

WorldRadio

ONLINE

Year 41, Issue 3

SEPTEMBER 2011

Worth Repeating

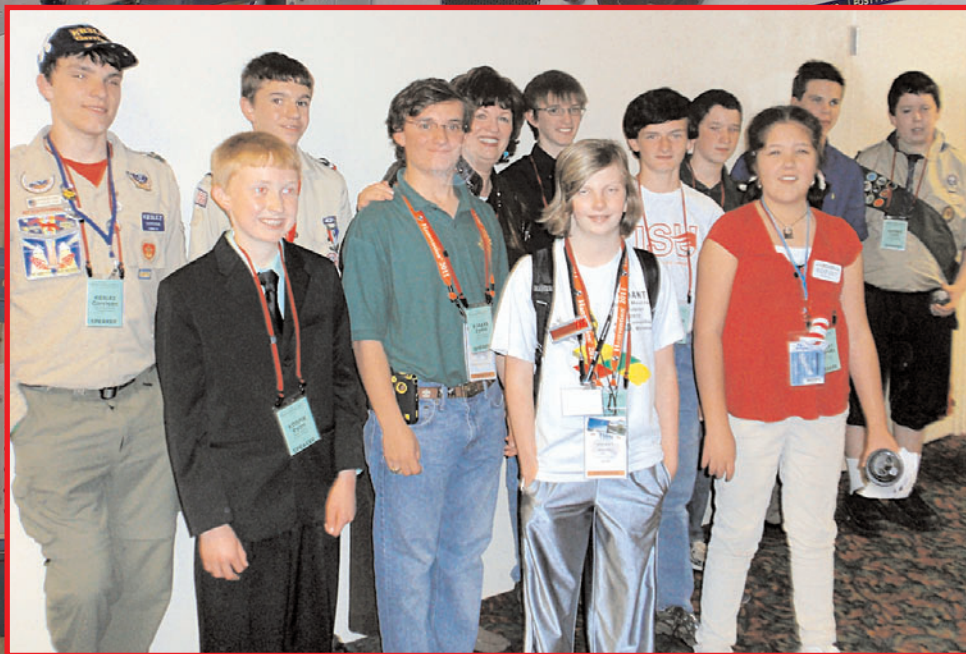
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NEWS • FCC • DX • SATELLITES • CONTESTS • HAMFESTS • AERIALS • CW



VE3NUZ Named New Chief of SATERN

Salvation Army Major Richard Shirran, VE3NUZ, has been appointed as the new head of SATERN, the Salvation Army Team Emergency Radio Network. He succeeds Major Pat McPherson, WW9E, who retires with the new appointment, 23 years and one day after the first SATERN net was held.

The announcement was made by Colonel David Jeffrey, the National Chief Secretary of the Salvation Army.

McPherson applauded the choice, saying Shirran "has been a longtime proponent of Salvation Army Emergency Disaster Services and its SATERN component. He understands well the culture of amateur radio and The Salvation Army, and he has proven . . . expertise in every field of disaster endeavor." – *CQ Newsroom*

Amateur Radio Makes the Scene in 'Super 8'

The summer blockbuster "Super 8," set just outside Dayton, Ohio in 1979, features amateur radio "in a crucial scene," according to the *ARRL Letter*.

The film "revolves around a group of six middle-schoolers who witness a mysterious train crash in the fictional town of Lillian. Soon after the crash, the Air Force arrives and strange things start happening in the small town. The kids, a group of young film makers (hence the title of the movie) begin to investigate the creepy phenomena."

"Super 8" set decorator Fainche MacCarthy found a radio of the right era, but the "scanner" that a sheriff's deputy brings into the scene "is a Heathkit Seneca VHF-1, a 2- and 6-meter CW and AM transmitter. Introduced in 1959, this rig complemented Heathkit's TX-1 Apache transmitter, RX-1 Mohawk receiver and KL-1 Chippewa linear amplifier." – *ARRL Letter*

Data Harvesters Bring QRZ.com to a Crawl

Users of the QRZ.com callsign database < <http://www.QRZ.com> > must now be registered and sign in before getting access to any name or address data.

Owner Fred Lloyd, AA7BQ, explained in a posting that routine access to the database was being slowed down by a growing number of automated systems trying to harvest massive amounts of data at one time.

Registration is free; ham users may access a maximum of 150 callsigns/day (not including their own); nonham users are limited to 25 lookups per day and QRZ subscribers will continue to have unlimited access. – *CQ Newsroom*

Japan Quietly Goes 'No Code' Beginning in October

Back in the 1950s, Japan became the first country to issue an amateur license that did not require a Morse code exam, the so-called Class 4 license.

Now, according to *Amateur Radio Newslines*, effective October 1, Japan will no longer require code tests for any class of amateur license.

After dropping the code requirement for the Class 4, Japan continued to administer code tests for the Class 1 and Class 2 licenses, even as most of the rest of the world ended amateur code test requirements.

On an issue about which so many hams have been so passionate for so many decades, a request for comments on the proposed rule change drew only 39 responses. – *CQ Newsroom*

60-Meter Privileges Widen in Portugal

Portuguese radio amateurs have been allocated an additional frequency at 5 MHz in the 60-meter band, *Amateur Radio Newslines* reported.

The Portuguese telecommunications agency Anacom has authorized the use of 5288.5 kHz in addition to the already allocated frequencies of 5371.5 kHz and 5403.5 kHz.

The three frequencies are available on a secondary non-interference basis. Special 60-meter propagation study permits are being issued to Portuguese radio amateurs for up to a year. – *IARU Region 1, ARN*.

'Geo-Alerts' Continue on WWV and WWVH

Officials at the Space Weather Prediction Center have changed their mind and will continue offering the center's service as a part of broadcasts offered by time standard stations WWV and WWVH, according to published reports.

In April, the center announced it would cease providing the broadcast add-on service September 6.

There were howls of protest from listeners who came to rely on the broadcasts for alerts dealing with solar storms, mid-latitude A and K indices and other data.

Broadcast of its synoptic Geo-Alert products on WWV and WWVH and will continue, SWPC said, and "updates to the content are underway as a result of the listener feedback process." For the full announcement, visit: < <http://www.swpc.noaa.gov/wwv> >. – *ARN, NOAA*

Cadets Send 'Balloon Satellite' to the Edge of Space

Cadets from the U.S. Military Academy's astronomy and amateur radio clubs used the last day of the 2011 spring semester to launch a "balloon satellite" to the upper reaches of Earth's atmosphere.

Still and video cameras aboard the craft shot photos as it rose to an altitude of more than 85,000 feet and then descended. An Automatic Packet Radio System (APRS) transmitter allowed students to track the payload throughout the flight and to later recover it, the instruments "still cold from their journey to space," according to a West Point news release.

The release also described the APRS system as "an ad hoc network of ham radio operators that run a nationwide communications utility as a public service." The launch also highlighted inter-service cooperation in the military, as the West Point group has been collaborating with the aeronautics department at the U.S. Air Force Academy and APRS was developed by Bob Bruninga, WB4APR, who teaches at the U.S. Naval Academy. – *CQ Newsroom*

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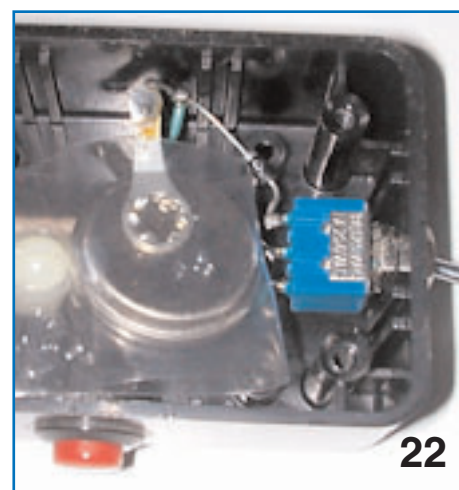
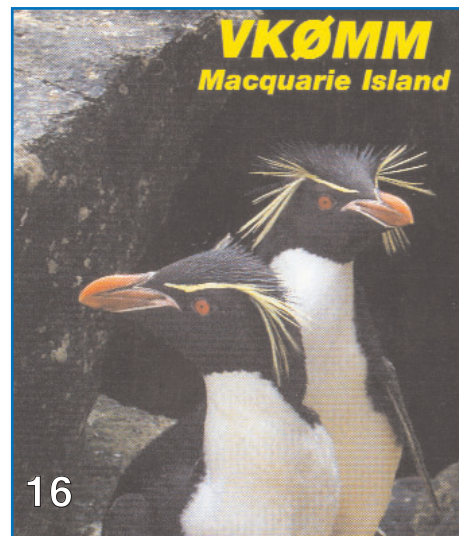
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On the Cover: You’ve got a picture of “the almost original repeater that started it all in the 1950s,” Looking West columnist Bill Pasternak, WA6ITF, says. Owned by the late Art Gentry, W6MEP, the K6MYK machine is generally credited as being the world’s first successful fully-automatic repeater. ALSO: Young speakers blew away the crowd attending the Dayton Youth Forum in May. Details in this month’s Hams with Class. (Photographs courtesy of WA6ITF and WB2MGP)

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Whew! - A Chance to Catch Up

Seeing there are no gigantic-enormous (ginormous) issues on the table this month, it's probably a good time for the ol' cranial data dump. Several little things to catch up on.

Midweek WRO Online Chats

Well, we gave the midweek *WorldRadio Online Live Online Chat* session a couple of tries, but it seems staying up late on a "school night" is just too much for most of our readers. The chats were lively, for sure, but more like a bunch of hams sitting around in a living room than at a stadium concert.

The Sunday sessions have frequently drawn more than 100 participants to the *WRO* blog's *chat-o-sphere*. Wednesday, though, not so many.

So, for the time being — hearing no objections — we'll schedule upcoming chats for our usual weekend slot — usually the first Sunday of each month. Our next chat will be September 4 — a great way to relax over the Labor Day Weekend.

We'll begin at 8 p.m. Eastern time (0000 UTC) at the usual place: The *WorldRadio Online Blog* <<http://www.WorldRadioOnline.blogspot.com>>. Simply click into the Cover It Live chat box when the session is to begin, and you'll be linked to the chat room — with lots of your *WRO* friends.

By the way, if you'd like an email reminder about the chat, please register for it using the Cover It Live box on the blog. I hope to see you there.

UTC vs. Eastern Time

We get email once in a while wondering why *WRO* doesn't list all activity times in UTC. Good question and we have a not-very-good answer.

We try to provide both local and UTC times when listed, but in all candor, some slip through the cracks. We've got either Eastern time or UTC, but not both. We've got to fix that.

Why Eastern time? It was chosen by me as a standard based on the *Boob Tube Theory*. Here's my reasoning: TV networks promoting upcoming programming usually list live broadcast times in two time zones: Eastern and Central.

Most of us have figured out how to mentally convert that information to our TV room. In California, for example, 8 p.m. Eastern is 5 p.m. Pacific. Even an arithmetic-challenged guy like me can do it. PT = ET minus three.

Converting to UTC is another matter, though. I get completely lost — and have for the 46 years as a radio amateur — no matter how hard I try. I even made a cardboard UTC converter wheel once, but managed to get that screwed up, as well.

So, here's my latest solution: <<http://bit.ly/m0gXu6>>. It's the TimeZone Converter, a free online program that has never let me down. The site is fairly intuitive, and once you get the hang of it you'll be converting like Old Man Time himself.

Meantime, we'll make an extra effort to provide UTC with the Eastern or local times we list in *WRO*.

WRO On Facebook and Twitter

I suspect most readers know about this, but it bears repeating: *WRO* is alive and well on both Facebook and Twitter.

In addition to the *WRO Blog*, these are great places to get updates on articles that have appeared in the Web magazine, as well as reminders about *WRO* activities — such as our monthly online chats.

On **Facebook**, visit: <<http://www.facebook.com/WorldRadioOnline>>.

On **Twitter**, it's: <<http://www.twitter.com/WROmagazine>>.

Follow us on each of these social networking platforms and we promise to keep you up-to-date on *WRO* happenings.

'This Just In . . .'

Speaking of keeping up with the buzz, *WRO* and our sister magazines, *CQ Amateur Radio*, *Popular Communications* and *CQ VHF*, help feed CQ Communications' online amateur radio breaking news site, the *CQ Newsroom* <<http://www.CQNewsroom.blogspot.com>>. It's a beautifully designed, easy to read website administered by CQ Communications Editorial Director **Rich Moseson, W2VU**. You'll recognize his name and call sign as editor of *CQ Amateur Radio* magazine, as well.

A veteran newsman, he aggregates amateur radio news from around the world on the site. It's a great place to bookmark and check-in on every day.

Your Feedback, Please

We count on *WRO* readers to let us know how we're doing. Are you finding our content month-to-month useful and interesting? Are there areas we're not covering that we should? What pleases or bugs you? Please let us know. Drop an email to: <WorldRadioOnline@gmail.com>.

WorldRadio Online

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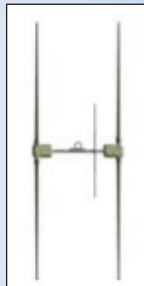
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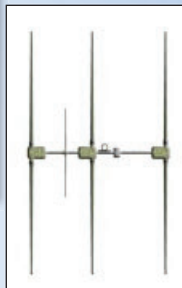
2, 3, and 4 Element Yagis

For the hams who are fortunate enough to have towers in their backyards. Gain and directivity is yours with a SteppIR Yagi.



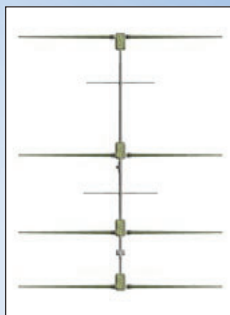
2 Element 20m-6m Yagi

2 element Yagi, 20m-6m continuous coverage; 57" boom, 36 ft longest element, 18.2 ft turning radius, 6 sq ft wind load, 30 lb; SDA 100 controller included.



3 Element Yagi 20m-6m

3 element Yagi, 20m-6m continuous coverage; 16 foot boom, 36 ft longest element, 19.7 ft turning radius, 6.1 sq ft wind load, 51 lb; SDA 100 controller included.

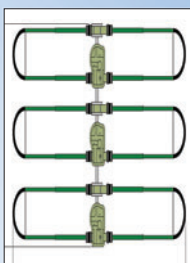


4 Element Yagi 20m-6m

4 element Yagi, 20m-6m continuous coverage; 36 ft longest element, 24.1 ft turning radius, 9.7 sq ft wind load, 99 lb; SDA 100 controller included.

Dream Beam Series Yagi's

The Dream Beam series offers antennas for both space limited Hams as well as the "Big Guns" who have the space and want the very best.

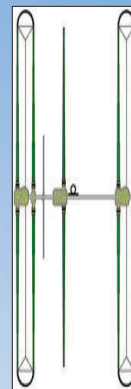


DB11 Yagi Antenna

DB11 Yagi, 18.5 ft element length, 11 ft boom, 10.8 ft turning radius, 61 lb, 5.9 sq ft wind load; 2 active elements on 20m; 3 active elements on 17, 15, 12, 10, 6m.

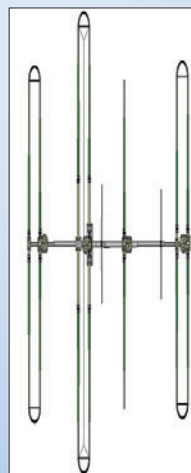
DB18 YAGI

Dreambeam DB18 yagi, 3 el on 20m-6m, 2 el on 40/30m, 18 ft boom; Does not include optional 6m passive element kit; Includes SDA100 controller.



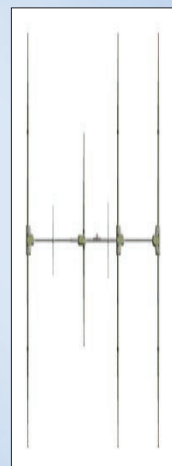
DB18E YAGI

Dreambeam DB18E, 3 el 30m-6m, 2 el 40m, three looped elements, does not include optional 6m passive element kit, 18 foot boom; Includes SDA 100 controller.



