

# WorldRadio

**ONLINE**

Year 40, Issue 9

MARCH 2011

## **Fox On The Run, Page 7**



**The Joy of 10-Meter Sporadic E, Page 20**

**A Portable Mast On a Bicycle Built for One, Page 22**

**Experiments to Capture Kids' Imagination, Page 32**

**The Krusty One Looks At the End-Fire Beam, Page 51**

**NEWS • FCC • DX • SATELLITES • CONTESTS • HAMFESTS • AERIALS • CW**



## New Vanity and Club Call Rules Take Effect

New rules regarding vanity and club station call signs within the Amateur Radio Service were published in the Federal Register on December 15, putting wheels in motion for their implementation on February 14 – Valentine’s Day.

Visit this link to get full details in PDF format from the Federal Communications Commission: < <http://bit.ly/h3a1rl> >

The FCC announced its intention to modify Part 97 as it applies to the vanity call sign system and club station call signs in late 2009, aligning the rules to prior Commission decisions.

In November 2010, the Commission released a Report and Order (R&O), outlining its decision. Along with the changes to the call sign rules, the FCC made “certain minor, non-substantive amendments” to portions of Part 97.

(ARRL, *Published reports*)

## VKs Ready For EmComm Assist in Australia Flooding

Devastating rainfall in Australia’s Queensland state pushed the Fitzroy River over its banks, flooding a wide region, including Rockhampton’s 75,000 residents.

The disaster prompted a call for radio amateurs to be ready to assist in emergency communications. According to Amateur Radio Newsline’s® Les Unwin, VK4VIL, “Rockhampton and District Amateur Radio Club President, Jack Chomley, VK4JRC, has a good number of club members on standby and registered with State Emergency Service and the Disaster Management Committee, with suitable equipment available for activation if the situation worsens, for relief of emergency workers or particularly in the case of power failure.

“Fortunately, amateur radio operators contacted in upstream areas have also not been called upon for assistance at this time,” he reported.

(ARN)

## Alleged ‘Honeybee’ Gunman ID’d As Radio Amateur

Gary Amaya, 48, KC9AWD, believed to be the so-called “Honeybee” gunman, was shot with his own firearm while apparently trying to rob an Orland Park, Illinois, tanning salon in December, according to published reports.

“Last October, three men were shot, one fatally, near the Illinois-Indiana border,” Amateur Radio Newsline® reported. “The shootings appeared entirely random. One victim, a farmer, had a conversation with the shooter about honeybees before he was shot, earning the killer his nickname of the *Honeybee* shooter.”

Two months later, Amaya was allegedly robbing an L.A. Tan salon at gunpoint when a customer disarmed him – ultimately shooting Amaya twice, resulting in his death.

QRZ.com lists Amaya’s home address as being in Rankin, Illinois. (ARN, *WB9QZB*,

*Chicago Tribune OnLine, Morris Daily Herald, CNN, other sources*)

## New Zealand DX Hall of Fame Inductees Announced

John N. Shaw, ZL1BYZ; Bryan Anderson, ZL2AFT; and

the late Peter W. Watson, ZL3GQ; have been selected for induction into the New Zealand DX Hall of Fame. Each was chosen based on his dedication to ham radio and the furthering of the art of DX operation. Previous winners have included, Roy Jackson, ZL4BO; Ron Wright, ZL1AMO; and Jock Moretti, ZL2GX (SK) in 2009. Winners in 2010 included Dave Johnston, ZL1AMN; Aola Johnston, ZL1ALE; and Dave Brown, ZL1HY (SK).

The New Zealand DX Hall of Fame was established in 2009 to honor those outstanding ZL DXers and contesters who have excelled in the radio sport aspect hobby over many years.

The current panel of judges includes Ken McCormack, ZL1AIH; Duncan McMahon, ZL3JT; and Bill Carney, ZL3NB. (ARN, *ZL2AL*)

## Video of Soyuz TMA-20 Launch, With Ham Aboard, Posted Online

Video of the night launch of the Soyuz TMA-20 spacecraft – carrying Expedition 26 crew members NASA astronaut Cady Coleman, Russian cosmonaut Dmitry Kondratyev, and European Space Agency astronaut Paolo Nespoli, IZØJPA, to the International Space Station – is posted online at: < <http://bit.ly/gzz3jE> >.

This is Nespoliu’s second trip into space. In June of 2006, he was assigned to Space Shuttle mission STS-120.

(*UniverseToday.com, ARNewsline.org®*)

## Online: ‘Work Satellites With Your HT!’

Clint Bradford, K6LCS, of Mira Loma California, has published an updated copy of the free tutorial *Work Ham Satellites With Your HT!* To see it, visit: < <http://bit.ly/hTb2OG> >.

(ARN)

## A Sextet of DX Updates . . .

**HA3AU** is heading to Western Africa where he will be active as 6W2SC from Senegal and J5UAP from Guinea-Bissau through the end of March.

His activity will be on 160 through 10 meters, mainly on CW and the digital modes. *QSL direct via HA3AU.*

**VO1AU** will be active stroke 9M6 from, East Malaysia March 2-15. His operation will include the Commonwealth and ARRL DX SSB Contests. *QSL via VO1MX.*

**DC9TH** is on the air as 8Q7TH from Baa Atoll in the Maldives. According to Amateur Radio Newsline®, he has been heard on 20 meter SSB. *QSL to DC9TH.*

**EI8CC**, former Honorary Secretary of the Irish Radio Transmitting Society and new Irish ambassador to Lesotho, will soon be on the air from that nation on CW and SSB as 7P8CC. The final items of his station have been shipped, so expect to hear him on the air from Lesotho in the not too distant future.

**ZS6TQ** is now active as 9Q0HQ/6 from the Republic of the Congo. His operation is primarily after 1800 UTC. Listen for him on 40 through 6 meters using CW, SSB and PSK31. *QSL via K3IRV.*

**HG200LST** is the call sign being used by a group of Hungarian radio amateurs through the end of 2011 to commemorate the 200 th anniversary of the birth of composer and virtuoso pianist Franz Liszt, according to DX Online.

*QSL via HA5GY. (ARN)*

# Bringing the latest in DSP technology to your everyday communications.

## NEW IC-7410 HF/50MHz Transceiver



Icom continues to lead in high performance digital technology. The IC-7410 is a familiar-looking yet new HF/50MHz rig for everyday use that takes advantage of our digital know-how. A high grade DSP unit and double conversion super-heterodyne system developed for our higher grade IC-7800/7700/7600 series are used. In addition, the IC-7410 comes with a built-in 15kHz 1st IF Filter and can accept up to two optional filters (3kHz/6kHz). When used with these 1st IF Filters, narrow mode signals such as the CW and SSB modes are protected from adjacent strong signals. Experience the latest tech in your everyday use!

### Features:

- +30dBm 3rd Order Intercept Point (14MHz)
- Double Conversion Superheterodyne System
- 32-bit Floating Point DSP Unit
- Built-in 15kHz 1st IF Filter (Optional 3kHz/6kHz)
- Large Monochrome LCD Display
- ±0.5ppm Frequency Stability
- Built-in Simple Band Scope
- Built-in Automatic Antenna Tuner
- All Mode (SSB, CW, RTTY, AM, FM)
- Optional RS-BA1 for IP Remote Control



#### AD/DA Converter

ADC Signal (Noise+Distortion): 100dB  
ADC Dynamic Range, S/N: 113dB  
DAC Signal (Noise+Distortion): 97dB  
DAC Dynamic Range, S/N: 115dB



#### Large Heat Sink

Even during long hours of heavy duty use, the IC-7410 provides stable output power.



#### DSP Unit

ADSP-21369  
Internal Clock Speed: 333MHz  
32-bit Floating Point DSP  
Max. Performance: 2000MFLOPS



**USB Connector for PC Control**  
A standard type B USB connector is located on the back panel. Use it to control your IC-7410 via PC.

# WorldRadio ONLINE

## TABLE OF CONTENTS

Year 40 Issue 09

MARCH 2011

### FEATURES

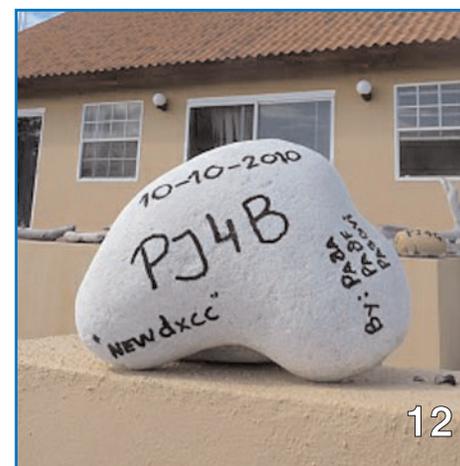
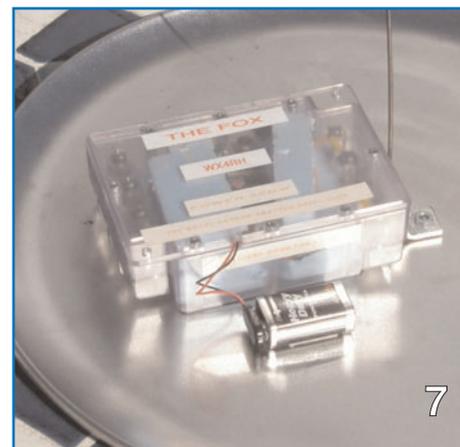
<b>1</b>	<b>For the Hams of Royal Harbor, 'A-Hunting They Do Go . . .'</b> <i>By Ted Luebbbers, K1AYZ</i> ..... 7
<b>1-15</b>	<b>Another Snapshot From Bonaire: PJ4B's 10/10/10 DXpedition</b> <i>By Rob Aartman, PA3GVI</i> ..... 12

### COLUMNS

<b>2</b>	<b>EDITOR'S LOG</b> ..... 6
<b>2</b>	<b>STATION APPEARANCE: WØRAA, Colorado Springs:</b> <b>The Beauty and the Beast</b> ..... 16
<b>16-27</b>	<b>PROPAGATION:</b> <b>A Little Help from Sporadic E for the ARRL 10 Meter Contest</b> ..... 20
<b>16-27</b>	<b>TRAIL-FRIENDLY RADIO: Stand and Deliver</b> ..... 22
<b>16-27</b>	<b>DX WORLD: The Perfect Storm:</b> <b>Veterans vs. Young Guns On the DX Ladder</b> ..... 26
<b>3</b>	<b>LOOKING WEST: Looking Ahead (And Back) At Repeaters</b> <b>and VHF/UHF Relay Communications</b> ..... 28
<b>3</b>	<b>HAMS WITH CLASS: Creative Experiments to Capture Young</b> <b>Peoples' Imagination</b> ..... 32
<b>28-39</b>	<b>YLS: 2010 YLs in the News</b> ..... 36
<b>28-39</b>	<b>QCWA: Looking At the QCWA and Member Communications</b> ..... 40
<b>28-39</b>	<b>RULES &amp; REGS: So, I'm a VE - Now What?</b> ..... 44
<b>28-39</b>	<b>AERIALS: Cheap and Useful, Consider the End-Fire Beam</b> ..... 51

### DEPARTMENTS

<b>4</b>	<b>WorldRadio Online Newsfront</b> ..... 2
<b>40-52</b>	<b>DX Predictions - March</b> ..... 35
<b>40-52</b>	<b>Visit Your Local Radio Club</b> ..... 42
<b>40-52</b>	<b>Hamfests &amp; Special Events</b> ..... 43
<b>40-52</b>	<b>VE Exams</b> ..... 47
<b>40-52</b>	<b>Contest Calendar</b> ..... 48
<b>40-52</b>	<b>WorldRadio Online Mart</b> ..... 50



**On the Cover:** Garrett Collins, W2GGC, holds the 2-meter FM direction-finding 3-element beam built and used by the Royal Harbor Amateur Radio Club in Taveres, Florida during its fox hunting activities. (Courtesy of RHARC)

THE NEW DB 11...

If it fits here, it will fit anywhere!

Truly small size with truly big performance.

**SteppIR™**

**INTRODUCING THE NEW DREAM BEAM 11**

**INTRODUCTORY PRICE - \$2195.00**

WEIGHT - 63 lbs (28.57kg)

WIND LOAD - 5.9 sqft (0.54sqm)

TURNING RADIUS - 10.5ft (3.20m)

FREQUENCY COVERAGE - 13.9Mhz - 54 Mhz

BOOM LENGTH - 11 ft (3.35m)

LONGEST ELEMENT - 19 ft (5.79m)

POWER RATING - 3KW continuous

BAND ACTIVE ELEMENTS

20m 2

17m 3

15m 3

12m 3

10m 3

6m 3

Refer to our website for more technical specs and gain figures as they are released. The DB 11 will be available in the Fall of 2010. Get your name on the order list now.

**BS7H**

W6RGG on Scarborough reef DXpedition.



## Thoughts On Avoiding Net Losses and Posting Net Gains

**D**oes anyone keep statistics on amateur radio net activity? It would be interesting to see whether it has waxed or waned over, say, the last 100 years – minus the war years, of course.

More than a few net managers have lamented lately that it's a challenge to keep participants coming back. In the pitched battle over a busy ham's spare time, it's no easy feat to keep *checking-in* high on his or her list of priorities.

**Mike Herr, WA6ARA**, of Ridgecrest, California, was looking for ideas to increase interest in a local VHF net and asked for the group's advice during a *WorldRadio Online Live Internet Chat* in January:

"It's an emergency net," he said, but the group was on life support. There used to be 15 to 20 check-ins, but lately it's "down to five." The group meets on the 146.64 MHz **WA6YBN** 2-meter machine. "It's a low-level repeater – really a translator – and you can't hear it south of Ridgecrest . . . We usually have a roundtable (discussion), but few stick around."

It was clear others on the January chat had struggled with the same situation.

**Ted Luebbbers, K1AYZ**, of Taveres, Florida, suggested Mike "assign a radio topic to be discussed at next week's net and appoint a moderator."

"My club's Wednesday night net asks a question for each participant to answer,"

**Tim Hufnell, WA3BDV**, posted from Bristol, Pennsylvania. The moderator poses the "same question for everyone, not always ham related, but fun. It's more interesting than signal reports."

"Nothing more boring than checking into a net, just giving your call sign and waiting for the net to close when they run out of check-ins," added **Jack Ciaccia, WM0G**, of Boulder, Colorado. "Turn your VHF net into an informal roundtable format instead of a formal net structure. It's more friendly to attract newer hams."

**Cory Sickles, WA3UVV**, of Glassboro, New Jersey suggested a poll: Ask "why the folks who used to check-in no longer do. It might be timing, or maybe the content needs a boost."

Reach out to other organizations, wrote **Harold Adams, W2ACO**, from Parsippany, New Jersey: "In Long Island there is a club called LIMARC (Long Island Mobile Amateur Radio Club). They have extensive discussions on their machine . . . try to get in touch with them and find out what makes it click."

**Angel Santana-Diaz, WP3GW**, wrote from Trujillo Alto, Puerto Rico that "it's important to get news about different topics and about *local* ham radio activity."

"You have to make nets interesting and *entertaining* to hold participants,"

**Bill Pasternak, WA6ITF**, wrote from Saugus, California.

Conducting a 2-meter net on simplex has its advantages, some chatters said. For EmComm training, "it's good practice in case the machine fails," **WA3UVV** said.

Speaking of that, **Kent Hathaway, K7DXP**, of West Jordan, Utah, had to excuse himself from the chat: "Have a local 2-meter simplex net in a few minutes," he wrote. "GN (good night) and good hunting."

*How fitting.* Now, there's a guy with his priorities in order!

### How Is Your Group Avoiding a Net Loss?

If your organization-sponsored amateur radio net is thriving, please let us know what strategies are being used to keep members onboard.

What lessons have you learned from past mistakes? What's working, and why? We'll share your ideas with *WRO* readers. Drop an e-mail to: [WorldRadioOnline@gmail.com](mailto:WorldRadioOnline@gmail.com).

### WRO Live Chats: European / United Kingdom Session Added

Want to join us on the Web? Here's how the *WRO Live Online Chat* schedule is looking:

The **Sunday, March 6**, session begins at 8 p.m. Eastern Standard Time (0100 UTC Monday).

Our **first mid-week session** will be **Wednesday, April 13**, at 8 p.m. Eastern Daylight Savings Time (0000 UTC).

To better accommodate our **European** and **United Kingdom** friends, the **Sunday, May 1** chat will be at 3 p.m. Eastern Daylight Savings Time (1900 UTC). Radio amateurs *everywhere* are welcome.

No matter the start time, the sessions are casual and friendly. Visit: < <http://www.WorldRadioOnline.blogspot.com> > to **sign-up for an e-mail reminder** that a chat is imminent. You can see **REPLAYS** of all previous chats on the site, as well.

– **Richard Fisher, KI6SN**

## WorldRadio Online

### EDITORIAL STAFF

**Richard Fisher, KI6SN**, Editor  
(E-mail: [worldradioonline@gmail.com](mailto:worldradioonline@gmail.com))

**Richard S. Moseson, W2VU**, Editorial Director  
(E-mail: [w2vu@cq-amateur-radio.com](mailto:w2vu@cq-amateur-radio.com))

### CONTRIBUTING EDITORS

**Terry Douds, N8KI**, Amateur Satellites  
(E-mail: [n8ki@amsat.org](mailto:n8ki@amsat.org))

**Richard Fisher, KI6SN**, Trail-Friendly Radio  
(E-mail: [ki6sn@aol.com](mailto:ki6sn@aol.com))

**Gerry Gross, WA6POZ**, 10-10  
(E-mail: [wa6poz@arrl.net](mailto:wa6poz@arrl.net))

**Dave Hayes, VE3JX**, QCWA  
(E-mail: [ve3jx@bell.net](mailto:ve3jx@bell.net))

**John B. Johnston, W3BE**, Rules & Regs  
(E-mail: [john@johnston.net](mailto:john@johnston.net))

**Kelly Jones, NØVD**, DX World  
(E-mail: [n0vd@dxcentral.com](mailto:n0vd@dxcentral.com))

**Dee Logan, W1HEO**, Promotion/Recruitment  
(E-mail: [deverelogan@gmail.com](mailto:deverelogan@gmail.com))

**Carl Luetzelschwab, K9LA**, Propagation  
(E-mail: [k9la@arrl.net](mailto:k9la@arrl.net))

**Cheryl Muhr, NØWBV**, YLs  
(E-mail: [n0wbv@earthlink.net](mailto:n0wbv@earthlink.net))

**Randall Noon, KCØCCR**, FISTS CW Club  
(E-mail: [rnoon@nppd.com](mailto:rnoon@nppd.com))

**Bill Pasternak, WA6ITF**, VHF, FM & Repeaters  
(E-mail: [wa6itf@arnesline.org](mailto:wa6itf@arnesline.org))

**Carole Perry, WB2MGP**, Hams With Class  
(E-mail: [wb2mgp@ix.netcom.com](mailto:wb2mgp@ix.netcom.com))

**Bill Sexton, N1IN/AAR1FP**, MARS  
(E-mail: [sextonw@juno.com](mailto:sextonw@juno.com))

**Kurt N. Sterba**, Aerials  
(E-mail via: [worldradioonline@gmail.com](mailto:worldradioonline@gmail.com))

**Patrick Tice, WAØTDA**, With the Handi-Hams  
(E-mail: [wa0tda@comcast.net](mailto:wa0tda@comcast.net))

### BUSINESS STAFF

**Richard A. Ross, K2MGA**, Publisher

**Chip Margelli, K7JA**, Director of Advertising  
Sales and Marketing  
(E-mail: [CQAds@socal.rr.com](mailto:CQAds@socal.rr.com))

**Emily Leary**, Sales Coordinator

**Sal Del Grosso**, Accounting Manager

**Doris Watts**, Accounting Department

### CIRCULATION STAFF

**Melissa Gilligan**, Operations Manager

**Cheryl DiLorenzo**, Customer Service Manager

**Ann Marie Auer**, Customer Service

### PRODUCTION STAFF

**Elizabeth Ryan**, Art Director

**Barbara McGowan**, Associate Art Director

**Dorothy Kehrwieler**, Production Director

**Emily Leary**, Production Manager

**Rod Somera**, Production/Webmaster

A publication of

 CQ Communications, Inc.  
25 Newbridge Road  
Hicksville, NY 11801-2953 USA

*WorldRadio Online*, Year 40, Issue 9, published monthly by CQ Communications, Inc., 25 Newbridge Rd., Hicksville, NY 11801. Telephone 516-681-2922. FAX 516-681-2926. Web Site: <<http://www.cq-amateur-radio.com>> Entire contents copyrighted ©2011 by CQ Communications, Inc. *WorldRadio Online* & CQ Communications, Inc. assume no responsibility for information, actions or products on/from external links/sites.

Opinions expressed by our authors and columnists are their own and do not necessarily reflect those of *WorldRadio Online* management, advertisers or its publisher, CQ Communications, Inc.

# For the Hams of Royal Harbor, 'A-Hunting They Do Go . . .'

By Ted Luebbbers, K1AYZ

**R**iding to the sounds of the hounds? Trumpeting the cornering of the fox? *In jolly olde England?*, you ask. No, in Lake County, Florida at the Royal Harbor development in Tavares.

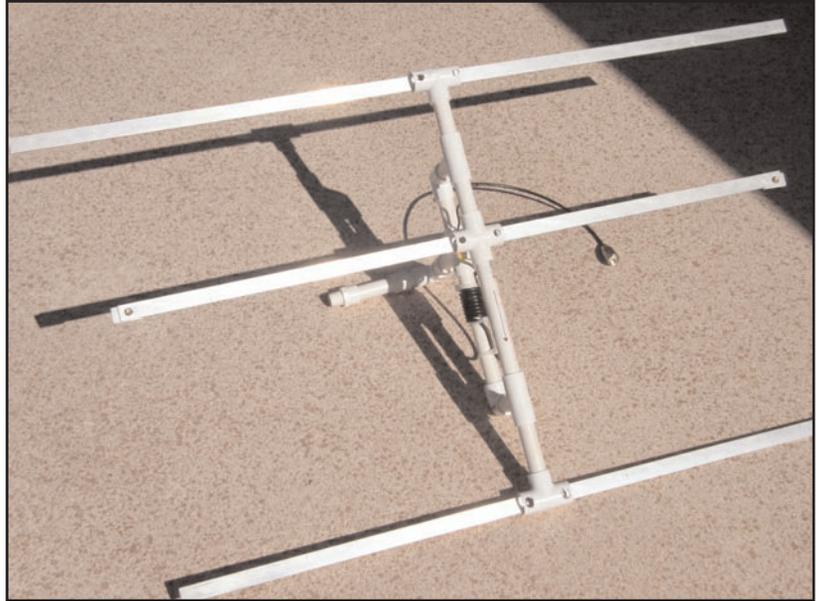
Actually, there aren't any hounds or trumpets involved in this *high-tech* foxhunt. Using portable antennas and hand-held radios, *hunters* use direction-finding (DF) techniques to locate a hidden transmitter – otherwise known as *the fox*.

It's an activity held periodically by members here and around the world – and to what enjoyment.

## Building *The Fox*

The RHARC got started in DF'ing by buying a Squawk Box transmitter kit from Doppler DF Instruments, <<http://bit.ly/ifxN1r>> which features a voice recorder that puts out 50 milliwatts of FM on 146.565 MHz in the 2-meter amateur band.

Club member Garrett Collins, W2GGC, put the kit together and packaged it into a neat unit with the transmitter placed on a 16-inch aluminum pizza pan. That makes a good ground plane for the 18-inch vertical antenna which



PVC pipe and joints were used with aluminum bar stock as the main parts of the RHARC's direction-finding 2-meter beam. (Photographs courtesy of Royal Harbor Amateur Radio Club)



Members of the Royal Harbor Amateur Radio Club pose with their homebrew foxhunting gear before heading into the field.



**YAESU**  
FT-817ND

The **Yaesu FT-817ND** is an improved, deluxe version of the hugely popular FT-817. It includes 60 meter coverage plus the new high capacity FNB-85 battery. The radio is a fully self-contained, battery-powered, low power amateur MF/HF/VHF/UHF transceiver. Great for portable QRP operation!

**FREE**



Receive this cool canvas urban bag **FREE** with your FT-817ND from Universal Radio. Visit [www.universal-radio.com](http://www.universal-radio.com) for details!

**Universal Radio**  
6830 Americana Pkwy.  
Reynoldsburg, OH 43068  
◆ Orders: 800 431-3939  
◆ Info: 614 866-4267  
[www.universal-radio.com](http://www.universal-radio.com)

**universal radio inc.**



A close-up of the 2-meter beam's feed point shows the coiled balun, left, and the green hairpin impedance-matching system at the feed point used to get maximum efficiency from the antenna.

can be made from any rod stock you have in the garage.

### Arming the Fox Hunters

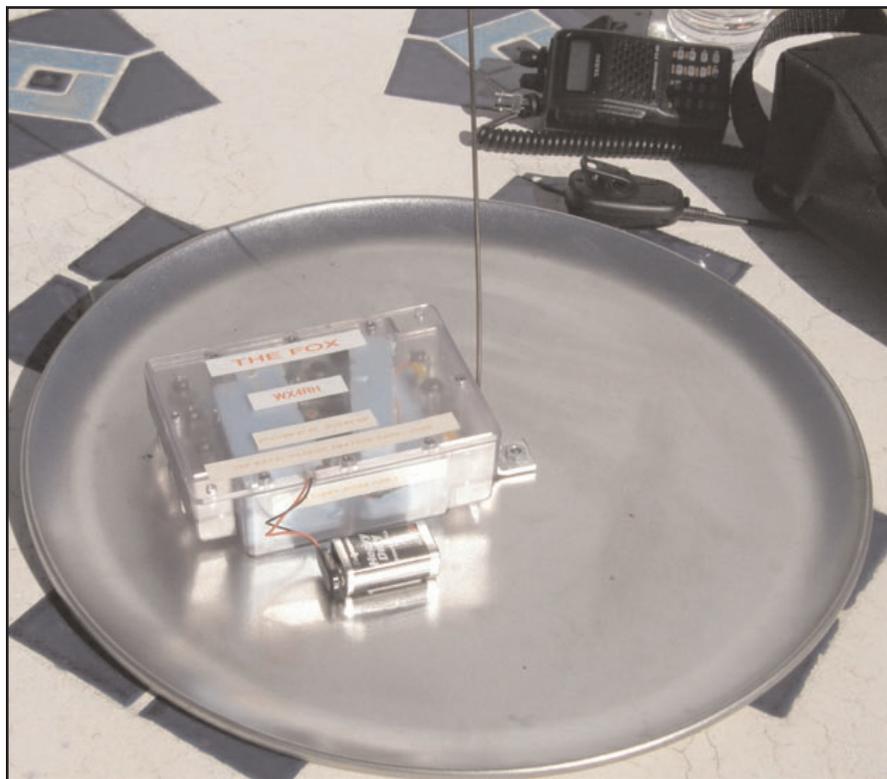
The next project was to construct several three-element 2-meter direction-finding beams that could be easily attached to a 2-meter handheld FM transceiver for hunters to use to locate *the fox*.

