



In This Issue

January 2015

Volume 99 Number 1

Harold Kramer, WJ1B
Publisher

Steve Ford, WB8IMY
Editor

Becky R. Schoenfeld, W1BXY
Managing Editor

Larry D. Wolfgang, WR1B
Senior Assistant Technical Editor

Steve Sant Andrea, AG1YK
Assistant Editor

Rick Lindquist, WW1ME
Happenings

Bob Allison, WB1GCM
Product Review Lab Testing

Paul L. Rinaldo, W4RI
Mark J. Wilson, K1RO
Al Brogdon, W1AB
Bernie McClenny, W3UR
H. Ward Silver, N0AX
Paul Wade, W1GHZ
Jon Jones, N0JK
Rick Palm, K1CE
Joel R. Hallas, W1ZR
Barry Shackelford, W6YE
Kai Siwiak, KE4PT
Contributing Editors

Michelle Bloom, WB1ENT
Production Supervisor

Jodi Morin, KA1JPA
Asst Production Supervisor

Maty Weinberg, KB1EIB
Production Coordinator

Sue Fagan, KB1OKW
Graphic Design Supervisor

David Pingree, N1NAS
Senior Technical Illustrator

Jennifer Glifort
Copy Editor

Debra Jahnke, K1DAJ
Business Services Manager
QST Advertising

Bob Inderbitzen, NQ1R
Marketing Manager

Yvette Vinci, KC1AIM
Circulation Manager

Diane Szlachetka, KB1OKV
Advertising Graphics Designer

Technical

A Five-Way Remote Antenna Switch 30

Ken R. Ginn, G8NDL

Microprocessor-controlled master and slave units with bias Ts enable a single coax feed line from the shack to serve five remote antennas and power a remote antenna tuner.

Hybrid HF Transmitter 36

Yosef Pinhasi, 4Z1VC

This single-band design mixes solid state circuitry with vacuum tube final amplifiers.

A Solid State 1.25 kW Linear Amplifier 42

Andrew J. Buckler, K2OP

This single-cabinet homebrew amplifier covers 160 – 2 meters. Here's how it came to be.



Page 72

News and Features

It Seems to Us 9

David Sumner, K1ZZ

DXing: Fun or Frustration?

Inside HQ 13

Harold Kramer, WJ1B

Happy 100th Birthday, QST

K9W – Remembering “The Forgotten 98” 72

John Miller, K6MM, and Lou Dietrich, N2TU
A DXpedition to Wake Atoll in memory of the 98 civilian construction workers who died there during World War II.

Kids Day 2014 75

Ric Morton, WO4O

On Kids Day, “playing radio” takes on a whole new meaning.

War Comes! 76

The first in a series of articles reprinted from vintage issues of *QST*, in celebration of the magazine's centennial year.

An Easy WSPR 30 Meter Transmitter 47

George R. Steber, WB9LVI

With your computer, the right software, and this low-power transmitter, you can be heard around the world.

Product Review 51

Mark Wilson, K1RO

Beko-Elektronik HLV-1100 70 Centimeter Amplifier; MFJ-223 Vector Impedance Antenna Analyzer; Portable Rotation 12PR1A Ultra-Portable DC Antenna Rotator; Palstar SP30H Ultimate Communications Speaker.



Page 51



Page 80

The ARRL Library: A New Online Resource 80

Sean Kutzko, KX9X

Contribute your content for use by amateurs worldwide.

QST Centennial Photo Contest 81

Steve Ford, WB8IMY

Send us your photos and earn worldwide fame — and \$250!

Happenings 82

Rick Lindquist, WW1ME

ARRL asks the FCC to continue issuing paper licenses, ARRL Executive Committee revises policy on mobile operating, ARRL seeks input on VHF-UHF-Microwave contest rule changes; more.

Our Cover

QST's Senior Technical Illustrator, David Pingree, N1NAS, whose schematics and maps appear in every issue, created the fanciful schematic on this month's cover. Hams sketch, plan, model, and experiment, yielding everything from gadgets that make time spent at the operating desk a little more comfortable, to large pieces of gear that are the centerpiece of a station. This issue contains just such a range of "DIY" projects.



January 2015
Volume 99 Number 1

QST (ISSN:0033-4812) is published monthly as its official journal by the American Radio Relay League, Inc., 225 Main Street, Newington, CT 06111-1494, USA. Periodicals postage paid at Hartford, CT, USA and at additional mailing offices.

POSTMASTER: Send address changes to: QST, 225 Main St, Newington, CT 06111-1494, 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 the ARRL, including a 1-year subscription to QST, is available to individuals at \$39. Licensed radio amateurs age 21 and under and the eldest licensee in the household may qualify for the rate of \$20. Life Membership, including a subscription to QST is available at \$975.* Membership includes \$15 per year for subscription to QST. Membership and QST cannot be separated. Libraries and institutions, \$39 per year. Single copies \$4.99.

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, \$49, payable in US funds. Life Membership, including a subscription to QST is available at \$1225.* Libraries and institutions, \$49 per year.

All Other Countries: Membership in the ARRL, including a one year subscription to QST, \$62, payable in US funds. Life Membership, including a subscription to QST, is available at \$1550.* Libraries and institutions, \$62 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 \$8 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.

Copyright © 2014 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®, and ARRL, the national association for Amateur Radio® are registered trademarks of the American Radio Relay League, Inc.

The 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/.

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 or 860-594-0200 immediately. Thank you for your assistance.

Reprints and permissions: permission@arrl.org

Details of our Online Privacy Policy can be found at www.arrl.org/online-privacy-policy. Telephone: 860-594-0200 Fax: 860-594-0259

Radiosport

Contest Corral 88

H. Ward Silver, NØAX

2014 ARRL UHF Contest Results 89

John (JK) Kalenowsky, K9JK

A family reunion on the ultra-highs.

The 2015 February School Club Roundup 91



Page
75

Page
94



Columns

Correspondence	24
The Doctor is In	61
Eclectic Technology.....	69
Exam Info	98
Hands-On Radio	63
Hints & Kinks	70
How's DX?	92
Microwavelengths	65
Public Service.....	86
Technical Correspondence	67
Up Front.....	20
Vintage Radio.....	99
The World Above 50 MHz	94
75/50/25 Years Ago.....	102

Departments

ARRL Member Services	14
ARRL Section Managers.....	16
Convention and Hamfest Calendar	101
Feedback.....	35
Field Organization Reports.....	102
Ham Ads.....	154, 155
Index of Advertisers.....	156, 157
New Products	35, 46, 60
Officers, Division Directors, and Staff	15
QuickStats.....	138
Radio Tips.....	50
Silent Keys	103
Special Event Stations.....	97
Strays	74, 96
W1AW Qualifying Runs	97
W1AW Schedule	91

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
e-mail: qst@arrl.org