

THE ARRL

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HANDBOOK

FOR RADIO COMMUNICATIONS

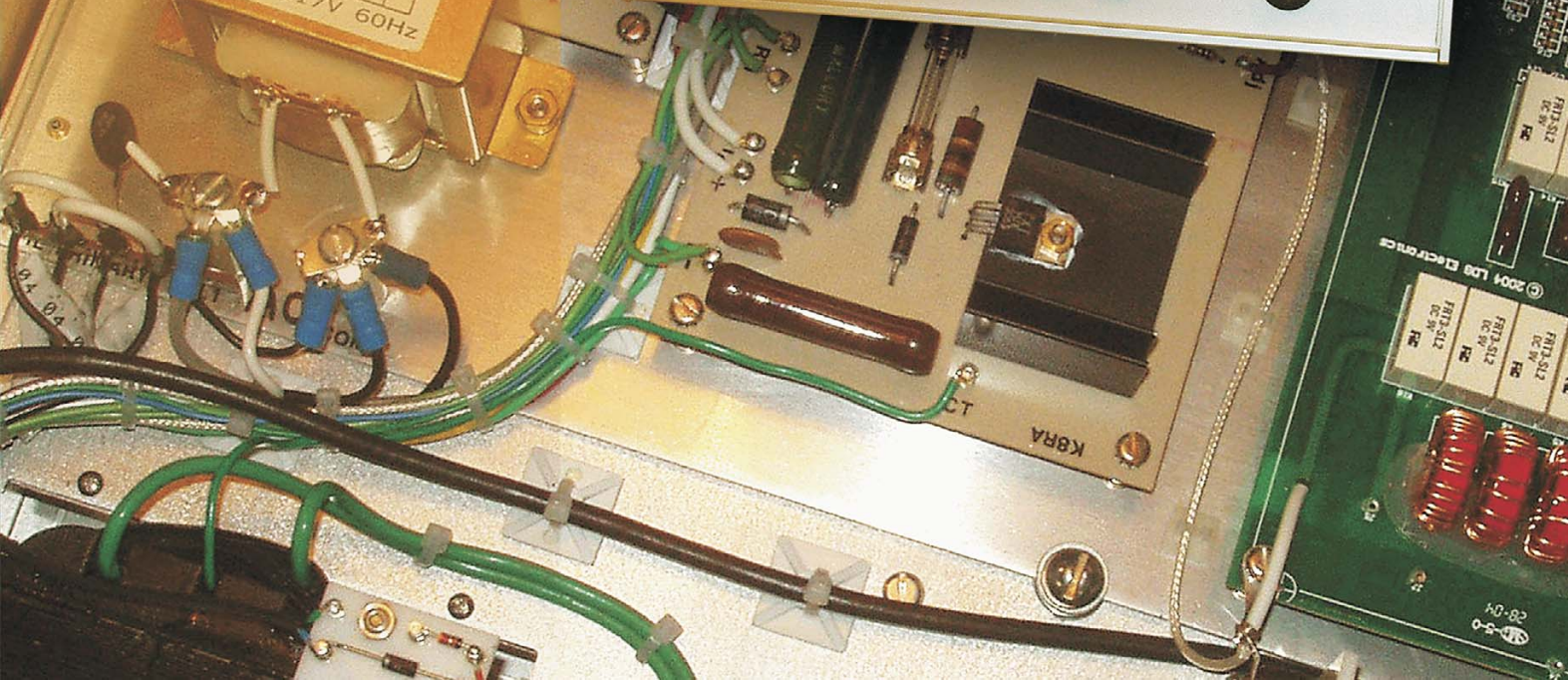


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2006

The ARRL Handbook

For Radio Communications

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Cover Info:

Background: The circuit board modified by K1SWL to prototype his 60-Meter transceiver design. This new project is found in Chapter 15.

To the left of the *Handbook CD-ROM* image, the popular HF receiver project by N1TEV (Ch. 14) is shown. To the upper left, these new antenna projects can be found in Ch. 22.

Cover circuit board photography for the 2006 ARRL *Handbook* by Dan Wolfgang.



Eighty-Third Edition

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About the ARRL

About the Included CD-ROM

Foreword

The enormously successful 2005 Edition of *The ARRL Handbook* has been updated in this 2006 Edition. Thanks to the sharp eyes of a number of readers, the minor errors in the massive 2005 Edition rewrite have been fixed.

A brand-new, high-power HF linear amplifier project by Jerry Pittenger, K8RA, has been added to this 2006 Edition. Feast your eyes on Jerry's beautiful workmanship building a full-featured amplifier using the new 3CX1500D7 power triode. This rugged new Eimac tube has a 50-W grid dissipation, making it capable of withstanding almost any condition of drive or tuning.

Once again, we are including the fully searchable CD-ROM containing all of the almost 1200 pages of the printed book. Readers have been very enthusiastic about the "instant search" capabilities they have when they load the *Handbook* on their hard drives.