The antennas were put together using three-quarter-inch by one-eighth-inch flat aluminum bar stock and three-quarter-inch PVC materials that can be found at any local hardware store.

The beams were tuned to the middle of the 2-meter band using an MFJ antenna tuner. They have great directivity and a good front to back ratio – characteristics very important when you're trying to hone-in on *the fox*.

### Let the Hunt Begin...

During the hunt, *the fox* announces himself every 30 seconds saying, "This is the Royal Harbor Fox , WX4RH," and goes on to note the frequency. It then shuts off automatically for 30 seconds before repeating the announcement – over and over until he is found and shut off – in a most humane manner, we might add.



Labeled with the club's call sign, WX4RH, the RHARC's foxhunting transmitter is affixed to a 16-inch diameter aluminum pizza pan, which serves as a ground plane.



**Garrett Collins, W2GGC, holds the 2-meter FM direction-finding 3-element beam built and used by the Royal Harbor Amateur Radio Club in its foxhunting activities.**

The game is simple. Hide the *fox* transmitter and let the club's hunters loose with their three-element direction-finding antennas. When they get close to *the fox* they revert to their rubber duck antennas and various other schemes to zero in on the transmitter's hiding place.

A hunt can take up to two hours, depending on how well the fox is hidden.

In real-world application, this radio direction-finding exercise helps train ham operators to find transmitters that might be interfering with legitimate radio transmissions, downed planes with Emergency Locator Transmitters (ELTs) or the source of radio interference.

The radio direction finding techniques are very much like those used during World War II by the allies and the enemy to locate spies who were making clandestine radio broadcasts.

Amateur radio foxhunting is popular all around the world and has become a popular international competition. (For a comprehensive look at national and international foxhunting, visit Joe Moell, KØOV's, "Homing In" Web page: < <http://www.homingin.com/> >. Also, mark your calendar for the 14th Annual CQ Worldwide Foxhunting Weekend, May 14-15. For details, see: < <http://www.homingin.com/joek0ov/nfw.html> >. – Ed.)

In many places foxhunting has been combined with Orienteering < <http://bit.ly/ibgsE9> >.

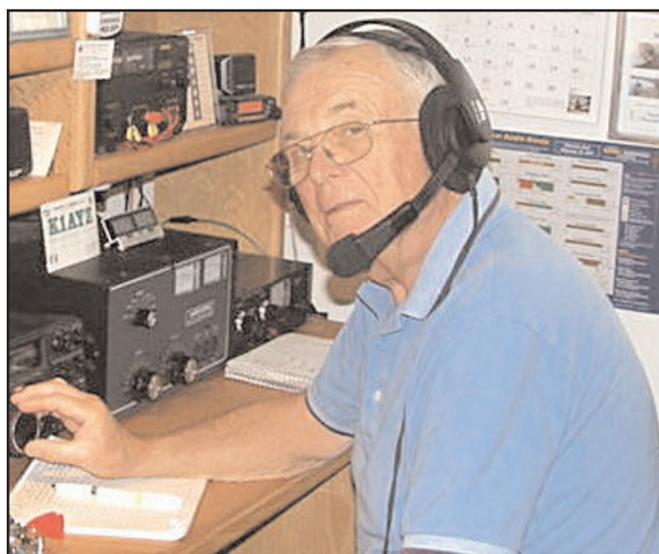
## Good Neighbors

The Royal Harbor management has alerted home owners that if they see someone hiding something in or around a bush on the common land and people running around with strange looking antennas attached to hand held radios, *don't be alarmed* or call Homeland Security. It's only the club having fun.

RHARC is a very active organization formed by amateur radio operators who over the years have moved to Royal Harbor from around the United States. They share a common passion for hamming and pool their extensive electronic knowledge.

## 2-Meter DF'ing Beam Specifics

The flat aluminum bar stock and PVC pipe, Ts and elbows



**Writer Ted Luebbbers, K1AYZ, at his Taveres, Florida operating position.**

can be found at home improvement stores including Ace Hardware, Lowe's and Home Depot.

Here are measurements for the aluminum bar stock beam elements:

**Reflector** - 41.5 inches

**Driven element** - 36 inches total (see *Building Notes*)

**Director** - 35.5 inches.

### Building Notes:

- The distance between the elements is measured from the center of the PVC T-joints. From the reflector to the driven element it is 8.5 inches. From the driven element to the director, 13.5 inches.

- The overall length (end to end) of the driven element is 36 inches. However, you need to cut it in the middle (at 18 inches) and separate the ends inside the PVC double T joint by one-quarter-inch. That means you must take one-eighth-inch off each 18-inch section in order to get the one-quarter-inch spacing within the T joint and still maintain the total 36-inch length of the driven element.

- The overall length of the driven element (end to end) is 36 inches. Cut the 36-inch length in half and separate by one-quarter-inch the ends inside the PVC double T joint. Then take one-eighth-inch off each 18-inch section in order to maintain the 36-inch overall length of the driven element.

- The accompanying photo shows how the coax feed line attaches to the driven element.

- Jumping across the two sides of the driven element is a *hair-pin* impedance matching system (the green insulated wire). It is three-inches long and can be made out of any solid copper wire you have around the shack. We used No. 14 solid copper wire.

- Seven to nine turns of the coax feed line are wound around the three-quarter-inch PVC pipe near the feed point to form a balun for better matching.

## Additional Information

If you have questions about the fox transmitter's or DF'ing beam's construction or performance, write:

Ted Luebbbers, K1AYZ, at: < [floxin64@embarqmail.com](mailto:floxin64@embarqmail.com) >

Garrett Collins, W2GGC, at: < [W2GGC@circleoaks.com](mailto:W2GGC@circleoaks.com) >

# Advanced Dual Band Mobile Radio

## 5.2" x 1.6" Large dot matrix (264 x 64 dots) LCD display

### GPS / APRS® / Bluetooth® Features

# FTM-350AR

New Vacuum Cup-Mounting Bracket permits Angle Adjustment  
New APRS® Operation Capability, and newly Expanded User Friendly Functions



144/(220)\*430 MHz 50 W FM Dual Band Transceiver

## FTM-350AR **NEW**

220 MHz 1 W (USA version only)

### New Features of The FTM-350AR

#### 1. New Vacuum Cup-Mounting Bracket with Angle Adjustment

The new MMB-98 Mounting bracket allows easy installation of the radio control display to your Dashboard by placing the vacuum mount in the desired location and pressing a lever. You may then adjust the display to the optimum viewing angle.



#### 2. Expanded APRS® functions

- Uses the worldwide-accepted GPS NMEA data format
- Navigation to another APRS® BEACON station is possible, even if the beacon station is moving.
- Waypoint data (Data in/out) is available from the ACC connector on the rear of the main unit.
- Sub-Band APRS® operation may be active in the background, even when operating in Mono-Band Display mode.
- Newly added Voice Alert function
- Re-allocated often used keys to more convenient positions for easier operation
- Programmable keys on the DTMF Microphone provide direct access to APRS® functions

\*APRS® is a registered trademark of Bob Bruninga WB4APR  
\*SmartBeaconing™ from HamHUD Nichetronix

Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

For the latest Yaesu news, visit us on the Internet:  
<http://www.vertexstandard.com>

 **YAESU**  
*Choice of the World's top DX'ers™*  
Vertex Standard  
US Headquarters  
10900 Walker Street  
Cypress, CA 90630 (714)827-7600

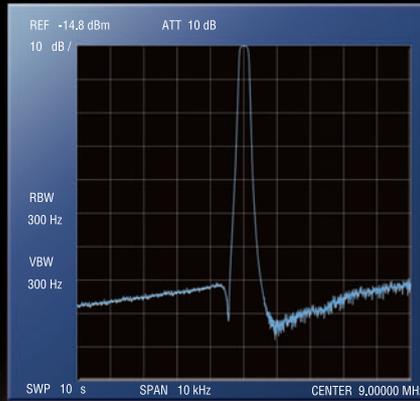
The New Premium HF/50 MHz Transceiver  
**FT DX 5000 Series**  
 The Dawn of a New Era - Dynamic Range  
 112 dB / IP3 +40 dBm



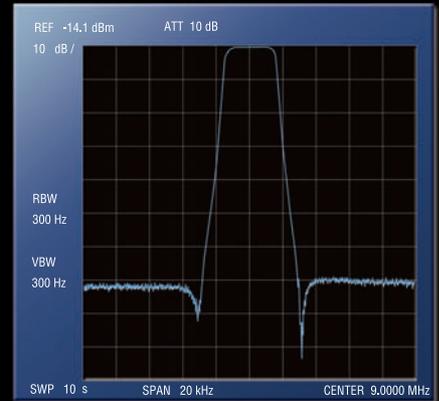
**Roofing Filter Performance**

Super sharp "Roofing" filters for VFO-A/Main Receiver to give you the best performance and flexibility

Newly designed sharp "Roofing" filters for VFO-A/Main Receiver, selectable between 300 Hz, (optional/included in MP), 600 Hz, 3 kHz (6-pole crystal filter), 6 kHz, 15 kHz (4-pole MCF).



300Hz



3kHz

**NEW**



Photography shows FT DX 5000MP

HF/50 MHz 200 W Transceiver  
**FT DX 5000MP**

Station Monitor SM-5000 included  
 ±0.05ppm OCXO included  
 300 Hz Roofing Filter included  
 600 Hz Roofing Filter included  
 3 kHz Roofing Filter included

HF/50 MHz 200 W Transceiver  
**FT DX 5000D**

Station Monitor SM-5000 included  
 ±0.5ppm TCXO included  
 600 Hz Roofing Filter included  
 3 kHz Roofing Filter included

HF/50 MHz 200 W Transceiver  
**FT DX 5000**

Station Monitor SM-5000 optional  
 ±0.5ppm TCXO included  
 600 Hz Roofing Filter included  
 3 kHz Roofing Filter included

For the latest Yaesu news, visit us on the internet:  
<http://www.vertexstandard.com>

Specifications subject to change without notice. Some accessories and/or options may be standard in certain areas. Frequency coverage may differ in some countries. Check with your local Yaesu Dealer for specific details.

**YAESU**  
 Choice of the World's top DX'ers<sup>SM</sup>  
 Vertex Standard US Headquarters  
 10900 Walker Street Cypress, CA 90630 (714) 827-7600

# Another Snapshot From Bonaire: PJ4B's 10/10/10 DXpedition

By Rob Aartman, PA3GVI

*(In the January and February editions of **WorldRadio Online**, DX World columnist Kelly Jones, NØVD, took readers on a two-part adventure to Bonaire where he was a member of the PJ4D team and its historic activation of the new DXCC entity on 10-10-10. This month, we return to the island for another view of the event. This snapshot is compliments of the PJ4B team. – Ed.)*

The PJ4B team was active from 10-10-10 to 10-22-10 from Bonaire as we joined other operator groups in launching the new DXCC entities in the Caribbean.

There were three of us: Peter Jelgersma, PA8A; Fred Boogaard, PA8F; and me. Our XYLs were along, too.

This was not a 24/7 operation as we wanted to enjoy the island and beaches as well. Since there was only a trio of operators, we had to make choices on bands, operating times and modes.

We used Noah Gottfried, K2NG's, house in the north, which has good facilities, antennas, an FT-1000mp/MARK V and two Ameritron amplifiers – one of which we used.

For RTTY, Fred brought an Elecraft K3 transceiver which worked very well with 100 watts.



Rob Aartman, PA3GVI, left; Fred Boogaard, PA8F, center; and Peter Jelgersma, PA8A; stand outside their PJ4B operation in October 2010.



A PJ4B milestone commemorates the team's historic DXpedition to Bonaire. (Photos courtesy of PJ4B)



PJ4B's antennas strike a pose against a cloud-dotted Caribbean sky.

**Tarheel Antennas**



**Nifty!**  
Reference Guides



**WBØW, INC.**

**800-626-0834**

816-364-2692 • Fax 816-364-2619

P.O. Box 8547, St. Joseph, MO 64508

**WBØW@WBØW.COM**

All Prices Subject to Change without Notice



**Ground Radial Kit**  
\$59.00  
Stainless Steel construction with 20 lugs for connections and comes with 10 radials for Normal 10-80 operation.

**HIGH POWER**

<b>Model 40A-HP</b> 10-40 Mtrs. 1.5 Kw P.E.P. \$389	<b>Model 100A-HP</b> 10-80 Mtrs. 1.5 Kw P.E.P. \$389	<b>Model 200A-HP</b> 10-80 Mtrs. 1.5 Kw P.E.P. \$409
--	---	---



Tarheel Antennas available in Black, Red, White, and Silver



**Little Tarheel-HP**  
500 Watts P.E.P.  
7.0 Mhz - 54.0 Mhz  
\$379



Little Tarheel II Shown Mounted on Diamond K400-3/8C  
Note: Mount not included  
**Little Tarheel II**  
200 Watts P.E.P.  
3.5 Mhz - 54.0 Mhz  
\$379

Programmable, Screw Driver Controller turns counter w/10 memories



SDC-102 \$130

**EXTENDED COVERAGE**

<b>Model 75A</b> 10 -80 Mtrs. 250 watts P.E.P. \$389	<b>Model 300A</b> 10 -160 Mtrs. 250 watts P.E.P. \$389	<b>Model 400A</b> 10 -160 Mtrs. 250 Watts P.E.P. \$409
---	---	---

**Note: Mounts are not included.**



PA8F, left, works RTTY while PA3GVI pounds brass during the PJ4B 10-10-10 DXpedition.

Our antennas included:

- Force12-C31XR (10/15/20 meters)
- Force12 C3 (10/15/20)
- 2-elements Yagi (40)
- Inverted V for (17 and 80)
- Inverted L (160)

The original 80 meter dipole we put up was not functioning correctly so we installed an inverted V. Unfortunately, this antenna proved to be very noisy – thanks to a nearby power line.

As the accompanying table shows, three bands turned out to be our favorites – 40, 20 and 15 meters. That was no problem



PA8A, foreground, works a pile-up during the PJ4B DXpedition.

as there were several other stations on the island providing good sport on the other bands.

- 15 meters opened up just after breakfast local time and was open until late in the evening. Mediterranean stations were very strong.

- 40 meters was very good too, but what would you expect with a two-element Yagi up 27 meters on a hill 150 meters above sea level?

- 160 meters was difficult because of the power line noise and the lack of Beverage antennas.

PA8F took part in the Japanese Amateur Radio Teleprinter



A snapshot captures the PJ4B SSB and CW station at K2NG's house in Bonaire.

Society RTTY contest with good results in the Single Operator/Low Power (100 watt) category. He made 1,447 QSOs and claimed 809,523 points.

Here are links for additional PJ4B coverage online.

**PJ4B weblog:** < <http://bit.ly/dQRGzy> >

**PJ4B pictures:** < <http://bit.ly/hGmh9B> >

**PJ4B video:** < <http://bit.ly/fQpmW8> >

“The PJ4B-team arrived home safely in Amsterdam Airport after a long flight (October 23),” the team reported on its website – concluding their saga. “We fully enjoyed the trip and the great pile-ups and look back at a great adventure.”

#### PJ4B Band/Mode Breakdown

Band	CW	PH	RTTY	Total
160	770	0	0	770
80	0	145	0	145
40	1287	1520	978	3785
20	1018	3300	905	5223
17	0	40	0	40
15	557	2201	2003	4761
10	0	0	2	2
<b>Totals</b>	<b>3632</b>	<b>7206</b>	<b>3888</b>	<b>14726</b>



Back home in Amsterdam in early December, the team was “busy processing direct requests as QSL cards (had) just arrived,” and shortly thereafter, “the first batch (was) in the mail to confirm the new DXCC!”



# EXPLORE NEW HORIZONS

with this feature rich GPS-equipped portable.

Kenwood's dual-band transceiver with full APRS® and EchoLink® support. Featuring the SiRFstar III™ high-performance GPS receiver.

The TH-D72A is perhaps the most technology advanced, feature rich portable offered to the Amateur market. Easy to use, yet affordable. You be the judge!

## The All New TH-D72A

144/440 MHz FM Dual Bander



- 1200/9600 bps packet TNC
- Sky Command II
- Stand-alone Digipeater
- USB port (mini B)
- MIL-STD810 and IP54 weatherproofing
- 1000 memory channels
- Cross-tone

The TH-D72A comes with the PB-45L a 1,800 mAh lithium-ion rechargeable battery. A single charge will power the transceiver for approximately 6 hours of normal use at the 5W Transmit level. To save battery power the Output can be set at 5, 0.5, or 0.05 Watts.

The GPS and its logging functions can be used for up to 35 hours by turning off the transceiver functions and running in the GPS only mode. Store up to 5000 points of track data, there are three ways to save track data: Interval, Travel Distance or APRS® Beacon.

Free MCP-4A software will convert log data to the KML file format.

SiRFstar III™ is a trademark of CSR plc.  
APRS® is a registered trademark of Bob Bruninga, see [www.aprs.org](http://www.aprs.org)  
EchoLink® is a registered trademark of Synergenics, LLC in the USA, see [www.echolink.org](http://www.echolink.org)

Contact your local dealer today for more information.

**KENWOOD**  
Listen to the Future

**KENWOOD U.S.A. CORPORATION**  
Communications Sector Headquarters  
3970 Johns Creek Court, Suite 100, Suwanee, GA 30024  
Customer Support/Distribution  
P.O. Box 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745  
Customer Support: (310) 639-4200 Fax: (310) 537-8235 ADS#02311



[www.kenwoodusa.com](http://www.kenwoodusa.com)





## WØRAA, Colorado Springs: The Beauty and the Beast

*(Editor's note – Even in the face of antenna disaster, Dick Thompson, WØRAA, beams with excitement from his Colorado Springs, Colorado home. Not long ago it was a case of Beauty and the Beast – his spiffy indoor gear layout vs. a mangled metal mess outside – that presented his latest amateur radio challenge. So, why is this man still smiling? You'll see in this month's Station Appearance.)*

*Are you as proud of your station's appearance as WØRAA? Or is your messy operating position just the perfect fit?*

*Either way, send digital photographs of your station with details to: [WorldRadioOnline@gmail.com](mailto:WorldRadioOnline@gmail.com) and we'll consider them for publication in Station Appearance in an upcoming edition of WRO.*

*If there's a You Tube video to accompany the still pictures, let us know and we'll set up a link.)*

**O**n December 2, 2010, Dick Thompson, WØRAA, could still gaze into the western sky at a key ingredient to his amateur radio success. Then, *crash*.

“The next day my Tristao 40-foot crank-up / tilt over tower came down in a gust of wind that was near 90 mph,” he said. “I have never experienced a wind like that in the 40 years I have lived in Colorado Springs. It will be replaced by a Rohn 25G and a Hazer 2 (climbing-preventive tram system). The beam

will be a Cushcraft A3S.” He’s waiting for an insurance settlement. “Thank heavens I had that.”

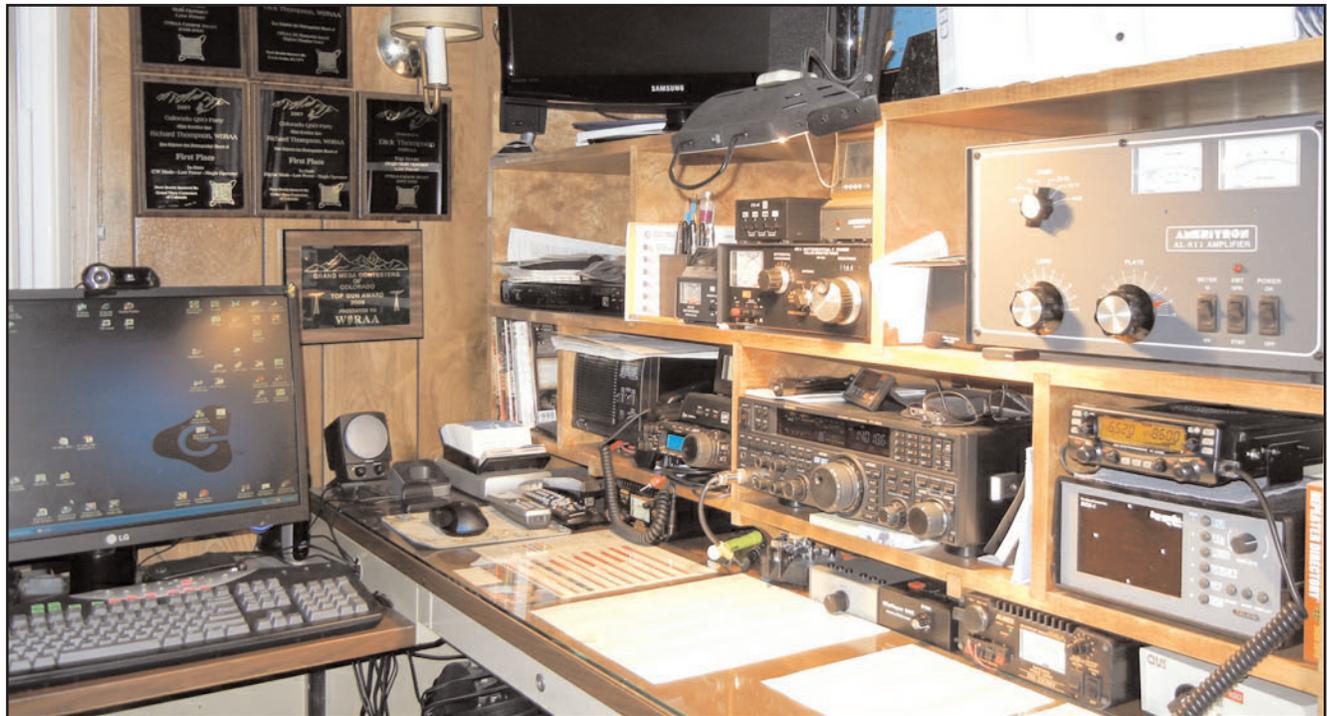
Luckily, the loss outdoors didn’t affect his neat-as-a-pin operating position inside. Within arm’s reach are Yaesu FT-950 and FT-857D high-frequency transceivers, an ICOM 2720H Dual Band 144/440 MHz FM transceiver, Ameritron AL-811 amplifier, MFJ-986 tuner, Alinco DM-330MV power supplies, DCU-1 rotor controller for a Ham V and two CW keyers: a Logikey K-5 and a Winkeyer USB.

“I have been licensed since the summer of 1963,” WØRAA said. He got his current call sign through the Vanity program on January 27, 2006. “On May 13, 2006 I passed my Extra Class License test, which was a crowning achievement.”

Prior to WØRAA, he held WBØDUL, “which was the call I was issued when I moved to Colorado Springs in 1970. I have held WA8HFP in Zanesville, Ohio; WA9LGN in Indianapolis, and WA8RWK in Lima, Ohio.

He was TI5/WØRAA in Costa Rica, as well, as a member of a team “for the 2006 CQWW DX CW Contest . . . We operated at contest station TI5N and had over 6,800 contacts and a score of over 9 million points.”

WØRAA said the TI5 experience was the highlight of his 43-year radio amateur career. “It was awesome to operate on the DX side of the fence during a contest like that. I would love to



Neatness and order prevail in the shack of Dick Thompson, WØRAA, of Colorado Springs, Colorado. His gear includes Yaesu FT-950 and FT-857D high-frequency transceivers, an ICOM 2720H Dual Band 144/440 MHz FM transceiver, Ameritron AL-811 amplifier, MFJ-986 tuner, Alinco DM-330MV power supplies, DCU-1 rotor controller for a Ham V and two CW keyers: a Logikey K-5 and a Winkeyer USB. (Photos courtesy of WØRAA.)

# Study with the best!

Gordon West, WB6NOA  
and The W5YI Group



## NEW! Technician Class



**Technician Class** for the 2010-14 entry-level exam! Gordo has reorganized the questions into logical topic groups for easier learning! Key words are highlighted in the explanations to help you understand the material for test success. Web addresses for more than 125 helpful, educational sites. **GWTM \$20.95**

### Tech Book & Software Package

Package includes Gordo's book and Windows program that allows you to study at your computer and take practice exams. Gordo's explanations from the book are now on the software! Free Part 97 Rule Book. **NCS \$39.95**

### Tech Audio Course on CD

Technician Theory Course recorded by Gordo walks you through what you need to know for the Element 2 exam. Great study companion to his *Technician Class* book, and an excellent study aid if you spend a lot of time in your car or truck! 4 audio CDs. **GWTW \$27.95**

## General Class



**General Class book** Upgrade to the HF bands with Gordo & W5YI! Gordo's manual for 2007-11 reorganizes all the questions into logical topic groups for easier learning. His explanations include highlighted key words to help you remember the material for test success. Audio CD is full of great operating tips! **GWGM \$20.95**

### General Book & Software Package

Study at your computer and take practice exams. Software includes explanations from Gordo's book, scores your results and highlights areas that need further study. Free Part 97 Book. **GUS \$44.95**

### General Audio Course on CD

General Theory Course recorded by Gordo is full of the sounds that bring ham radio to life! He talks you through the Element 3 theory to help you understand the material for your upcoming exam. 4 audio CDs. **GWGW \$29.95**

## Extra Class



**Extra Class book** Go to the top with Gordo! 2008-2012 book includes all Element 4 questions and answers, along with Gordo's fun, educational explanations. Full of Gordo's great memory tricks for those tough math and electronic theory questions (wait 'til you meet "Eli the Ice Man")! **GWEM \$24.95**

### Extra Book & Software Package

Study at your computer and take practice exams as the W5YI software scores your results and highlights areas that need further study. Software includes explanations from Gordo's book. Package includes Gordo's *Extra Class* book and free Part 97 Book. **ECS \$49.95**

### Extra Audio Course on CD

Extra Class Theory Course recorded by Gordo talks you through the difficult Element 4 theory to help you understand the material and get you ready for your upgrade to the top. On 6 CDs. **GWEW \$39.95**

**Order today from W5YI: 800-669-9594 or on-line: [www.w5yi.org](http://www.w5yi.org)**

The W5YI Group P.O. Box 565101 Dallas, TX 75356

Mention this ad for a free gift. **WR**



A wind gust estimated to be 90 mph spelled the end for WØRAA's Tristao 40-foot crank-up / tilt over tower and beam in December. "It will be replaced by a Rohn 25G and a Hazer 2" tram system, he said.

be able to do it again. I will never forget it. Our hosts, Keko Diez, TI5KD, and his wife Sophie Quesada Zuniga, TI2IY, were wonderful hosts during our stay at their home in Alajuela, Costa Rica. Sophie is a fantastic cook."