DB36 DreamBeam Yagi, 40m-6m

DreamBeam DB36 4 element Yagi, 40m-6m continuous coverage; 36ft boom, 48 ft longest element, 26 ft turning radius, 17.5 sq ft wind load, 160 lb; SDA 100 controller included.



MonstIR 4 Element Yagi 40m-6m

MonstIR 4 element Yagi, 40m-6m continuous coverage with full length elements; 34ft boom, 70 ft longest element, 39.7 ft turning radius, 23.9 sq ft wind load, 160 lb; SDA 100 controller included.

Vertical and Dipoles

For the ham who may not have a tower, but a tree or two for a dipole. SteppIR verticals work great when there are no tall structures around to hang some wire. And, the low take-off angle can be your friend.



BigIR Vertical Antenna, 40m-6m

BigIR vertical antenna, 40m-6m continuous coverage, 32 ft length, 15 lb total weight, 2 sq ft wind load; EIA 222C wind rating when guyed; Comes with SDA 100 controller and 1.5" mounting pole; Does not include optional 80m coil.



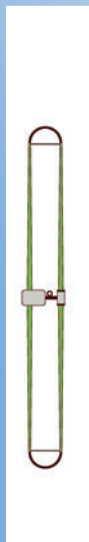
SmallIR Vertical Antenna 20m-6m

20m-6m continuous coverage, 18 ft total length, 12 lb weight, 1 sq ft wind load; EIA-222C wind rating without guys.



20m-6m Dipole

20m-6m continuous coverage dipole; 36 ft element length; Comes with SDA 100 controller.



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Each of the young speakers at the Dayton Youth Forum received an RCA Young Achiever's Award certificate and a \$100 check. They were also all the recipients of an ICOM handheld radio and a packet of goodies from the L'Anse Creuse Amateur Radio Club. (Photographs courtesy of WB2MGP)

Superb Talks and a Surprise Guest — With a 'Gravity Callsign'

Kids of All Ages Steal the Show at the 2011 Dayton Youth Forum

By Carole Perry WB2MGP

With 370 folks in the audience, you could hear a pin drop. You could feel the excitement. You could sense the support, as the young speakers gave their presentations at the Dayton Youth Forum in May.

I was delighted to have 11 young presenters this year, so we changed the format a bit, and gave each one a 10-minute time slot. Even though the Dayton Amateur Radio Association (DARA) has graciously given us a three-hour time slot, between the presentations of the children, the giving away of the many generously-donated gifts to the audience and the speakers, the "surprise" guests — such as an astronaut who stopped by to talk to the kids — we really ran close with the time.

Ken Salhoff, N4TCP, announced to our audience that he was donating a colored dog tag souvenir to every child in the audi-

ence, with their name and call sign on it. Last year, this gift was a huge hit!

Liam Chriswell, KDØNIZ, 14

Our first young man at the podium was 14-year-old Liam Chriswell, KDØNIZ, from the Boulder Amateur Radio Club Juniors (BARC Jr.) in Boulder, Colorado who engaged the audience by relating how his hiking experience in the scouts led him into his interest in amateur radio.

He spoke about the fun of contesting, DXing and just making contacts for education and enjoyment. Liam informed us about SOTA (Summits on the Air), and all the different merit badges that tie-in scouts with amateur radio. He spoke enthusi-

astically about the Emergency Preparedness badge and explained how important he felt it is.

Anna Veal, WØANT, 10

Next up was 10-year-old Anna Veal, WØANT, from Littleton, Colorado. It was really a pleasure speaking with her dad, Paul, this past year as the two of them prepared for her "Dayton debut."



Fourteen-year-old Liam Chriswell, KDØNIZ, spoke at the forum about the intersection of scouting and ham radio.



Ten-year-old Anna Veal, WØANT, of Littleton, Colorado, spoke at the 2011 Dayton Youth Forum about contesting with a low-power station. (From WØANT @ QRZ.com)

We all applauded when I told the audience that Anna was this year's winner of the ARRL's Young Amateur of the Year Award from the Rocky Mountain Division. Anna showed photos of her low-power, simple station and told us that by following a few simple rules, she is a great winner of contests.

Her rules are: speak clearly and loudly, listen carefully, understand your station's equipment, don't get frustrated, find an Elmer (or Elmira), understand propagation, understand the rules of the contest and set goals. She stressed the importance of having fun, having confidence and playing fair. This is a remarkable young lady.

Chris Howard, WA4YG, 15

When 15-year-old Chris Howard, WA4YG, got up to speak, he had no idea who would be in the back of the room, listening in awe, as he was presenting. As Chris did a fabulous presentation about "Building QRP Kits," astronaut Doug Wheelock, KF5BOC, was being totally impressed.

Chris told us that the reasons for building things yourself are: It's more fun, it's usually cheaper and it's *yours* to customize the way you want it. He told us how amazed he was when he learned about the "magic" of ham radio when he was exposed to it as a scout during Field

Day. Chris enjoys QRP, CW and kit building. Chris is an interesting young man, and an excellent speaker.

Doug Wheelock, KF5BOC/Gravity

The big surprise came with the visit by NASA astronaut Doug Wheelock who's "gravity call sign" is KF5BOC, but he considers his real call to be NA1SS when operating from the International Space Station.



Longtime Dayton Youth Forum Director Carole Perry, WB2MGP, poses with 2011 special surprise guest, astronaut Doug Wheelock, KF5BOC/NA1SS.



NASA astronaut Doug Wheelock, KF5BOC, made a surprise appearance at the Dayton Youth Forum, moderated by WRO Hams With Class columnist Carole Perry, WB2MGP. To see an ARRL video of the presentation, visit: < <http://youtu.be/rPfokymCydE> > (Screen capture of YouTube video by the ARRL)

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Doug *wowed* the audience with his stories of how getting involved with amateur radio has changed his life and his perspective on things. When there were problems on board the International Space Station, Doug was always confident he could count on help from the ham community all over the world.

He was very impressed by the young people at the forum. Doug encouraged the kids to set life goals and then learn problem-solving techniques and emergency preparedness to conquer fear and move ahead to achieve goals.

He was a fabulous addition to the fun at the forum. Doug's presentation is on YouTube in an ARRL-produced video at < <http://youtu.be/rPfoKymCydE> >.

Garrison Kuntz, KB3LEZ, 17

Garrison Kuntz, KB3LEZ, age 17, did a wonderful talk on "Hiking and HT Radio Antenna Selection and Impact on Distance." He is a Boy Scout who enjoys hiking with his dad. Garrison's granddad and dad are hams, so, of course, Garrison became one too. He enjoys combining scouting activities with ham radio fun. So he hiked the Appalachian Trail, near Harrisburg, Pennsylvania to Table Rock. There he tested different antennas at different heights.

Some of the results reported by Garrison were that the bigger the antenna the better the signal will be, the higher you go, the better the transmission will be and line-of-sight transmissions

through the Harrisburg repeaters provided great results.

It was inspiring to hear about the adventures in radio of three generations of hams.

Ryan Harris, KD8PIR, 12

A 12 year old, Ryan Harris, KD8PIR, attends Dresden (Ohio) Elementary School where his Elmer is my good friend Jim Mayercak, WX8J, head of the school's amateur radio club.

Ryan spoke about "Using Apps on the Apple iPod Touch." It was fascinating as Ryan took us through the applications and tools as they relate to ham radio. I watched as folks in the audience were looking up apps on their own devices. He spoke of a ham log with a UTC clock, a list of contacts and a wavelength calculator, DX spots, audio recording, propagation reports, Part 97 rules, ARRL Field Day log and a multimedia app to talk with digital ham radio.

It was a fun, informative presentation that was well done!

Austin Schaller, KDØFAA, 16

Austin Schaller, KDØFAA, 16, made his second appearance at my Dayton Youth Forum. His topic was "Programming with PICs Micro Controllers."

This bright, bright young man told us how his grandfather sparked his interest in ham radio when he was 11 years old. Austin found his way to BARC Jr. where



Youth Forum Director Carole Perry, WB2MGP, and Gordon West, WB6NOA, announce a joint venture to give out free packets of curriculum materials to instructors and teachers.

he set goals for himself to become an Extra Class and an Elmer. He has accomplished both.

Austin, of Boulder, Colorado, spoke about the advantages and disadvantages to programming PICs as well as giving information about where to find tutorials and online forums. He created a demonstration for BARC Jr. at Field Day using this technology.

When Austin spoke at the 2009 Dayton Youth Forum, he *wowed* the audience with his presentation on "Fractal Antennas" — and *wowed* us all again in 2011!

Gordon West, WB6NOA

Gordon West, WB6NOA, of Costa Mesa, California, made his usual "fun" appearance at the Youth Forum. Gordo is known for his use of props and gadgets to demonstrate fun facts with people from the audience.

This year, Gordo and his publisher have joined with my Radio Club of America (RCA) Education Committee to help get curriculum packages into the hands of teachers and instructors who are working with youth and ham radio.

To find out if you qualify for this complimentary package, please contact Gordo or me. Discount certificates were donated to be used at the Gordon West Booth at the Dayton Hamvention®.

Amanda Lee, KDØJAY, 10

Ten-year-old Amanda Lee, KDØJAY, was the second young lady to speak this year. She, too, is from BARC Jr. — a club run by Rip and Ellie Van Winkle that has



Two tables at the Dayton Youth Forum were filled with donated gifts for the young speakers and for the kids in the audience.




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sent well over 50 young people to my Youth Forum through the past 20 years.

Amanda, whose talk was on "Handi-Hams and Amateur Radio," worked closely with my BARC friend, Gerry Leary, WB6IVF, who is blind.

Gerry is a retired auto mechanic who now owns his own coffee business in Colorado called the "Unseen Bean, Inc."

He gave Amanda great insight into what other hams can do to be of assistance to operators who may be blind, deaf, physically challenged or mute. Amanda's advice was: "Just be a friend."

For more information about hams with disabilities who are doing terrific things, contact:

Courage Center Handiham System, 3915 Golden Valley Rd., Golden Valley, MN 55422. Call toll-free: 1-866-426-3442. Via email: <hamradio@couragecenter.org> or on the Web at: <<http://www.handiham.org>>.

Amanda is wonderful, articulate and gave a really inspiring talk.

Ryan Roberts, KDØDGN, 14

Ryan Roberts, KDØDGN, who is 14, gave a wonderful presentation on how "Scouting and Amateur Radio Promote Each Other."

For example amateur radio is promoted through the Radio Merit Badge with all its associated activities. The ARRL and the Boy Scouts of America signed a memorandum of understanding that makes the League the key resource for the Boy Scouts to go to in matters of radio.

Ryan suggests that hams take their radio skills to their local Boy Scouts and volunteer to get involved at the local level, coun-

cil level, national level or worldwide level. Scouting and ham radio enable young people to have a voice in an important way.

The Pike Boys: KJ4AXB, AXF and AXD, age 17, 16, 13

Giving a fabulous presentation about D-Star were Collin Pike, KJ4AXB, 17; Justin Pike, KJ4AXF, 16; and Patrick Pike, KJ4AXD, 13, all of Roanoke, Alabama.

They each are Amateur Extra Class operators. Collin is the youngest administrator in the world of D-Star, and an Eagle Scout.

The boys belong to the Le Grange Amateur Radio Club and build and manage D-Star repeaters and gateways for youth. They go to charity events and build antennas for their ham friends.

The trio explained that D-STAR stands for Digital Smart Technology for Amateur Radio and Collin concluded by assuring the audience that no technology is too hard for young people.

Don DuBon, N6JRL, and Dave Kalter, KB8OCP

Two of my favorite people — who are huge supporters of the Youth Forum — were next, speaking about a super event they are running in July. Don DuBon, N6JRL, and Dave Kalter, KB8OCP, are the creators and leaders of the Youth DX Adventure — the group's second annual.

This summer a team of 14 was set to leave for Costa Rica with the objective of contacting as many stations as they can from July 21-24. There was no cost to those who participated

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Al Eckman, WW8WW, and ARGYL

To add to all the excitement, my dear friend and longtime contributor to the Youth Forum, Al Eckman, WW8WW, brought his media squad of high school students from Lowell (Michigan) High School to record the whole event on two DVDs for us. ARGYL — which stands for Amateur Radio Group for Youth in Lowell — has provided many young speakers to our forum over the years. It definitely added to the professionalism of the Youth Forum.

Invaluable Support from Co-Sponsors

To all the generous co-sponsors of this year's Dayton Youth Forum, I send thanks and appreciation on behalf of all who participated in the 2011 event.

We had two long tables with stacks of radios, certificates, checks and other donations for door prizes.

ICOM generously donated 12 handheld radios to be given to the speakers and one as a door prize. Ray Novak, N9JA, has supported the Youth Forum for 23 years.

Kenwood's Phil Parton, N4DRO, cre-

ated a stir by donating a TS-590S transceiver to an adult in the audience who works with a youth group. Our good friends from BARC Jr. won it!

I donated an ICOM handheld radio to show my appreciation for all the support from the "love audience" through the years.

RCA's Education Division gave the "RCA Young Achiever Award" to all the young speakers, along with a check for \$100 to each one.

MFJ Enterprises, which always works with Ralph Irish, W8ROI, from another generous co-sponsor — L'Anse Creuse Amateur Radio Club — to discount their donations to us, gave a 40-meter CW transceiver to a lucky child who won it in the audience. MFJ's Richard Stubbs and Martin Jue have supported this forum for the past 24 years.

Ralph's group donated MFJ short-wave receivers along with earphones and certificates. It prints the door prize tickets for us, as well.

Ham Test Online donated seven packages of its materials, which were well received by the winners.

We concluded the 2011 Dayton Youth Forum with five minutes to spare and a smile on everyone's face.

Be sure to contact me this fall if you have any young candidates for the 25th Annual Dayton Youth Forum in 2012.



The Amateur Radio Group for Youth in Lowell (Michigan) recorded the entire three-hour 2011 Dayton Youth Forum under the guidance of its teacher-Elmer Al Eckman, WW8WW.



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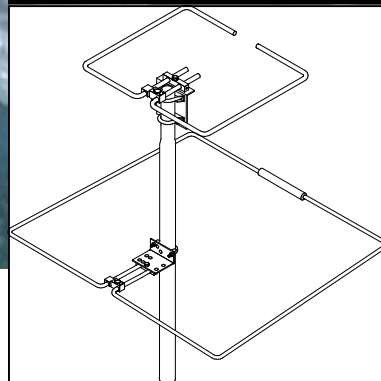
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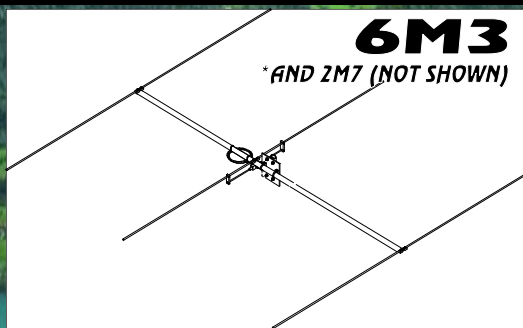
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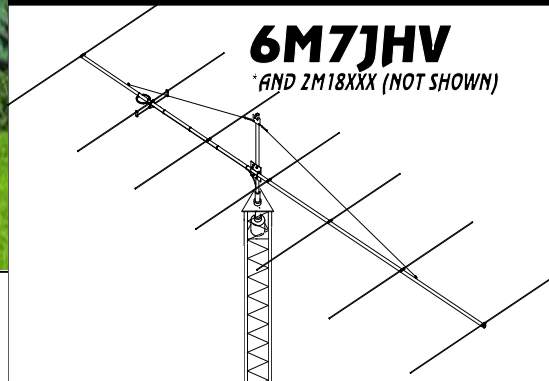
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What's the Best Way to Work DX 'By the Numbers?'

