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EDITOR, ARRL HANDBOOK  
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# About the ARRL

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## The national association for Amateur Radio

The seed for Amateur Radio was planted in the 1890s, when Guglielmo Marconi began his experiments in wireless telegraphy. Soon he was joined by dozens, then hundreds, of others who were enthusiastic about sending and receiving messages through the air—some with a commercial interest, but others solely out of a love for this new communications medium. The United States government began licensing Amateur Radio operators in 1912.

By 1914, there were thousands of Amateur Radio operators—hams—in the United States. Hiram Percy Maxim, a leading Hartford, Connecticut inventor and industrialist, saw the need for an organization to band together this fledgling group of radio experimenters. In May 1914 he founded the American Radio Relay League (ARRL) to meet that need.

Today ARRL, with approximately 170,000 members, is the largest organization of radio amateurs in the United States. The ARRL is a not-for-profit organization that:

- promotes interest in Amateur Radio communications and experimentation
- represents US radio amateurs in legislative matters, and
- maintains fraternalism and a high standard of conduct among Amateur Radio operators.

At ARRL headquarters in the Hartford suburb of Newington, the staff helps serve the needs of members. ARRL is also International Secretariat for the International Amateur Radio Union, which is made up of similar societies in 150 countries around the world.

ARRL publishes the monthly journal *QST*, as well as newsletters and many publications covering all aspects of Amateur Radio. Its headquarters station, W1AW, transmits bulletins of interest to radio amateurs and Morse code practice sessions. The ARRL also coordinates an extensive field organization, which includes volunteers who provide technical information and other support services for radio amateurs as well as communications for public-service activities. In addition, ARRL represents US amateurs with the Federal Communications Commission and other government agencies in the US and abroad.

Membership in ARRL means much more than receiving *QST* each month. In addition to the services already described, ARRL offers membership services on a personal level, such as the ARRL Volunteer Examiner Coordinator Program and a QSL bureau.

Full ARRL membership (available only to licensed radio amateurs) gives you a voice in how the affairs of the organization are governed. ARRL policy is set by a Board of Directors (one from each of 15 Divisions). Each year, one-third of the ARRL Board of Directors stands for election by the full members they represent. The day-to-day operation of ARRL HQ is managed by an Executive Vice President and his staff.

No matter what aspect of Amateur Radio attracts you, ARRL membership is relevant and important. There would be no Amateur Radio as we know it today were it not for the ARRL. We would be happy to welcome you as a member! (An Amateur Radio license is not required for Associate Membership.) For more information about ARRL and answers to any questions you may have about Amateur Radio, write or call:



ARRL—The national association for Amateur Radio

225 Main Street  
Newington CT 06111-1494  
Voice: 860-594-0200  
Fax: 860-594-0259  
E-mail: [hq@arrl.org](mailto:hq@arrl.org)  
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Prospective new amateurs call (toll-free):

**800-32-NEW HAM** (800-326-3942)

You can also contact us via e-mail at [newham@arrl.org](mailto:newham@arrl.org)  
or check out *ARRLWeb* at <http://www.arrl.org/>

# About the Included CD-ROM

On the included CD-ROM you'll find this entire *Handbook*, including text, drawings, tables, illustrations and photographs—many in color. Using the industry-standard Adobe *Reader* (included), you can view and print the text of the book, zoom in and out on pages, and copy selected parts of pages to the clipboard. A powerful search engine—Acrobat Search—helps you find topics of interest. Also included are Template Packages for many of the projects in this book, the companion software mentioned throughout, the short video *Amateur Radio Today*, and the free Adobe *Reader* 6.0 to view the *Handbook* files.

## INSTALLING YOUR ARRL HANDBOOK CD

### Windows

1. Close any open applications and insert the CD-ROM into your CD-ROM drive. (Note: If your system supports “CD-ROM Insert Notification,” the *ARRL Handbook CD* may automatically run the installation program when inserted.)
2. Select **Run** from the *Windows Start* menu.
3. Type **d:\setup** (where d: is the drive letter of your CD-ROM drive; if the CD-ROM is a different drive on your system, type the appropriate letter) and press **Enter**.
4. Follow the instructions that appear on your screen.

### Macintosh

No installation procedure is needed for the Macintosh. To install so the CD is not required, drag the “ARRL Handbook CD 9.0” icon onto your hard drive.

## USING YOUR ARRL HANDBOOK CD

### Windows

Note: If your systems supports “CD-ROM Insert Notification,” the *ARRL Handbook CD* may run automatically when inserted.

1. To run the program after installation, start *Windows* and place the disc in your CD-ROM drive. (Not required if a “complete” installation was chosen during setup.)
2. From the **Start** menu select **Programs**, then select **ARRL Software** and the **2005 ARRL Handbook CD 9.0** item.

### Macintosh

To run the program after installation, place the disc in your CD-ROM drive. Adobe *Reader* should launch automatically to view the book.

