

The ARRL Handbook for Radio Communications

The ARRL Handbook is widely used by radio amateurs as a reliable and highly respected guide to station design, construction, modification, and repair. Chapter by chapter, you will 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 Handbook** is at the forefront of the growing field of wireless telecommunications. The book covers not only the fundamentals of radio electronics — analog 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.

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

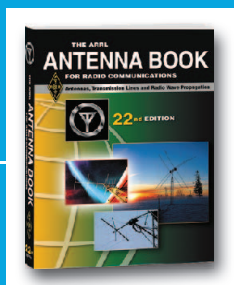
- Recommended parts for modifying circuit designs and fine-tuning performance
- A package of useful applications on CD-ROM from Tonne Software, including a new version of the *ELSIE™* filter design program
- Annual transceiver model review

CD-ROM Inside — Includes all of the fully searchable text and illustrations in the printed book, as well as expanded supplemental content, software, PC board templates, and other support files.

System Requirements: Windows® 7 and 8, Windows Vista® or Windows® XP, as well as Macintosh® systems, using Adobe® Acrobat® Reader® software. The Acrobat Reader is a free download at www.adobe.com. PDF files are Linux readable.

Companion Book Available:

The ARRL Antenna Book for Radio Communications (sold separately)



About the Amateur Radio Service

Amateur (Ham) Radio provides the broadest and most powerful wireless communications capability available to any private citizen anywhere in the world. The principles of this federally licensed radio service include public service, radio experimentation, training and international goodwill. ARRL is the national membership association for Amateur Radio operators. ARRL has books, software, online courses, and other resources for licensing, operating and education.

ISBN 978-1-62595-019-2



USA \$49.95 ARRL Order No. 1920



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

www.arrl.org

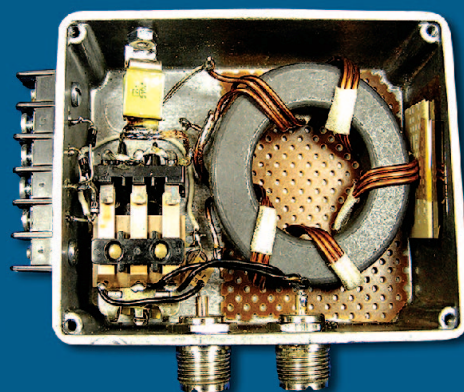


Table of Contents

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