In Colorado Springs, the Yaesu FT-950 transceiver is "occasionally run" with the Ameritron AL-811 amplifier," he said. The dual-band ICOM-2720H FM is used in-house for local contacts around Colorado Springs. "It's easily moved to my car for local mobile operation and trips," WØRAA said. The Yaesu FT-857D transceiver and a LDG Z-100 Autotuner were acquired recently and make "a great little backup" station.

On the antenna front, he has a Butternut HF-9V ground mounted vertical and a Ringo Ranger AR270 on 2 meters and 440 MHz, as well.

"A dipole on the low end of 80 meters for CW and RTTY contests rounds out the antennas at my QTH. My first QSO with the TH-5DX beam was with N8S on Swains Island. A great way to break in a new antenna. I hope the new A3S will work as well."

WØRAA retired from Deluxe Business Forms in October 2000 and is "a regular

**TOROID CORES®**



Ferrite and iron powder cores. Beads. Our RFI kit gets RFI out of TV's, telephones, stereos, computers, etc. 12 beads, 12 cores, full instructions. Model RFI-4.....\$35.00  
 VISA +\$8 S&H (for total order) Tax in Calif.

**◆ PALOMAR®**  
 BOX 462222, ESCONDIDO, CA 92046  
 TEL: 760-747-3343 FAX: 760-747-3346  
 email: info@Palomar-Engineers.com  
 www.Palomar-Engineers.com



**Ham Radio Insurance Associates**  
*'Insurance for Hams by Hams'*  
 Since 1994  
 1-800-545-8881  
[www.hamradioinsurance.com](http://www.hamradioinsurance.com)

**Batteries, Antennas,  
 Coax & more!**

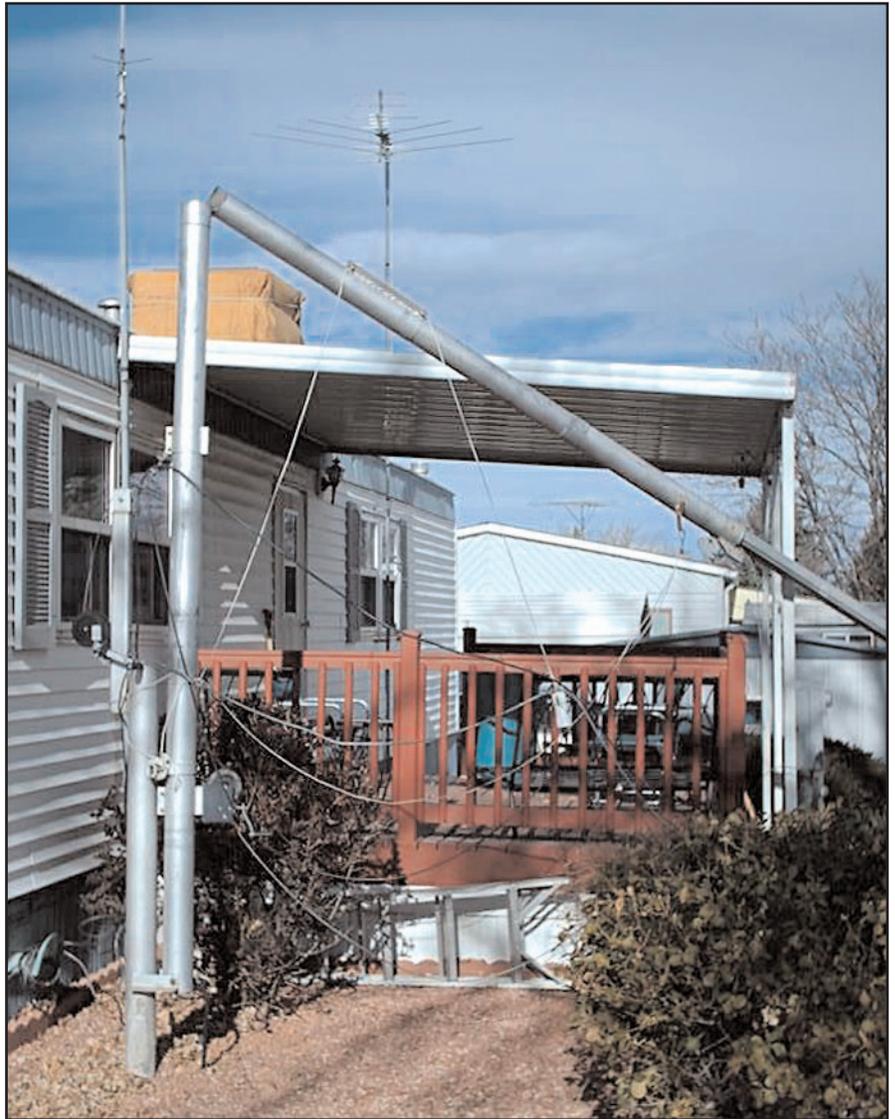
**2700 MAH AA cells  
 \$2<sup>95</sup>**

Free catalog upon request  
**DC ACE, INC.**  
 1-877-803-5550  
 P.O. Box 364, Lincolnshire, IL 60069  
[www.dcace.com](http://www.dcace.com) [sales@dcace.com](mailto:sales@dcace.com)

**HamTestOnline™**  
**Web-based training for the  
 ham radio written exams**

- ▶ Quick, easy way to learn.
- ▶ 100% guaranteed — you pass the exam or get your money back.
- ▶ Better than random practice tests.
- ▶ Provides additional information.
- ▶ Presents concepts in logical order.
- ▶ Tracks progress on each question.
- ▶ Focuses on your weak areas with "intelligent repetition".
- ▶ Better than books — question drill keeps you engaged.
- ▶ Try our free trial.

[www.hamtestonline.com](http://www.hamtestonline.com)



WØRAA's tilt-over tower tilted in a most unfortunate way in late 2010, but a new antenna plan is in the works, with a Cushcraft A3S beam eyed as the crowning element.

on the Internet. In addition to chasing DX on the HF bands, I also operate using digital modes including PSK31 / MFSK / Throb, RTTY, and so on.

"I am a member of the Grand Mesa Contesters Club and QCWA member No. 32521, as well as FISTS No. 10912."

He is a member of the OM International Sideband Society, No. 5081; 10X No. 23811, "and numerous other organizations. In addition, I am a member of the Royal Order of the Wouff Hong and received my DXCC Certificate in June 2006.

"I have Worked All States — mixed, 20 Meters, CW and RTTY. I'm presently working on the new ARRL Triple Play Award. I have all 50 states con-

firmed on RTTY and CW and am working on SSB with six (states) to go," he said. "If I operated more SSB, I could have it completed."

WØRAA is "an avid contester and I participate in most RTTY and CW contests and occasionally in an SSB contest," he said. "RTTY and CW are my two favorite modes."

If you hear him on the air or see him on your computer screen, WØRAA, said, "give a shout. I love to rag chew. I enjoy DXing, contesting — especially RTTY and CW — county hunting, CW, RTTY and just the hobby in general. I have made many friends in this great hobby and manage to keep in touch with them either by radio or e-mail."

20M SSB

TX

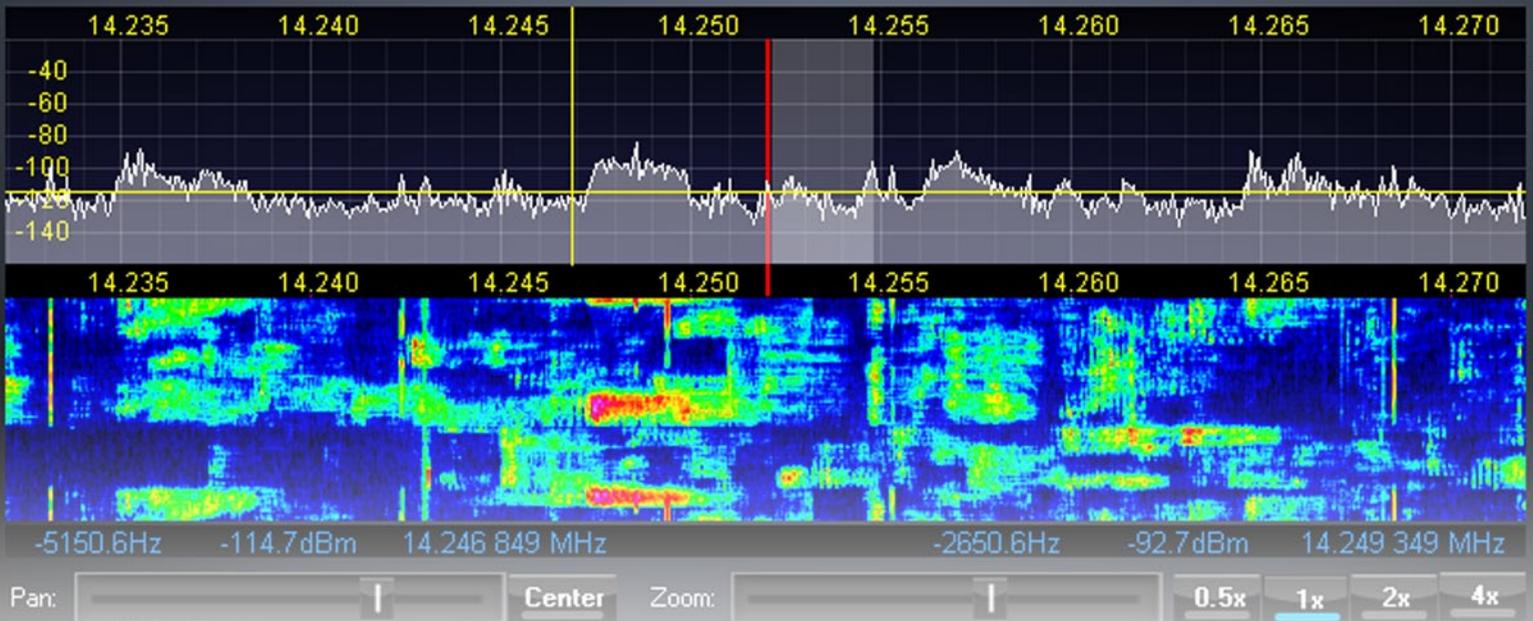
7.000000

Save

Restore

TX

20M Ext/Adv SSB



## FLEX-5000A

HF-6m Transceiver  
+2M&70CM



## FLEX-3000

HF-6m Transceiver

# See it, Click it, Work it!

-  **Point and click instant tuning**
-  **Visually tunable filters**
-  **See the weak ones before you hear them**
-  **Find that clear frequency during split-operation**

## Tune in Excitement.™

## Order Now!

[www.flex-radio.com](http://www.flex-radio.com)

[sales@flex-radio.com](mailto:sales@flex-radio.com) 512-535-5266

©2010. All rights reserved. FlexRadio Systems is a registered trademark and Tune in Excitement is a trademark of FlexRadio Systems. All prices and specifications are subject to change without notice. Personal computer and monitor required but not included. \*Some modes may require second receiver.

 **FlexRadio Systems**®  
Software Defined Radios



## A Little Help from Sporadic E for the ARRL 10 Meter Contest

By Carl Luetzelschwab, K9LA

**C**ycle 24 continues its ascent. The latest smoothed sunspot number (at the time I wrote this) was 15.5 for May 2010. That results in a predicted smoothed sunspot number of 37.9 for December 2010, with an uncertainty of plus or minus 7 (from the December 2010 data at < <http://bit.ly/fCAzoM> >).

Historically, 10 meters should offer consistent F<sub>2</sub> region propagation when the smoothed sunspot number exceeds about 50 (an equivalent smoothed 10.7 cm solar flux of about 100). I figured 37.9 was close enough to 50 to warrant a trip south for the 2010 ARRL 10 Meter Contest, December 11-12.

Several e-mails later, my wife Vicky, AE9YL/ZF2YL, and I (K9LA/ZF2LA) were scheduled to join Joe Hynparowski, W6VNR/ZF2AH, for a multi-op effort from the Cayman Islands using ZF1A (the Cayman Amateur Radio Society call sign). More than likely 10 meters wouldn't offer too much Europe or Japan yet, but the ZF weather would more than compensate for that (compared to the Ft. Wayne, Indiana weather!).

I had printed predictions from ZF to the world on 10 meters for the contest (from Dean Straw, N6BV's, predictions as reviewed in the August 2010 column) to have a general idea of F<sub>2</sub> propagation. These predictions showed nothing to Europe and Japan, but there were some good openings to the East Coast and Midwest of the United States, South America, and Africa.

Vicky started the contest Friday evening. We worked 91 stations up to 10:41 p.m. local time before heading back to the hotel. Figure 1 shows the relative distribution of these 91 QSOs.

Nearly half of the QSOs (40 to be exact) were with Florida, and the next most prevalent QSO location being North Carolina at 15. The distance from ZF to Florida is around 600 kilometers – 373 miles. That short a distance would require a relatively high elevation angle – one that the F<sub>2</sub> region couldn't support just yet due

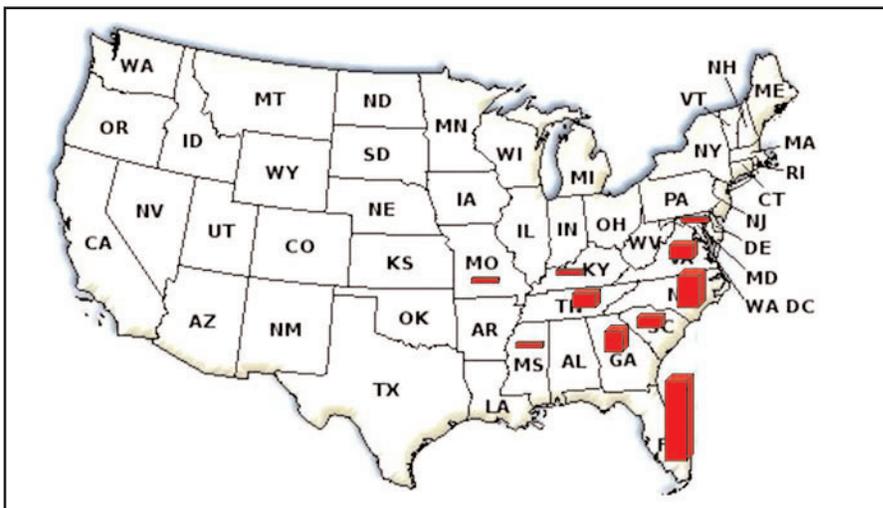


Figure 1 – Friday Evening QSOs

to the low smoothed sunspot number. It could have been F<sub>2</sub> scatter, but the signals were strong.

These two issues (low sunspot number and strong signals) suggested refraction via sporadic E. Sporadic E is most prevalent in the summer months, but there is a minor peak in winter.

Figure 2, an ionogram on Friday evening from Eglin Air Force Base in the western panhandle of Florida, confirms that sporadic E was occurring in the vicinity of the ZF to Florida path. The echoes that extend to about 4.7 MHz at a virtual height just above 100 km – 62 miles – are due to sporadic E.

Joe started operating Saturday morning. He arrived at the station around sunrise to catch any possible European opening (not likely, but you have to be there just in case). As we expected, nothing major happened to Europe. He did work a handful of North American stations early, but it wasn't until just before 10 a.m. that the propagation switch turned ON. Stateside QSOs were exceptional in number and signal strength. He also worked a handful of Europe stations.

Vicky relieved Joe a little later in the morning, and as expected her female

voice attached to the ZF1A call attracted a big crowd. Much of it was short-skip to the U.S., but they all counted. Vicky and I alternated at the radio every couple hours (I caught up on e-mail when she operated, and she read when I operated). When we quit around 8:30 p.m. Saturday, we had just over 1,100 QSOs in the log. We looked forward to (and hoped for) similar propagation on Sunday.

Unfortunately, Sunday was as bad as Saturday was good. We didn't have any long-duration sporadic E – just brief spotty openings that produced weak signals. Joe did have a brief run in the afternoon, but we mostly searched and pounced on Sunday.

Figure 3 consists of two ionograms from the aforementioned Eglin AFB – one for Saturday afternoon and one for Sunday afternoon. The lack of sporadic E echoes on Sunday tells the story nicely. I should mention that some sporadic E showed up at times in the Eglin AFB ionograms on Sunday, but definitely not to the same extent and magnitude as on Saturday.

We did have many strong South Americans via trans-equatorial F<sub>2</sub> propagation Sunday afternoon, along with a good run of VK/ZL stations. So the F<sub>2</sub>

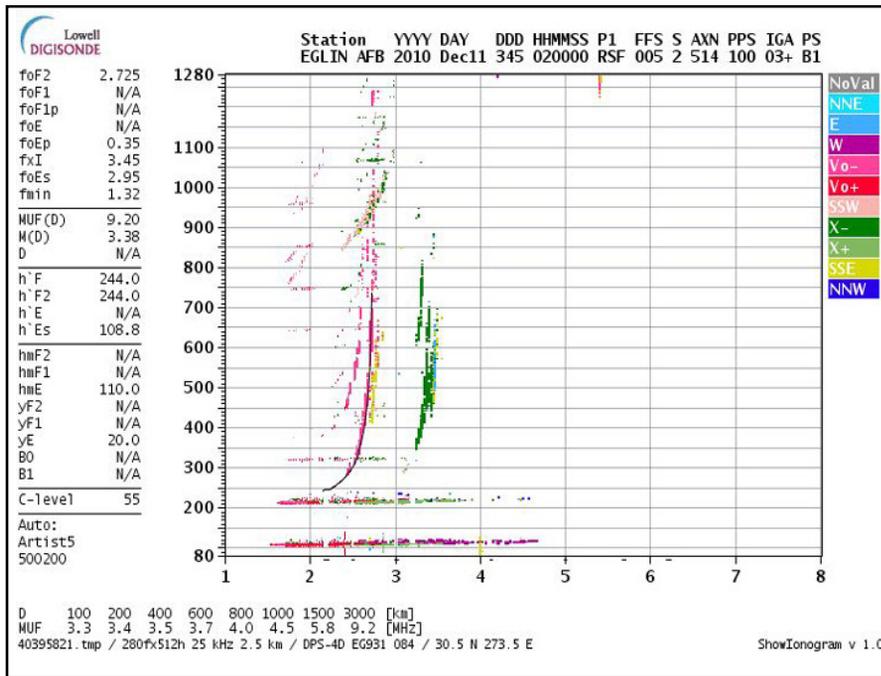


Figure 2 – Friday evening ionogram

region was alive and well, although not at a level to produce any good European openings or JA openings (in fact, we didn't even hear a single JA during the contest – but we did have a great JA opening on 17 meters Monday afternoon when Vicky and I were playing around with our ZF2 calls).

Vicky, Joe, and I ended up with just over 1,400 QSOs at the end of the contest (pretty much equally split between SSB and CW), so Sunday only produced about one fourth of what Saturday did. We are grateful for the sporadic E openings on Saturday – it made the 10-meter Contest much more interesting. Our consolation is that 2011 should be even better with

respect to F<sub>2</sub> propagation as long as Cycle 24 continues its ascent. We don't know if we'll head back to ZF this year, but it's nice to dream about doing it again.

Three final comments are in order. First, the June 2007 column about measuring the ionosphere introduced ionograms. Look for a future column that will dig into more detail about what all those echoes and colors mean.

Second, you might want to view N6BV's PVRC (Potomac Valley Radio Club) webinar about sporadic E in last July's WRTC contest (World Radiosport Team Championship). Dean's presentation is titled *HF Propagation and Sporadic-E, a Case Study: WRTC 2010*,

Build a Better Antenna with DX Engineering!

Lowest Prices on Hustler  
BTU Vertical Antennas!



- 4-BTV: covers 10, 15, 20, and 40m
- 5-BTV: covers 10, 15, 20, 40, and 75 or 80m
- 6-BTV: covers 10, 15, 20, 30, 40, and 75 or 80m

Secure Online Ordering: [www.DXEngineering.com](http://www.DXEngineering.com)

Order by Fax: 1-330-572-3279 24 hrs./7 days

Order by Phone: 1-800-777-0703 Mon.-Fri. 8:30 am-4:30 pm EST

Product Support Line: 1-330-572-3200 Mon.-Fri. 8:30 am-4:30 pm EST

Personalized Skywave Propagation Programs

- SKYCOM 2.0 — \$35.00 (includes P/H)
- all WINDOWS OS
- Hourly HF Predicts & Beam Headings from your QTH to over 400 worldwide prefix areas
- Path Loss calculation identifies optimum path openings
- Comprehensive Technical Manual

ENGINEERING SYSTEMS INC.  
P.O. Box 1934 • Middleburg, VA 20118  
E-mail: [w4het@aol.com](mailto:w4het@aol.com)

The BEST in Mobile Mounts



[www.w9iix.com](http://www.w9iix.com)

4421 West 87th St.  
Hometown, IL 60456  
Phone: 708-423-0605  
Cell: 708-337-8172  
Fax: 708-423-1691



and you can find it at: < <http://bit.ly/gyKc8> >.

Third, thanks to Reinisch, B.W., I.A. Galkin, G. Khmyrov, A. Kozlov, and D.F. Kitrosser, Automated collection and dissemination of ionospheric data from the digisonde network, *Adv. Radio Sci.* (2004), 2:241-247 for the ionograms of Figures 2 and 3.

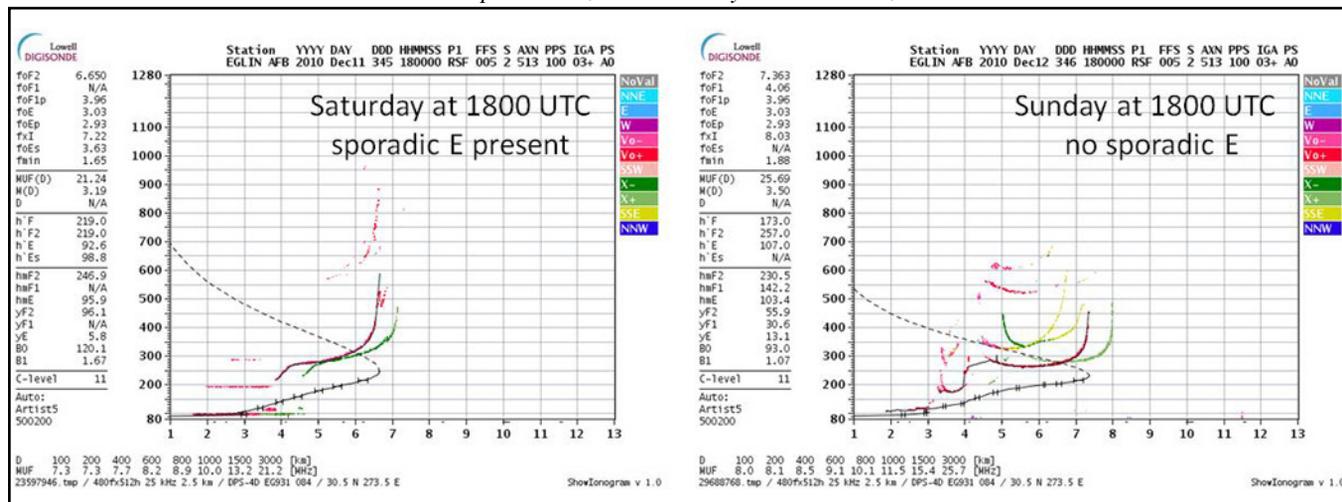


Figure 3 – Sporadic E - Saturday versus Sunday



# Stand and Deliver

## An Easy-to-Make Fixed-Portable T-FR Mast On a Bicycle Built for One

By Richard Fisher, KI6SN



No need to worry about finding suitable trees to hoist your antenna when a bicycle, some PVC and a handful of other lightweight hardware are all you need for a portable mast in the most rural of locations. (Photos courtesy of KI6SN)

In January's *Trail-Friendly Radio* we wrote about a simple portable 2-meter J-pole that seems to have the half-life of Bismuth (which, by the way, is about  $4.6 \times 10^{19}$  years) – at least where reader interest is concerned. The antenna first appeared in *WR* eight years ago, and the mail about it is still coming in.

At KI6SN we particularly like throwing this W4RNL (SK)-designed *Loose-Wire*

*Double Radiator J-Pole* in a backpack, jumping on the mountain bike and heading out to who-knows-where for a bit of VHF FM simplex or repeater operation.

We could carry a slingshot, fishing line and string to pull the J-pole high into a tree – if there's a tree around. That's not always the case, though. And, frankly, shooting lines can sometimes be time consuming and a hassle.

A bicycle can be a great antenna mast support, and you don't need to weigh yourself down to make it happen.

With just a few pieces of PVC pipe, joint fittings and a bungee cord you can have a nifty antenna support that easily fits in your backpack and takes just minutes to put up and take down.

Since many mountain and touring bikes don't have a kickstand, four pieces of lightweight nylon string and tent pegs are all you need to create the kind of mast base that will support just about any antenna the T-FR enthusiast might consider.

No, you're not going to get tremendous height if you choose to keep your mast simple and guy-free. Further, the antenna you put on it – VHF/UHF or HF – must be very lightweight. But the price you pay in diminished height and load-bearing limit are more than offset by the mast's ease of use and functionality.

Here's everything you need.

### KI6SN Bicycle Mast Parts List

- All PVC pieces are one-inch diameter
- 3 three-foot-long plastic PVC pipe sections
- 3 PVC in-line pipe couplers
- 1 PVC T-joint
- 1 six-inch-long PVC pipe section
- 4 tent pegs
- 4 pieces of nylon string, 6-foot, 9-inches long with a bowline knot loop on each end
- 1 three-foot-long bungee cord
- 1 bicycle, your choice
- NOTE: For a video on how to tie a bowline knot, visit: <<http://bit.ly/fYJ15b>>

### And Here's the Drill . . .

After you've pedaled to a nice operating location – perhaps above the tree line – empty the backpack and start getting your act together. First, pull out the four pieces of lightweight nylon string and tent pegs. They're your "kickstand."



Four nylon strings and tent pegs make a feather-weight “kick stand” to keep your bike mast support upright, solid and secure.