By Kelly Jones, NØVD

In July's *DX World*, headlined *A View from the Other Side of the Pile-Up*, Dee Logan, W1HEO, wrote about his experience operating from Aruba — P4.

Dee mentioned several techniques he used to help manage his pileups in an effort to give a QSO to as many of "the deserving" as possible. One of those was to call stations "by the numbers."

While there are many opinions as to whether this is a good idea, it can be an effective way to help reduce the number of stations calling, resulting in the DX station being able to work more people in the same amount of time.

However, as simple as this may sound, there are always exceptions. **Don Segedie, WD9DPK**, of Agoura Hills, California dropped me an email and asked: "In your July *WRO* article, you stated: 'If the DX is asking for call area four, then he only wants stations located in call area four to answer him.' I live in area six but my call is WD9DPK. Wouldn't this cause a problem, as it is not following the request of the DX station? Should I wait until he calls for area nine or just do nothing and not respond?"

Don brings up an excellent point. Since the FCC no longer requires hams to change their call if they move to a district that is not representative of their "number," we get into some gray areas when DX stations are going by the numbers. In fact, I was in the same situation for a few years after moving to Colorado.

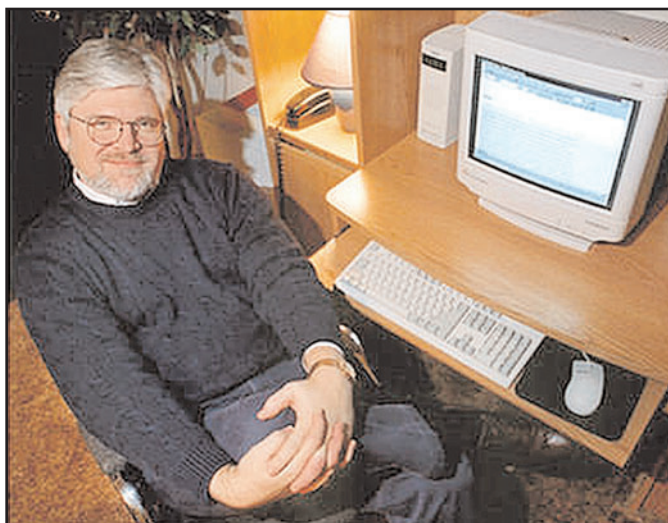
Up until that point, I had been a nine, but always resided in nine-land. However, after moving to Colorado, I was now a nine-lander in Ø-land. When I was working DX stations that were going by the numbers, I always struggled with when to call — do I call when the DX is asking for nines? Do I wait until he gets to Øs? Do I call when he's asking for either nines *or* Øs?

I have to admit I ended up doing a combination of all three. However, it always felt a little underhanded to call as a Ø appending /Ø to the end of my nine call. But often times that worked to my advantage as there were typically fewer Øs calling than nines.

That said, the goal of the DX station is usually to thin the pile in order to work more guys in the same amount of time (increasing his rate). I would stress to use your best judgment about when to call if the DX is working by the numbers. One thing is certain in all cases: If the DX is asking for eights and you don't have an eight in your call *or* don't live in the eighth area, then don't call. Please wait until one of those two criteria is met.

Don Keith, N4KC, of Indian Springs Villa, Alabama, also sent an email with a couple of observations regarding July's *DX World*: "Kelly, I very much appreciated your comments in your *WorldRadio Online* article.

"Even as a casual DXer, it always amazes me that guys think they can work a station more quickly by calling out of turn or continually sending or saying his/her call — even when the DX station is transmitting!



"Even as a casual DXer, it always amazes me that guys think they can work a station more quickly by calling out of turn . . . even when the DX station is transmitting!" writes Don Keith, N4KC. (Courtesy of N4KC)

"And you are right when you say it often costs that guy the contact as well as others when he makes the entire pileup get all gunked up.

"I do think there should be a mention to the DX stations, though, about a few things they can do to help manage the pile-up. When the DX station calls for 'the station with Papa Charlie in the call' and somebody else transmits, then the DX picks up the rude station anyway, it signals to everyone else that he or she will respond to others. Chaos results.

"The DX station should stick to his or her guns! Try to get 'Papa Charlie' for a reasonable amount of time, letting everyone out there know he or she will not move to the next station until everyone hushes and allows him to pick him up.

"I love the stations that call out the interlopers: 'W9###, I called for threes and you are not a three. If you want a contact, you will wait your turn like everyone else.' You can hear cheers ringing out from 'two up!'"

Don makes a great point here. While every DXpeditioner has to start somewhere, it's very easy to spot the inexperienced.

Like Don, one of my biggest DX-related pet peeves is when a DX station asks for the "Papa Charlie" and ends up taking a station that doesn't have a P or C in their call. As Don states, this tells the pileup to just blatantly call regardless of who is being asked for.

There are many side effects of doing this: The DX's rate will come to a grinding halt, the pileup will become unruly and QRMers will certainly make their presence known — if they

Those lucky enough to make it into the “The Penguinator’s” logbook were rewarded with a beautiful QSL card for this rare DXCC entity. (Courtesy of NØVD)

haven’t already. And I often find myself yelling at the radio “don’t do that” when I hear a DX station engage in this type of operating procedure.

Generally speaking, the DXpeditioner must be in control of the pileup. In the end, everybody benefits. For example, more stations will get in the log. One of my favorite stories of “pile-up control” comes from the days of Alan Cheshire, VKØMM — “The Penguinator,” as he was affectionately known.

If you were DXing in 1999-2000 you’re sure to remember him. At the time Macquarie Island (VKØ/M) was very rare. Alan was stationed on the island as part of a sub-Antarctic research team, but he was an experienced DXer.

When he hit the air, the pent-up demand was unbelievable — and the pileups were just as unruly. Alan’s “schtick” was to warn the pileup that if operators did not behave, he would simply QRT — he was not there on a DXpedition *per se* and didn’t “have” to be on the radio. He was simply providing a QSO (and likely a new one) to The Deserving.

Since Macquarie would be a new for me, I wanted to work Alan just as badly as the rest of the world. So it was extremely frustrating for me as Alan stuck by his word and simply turned the radio off when the pileup got out of control.

Of course, this toyed with the emotions of the DXers at large. Not only did we not get in the log, but he’d QRT and you didn’t know when he’d be back on the air. There is something about having that carrot in front of your face, only to be taken away and nothing you could do about it.

Yelling at the radio and scores of guys who didn’t follow Alan’s rules didn’t help — although I suppose it lowered my blood pressure.

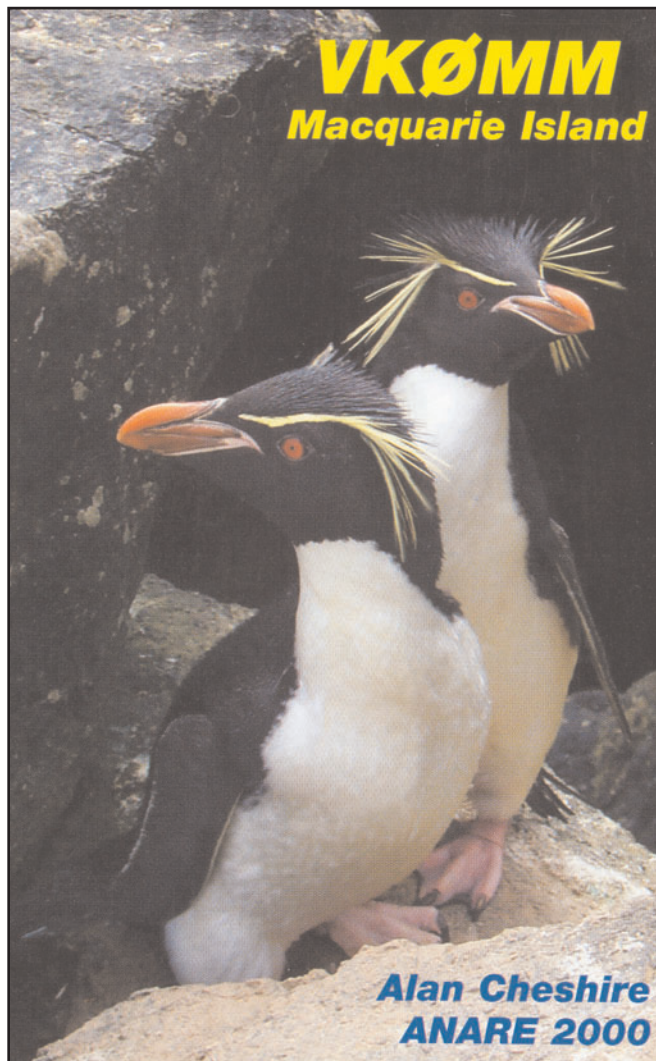
After a couple of weeks, Alan’s pileups became some of the most “pleasant” I’ve ever heard. In fact, they became so well behaved, you could even have a short QSO with Alan as opposed to a simple “5-9” and run.

But the bottom line was that more people made it into his log than if he had tried to duke it out with an unruly pileup.

There are numerous things you can do to increase your chances of getting into the DX station’s log — however, relentless calling is not (or should not) be one of them. A very good web resource is the “DX Code of Conduct” < <http://www.dx-code.org/> >.

DXers need to comply with the DX station’s requests. And always remember, the most important “trick” when working DX is not to call, but to listen, listen, listen.

That’s it for this month’s column. 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. I’ll do my best to include it in and upcoming column. Look for me on Facebook or Twitter, as well. Until next time, see you in pileups!



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YLS Take Note: Hamfests, Retreats and International Meets

By Jennifer Oliver O'Connell, KI6OIL

Amateur radio conventions, hamfests and retreats take place throughout the year, but April seems to kick off the big-gun events for our world — those events that draw a national and international crowd.

This year, the majors included the International DX Convention in Visalia, California in April and Dayton Hamvention® in May.

But one you may not have heard about is the Military Radio Collector's Group-West Retreat. The people who attend are immediately hooked and always return — I'm a witness!

Held the first weekend in May, it's in the spotlight in this month's YLS because the MRCG-West Retreat is one that YLS tend to bypass — much to their misfortune.

There are several of us who find the military communications aspect of the hobby fascinating, and do what we can to keep it alive and promote its value to the community. We think others would find it interesting, too.

The MRCG-West collects, restores, exhibits and uses vintage communications equipment from military services worldwide. There is a similar group on the east coast, as well as smaller groups scattered throughout the U.S. and the world.

But the MRCG-West has increased in popularity over the years, through its annual May retreat held at Camp San Luis Obispo in San Luis Obispo, California.

MRC radio amateurs from across the United States and as far away as Australia converge on California's Central Coast to show off their restored equipment, in-progress restorations and to buy and sell equipment — a key aspect to any good hamfest.

Lynn Fielding, KE6JCD, is organizer of the retreat. Her involvement began when her OM Bart, WB6HQK, took her to an MRCG-West event at Fort MacArthur in San Pedro, California.

"We met the people, and it became a yearly event for us," she said. "Then Dennis Du Vall, W7QHO the group's

founder — wanted to step down and I didn't mind taking it on. I'm a pretty good organizer."

That is an understatement. Lynn puts together the whole thing, from soup to nuts. She coordinates the talks and displays, sets up the hall, prepares the continental breakfast and cooks the afternoon and evening meals — which are *always* delicious.

She is nonchalant about the tremendous effort she puts forth to bring it all together. "It's a fun thing to do, and you don't really pay attention to what the time is. It's nice to keep this stuff alive!"

For Lynn, it's all about the participants and all about the hobby. "I like the people, they're all nice people," she said. "It's fun to know (a person's) history, how they got into amateur radio; what cool (military communications) stuff they have — that's really neat! "The theme is basically World War II and before, and you get some of the more recent stuff. But the old stuff is really cool, because it still works, and it gives you life-long projects."

Lynn encourages YLS to check out the MRCG-West website: < <http://www.mrcgwest.org/> >. There's also a Yahoo! Group, "so you can keep up with what's going on," she said. It's at: < http://groups.yahoo.com/group/mrcg_west/ >.

"We try to make this a family event — dog friendly, cat friendly! We don't discriminate to certain species. People are more willing to come if they can bring their family and they are welcome. It's not just a 'Good-ole-boy' event."

For Laura Mae Brennan, KA6BKF,

Some of the YLS at the 2011 Dayton Hamvention® were, from top, (A) Nancy Rabel Hall, KC4IYD, left, and YLRL President Lois Gutshall, WB3EFQ; (B) Conny Wellner, DF8MN; Brigitte Schafer, DD2DD; Tina Clogg, VK5TMC; and Ann Nutter, VE3HAI after the YL Forum; (C) A group shot from the 2011 YLRL Forum; (D) Clara Woll, KJ6CNO. (Courtesy of NØWBV)



and Cathy Castorina, KB6ORH, it is all about togetherness.

"Traveling along with your husband and learning what his interests are makes for a really close relationship with your family," Laura said. "Whether you have young children or whether your children are all grown, they all learn that the military is important — it's the backbone of our country."


Cathy partners with her OM, John, WB6AZP, in rebuilding every piece of equipment — including intricate teletype gear — which they often display and sell.

"We've rebuilt everything together," Cathy said. "We play off different ideas for doing the lettering and things. We have a lot of equipment that we've bought over the years."


Along with the complexity and challenge of rebuilding the equipment, Cathy also enjoys the aesthetics: "Form follows function, and I was raised as an artist, so I find beauty in the equipment. Especially tubes — they're so pretty!"

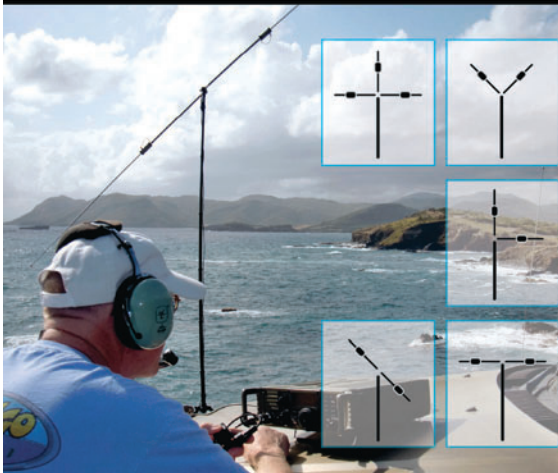
"I love blown glass, and I love the intricacy of the little tiny, tiny lines. And everything has to be spaced out beautifully and set up beautifully for it to work. It's just really cool."

Like my fellow MRCG-West YLs, my



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YLs at the MRCG-West Retreat were, clockwise from top left: Lynn Fielding, KE6JCD and Cady, the official MRCG-West Mascot; Cathy Castorina, KB6ORH; a sample of restored military teletype gear; and Laura Mae Brennan, KA6BKF. (Courtesy of KI6OIL)



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OM, Lynn, KG6DNY, invited me to the retreat several years ago. I was immediately hooked, for similar and different reasons than my sisters.

As a writer and a communicator, military communications gear fascinates me. Historically, it has helped change the course of wars and even more important, saved lives. Does anything hit home more than that?

YLS @ the 2011 Dayton Hamvention®

Although I was unable to go this year, former *WRO* YLs columnist Cheryl Muhr, NØWVB, was representing, and gave me the skinny!

Miracles do happen, because there was little rain this year. When I speak to YLs who attend Dayton each year, they always talk about a deluge of rain sometime during the week, if not the entire week!

I guess the radio and weather gods smiled on hams that week, which made for a more pleasant experience.

The YLRL (Young Ladies Radio League) < <http://ylrl.org/> > and Buckeye Belles < <http://kc4iyd.com/buckeyebelles/> > had a combined booth, and lots of the YLs stopped by to jaw and eyeball each other.

