

The American Radio Relay League



The American Radio Relay League, Inc. is a noncommercial association of radio amateurs, organized for the promotion of interest in Amateur Radio communication and experimentation, for the establishment of networks to provide communications in the event of disasters or other emergencies, for the advancement of the radio art and of the public welfare, for the representation of the radio amateur in legislative matters, and for the maintenance of fraternalism and a high standard of conduct.

ARRL is an incorporated association without capital stock chartered under the laws of the state of Connecticut, and is an exempt organization under Section 501(c)(3) of the Internal Revenue Code of 1986. Its affairs are governed by a Board of Directors, whose voting members are elected every three years by the general membership. The officers are elected or appointed by the Directors. The League is noncommercial, and no one who could gain financially from the shaping of its affairs is eligible for membership on its Board.

“Of, by, and for the radio amateur,” ARRL numbers within its ranks the vast majority of active amateurs in the nation and has a proud history of achievement as the standard-bearer in amateur affairs.

A *bona fide* interest in Amateur Radio is the only essential qualification of membership; an Amateur Radio license is not a prerequisite, although full voting membership is granted only to licensed amateurs in the US.

Membership inquiries and general correspondence should be addressed to the administrative headquarters:

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Officers

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The purpose of *QEX* is to:

- 1) provide a medium for the exchange of ideas and information among Amateur Radio experimenters,
- 2) document advanced technical work in the Amateur Radio field, and
- 3) support efforts to advance the state of the Amateur Radio art.

All correspondence concerning *QEX* should be addressed to the American Radio Relay League, 225 Main St., Newington, CT 06111 USA. Envelopes containing manuscripts and letters for publication in *QEX* should be marked Editor, *QEX*.

Both theoretical and practical technical articles are welcomed. Manuscripts should be submitted in word-processor format, if possible. We can redraw any figures as long as their content is clear. Photos should be glossy, color or black-and-white prints of at least the size they are to appear in *QEX* or high-resolution digital images (300 dots per inch or higher at the printed size). Further information for authors can be found on the Web at www.arrl.org/qex/ or by e-mail to qex@arrl.org.

Any opinions expressed in *QEX* are those of the authors, not necessarily those of the Editor or the League. While we strive to ensure all material is technically correct, authors are expected to defend their own assertions. Products mentioned are included for your information only; no endorsement is implied. Readers are cautioned to verify the availability of products before sending money to vendors.

Kazimierz “Kai” Siwiak, KE4PT

Perspectives

QEX Style Changes are in Effect

Reader Jonathan A. Titus, KZ1G, wrote to us about some difficulties in locating references to Figures and Tables in *QEX* articles. He also noted that it is difficult to read “the almost-microscopic superscript numbers that refer to Notes.” Thanks Jonathan, we agree that readability should be improved.

You will notice that we are transitioning to some style changes in *QEX* articles as promised in the previous *Perspectives*. **Notes** will no longer use difficult-to-read superscript numbers in the articles or in the list of Notes. Instead, Notes will be identified by sequential numbers surrounded by square brackets, as in “see [1]”, with the first occurrence in bold typeface. Subsequent mentions of the same Note will be in plain text surrounded by square brackets. The list of Notes at the end of the article will be numbers in square brackets (instead of superscript numbers) followed by a single space.

To help readers locate descriptions of Figures and Tables in the text, the first mention of a Figure or a Table will use a bold typeface, such as **Figure 1** and **Table 1**. Subsequent mentions to the same Figure or Table will use plain text. We hope that you find that these style changes result in improved readability.

We'd like your feedback.

In This Issue

Robert Andre, KEØEXE, supports antennas securely on small tree limbs with his tree branch gadget.

Gary A. Appel, WAØTFB, simulates the performance of cascaded stages in a receiver with his computer based engineering software tool.

Michael L. Foerster, WØIH, discusses concepts for building an Arduino controlled 160 m — 6 m LDMOS amplifier.

Allen Ripingill assembles a versatile set of RF instruments into a single package to test home-built RF projects.

Michael Tortorella, W2IY, characterizes receiver performance using a holistic approach that accounts for many signals in a given frequency interval.

Writing for QEX

Keep the full-length *QEX* articles flowing in, or share a **Technical Note** of several hundred words in length plus a figure or two. Let us know that your submission is intended as a **Note**. *QEX* is edited by Kazimierz “Kai” Siwiak, KE4PT, (ksiwiak@arrl.org) and is published bimonthly. *QEX* is a forum for the free exchange of ideas among communications experimenters. The content is driven by you, the reader and prospective author. The subscription rate (6 issues per year) in the United States is \$29. First Class delivery in the US is available at an annual rate of \$40. For international subscribers, including those in Canada and Mexico, *QEX* can be delivered by airmail for \$35 annually. Subscribe today at www.arrl.org/qex.

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Very best regards,

Kazimierz “Kai” Siwiak, KE4PT