A three-foot-long bungee cord is used to strap the bottom part of the PVC mast to the bicycle frame.

Nothing magic about the 6-foot, 9-inch length of the nylon strings, by the way. At 6+ feet, though, they form a nice, broad base to hold up my bicycle. And making each string identical in length and with its knots, you don’t have to fumble around figuring which to choose. They’re all the same.

Next, place your bike in the location you’d like it to be standing. Put one tent peg in the ground about six feet to the side and slightly back of your rear wheel. Loop the bowline knot on one end of the string around the peg. Now pull the string taut and put the other bowline knot around the bike seat, which you’ve pulled upright.



Bowline knots on each end of the four nylon strings make attachment to tent pegs and the bicycle a snap.

Take the second string and loop the bowline knot on one end around the bike seat. Pulling gently, extend the second string until both the first and second strings are taut and the bike is standing vertical. Position the second tent peg similar in distance from the bike as the first. Stick the second peg in the ground and loop the bowline knot on the second string around it.

Using the handlebars, repeat the procedure on the front end of the bike with the third and fourth strings and tent pegs. In about three minutes your bike – like your airline tray table – is in its *full upright and locked position*. A sturdy mast support, indeed.

Now it’s time to assemble the nine-foot-tall mast. Again, there’s nothing magic about these dimensions. It’s just what suited us at KI6SN.

The three 3-foot sections of PVC are joined using three in-line PVC couplers. At the top of the mast is a PVC T-joint. A 6-inch-long section of PVC pipe is plugged into one side of the T to create a short horizontal support from which to dangle the J-pole.

We start mast assembly by grabbing one piece of 3-foot PVC and popping an in-line coupler on top of it. Then put the pipe parallel to the bike frame's main vertical support (the one with the seat on top of it), and solidly strap the PVC pipe to it with the bungee cord.

Now assemble the top portion of the mast by in-line coupling the two remaining 3-foot sections. Put the T-joint and 6-inch horizontal section on the top. When it's all together, simply plug the assembled top mast section into the top of the PVC pipe you've already bungeed to the bike frame.

*Presto.* There's your nine-foot mast!

After you've coupled your J-pole and feed line together, it's a simple matter of pulling off the top mast section, hanging the antenna to the 6-inch horizontal PVC piece and re-inserting the



**A 6-inch-long piece of PVC extends horizontally from the T-joint at the top of the mast for easy J-pole hanging.**



**Handlebars secured with nylon strings make a nice surface on which to place the HTX-202, microphone and external speaker for 2-meter FM simplex and repeater operation.**

top part of the mast into the bottom part. Connect your radio to the hanging feed line and you're ready to transmit.

Taking things apart is just as easy. Simply go through the steps in reverse – including dropping the bike.

Accompanying photographs show how it all looks when it's together. *Easy, or what?*

The backpack, antenna support, bike supporting string and pegs, feed line and radio gear add up to a little more than four pounds here – hardly noticeable when you're pedaling along the trail. Our handheld is a vintage Radio Shack HTX-202 transceiver, which is not the most *svelte* 2-meter FM brick in the house. There are much lighter-weight options out there.

Here's an added bonus: If you're heading out under questionable skies, toss in a homebrew tarp made from cut-and-taped plastic garbage bags. If the rains come, or the sun is stifling, throw it over the strung-and-pegged bike and you've got a nice little shelter.

You can even cut a one-inch hole in the center of the tarp to allow your mast and feed line to come through. There are all sorts of possibilities.

In Southern California, where open 2-meter FM repeaters abound, we're able to hit most of the machines we can hear with the J-pole/bike mast combination. On simplex, even at only 9-foot antenna height, we've been amazed by how much more efficient the J-pole is over the HTX-202's rubber duckie. Signals that had been inaudible are full quieting when the J-pole is plugged in. We've made simplex contacts 60+ miles away at 5-watts with no sweat.

This is no serious VHF contesting set up, for sure. But for the sheer 2-meter FM fun of it, the KI6SN Bike-Mast combo is worth a try.



**With the longest pieces just three feet in length, even a small backpack makes a nice carrying case for the portable mast. Fully loaded with antenna parts and radio gear, the sack weighs less than five pounds.**

# March Madness at the CQ Store

FREE shipping on orders of \$100 or more!

## HF Antenna Collection

RSGB 252 pages.



A collection of outstanding articles and short pieces which were published in *Radio Communication* magazine. Includes single- and multi-element, horizontal and vertical antennas, extremely small transceiving and receiving antennas, feeders, tuners and more!

Order: RSHFAC \$33.00

## Understanding, Building & Using Baluns & Ununs

by Sevick, W2FMI

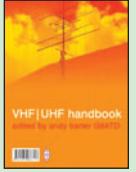


Successor to the popular and authoritative Baluns and Ununs. New tutorial material, and designs with crystal clear explanations of how and why they work.

Order 2BU \$19.95

## VHF/UHF Handbook

Edited by Andy Barter, G8ATD  
RSGB 320 pages.

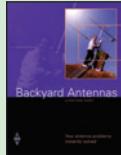


Guides you through the theory and practice of VHF/UHF operating and transmission lines. Includes information on getting started, antennas, constructing your own equipment, satellite ops, local nets and specialized modes.

Order: RXVUH \$29.50

## Backyard Antennas

RSGB 208 pages



Antenna guru Peter Dodd explains how using a variety of simple techniques make it possible to achieve very high performance from a compact antenna.

Order: RSBYA \$33.00

## The Short Vertical Antenna and Ground Radial

by Sevick, W2FMI



Small but solid guide walks you through the design and installation of inexpensive, yet effective short HF vertical antennas.

Order SVERT \$10.00

## HF Antennas for Everyone

Edited by Giles Rad, G1MFG  
RSGB



No matter the size of your available space - you'll find antenna designs that will help you get your signals in and out!

Order: RSHFAE \$27.95

## Virtual Radar Explained

By Mick Richards, G4WNC  
RSGB



The reception and plotting of ADS-B transmissions for aircraft. Great for aviation enthusiasts.

Order: RSVRE \$16.95

## Sloper Antennas

By Weigl, OE5CWL



Single- and Multi-Element  
Directive Antennas for the  
Low Bands

With calculations and practical experience, this book shows which basic concepts have to be considered for the low bands.

Order SLOPER \$24.95

## HF Amateur Radio

RSGB 2007 Second Edition



This full revised and expanded second edition guides you through setting up an efficient amateur radio station, equipment to choose, installation, the best antenna for your location and MUCH more.

Order: RSHFAR \$23.00

## Guide to VHF/UHF Amateur Radio

By Ian Poole, G3YWX  
RSGB 112 pages



Everything you will need to help you enjoy VHF/UHF to the fullest. Choosing the right transmitter, receiver, antenna, utilizing the correct part if each band and more!

Order No. RSGVUAR \$16.00

## MIL SPEC Radio Gear

Korean to Present Day



by Mark Francis, KIØPF

Detailed write-ups: PRC-25/-77, RT-68, GRC-106, GRR-5, R-392 and more. 230+ pages of ops, mods & tips.

Order MilSpec ~~\$27.95~~ \$15.00



## Collins Radio Repair & Tune-Up DVD Guides

From Hi-Res Communications, Inc., these well-produced, authoritative DVDs cover all the most common repair and tune-up subjects on these classic radios. It's like having an experienced professional right next to you!



**Collins KWM-2**  
2 disc set, 236 minutes  
Order No. C-KWM  
\$89.95



**Collins 75S-3/32S-3**  
2disc set, 226 minutes  
Order No. C-75S  
\$89.95



**Collins 30L-1**  
Single Disc, 61 minutes  
Order No. C-30L  
\$39.95

## HF Antennas For All Locations

by Les Moxon, G6XN



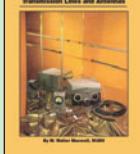
RSGB 322 pages

Details the design and construction of hundreds of amateur antennas. You'll sure to find one antenna in this collection that will work for you!

Order RSHFAAL \$33.50

## Reflections III

by Walter Maxwell,  
W2DU



Includes all the information in Reflections I & II and much, much more! This fully revised and updated, this 424-page, third edition is truly a must have!

Order REFLEC \$39.95

Shipping & Handling: U.S. & Possessions-add \$7 for the first item, \$3.50 for the second and \$2 for each additional item. FREE shipping on orders over \$100 to one U.S. address. CN/MX-\$15 for 1st item, \$7 for 2nd and \$3 for each add'l. All Other Countries-\$25 for 1st item, \$10 for 2nd and \$5 for each additional.

CQ Communications, Inc., 25 Newbridge Road, Hicksville, NY 11801

Call: 1-800-853-9797 • Fax: 516-681-2926 • website: www.cq-amateur-radio.com



# The Perfect Storm: Veterans vs. Young Guns On the DX Ladder

By Kelly Jones, NØVD

In the January and February editions of *WorldRadio Online*, I recounted my firsthand experience on what it was like to organize, arrange and put a *new country* on the air as a member of the PJ4D DXpedition team on Bonaire last October.

It was truly a singular experience – quite possibly a once in a lifetime opportunity. However, as we advance in our *DX careers*, the opportunity for putting *new ones* in the log becomes more of a challenge.

This month I thought we might stroll down a more lighthearted road as we take a look at our pursuit of those precious DXCC entities. My longtime friend Paul Dunphy, VE1DX, has captured a fisheye look at ourselves – as DXers – when it comes to climbing the DXCC ladder.

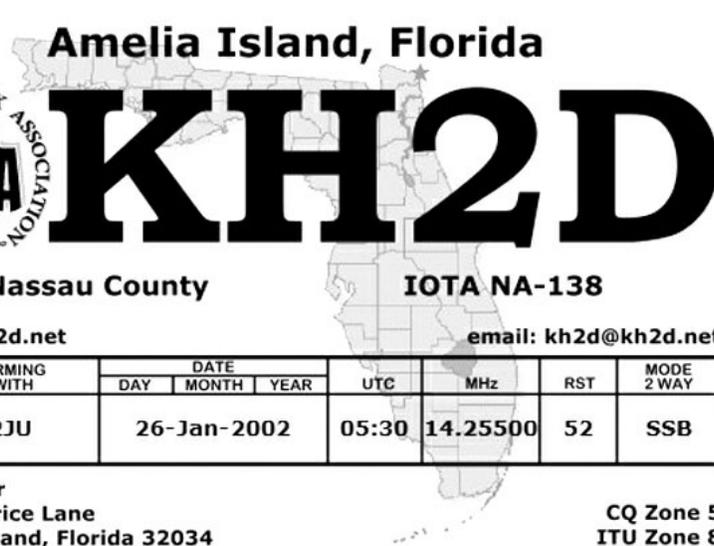
## Once Upon A Time . . .

“One of the Eternal Enigmas of DXing that plagues newly-minted QRPer is that big-total DXers are always old DXers. It’s one of the Mysteries of the Ages why the list-stompers – those who question if the sunspots will return next cycle; those who fret and worry about whether or not their last one will be blessed by the DXCC desk – are all members of the Quarter Century Wireless Association. And some joined the QCWA a heck of a lot longer than a few years ago, too.

“Just the other day one of the local QRPer came storming around the curve of the hill and beat his way up to see us. This one was one of the more heavy QRPer and by the time he made it to the veranda and flopped himself down in the chair, he was puffing so hard he couldn’t talk.

“He kept wiping the sweat from his forehead and trying to slow down his breathing. We weren’t sure if the sweating and puffing was due to his mood or the exertion of his 5-foot-5 and a half-inch frame hauling all of his 230 pounds up the hill.

**Amelia Island, Florida**





**MARIANA ISLANDS DX ASSOCIATION**  
SAIPAN TINIAN ROTA  
**MIDWA**  
GUAM  
OF THE DXCC & CONTESTING  
FOUNDED 1987

KH2D

**Nassau County IOTA NA-138**

http://kh2d.net email: kh2d@kh2d.net

CONFIRMING QSO WITH	DATE			UTC	MHz	RST	MODE 2 WAY
	DAY	MONTH	YEAR				
KH2JU	26	Jan	2002	05:30	14.25500	52	SSB

**Jim Kehler**  
2500 Caprice Lane  
Amelia Island, Florida 32034

**CQ Zone 5**  
**ITU Zone 8**

**With visions of Guam in his head, the QRPer asks: “How many of these east coast geezers have a KH2 on 160 and 80 with S9 plus 30 written in the log both ways?” Who were they to burst his DX-a-licious bubble? (Courtesy of WRO)**

“Finally he turned to us and said: *What is wrong with those big gun Honor Roll types? The guys who have them all worked, or maybe only need one or two to finish things off?*

“We each scratched our head for a minute and looked at the QRPer. Here we were, prepared to take in one of the first warm days of spring without putting out a lot of energy, and we were now staring down the barrel of a loaded question. We’d found in the past it is often a good idea to answer a question with another question, so we tried the standard evasive maneuver.

“*Did you work any new ones in the recent CQWW or ARRL contests? We tried completely ignoring the original topic. The local was not to be deterred. No!* he barked, threw the switch and shifted right back onto the same track. *What’s*

*wrong with these old guys? They have everything worked, and all they try to do is discourage me. They tell me if I work anything on a DX list, it’s spoon feeding and not real DX. So I stopped that. There’s a 9J that only ever comes up on a DX net, but I guess I’ll have to wait for a non-list one to show up, right? We decided a non-committal poker face was the best approach.*

“*And I worked this guy signing KG4 for my first Guantanamo Bay contact. Then one of the old guys told me he really was in Georgia, and that I should know that two letter suffixes are Guantanamo and three letter suffixes are in W4 land. So I asked him how he knew all this stuff, and he told me it was experience! Experience, he said! How am I supposed to get experience when I only have 132 countries? This guy has them all. He even worked*

that 70 group a few years ago. When I tried to tell him that I needed around 200 he ignored me and started complaining that it took nearly 10 years for their QSL cards to be accepted by the DXCC desk. He said I should worry about real DX like that. It seems the only thing in his life worth thinking about was if the 70 would count! These old guys have too much spare time!

“We looked at the QRPer for a second and said: *What else would you expect him to say? DXers always think logically. Do you think these fellows reached Honor Roll without a lot of deep thinking and logic?*”

“*Logic! What logic is there in that?* the QRPer asked. *I need around 200, and they use every excuse they can to slow me down. Stay off lists, they say. Work them on CW, they tell me, or it isn't really a good one. Don't count any contest QSOs toward DXCC. Don't use DX Clusters, they insist.*”

“*They tell me I'll never really have as good a DXCC as they do because they did it when it was hard. Now they tell me the FCC is giving away ham tickets, and the DXCC program isn't checking the operations out well enough! So even if I were to make Honor Roll in the next 5 or 10 years, their Honor Roll would be better than mine – except for the 70. They say that's real DX. I think these old guys all are out to get me!*”

“The QRPer threw up his arms in despair. It was clear he was thinking hard. For quite a while he didn't speak at all. Then he said in a dejected voice: *They might be right. Maybe I can never be as good as they are. I am playing the game with different rules and newer technology. But why do they have to be so condescending?*”

“We looked at him again and said: *They aren't condescending at all. They are just looking at things from their perspective. To them, their entire DXCC worth depends on working a good 70.*”

“*Old DXers need new countries, and they are almost out of them, we said. And these old DXers tend to live in a world apart, a world they know and enjoy, but with experiences and comprehension not known by younger DXers like you. The 70 seems to meet their criteria... or something. Look at the bright side – they get a new one every year or two, maybe it's even longer between new ones for most of them. You get a new one or two every week. Everything is relative, son. You know that Albert always said that, and was Albert ever wrong? Remember, if you can endure, you can always survive.*”

“The QRPer thought a bit longer, and he brightened up. DXers, especially local QRPers like this one, are eternal optimists. *You're right! And I sure scooped them last week, anyhow! Remember I was up here telling you about how I just hit grey line perfectly. That one chance you get, maybe every 10 or 15 years? When I worked KH2D on 160 and 80, back to back and we were both 30-over? Why that sort of propagation only happens once every cycle, and you have to be there to catch it. Fifteen minutes once every 11 years! Maybe I am just as good as they are. How many of these east coast geezers*

*have a KH2 on 160 and 80 with S9 plus 30 written in the log both ways?*”

“We thought long and hard and leaned forward, our elbow on our knee and our fingers scratching our forehead idly. ‘Take from no man his dream,’ we'd often heard the Old Timer say. We were afraid to look up, for we didn't know if we could resist the impulse to ask the QRPer from where he thought Jim was operating.

“We thought just a moment longer and sat back in the chair, finally rationalizing our position. If the QRPer had KH2D logged on 160 and 80, who were we to burst the Guam bubble? So we stood him up and patted him on the back. We congratulated him as he started back down the hill. *Hang in there, we told him. You seem to have a talent for finding the low band path to the Pacific. There's a KH7 somewhere waiting for you on 160. Go get him and let those old guys worry about the 70. Remember, those old DXers live in a different world than you.*”

“Son of a gun! Things were moving in the right direction and we were feeling good again. The QRPer was hippity-hopping and jiggling down the hill in spite of his size. There was a new spring in his step. Wake Island on top band! We wondered who he'd find on 160 signing KH7. We threw our support behind the QRPer. *Don't ask and they won't tell!* we mentally shouted at him. Our hope was he wouldn't work KH7M, though! DX IS! Be a Believer.”

*That's it for this month's column. Thanks to Paul Dunphy, VE1DX, for his humorous take on chasing DXCC entities. I look forward to hearing your comments, complaints or whatever is on your mind. If you have a story or opinion you would like to share, please send it to me at [n0vd@dxcentral.com](mailto:n0vd@dxcentral.com). I'll do my best to include it in an upcoming column. Also look for me on Facebook or Twitter and until next time, see you in pileups!*

## The DX Store

Amateur Radio Equipment for DXers!



Whether you're operating from halfway around the world or just up the hall from your living room, you want equipment you can count on to perform... You want



[sales@dxstore.com](mailto:sales@dxstore.com)

[www.dxstore.com](http://www.dxstore.com)



# Looking Ahead (And Back) At Repeaters and VHF/UHF Relay Communications

By Bill Pasternak, WA6ITF

I'll start out by saying in my humble opinion neither D-Star, APCO-25 nor any other digital voice system is going to rebuild the level of repeater use to what it's been in years past. The *revitalization* – or increased use of repeaters – is a *human problem* not a technical one.

The human problem is a declining interest in VHF / UHF relay communications.

The overall interest in relay communications seems to be on the decline for reasons I'll explain in this month's column.

Some people are swift to blame the decline on the latest round of restructuring of the service. They are quick to report – without any basis in fact – that all the folks who used to be on repeaters moved to the high frequency spectrum (HF) using so-called paper upgrades. But the spectral loading on HF belies this.

If all the folks now gone from repeaters across our nation were now on HF, the bands would be far more crowded than they have ever been. The manufacturers and dealers would be dancing with joy and issuing daily press releases quoting massive sales increases in HF transceivers and antenna systems. *Neither has happened.*

I suspect that many of those who became hams to use repeaters as an inexpensive, family-based utility communications service have moved to cellular telephones. This is because cell service is now affordable to almost every income level.

In many cases, multiple *smart phones* that can text, access the Internet, stream music and the like are given away free of charge by the service provider just to get entire families to sign up.

With *smart* cellphones providing at least the aura of privacy – if not the reality – I suspect a lot of former ham radio families are now there. Other *repeater-only hams* simply tired of the hobby in general and have moved on to other interests outside amateur radio.

In theory, a significant number of new licensees reported in the FCC database (as of this writing approaching an all-time high near 700,000) should be replacing those dropping off repeaters. And they should be showing up on the HF bands, as well. Again, neither seems the case. Tune the bands – HF or VHF. You just do not hear them.

Maybe those who want to operate on HF are awaiting better propagation? The upper HF bands – where DX tends to be and where antenna sizes are reasonable – are pretty dead.

At this moment I'm monitoring 15 meters with an antique, but mint Kenwood TS-520S and ground-mounted MFJ 9-foot base-loaded vertical. This area tends to be electrically quiet and a decade ago, with the same radio and antenna, all of the bands



In Southern California repeater history, here is the original Los Angeles WA6TDD 2-meter AM repeater, circa 1960s, as it lived in the garage of its builder Burt Weiner, K6OQK, before its installation on Mt. Wilson. The equipment in the rack starting from the top: A greatly modified ARC-4; a 35 millimeter film MCW identification loop; a monitor speaker and amplifier; a repeater logic including a Veeder - Root "Beep" counter;" audio mixer and early AGC audio processing; remote control relay interface strip; and ARC-1 receiver and it's power supply.

(Courtesy of Burt Weiner, K6OQK)



**What a difference a decade can make. The WA6TDD/WR6ABE repeater atop Mt. Wilson, circa 1975. This picture was taken by JA1FQO who made a special trip from Japan to see the now world-famous repeater which by then was FM. More historic pictures of the evolution of the WA6TDD repeater are on-line at: < <http://wa6tdd.tripod.com> >**

were loaded with activity. Now, I can count the number of stations on two hands. (To be sure the TS-520 had not gone dead, I switched to the FT-847. It heard about the same number of stations, albeit more clearly than on the TS-520S.)

Nonetheless, activity on HF is not what one would expect with all the supposed rollover of former repeater folks to HF. So, where are they? They are not on our repeaters or on HF. Likely, gone from the hobby.

In my opinion, *digitalization* of the hobby is not going to bring them back.

D-Star, APCO 25 (or whatever other digital ciphering that may be introduced to amateur radio) will impact VHF and UHF emergency communications more than any other facet of the hobby.

While these communications concepts might initially attract a small number of people who feel the need to be on the so-called cutting edge of technology, the rest of the rank and file will not jump on the digital bandwagon until there is enough of an established user and relay system

base to make the switchover worthwhile.

Likely, that base will come from those involved in emergency communications work and who see digital voice and data as a way to greatly improve their communications through-put.

Once they establish the digital user base and draw significant numbers away, will there be any real impact on those still on FM? In other words, when the only way for *Joe Ham* to talk with his old buddy who has gone digital is to go digital himself, will Joe make the leap? For most reading this column, it's not likely to happen in our lifetime.

I think D-Star will prevail over APCO 25 or any other form of digital cipher in eventually replacing FM for VHF / UHF relay communications. This is mainly because ICOM has a very smart marketing division that is being very aggressive in putting as many D-Star radios and repeaters as possible into the hands of users before any competing radio system is brought to market.

It's good business because the company is creating an exclusive market for a well thought out, high-tech communications system. And with no competing product line, who is there to challenge them?

On the other hand, for APCO-25 proponents, there are no off-the-shelf, *made exclusively for ham radio* transceivers available in the U.S. marketplace and none on the horizon. Maybe it is a "better system" as its proponents claim, but without a radio that can be purchased brand new at a price comparable to or lower than that of D-Star and with all the "bells and whistles" features of D-Star – in amateur radio, P-25 is an *also ran*. The Betamax vs. VHS war of the mid-1970s to mid-1980s proves my point.

Unlike the early days of FM when we hams were a bit more technically inclined and converted Motorola 40Ds and GE Pre-Pros to two-meter FM, most of today's radio amateurs are not going to buy a surplus radio and convert it to ham use – even if the conversion is simply a software change.

While there will always be experimenters using APCO 25 and other ciphers, the reality is that *Joe Ham* will buy the advertised product when the time comes to make the change. He wants to plug it in and have it work flawlessly, right out of the box.

Manufacturers are going in lots of different directions. ICOM's D-Star is in the U.S. marketplace; the rumored Kenwood

*The Standard By Which All Others Are Judged*

# MAXIMUM PERFORMANCE WITHOUT COMPROMISE

**X510HDN & X510HDM**  
**High Power Antenna**  
 Diamond Antenna's best base antenna. Designed for strength and performance, the X510HD Series is pretuned to achieve maximum gain in both the 2m and 70cm amateur bands.

**X50NA**  
 The X50NA is an excellent choice where ruggedness is required in a medium-gain, dual-band, base/repeater application.

**5G7900A & 5G7900ANMO**  
 One of Diamond Antenna's® Supergainer® "top of the line" mobile antennas.

For detailed specifications on Diamond's Base & Mobile Antennas, please go to  
[www.diamondantenna.net](http://www.diamondantenna.net)  
 Available through selected quality dealers.  
**770-614-7443**

**RF PARTS**  
COMPANY

Diamond Antenna  
Division

D-Star compliant radio may exist in Japan but it is not here as yet. Instead, Kenwood has integrated Echolink into a part of its product line.

Yaseu (Vertex - Standard) has its WIRES II system while Alinco has proprietary digital voice.

At least for now, ICOM-supplied D-Star appears to be the digital front runner and by default may become the world-wide digital standard on VHF and UHF for combined voice and data utility and emergency communications.

While D-Star will increase the *utility* of any repeater adopt-

### Update: What's Happening On the 4-Meter Band?

Thanks to Charles Lo Verde, N3WVB, several other contributors and listings on the Internet, we have a list of countries with existing 4 meter (70 MHz) amateur band allocation.

N3WVB says for those not aware of propagation possibilities on 4 meters, European stations and others report Sporadic E is common on the band in summer, tropospheric propagation is marginally more successful than on the 6-meter band and propagation via Aurora Borealis and meteor scatter is highly effective.

Where possible, we are listing known government authorized frequency assignments or centers of operation by a given nation's hams. While no North American country yet has granted a 4 meter allocation, working cross band on 6 or 10 meters across the Atlantic has been a common practice for several years. With that in mind, here are the countries with allocation and where to listen for 4 meter stations if you have the capability to do so:

#### Countries With Known 4-Meter Band Allocation

Aland Islands  
Azores  
Croatia (70.000-70.450 MHz)  
Republic of Cyprus  
Denmark (69.9875-70.0625, 70.0875-70.1125, 70.1875-70.2875, 70.3125-70.3875 and 70.4125-70.5125 MHz)  
Estonia (70.140-70.300 MHz)  
Faroe Islands (70.0125-70.0625, 70.0875-70.1125, 70.3125-70.3875 and 70.4125-70.4875 MHz)  
Finland (70.000-70.175 and 70.225-70.300 MHz)  
Gibraltar  
Guernsey  
Greece (70.200-70.250 MHz)  
Greenland (70.000-70.500 MHz)  
Ireland (70.125-70.450 MHz)  
Isle of Man  
Jersey  
Luxembourg (70.150-70.250 MHz)  
Madeira  
Monaco (70.000-70.500 MHz)  
Namibia  
Norway (70.0625-70.0875, 70.1375-70.1875, 70.2625-70.3125, 70.3625-70.3875 and 70.4125-70.4625 MHz)  
Portugal (70.1570-70.2125 and 70.2375-70.2875 MHz)  
Romania (70.000-70.300 MHz)  
United Kingdom (70.000-70.500 MHz)



A *You Tube* video posted by Víctor Ucha Rodríguez, EA1GAR, gives a glimpse –and listen – of the 4-meter band from Spain. To see it, visit: < <http://bit.ly/f9dAb4> >. (Courtesy of *You Tube*)

Slovakia (70.250-70.350 MHz)  
Slovenia (70.000-70.450 MHz)  
Somalia (70.000-70.500 MHz)  
South Africa (70.000-70.300 MHz)  
St. Helena  
The Sovereign Base Areas on Cyprus

#### 'Experimental' Countries

There are several nations which have granted limited or time limited 4 meter access. In these *experimental* countries, authorities granted amateur radio experiments on the band for a limited period of time and to specific license class holders.