Whether you want to tackle projects using surface-mount components or learn how a computer can enhance many aspects and areas of your Amateur Radio pursuits, this *Handbook* has something for everyone.

So, whether you prefer to open this comprehensive reference book on your workbench, in your favorite reading chair, or using the CD drive of your computer, enjoy all that this 2006 Edition *Handbook* has to offer.

David Summer, K1ZZ
Executive Vice President
Newington, Connecticut
September 2005



The Amateur's Code

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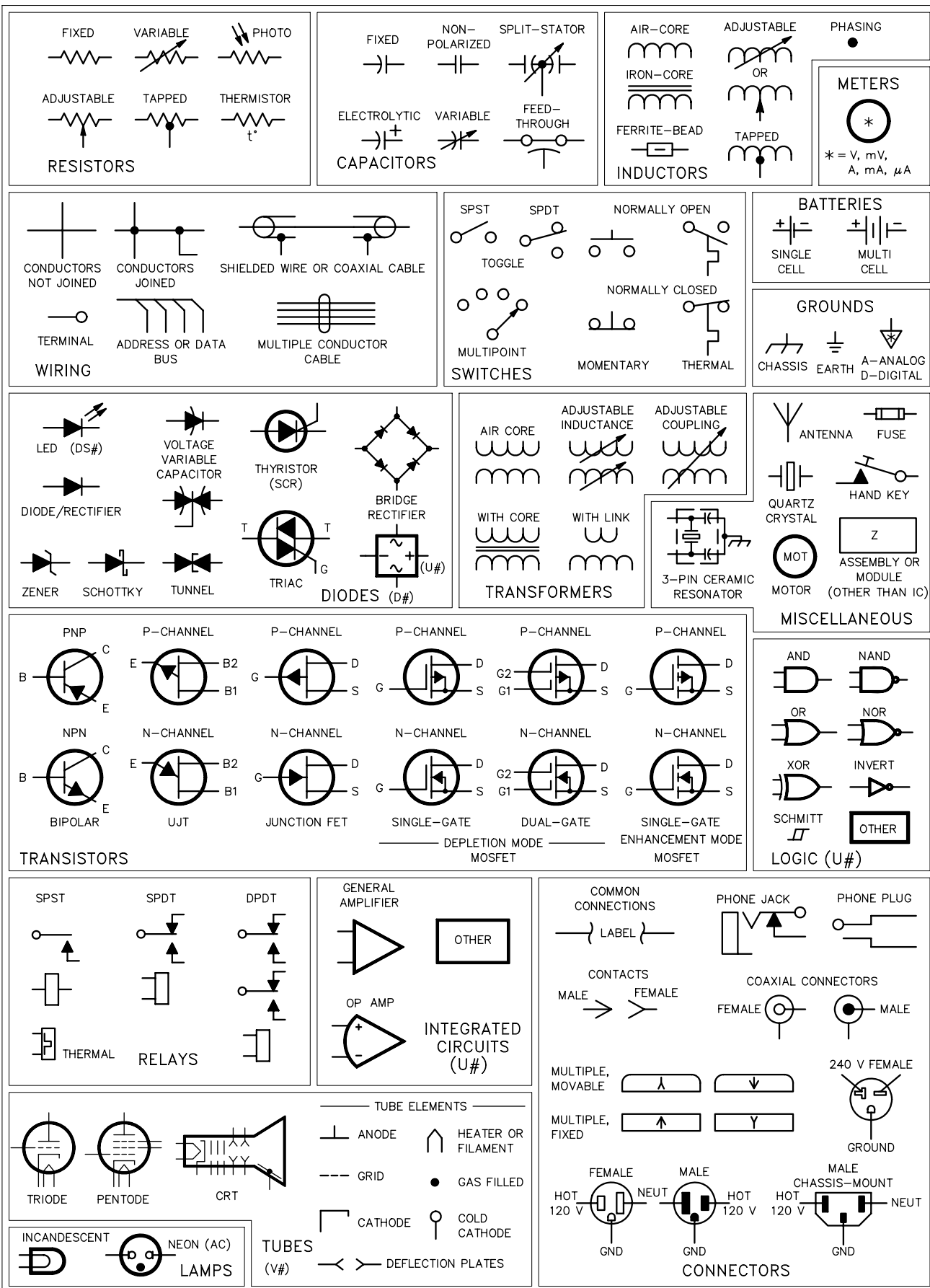
PROGRESSIVE...with knowledge abreast of science, a well-built and efficient station and operation above reproach.

FRIENDLY...slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED...radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC...station and skill always ready for service to country and community.

—*The original Amateur's Code was written by Paul M. Segal, W9EEA, in 1928.*



The ARRL—At Your Service

ARRL Headquarters is open from 8 AM to 5 PM Eastern Time, Monday through Friday, except holidays. Call **toll free** to join the ARRL or order ARRL products: **1-888-277-5289** (US), M-F only, 8 AM to 8 PM Eastern Time.

If you have a question, try one of these Headquarters departments . . .

