, 22nd Edition, 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~~ **\$36.95**

Short Antennas for Small 160 Meter Radio.
Order No. 5798 ~~ARRL Member Price \$19.95~~ **\$22.95**

ON4JN'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. 2899 ~~ARRL Member Price \$22.95~~ **\$25.95**

The Care and Feeding of Transmission Lines.
Order No. 4794 ~~ARRL Member Price \$24.95~~ **\$27.95**

ARRL's Vagi 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

Even More Wire Antenna Classics—Volume 3.
Order No. 0239 ~~ARRL Member Price \$19.95~~ **\$22.95**

More Vertical Antenna Classics, Order No. 9795 \$17.95

Vertical Antenna Classics, Order No. 5218 \$12

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

QST on CD-ROM and DVD

2013 Periodicals on DVD, Order No. 0093\$24.95

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

Practical Circuits and Design

The ARRL Handbook, 2015 Edition.

Softcover, Book with CD-ROM, Order No. 1920 \$49.95

Hardcover, Book with CD-ROM, Order No. 0218 ~~\$49.95~~ **\$69.95**

Understanding Basic Electronics, 2nd Edition.
Order No. 0823 ~~ARRL Member Price \$29.95~~ **\$32.95**

Basic Radio Order No. 9558 \$29.95

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

Arduino for Ham Radio.
Order No. 0161 ~~ARRL Member Price \$29.95~~ **\$34.95**

Ham Radio for Arduino and PICAXE.
Order No. 3244 ~~ARRL Member Price \$29.95~~ **\$34.95**

ARRL PIC Programming Kit, Order No. 0030 \$149.95

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

More QRP Power, Order No. 9655 \$19.95

Circuit Simulation and Analysis.
Order No. 0055 ~~ARRL Member Price \$24.95~~ **\$27.95**

Amateur Radio Transceiver Performance Testing.
Order No. 0086 ~~ARRL Member Price \$19.95~~ **\$22.95**

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

Public Service and Emergency Communications

The Amateur Radio Public Service Handbook.
Order No. 4845 ~~ARRL Member Price \$34.95~~ **\$36.95**

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**

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

The DIY Magic of Amateur Radio, DVD, Order No. 6047 \$19.95

Space and VHF/UHF/Microwave Communications

The ARRL Satellite Handbook, Order No. 9857 \$24.95

International Microwave Handbook, 2nd Edition.
Order No. 0330 \$29.95

History and Adventure

A History of QST Volume 1:
Amateur Radio Technology 1915—2013.
Order No. 0003 ~~ARRL Member Price \$29.95~~ **\$34.95**

A History of QST Volume 2:
Advertising 1915—2013.
Order No. 0048 ~~ARRL Member Price \$29.95~~ **\$34.95**

50 Years of Amateur Radio Innovation, Order No. 0228 \$39.95

50 Years of Amateur Radio CD-ROM, Order No. 3558 \$22.95

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

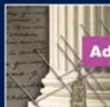
The ARRL Film Collection, DVD, Order No. 3725 \$15.95

Membership Application

www.arrl.org/shop ■ 1-888-277-5289



Public Service



Advocacy



Education



Technology



Membership

Join or Renew!

Includes



www.arrl.org/join

Membership Application

Membership options (circle your choice/s)

	1 Year	2 Years	3 Years	
Regular	\$39	\$76	\$111	Monthly QST via standard mail for US members
Canada	\$49	\$93	\$132	Monthly QST via standard mail for Canadian members
Intl QST	\$62	\$118	\$167	Monthly QST via air mail for international members
Intl CD	\$39	\$76	\$111	Annual CD-ROM (QST, NCJ and QEX) for international members
Blind	\$8	\$16	\$24	No QST delivery, all other member benefits apply
Family	\$8	\$16	\$24	Reside at the same address as the primary member, no additional QST. Membership dates must correspond with primary member.

Membership includes \$15 per year for subscription to QST. Memberships and QST cannot be separated. Dues subject to change without notice and are non-refundable.

If you are 21 or younger a special rate may apply. Contact ARRL for more details.

Additional membership options available online at www.arrl.org/join.

Name _____ Call Sign _____

Street _____ City _____ State _____ ZIP _____

E-mail _____ Birth Date _____

Family Member Name _____ Call Sign (if any) _____

Payment Options

Visa MasterCard Amex Discover Check Enclosed

Total enclosed payable to ARRL \$ _____

If you do not want your name and address made available for non-ARRL related mailings, please check here.

Card Number _____ Expiration Date _____

Join Now

ONLINE: www.arrl.org/join PHONE: 1-888-277-5289 (US)
ARRL • 225 Main Street • Newington, CT 06111-1494
Phone: 860-594-0338 • FAX: 860-594-0303

*Cardholder's Signature _____

CAT 10/2014

Devoted Entirely to Amateur Radio

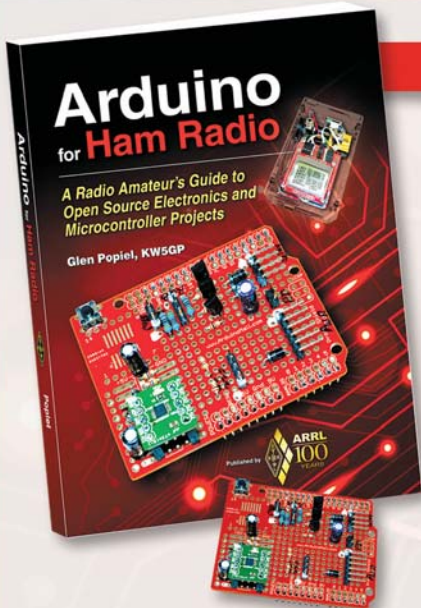
Arduino Microcontroller Projects You Can Build Today!

NEW!

Arduino for Ham Radio

*A Radio Amateur's Guide to Open Source Electronics
and Microcontroller Projects*

By Glen Popiel, KW5GP



The Arduino has become widely popular among hobbyists and ham radio operators.

Hams are exploring these powerful, inexpensive microcontrollers, creating new projects and amateur station gear. With its Open Source model, the Arduino community freely shares software and hardware designs, making projects easier to build and modify.

Arduino for Ham Radio introduces you to the exciting world of microcontrollers and Open Source hardware and software. It starts by building a solid foundation through descriptions of various Arduino boards and add-on components, followed by a collection of ham radio-related practical projects. Beginning with simple designs and concepts and gradually increasing in complexity and functionality, there is something here for everyone. Projects can be built quickly and used as-is, or they can be expanded and enhanced with your own personal touches.

Projects:

- Random Code Practice Generator
- CW Beacon and Foxhunt Keyer
- Fan Speed Controller
- Digital Compass
- Weather Station
- RF Probe with LED Bar Graph
- Solar Battery Charge Monitor
- On-Air Indicator
- Talking GPS/UTC Time/Grid Square
- Iambic Keyer
- Waveform Generator
- PS/2 CW keyboard
- Field Dat Satellite Tracker
- Azimuth/Elevation Rotator Controller
- CW Decoder
- Lightning Detector
- CDE/Hy-Gain Rotator Controllers

Arduino for Ham Radio

ARRL Order No. 0161

Special Member Price! Only \$29.95* (retail \$34.95)



ARRL The national association for
AMATEUR RADIO®

www.arrl.org/shop
Toll-Free US 888-277-5289,
or elsewhere +1-860-594-0355