International YLs who popped in included Brigitte Schafer, DD2DD (great call!) and Conny Wellner, DF8MN, from Germany; Tina Clogg, VK5TMC, from Australia; Yvonne Thiemann, HB9ELF, from Switzerland; Sarla Sharma, VU2SWS, from India; and Joanna Dobbs, GØOWH, from Great Britain.

Cheryl was kind enough to send some pictures from the YL forum and the YLRL/Buckeye Belles booth, and they accompany this month's column.

Clara Woll, KJ6CNO, of Chatsworth, California, was also

at Dayton. Her OM is Marty Woll, N6VI, the ARRL's Southwestern Division Vice-Director.

After many years of living with a ham, Clara finally gave in and tested for her license two years ago. Now she's immersed in the hobby and having a grand time at it! She "particularly enjoyed" attending the YL Forum. "It was nice to see a room full of women amateurs." Clara also won a certificate for \$300 off a Flex 300 radio at the Contest dinner. This is not the first time she's told me she won something at a ham radio convention . . . I need to hang with her more often.

The Dayton YL Buzz

The big YL news of Dayton Hamvention® weekend was the 2012 YL International Meet in Adelaide, Australia.

Start saving up your ducats, ladies, as it sounds like it will be a wonderful time. Details can be found at: < <http://ylinternational2012.com/> > or you can contact Tina Clogg, VK5TMC, via Facebook. Search for: "Tina VKfivetmc"

Internationally Speaking . . .

On another international note, check out YLOTA: < <http://ylota.blogspot.com/> >. It is a site hosted from France and dedicated to the active YL.

I'm going to patch off my QSL card and complete my profile on the site, so I can join the conversation online with our Franco/European YLs.

I've found lots of international sites dedicated to promoting YLs and their place in amateur radio, and I plan to highlight one each month.

If I don't know about your site, patch me an email at: < joliveroconnell@gmail.com >. I'll give it a mention.

Summer ends on September 22. I hope the rest of yours is grand!— 33 & 73, Jennifer, K16OIL

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Into the Night With An Eye-Friendly Light

By Richard Fisher, KI6SN

SCENE ONE: You and your trail-friendly radio, out in the middle of nowhere on a late summer or early fall night. The Milky Way sweeps across a cloudless sky. It's pitch dark and as you kick back to work some of the gang on 40-meter CW, satellites eerily track from horizon to horizon — visible with the naked eye.

SCENE TWO: A coax feedline connection needs to be checked before getting on the air. You reach for your *big honkin' flashlight*. White light — the kind you hear about in near-death experiences — floods the campsite.

FINIS: Blinded, 15 minutes later you're still waiting for your eyes to adjust to the night.

Sound familiar? It doesn't have to be. With a little scrounging through your junk box or a trip to the local electronics parts store you can have everything you need to make a trail-friendly nightlight that will light up your life without messing with your night vision.

The secret weapon for the Trail-Friendly/Eye-Friendly Service Light (T-F/E-F for short) is its red light-emitting diode (LED). Without going into an anatomical jag about the human eye's rods and cones, consider this: Nine out of 10 field operators prefer red light to white when illuminating a dark environment. (I made that up, but if it's not true, it should be.)

The accompanying photographs and schematic show just how simple the T-F/E-F Service Light is to construct. Mine is built in a plastic RadioShack project box measuring 3 inches x 2 inches x 1.25 inches (**Photo A**). It's a slightly modified version of a circuit design introduced to the Adventure Radio Society years ago by Bill Jones, KD7S.

Here's the parts list, with RadioShack catalog numbers for builders who prefer to get parts there:

- B1 CR2450 lithium battery (23-189)
- D1 1N4001 diode (276-1101)
- D2 Red, high brightness LED (276-015)
- S1 SPDT toggle switch (275-625)
- S2 Momentary pushbutton switch (275-644)

A look at the schematic shows a 3-volt lithium battery as the light's powerhouse. A momentary pushbutton (S2) is its ON/OFF button. There's no reason a standard ON/OFF toggle or slide switch couldn't be substituted. Because I'm notorious for forgetting to turn off battery-powered things, I chose the momentary switch. The battery has lasted about 10 years thanks to that momentary stroke of brilliance.

A standard SPDT toggle switch (S1) is used to change between DIM and BRIGHT settings. Experience shows that using as little light as needed — even eye-friendly red light — is best to preserve night vision. I start with DIM and then jack up to BRIGHT if more illumination is needed.

When S1 is in the low-power DIM position, a 1N4001 diode is toggled in line — introducing a slight voltage drop from the battery to the LED.

In the accompanying schematic, S1 is toggled to BRIGHT, bypassing the diode and allowing full power to pass from the battery.



Photo A: The KI6SN version of the Trail-Friendly/Eye-Friendly Service Light is built into a plastic RadioShack project box — small and light enough for T-FR use and big enough so it won't get lost in your backpack.
(Photographs courtesy of KI6SN)

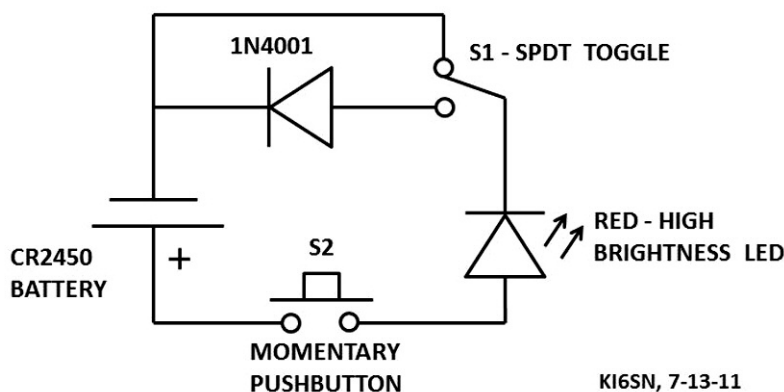


Photo B: A small plastic sleeve was crafted to hold the 3-volt lithium battery used to power the T-FR nightlight.



Photo C: Even the camera's flash is not enough to wash out the illumination of the T-F/E-F Service Light. BRIGHT and DIM settings give the user the option to use as much or little red light as needed.

A Trail-Friendly / Eye-Friendly Service Light for the Radio Amateur



Speaking of the CR2450, it is one of those flat, round batteries commonly used in toys or gadgets that don't require much in the way of volts or amps. The kind you might mistake for a nickel or a quarter in your change pocket. At three volts, it can provide up to 650 ma. With S1 in the BRIGHT position (as shown in the schematic), the LED draws about 50 ma. In DIM, it's about 20 ma.

Mounting the battery in the KI6SN construction configuration took a bit of thinking. I didn't have a holder specifically made for the CR2450's style and didn't want to buy one. So a small plastic sleeve was created — cut from one of those nametag holders you get at conventions or Tupperware® parties. It creates a tight fit for the battery and its connections.

By simply sliding soldering lugs into

the sleeve (one on the battery's PLUS side; the other on the NEGATIVE) I get solid contact with the battery that has never let me down (Photo B). For sure, there are more and better ways to do this, but that's for you to find through experimentation.

The low parts count certainly allows for putting the T-F/E-F Service Light into a much smaller package. I chose the rather large plastic box because using anything smaller would surely get lost in my backpack. KD7S suggested considering an empty dental floss container. It could be done. But I'd lose it in a heartbeat.

There's nothing magic about the circuit's layout. I started construction by mounting the LED, pushbutton and toggle switch in the plastic box. Of course, you'll want them positioned where they make the most sense for use as a flash-

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light. I chose to put the pushbutton on a top surface and the toggle switch and LED as bookends on the vertical side surfaces.

Photo C shows the power of the T-F/E-F's BRIGHT beam. Even with the scene bathed in light from the camera's flash, the illumination can clearly be seen.

I've used this little gadget to light the trail ahead of me (and behind me when I thought I heard a bear), as well as for general use around the campsite. Where did I put that Twinkie® I could swear was packed for a late-night snack?

Of course, a project this simple and useful cries out for modification and experimentation. The circuit is perfect for beginning homebrewers, as well. I've found that kids particularly take a shine to the T-F/E-F Service Light. It's virtually indestructible and can bring you moments of peace when thrust it into their little hands: "Here, go see if you can find that dollar bill that fell out of my pocket in the front yard."

If you decide to try this circuit, please drop me a note about how it worked. Details on any of your modifications would be appreciated, as well. Pictures, of course, always help tell the story.

My thanks to KD7S for coming up with the original circuit for what has evolved to the T-F/E-F Service Light. It's a real *light fantastic* that just keeps getting better and better.

Your T-FR Adventures

We're always on the lookout for stories about your trail-friendly radio experiences. In the August edition of *WRO*, we went along with **Shel Radin, KFOUR**, for a hike up Raspberry Mountain in Colorado and his radio operation from the summit. It was a great and inspiring read.

Of course, great ideas are made to be borrowed, especially in the T-FR game. Sharing your adventures with others may motivate others to do what you've done, or to try that clever antenna configuration that might have been featured in your field operation.

Exchanging technical ideas, adventure, successes and challenges is part of the fabric that holds the T-FR community together.

Don't hesitate to let us know what you've been up to — either on the trail or at the workbench. Write: < WorldRadioOnline@gmail.com >. We'll take it from there.

For this month, *Happy Trials!*

DX Predictions

September 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/Tokyo, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio de Janeiro. Smoothed sunspot number = 60.

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	(12)	*12	*22	(10)	*19
12	(20)	11	*19	17	(16)
14	26	*14	*16	22	*26
16	29	14	18	22	*33
18	*30	17	(15)	20	*36
20	*28	*25	27	16	*37
22	24	*26	*34	(12)	*36
24	20	*25	*37	(11)	*35
2	*18	*23	*38	10	*28
4	*16	*19	*35	*13	*24
6	14	*16	*31	(12)	*20
8	(13)	*13	*26	(11)	*18


CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SA
8	(13)	(11)	*21	10	*17
10	(17)	10	*19	16	*16
12	26	*14	*16	*22	*26
14	29	(12)	20	*24	*32
16	30	(11)	18	*23	*35
18	*31	(10)	(15)	*21	*36
20	*28	19	28	*18	*37
22	*24	23	*34	12	*38
24	*20	22	*37	*11	*31
2	*18	18	*34	10	*26
4	*16	14	*30	10	*22
6	14	12	*25	*11	*19

EAST COAST



UTC	AFRI	ASIA	OCEA	EURO	SA
7	17	(11)	*21	*10	*18
9	19	*10	*19	16	*16
11	*31	*14	*16	*22	*25
13	*36	(12)	21	*24	*31
15	*36	(11)	19	*24	*34
17	*35	(10)	(17)	*23	*36
19	*31	(16)	(23)	*20	*36
21	*26	22	32	14	*36
23	*22	22	37	*12	*35
1	*19	18	33	*11	*28
3	*16	13	*30	*10	*24
5	*19	(12)	25	*11	*20

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3CX400U7	4CX250BT	4CX15000A	866-SS
3CX800A7	4CX250FG	4X150A	872A-SS
3CX1200A7	4CX250R	YC-130	5867A
3CX1200D7	4CX350A	YU-108	5868
3CX1200Z7	4CX350F	YU-148	6146B
3CX1500A7	4CX400A	572B	7092
3CX2500A3	4CX800A	805	3-500ZG
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W.W. Warren, KB9TMP's, exposure to amateur radio has all the drama of a Saturday matinee World War II movie. Germans, U.S. agents, a radio in a wooden box with "knobs and gauge dials all over the front of it."

But we won't spoil the story — other than to say it has a happy ending, with another licensed radio amateur in our midst. You can pick up the tale below.

Are you as proud of your station's appearance as KB9TMP? Or do you find your messy radio shack quite comfortable and the perfect retreat for some on-air relaxation? Send digital photographs of your station with details to: < WorldRadioOnline@gmail.com > and we'll consider them for publication in Station Appearance in an upcoming edition of WRO.

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

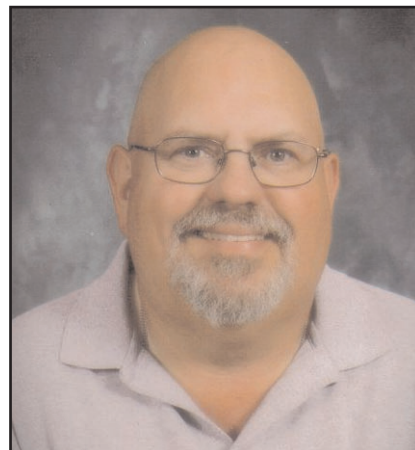
By W.W. Warren, KB9TMP

The way I became interested in two-way radios is from the husband of a friend of my mother's. They lived in a small town in northern Indiana.

I had been told that the gentleman was into ham radios and due to his being a German emigrant, the U.S. Government paid him regular visits during World War II to check on his "radio activities." The gentleman always showed them his radio that was dismantled and placed in several different boxes in different rooms!

"It's a real rush to be able to talk all over the world."

—W.W. Warren,
KB9TMP



When we would visit them I would wind up in his "shack" and see the most beautiful radio you could ever want. It was large and had a wood box for the case and had knobs and gauge dials all over the front of it.

It also had the antenna on the top of the radio formed into a square with many rounds of wire sitting on a base shaped like the base of a table fan. If you have ever seen an old World War II movie with the "underground" using a shortwave radio, you know just what I'm talking about. The radio had the standard code key and a D-104 microphone in front of it.



Photo A: From left on the desktop is KB9TMP's Yaesu FT-817 QRP transceiver, a Kenwood TS-450Sat HF radio and a Kenwood TM-V708a for 2-meter 70 cm. On the shelf above is a B&W VS300A tuner, a Yaesu FC-700 tuner and an Astron RS35A power supply. (Courtesy of KB9TMP)

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Photo B: KB9TMP's homebrew 20-meter double bazooka wire antenna with a Jetstream 2-meter, 70-cm vertical in the background.

At my young age I fell in love with it, or at least the idea that one man could talk into a piece of furniture, speak to Germany and scare the government officials with his words. My first thought was "this is something I've got to do!"

After several years of playing around with walkie-talkies, Citizens Band radios and other toys, I got serious. So at the age of 42 I finally got around to taking the test to become one of those "hams."

After a while I got busy and learned Mr. Morse's code and upgraded to General then Extra.

As you can see in **Photo A**, today I have, from left on the desktop, a Yaesu FT-817 QRP transceiver, a Kenwood TS-450Sat HF radio and a Kenwood TM-V708a for 2-meter 70 cm. On the shelf is a B&W VS300A tuner, a Yaesu FC-700 tuner and an Astron RS35A power supply.

Photos B and **C** show my antennas.

I was first licensed in 1998 and KB9TMP is my one-and-only callsign. My interests are in digital modes and listening more than anything. I like rag chewing but I do better at the keyboard.

QRP and working special event stations also piques my interest. I'm also a VE with the ARRL and a member of the ARRL along with the Hoosier Hills Ham Club: < <http://www.w9qyq.org/> >.

My favorite bands are 2, 6, 10, 40 and 60 meters. I don't "chase paper" at all, but I do QSL anyone who wants one. Just having them in my log is enough satisfaction for me.

It's a real rush to be able to talk all over the world. I've used phone to talk to Germany and PSK 31 for Spain and Italy. Other neat modes I use are SSTV, Hellschreiber and RTTY.

I have my own simplex EchoLink Node (KB9TMP-L #7492) online, as well.

It's kind of strange how little things in life can affect a person. Hopefully I've said something here that will spark that same excitement in someone. Who knows what could happen from there?