	Telephone	Electronic Mail
Joining ARRL	860-594-0338	membership@arrl.org
QST Delivery	860-594-0338	circulation@arrl.org
Permission Requests	860-594-0229	permission@arrl.org
Publication Orders	860-594-0355	pubsales@arrl.org
Amateur Radio News	860-594-0222	n1rl@arrl.org
Regulatory Info	860-594-0236	reginfo@arrl.org
Exams	860-594-0300	vec@arrl.org
Educational Materials	860-594-0230	ead@arrl.org
CCE/EmComm	860-594-0340	dmiller@arrl.org
Courses		
Contests	860-594-0232	contests@arrl.org
Technical Questions	860-594-0214	tis@arrl.org
Awards/VUCC	860-594-0288	awards@arrl.org
Development Office	860-594-0397	mhobart@arrl.org
DXCC	860-594-0234	dxcc@arrl.org
Advertising	860-594-0207	ads@arrl.org
Media Relations	860-594-0328	newsmedia@arrl.org
QSL Service	860-594-0274	buro@arrl.org
Scholarships	860-594-0397	foundation@arrl.org
Emergency Comm	860-594-0265	emergency@arrl.org
Clubs	860-594-0292	clubs@arrl.org
Hamfests	860-594-0262	hamfests@arrl.org

You can send e-mail to any ARRL Headquarters employee if you know his or her name or call sign. The second half of every Headquarters e-mail address is **@arrl.org**. To create the first half, simply use the person's call sign. If you don't know their call sign, use the first letter of their first name, followed by their complete last name. For example, to send a message to John Hennessee, N1KB, Regulatory Information Specialist, you could address it to jhennessee@arrl.org or N1KB@arrl.org.

If all else fails, send e-mail to hq@arrl.org and it will be routed to the right people or departments.

Technical Information Service

The ARRL answers questions of a technical nature for ARRL members and nonmembers alike through the Technical Information Service. Questions may be submitted via e-mail (tis@arrl.org); Phone (860-594-0214); Fax (860-594-0259); or mail (TIS at ARRL, 225 Main Street, Newington, CT 06111). The TIS also maintains a home page on www.arrl.org/tis. See the **Component Data and References** chapter (page 7.11) of this *Handbook* for more details. Also, please note that the "Technical Information Server" or *Info Server* service previously available via e-mail has been discontinued.

ARRL ON THE WORLD WIDE WEB

You'll find ARRL at: www.arrl.org/

At the ARRL Web page you'll find the latest W1AW bulletins, a hamfest calendar, exam schedules, an on-line ARRL Publications Catalog and much more. We're always adding new features, so check it often!

Members-Only Web Features

As an ARRL member you enjoy exclusive access to our Members-

Only Web features. Just point your browser to www.arrl.org/members/ and you'll open the door to benefits that you won't find anywhere else.

- *QST* Product Review Archive. Get copies of *QST* product reviews from 1980 to the present.
- *QST/QEX* searchable index (find that article you were looking for!)
- Previews of contest results. See them here before they appear in *QST*!
- Access to your information in the ARRL membership database. Enter corrections or updates on line!

Stopping by for a visit?

We offer tours of Headquarters and W1AW at 9, 10 and 11 AM, and at 1, 2 and 3 PM, Monday to Friday (except holidays). Special tour times may be arranged in advance. Bring your license and you can operate W1AW anytime between 10 AM and noon, and 1 to 3:45 PM!

Would you like to write for *QST*?

We're always looking for new material of interest to hams. Send a self-addressed, stamped envelope (2 units of postage) and ask for a copy of the *Author's Guide*. (It's also available via the ARRL Web page at www.arrl.org/qst/aguide/.)

Press Releases and New Products/Books

Send your press releases and new book announcements to the attention of the *QST* Editor (e-mail qst@arrl.org). New product announcements should be sent to the Product Review Editor (e-mail reviews@arrl.org).

ARRL Amateur Radio News on the Web

The primary focus of the ARRL Web site, www.arrl.org, is Amateur Radio news and general-interest features and columns—available to all. This is the Amateur Radio community's most comprehensive and immediate source for news and information on issues of importance and interest to radio amateurs.

The ARRL Letter

The ARRL Letter has become the League's flagship Amateur Radio news medium. The *Letter* is a weekly news summary for those who want to be on top of what's happening in the world of Amateur Radio. ARRL members can request Friday e-mail delivery via their Member Data Page. It's also available to all on the Web, www.arrl.org/arrlletter. *The ARRL Letter* is published 50 times a year.

ARRL Audio News

Another way to keep up with fast-moving events in the ham community is to listen to the *ARRL Audio News*. It's as close as your telephone at 860-594-0384, or on the Web at www.arrl.org/arrlletter/audio/.

Interested in Becoming a Ham?

Just pick up the telephone and call toll free 1-800-326-3942, or send e-mail to newham@arrl.org. We'll provide helpful advice on obtaining your Amateur Radio license, and we'll be happy to send you our informative Prospective Ham Package.