ARRL The national association for AMATEUR RADIO<sup>®</sup>

# Publications Summer 2018 Reproducts WWW.arrl.org/shop



#### The ARRL Operating Manual 11th Edition

Item No. 0598 – \$24.95 The ARRL Operating Manual for Radio Amateurs is the most comprehensive guide to Amateur Radio operating — things you can do on the air with your gear. In some cases, you may need to pick up new software or another radio,

antenna, or accessory, but in many cases you already have the tools you need to get started. Each topic has been written and updated by experienced hams who are active on the air. They are happy to share what they have learned, so that you can get involved too.

#### Includes:

#### **Basic Station and Operating Techniques**

- Assembling a Station
- Basic Operating Procedures



#### Oscilloscopes for Radio Amateurs Item No. 0976 – \$22.95 ARRL Member Price \$19.95

Filled with practical information you'll need for using a scope. It begins with an overview of the oscilloscope and continues on to discuss characteristics, applications, probes, controls, and input modes. Select an oscilloscope that is right for you!

The digital edition is available in the Kindle format from Amazon.

#### FCC Rules and Regs for the Amateur Radio Service

#### 4th Edition

Item No. 1173 – \$7.95 Includes the complete Part 97 rules from Title 47 of the Code of Federal Regulations. Updated with details on the new HF Bands. Rules effective November 1, 2017.



#### HF Digital Communications

- VHF/UHF FM, Repeaters, Digital Voice and Data
- VHF/UHF Beyond FM and Repeaters
- Amateur Satellites
- Image Communications
- Portable and Mobile Operation

#### **Radio Clubs and Public Service**

- Group Activities for the Radio Amateur
- Preparing the Next Generation
- ARRL Field Day
- Public Service Operating

#### **On-Air Activities and Radiosport**

- Awards Measuring Operating Achievements
- DXing Contacting Those Faraway Places
- Confirming the Contact QSLing
- Contesting Competitive Wireless

#### **Resources for the Active Ham**

A collection of useful information to support on-air operating activities.

Available as a two part e-book, Volumes 1 & 2 and Volumes 3 & 4, for the Amazon Kindle.

#### Digital Storage Oscilloscopes for Ham Radio



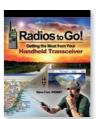
The modern Digital Storage Oscilloscope is an advanced and rapidly developing instrument that is finding its way into the Amateur Radio station in a number of useful and interesting ways. This is an introduction to the capabilities of the DSO and how to use one in your ham shack.

This book is available in digital format only. To order download the e-book in the Kindle format from Amazon.

#### Radios to Go Steve Ford, WB8IMY Item No. 3077 – \$17.95 ARRL Member Price! \$15.95

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#### Portable Operating for Amateur Radio Stuart Thomas, KB1HQS

Item No. 0802 – \$22.95

A new generation of compact, full-featured, portable radios combine modern battery technology to make it easier than ever to set up your station and enjoy Amateur Radio in the great outdoors. This book offers a wealth of practical information to help make portable Amateur Radio operating successful.

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Amateur Radio

**HF** Station

man to Amplifian

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A complete guide to setting up your station and getting started in HF communications. Whether you're new to Amateur Radio or HF operating you'll learn how to get on the air and enjoy all that Amateur Radio has to offer.

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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!

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kit! Ideal for ARRL members, Amateur Radio newcomers and instructors seeking a classroom

## kit-building experience.





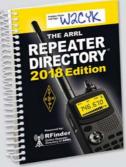
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#### Item No. 0242 - \$15.95

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).

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- Digital repeaters including FM, FUSION, D-STAR, DMR, NXDN, and P25 systems.
- VHF/UHF and microwave band plans included.
- Spiral "lay flat" binding (one size: 6" x 9").
- Make it yours! Cover includes space to personalize your directory (permanent marker or label recommended).



Hz (+0.6) PL-0.0

tz (+5.0) PL:0.0

MHz (-0.6) PL-127.3

MHz (-5.0) PL 79.7

(+5.0) PL:100.0

(+5.0) PL:0.0

Hz (-1.6) PL-100.0

AHz (-1.6) PL:0.0

#### RFinder – The Worldwide Repeater Directory

RFinder is the Worldwide Repeater Directory and the online repeater directory of ARRL.

Get access to listings for 50,000+ repeaters in 170+ countries. RFinder is integrated with EchoLink<sup>®</sup> on Android<sup>™</sup> and iOS. An annual subscription includes access to the directory from the apps, RT Systems, CHIRP, web. finder.net, routes.finder. net, and a growing list of third party applications that use repeater data!