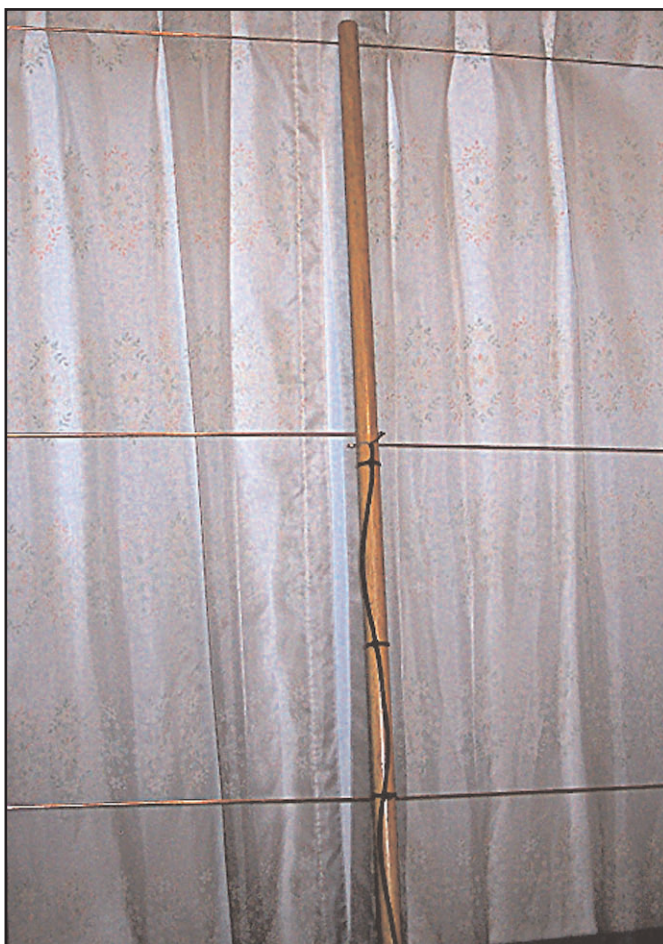


Photo C: A welding rod and a broom handle were used to make a 2-meter portable beam at W.W. Warren's amateur radio station in Lawrence County, Indiana.

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Worth Repeating: Tone Access and the Strange ‘Social Order’ of SoCal FM

By Bill Pasternak, WA6ITF

One of the most-often-asked questions I get is: “Why are there more closed repeaters on 2 meters in Southern California (SoCal) than there are open repeaters?”

The latest volume of mail tells me this well-worn issue needs to be revisited.

So, here’s the deal: There are really very few “closed” repeaters in SoCal. Many users — especially newcomers to VHF — tend to equate “tone access” with “closed.”

They do not comprehend — or pretend not to comprehend — that in an area where there are more hams and repeaters per square inch than anywhere else in the nation (likely, the whole world) and with physical spacing between repeaters at times less than 70 miles, it is important to take steps to mitigate — if not eliminate — co-channel and/or adjacent channel interference.

The use of tone access is one of the tools in a frequency coordinator’s and/or repeater owner’s toolbox to accomplish this.

Yes, there are a lot of repeaters in Southern California on UHF that have a highly restricted user base and exclude all others. We’ll get at that later.

Only a handful exists on 2 meters. The crowding and band saturation from 144 to 148 MHz simply will not allow for it because every time a new mode comes along, it demands a home. So it’s pretty hard to be “private” on a band where everyone is looking for a spot for his or her own ham radio interest.

SoCal Relay System Designations

Actually, Southern California officially recognizes four distinct classifications of repeaters and some subclassifications within them as well: Open, closed, private and (get ready for a mouthful): The individually-owned and operated, remotely-controlled, amateur base station radio system.

Here’s a primer on the VHF/UHF FM



Here’s a picture of “the almost original repeater that started it all in the 1950s,” Looking West columnist Bill Pasternak, WA6ITF, said. Owned by the late Art Gentry, W6MEP, the K6MYK machine is generally credited as being the world’s first successful fully-automatic repeater. “I was visiting Bill Arens, N6NMC, who took over the reins of K6MYK over a decade ago,” WA6ITF added. “He is re-assembling the original 1950s AM system as a show piece. Bill lives only a mile or so from me.” (Courtesy of WA6ITF)

way of life since the mid-1960s — with some added observations, as well:

- The **open or public access repeater** is one on which any ham with a Technician class or higher license can operate. Many repeaters require CTCSS tone access, but this is a technical issue and not an attempt to restrict user access.

- The **closed repeater** is one where access is restricted to members of a particular group of people or club. Join the group or club and you can use it. A closed repeater may or may not require CTCSS tone access. Closed, in this case, refers to the social nature of the individual or group sponsoring a repeater.

- The **private repeater** is similar to a closed repeater, but access requires membership in a specific group or club that is not open to the general ham populace. Rather, it is restricted to those hams the system owner/licensee wants to admit. Most private repeaters are on UHF. Some private repeater owner/licensees deny their own existence to keep the general public from knowing about them. These repeaters, unofficially called **super private systems** usually require a proprietary, non-standard CTCSS or the newer digital CTCSS for access — considered by its users “classified information.” As such, few “super privates” permit being listed in repeater directories. This makes it appear there are far fewer UHF repeaters on the air than there really are.

- The **individually-owned and operated, remotely-controlled, amateur base station radio system** — commonly known as remote base — is just what it says. It’s an operator’s personal station placed at a remote site for the use of the owner alone and/or possibly a few close friends. In SoCal, it’s usually on a mountaintop. Most remotes are very high power, utilize bands at 70 cm and above to remotely control other radios that may operate on the HF (high-frequency) bands, the VHF bands, the UHF bands and even the microwave spectrum. Many are very sophisticated to a point that the owner/licensee can operate them from anywhere in the world using a computer with an Internet connection or an application on a smart phone. The latest generation remote bases are fully frequency agile, run SSB and digital modes with the ability to remotely tune a transceiver and rotate large beam antennas from anywhere the owner can achieve a cellphone or a WiFi connection. However these are still individually-owned stations and

while plentiful in SoCal, they are restricted from use by anyone other than the owner and a couple of friends.

These categories of relay device (and their intrinsic user access ability) classifications were developed and agreed upon in the late 1970s by SoCal’s three major “by-band” frequency management groups (TASMA, 220-SMA and SCRR-BA) and have been published since then in all regional repeater directories edited by Kevin Karamanos, WD6DIH, and the late Karl Pagel, N6BVU.

The only modifications over the years have been for acceptance of new technologies. There have been no changes in regard to the “qualification” necessary for a “ham user” to access a repeater.

Yes, it seems like a restrictive system, but it is a way of life on SoCal repeaters and has been for more than a half century.

The Best-Planned Band in SoCal: 220 MHz

The most interesting and by far the best-organized VHF band and repeater subband in Southern California is 222 to 225 MHz.

Those who planned for its use in the early 1970s recognized the problems affecting growth on 2 meters. In SoCal, 70 cm was considered a fully mature relay subband in the late 1950s, although at that time populated only with privately-owned repeater/remote bases.

So, the 220 MHz planners made certain to focus not only on FM simplex and repeater activity, but all modes including CW, AM, SSB and even future modes that had not been thought of at the time.

When the FCC saw fit to withdraw 220 to 222 MHz from amateur use, work had already been done so that all other modes would have a home on the smaller band. However, this meant that some repeaters had to move and co-channel or go off the air.

Contrary to what some expected, the change went down with few complaints. In the process, the coordination community learned a lot about dealing with “clients” — for lack of a better term — from the 220-SMA.

The SoCal 70-cm FM Anomaly

Remember those “super private” repeaters we mentioned? In the 70-cm repeater subband, I would guess that only about 8 to 10 percent of the systems on

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the air designate themselves that way and go to great lengths to make it appear that they do not even exist.

Why? I'm guessing, but: The owners, and in many cases the user base of these systems, want exclusivity. Of what? "Ongoing discussions," some of which have been "ongoing" for more than five decades.

Several UHF machines in the Los Angeles area are made up of user groups that are specialists in certain fields. Some are used exclusively by those in the broadcast business; such as engineers, managers and even on-air talent. Others are folks in the motion picture industry or in aerospace engineering.

The user base of these repeaters sees a commonality of interest in their conversations and the last thing they want is for that train of thought to be interrupted by someone asking for a "radio check."

These repeaters are kept low-key, out of the public eye and — in this modern age where all is going digital — have "non-standard" digital CTCSS access requirements.

Older machines — or ones not yet updated to digital CTCSS — simply

ignore anyone who finds the CTCSS tone and attempts to make use of a "super private" system.

It was that way when I moved here about 40 years ago, and has not changed much since. But the reality is that very few SoCal UHF repeater owner/operators (or user groups) are so paranoid. The majority understands that scanner radios and ham radio dual-banders are plentiful and have no objection to anyone listening in.

Just don't try to become a part of the discussion unless you get a phone call from the system licensee inviting you to do so.

More Information for You

More on this subject can be found in archive copies of *73 Amateur Radio* magazine from the mid-1970s on. The old *73 Repeater Report* has information, as well, along with several books on FM and repeaters including *The Practical Handbook of Amateur Radio FM and Repeaters* (Tab Books Catalog No. 1212), co-written by Michael Morris, WA6ILQ, and I.

Also suggested reading is *The Chronicles of .76* by the late Kendall

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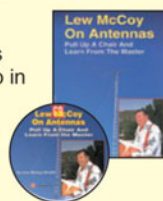
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Webster Sessions, K6MVH. The story it tells is really part of the history of the political and authoritative side of FM operation all across the southwest — but California in particular from about 1950 until the early 1970s. It is very fascinating historical material rooted in fact. You will likely have to do an Internet search to find it. That's where my copy came from some six years ago. It took several months of searching to find it.

If you really want to gain insight into the history of Southern California FM and repeaters, I suggest you read the article I wrote a few years ago in *QST*: "Once Upon A California Hilltop." It is a history of the invention of the fully-automatic repeater, its introduction to amateur radio and its social and political ramifications on our hobby. At the same time, it is also the life story of the man who invented it — my dear friend, the late Arthur M. Gentry, W6MEP.

The article is based on a 2-hour oral history featuring Art in the late 1970s and gave me far more insight into both the technical and community aspects of repeaters than I could ever have gained from anyone else. It also contains an interesting sidebar by Burt Weiner, K6OQK, who was one of the young hams in L.A. who looked to Art as a mentor. It's available on the ARRL website in PDF format at: < <http://bit.ly/qrVOhK> >.

If after reading the article you have any questions, please feel free to email me at: < newsline@arnewsline.org >. I'll do my best to answer — either personally or from one of the other early repeater pioneers with whom I am in contact.

Also, I am always interested in finding out more regarding the political and social aspects of repeaters in other areas of the nation and the world for inclusion in future installments of this column.

If you would like to contribute a few paragraphs please email them to me at the address in the header.

And, A Bit of Advice

In reality the difference between "open" and "closed/private" repeaters is not tone access. Rather it is the attitude of those who own and operate the machines and the attitude of their "users." While it might not seem fair to be excluded, why would I want to go where I'm not wanted? At least out here in LaLa-land, there are so many repeaters that anyone with a license and a radio can easily find a repeater to call home.

— de WA6ITF

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The Rules Say...

John B. Johnston, W3BE

When a Repeater is **NOT** Being a Repeater

Q Would this variance from the D-Star repeater practice be compliant with the rules? My friend is a U.S. citizen with a FCC license. He currently resides in Japan where he is also licensed. Can he route a call to me via the Internet through a gateway stateside that routes his call to me?

A. The FCC does not regulate our systems as such. So, the one described in your question must be dissected and evaluated in the context of the rules that are codified in Part 97.

First, there are good reasons for classifying a system as a repeater. Repeaters are afforded special operations frequency coordination recognition and automatic control privileges. Our amateur service community, moreover, has adopted widely-accepted channelization band plans meticulously prearranged specifically for our repeaters.

Even though it meant forgoing those special operations accommodation allowances, some station licensees claimed D-Star was not a repeater. They reportedly had their stations retransmitting on channels in band segments other than those authorized for repeaters. Their premise was that because the digitizing process adds a slight delay between the time of reception and the time of retransmission, it was not retransmitting simultaneously. Section 97.3(a)(40) defines a repeater as an amateur station that simultaneously retransmits the transmissions of another amateur station on a different channel or channels.

Our regulator was asked, accordingly, to rule on whether the word *simultaneously* refers to the signal information being retransmitted, or to the fact that the receiver and transmitter are both active at the same time and processing the same signal information.

The FCC declared that the word *simultaneously* in Section 97.3(a)(40) modifies the word *retransmit*. It concluded, therefore, that *simultaneously* therein refers to the receiver and transmitter being active at the same time, thus confirming that D-Star fits the definition of a repeater. As such, it is eligible for the special operations accommodations afforded to repeaters. So, that point is a non-issue.

Second, your friend does not appear to be causing or to be allowing an amateur station to transmit inside Japan. So, the fact that he has a Japanese amateur service license is also of no concern.

Third, his international communications passes between Japan and the United States via the Internet, not amateur radio. So, that point is another non-issue.

Fourth, there is the assumption that he is not the station licensee of the repeater that is at a location where the FCC regulates our amateur service. If correct, that is yet another non-issue.

Fifth, there is the matter of whether or not your friend is the duty control operator of the repeater. The control operator can

only be designated by the station licensee. Presumably, he is not; he is a user. If so, there is no issue with this point.

Last, there is the matter of whether the station is truly being a repeater during those times his non-radio communications — as received via the Internet — are being retransmitted. When it is transmitting communications other than the transmission of another amateur station, obviously, it is not being a repeater. While this is occurring, it does not qualify for the special operation accommodations afforded to repeaters.

Some in our amateur service community seem to avow that doing all of the things that a repeater does some of the time, or doing some of the things a repeater does all of the time, entitles a station to enjoy some or all of the special operations accommodations for repeaters any old time it happens to suit its licensee.

Q. Could we consider my friend as being the control operator in a foreign country of a remote base located in the United States?

A. Under that configuration, your friend in Japan would be the control operator of the remote base station transmitting from a place where the FCC regulates our amateur service. Section 97.109 states that each amateur station must have at least one control point. It is, therefore, a part of the station. When a station is being locally or remotely controlled, the control operator must be at the control point. Section 97.3(a)(14) states the control point is the location at which the control operator function is performed.

Section 97.109(c) and Section 97.231(a) authorize telecommand of an amateur station in places where the FCC regulates our amateur service. Among other necessities, the control link between the control point and the station must be sufficient for the control operator to perform his or her duties. A control link using another telecommunication service is considered wireline. So, the Internet can serve as the wireline control link between the station transmitting from a place where the FCC regulates our amateur service and that station's control point.

The primary issue is, therefore, whether or not the control point — being an integral part of the station — must likewise be at a place where the FCC regulates our amateur service. That matter is not addressed in our regulator's rules. If it ever comes up for rulemaking, the decision could be negatively influenced by an unfortunate negative ambiance — an international crisis, perhaps — prevailing at the time.

Our security authorities, moreover, may not always appreciate there being amateur stations transmitting here in our homeland that are licensed to, and controlled by, persons who are beyond their reach in foreign — possibly unfriendly — countries. Most hams probably prefer that the current practice be

codified before some over-imaginative ham becomes way too clever for our own good.

Q. At a remotely-controlled station using a computer and the Internet, does the FCC require the control operator of the station through which the computer is operating to be present at the station?

A. Not necessarily at the transmitting part of the station, anyway. When a station is being remotely controlled, the control operator must be at its control point. Remote control of an amateur station is addressed in Section 97.213. It states:

Telecommand of an Amateur Station

An amateur station on or within 50 km of the Earth's surface may be under telecommand where:

(a) There is a radio or wireline control link between the control point and the station sufficient for the control operator to perform his/her duties. If radio, the control link must use an auxiliary station. A control link using a fiber optic cable or another telecommunication service is considered wireline.

(b) Provisions are incorporated to limit transmission by the station to a period of no more than three minutes in the event of malfunction in the control link.

(c) The station is protected against making, willfully or negligently, unauthorized transmissions.

(d) A photocopy of the station license and a label with the name, address and telephone number of the station licensee and at least one designated control operator is posted in a conspicuous place at the station location.

