

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 Online Edition and More Morse Challenge Results

Very soon *QEX* will be available online as an ARRL member benefit. The printed edition of *QEX* will still be available to all subscribers including non-members. *QEX* Online will be the same as the printed magazine, but will feature full color. It joins the ARRL suite of digital magazines — *QST* Online, *On the Air*, and *NCJ* Online — as member benefits. For *QEX* authors that means a greatly expanded audience!

The *Morse Input Design Challenge* ended in December 2019, with gratifying results. In the previous *Perspectives* we announced that the earliest complete entry was received from Joseph M. Haas, KEØFF. Here we can announce that entries were received from six additional participants of the *Challenge*. They are Jonathan A. Titus, KZ1G; Gwendolyn S. Patton, NG3P; Ralph L. Irons, N4RLI; Robert D. Anding, AA5OY; Kevin A. Ames, AA7YQ; and David Bern, W2LNX. Each will receive a free one-year subscription (or subscription extension) to the printed edition of *QEX*. You can expect articles describing the entries to appear soon.

In This Issue

Joseph M. Haas, KEØFF, adds DTMF capability to popular transceiver microphones.

Jacek Pawlowski, SP3L, describes a wide range of new broadband wire antennas in this Part 1 of a longer article.

Ralph J. Crumrine, NØKC, designs a light weight 3 kW power supply to support state-of-the-art switching MOSFET amplifiers.

Eric P. Nichols, KL7AJ, in this first-of-a-series, reveals the simplicity and many uses of the double balanced mixer.

Michael P. Hasselbeck's, WB2FKO, *Technical Note* describes anchors for a 3D printed lid.

Kai Siwiak's, KE4PT, *Technical Note* explains why typical small HF loop antennas are not magnetic loops.

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 (six 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