Czech Republic (70.100-70.300 MHz)  
Germany (69.950 MHz center frequency)  
Belgium (69.950 MHz center frequency)  
Hungary (70.000-70.500 MHz)  
Italy (70.0875-70.1125, 70.1875-70.2125 and 70.2875-70.3125 MHz)  
Spain (70.150 and 70.200 MHz)

#### With 4-Meter Beacons only

Guinea Bissau.

By the time you read this column there may be additional administrations that have approved a 4-meter allocation for their nation's amateur radio community. We will bring you updates as we receive them.

ing it, whether or not it leads to an overall increase in the number of users is anyone's guess. Only time will tell.

## A Capsule History of Early Repeater Linking

*No 70 cm repeaters in the 1950s, you say? How wrong you are! In reality, that's where the FM relay craze began. And if Art Gentry, W6MEP, were still alive he would tell you so!*

While it took the rest of the nation a decade to catch up, by 1958 hilltops all over California were peppered with repeating devices. Most are what we now call 70 cm *Remote Base* systems, but they were – and are – repeaters nonetheless.

When I made my first visit to California in 1963 I was treated to a demonstration of a state-wide 70 cm inter-tied amateur radio network that was already a half decade old – as was the nation's first repeater coordination organization: The California Amateur Relay Council. I'm told it still exists, at least on paper.

Using an old tube-type Motorola trunk mounted radio, and a rotary dial telephone in his car, the ham demonstrated this repeater inter-tie to me in the parking lot of the old Henry Radio Store when it was still adjacent to the I-405 Freeway.

By dialing in sets of numbers he was able to link 450 MHz systems the length of the state and talk to San Diego to the South as well as up North to San Francisco and Eureka almost as if they were 30 miles away in Pasadena. He could activate 2-meter receivers and transmitters in various remote locations as well, to take part in those regions' local activities.

Art's own K6MYK repeater, which was a 2 meter repeater (first AM and later FM) was controlled on both 220 MHz and 70 cm using a fairly high-power two-way remote base link from his home in the San Fernando Valley.

Like the mobile operator who could link statewide, Art used a rotary dial Stroger system controlling a relay maze at the then-repeater site atop Mt. Lee – home of the famed Hollywood sign.

When Art and his wife Millie moved to Oregon, I was given the 220 MHz control receiver front end as a working souvenir. Specifically, it was a 220 MHz Tapetone converter, circa 1958, that I still have sitting in the closet.

The history of repeaters on all ham bands traces back to the early experiments that Art Gentry began in the late

1940s and culminated with his establishing K6MYK in the 1950s.

For that he was awarded the Dayton Hamvention's first-ever Technical Achievement Award in the 1980s. After he passed away, his friend Bill Arens, N6NMC, took over the repeater and was able to get Art's W6MEP callsign transferred to a memorial club that now operates the repeater using the W6MEP call as a tribute to the man who started it all.

A film record of the early days of UHF repeater and remote base operation in California exists in the form of a pair of 16mm full-color sound motion pictures titled *Once Upon a Mountain* and *We Cover Sagebrush*. Both were produced by the White Porcelain Radio Network. (No kidding. That was the name and logo in the credits.) The films were shown at radio club meetings for years. I first saw both at a meeting of the Palisades Amateur Radio Club of Culver City in 1972. The older of the two films had been produced in 1960 and the latter in 1962. As I write this month's column I've been promised a copy of each on more modern DVD.

– de WA6ITF

\*\*\*\* THE WIREMAN, INC™ \*\*\*\*

\*\*\*\*\* 800-727-WIRE (9473) \*\*\*\*\*

Still, after 28 years, the "Keywords" for "Certified Quality" Wire, Cable, Connectors, Accessories, and Service. See it all at [www.thewireman.com](http://www.thewireman.com) Tech help 864-895-4195 SOUTHWEST US? Call (866)745-WIRE (9473) for TOP WM dlr CLEAR SIGNAL PRODUCTS [www.coaxman.com](http://www.coaxman.com) or [wire@coaxman.com](mailto:wire@coaxman.com)

• Tear-resistant • Synthetic paper

**Rugged Waterproof All Weather Amateur Radio Log Books**

ASA Inc. • PO Box 454 • Glenwood, NJ 07418

**WaterProofLogBooks.com**



**THE ISOTRON ANTENNA**

Great Things Come in Small Packages!

- Great Performance
- Single Band Models
- 1000 Watts PEP
- Portable Operation
- Easy Installation
- Multiband Models
- No Radials
- Maritime Operation

American Made—Our 30th Year!

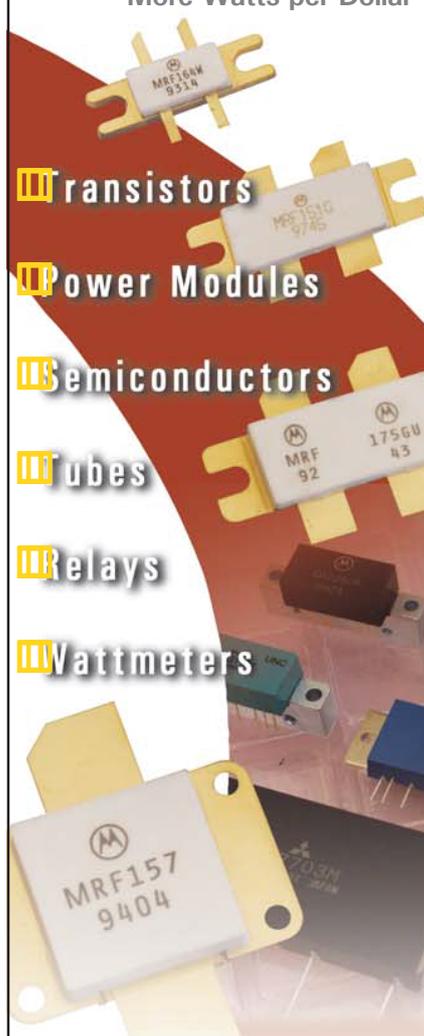
[www.isotronantennas.com](http://www.isotronantennas.com)

[wd0eja@isotronantennas.com](mailto:wd0eja@isotronantennas.com)

**BILAL COMPANY • 719-687-0650**

*From*  
**MILLIWATTS**  
*to*  
**KILOWATTS**<sup>SM</sup>

More Watts per Dollar<sup>SM</sup>



**Transistors**

**Power Modules**

**Semiconductors**

**Tubes**

**Relays**

**Wattmeters**

VISA MasterCard American Express Discover

**ORDERS ONLY:**  
**800-RF-PARTS ☐ 800-737-2787**

*Se Habla Español* ☐ *We Export*

**TECH HELP / ORDER / INFO: 760-744-0700**

FAX: 760-744-1943 or 888-744-1943

*An Address to Remember:*  
**www.rfparts.com**

E-mail:  
[rfp@rfparts.com](mailto:rfp@rfparts.com)



**RF PARTS COMPANY**



# Creative Experiments to Capture Young Peoples' Imagination

By Carole Perry, WB2MGP

**M**any years ago when I was a substitute teacher – going into different classrooms, sometimes several times a day – I learned the value of stockpiling interesting and exciting lesson plans to get the students' attention.

As a regular teacher in the same Staten Island middle school for nearly 30 years, I needed to have an arsenal of unique lessons to keep my students interested and involved.

Now in retirement, as I visit schools across the country in my capacity as a volunteer for RCA (Radio Club of America), to lend support to schools needing help in starting or continuing radio/technology programs, I always come armed with my special folder on *Creative Experiments*.

Many of the incredible teachers and instructors I am involved with have terrific programs that make use of “tried and true” experiments to demonstrate principles of electronics, electricity, magnetism and radio phenomena.

Al Eckman, WW8WW, in Lowell High School in Michigan, Jim Mayercak WX8J, at Dresden Elementary School in Ohio, and Rip, NVØM, and Ellie Van Winkle, NØQCX, are some of the excellent instructors using creative approaches to excite young students in ham radio.

I'm happy to share some of the more successful “fun” experiments that I've used through the years. As a teacher, you'll know the value of being able to pull something different out of your sleeve right before a holiday vacation, or when the kids are in a “droopy” mood after intensive studying for big exams, or when they're just plain bored.

So have fun, and don't forget to let your own enthusiasm and love for amateur radio shine through in all that you do with the kids.

The beauty of the following experiments is they can be adapted to any age level or ability. I've done most of these with middle school-age students, but also with special needs classes, elementary school kids, and high school students as well.

### Homemade Lightning

The science that produces a lightning bolt is an electrical discharge. In the case of real lightning, the charge would go from cloud to cloud or cloud to earth. In our classroom experiment the distance is approximately the breadth of a fingernail. As with any experimentation or lesson, you can set the mood by providing the drama. You can dim or shut off the lights for the big moment.

**Materials:** thumbtack, aluminum foil pie plate, glue, ballpoint pen, 12-inch by 4-inch by 1-inch Styrofoam® block, wool sock.

**Procedure:** First, push the thumbtack from the back of the pie plate through the center. Second, press the non-writing end of the pen into the tack point, securing with glue if needed. Third, quickly rub the Styrofoam® block with the wool sock.



**A student creates a dollhouse that is wired with a simple alarm to learn about the principles of electricity.**  
(Photos courtesy of WB2MGP)

Next, using the pen as a handle, pick up the pie plate – not touching the plate itself.

The fifth step is to put the pie plate down carefully on the Styrofoam®. Make sure you are holding the pen when you place the pie plate on the Styrofoam®. Otherwise the excess electrons will flow undramatically from Styrofoam® to pie plate to finger. Now, for the drama, turn out or dim the lights. Bring your finger closer and closer to the pie plate. You should see, hear, and feel a small spark. Tell the class you've been *zapped*.

**Lesson Learned:** Rubbing the sock causes negatively charged electrons to flow from the wool to the Styrofoam®, giving it a negative charge. Similar charges (positive and positive or negative and negative) repel each other, so the electrons of the Styrofoam® cause the electrons in the pie plate to move away from the Styrofoam®. The electrons are waiting to escape from the pie plate, but cannot move through the pen because it's an insulator. They can, however flow through the human body and jump across the small gap to your finger.

### Keep Your Hands Steady

Here is a fun hands-on lesson the kids can do under adult supervision that can then be used as a game to test the students' steadiness.



**In the Homemade Lightning experiment, students learn about negatively and positively charged electrons and how they flow, then follow up with further experiments.**

**Materials:** A metal coat hanger, a simple buzzer circuit, two lumps of electrical wires with 1.5 inches (3.75 cm) at each end stripped bare of insulation, a two-foot-long wire, steel wool, some clay.

**Procedure:** Use steel wool to remove coating or lacquer that may cover the coat hanger. A good suggestion is to do this part of the lesson outdoors or by an open window. Untwist the coat hanger and bend it into a large U.

Make several bumps (loops) in the middle section of the U. Stand the hanger up by setting its ends into lumps of clay. Assemble the battery of two D-cells. Attach an electrical wire from one base of the hanger to one terminal of the buzzer.

Attach another electrical wire from the other terminal of the buzzer to one of the ends of the battery. Now attach the two-foot-long (60 cm) electrical wire to the other end of the battery. Bend the free end of the two-foot-long wire into a small loop that fits around the coat hanger.

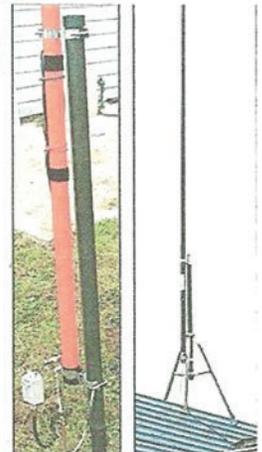
The object of the game is to move the wire loop along the entire path and not make contact with the wire.

**Lesson Learned:** In order to win, you must maintain an open circuit. If your hand is not steady, the loop will make contact with the conductive hanger. Once contact is made, the circuit becomes complete and the buzzer sounds to announce your defeat.

### Secret Switch

In this demonstration the class will construct an alarm device and use it within a circuit.

## Eagle One Antenna



★ Home & Portable Operation

★ Roof-Ground-Mobile Mounts

★ 160 Through 6 Meters

★ Restricted Area

★ American Made

Web Sites For orders and pictures how to use.

w8afx.com

eagleoneantenna.com

S&G Engineering  
Proctorville, OH • 740-886-6077  
w8afxw8gms@yahoo.com

**CQ VHF** Ham Radio  
Above 50 MHz

*The magazine for the  
VHF/UHF Enthusiast*



Within the pages of CQ VHF you'll find more meaty reading aimed at the really serious VHFer. That's what our surveys told us you wanted and that's what we deliver!

By taking advantage of our subscription specials you'll save money and have CQ VHF delivered right to your mailbox. Only \$26 for four information-packed quarterly issues. Or better yet, enter a two or three year subscription at these special prices. As always, every subscription comes with our money back guarantee.

**1 year only \$26.00**

**2 years \$52.00**

**3 years \$78.00**

Canada/Mexico - 1 yr \$36, 2 yrs \$72, 3 yrs \$108;

Foreign 1 yr \$39, 2 yrs \$78.00, 3 yrs \$117

Payable in U.S. dollars

**CQ VHF Magazine**

25 Newbridge Rd, Hicksville, NY 11801

www.cq-vhf.com

FAX : 516 681-2926 • Toll-Free: 800-853-9797



A simple electric circuit is easy to construct and is a valuable tool for teaching young people about the flow of electricity.

**Materials:** Two electrical connecting wires with 1.5 inches (3.75 cm) at each end stripped bare of insulation, a simple buzzer circuit, 10-inch by 3-inch (25 cm x 7.5 cm) cardboard, a pair of scissors, two-inch-long (5 cm) strip of aluminum foil, adhesive tape.

**Procedure:** Cut a strip of cardboard about 10 inches long by 3 inches wide. Fold the strip in half to form two 5-inch-long sections. Wrap the middle of each section with a 2-inch-long

strip of aluminum foil. Use tape to secure the foil. Attach two 1-foot-long (30 cm) wires to the outer side of each foil strip. Attach these wires to a series circuit that contains two 1.5 volt cells and a buzzer. Place the folded cardboard beneath a carpet or mat. Be sure the weight of the carpet doesn't press the halves together. Once the alarm detector is *set*, the fun begins when someone from another class steps on it – activating the alarm.

**Lesson learned:** This alarm device is a pressure switch. The weight of the carpet is not enough to fully press the cardboard halves together. Therefore, the circuit remains open. When the unsuspecting student steps on the carpet, however, his or her added weight closes the circuit. Once closed, the current will flow from the battery to the buzzer and will sound the alarm.

### What It All Adds Up To

The art of breaking up tedious technical lessons with simple experiments and demonstrations that everyone can participate in, using principles learned in class, is a great teaching technique.

Hopefully, when the students in your class get asked the classic parental question: *What did you do in school today?*, YOUR students will answer with the word “fun” in their response.

### Resources to Consult for Unusual Experiments

These books offer good ideas for unusual classroom experiments:

*Awesome Experiments in Electricity & Magnetism* by Michael DiSpezio.

*The Book of Totally Irresponsible Science* by Sean Connolly.  
*Electricity* by Graham Peacock.

## CQ's "Getting Started" series now available on DVDs!

**Our renowned Getting Started videos have been grouped together on DVDs!**

**CQ Ham Radio Welcome Pak 3 in 1 - Three programs on one DVD for only \$24.95**

**Ham Radio Horizons** - An introduction for the prospective ham to what our hobby is all about.

**Getting Started in Ham Radio** - How to select equipment, antennas, bands, use repeater stations, grounding, basic soldering.

**Getting Started in VHF** - Intro to VHF. Repeater usage, VHF-DXing, satellites and more!



1 Pak....\$24.95  
2 Paks....\$45.95  
3 Paks....\$65.95



**CQ VHF Specialty Pak 3 in 1**

Three programs on one DVD for only \$24.95

**Getting Started in Amateur Satellites** - A newcomer's guide through the equipment, techniques and jargon of satellite communications.

**Getting Started in VHF** - Introduction to VHF. Repeater usage, VHF-DXing, satellites and more!

**Getting Started in Packet Radio** - How to set up the necessary equipment and get on the air on Packet. No theory . . . just the nuts and bolts of how to do it!

**CQ HF Specialty Pak 2 in 1 - Two programs on one DVD for only \$24.95**

**Getting Started in DXing** - Top DXers share their tips and techniques to help you hold your own!

**Getting Started in Contesting** - Learn from the experts. Practical advice, no complicated jargon!



Purchase 1 Pak for \$24.95 - 2 Paks for \$45.95 - or get all 3 for only \$65.95!

Buy any combination in quantity and save!



CQ Communications, Inc. • 25 Newbridge Rd., Hicksville, NY 11801  
Order Today! 1-800-853-9797

# DX Predictions

## MARCH 2011

Maximum usable frequency from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 1934, Middleburg, VA 20118). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa-Kenya/Nairobi, Asia-Japan/Toyko, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio de Janerio. Smoothed sunspot number = 22.

Chance of contact as determined by path loss is indicated as bold \*MUF for good, plain MUF for fair, and in (parenthesis) for poor. UTC is hours.

### WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
10	(10)	10	*18	(9)	*16
12	(15)	9	*16	(8)	(13)
14	21	9	*13	16	*23
16	24	*12	*16	18	*29
18	*25	(11)	(14)	17	*30
20	*24	*19	22	(14)	*31
22	20	*22	28	(10)	*31
24	17	*21	*31	(9)	*30
2	*15	*20	*32	9	*24
4	*12	17	28	8	*20
6	(11)	*12	*25	*10	*17
8	(11)	*11	*21	(9)	*15

### CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SA
8	(11)	*9	*18	(9)	*15
10	(13)	9	*16	(8)	*15
12	22	8	*15	16	*18
14	24	9	*18	*19	*26
16	26	(9)	16	*19	*29
18	*26	(8)	(14)	*17	*30
20	*24	16	23	14	*31
22	20	19	28	(10)	*31
24	*16	19	*31	9	*30
2	*14	16	29	9	*24
4	*12	(11)	*26	8	*20
6	(11)	(10)	21	*9	*17

### EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
7	14	(9)	*18	*8	*16
9	(14)	*8	*16	12	*13
11	*27	10	*14	*18	*18
13	*31	(9)	*20	*20	*24
15	*31	(9)	17	*20	*27
17	*33	(8)	(15)	*19	*29
19	*27	(12)	(19)	16	*31
21	*22	18	26	11	*31
23	*19	18	30	*10	*30
1	*16	(14)	29	9	*27
3	*15	(10)	25	9	*22
5	*15	(9)	21	8	*19

### ELECTRIC RADIO MAGAZINE



In circulation over 20 years, ER is a monthly publication celebrating classic equipment that was the pride of our shacks just a few years ago. Send \$1 for a sample:

ER, PO Box 242  
Bailey, CO 80421-0242  
720-924-0171

NOW OFFERING VINTAGE EQUIPMENT REPAIRS  
[WWW.ERMAG.COM](http://WWW.ERMAG.COM)

### Ten-Ten International Net, Inc.



PROMOTING THE USE OF  
TEN METERS SINCE 1962



Awards-QSO Parties-Special Events-PaperChasing

Nets Daily (except Sunday) on 28.380 and 28.800 at 1800z

**CHECK US OUT ON THE WEB**

[www.ten-ten.org](http://www.ten-ten.org) / [www.10-10.org](http://www.10-10.org)



643 N 98th Street - #142  
Omaha, NE 68114-2342

### VIBROPLEX®

The Vibroplex Co. Inc.  
2906 Tazewell Pike, Suite A2B  
Knoxville, TN 37918 800-840-9973  
Morse code keys, parts, accessories, logo items  
[www.vibroplex.com](http://www.vibroplex.com)

### handhams

Ham Radio for people with disabilities since 1967

• License manuals and books on tape

COURAGE HANDI-HAM SYSTEM  
763-520-0511 hamradio@courage.org  
3915 Golden Valley Rd., Golden Valley, MN 55422



### Licensed 1986 or Earlier?

QCWA invites you to join with those distinguished amateurs licensed 25 or more years ago. Request an application from:

QCWA, Inc., Dept. WR  
PO Box 3247  
Framingham, MA 01705-3247  
USA





# 2010 YLs in the News – And Events to Fill the 2011 Calendar

By Cheryl Muhr, NØWBV

**A**fter ARRL Field Day, summer just seemed to fly by and then it was time for winter and lots of amateur radio.

Many YLs were recognized in 2010 for outstanding contributions to the hobby while 2011 is a year for YL events!

I hope to see you on the air and around the country with all the YLs participating in ham radio.

## Youth Columnist Wins Award

**Emily Bishop, WE4M**, who writes the Youth Column for *YL-Harmonics*, learned on August 1 that she was to receive the Hiram Percy Maxim Memorial Award presented by the American Radio Relay League each year to a ham under the age of 21 for their work in amateur radio.

“I could not believe it,” Emily said. “I thought it was a joke but I was assured by **Mickey Cox, K5MC**, ARRL Delta Division Director, that the award would be presented to me. I was overjoyed. It is an honor for me to receive the Hiram Percy Maxim Memorial Award. I will continue my work in amateur radio by spreading the word to other young hams about the joys and opportunities there are in this hobby we love so well.” *Congratulations, Emily on a job well done.*

## Leona Senez, VE7ONY, Wins CLARA Award

In 1965, **Doris Cody, VE3BBO**, was a founding member of the Ontario Trilliums and in 1967 was involved in the formation of a national club for YLs – The Canadian Ladies Amateur Radio Association – CLARA.

Doris did a great deal during her lifetime to encourage YLs to be active on the air and to enjoy their hobby. She became a silent key in January 1999. At that time CLARA established in her name an Achievement Award to be given each year to a YL who, like Doris, made a significant contribution to amateur radio.

The award was established to run for five years but was extended for another five years. In its final year, the Doris Cody Achievement Award has been presented to **Leona Senez, VE7ONY**.

To quote Leona upon accepting the award: “For years before I became a ham I was a tree climber to set up antennas, an assistant to my **OM John, VE7ONX**, as he soldered wires and, I must admit, complained about the noise coming through the radio and telephone. My eventual acceptance of amateur radio has certainly given me many rich experiences and the joy of so many CLARA friends.”

Here’s a snapshot of VE7ONY’s tenure in amateur radio:

- Licensed – 1994. Advanced License – 1995
- Member of Orchard City Amateur Radio Club 1994 – 2005. Secretary for 3 years.



**The Canadian Ladies Amateur Radio Association Doris Cody Achievement Award is presented to Leona Senez, VE7ONY, left, by Betty Ann Barton, VA7BAB.**  
(Courtesy of CLARA)

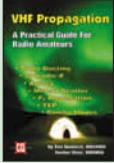
- Member of Emergency Operations Center Radio Communications Group.
- Member of Emergency Social Services in 1995. Trained with ESS for 15 years. During 2003 forest fires in Kelowna she worked in EOC as Emergency Social Services assistant to the Director.
- Assists as communicator for many local activities such as the Penticton Ironman, Ski to Sea races and the Senior Games held in Kelowna.
- GOTA weekend camp program for Canadian Girl Guides.
- Coordinator for school’s ski program. Taught ski instructors radio communications using GMRS radios. Carried a 2-meter radio in case of accidents with groups skiing in the program.
- CLARA Vice-President – 2007 to 2009. Encouraged all to participate in HF contests and kept 20-meter net and logs.
- Member of BCYLARA – 1996-2008. Assisted with the silent auctions for the conferences held at the coast and the conference held in Kelowna.
- Member of YLRL – 2009

## Buckeye Belles to Celebrate a Milestone

The Buckeye Belles will be celebrating their 50th Anniversary in 2011. A program is being planned for the summer for past and present Buckeye Belles and their families.

# March Madness at the CQ Store

**FREE shipping on orders of \$100 or more!**



## VHF Propagation

by Neubeck, WB2AMU & West WB6NOA

A comprehensive source-book on VHF propagation by two great authors. Includes: Tropo ducting, Aurora, Meteor Scatter, TEP, Sporadic-E, Combo Modes and more!

Order VHF PROP \$15.95

## A Year of DX

by Bob Locher, W9KNI

Look over the shoulder as the author works country after country, in pursuit of the Holy Grail – winning the CQ DX Marathon.

Order No. YDX \$19.95



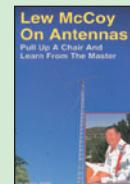
**NEW!**

## McCoy on Antennas

by Lew McCoy, W1ICP

Unlike many technical publications, Lew presents his invaluable antenna information in a casual, non-intimidating way for anyone!

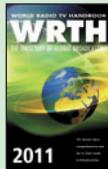
Order MCCOY \$19.95



## 2011 World Radio TV Handbook

Up-to-date info on medium-wave, shortwave, and FM broadcasts and broadcasters. Includes articles of interest to both listeners and DXers, reviews of the latest equipment, maps with SW transmitter sites and much more!

Order WRTH \$35.00



## "Up Two" by G3SXW

Are you a DX'er? Have you longed to be on the other side of the pile-ups? Do you dream of taking a rig to exotic locations? If your answer to any of the above questions is yes, this book is certain to bring you the vicarious thrills of operating from exotic places.

Order: UPTWO \$19.95

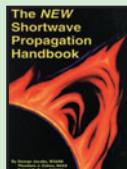


## The NEW Shortwave Propagation Handbook

by W3ASK, N4XX & K6GKU

This authoritative book on shortwave propagation is your source for easy-to-understand information on sunspot activity, propagation predictions, unusual propagation effects and do-it-yourself forecasting tips.

Order SWP \$19.95



## The Complete DXer

Third Edition

The joy of the chase, the agony of defeat, the thrill of victory are the stuff of The Complete DXer, a book that is almost as seductive as the DX chase it describes. It excites, it entertains, it teaches!