Annual Subsciption For more information visit Subscibe.RFinder.net

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#### Introduction

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- Fundamental Theory
- Electrical Fundamentals
- Badio Fundamentals
- Circuits and Components

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- Transmitting
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- Digital Protocols and Modes
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- RF Power Amplifiers
- Repeaters

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- Propagation of Radio Signals
- Transmission Lines
- Antennas

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- Image Communications
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- Station Accessories and Projects
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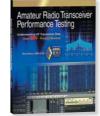
**Hints and Kinks for** the Radio Amateur 18th Edition

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







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Hints & Kinks

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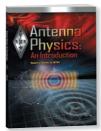
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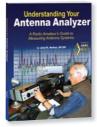


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- Multiband HF Antennas
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- Broadside and End-Fire Arrays
- Long-Wire and Traveling-Wave Antennas
- HF Antenna System Design

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

#### **Special Applications**

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- Mobile and Maritime HF Antennas
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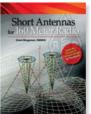


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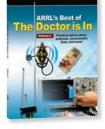


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on the topic of antenna systems. You'll find helpful information.

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for the Radio Amateur from those of transmitting antennas. Receiving Antennas for the Radio Amateur focuses entirely on active and Eric P. Nichols, KL7 passive receiving antennas and their associated circuits. There are relatively few cases where a radio amateur cannot benefit from a separate, well-designed receiving antenna or antenna system. On the low bands, including our new allocations at 630 and 2200 meters. ARRLAMATEURRAD heavy emphasis on the receiving end of these radio paths is essential for success.



The active antenna holds a prominent position in this book, as it offers good receiving performance while taking up minimal space. Recent developments in radio frequency (RF) semiconductors, especially low-noise RF operational amplifiers, have made a number of previously difficult-to-implement active antenna designs simple to build.

#### **Table of Contents**

Receiving Antennas are Different!

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- Your Friend, the Decibel
- The Preamplifier Problem
- The Amazing Disappearing Antenna
- The Receiving Antenna as a Signal Generator
- The Quest for Infinite Power Gain
- The Role of the Resistor in the Receiving Antenna
- The Small Loop Antenna
- Achieving the Perfect Null
- You Can Make Accurate Field Strength Measurements
- The Aperiodic Loop
- The Q Factor

The Beverage: In a Class of Its Own

Although the fundamental characteristics of antennas apply to both transmission and reception, the requirements and priorities of receiving antennas can be vastly different

- Dealing with Non-Reciprocal Propagation
- The Evolution of the eXOgon Antenna
- The Lowdown on LF
- The Random Wire
- Arrays and Beamforming Networks
- Powering Your Active Antenna
- Diversity Methods
- NVIS Receiving Antennas
- Receiving Antenna Projects and Accessories
- Materials and Construction Techniques
- Our Two New Bands

Receiving Antennas for the Radio Amateur By Eric P. Nichols, KL7AJ Item No. 0789 ARRL Member Price! \$24.95 (retail \$27.95)

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Vertical antennas are everywhereon 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.

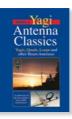
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5th Edition John Devoldere, ON4UN Item No. 8560 – \$44.95

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

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ABBL License Manuals and O&A's are available in the Kindle format from Amazon.

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FCC rules.

The ARRL General

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All the Exam Questions

with Answer Key, for use through June 30, 2019

Use with ARRL's online

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Detailed explanations for all questions, including

Class License Manual All You Need to Pass your





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ARRL Volunteer Examiners give so generously of their time, energy and skill. Celebrate your dedication to Amateur Radio with these popular supply items designed specifically to honor the service of ARRL VEs. If you are interested in becoming a Volunteer Examiner and serving the Amateur Radio community, it's easy and free!



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Item 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.

> This commemorative ARRL VEC challenge coin is in the

second in the series. The

"Amateur Radio Service"

are depicted on the back.

ARRL diamond and words





VE Patch Round Item No. 0013 - \$5

1-1/2" round.

#### **VE Polo Shirt Black** Item 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 Item No. 1342 - \$3.95

Designed specifically for ARRL VEs, this lanyard is imprinted

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#### Item No. 0023 - \$6

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

VE Patch Rectangular Item No. 0121 - \$2



Become an ARRL Volunteer Examiner today! www.arrl.org/VEC



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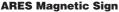
#### Item No. 4845 - \$24.95

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

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Digital Communications

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Get on the Air **F**Digital NEW

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The digital edition is available in the Kindle format from Amazon.

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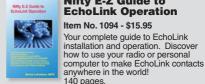
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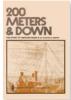
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ARRL

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ARRL

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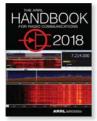
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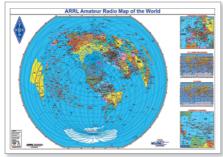








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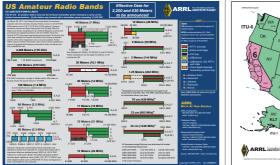


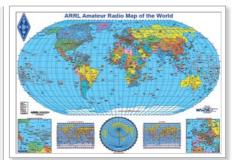
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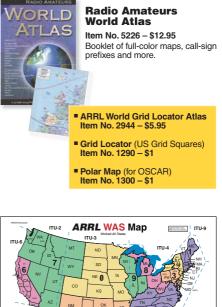
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