Our rules regulate our stations, not our systems. We can, therefore, configure and utilize our stations depending upon our interest, our resources or ingenuity and our good judgment. This remarkable flexibility works in our favor as it makes us free to design and implement all sorts of new systems as ideas and technology come forward.

Q. Can I use the Internet from my home to remotely control my base station in a distant city?

A. Yes, assuming that the outlying city from where your remotely-controlled base station is transmitting is a place where our amateur service is regulated by the FCC. For more details, read BE Informed No. 66 IS MY REMOTE BASE OK? < <http://bit.ly/ol3OZf> >.

Q. The person holding the callsign with my initials as the suffix has died. How can I obtain that callsign?

A. Unless otherwise claimed, it should become available under the first-come, first-served provision of the vanity system two years and one day after the license renewal grace period expires or the grant is cancelled. The ULS database shows his operator/primary station license grant will expire on 5/23/2013. So, unless there is a cancellation, it will become available on May 24, 2015. A license that is canceled due to the licensee's death is canceled as of the date of the licensee's death. Read Section 97.31.

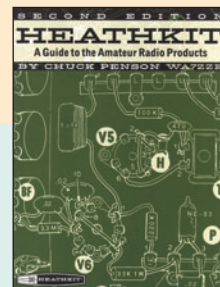
A request for cancellation can only be filed before the grant expires or during the first 23 months of the post-expiration renewal grace period. Send your cancellation request to: FCC, 1270 Fairfield Road, Gettysburg, PA 17325-7245 together with the death certificate, an obituary notice or the matching Social Security Death Index data. Watch the ULS database. The call sign will become eligible for your vanity call sign request 2 years and 1 day after the cancellation date.



Our R&R Superham is QCWA Director Val Erwin W5PUT. Val is Chairman of the QCWA's External Relations Standing Committee. He is shown presenting his report at the QCWA Forum during the Orlando Hamcation.

Read the Rules — Heed the Rules

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A Look Back At How We Got Here

By Dave Hayes, VE3JX



(Courtesy of QCWA)

This month we're reminiscing about when some of us first entered amateur radio.

These memories are not to be construed as criticism of today's requirements. This is just historical information of interest, particularly to those who remember what it was like in "yesteryear."

Licensing: Oh, Canada

In Canada, our licensing system was — and is — different from that of the U.S. In yesteryear, we had two classes: Amateur and Advanced Amateur.

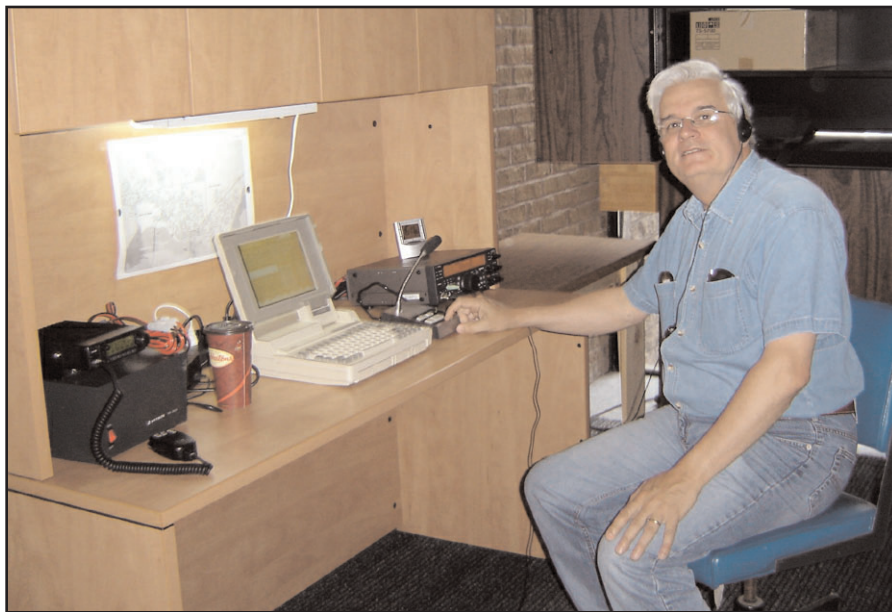
Amateur class was the first license that a candidate aspired to hold. The Advanced Amateur class was only attainable when the operator had been licensed as an Amateur class operator for a year or more.

When I was getting into amateur radio in the mid-1960s, the testing requirements were quite rigid. For the Amateur class, the Canadian government exam consisted of various elements comprising an elimination series of tests. If you failed at any point, the exam was terminated and no credits were carried over. Retesting involved starting all over again — at the beginning.

Here are the Amateur class examination elements, as I remember them:

- [1] 10 wpm Morse code receiving;
- [2] 10 wpm Morse code sending;
- [3] Written theory, operating and regulations test (essay-type; not multiple choice);
- [4] Five (5) schematic drawings (not block diagrams) including:
 - [a] Superhetrodyne receiver;
 - [b] 2-stage CW transmitter;
 - [c] Filtered power supply;
 - [d] Frequency measuring device, e.g. Crystal calibrator;
 - [e] Key click filter, or an over-modulation indicator.
- [5] Oral exam with a Radio Inspector.

The Advanced Amateur exam concentrated on modulation techniques,



WRO QCWA columnist Dave Hayes, VE3JX, as seen (circa, new millennium) at his amateur radio station in Canada.

among other things and included 15 word-per-minute code tests — receiving and sending.

In my case, I had no trouble with the theory and the schematics in the Amateur class exam, or with sending Morse code. However, it took a couple of years to gain the skill of receiving 10 wpm. (That sounds awfully slow to many reading this, I'm sure, but it was a barrier for me at the time.)

Back then, the code-receiving test involved copying three minutes of plain language text sent at the required speed (10 or 15 wpm) using letters, numbers and common punctuation. Only 100 percent copy of the text sent was acceptable. With the "oral" part of the exam, the Radio Inspector usually asked questions regarding your schematics, such as: "Trace the signal path through your superhet receiver."

When I passed my first license, I was floating on air. Anxiously, I waited for my station "ticket" to arrive in the mail. I should point out that when I passed the

Amateur exam, I received a "Certificate of Proficiency." With that, I could apply for my station license. I was assigned VE3BRT. The station license was \$2.50-per-year in 1967, but would go up to \$10 the following year.

The Amateur license gave the operator full privileges in the VHF-and-higher spectrum, and CW-only in the high-frequency (HF) bands.

After six months of operating, the Amateur could apply for a 10-meter phone endorsement. The Advanced Amateur privileges added all modes on HF. The maximum power for both was 750 watts input, later raised to 1 kilowatt.

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Working Novices

In the '60s, when I was first on the air, incentive licensing had been instituted in

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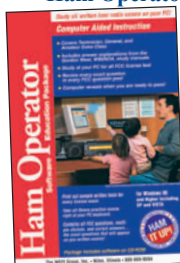
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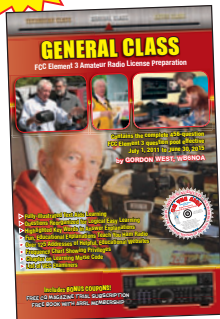
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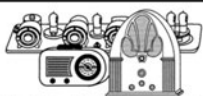
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This photograph of Dave Hayes, VE3JX's, wife "getting his attention" would become the backdrop image for his QSL card.

the U.S. That included the Novice license, which allowed CW operation in small HF subbands in the 80-, 40-, 15- and 10-meter bands. (Actually, the Novice's 10-meter assignment wasn't so little.) At first, their operation was restricted to crystal-control and 75 watts input. Later, they were

allowed VFOs and higher power — 250 watts.

The point I'm getting at is this: I loved working the Novice bands! After all, I was a "novice" too, at the time. It was always a thrill to have a station come back to me and say: "You are my first contact!"

VE3JX a.k.a. VE3EIH



DAVE HAYES

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Operators who received a QSL from VE3JX were treated to the image of a smiling radio amateur about to be crowned — as many hams were "back in the day" — by an XYL who knew he deserved it. She probably rang the dinner bell more than an hour ago.

or "You are my first Canadian!" I always thought the Novice license concept was a good one. I believe it was a nonrenewable license at one time, good for a year or two only. Later, it became renewable.

No One Is Better

It needs to be said that just because our licensing requirements in yesteryear were pretty onerous compared to the current formats in our respective countries, the people who qualified under the newer regime are not "lesser" beings.

Anyone who passes a government-approved amateur radio examination is welcomed into our broad ham fraternity as an equal. Notwithstanding this, 25 years of experience as a radio amateur makes such committed individuals something "special," exemplars to younger amateurs. The Quarter Century Wireless Association is a fraternity of — and for — these "special" ones.

Non-Continuous and QCWA

Alas, the foolishness of youth! I moved away from home to another city and let my license lapse. I lost the callsign: VE3BRT. Someone else, much smarter than I, picked it up and still has it to this day.

Nonetheless, after I married and settled down, I re-entered the hobby, and have kept my license active ever since. However, that is not to say that I have been continuously active.

With many of us, amateur radio activity over the years has ebbed and flowed with whatever else was going on in our lives. However, amateur radio is such that, while you may be away from it for a while, you always come back to it. At least, that is my experience.

Others may make their big return after retirement, when they now have the time to indulge in pursuits that they've always desired. For them, it's like being young all over again, as they rekindle their "first love."

When the Quarter Century Wireless Association was formed in 1947, the requirement was set that membership would be granted to those who were first licensed 25 years or more ago. It was also decided that continuous licensing was not required.

In point of fact, 25 years of continuous licensing would have been an impossible requirement, since amateur radio operation was terminated during World War II. All those who were founding members of QCWA would have had lapses in their activity.

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The requirements for QCWA membership today are the same as at the beginning of the organization. This allows for the normal lapses in licensing that a person may have in his/her amateur radio career. However, it retains the flavor of its members having had earlier experience in the hobby — hence the requirement that the first license held be 25 years or more ago.

Of course, the secondary requirement is to be *currently* licensed as an amateur radio operator.

Continuous Licensing

Is that to say that *continuous* licensing has no value? Never may that be said!

A person who has been continuously licensed and active has a special place in all of our hearts. In fact, the QCWA recognizes such an achievement by presenting a special certificate to those who have been continuously licensed for 50 years! That is something of which to be proud. That is something to be honored and celebrated! It is really a demonstrated quality of dependability.

That notwithstanding, the QCWA appreciates the qualities and attributes of all of its members. Some are outstanding operators and contesters. Others have pursued “specialties” within the hobby, such as QRP, digital modes, ARES and emergency communications, traffic handling, high-speed CW, history and preservation, antenna experimenting, equipment building and so on.

Still others have just enjoyed the hobby at their own pace and in their own way. All have the experience of seeing the advancement of amateur radio through the years, including changing technology and the introduction of new modes.

In my time, we have seen SSB become the predominant HF voice mode; FM repeaters spring up around the globe; packet radio become a viable digital mode; the introduction of DSP, PSK, Winlink, Pactor, Winmor, SDRs, D-Star, IRLP, Echolink, APRS . . .

We have observed the transition from vacuum tubes to semiconductors to integrated circuits to software-defined circuitry. What a trip!

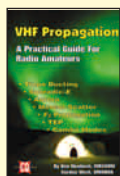
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— DaVe3JX

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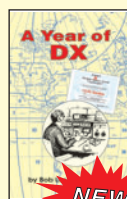
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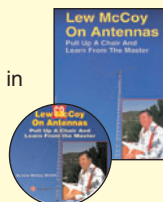
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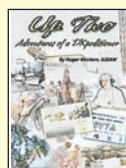
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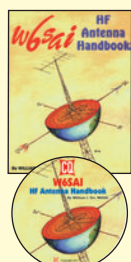


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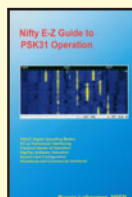
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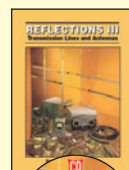
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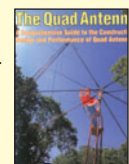
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NM7M's Contributions to Amateur Radio Propagation

By Carl Luetzelschwab, K9LA

I met Bob Brown NM7M (SK) in the early 1990s when I was out on the West Coast for work — in the Thousand Oaks area of California. I visited a radio store in the area one evening, and came across the August 1991 issue of *WorldRadio*. It was a printed magazine at the time.

Bob was writing the *Propagation* column for *WR* (he wrote it from April 1989 to December 1996), and his column in that issue showed a worldwide map of maximum useable frequencies. This immediately attracted my interest as I was trying to better understand 10-meter-long path propagation from the Midwest to Japan in the early morning hours.

I wrote a letter to Bob about 10-meter-long path and received an immediate reply. On a subsequent trip to California I had to stay over the weekend, so I flew up to Seattle Friday evening, rented a car and visited Bob on Guemes Island, near Anacortes, Washington.

The 10-meter-long path correspondence and this initial visit started a friendship and mutual interest in propagation that lasted almost 20 years. My wife Vicky, AE9YL, and I visited him many times in the summer in conjunction with attending the Northwest DX Conventions, which rotate between Seattle, Spokane, Portland and Vancouver, British Columbia.

I took over the *Propagation* column in *WorldRadio* beginning with the January 1997 issue. Bob continued to write about propagation in the various amateur radio magazines, and he wrote three more books after retiring from *WorldRadio*. He had already written two books during his stint as the *Propagation* columnist.

NM7M's Journalistic Legacy

Let's do a quick review of the contributions to understanding propagation that NM7M made to amateur radio:

Canadian radio amateurs may recognize Bob from his *Over the Horizon* column in *The Canadian Amateur*. Likewise, QRPers may recognize Bob from his *Propagation* and DX column in *QRP Quarterly*. All three of these columns were a blend of practical and theoretical topics with respect to the Sun, the ionosphere and HF (high-frequency) propagation.

Bob contributed a large number of articles to *The DX Magazine* (edited by Carl Smith, N4AA), many of which involved an analysis of a recent DXpedition (for example, the 1997 Heard Island DXpedition in the May/June 1997 issue).

His last writing efforts were directed toward trying to better understand extremely long distance 160-meter propagation in relation to the effects of galactic cosmic rays (GCRs) on the nighttime electron density valley that forms above the E-region peak. Bob had a series of articles about this interesting topic in *CQ Amateur Radio* < <http://www.cq-amateur-radio.com/> >.

Interspersed with his articles in *The DX Magazine* and in *CQ* were articles in *Communications Quarterly* (later absorbed into the ARRL's *QEX*), in *QST*, and unpublished articles that



Carl Luetzelschwab, K9LA, and wife Vicky, AE9YL, pose with Bob Brown, NM7M, on a visit to Washington. (Courtesy of K9LA)

eventually ended up on websites — for example, NM7M's *HF Propagation Tutorial* on ON4SKY's website: < <http://bit.ly/oIKdyU> >.

Bob was also a regular contributor to the topband reflector — dedicated to 160-meter operation.

Bob Brown's Five Books

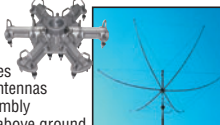
In the time between writing his columns and magazine articles, Bob wrote five books about amateur radio propagation. His first is titled *Long Path Propagation* (Robert R. Brown, March 1992). It discusses his long path efforts on 20-meter CW from April 1, 1991 to March 21, 1992. He analyzes the nearly 1,700-long path contacts in terms of season, geomagnetic field activity, transit through the equatorial ionosphere, solar flux, etc. This book is out of print.

His second book is titled *The Little Pistol's Guide to HF Propagation* (WorldRadio Books, March 1996). It is a great introduction to the Sun, the ionosphere and HF propagation. It does have a bit of math in it, but it's more of an easy read than a technical book. It sold for \$10 (which covered the cost of printing — Bob donated any profits to HandiHams). Unfortunately it is out of print, but Bob's two daughters and his son have given me permission to post a PDF of this book on my website: < <http://mysite.ncnetwork.net/k9la> >. Click on the General link,

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0.750"\$2.65\$4.35	0.750"\$5.35\$7.25
0.875"\$2.75\$4.45	0.875"\$5.65\$7.55
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1.125"\$3.25\$4.95	1.125"\$6.55\$8.45
1.250"\$4.15\$5.85	1.250"\$7.75\$9.65
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1.750"\$6.85\$8.55	1.750"\$10.65\$12.55
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and then download the file that has the same name as the book. It's a 15-MB file, so be advised it might take a while if you have a slow Internet connection.