Order No. COMPDxer \$19.95



## HamRadio Anthologies



~~\$19.95~~ \$16 ea.

Buy all 4 for only \$60

Enjoy collections of the best material published in Ham Radio magazine, conveniently arranged by subject and original publication date.

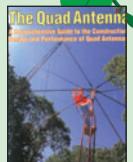
Homebrewing Techniques Order AHOME  
Test Eqpt & Repair Techniques Order ATEST  
Antennas - 1968 - 1972 Order ANTS1  
Antennas - 1973 - 1975 Order ANTS2  
All 4 for \$60 Order ASET

## The Quad Antenna

by Bob Haviland, W4MB

A comprehensive guide to the construction, design and performance of Quad Antennas.

Order QUAD \$19.95



## "Getting Started" DVD Paks

### CQ Ham Radio Welcome Pak

1 DVD contains 3 programs:  
Ham Radio Horizons  
Getting Started in Ham Radio  
Getting Started in VHF

Order HAMDVD ~~\$24.95~~ \$18.00



### CQ HF Specialty Pak

1 DVD contains 2 programs:  
Getting Started in DXing  
Getting Started in Contesting

Order HFDVD ~~\$24.95~~ \$18.00



### CQ VHF Specialty Pak

1 DVD contains 3 programs:  
Getting Started in Satellites  
Getting Started in VHF  
Getting Started in Packet

Order VHF DVD ~~\$24.95~~ \$18.00

Any 2 Paks only \$35.00 3 Paks only \$52.00



## 33 Simple Weekend Projects

by Dave Ingram, K4TJW

Do-it-yourself electronics projects from the most basic to the fairly sophisticated.

Practical tips and techniques on creating your own projects.

Order 33PROJ \$17.95

## Nifty E-Z Guide to PSK31 Operation

A Complete PSK31 Operating Guide!

Using DigiPan software as a basis, a detailed step-by-step approach is used for configuring your interface hardware, software and computer system for PSK31 operation. Detailed instructions and computer screen shots are provided for several Windows operating systems.

Order No. NIFEZ \$12.95



Shipping & Handling: U.S. & Possessions-add \$7 for the first item, \$3.50 for the second and \$2 for each additional item. FREE shipping on orders over \$100 to one U.S. address. CN/MX-\$15 for 1st item, \$7 for 2nd and \$3 for each add'l. All Other Countries-\$25 for 1st item, \$10 for 2nd and \$5 for each additional.

CQ Communications, Inc., 25 Newbridge Road, Hicksville, NY 11801

Call: 1-800-853-9797 • Fax: 516-681-2926 • website: www.cq-amateur-radio.com

If you are a past member please contact Annette Wood, KC8SQM, and let her know where you are and what you are doing now. There will be more information in upcoming Buckeye Belles newsletters.

### New Website for YL International Meet 2012

Tina Clogg, VK5TMC, writes in with a website update: "I have had several complaints about the last web page often not being up when people tried to access it. So I have taken out a new web page and hopefully this one will be better. It is an expanded version of the last one." <<http://www.YLInternational2012.com>>.

### Did I Say That? —Kay Craigie, N3KN on the Speech Circuit

**Kay Craigie, N3KN**, American Radio Relay League president, spoke at the ARRL Virginia State Convention in Virginia Beach in September and headed the ARRL delegation to the International Amateur Radio Union's Region 2 Conference in El Salvador in October.

She'll also be speaking at the ARRL Pacific Division Convention in California. On the air, Kay reports she has qualified for her VHF-UHF Century Club award on 6 meters from Virginia. The E-skip conditions in June were fabulous and she worked dozens of new grids on 6 meters.

### What Have YLs Been Doing?

Congratulations go out to **WX4LEE** (the all YL contest team: **Connie Beckwith, KJ4UNA**; **Deedie Matthews, KI4ERR**; and **Mary Moore, WX4MM**) who took high score phone-only in the Alabama QSO Party with 1,200 contacts in 10.5 hours. They had lots of fun and are aiming for 1,500 contacts this year!

**WX4MM** also made a trip to Alaska in August. She attended a reunion of those who worked the Iditarod race in the early years. Mary spent many hours doing communications for the race in 78-80.

She also organized the YLRL forum at the Huntsville, Alabama Hamfest. *Mary is one busy lady with radio!*

**Betty Jo Byrd, KB5CSQ**, writes: "The big news for **Ed, KA5VFU**, and me – We just poured a 5-foot by 5-foot and 7-foot deep hole full of concrete to install our second crank-up tower of 72 feet which is about a 100 feet from our other tower which will host our 40-meter beam, and not sure what else.

"Hope you YLs have been on the radio; bands have been real good lately – even 12 meters. Ed and I have been busy working DX the new PJ stations are up and running on all bands, RTTY and CW. Plenty to work. Some are simplex and others are split, so take your choice.

"I have also worked YL **Barb Linge, TO7ZG**, on 15, 20 and 10 meters. I was in the radio shack one day and heard two more YLs: **OX6YL** on 17 meters and **EA8MT**, Dunia, on 17 meters from the Canary Islands." *Great to hear all the YLs out there.*

Congratulations to **Helen Schlarman, WØAKI**, on receiving her General license. She recently went to a hamfest with **Cece Rongey, WØCMR**, who writes: "I asked her how old she was on our trip back. Do you know she is going to be 90 in March?"

"She was so flattered that I didn't remember her age because she certainly doesn't look and act like she'll be 90. Her voice is recognized on and off the air, and she had recently served as operator for our special event station **WØA** for the building of



The YL world was saddened with the passing of **Ethel Williamson, VE3DTW**, who had recently returned to amateur radio. She was 103. Her local amateur radio club – **ONTARS** – released a video of Ethel at one of its meetings: <<http://www.ontars.net/ve3dtw>>.

*(Courtesy of The ONTARS Net)*

the St. Louis Arch. She is well loved in the ham community and just loves to go mosey around with her walker at hamfests."

The **WACOM (Washington Amateur Communications) Club** is hoping to sponsor an all-YL licensing class this year. Many of the OMs in the club bring their wives, sisters, daughters, and, yes, mothers to the club social events.

Many of those ladies are a driving force for the good food at parties, Field Day, etc. Now they would like to get them licensed and active in the hobby.

### YL Returns to Japan

**Kay Eyman, WAØWOF**, recently had what must rank as the trip of a lifetime. She lived in Okinawa from 1966 to 1972 and in October 2010 had the opportunity to return. **Ton Uchiyama, JR6XIX**, and her **OM Dom, JR6XIW**, greeted her at the Naha, Okinawa airport.

She writes: "We did so much sightseeing in just a few days and it was incredible to see all the changes that have occurred. There was a BBQ, with some ham friends; a wonderful Okinawa International Women's Club luncheon; tours of Shuri Castle, the Peace Park, and a huge cave; shopping; a check-in to a Japanese YL net, and we even went looking for my two previous homes on Okinawa, only to find that both are now gone.

"I have to mention all the delicious food that Ton made. It was so good! And I even got to meet Dom's mother, who was very beautiful at the age of 104.

"The days passed quickly and on November 4, the three of us flew to Shanghai to attend **SEANET 2010**, which was another over-the-top experience. I think it was the best ham meeting I've ever attended, with so many nice people and very interesting tours.

"**Mio Miyoshi, JR3MVF**, had invited me to attend and we shared a room during the meeting. **Nori Tokura, 7K3EOP**, and **Do Sook Chae, HL1KDW**, were there and we had some great times together. Conditions weren't too good on the radio but I did make one U. S. contact on 20 meters.

“The meeting ended on November 9 and Dom, Ton, and I stayed in China to do some more sightseeing. They had arranged for a guide and a driver to pick us up in Shanghai and we drove down to Suzhou, which is an ancient city with many interesting sites, both old and new.

“On November 11, we went back to Okinawa, and enjoyed a memorable walk along (and in) the Pacific Ocean, which was just below their home. Between their home and the beach was some of the most beautiful scenery in Okinawa! I flew home the next day after enjoying an unbelievable two weeks – very thankful to be a ham!”

### VE3DTW: Sadly Missed YL Silent Key

I am sorry to report that **Ethel Williamson, VE3DTW**, suffered a stroke and soon after became a Silent Key. Ethel was 103 years old and recently got back into amateur radio.

Her local amateur radio club, ONTARS recently released a video of Ethel at one of its meetings: < <http://www.ontars.net/ve3dtw> >.

**Geddie Pawlowski, VE3CJX**, had this to send in about Ethel, who was a good friend of her mother's: “Sad news but not unexpected. She was a delightful and most interesting lady. It is the passing of an era. What memories, what experiences, what an attitude, what a life!

“I passed along the greetings and shared some shorter stories at her funeral. I'm blown away at how beautiful Ethel stayed all through her life and that is not to say she didn't have any hardships.

“I recollect after the BBQ earlier this year she was singing ditties in brogue and dialect. She was an entertainer at heart – hence the twinkle!

“The casket was closed at the request of the family but I personally would have loved to see her just one more time.”

### YLRL Convention July 21-24 in Massachusetts

A complete registration form for the 2011 YLRL Convention will be available in *YL Harmonics* in the January/February issue. This will include meals and tours. But to whet your appetite, here is a tentative schedule:

**Thursday:** Meet and Greet evening at the hotel in Quincy, Massachusetts.

**Friday:** All-day tour of Boston including Freedom Trail. Dinner TBA.

**Saturday:** YLRL General Meeting,

OM Tour, YL Luncheon, Tour of Adams Historical Sites in Quincy, YL-OM Banquet.

**Sunday:** Tour to Cape Cod including Marconi Site at Cape Cod National Seashore.

**Monday:** Optional Tour to ARRL Headquarters in Newington, Connecticut (minimum number required)

**Additionally:** There will be a Hospitality Suite open throughout the Convention. Mark your calendars and more news is coming soon at: < <http://www.ylrl.org> >.

*Sounds as if there will be a lot to do there!*

### In Closing . . .

With the 2011 YL-OM contest behind us, I am hoping for lots of you to let me know how it went.

I am hoping by the time this column appears in *WRO* conditions have made an improvement over early winter.

Let me know what you are up to and how your start to 2011 has been. Hope to see you on the air soon.

**JAMES E MACKAY**  
PHILATELICS, STATIONERY

OVERSEAS POSTAGE  
AIR MAIL ENVELOPES

P.O. BOX 270569  
WEST HARTFORD, CT 06127-0569  
(860) 521-7254  
e-mail: k3fn@aol.com

web site: <http://www.airmailpostage.com/>

**COAX-SEAL**  
"The Original Connector Sealant"

**MOISTURE PROOFS ALL COAX CONNECTORS**  
Universal Electronics, Inc.  
4515 Little Savannah Rd • Cullowhee, NC 28723  
(828) 293-2222 • FAX: (828) 293-2221  
[www.coaxseal.com](http://www.coaxseal.com)

**IIX EQUIPMENT LTD.** The Finest in Tower Accessories

GINPOLE KITS, Antenna Mounts, Standoff Brackets, Quadpods, Mast Adapters, Climbing Steps, Rotor Mounts, Mast Plates, Strap Brackets, Hot Dip Galvanizing, Custom Fabrication

Download a Catalog at [www.w9lix.com](http://www.w9lix.com)

**Order Online!** IIX Equipment Ltd.  
iix@w9lix.com 4421 West 87th St.  
708-423-0605 Hometown, IL 60456  
Cell: 708-337-8172 **Doug, W9IIX**  
Fax: 708-423-1691

**VIS**

invites you to visit us on the web  
See all the places we have been  
and the great products we stock.

CALL - 1-800-655-4267

**VIS AMATEUR SUPPLY**  
P.O. Box 284  
Coffeeville, AL 36524  
<http://www.visradio.com>

**James Pole Antennas**  
[www.jamespole.com](http://www.jamespole.com)

James & Joyce Pike  
760.780.6484  
kb6wht1@juno.com ~ kb6bld@juno.com

**Optimize Your Antenna With the Field-Proven AntennaSmith™ ...**

**TZ-900 Antenna Impedance Analyzer**  
*Designed for the field - portable and easy to operate with quick tuning and a high-resolution color display.*

FREE ARRL Antenna Book with every TZ-900

**... and Kill the Noise with the ANC-4 and DSP-599zx!**

■ DSP-599zx Audio Signal & Noise Processor  
■ ANC-4 Antenna Noise Canceller

Upgrades for PK-232, DSP-599zx & more!  
Call Us Now!

Available at:

- ◆ Universal Radio
- ◆ AES
- ◆ HRO
- ◆ Radio City
- ◆ R&L Electronics

See our TNCs & the HamLink™ family on our website

**TIMEWAVE**

651-489-5080 Fax 651-489-5066 sales@timewave.com www.timewave.com  
1025 Selby Ave., Suite 101, St. Paul, MN 55104 USA



# Looking At the QCWA and Member Communications

By Dave Hayes VE3JX

The Quarter Century Wireless Association uses various means to keep its members informed about the organization and events associated with it. Here's a snapshot of our various channels of communication:

## QCWA Website

A key component to this communication infrastructure is the QCWA website: < <http://www.qcwa.org/> >. It contains a variety of data and information. There are rosters, chapter listings, silent key listings and a host of other things that make up our organization.

There is a link from the homepage to the *Info Center*. It's like the table of contents of a book, with everything laid out in logical order. The *Site Index* is like the one you'd find at the back of a paper volume, with its references being in alphabetical order.

The *Info Center* has been designed as the central place you would want to start from in your search for the information.

## Membership Roster

The main headings on the *Info Center* page help organize the website's contents into various broad categories. For example, the link to the membership rosters is found in the *Members* section. When we follow that link, we get into a breakdown of the membership roster into sub-rosters labeled according to U.S. call sign districts (0-9), plus international members, including Canada, in one sub-roster (DX).

The full roster is updated annually each June 30 by our General Manager, Chuck Walbridge, K1IGD. So, we have a snapshot, so-to-speak, of the QCWA membership taken annually at mid-calendar year. In addition, there are the monthly *New Members* pages that list the new members inducted into the organization during that calendar month.

## Chapter Listings

From the *Info Center*, one can navigate to the current chapters listing. The cur-

rent (active) chapters are listed according to state, with the DX chapters listed at the bottom.

What constitutes an *active* chapter? As far as QCWA Headquarters is concerned, an active chapter is one which has submitted an annual report for the previous year. Of course, there is plenty of time allowed for a chapter to submit its report, but if a chapter fails to do so, it will in time be listed as inactive. The annual chapter report is not a difficult thing to do, but it does provide headquarters with a timely indication of the status of each local group, whether it is still functioning or has died.

Chapters are assigned sequential numbers, much like members. And, like member numbers, chapter numbers are not reassigned if a chapter dissolves or goes inactive. So, a chapter can easily be reactivated by the local group and it will retain its original number and charter. This brings us to another listing on the QCWA website, the *All Chapters* listing.

Unlike the *Active Chapters* listing which is geographical and in the form of a PDF document, the *All Chapters* listing, as an HTML page, is ordered by chapter number. The utility of this listing is in the hyperlinks that it provides to individual chapter pages. Thus, contact and meeting information is available for any chapter in which one might be interested.

## Constitution and By-Laws

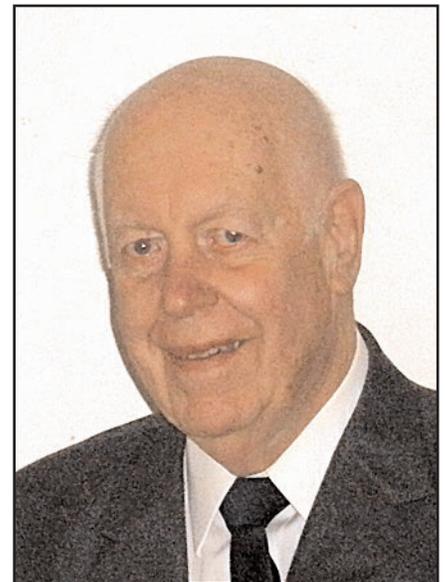
For those who would like to know more about the structure and operation of the QCWA, including the responsibilities of the individual official positions within the organization, the QCWA Constitution and By-Laws are provided on-line: < <http://bit.ly/hcUUKx> >.

## QCWA Journal

The *QCWA Journal* is our association's quarterly print magazine. Announcements, chapter reports, reports from our President and General Manager, QCWA



Bob Roske, NØUF, is QCWA Webmaster.



Croft Taylor, VE3CT (SK), a QCWA Past President and Director, will be greatly missed by the organization.



## VIRGINIA QCWA NEWS

Formerly: QCWA Chapter 119 Event Horizon

A Virginia Newsletter published weekly

This Issue: December 24 – December 31, 2010

Volume 5, Number 52

QCWA Chapter 91, Vic Clark – Washington, D.C.  
 QCWA Chapter 119, Inc. – Tidewater, Virginia Beach, VA  
 QCWA Chapter 137, Shenandoah Valley – Winchester, VA  
 QCWA Chapter 155, Virginia – Charlottesville, VA  
 QCWA Chapter 202, Old Dominion – Roanoke, VA

Hello, everyone. Sacre Bleu, No. 52! We did it. For the second year in a row, we managed to publish QCWA News each week. Oh, one or two issues may have been a day or two late, and perhaps one or two issues were a bit thin on 'news,' but the effort was made to put QCWA in front of your eyes at least once a week!

And why would we want to do that? Because you are busy people, and because you tend to be a bit forgetful. I think that 'forgetfulness' just may go with our demographic. There is no wish to fill up your In-Box with meaningless 'stuff,' but we do want to let you know that there is QCWA activity out there, and to let you know that we earnestly desire that you join in the fun.

Here's the title page of the QCWA Newsletter covering five Virginia Chapters.

happenings, and other articles of general interest make up its contents.

The *Journal* subscription is an integral part of U.S. membership, but it is an add-on for most international members. The reason it is optional for other countries is due to the much higher non-U.S. destination postal costs. Therefore, DX members are given the opportunity to purchase a subscription to the *QCWA Journal* at a rate commiserate with the delivery costs.

### QCWA Reflector

There is always a time-lag or delay in printing current information in any magazine, such as announcements of one sort or another. How can QCWA get this time-sensitive information out to its members? Enter the QCWA Reflector. It is a way to "broadcast" to the QCWA audience. Any member can join the reflector, and can also "post" messages to it.

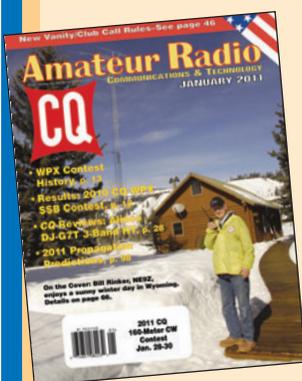
For example, a chapter in Florida is holding a membership meeting, and it wants to notify all those QCWA members who may be in the area at that time, but are not normally a part of its group. The chapter can put an announcement on the QCWA Reflector for starters.

One sad but necessary announcement that recently came out on the reflector was the passing of a beloved QCWA member – Croft Taylor, VE3CT. Among other positions held by Croft in the past was that of QCWA President from 2002 to 2004. Croft had a winter home in Florida and he was enroute there when he had a heart attack. He will be greatly missed by us all. *Rest in peace friend.*

The QCWA Reflector can be used as a place for discussion of ideas, problems and solutions associated with QCWA and

# If you enjoy Amateur Radio...you'll enjoy

## It's a different kind of ham magazine.



Fun to read, interesting from cover to cover, written so you can understand it. That's CQ. Read and enjoyed by thousands of people each month in 116 countries around the world.

### It's more than just a magazine. It's an institution.

CQ also sponsors these world-famous award programs and contests: The CQ World-Wide DX Phone and CW Contests, the CQ WAZ Award, the CQ World-Wide WPX Phone and CW Contests, the CQ World-Wide VHF Contest, the CQ USA-CA Award, the CQ WPX Award, the CQ World-Wide 160 Meter Phone and CW Contests, the CQ World-Wide RTTY Contest, the CQ 5 Band WAZ Award, the CQ DX Award, CQ iDX Award, CQ DX Field Award, CQ DX Marathon and the highly acclaimed CQ DX Hall of Fame. Accept the challenge. Join the fun. Read CQ.

**SUBSCRIBE TODAY!**

	USA	VE/XE	Foreign
1 Year	<input type="checkbox"/> 36.95	<input type="checkbox"/> 49.95	<input type="checkbox"/> 61.95
2 Years	<input type="checkbox"/> 66.95	<input type="checkbox"/> 92.95	<input type="checkbox"/> 116.95
3 Years	<input type="checkbox"/> 96.95	<input type="checkbox"/> 135.95	<input type="checkbox"/> 171.95

Please allow 6-8 weeks for delivery of first issue.

## CQ The Radio Amateur's Journal

25 Newbridge Road • Hicksville, New York 11801

www.cq-amateur-radio.com • Phone 516-681-2922 • FAX 516-681-2926

ham radio, as well. There is great benefit that comes from the consideration of the thoughts and creativity expressed by a variety of individuals; a *marketplace of ideas*, so-to-speak. An organization ignores such membership input at its own peril.

QCWA encourages all to become members of the QCWA Reflector. To join, follow the link, on the *Info Center* page of

### An Overview of QCWA Governance Structure

If you would like an overview of the QCWA's structure without having to read and decipher other QCWA documents, here's an overview:

Currently, there are eight directors and four officers that are elected every two years by mail-in ballot. The four officers are standard positions for any corporation; the QCWA is a not-for-profit corporation registered as such in the United States. Those four officers are: President, Vice President, Secretary, and Treasurer.

What is different about the QCWA's officers is that they are all elected by the *membership*, not the Board of Directors.

The eight QCWA directors, also membership elected, are not geographically oriented. – VE3JX

the QCWA website, for the "Reflector" in the "Members" subsection line. The resultant page will provide links to *Subscribe/Unsubscribe*, *View the Archives* and *Post a Message*. Non-members can view the Reflector's message archive.

### Chapter Newsletters

Individual chapters have established their own communications vehicles, such as regular bulletins or newsletters, covering news items of local interest. These may vary in frequency from weekly to quarterly.

There is one initiative, though, that I just have to tell you about:

For years, Vic Culver, W4VIC, has put out a weekly newsletter for his home chapter No. 119 (Tidewater – Virginia Beach, Virginia). However, this newsletter has just been expanded to include news from/for five QCWA Chapters in the state of Virginia and the District of Columbia.

They include: QCWA Chapter 91, Vic Clark - Washington, DC; QCWA Chapter 119, Inc. - Tidewater, Virginia Beach, VA; QCWA Chapter 137, Shenandoah Valley - Winchester, Virginia; QCWA Chapter 155, Virginia - Charlottesville, Virginia; and QCWA Chapter 202, Old Dominion - Roanoke, Virginia. And remember, this newsletter entitled: *VIRGINIA QCWA NEWS*, is a *weekly newsletter* averaging around 20 pages, distributed by e-mail as a PDF attachment! *Way to go, Virginia!*

### QCWA QSO Party

I have just received the dates for the two QSO Parties that QCWA has each year. For 2011, the dates are: April 2 and 3 for the Spring QCWA QSO Party, and the Fall QCWA QSO Party is on September 3-4.

The Party starts at 1800Z on the first date of each event, and runs for 24 hours. *All* radio amateurs are welcome to participate. You can find the rules and other information about this fun contest on the QCWA website.

Suffice to say that QCWA has all the *vehicles* in place to communicate well with its members. If you were a licensed amateur 25 or more years ago and are currently licensed (no need to be continuously licensed), then consider joining those who have a similar long-lasting love of radio: the members of the Quarter Century Wireless Association.

### An Overview of QCWA International Representation

The QCWA is at least somewhat international in its membership, with its members extending into Canada, Europe and around the world in many diverse countries.

True, most of its members live in the United States, but we can't forget our DX members. Therefore, with *all* Directors being responsible for *all* members worldwide, and being elected by all the membership, international members are represented by the QCWA governance structure as well as domestic ones. This is a very important concept, one that may not be noticed at first.

There are many other areas and features associated with the QCWA website, including history, our living heritage, silent key listings with descriptions, and so on. Why not explore it when you can? < <http://www.qcwa.org/> >. – VE3JX

## Visit Your Local Radio Club



### COLORADO

**Denver Radio Club (DRC)** meets 3rd Wed., 7:30 PM, El Jebel Shrine Temple, 4625 W. 50th Ave., Denver, CO. Learning/Tech sessions 6:30 PM. Oldest club in Colorado (1917). Net Sun 8:30 PM 145.490/448.625 rptr, w0tx@arrlnet: www.w0tx.org 01/12

### MICHIGAN

**Muskegon Area Amateur Radio Council** meets the 1st Thursday of every month at 7 PM at our clubhouse at 2888 Scenic Drive. Visit our website: <http://w8zho.org> 01/12

**Click here to have your club listed!**



# HAMFESTS & SPECIAL EVENTS

## MARCH

**FINDLAY, OHIO – Special Event Station W8FT**, from the Findlay Radio Club, celebrating 90 years of existence with a special event station beginning at 1300 UTC March 20, and running until 0100 UTC March 21. Operation will be on: 3.555, 3.855, 7.055, 7.260, 14.055, 14.255, 21.055, and 21.285 MHz. All contacts will receive a special QSL card from the club honoring the event.

**LAS CRUCES, NEW MEXICO – Special Event Station K5B**, operated by the Mesilla Valley Radio Club in Las Cruces, New Mexico, for the **22nd Annual Bataan Memorial Death March Marathon**. March 27 from 1000Z to 2300Z. Frequencies: 3.893, 7.225, 14.330, 21.337 MHz. For QSL, write: Special Event Station K5B, c/o Mesilla Valley Radio Club, PO Box 1443, Las Cruces, NM 88004-1443. For more information: < <http://www.n5bl.org/bataan> >.

**CHARLESTON, WEST VIRGINIA –** The ARRL-affiliated **Charleston, West Virginia Hamfest** will be held on Saturday, March 19, 2011 from 9 AM to 2 PM at the Coonskin Armory, 1707 Coonskin Drive in Charleston, WV. Admission \$5, Tables \$5. VE Testing at 12:30 PM. For more information,

contact Jim Damron, N8TMW, < [n8tmw@arrl.net](mailto:n8tmw@arrl.net) > or call (304) 965-5349. Visit: < <http://www.w8gk.org> > and click on Upcoming Hamfests.

## APRIL

**MARTINEZ, CALIFORNIA – Special Event Station K6M**. Martinez Amateur Radio Club operating April 16 from 1600Z-2300Z. . Operating from the John Muir House National Historic Site in celebration of the 173rd birthday of John Muir, father of the U.S. National Parks System. Frequencies: 14.255 and 21.350 MHz. QSL: Martinez ARC, 230 F St., Martinez, CA 94553.

