## Contents

### Second Century
Starting With A Story

### A Versatile T/R Switch for SDRs and Vintage Radios
Robert Nickels, W9RAN

### The Hourglass Loop Antenna
John Stanley, K4ERO

### Product Review
Mark Wilson, K1RO
- Yaesu FT-7250DR Analog and System Fusion Dual-Band Transceiver; Four State QRP Group Hilltopper 20 QRP Transceiver Kit; West Mountain Radio Epic PWRgate DC Power Manager/Charge Controller; SOTA BEAMS WSPR-lite Antenna and Propagation Tester

### Making Digital Contacts Through the ISS
Patrick Stoddard, WD9EWK/VA7EWK

### About Cognitive Radio
Ward Silver, NØAX

### Winter Field Day: An Amateur Radio Challenge
Jen Glifort

### 2018 ARRL Field Day Results
Bart Jahnke, W9JJ

### ARRL International Grid Chase Update

### 2018 ARRL June VHF Contest Results
Phil Koch, K3UA

### The 2019 ARRL International DX Contest

### January 2019 Kids Day

### The 2019 ARRL January VHF Contest

### The 2019 ARRL Straight Key Night

### The 2019 ARRL RTTY Roundup

### SKYWARN Recognition Day is December 1

### Nominations Open for 2018 International Humanitarian Award
Digital and Mobile Editions
ARRL members can access the digital edition via a link at www.arrl.org/qst, download our iOS app from the iTunes Store, and download our Android app from the Google Play Store.

Interested in Writing for QST?
www.arrl.org/qst-author-guide
email: qst@arrl.org

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.

Columns
Classic Radio........................................... 68
Contest Corral........................................... 70
Correspondence........................................ 24
The Doctor is In........................................... 51
Eclectic Technology...................................... 55
Happenings............................................. 83
Hints & Hacks............................................ 53
How’s DX?............................................. 92
Member Spotlight.................................... 13
Public Service........................................... 66
Up Front................................................... 20
The World Above 50 MHz............................ 94
75/50/25 Years Ago................................. 100

Departments
ARRL Member Services............................... 14
ARRL Section Managers............................... 16
ARRL VEC Honor Roll................................ 98
Convention and Hamfest Calendar............... 99
Field Organization Reports......................... 100
Ham Ads............................................... 140
Index of Advertisers................................ 142, 143
Life Members.......................................... 97
New Products........................................... 99
Officers, Division Directors, and Staff...... 15
QuickStats............................................. 130
Silent Keys............................................. 101
Special Event Stations.............................. 96
Strays.................................................... 67
W1AW Qualifying Runs.............................. 96
W1AW Schedule....................................... 91

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

Canada: Membership in the 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 the ARRL, including a 1-year subscription to QST, $76, payable in US funds. Life Membership, including a subscription to QST, is available at $1,980. 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 the ARRL, including a 1-year subscription to Digital QST only, is available to Canadian and International members at $48.


Payment arrangements available. Please write for details.

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/.

Our Cover
Our December cover features the antenna of Jack Porayski, SP5AUY. It is a long-boom dual-band Yagi for 21 and 28 MHz installed on his 55-foot tower. Jack lives in the town of Lomianki, about 15 miles north of Warsaw, Poland. [Henryk Kotowski, SM3J/HF, photo]