Bob's third book is *Long Path Propagation — Revisited in Year 2000* (Robert R. Brown, November 2000). This work is a more general look at long-path propagation — other bands besides 20 meters, the role of the terminator, propagation modes, forecasting long path and many more issues. If you're a long-path junkie, Bob's first book and this book should satisfy most of your interests. This book is out of print, too.

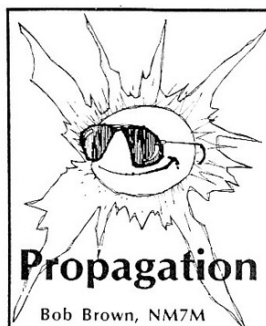
His fourth book is *The Big Gun's Guide to Low-Band Propagation* (Robert R. Brown, April 2002) and is

devoted to topband enthusiasts. It is an in-depth look at all the known factors affecting propagation on 160-meters.

It starts with a fundamental review of ionospheric physics, discusses ray paths in terms of critical frequencies, explains polarization effects on 1.8 MHz, reviews disturbances to propagation, looks at long path propagation on 160 meters and delves into the impact of chemistry in the atmosphere upon the ionosphere and propagation.

It finishes with a quick review of predicting propagation on topband. This book is also out of print.

Bob's final book is titled *On Ion Chemistry and Propagation* (Robert R. Brown, September 2002). It shows how



It's funny how one thing leads to another, even taking one full-circle. Thus, if you look at my recent columns, you'll see I've dealt with critical frequency maps for the F-layer from the USSR, propagation items on short and long paths, even round-the-world (RTW) echoes. So here I am, about to go full-circle with a few remarks on RTW echoes which lead to those world maps for foF2 and then tie into chordal hops on long-path.

Earlier, in talking about long path, I made mention of chordal hops, ionosphere-to-ionosphere reflections which do not involve surface reflections on part of a great circle path. That's nothing new but just where do those chordal hops come from? What's required in physical terms? Good question!

One of the most common phrases that deals with this question is "ionospheric tilts"—ionospheric regions which are not always spherically concentric with the earth, creating spatial structure of a different nature with horizontal and vertical variations, called gradients, in the electron density. Thus, as a "mirror," the ionosphere could be tilted in one way or another, perhaps perpendicular to or even along

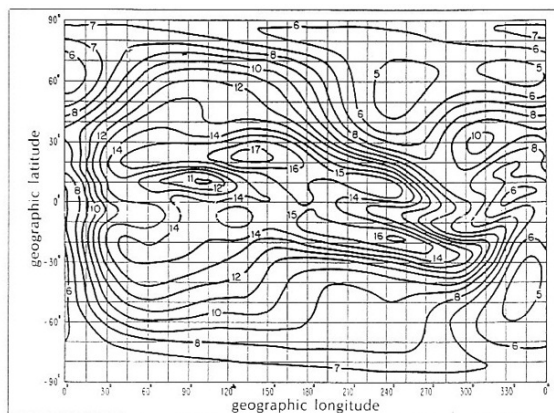


Fig. 1

the direction on a path. That way a ray coming upward for refraction would not go back to Earth in a symmetrical manner. In short, the hop length could be longer than a concentric model would indicate, perhaps as much as 10,000 km instead of the usual 3,500 km and even missing a ground reflection so as to go on to another ionospheric refraction.

Recently, a discussion of horizontal gradients in the ionosphere came up in reading through an article from back in '63 by R.B. Fenwick, K6GX, and O.G. Villard, W6QYT, of the Radioscience Laboratory at Stanford University. They reported on RTW echoes which started from Okinawa and finally reached Guam in the Western Pacific. For that, their signals in the 15-22 MHz range headed westward on a looping great circle path, going above and below the equator by about 45 degrees in latitude. They made the point that ionospheric tilts were expected on that path, at least for around 0200 UTC in

February, judging by the orientation and spacing of critical frequency lines on the foF2 map for a sunspot number of 50.

Okay, just to make sure that we have everybody on board at this point, I should remind you that foF2 world maps show how the F-layer critical frequencies (in MHz) vary with latitude and longitude for a given month, time and sunspot number. These maps are based on data from the worldwide network of vertical sounders (ionosondes), with contours drawn at constant frequency intervals, say 1.0 MHz on the Russian maps mentioned in a recent column and 0.5 MHz on the old CRPL

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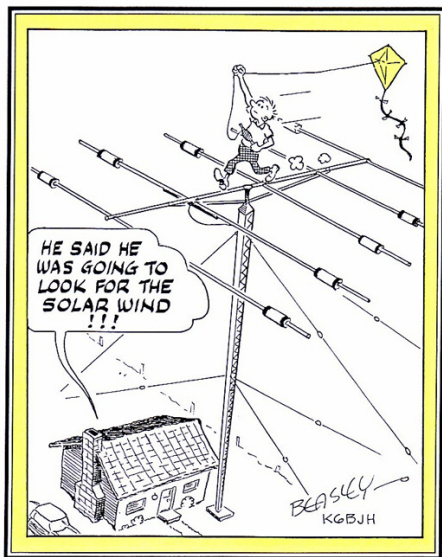
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The *Propagation* column in the August 1991 edition of *WorldRadio* was K9LA's introduction to genius of NM7M.

The Little Pistol's Guide to HF Propagation



by Robert R. Brown, NM7M

Bob Brown, NM7M's, *The Little Pistol's Guide to HF Propagation*, is available for download on the Internet. Visit: < <http://mysite.ncnetwork.net/k9la> >.

ion chemistry bridges the extremes, from MF (medium frequencies) to HF (high frequencies), and across solar minimum and solar maximum.

It is a brief summary of the main processes involved in establishing the structure of the ionosphere — from the D region up to the F₂ region. It shows there is more to the ionosphere than just solar photons detaching electrons from atoms and molecules, and more than electrons recombining with positive ions. Unfortunately this book is out of print, too.

My Favorite Articles

The articles that Bob wrote that I enjoyed the most were those that discussed the underlying theory of propagation (the physics behind a process). These always gave me a better understanding of why things were done a certain way. For example, the Spring 1997 issue of *Communications Quarterly* carried his article comparing the different F₂ region algorithms that are used in our propagation prediction models.

Thank You, My Friend

Bob became a Silent Key in May 2010. For the record, he was W6PDN from 1936-1941, KA6PTT from 1981-1982, N7DGZ from 1982-1985 and NM7M from 1985 until he passed away.

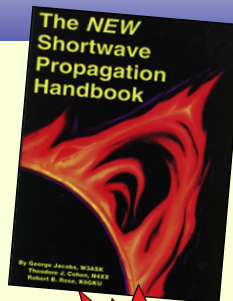
Bob was a prolific writer. He contributed a vast amount of information to amateur radio propagation. He certainly helped me along the way; and I hoped he helped many of you.

(Although NM7M's books are out of print, copies can often be found on Internet auction sites such as eBay, at amateur radio swap meets and in some used book stores. — Ed.)

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NEW YORK AND NEW JERSEY SHORES — **The Hudson Lights**, September 17. Members of the Nutley Amateur Radio Society, W2GLQ, will **activate six light houses** on the New York and New Jersey shores of the Hudson River. Operating SSB on 12, 15, 17, 20 and 40 meters. All event information including QSL route can be found on QRZ.com under W2GLQ. Callsigns: **W2A**, Statue of Liberty, ARLHS USA 810 and Robbins Reef ARLHS USA 695; **W2B**, Little Red, ARLHS USA 408; **W2C**, Tarrytown, ARLHS USA 836; **W2D**, Stony Point, ARLHS USA 293; **W2E**, Esopus, ARLHS USA 276.

CHICAGO, ILLINOIS — **Radio Expo 2011**. Hosted by **The Chicago FM Club**. September 10-11, Boone County Fairgrounds. Radios, computers and electronics. 8 a.m. to 3 p.m. both days. VE Testing both days. Advance tickets \$8. At the gate: \$10. Tickets good for both days. Talk-in: 146.760/147.255 (PL 114.8) and 146.550 simplex. For more information, e-mail: < cfmc.radioexpo@yahoo.com >, or call (224) 353-9721.

NEWTON, CONNECTICUT — **Western Connecticut Hamfest**, September 11 at Edmond Town Hall, 45 Main St. (Route 6), Newtown, Connecticut. Exit 10 off Interstate 84. Contact Joe de Groot AB1DO, (203) 938-4880. Web: < <http://www.danbury.org/cara/Hamfest.html> >. (Talk-in 147.30 + PL100).

LOXAHATCHEE, FLORIDA — **Special Event Station K4MIA**. Operating September 10-18, 0000Z-2359Z. Sponsored by the PBSE Radio Society, **commemorating National POW/MIA Recognition Day**. Operating on 21.300, 18.150, 14.265, 7.185 and 3.885 MHz SSB. PSK, 14.070. QSL via Michael Bald, 6758 Hall Blvd, Loxahatchee, FL 33470. SASE required for return QSL card this year. Remember our POWs/MIAs September 16. See QRZ for copy of QSLs.

OCTOBER

MENA, ARKANSAS — **Special Event Station W5HUM**. October 1, 9 a.m. to 5 p.m. Celebrating the 80th anniversary year of Lum and Abner on the radio. Sponsored by the Ouachita Amateur Radio Association, W5HUM. Operating in the General class portion of 20, 40 and 80 meters. The first 25 contacts will receive a CD of Lum and Abner radio programs. Anyone wanting a special events certificate please send an SASE to Don Thomas, 117 Dallas Ln., Mena, AR, 71953.

QUEENS, NEW YORK — The Hall of Science Amateur Radio Club **Hamfest** will be held October 2 at the New York Hall of Science parking lot, Flushing Meadow Corona Park, 47-01 111th Street, Queens, New York. Doors open for vendors to set up at 7:30 AM. Buyers admitted at 9 a.m. Free parking, door prizes, drop and shop, QSL card checking, food and refreshments. Free admission to museum from 10 a.m. to 11 a.m. or \$6 after with hamfest ticket. VE Exams at 10 a.m. Admission by donation. Buyers \$5. Sellers \$10 per space. Talk-in on 444.200 (PL 136.5), 145.270 (-600 kHz, PL 136.5). For

further information: < <http://www.hosarc.org> > or call at night only: Stephen Greenbaum, WB2KDG, (718) 898-5599. Via e-mail: < WB2KDG@arri.net >.

DENISON, TEXAS — **Special Event Station W5I**. October 15 from 1500Z-2300Z in celebration of the **121st birthday of Dwight Eisenhower**, 34th President of the United States. Frequency: 14.250 MHz. For QSL card, send QSL and SASE to David Booth, 409 Umstead, Colbert, OK 74733.

SELLERSVILLE, PENNSYLVANIA — **RF Hill ARC Hamfest**, October 16, Sellersville Fire House, 50 N. Main St. Contact: Jim Soete, WA3YLQ, (215) 723-7294, FAX (215) 257-0724; email < wa3ylq@arri.net >. Printable details at: < <http://www.rfhill.ampr.org> >.

LUFKIN, TEXAS — **Lufkin Hamfest 2011**, October 22, 8 a.m. to 1 p.m. Lufkin First Church of the Nazarene, 1604 S. Medford Drive. Admission, tailgating, parking and one indoor vendor table are all FREE. Visit: < <http://www.lufkinhamfest.com> > for full details or contact: Jerry Wilson, K5JLW, via email: < ac5zj@cs.com >.

NOVEMBER

HOLMDEL, NEW JERSEY — **Special Event Station KC2LSD**. November 11 at the New Jersey Vietnam Veterans' Memorial & Vietnam Era Museum and Educational Center, 1 Memorial Lane Exit 16 off the Garden State Parkway from 1300 to 2000 UTC. Details: < <http://www.njvvmf.org> > Certificate sent for every contact. Cody Codianni, KC2LSD.

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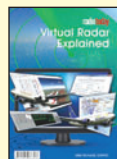
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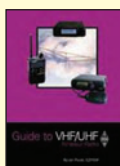
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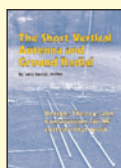
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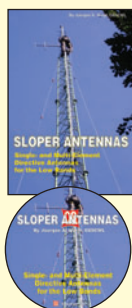
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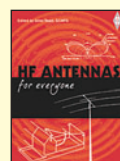
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CONTEST CORNER

CONTEST: AGCW Straight Key Party

DATE & TIME: 1300-1600Z 3 Sep

BANDS/MODE: 40M CW

POINTS: 9 Pts. A to A; 7 Pts. A to B; 5 Pts. A to C; 4 Pts. B to B; 3 Pts. B to C; 2 Pts. C to C

MULTIPLIERS: None

EXCHANGE: RST + Serial # + Category + Name + Age (YL's can give "XX" for age)

ENTRY CATEGORIES: A = <5W; B = 5-50W; C = 50-150W

ENTRIES: 30 Sep. Friedrich W. Fabri, DF1OY Hermann-Bahner-Strasse 1, 63225 Langen Germany

E-mail: htp@agcw.de

Webpage: www.agcw.de

Rules at: www.agcw.org/en/?Contests:Straight_Key_Party

CONTEST: All-Asian DX

DATE & TIME: 0000Z 3 Sep - 2359Z 4 Sep

BANDS/MODE: 160-10M SSB (160M CW only!)

POINTS: 1 Pt. 40-15M; 2 Pts 80 or 10M; 3 Pts. 160M

MULTIPLIERS: Asian prefixes on each band

EXCHANGE: OM's give RS(T) + age; YL's give RS(T) + age (or "00" if desired)

ENTRY CATEGORIES: Single op, Single band; Single Op, Multi-band; Multi-Multi (NOTE: Asian sta's may use High or Low power (100W or less) Non-Asian stations use High power only)

ENTRIES: 30 Days JARL All Asian DX Phone Contest 170-8073 Tokyo, Japan

Cabrillo entries to: aaph@jarl.or.jp

Rules at: <http://www.jarl.or.jp/English/4Library/A-4-3Contests/2011AARule.htm>

Log forms at: http://www.jarl.or.jp/English/4_Library/A-4-3Contests/aadxlog.pdf

CONTEST: Colorado QSO Party

DATE & TIME: 1200Z 3 Sep - 0400Z 4 Sep

BANDS/MODE: 160-UHF SSB/CW/Digi

POINTS: 1 Pt. SSB/FM; 2 Pts. CW/Digi

MULTIPLIERS: Too many to list - see rules!