**RALEIGH, NORTH CAROLINA – Special Event Station N4C**, operating from the 39th Annual Raleigh Hamfest and ARRL North Carolina State Convention. April 3, 8 a.m. to 3:30 p.m. EST, on approximate frequencies: 7.235 or 14.235 SSB, and 7.055 and 14.055 CW. QSL information: < <http://www.rars.org/hamfest> >.

*Have your hamfest or special event listed . . .  
click here!*

# 2011-2012 CQ calendar

15 months of value  
January 2011 through  
March 2012



Better than ever! This year's calendar will bring you 15 spectacular color images of some of the biggest, most photogenic shacks, antennas, scenics and personalities from across the country for only \$10.95!

Calendar includes dates of important Ham Radio events such as major contests and other operating events, meteor showers, phases of the moon, and other astronomical information, plus important and popular holidays. The CQ Amateur Radio Operators Calendar is not only great to look at, it's truly useful, too!

**\$10.95 ea.**  
+\$2 s/h



**CQ Communications, Inc.**

25 Newbridge Road, Hicksville, NY 11801  
Call 1-800-853-9797 • FAX 516-681-2926

[www.cq-amateur-radio.com](http://www.cq-amateur-radio.com)





# The Rules Say...

John B. Johnston, W3BE

## So, I'm a VE – Now What?

**Q** I have just been accredited as a volunteer examiner by a volunteer-examiner coordinator. Now what do I do?

**A.** Congratulations! You are now one of our 32,000 VEs. The Communications Act of 1934 (SEC. 4.(f)(4)) says that, for purposes of preparing or administering any examination for an amateur station operator license, the FCC may accept and employ the voluntary and uncompensated services of any individual who holds an amateur station operator license of a higher class than the class of license for which the examination is being prepared or administered. In the case of examinations for the highest class of amateur station operator license, the FCC may accept and employ such services of any individual who holds such class of license.

**Q. I am a General Class operator VE. Which examinations can I prepare and administer?**

**A.** Under Section 97.509(b)(3)(i), you – along with at least two other VEs - may administer an examination for a Technician Class operator license grant. Section 97.501(c) says that each applicant for a Technician Class operator license must pass or otherwise receive credit for examination Element 2. Section 97.507(a)(2) says that an Element 2 question set may be prepared by a VE holding General Class operator license grant. Under Section 97.523, you may also prepare questions for the Element 2 question pool maintained by the VECs.

**Q. How do I get started?**

**A.** If you are not already a member of one, volunteer your services to one or more VE teams whose examination sessions are coordinated by the VEC that accredited you. They will inform you if they can use your services.

**Q. Who is in charge of a VE team?**

**A.** The CVET (certifying VE trio) is accountable to the FCC. Section 97.509(i) says that when the examinee is credited for all examination elements required for the operator license being sought, three VEs must certify the examinee is qualified for the license grant and that the VEs have complied with these administering VE requirements. These certifying VEs are jointly and individually accountable for the proper administration of each examination element reported. They may delegate to other qualified VEs their authority, but not their accountability, to administer individual elements of an examination.

Whether your VE team consists of three VEs or 54 VEs – as it was at the 2010 Dayton Hamvention - all of the non-CVET

team members, regardless of their titles, are delegated their authority - but not any accountability - by the CVET.

Section 97.513 says that a VE session manager may be selected by the VE team for each examination session. The VESM must be accredited as a VE by the same VEC that coordinates the examination session. The VESM may serve concurrently as an administering VE and carry on liaison between the VE team and the coordinating VEC and organize activities at an examination session. If the session manager is not also one of the CVET, he or she has only whatever authority the CVET delegates and is accountable only to the CVET.

Section 97.509(e): No VE may administer or certify any examination by fraudulent means or for monetary or other consideration including reimbursement in any amount in excess of that permitted. Violation of this provision may result in the revocation of the grant of the VE's amateur station license and the suspension of the grant of the VE's amateur operator license.

**Q. What would I be expected to do?**

**A.** The tasks are clerical in nature. A typical VE team is comprised of some combination of numerous specialists: CVET, receptionist, QSC (question set custodian), proctor (exam room monitor), team money purser, graders, data uploader, team leader, session manager, the indispensable expeditor, et al. Often in smaller VE teams, jobs are combined. And sometimes a reader/transcriber is necessary to accommodate an examinee with physical disabilities. All are essential to achieving a successful examination session.

**Q. What job is best for a first timer?**

**A.** A proctor is probably the best job in which to learn the processes used by your team. Work your way into one of the other positions that suits you best.

**Q. What tasks must a proctor do?**

**A.** As a proctor, under Section 97.509(c), you have to be present and observing the examinee throughout the entire examination. The answers the examinees provide must come only from their personal knowledge. Arrange their seating such as to preclude any interaction between the examinees. Have them put aside any books or items that could conceivably aid them in answering the questions. Make certain they have the proper examination materials. Instruct your examinees to refrain from talking or making any unnecessary noises. If examinees have

a question, they should attract your attention by raising their hand. You should approach the person and converse at a whisper voice level. Refuse to discuss the content or meaning of any question. Immediately terminate the examination upon failure of the examinee to comply with your instructions.

This is a boring job. There may be a tendency to strike up a conversation with another proctor. Don't do it. Your examinees should be allowed to concentrate on their thoughts undistracted by unnecessary chit-chat or high noise level.

Allow your examinee to review his or her answers. Then collect all of the examination materials and instruct the person as to what to do next.

#### Q. What do the receptionists do?

A. Serving as a receptionist demands strong interpersonal skills: greeting apprehensive candidates as they arrive; putting them at ease; collecting the necessary personal information; confirming that the candidate is truly the person he or she claims to be; and determining which examination element they need to take. Some VE teams use personal computers to record the data. Good key-stroking and computer skills are essential.

Section 97.509((d) says that no VE may administer an examination to his or her spouse, children, grandchildren, stepchildren, parents, grandparents, stepparents, brothers, sisters, stepbrothers, stepsisters, aunts, uncles, nieces, nephews, and in-laws. Section 97.3(a)(27) defines an in-law as a parent, step-parent, sibling, or step-sibling of a licensee's spouse; the spouse of a licensee's sibling, step-sibling, child, or stepchild; or the spouse of a licensee's spouse's sibling or step-sibling. The receptionist usually assures that such does not occur.

#### Q. How about the QSC?

A. The Question Set Custodian keeps track of the VE team's supply of question sets for the three elements and assigns one to each examinee such that they are administered uniquely.

#### Q. And how about the graders?

A. Section 97.509(h) requires, upon completion of each examination element, the administering VEs must immediately grade the examinee's answers. The administering VEs are responsible for determining the correctness of the examinee's answers. The graders carry out this task.

Section 97.523 says that all VECs must cooperate in maintaining one question pool for each written examination element. The VECs want you to administer only multiple-choice question sets. They provide the correct answer and three incorrect answers for each question. A mechanical scoring device seems to be used such that you will choose to not rely upon your personal ham radio expertise.

#### Q. Reader/transcriber?

A. Section 97.509(k) says that the administering VEs must accommodate an examinee whose physical disabilities require a special examination procedure. The administering VEs may require a physician's certification indicating the nature of the disability before determining which, if any, special procedures must be used.

The reader/transcriber reads aloud each question to the examinee and/or transcribes the examinee's audible answer.

## 4 Great NEW Books

View more RSGB titles on our website!

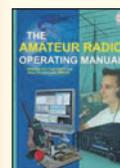


### Stealth Antennas

By Steve Nichols G0KYA

Offers a wide range of antenna solutions for getting your signal out despite limited location, intolerant neighbors or HOAs. From using house rain gutters and drain pipes, or a magnetic loop in the loft, to a tuned loop around the window frame you'll find a wide range of ingenious solutions.

Order: RSSA **\$23.95**



### Radio Amateurs Operators Manual

Edited by Giles Rad, G1MFG

With more than twenty-five new contributors, this 7th Edition has lots of new material. Whether you're new to the hobby, or an established amateur this book is a goldmine of useful and practical info.

Order: RSRAOM **\$28.95**

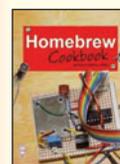


### International QRP Collection

Edited by Dobbs, G3RJV & Telenius-Lowe, 9M6DXX

The authors scoured the world for the best and have compiled them into this great scrapbook. Largest section of this 176-page collection is devoted to construction.

Order: RSIQC **\$23.95**



### Homebrew Cookbook

By Eamon Skelton, EI9GQ

Starts with the very basics of homebrew and progresses to advanced topics. It will have you itching to dust off your soldering iron!

Order: RSHC **\$23.95**

Shipping & Handling: USA - \$7 for 1st book, \$3.50 for 2nd, \$2 for each additional. CN/MX - \$15 for 1st, \$7 for 2nd, \$3.50 for each additional. All Other Countries - \$25 for 1st, \$10 for 2nd, \$5 for each additional.

### CQ Communications Inc.

25 Newbridge Rd., Hicksville, NY 11801

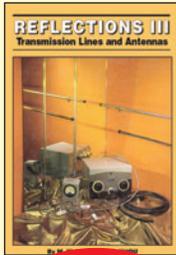
516-681-2922; Fax 516-681-2926

www.cq-amateur-radio.com

# REFLECTIONS III

by Walter Maxwell, W2DU

Here's a sampling of what you'll find inside this fully revised and updated third edition!



**FREE**  
Shipping & Handling  
on \$100 purchase!

- ◆ Too Low an SWR Can Kill You
- ◆ The View into the Conjugate Mirror
- ◆ Standing-Wave Development and Line Impedance
- ◆ Using the Smith Chart
- ◆ The Line Match Problem
- ◆ Computer Programs for Impedance Matching
- ◆ The Quadrifilar Helix Antenna
- ◆ Dispelling New Misconceptions Concerning Wave Interference in Impedance Matching

- ◆ Antennas in Space from an Historical and Archival Perspective . . . and more!

**This 424-page edition is a must-have!**

**Order today for only \$39.95**

Shipping & Handling: USA - \$7 for 1st book, \$3.50 for 2nd, \$2 for each add'l  
CN/MX- \$15 for 1st, \$7 for 2nd, \$3.50 for each add'l.  
All Other Countries- \$25 for 1st, \$10 for 2nd, \$5 for each add'l.



CQ Communications, Inc.  
25 Newbridge Rd., Hicksville, NY 11801  
www.cq-amateur-radio.com  
Order Toll-Free 800-853-9797



Listening is only half the fun...

## POPULAR COMMUNICATIONS

is the other half!

The World's most authoritative monthly magazine for Shortwave Listening and Scanner Monitoring.

Read by more active listeners world-wide.

You'll find features on scanner monitoring of police, fire, utility, and aircraft communications; international shortwave listening; CB radio; amateur radio; FRS; GMRS; monitoring radio digital communications including CW, RTTY, SITOR, etc; AM/FM commercial broadcasting; weather and communications satellites; telephone equipment and accessories; radio nostalgia; alternative radio; clandestine radio; and military radio.



**Subscribe Today!**

**1 year \$32.95**  
**2 years \$58.95**  
**3 years \$85.95**

CN/MX- 1-yr \$42.95, 2-yrs \$78.95, 3-yrs \$115.95  
Foreign- 1-yr \$52.95, 2-yrs \$98.95, 3-yrs \$145.95  
Payable in U.S. dollars

**Popular Communications**

25 Newbridge Road, Hicksville, NY 11801

Phone: 516-681-2922; Fax 516-681-2926

Visit our web site: [www.popular-communications.com](http://www.popular-communications.com)

This procedure should be conducted out of earshot of any other examinee.

### Q. Expeditor?

A. For most systems of this type, the work flow does not always progress as smoothly as hoped. There can be VE no-shows; not-yet-qualified candidates giving it a shot; mistakes being made; documents becoming misfiled; bad weather or whatever. The expeditor must be a no-nonsense, energetic, resourceful, knowledgeable VE who can cope with the unexpected and make the process work in spite of adversity.

**W3BE-O-GRAM:** The expeditor is the one wearing a furrowed brow and scurrying about with a stack of papers.

### Q. Can I accept pay for this work?

A. No, you are an uncompensated volunteer. Section 97.527 says, however, VEs and VECs may be reimbursed by examinees for out-of-pocket expenses incurred in preparing, processing, administering, or coordinating an examination for an amateur operator license. Prior to the examination session, discuss with your VE team any reimbursement claim that you would have so that they can be prepared to factor that into setting the examination fee and whether or not to accept your services. Some teams refuse to assess any fee.

**W3BE-O-GRAM:** Whatever job you are assigned, always bear in mind that your only purpose in this system is to help determine whether or not each examinee possesses the operational and technical qualifications required to perform properly the duties of an FCC amateur service license grantee. Your reward is in the knowledge that you are helping strengthen and preserve the legitimacy of our amateur radio service in a very fundamentally direct and meaningful way.

### Q. If I were an Advanced Class operator VE, which examinations could I prepare and administer?

A. Under Sections 97.509(b)(3)(i) and (ii), you – along with at least two other VEs of the appropriate operator class, may administer an examination for a Technician or General Class operator license grant. Under Section 97.523, you may also prepare questions for the Element 2 and Element 3 question pools maintained by the VECs.

### Q. If I were an Extra Class operator VE, which examinations can I prepare and administer?

A. Under Sections 97.509(b)(3)(i) and (ii), you – along with at least two other VEs of the appropriate operator class, may administer an examination for a Technician, General, or Amateur Extra Class operator license grant. Under Section 97.523, you may also prepare questions for all question pools maintained by the VECs.

## Read the rules - Heed the rules

Visit <http://www.w3BEinformed.org> for links to rules and information sites. E-mail your questions about the amateur service rules to [john@johnston.net](mailto:john@johnston.net).



# VE EXAMS

As a service to our readers, WorldRadio Online presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is two months in advance. For example, if your group is scheduling an exam for December, please have the information to us by October 1st. *World Radio Online*, VE Exams, 25 Newbridge Road, Hicksville, NY 11801. List the location (city and state), any information examinees should have (advance registration, etc.) and the name of the person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

p/r pref. = pre-register preferred but w/i OK

w/i = walk-in only

p/r = pre-registration only-no w/i

w/i pref. = w/i preferred to p/r

CITY	DATE	CONTACT	NOTES	CITY	DATE	CONTACT	NOTES
<b>ARIZONA</b>				<b>NEVADA</b>			
Mesa	3rd Mon	Steve KY7W, 480-804-1469, kj7wk@cox.net	w/i	Stagecoach	2nd Sat	Jack, AC6FU, 775-577-2637 ac6fu@arrl.net	
Phoenix	4th Sat	Gary Hamman, 602-996-8148, K7GH@arrl.net		<b>NEW JERSEY</b>			
<b>ARKANSAS</b>				Roselle	4th Sat	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
Vilonia	3rd Sat	James, KE5OVE, 501-796-3910, ke5ove@arrl.net	p/r pref.	Winslow	4th Tues	Mark, K2AX, 609-820-1523, JTRA@comcast.net	
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net		<b>NEW YORK</b>			
<b>CALIFORNIA</b>				Bethpage	2nd Tues	Bob, 631-499-2214, w2ilp@optonline.net	p/r
Highland	3/19	Ed, WU6I, 909-864-0155, wu6i@arrl.net	p/r pref.	Canandaigua	1st Wed	Squaw Island ARC, David A. Foster, 585-398-0216, www.siarc.us	w/i
LaVerne	Last Sat	Frank, K6FW, 909-628-8661, k6fw@arrl.net	p/r	Valhalla	Call	Stanley, WA2NRV, wa2nrv@weca.org	
Long Beach	3rd Sat	Louise, N6ELK, 562-429-1355	p/r	Yonkers	Call	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
Manteca/Tracy	4th Sat	David, N5FDL, 209-835-6893, n5df1@arrl.net	p/r	<b>NORTH CAROLINA</b>			
Redwood City	Call	Al, WB6IMX@arrl.net, www.amateur-radio.org	w/i	Fayetteville	Call	Patricia Edwards, N4UGH, n4ughpat@aol.com, 910-584-1801	w/i
Sacramento	Hotline!	916-492-6115, n6na@arrl.org		<b>OHIO</b>			
San Francisco	See site	www.hamcrams.com	p/r pref	Cincinnati	1st Sat	Dale, KC8HJL, 513-769-0789	p/r pref
Santa Rosa	Hotline!	Hotline-Recording 707-579-9608	w/i ok	Sandusky	Call	Luther, N8HC, 419-684-7864, n8hc@arrl.net	p/r
Sebastopol	Hotline!	Recording 707-579-9608		<b>OREGON</b>			
Sunnyvale	Visit Site	Gordon, W6NW, Sv@amateur-radio.org, www.amateur-radio.org	w/i	Astoria	Call	AA7OA, 503-338-3333	p/r
<b>COLORADO</b>				Bend	Weds	Joe, K7SQ, 541-385-3152	p/r
Englewood	1st Sat	Dave, N0HEQ, 303-795-5718, n0heq@arrl.net, Commerical Exams also	p/r pref	Lincoln City	1st Sat	Carl, w7li@arrl.net, 503-965-7575	w/i ok
<b>FLORIDA</b>				McMinnville	Call	Mark, AC7ZQ, 503-843-3580	w/i only
Longwood	4th Sat	James, N4ZKT, 407-333-4245		Sisters	Call	Dave, N7TYO, 541-549-7831	p/r
Melbourne	1st Sat	John, AA8IS@earthlink.net, 321-412-2779	w/i ok	Tigard	Call	John, KS0F, 503-626-7399	p/r
North Port	Call	Bill Norris, KC7TSG, 941-426-0214	w/i pref.	<b>PENNSYLVANIA</b>			
St. Pete	Call	Mark, NP3R, 727-528-0071	w/i pref.	Erie	3rd Sat	Ron, KB3QBB, 814-833-6829, kb3qbb@arrl.com, www.wattsburg-wireless.us	p/r
Sanford	4th Sat	James, N4ZKT, 407-333-4245, n4zkt@bellsouth.net		Lebanon	3rd Sat	Wa3gpm@arrl.net	
<b>HAWAII</b>				<b>PUERTO RICO</b>			
Oahu Is.	Call	Lee, KH6BZF, 808-247-0587	p/r	San Juan	Last Sat	Hotline: 787-789-4998, prarl@prarl.org	w/i
<b>IOWA</b>				<b>SOUTH CAROLINA</b>			
Ames	Call	George, NP2N, georgeoster@msn.com	w/i ok	Charleston	3rd Wed	Robert Johnson, ae4rj@amsat.org; www.qsl.net/wa4usn/	w/i
Vinton	3rd Tues	Kenneth, N0EGV, 319-223-5739, n0egv@southslope.net	w/i ok	Charleston	2nd Sat	Riley Stone, 843-832-9105, k4hyy@sc.rr.com	w/i
<b>ILLINOIS</b>				<b>VIRGINIA</b>			
Bolingbrook	3rd Sat	Dale, W9KHX, 815-723-3332	w/i ok	Alexandria	2nd Sat	John, WZ4A, 703-971-3905, wz4a@arrl.net	w/i
Burr Ridge	Any Day	Argonne ARC, W9DS, 630-986-0061	p/r	Stafford	Sat	Bart, N3GQ, 540-373-4506, n3gq@arrl.net, www.qsl.net/semcomm	p/r
Lake in Hills	4th Sat	Jeffrey Dubin, N9MXT, 847-815-9407		<b>WASHINGTON</b>			
Roselle	2nd Tues	Sam, W9SFB, 630-894-0708, w9sfb@aol.com	p/r	Tacoma	2nd Tues	Radio Club of Tacoma, 253-759-2040, www.w7dk.org	
<b>INDIANA</b>				Vancouver	Hotline!	CCARC, 360-896-8909	p/r
Richmond	Call	Mike, 765-439-4230, w1idx@arrl.net	w/i	Vancouver	Call	Vancouver ARC-Clark County, 360-892-5580 C. Wayne Schuler, AI9Q ai9q@arrl.net	w/i ok
South Bend	3rd Mon	Alan, NY9A, 574-232-6883	p/r	<b>WEST VIRGINIA</b>			
<b>MASSACHUSETTS</b>				Parkersburg	2nd Mon	Dana Pickens, WV8G, 304-422-6101	w/i, p/r
Brookline	Call	Jim, N1ICN, 617-364-4658, n1icn@arrl.net	p/r	<b>WISCONSIN</b>			
<b>MICHIGAN</b>				Racine	1st Sat	Robert, W0WLN, 262-886-8551	w/i pref.
Garden City	Call	Ken Wardell, AB8ZD, 734-421-7730, gsnapshot@att.net	w/i ok	<b>MISSISSIPPI</b>			
Oak Park	1st Tues	D. Flint at 248-981-8145		Gulfport	1st Sat	Harrison Cty., Clay, W5ACS 228-863-2042 w5acs@arrl.net	w/i ok
<b>MINNESOTA</b>				<b>MISSISSIPPI</b>			
Apple Valley	2nd Thur	Jim, N0OA, 612-384-7709, N0OA@arrl.net	p/r pref.	<b>MISSISSIPPI</b>			

Add your local VE Exam information to this FREE monthly listing!  
 Click here for posting information.



# CONTEST CORNER

**CONTEST:** Wake-Up! QRP Sprint  
**DATE & TIME:** 0400-0600Z 5 Mar.  
**BANDS/MODE:** 40 & 20M CW  
**POINTS:** 1 Pt. each kilometer between sta's  
**MULTIPLIERS:** Each band, each sta. - 2 Pts. per sta. maximum!  
**EXCHANGE:** RST + Serial #  
**ENTRY CATEGORIES:** Single Op only, QRP only!  
**ENTRIES:** 7 Days Cabrillo to ru-qrp-club@mail.ru  
 at: www.sk3bg.se/contest/pdf/wuqrpssp.pdf

**CONTEST:** ARRL International DX  
**DATE & TIME:** 0000Z 5 Mar - 2359Z 6 Mar  
**BANDS/MODE:** 160-10M SSB  
**POINTS:** 3 Pts. W/VE sta's to DX; 3 Pts. DX to W/VE sta's  
**MULTIPLIERS:** W/VE sta's = DXCC per band; DX = states + DC + CA Provinces/Territories  
**EXCHANGE:** W/VE sta's give RST + State/Province/Territory; DX gives RST + power  
**ENTRY CATEGORIES:** Single Op - Single band, All Band, Unlimited; QRP, Low, High; Assisted; Multi Op - Single XMTR, Two XMTRs, multi XMTRs  
**ENTRIES:** 4 Apr. ARRL 225 Main St., Newington, CT 06111  
 Cabrillo to: dxphone@arrl.org  
 Rules at: http://www.arrl.org/arrl-dx

**CONTEST:** AGCW QRP  
**DATE & TIME:** 1400-2000Z 12 Mar  
**BANDS/MODE:** 80-10M CW  
**POINTS:** 0 Pts. QRO-QRO; 3 Pts. QRP-QRP, QRP-VLP, VLP-QRP, VLP-VLP;  
**MULTIPLIERS:** 1 per AGCW member QSO per band  
**EXCHANGE:** RST + Serial # + category + AGCW member number (non-members give "NM")  
**ENTRY CATEGORIES:** Single Op only! VLP = <1W; QRP = >5W; MP = <25W; QRO = >25W  
**ENTRIES:** 31 Mar. Edmund Ramm, DK3UZ Anderheitsallee 24, Bramfeld, D-22175 Hamburg, Germany  
 E-mail: (ASCII) qrp-test@agcw.de

**CONTEST:** Idaho QSO Party  
**DATE & TIME:** 1900Z 12 Mar - 1900Z 13 Mar  
**BANDS/MODE:** 40-10M CW/SSB/Digi  
**POINTS:** 1 Pt. SSB; 2 Pts. CW/Digi;  
**MULTIPLIERS:** ID sta's States/Provinces/DXCC; All Others - ID Counties  
**EXCHANGE:** ID sta's give RST + County; All others give RST + State/Province/Country  
**ENTRY CATEGORIES:** Single Op; Multi Op; Multi-Multi; Rover (includes out-of-state); School; All categories - QRP <5W, Low 5-150W, High >150W;  
**ENTRIES:** 30 days  
 Cabrillo to: idqplugs@msn.com  
 (example is at: www.kkn.net/~trey/cabrillo/neqp.txt  
 Rules at: www.nx7tt.com/main\_page\_link/rules.htm

**CONTEST:** HF Gridsquare Sprint  
**DATE & TIME:** 1501800Z 13 Mar  
**BANDS/MODE:** 160-10M CW  
**POINTS:** 2 Pts. Non-Member, Same Continent; 4 Pts., Non-Member, Different Continent; 5 Pts. Member QSO  
**MULTIPLIERS:** <55mW X20; 55-250mW X 15; 250mW - 1W X 10; 1-5W X 7; >5W X 1  
**EXCHANGE:** RST + Gridsquare (4-digit) + ARCI member # (non-members give power output)  
**ENTRY CATEGORIES:** Single Op - All Band, Single Band, High Bands (20/15/10M), Low Bands (160/40/80M)  
**ENTRIES:** 13 April Jeff Hetherington, VA3JFF, 139 Elizabeth St. W., Welland, Ontario, Canada L3C 4M3  
 E-mail (Plain text with summary): contest@qrparci.org  
 Rules at: www.qrparci.org/content/view/8346/118/

**CONTEST:** North American Sprint  
**DATE & TIME:** 0000-0400Z 13 Mar  
**BANDS/MODE:** 80/40/20M RTTY

**POINTS:** 1 Pt.  
**MULTIPLIERS:** States/CA Provinces/NA Countries (Countries outside NA count QSO points only!)  
**EXCHANGE:** Both calls + serial # + name + state/province/country  
**ENTRY CATEGORIES:** Single Op - High; Single Op - Low <100W; QRP <5W  
**ENTRIES:** 7 Days! Ed Muns, WØYK P.O. Box 1877, Los Gatos, CA 95031-1877.  
 Upload Cabrillo logs: www.ncjweb.com/sprintlogssubmit.php  
 E-mail (ASCII): rtysprintmgr@ncjweb.com;  
 Rules at: www.ncjweb.com/sprinrules.php

