

**David A. Minster, NA2AA**  
Publisher

**Becky R. Schoenfeld, W1BXY**  
Editorial Director

**Bob Lee, KN6PXS**  
Managing Editor

**Caroline Kenney**  
**Leanna Figlewski**  
Assistant Editors

**Bart Jahnke, W9JJ**  
Radiosport & Regulatory  
Information Manager

**Rick Lindquist, WW1ME**  
*Happenings*

**Paul Cianciolo, W1VLF**  
*Product Review Lab Testing*

**Steve Ford, WB8IMY**  
**Mark J. Wilson, K1RO**  
**Al Brogdon, W1AB**  
**Bernie McClenny, W3UR**  
**H. Ward Silver, N0AX**  
**Dave Casler, KE0OG**  
**Paul Wade, W1GHZ**  
**Jon Jones, N0JK**  
**Rick Palm, K1CE**  
**Barry Shackelford, W6YE**  
**Kai Siwiak, KE4PT**  
**Bruce Draper, AA5B**  
**Phil Salas, AD5X**  
**John Stanley, K4ERO**  
Contributing Editors

**Michelle Bloom, WB1ENT**  
Production Supervisor

**Jodi Morin, KA1JPA**  
Assistant Production Supervisor

**Maty Weinberg, KB1EIB**  
Production Coordinator

**David Pingree, N1NAS**  
Senior Technical Illustrator

**Janet Rocco, W1JLR**  
Advertising Sales Manager

**Bob Inderbitzen, NQ1R**  
Public Relations and  
Innovation Director

**Yvette Vinci, KC1AIM**  
Member Services Manager

**Steve Ewald, WV1X**  
Field Organization Supervisor

**9** **Second Century**  
One Year Down...The Future To Go!

**31** **Practical Solutions for an End-Fed 20-Meter Vertical**  
Toivo Mykkanen, W8TJM

**35** **Product Review**  
Mark Wilson, K1RO  
WA3RNC TR-25 40/20-Meter CW  
Transceiver Kit; Eton Elite Executive  
Portable Receiver; MFJ-9232 Mini  
Loop Tuner; *Win4icomSuite* Software



**52** **How the Transatlantic Test of 1921 Initiated International  
Amateur Radio Communication**  
Carl Luetzelschwab, K9LA

**54** **Celebrate the Transatlantic Tests with ARRL and RSGB**

**55** **A Wager Won, An Ocean Spanned**

**63** **2021 ARRL Field Day Results**  
Paul Bourque, N1SFE  
See the full 2021 ARRL Field Day results in the digital edition of this issue.

**72** **2021 ARRL June VHF Contest Results**  
Paul Bourque, N1SFE

**74** **The 2022 January VHF Contest**

**74** **The 2022 ARRL International DX Contest**

**75** **January 2022 Kids Day**

**75** **The 2022 ARRL Straight Key Night**

**76** **The 2022 ARRL RTTY Roundup**

**85** **A Look Back: January 1921 and February 1922**



**63**  
**Results**

## Columns

Ask Dave .....	48
Celebrating Our Legacy.....	91
Classic Radio.....	92
Contest Corral .....	62
Correspondence.....	24
Eclectic Technology .....	47
Happenings .....	57
Hints & Hacks .....	50
How's DX? .....	77
Member Spotlight .....	13
Public Service.....	60
Up Front.....	20
The World Above 50 MHz.....	79
100, 50, and 25 Years Ago.....	94

## Digital and Mobile Editions

ARRL members can access the digital edition via a link at [www.arrl.org/qst](http://www.arrl.org/qst), download our iOS app from the iTunes Store, and download our Android app from the Google Play Store.

## Departments

ARRL Section Managers.....	16
ARRL Volunteer Examiner Honor Roll.....	84
Certificate of Code Proficiency Recipients .....	83
Convention and Hamfest Calendar.....	82
Feedback.....	82
Field Organization Reports.....	61
Guide to ARRL Member Benefits .....	14
Ham Ads.....	124
Index of Advertisers.....	126, 127
Life Members.....	82
Officers, Division Directors, and Staff.....	15
QST Cover Plaque Award.....	90
Season's Greetings .....	56
Silent Keys.....	95
Special Event Stations.....	81
Strays.....	51, 76, 95
This Month in QEX.....	34
Volunteer Monitor Program Report.....	56
W1AW Qualifying Runs .....	83
W1AW Schedule.....	28