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# HAM RADIO OUTLET

WORLDWIDE DISTRIBUTION

## GO MOBILE WITH ICOM!



### IC-2720H Dual Band Mobile

- 2M/70cm • VV/UU/VU
- Wide band RX inc. air & weather bands
- Dynamic Memory Scan (DMS)
- CTCSS/DTCS encode/decode w/tone scan
- Independent controls for each band
- DTMF Encode • 212 memory channels
- Remote Mounting Kit Included



### IC-208H Dual Band Mobile

- 55 watts VHF (2M), 50 watts UHF (70cm)
- Wide Band RX\*\*
- 500 alphanumeric memories
- CTCSS/DTCS encode/decode w/tone scan
- Detachable remote head
- DMS w/linked banks

### IC-T2H SPORT 2M Transceiver

- 6W output
- 40 alphanumeric memories
- Customizable keys
- Auto repeater
- PC Programmable
- CTCSS encode/decode w/tone scan
- Mil spec 810, C/D/E\*\*



### IC-V8000 2M Mobile Transceiver

- 75 watts • ICOM DMS scanning
- CTCSS/DTCS encode/decode w/tone scan
- Weather alert • Weather channel scan
- 200 alphanumeric memories • Backlit remote control mic



### IC-2100H 25N 2M Mobile Transceiver

- Cool dual display
- 50 watts
- CTCSS encode/decode w/tone scan
- Backlit remote control mic
- Mil spec 810, C/D/E\*\*
- Auto repeater
- 113 alphanumeric memories



### IC-T7H Dual Band Transceiver

- 2M/70cm
- 70 alphanumeric memories
- 6W output
- CTCSS encode/decode w/tone scan
- Auto repeater
- Easy operation!
- Mil spec 810, C/D/E\*\*

### IC-W32A Dual Band Transceiver

- 2M & 70cm @ 5W
- V/V, U/U, V/U
- Independent controls for each band
- 200 alphanumeric memories
- Auto repeater
- CTCSS encode/decode w/tone scan
- IRLP compatible



### IC-2200H 2M Mobile Transceiver

- 65W Output
- Opt. Digital Operation & NEMA Compatible GPS interface
- CTCSS/DTCS encode/decode w/tone scan
- 207 Alphanumeric Memories
- Weather Alert • and More!



### IC-T90A Tri-Band Transceiver

- 6M/2M/70cm @ 5W
- Wide band receiver 495kHz - 999.999MHz\*\*
- 500 alphanumeric memories
- Dynamic memory scan
- Backlit keypad & display
- CTCSS/DTCS encode/decode w/tone scan
- Weather Alert



### IC-V8 2M Transceiver

- 5.5W output
- 107 alphanumeric memories
- Customizable keys
- Auto repeater
- PC Programmable
- CTCSS encode/decode w/tone scan
- Drop-in trickle charger included

\*\*Cellular blocked, unblocked OK to FCC approved users. \*\*For shock & vibration. © 2004 Icom America Inc. The Icom logo is a registered trademark of Icom Inc. All specifications subject to change without notice or obligation. 6936.2



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I-880 at 23rd Ave. ramp  
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Hwy. 163 & Claremont Mesa  
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Steve, N4SR, Mgr.  
Exit 161, I-95, So. to US 1  
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**SALEM, NH**  
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Chuck, N1UC, Mgr.  
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# The most complete update in a decade!

This 82nd edition of **The ARRL Handbook** is by far the most extensively revised version of this work in ten years. As the Amateur Radio community has risen to new challenges, so has the assembly of this important reference. And, for the first time, this edition is bundled with **The ARRL Handbook CD (version 9.0)**—the fully searchable and complete book on CD-ROM (including many color images).

Entire sections of this book were updated to reflect the most current state-of-the-art: analog and digital signals and components; working with surface-mount components; High-Speed Multimedia (HSM); new and previously unpublished antennas, and advice on baluns; satellites and EME, now with new Phase 3E details; oscillators, DSP and software radio design; a new, chapter with useful Internet tips for hams, Wireless Fidelity or Wi-Fi, and other wireless and PC technology.

Generations of hams, engineers and technicians have relied on **The Handbook** for its thorough coverage of theory, references and practical projects. Those who are unfamiliar with its content will quickly come to know why it is regarded as “The Standard in Applied Electronics and Communications.”

Most importantly, **The ARRL Handbook** is an unmatched source for building receivers, transceivers, power supplies, RF amplifiers, station accessories and antenna construction projects. This book offers something inside for radio amateurs and experimenters of all skill levels.

## **MORE PROJECTS**—and more weekend-builds!

- A 10-W, 60-meter SSB Transceiver
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**New**

## Complete Table of Contents

- Introduction to Amateur (Ham) Radio
- Activities in Amateur Radio
- Safety
- Electrical Fundamentals
- Electrical Signals and Components
- Real-World Component Characteristics
- Component Data and References
- Circuit Construction
- Modes and Modulation Sources
- Oscillators and Synthesizers
- Mixers, Modulators and Demodulators
- RF and AF Filters
- EMI/Direction Finding
- Receivers and Transmitters
- Transceivers, Transverters And Repeaters
- DSP and Software Radio Design
- Power Supplies
- RF Power Amplifiers
- Station Layout and Accessories
- Propagation of RF Signals
- Transmission Lines
- Antennas
- Space Communications
- Web, Wi-Fi, Wireless and PC Technology
- Test Procedures and Projects
- Troubleshooting and Repair



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