**CONTEST:** Wisconsin QSO Party  
**DATE & TIME:** 1800Z 13 Mar - 0100Z 14 Mar  
**BANDS/MODE:** All bands 80M and up, CW & SSB  
**POINTS:** 1 Pt. SSB, 2 Pts. CW (Note: power level multiplier to get contact points - X 2, QRP; x 1.5, Low; X 1.0 High)  
**MULTIPLIERS:** WI sta's = Counties (72 possible)/States/Provinces (Note: DXCC count for QSO points only, not multiplier!); All Others = Counties  
**EXCHANGE:** WI sta's give County; All others give State/Province/Country  
**ENTRY CATEGORIES:** single Op - Fixed, Mobile, Tech or Novice; Multi Op - Fixed, Mobile, Tech; Multi XMTR fixed, Multi XMTR Mobile; All categories: QRP <5W, Low 5-150W, High >150W  
**ENTRIES:** 15 Apr Wisconsin QSO Party, West Allis RAC, P.O. Box 1072 Milwaukee, WI 53201  
 Electronic logs to: n9kr@tds.net  
 Rules: www.warac.org/wqp/wqp.htm

**CONTEST:** 10-10 International Mobile  
**DATE & TIME:** 0000-2359Z 19 Mar.  
**BANDS/MODE:** 10M SSB/CW  
**POINTS:** 1 Pt. per QSO (non-member); 2 Pts. per QSO (Member), (2 Pts. if you are on a county line!)  
**MULTIPLIERS:** Fixed sta's - X counties contacted; Mobile sta's - X different counties + number of counties worked from!  
**EXCHANGE:** Name + State + 10-10 # + county (Non-members welcome, too!)  
**ENTRY CATEGORIES:** Single Op only  
**ENTRIES:** 3 April Dan Morris, KZ3T, 131 Valencia Ln., Statesville, NC 28625  
 Rules at: www.ten-ten.org/Forms/QSOPartyRules\_082710.pdf

**CONTEST:** Virginia QSO Party  
**DATE & TIME:** 1800Z 19 Mar - 0100Z 21 Mar  
**BANDS/MODE:** 160M - 440 MHz  
**POINTS:** 1 Pt. SSB, 2 Pts. CW & Digi; 3 pts. VA mobile; 500 Pts. QSO with K4NVA  
**MULTIPLIERS:** VA's sta's Counties(95)/Independent Cities (39)/States/Provinces/Countries; All others = VA Counties/Independent Cities + 100 Pt. bonus for working K4NVA  
**EXCHANGE:** VA sta's give County or Independent City; All others give State/Province/Country  
**ENTRY CATEGORIES:** Single Op; Multi Op, Single XMTR; Multi Op, Multi XMTR's; All Categories - QRP <5@; Low 5-150W; High >150W  
**ENTRIES:** 15 Apr VA QSO Party, Call Box 599, Sterling, VA 20167  
 Electronic logs to: vqp@verizon.net.  
 Rules at: http://www.qsl.net/sterling/VA\_QSO\_Party/2011\_VQP/2011\_VQP\_Main.html

**CONTEST:** North Dakota QSO Party  
**DATE & TIME:** 1700Z 19 Mar - 0100Z 20 Mar  
**BANDS/MODE:** 160-2M CW & SSB  
**POINTS:** 1 pt. SSB, 2 pts. CW. 1 QSO per sta., per mode on each band. (Note: Official ND QSO Party Summary Sheet must be included with scores! See web site for form)  
**MULTIPLIERS:** ND sta's = X ND counties/States/Provinces/Countries; Non-MD sta's = X ND counties  
**EXCHANGE:** ND sta's give RST + County; All others give RST + State/Province/Country  
**ENTRY CATEGORIES:** Single op; (ND will have Rovers)  
**ENTRIES:** 1 May Mail - NDRA, c/o Lynn Nelson, K0LN, 6940 4th St. SW., Minot, ND 58701  
 Web page: www.k0ln.com

**CONTEST:** Oklahoma QSO Party  
**DATE & TIME:** 1300-0100Z 20 Mar & 1300-1900Z 21 Mar  
**BANDS/MODE:** 80-10M CW & SSB  
**POINTS:** 2 Pts. SSB, 3 Pts. CW  
**MULTIPLIERS:** OK sta's, States/Provinces/Countries; All others, OK Counties (77 possible)  
**EXCHANGE:** OK sta's give RST + County; All others give RST + State/Province/Country  
**ENTRY CATEGORIES:** QRP<5W; SOLP - Single Op, <100W; SOHP - Single Op, >100W (OK will have Rovers, Single Op or Single Op, Assisted)  
**ENTRIES:** 30 Apr Oklahoma QSO Party, OK DX Association, P.O. Box 2591 Claremore, OK 74018-2591  
 Cabrillo to logs@okdxa.org  
 Rules at <http://okdxa.org/web/htm/rules09.htm>

**CONTEST:** Run for the Bacon  
**DATE & TIME:** 0100-0300Z 20 Mar  
**BANDS/MODE:** 80-10M CW  
**POINTS:** 1 Pt. non-member QSO; 3 Pts. FP member; 5 Pts. FP DX member  
**MULTIPLIERS:** States/Provinces/Countries (X 2 if more than 50 members worked)  
**EXCHANGE:** RST + State/Province/Country + FP #; (non-members give power)  
**ENTRY CATEGORIES:** Single band; All band  
**ENTRIES:** Logs submitted by online AUTOLOG link, only!  
 See web page: [www.fpqpr.com/fpqprun.php](http://www.fpqpr.com/fpqprun.php)

**CONTEST:** 9KCC 15M  
**DATE & TIME:** 1200-1600Z 20 Mar  
**BANDS/MODE:** 15M CW + SSB  
**POINTS:** 1 Pt. per QSO  
**MULTIPLIERS:** DXCC and each 9K station  
**EXCHANGE:** RS + Serial #  
**ENTRY CATEGORIES:** Single Op - 9K SSB; Single Op - 9K CW; Single Op - SSB (non 9K); Single Op - CW (non 9K)  
**ENTRIES:** 30 Days Faisal N. Al-Ajmi, 9k2RR P.O. Box 1124 Alfarwanya 80000 Kuwait  
 Logs via e-mail to: 9k2rr@9kcc.com  
 Rules: [www.qsl.net/9kcc/9KCCRule.htm](http://www.qsl.net/9kcc/9KCCRule.htm)

**Contest:** SKCC Straight Key Sprint  
**Date & Time:** 0000-0200Z 23 Mar  
**Bands/Mode:** 160-6M CW  
**Points:** 1 Pt per QSO, per band  
**Multipliers:** States/Provinces/DXCC  
**Exchange:** RST + QTH + Name + SKCC # (if a member of SKCC)  
**Entry Categories:** Not given  
**Entries:** 3 Days - Online submission via score sheet at: [www.skccgroup.com/sprint/sks/sks-submit.html](http://www.skccgroup.com/sprint/sks/sks-submit.html) Rules at: <http://www.skccgroup.com/sprint/sks/>

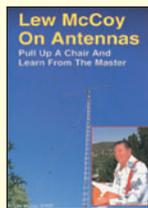
**CONTEST:** CQ WW WPX  
**DATE & TIME:** 0000Z 27 Mar - 2359Z 28 Mar  
**BANDS/MODE:** 160-10M SSB  
**POINTS:** 1 Pt. QSO same country; 1 Pt. Different Country, Same Continent, 20/15/10M; 2 Pts. Different Country, Same Continent, 160/80/40M; 3 Pts. Other continents 20/15/10M; 6 Pts. Other Continents, 160/80/40M; 2 Pts. NA sta's (same continent), 20/15/10M; NA sta's (same continent), 4 Pts. 160/80/40M  
**MULTIPLIERS:** Prefixes  
**EXCHANGE:** RS + serial #  
**ENTRY CATEGORIES:** Rookie; Single Op - Single Band, QRP (<5W), Low (<100W), High, Triband/Single Element; Single Op - All Band, QRP, Low, High, Triband/Single Element; Multi Op; Single-op, assisted; Multi Op, Single XMTR; Multi Op - 2 XMTR's; Multi Op - Multi XMTR's  
**ENTRIES:** 24 April CQ WPX Contest 25 Newbridge Road Hicksville, NY 11801  
 Cabrillo (preferred) to: [ssb@cqwp.com](mailto:ssb@cqwp.com);  
 Forms and rules at: [www.cqwp.com](http://www.cqwp.com) (NOTE: Based on 2010 rules. 2011 rules not posted at time of submission)

[Click here for information on listing your contest in the next issue of WRO!](#)



# BOOKS

Back by popular demand!

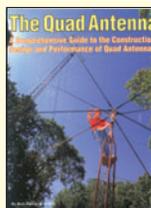


## Lew McCoy on Antennas

by Lew McCoy, W1ICP

Unlike many technical publications, Lew McCoy presents his invaluable antenna information in a casual, non-intimidating way for anyone!

Order No. MCCOY **\$19.95**



## The Quad Antenna

by Bob Haviland, W4MB

A comprehensive guide to the construction, design and performance of Quad Antennas. Chapter titles include General Concepts, Circular-Loop & Arrays, Rectangular & Square Loops, Multi-Element Quads, Delta Loops & Arrays, Design Variations, Optimizing a Quad Design and more!

Order No. QUAD **\$19.95**

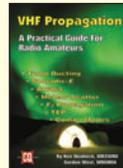


## The Vertical Antenna Handbook

by Paul Lee, N6PL

You'll learn basic theory and practice of the vertical antenna. Discover many easy-to-build construction projects.

Order No. VAH **\$17.95**



## VHF Propagation Handbook

The Practical Guide for Radio Amateurs

by Ken Neubeck, WB2AMU & Gordon West, WB6NOA

The combined ham radio experience of the authors represents many years of VHF observations and research. Tropo Ducting, Sporadic-E, Aurora, Meteor Scatter, F2 Propagation, TEP, Combo Modes, it's all here!

Order: VHFProp **\$15.95**



## 33 Simple Weekend Projects

by Dave Ingram, K4TWJ

Do-it-yourself electronics projects from the most basic to the fairly sophisticated. You'll find: station accessories for VHF FMing, working OSCAR satellites, fun on HF, trying CW, building simple antennas, even a complete working HF station you can build for \$100. Also includes practical tips and techniques on how to create your own electronic projects.

Order No. 33PROJ **\$17.95**

**Shipping & Handling:** USA - \$7 for first book, \$3.50 for 2nd and \$2 for each additional. CN/MX- \$15 for first book, \$7 for 2nd and \$3.50 for each add'l. **All Other Countries-** \$25 for first book, \$10 for 2nd and \$5 for each add'l.

CQ Communications Inc.

25 Newbridge Rd., Hicksville, NY 11801



516-681-2922; Fax 516-681-2926



Order Toll-Free 800-853-9797

# WorldRadio Online MART

• Buy • Trade • Sell •

**BEAM HEADINGS** from your QTH to over 400 USA & Worldwide locations \$25.00. ENGINEERING SYSTEMS INC., P.O. Box 1934 Middleburg, VA 20118-1934; w4het@aol.com. xxx

**CERTIFICATE FOR PROVEN TWO-WAY RADIO CONTACTS** with amateurs in all 10 USA call areas. Award suitable to frame and proven achievements added on request. Send SASE to W6LS, 45527 3rd St. East, Lancaster, CA 93535-1802 to get data sheet. F00

**WANTED FOR MUSEUM: PRE-1980 MICRO-COMPUTERS**, also early-micro-computer journals, newsletters and advertising literature. KK4WW, P.O. Box 179, Floyd, VA 24091; 540/763-2321, 540/745-2322. F00X

**SALE: CQ/HAM RADIO/QST/73** magazines and binders. SASE brings data sheet. W6DDB, 45527 Third Street East, Lancaster, CA 93535-1802. F00

[Click here to list your items!](#)

## SLOPER ANTENNAS

By Juergen A. Weigl, OE5CWL

Single- and Multi-Element Directive Antennas for the Low Bands

With calculations and practical experience, this book shows which basic concepts have to be considered for sloper antennas for the low bands. These fundamentals are supplemented by construction guidelines for directive antennas using a single element or several elements. Previously, gathering all the necessary information to construct an effective sloper for a particular application was tedious and time consuming. You'll find all the information needed for successful home building of the antennas.

**Some of the Topics:** Vertical dipole and sloper in free space, over perfect or real ground - sloper with several elements - feeding sloper antennas - multi-band sloper - W3DZZ and double Zepp as a sloper antenna - multi-element sloper antennas for multi-band operation - special types of halfwave sloper antennas and much more!

**CQ Communications, Inc.**

25 Newbridge Rd, Hicksville, NY 11801

www.cq-amateur-radio.com

FAX us at 516 681-2926

Order today! 800-853-9797



## ADVERTISERS' INDEX

10-10 International Net, Inc.	35	www.ten-ten.org & www.10-10.org
ASA, Inc.	31	www.waterprooflogbooks.com
Bilal Co./Isotron Antennas	31	www.isotronantennas.com
CQ Amateur Radio Magazine	41	www.cq-amateur-radio.com
CQ Books,CDs, DVDs	25,37,49	www.cq-amateur-radio.com
CQ AR Ops Calendar	43	www.cq-amateur-radio.com
CQ VHF Magazine	33	ww.cq-vhf.com
CW-Easy/Success-Easy	52	www.success-is-easy.com
Courage Handi-Ham System	35	www.handiham.org
DC Ace, Inc.	18	www.dcace.com
DX Engineering	21	www.dxengineering.com
DX Store	27	www.dxstore.com
Diamond Antenna	29	www.diamondantenna.net
Eagle One Antennas	33	www.w8afx.com
Electric Radio	35	www.ermag.com
Electronic Products Design, Inc.	52	www.epd-inc.com
Engineering Systems, Inc.	21	
FlexRadio Systems	19	www.flex-radio.com
Ham Radio Insurance Assoc.	18	www.hamradioinsurance.com
HamTestOnline	18	www.hamtestonline.com
ICOM America, Inc.	3	www.icomamerica.com
IIX Equipment Ltd.	21, 39	www.w9iix.com
J-ames Pole Antennas	39	www.jamespole.com
Kenwood U.S.A. Corporation	15	www.kenwoodusa.com
Mackey, James E.	39	www.airmailpostage.com
Palomar Engineers	18	www.Palomar-Engineers.com
Penny's Stitch n' Print	52	www.pennystitch.com
Popular Communications	46	www.popular-communications.com
QCWA	35	www.qcwa.org
RF Parts Company	31	www.rfparts.com
RSGB Books	45	www.cq-amateur-radio.com
SteppIR Antennas Inc.	5	www.steppir.com
Timewave Technology Inc.	39	www.timewave.us
Universal Electronics	39	www.coaxseal.com
Universal Radio, Inc.	8	www.universal-radio.com
VIS Amateur Supply	39	www.visradio.com
Vibroplex	35	www.vibroplex.com
W5YI Group	17	www.w5yi.org
WB0W, Inc.	13	www.wb0w.com
Wireman/Clear Signal Products	31	www.thewireman.com & www.coaxman.com
Yaesu	10,11	www.vxstdusa.com

Advertise in the next issue of *WorldRadio Online!*

[Click here for deadlines and contact info.](#)



# Cheap and Useful, Consider the End-Fire Beam

By Kurt N. Sterba

A couple of months back Kurt explained two types of wire beams – the collinear and the broadside. Both have all elements in phase. A third type, the end fire, has elements 180 degrees out of phase.

Fig. 1 shows two horizontal half-wave wires spaced 1/8 wavelength and fed out of phase. The beam is bi-directional in the plane of the wires and at right angles to the wires. Radiation up, down and out the ends is very small. Most of the radiated energy is in the beam.

Because the wires are at the same height, it is called a “Flat Top” beam and most often the “W8JK” beam after John Kraus, W8JK, who first described it in the amateur literature back in 1937.

His 20-meter version is shown in Fig. 2. There are heavy currents on both elements and high voltage at the ends. Kurt recommends No. 12 wire for this beam and ceramic insulators at the ends. Note that on one side of the feed point there is a 180-degree twist in the feeder.

You can also feed the antenna at the end, as shown in Fig. 3. The beam pattern remains the same. The feed point impedance will be much higher than in the arrangement of Fig. 2. Most users use the balanced version, but end feed fits some situations better.

Fig. 4 shows the construction of a balanced beam. You need three nine-foot spreaders which can be 1-inch by 1-inch strips of wood or of bamboo. The crossover at the middle requires two insulators. The one nearest the center is mounted vertically and gives a 90-degree twist to the transmission line. The other insulator is horizontal and gives another 90-degree twist. This totals a 180-degree polarity shift to provide the good old end-fire pattern to the beam.

Unlike the Yagi tri-bander that is narrowband and works on just three bands, the W8JK is broadband and covers 14-28 MHz with about the same gain and beam pattern. So, it can be used on the 10, 14, 18, 21, 24, and 28 MHz bands.

If you can't get much height for your beam it will outperform a tri-bander, as well. As height drops below a half wave, the Yagi becomes detuned by proximity to the ground and loses its gain. The W8JK's impedance drops but its gain

does not. The gain is about 4-dBd on 20 meters then gradually increasing with frequency so that on 10 meters it is about 6-dBd. Since it is broadband the element lengths are not critical.

On the minus side, the impedance

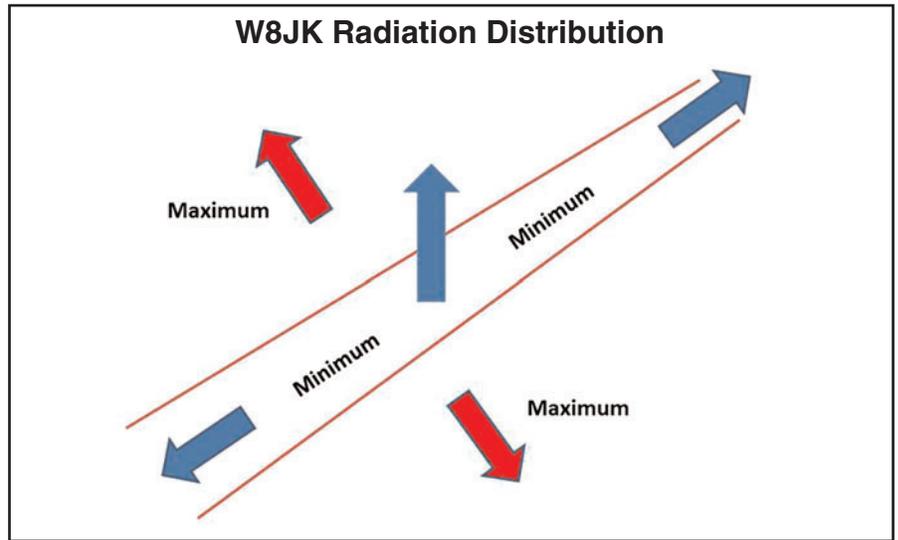


Figure 1.

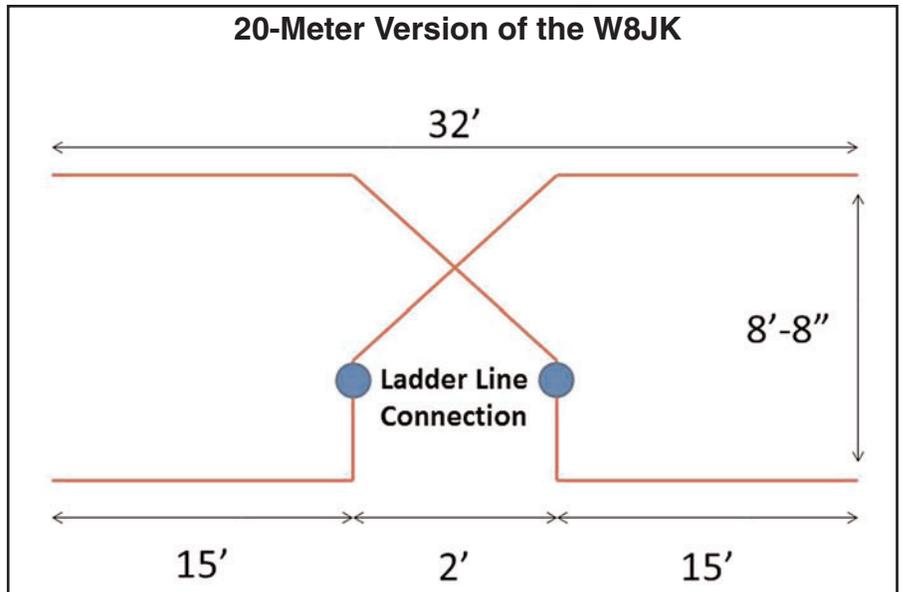


Figure 2.


**1-585-591-8149**  
**Custom Ham Hats**  
**Only! \$14.99 + S&H**  
 Exclusive EMBROIDER for Amateur Radio Operators!  
**www.pennystitch.com**

**Real Hams Do Code**  
 Learn code with hypnosis today.  
 Download Now!  
**www.success-is-easy.com**  
**561-302-7731**  
Success Easy 160 W. Camino Real, Ste. 128 Boca Raton, FL 33132


**CUSTOM TRANSFORMERS**  
 Plate and Filament Transformers  
 • Hypersil or Grain Oriented DG Cores  
 • CM Chokes • Inductors • Toroidal Windings  
**Electronic Products Design, Inc.**  
 919-365-9199 Fax 919-365-7005  
 www.epd-inc.com • sales@epd-inc.com  
 2231 Wendell Road, Wendell, NC 27591

**Collins Radio**  
**Repair & Tune-Up**  
**DVD Guides**  
*Restoring or repairing classic Collins S-Line equipment? These DVDs are like having an experienced professional right next to you!*  
 From Hi-Res Communications, Inc., these well-produced, authoritative DVDs cover all the most common repair and tune-up subjects on these classic radios.


**Collins KWM-2**  
 Two disc set, 236 minutes total  
 Order No. C-KWM \$89.95


**Collins 75S-3/32S-3**  
 Two disc set, 226 minutes total  
 Order No. C-75S \$89.95


**Collins 30L-1**  
 Single Disc 61 minutes total  
 Order No. C-30L \$39.95

Shipping & Handling: US & Possessions-add \$7 for the first item, \$3.50 for the second and \$2 for each additional item. Foreign-calculated by order weight and destination and added to your credit card charge.

**CQ Communications, Inc.**  
 25 Newbridge Rd, Hicksville, NY 11801  
 www.cq-amateur-radio.com  
**800-853-9797**  
 FAX us at 516 681-2926

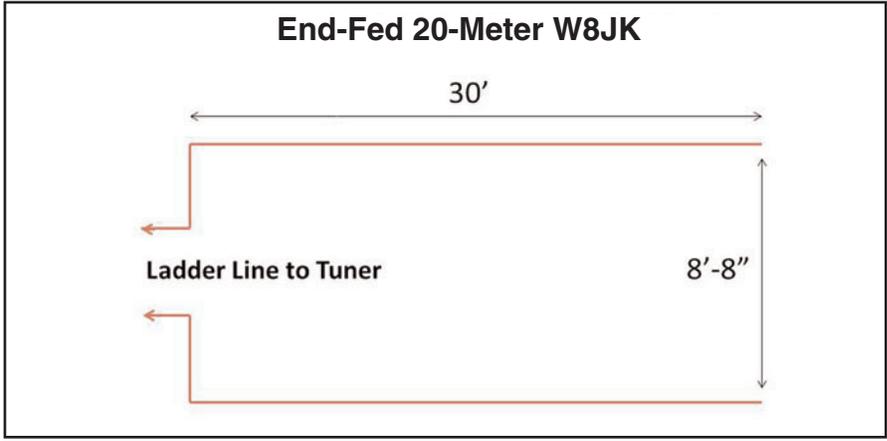


Figure 3.

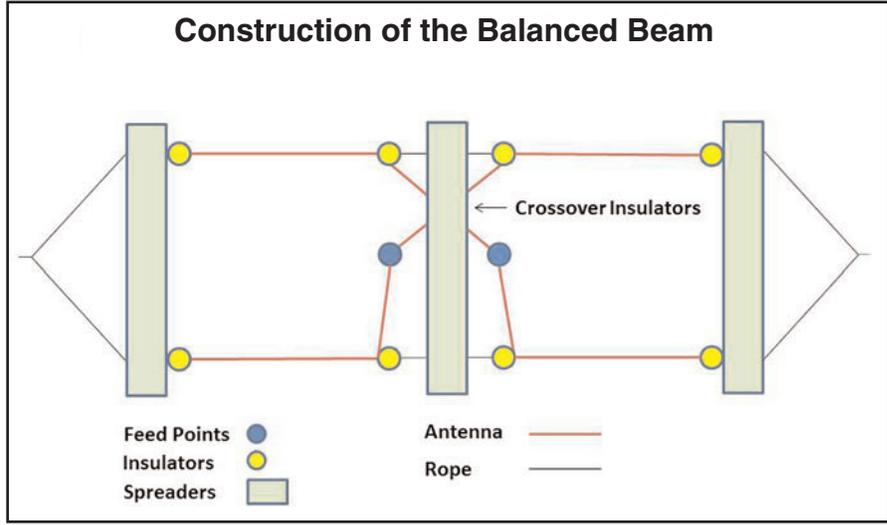


Figure 4.

varies with frequency so you must use a tuner. It is bidirectional as well, so you do not have the immunity from signals coming from the “backside” as you do with a Yagi that has a good front-to-back ratio. But if you put it up at low cost as a fixed beam the bidirectional pattern gives you twice the coverage with the same gain.

No antenna suits everyone’s needs. The end-fire W8JK is a good one to remember. You may find it useful in some situations and easy on your pocketbook.

**More On Those End-Fed Dipoles**

Krusty Olde Kurt has received several glowing reports on KI6SN’s “Trail-Friendly End-Fed Dipole,” constructed by Richard Fisher and featured in the October 2010 *WorldRadio Online*. This is a lightweight and compact version of Kurt’s end-fed dipole.

Actually, both are center-fed dipoles but with an arrangement that lets the coax

come out the end of the dipole instead of dropping down from the center. This is accomplished by using the coax shield as one side of the dipole. The length of the shield that is used is determined by a ferrite-core inductor placed a quarter-wave from the dipole center.

An interested reader, **John Fitch, KF6POG**, of Beaumont, California, asks if the end-fed dipole can be used with an antenna tuner for higher bands.

The answer is: *Yes!* Unlike the original 1991 end-fed dipole that used a tuned trap, Kurt’s and KI6SN’s dipoles use a wideband toroidal inductor whose impedance actually increases at the higher frequencies. So they will operate just like ordinary dipoles from 20-meters up to at least 6 meters.

*Kurt welcomes questions of general interest from readers and will answer them in his kolumn. Write to him at: [WorldRadioOnline@gmail.com](mailto:WorldRadioOnline@gmail.com).*