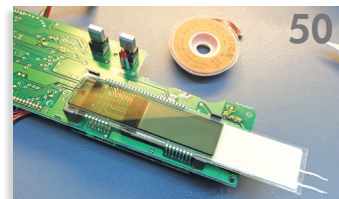
## Write for QST

[www.arrl.org/qst-author-guide](http://www.arrl.org/qst-author-guide)  
email: [qst@arrl.org](mailto:qst@arrl.org)



## Our Cover

This month, we celebrate the centenary of the Transatlantic Tests, the December 1921 technological feat that proved amateur radio signals could be heard across the Atlantic Ocean. Station 1BCG in Greenwich, Connecticut was the first of several stations heard in Ardrossan, Scotland by Paul Godley, 2ZE, ARRL's handpicked envoy. The hat depicted on the cover — it's the left and right sides of one hat — was the prize won in a bet about the success of the Transatlantic Tests. Learn more about the bet in "A Wager Won, An Ocean Spanned," in this issue. Ham radio's celebration of this 100-year milestone will extend into 2022! Read more about what's to come in "Celebrate the Transatlantic Tests with ARRL and RSGB." [Chris Zajac photos]



QST (ISSN:0033-4812) is published monthly as its official journal by the American Radio Relay League, Inc., 225 Main St., Newington, CT 06111-1400, USA. Periodicals postage paid at Hartford, CT, USA and at additional mailing offices.

**POSTMASTER:** Send address changes to: QST, 225 Main St., Newington, CT 06111-1400, USA. Canada Post: Publications Mail Agreement #90-0901437. Canada returns to be sent to IMEX Global Solutions, 1501 Morse Ave., Elk Grove Village, IL 60007.

**US & Possessions:** Membership in ARRL, including a 1-year subscription to QST, is available to individuals at \$49. Licensed radio amateurs age 21 and under and the eldest licensee in the household may qualify for the rate of \$25. Life Membership, including a subscription to QST is available at \$1,225.\* Membership includes \$21 per year for subscription to QST. Membership and QST cannot be separated. Libraries and institutions, \$49 per year. Single copies \$6.95.

## International

To compensate for additional postage for mailing outside the US, the following rates apply:

**Canada:** Membership in ARRL, including a 1-year subscription to QST, \$62, payable in US funds. Life Membership, including a subscription to QST is available at \$1,550.\* Libraries and institutions, \$62 per year.

**All Other Countries:** Membership in ARRL, including a 1-year subscription to QST, \$76, payable in US funds. Life Membership, including a subscription to QST, is available at \$1,900.\* Libraries and institutions, \$76 per year.

Membership without QST is available to the immediate family of a member living at the same address, and to anyone who is legally blind, for \$10 per year.

Foreign remittances should be by international postal or express money order or bank draft negotiable in the US and for an equivalent amount in US funds.

Membership in ARRL, including a 1-year subscription to Digital QST only, is available to Canadian and International members at \$49.

Copyright © 2021 by the American Radio Relay League Inc. Title registered at the US Patent Office. International copyright secured. All rights reserved. Quedan reservados todos los derechos. Printed in the USA.

QST®, DXCC®, VUCC®, DX Century Club®, ARES®, Amateur Radio Emergency Service®, Logbook of The World®, LoTW®, and ARRL, The National Association for Amateur Radio® are registered trademarks of the American Radio Relay League, Inc.

ARRL and QST in no way warrant the products described or reviewed herein.

QST is available to blind and physically handicapped individuals from the Library of Congress, National Library Service for the Blind and Physically Handicapped. Call 1-800-424-8567 or go to [www.loc.gov/nls/](http://www.loc.gov/nls/).

Indexed by Applied Science and Technology Index, Library of Congress Catalog Card No: 21-9421.

\*Payment arrangements available. Please write for details.

In order to ensure prompt delivery, we ask that you periodically check the address information on your mailing label. If you find any inaccuracies, please contact the Circulation Department at [circulation@arrl.org](mailto:circulation@arrl.org) or 860-594-0200 immediately. Thank you for your assistance.

Reprints and permissions: [permission@arrl.org](mailto:permission@arrl.org)  
Details of our Online Privacy Policy can be found at [www.arrl.org/online-privacy-policy](http://www.arrl.org/online-privacy-policy).

Telephone: 860-594-0200  
Fax: 860-594-0259