EXCHANGE: CO sta's send Call+Name+County (64 possible)

All others send Call+Name+State/Country

ENTRY CATEGORIES: Single op; Multi op, Single XMTR; Multi op, Multi XMTR's Mobile; Schools

ENTRIES: 4 Oct. Colorado QSO Party P.O. Box 16521, Colorado Springs, CO 80935-6521

Cabrillo to: coqplots@ppraa.org

Webpage: <http://www.ppra.org/coqp/>

Rules at: <http://www.ppra.org/coqp/2010%20COQP%20Rules%2010-1%2007-28-10.pdf>

CONTEST: QCWA Fall QSO Party

DATE & TIME: 1800Z 3 Sep - 1800Z 4 Sep

BANDS/MODE: 160-UHF, QSONET, All modes

POINTS: 1 Pt. Phone; 2 Pts. CW/Digital

MULTIPLIERS: QCWA Chapters, States, Provinces, Countries; x3 HQ Stn W2MM QSO

EXCHANGE: Call + Year licensed + Name & Chapter + State/Province/Country

ENTRY CATEGORIES: CW; Digital; Phone; Mixed modes

ENTRIES: 31 Oct. Bob Buus, W2OD, 8 Donner St., Holmdel, NJ 07733-2004

E-mail: w2od@aol.net

Rules at: <http://www.qcwa.org/qso-party.pdf>

CONTEST: Tennessee QSO Party

DATE & TIME: 1800Z 4 Sep - 0300Z 5 Sep

BANDS/MODE: All Bands SSB/FM/CW/Digi

POINTS: 2 Pts. SSB/FM; 3 Pts all other modes

MULTIPLIERS: TN Counties (95 possible);

TN sta's count TN Counties + other states/Provinces/DXCC

EXCHANGE: TN sta's send RS(T) + County; All others send RS(T) + State/Province/Country

ENTRY CATEGORIES: Single op, QRP, Low, High; Multi-op - QRP, Low, High, Mobile

ENTRIES: 8 Oct. Tennessee QSO Party c/o Doug Smith, W9WI 1389 Old Clarksville Pike,

Pleasant View, TN 37146-8098

Cabrillo (preferred) to: logs@tnqp.org

Rules at: http://tnqp.org/wp/?page_id=11

CONTEST: MI QRP Labor Day CW Sprint

DATE & TIME: 2300Z 5 Sep - 0300Z 6 Sep

BANDS/MODE: 160-6M CW

POINTS: 2 Pts. W/VE non-members; 4 Pts. DX non-members; 5 Pts. member sta QSOs

MULTIPLIERS: States/Provinces/Countries on all bands

EXCHANGE: RST + QTH + MI-QRP number (non-members give power)

ENTRY CATEGORIES: A = <250mW; B = 250mW - 1W; C = 1-5W; D = >5W

ENTRIES: 30 Days Hank Greeb, N8XX, 5727 11 Mile Rd., NE, Rockford, MI 49341-9502

E-mail: n8xx@arrl.org

Rules at: www.qsl.net/miqrpcclub/contest.html

CONTEST: Ohio State Parks On The Air

DATE & TIME: 1600-2400Z 10 Sep

BANDS/MODES: 80-2M, all modes

POINTS: 1 Pt. per contact

MULTIPLIERS: Ohio State parks worked (max. 76)

EXCHANGE: Park stations send: Call, Ohio, Park ID; non-park stations send: Call, State/Prov or DX

ENTRY CATEGORIES: Park: Single Op High, Low; Multi-Op High, Low; Non-park: Single Op in Ohio, Single Op outside Ohio

ENTRIES: 30 days Chuck Patellis, W8PT, P.O. Box 707, Parkman, OH 44080

E-mail: W8PT@portcars.org

Webpage: <http://parks.portcars.org>

Rules at: <http://tinyurl.com/3cos8vs>

CONTEST: WAE DX

DATE & TIME: 0000Z 10 Sep - 2359Z 11 Sep

BANDS/MODE: 80-10M SSB

POINTS: 1 Pt. per QSO

MULTIPLIERS: WAE Countries

EXCHANGE: RST + serial #

ENTRY CATEGORIES: Single op - Low (<100W); Single op - High (>100W); Multi op

ENTRIES: 27 Sep

Cabrillo or STF logs to: waessb@dxhf.darc.de

Handwritten log conversion at: <http://contestsoftware.com/e/home.htm>

Rules at: www.darc.de/referate/dx/contest/waedc/en/rules/

(NOTE: Based on 2010 rules. 2011 rules not available at time of submission)

CONTEST: North American Sprint

DATE & TIME: 0000-0400Z 11 Sep

BANDS/MODE: 80/40/20M CW

POINTS: 1 Pt. per QSO

MULTIPLIERS: States (no KH6!)/CA Provinces/NA Countries (USA and Canada do not count as countries!)

EXCHANGE: Both calls + Serial # + Name + QTH

ENTRY CATEGORIES: Single op - QRP (<5W), Low (5-100W), High (>100W)

ENTRIES: 7 Days Boring ARC 15125 Bartell Road Boring, OR 97009

E-mail: cwsprintmgr@ncjweb.com

Cabrillo logs (preferred to: www.ncjweb.com/sprintlogsubmit.php)

Paper log to Cabrillo converter at:

www.b4h.net/cabforms/nasprintcw_cab.php

Rules at: <http://www.ncjweb.com/sprinrules.pdf>

CONTEST: Arkansas QSO Party

DATE & TIME: 0800-2000 (Central) 11 Sep

BANDS/MODES: 80-2M SSB/FM/CW/Digi

POINTS: 1 Pt. SSB/FM; 2 Pts. CW; 3 Pts. Digital; 5 Pts. QSO with AR sta

MULTIPLIERS: None

EXCHANGE: AR sta's send RS(T) + County; All others send RS(T) + State/Country

ENTRY CATEGORIES: Single op, CW, Phone, Mixed, QRP, Low (<150W), High; Mobile; Multi op

ENTRIES: 1 Nov. ARKAN-AA5AR P.O. Box 9701, Fayetteville, AR 72703

E-mail: info@arkanhams.org

Entry form at: www.arkanhams.org/qsopartyentryform.pdf

Rules at: www.arkanhams.org

CONTEST: Washington Salmon Run

DATE & TIME: 1600Z 17 Sep - 0700Z 18 Sep; 1600-2359Z 18 Sep

BANDS/MODE: 160-6M CW, Digital & SSB

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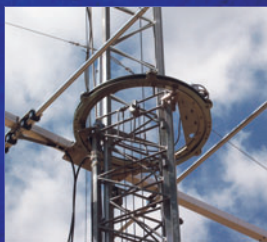
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MULTIPLIERS: non-WA sta's count 39 WA counties; WA sta's count States/CA Provinces/DXCC countries
EXCHANGE: RS(T) + QTH (WA sta's give County)
ENTRY CATEGORIES: Single Op High/Low/QRP; Multi Op; WA Mobile; A Expedition; WA Club
ENTRIES: 31 Oct. Western Washington DX Club P.O. Box 395 Mercer Island, WA 98040
 Cabrillo: salmonrun@wwdxc.org
 E-mail: salmonrun@wwdxc.org
 Rules at: <http://www.wwdxc.org/files/SalmonRun/SR%20Rules%2023%20August%202009.pdf>

CONTEST: North American Sprint
DATE & TIME: 0000-0400Z 18 Sep
BANDS/MODE: 80/40/20M SSB
POINTS: 1 Pt. per QSO
MULTIPLIERS: States (no KH6!)/CA Provinces/NA Countries (USA and Canada do not count as countries!)
EXCHANGE: Both calls + Serial # + Name + QTH
ENTRY CATEGORIES: Single op – QRP (<5W), Low (5-100W), High (>100W)
ENTRIES: 30 Days Jim Stevens K4MA 6609 Vardon Ct., Fuquay-Varina, NC 27526
 E-mail: ssbsprintmgr@ncjweb.com
 Cabrillo logs (preferred) to: www.ncjweb.com/sprintlogsubmit.php
 Paper log to Cabrillo converter at: www.b4h.net/cabforms/nasprintssb_cab.php
 Rules at: <http://www.ncjweb.com/sprinrules.pdf>

CONTEST: Run for the Bacon
DATE & TIME: 0100-0300Z 19 Sep
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. non-member QSO; 3 Pts. FP member; 5 Pts. FP member different continent
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + State/Province/Country + FP #; (non-members give power)
ENTRY CATEGORIES: None given
ENTRIES: Online reporting only at: <http://fpqrp.org/pigrun/autolog.php>
 Rules at: <http://fpqrp.org/pigrun/>

CONTEST: NAQCC Sprint
DATE & TIME: 0030-0230Z 22 Sep
BANDS/MODE: 80-20M CW
POINTS: 1 Pt. non-member QSO; 2 Pts. member QSO
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + State/Province/Country + Member # (non-members give power)
ENTRY CATEGORIES: SWA (simple wire antennas); Gain
ENTRIES: 4 Days John Shannon, K3WWP, 478 E. High St., Kittanning, PA 16201
 E-mail: naqcc33@windstream.net (Submit log as plain text, NO attachments!)
 Rules at: http://naqcc.info/sprint_rules.html
 Autologger (preferred) at: <http://naqcc.info/sprintlog.html>

CONTEST: CQ WW RTTY DX
DATE & TIME: 0000Z 24 Sep - 2359Z 25 Sep
BANDS/MODE: 80-10M RTTY
POINTS: 1 Pt. same country; 2 Pts. different countries, same continent; 3 Pts. different continents
MULTIPLIERS: Zones/States/VE call areas/ARRL-WAE countries/CQ zones
EXCHANGE: US/VE sta's give RS(T) + zone + state or CA call area; All others give RS(T) + CQ zone
ENTRY CATEGORIES: Single op - single band; single op - multiband; Multi op – all-band, Single XMTR, High; Single XMTR, Low; 2 XMTR's; Multi-XMTR's;
 (Single op sta's may use low power (>150W) if desired - will be scored as a separate category)
ENTRIES: 1 Nov. CQ WW RTTY Contest 25 Newbridge Road, Hicksville, NY 11801
 E-mail: (Cabrillo preferred) rtty@cqww.com
 Rules at: www.cqwwrtty.com/rules.htm

CONTEST: Texas QSO Party
DATE & TIME: 1400Z 24 Sep – 0200Z 25 Sep & 1400-2000Z 25 Sep
BANDS/MODE: All Bands, All Modes
POINTS: 2 Pts. SSB; 3 Pts. all other modes
MULTIPLIERS: TX Counties (254 possible); TX sta's count all other States/Provinces/DXCC
EXCHANGE: TX sta's send RS(T) + County (4-letters); All others give RS(T) + State/Province/Country
ENTRY CATEGORIES: Single op, Phone, CW, Mixed; Multi op; Mobile
ENTRIES: 31 Oct
 Texas QWO Party Committee 6 Sweetdream Place, The Woodlands, TX 77381-6009
 E-mail logs to: no5w@consolidated.net
 Rules at: http://txqp.net/index.php?option=com_content&view=section&layout=blog&id=7&Itemid=53

CONTEST: Straight Key Sprint
DATE & TIME: 0000-0200Z 28 Sep
BANDS/MODE: 160-6M CW
POINTS: 1 Pt. per QSO
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + QTH + Name + SKCC # (Non members give power + "W")
ENTRY CATEGORIES: None given
ENTRIES: 2 Days!
 Score submissions at: <http://www.skccgroup.com/sprint/sks/sks-submit.html>
 Rules at: <http://www.skccgroup.com/sprint/sks/#RULES>

Click here for information on listing your contest in the next issue of WRO!

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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 rp/r, 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!



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

w/i = walk-in only
w/i pref. = w/i preferred to p/r

CITY	DATE	CONTACT	NOTES	CITY	DATE	CONTACT	NOTES
ARIZONA				NEVADA			
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		NEW JERSEY			
ARKANSAS				Roselle	4th Sat	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
Little Rock	3rd Sat	James, KE5OVE, 501-796-3910, ke5ove@arrl.net	p/r pref.	Winslow	4th Tues	Mark, K2AX, 609-820-1523, JTRA@comcast.net	
CALIFORNIA				Pennington	9/17	Don, AA2F, 609-737-1723, aa2f@arrl.net	
Highland	9/17	Ed, WU6I, 909-864-0155, wu6i@arrl.net	p/r pref.	NEW YORK			
La Verne	Last Sat	Frank, K6FW, 909-628-8661, k6fw@arrl.net	p/r	Bethpage	2nd Tues	Bob, 631-499-2214, w2ilp@optonline.net	p/r
Long Beach	3rd Sat	Louise, N6ELK, 562-429-1355	p/r	Canandaigua	1st Wed	Squaw Island ARC, David A. Foster, 585-398-0216, www.siacr.us	w/i
Manteca/Tracy	4th Sat	David, N5FDL, 209-835-6893, n5dfl@arrl.net	p/r	Valhalla	Call	Stanley, WA2NRV, wa2nrv@wecc.org	
Redwood City	Call	Al, WB6IMX@arrl.net, www.amateur-radio.org	w/i	Yonkers	Call	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
Sacramento	Hotline!	916-492-6115, n6na@arrl.org		NORTH CAROLINA			
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Santa Rosa	Hotline!	Hotline-Recording 707-579-9608	w/i ok	OHIO			
Sebastopol	Hotline!	Recording 707-579-9608		Cincinnati	1st Sat	Dale, KC8HJL, 513-769-0789	p/r pref
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COLORADO				Sandusky	Call	Luther, N8HC, 419-684-7864, n8hc@arrl.net	p/r
Englewood	1st Sat	Dave, N0HEQ, 303-795-5718, n0heq@arrl.net, Commerical Exams also	p/r pref	OREGON			
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North Port	Call	Bill Norris, KC7TSG, 941-426-0214	w/i pref.	McMinnville	Call	Mark, AC7ZQ, 503-843-3580	w/i only
St. Pete	Call	Mark, NP3R, 727-528-0071	w/i pref.	Sisters	Call	Dave, N7TYO, 541-549-7831	p/r
St. Petersburg	4th Sat	Thomas Wedding, A14QP, 727-867-8450	w/i pref.	Tigard	Call	John, KS0F, 503-626-7399	p/r
Sanford	4th Sat	James, N4ZKT, 407-333-4245, n4zkt@bellsouth.net		PENNSYLVANIA			
HAWAII				Erie	3rd Sat	Ron, KB3QBB, 814-833-6829, kb3qbb@arrl.com, www.wattsburg-wireless.us	p/r
Oahu Is.	Call	Lee, KH6BZF, 808-247-0587	p/r	Lebanon	3rd Sat	Wa3gpm@arrl.net	
IDAHO				PUERTO RICO			
Kamiah	2nd Tues	Alan, 208-937-2222, Ken 208-935-8888		San Juan	Last Sat	Hotline: 787-789-4998, prarl@prarl.org	w/i
IOWA				SOUTH CAROLINA			
Ames	Call	George Oster, NP2N, 515-233-3535, georgeoster@msn.com	w/i pref.	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, k4hy@sc.rr.com	w/i
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Marlboro	3rd Sat	Bill, K1IJ@mmra.org, mmra.org/exam	w/i pref.	WISCONSIN			
MICHIGAN				Racine	1st Sat	Robert, W0WLN, 262-886-8551	w/i pref.
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Oak Park	1st Tues	D. Flint, 248-981-8145					
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Apple Valley	2nd Thur	Jim, N0OA, 612-384-7709, N0OA@arrl.net	p/r pref.				
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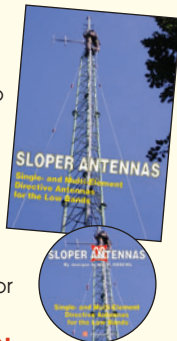
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Into the Sinkhole of Erroneous Antenna Information

By Kurt N. Sterba

Former *WorldRadio* publisher **Armond Noble, N6WR**, of Sacramento, California, considers 75 meters a sinkhole of wrong information about antennas. He cites a recent conversation he overheard on this band.

Seems this poor soul cut a 160-meter dipole to length according to the formula he found in the *ARRL Handbook*. But, when he measured it, the SWR was not 1:1. Instead he got 1.8:1. And when he raised it to the height he could get with the supports he had, the SWR went up to 2.2:1.

Why didn't he get 1:1, he asked. The answers varied — but all were wrong:

"You measured the length wrong . . . You need to change the length of your coax," and so on.

Krusty Olde Kurt can tell you why he got those readings: The antenna impedance changes a lot with its height above ground.

You measure the height in wavelengths. On 160 meters the wavelength is 530 feet. Let us suppose that the antenna was about 6-feet above ground when the first measurements were made. This is about 1/100 of a wavelength. Over perfect ground the impedance of the antenna would be about 0 ohms as shown in the *ARRL Antenna Book's* drawing "Radiation resistance of half-wave antennas above ground."

But above real ground the radiation resistance will be more like 90 ohms. This means the SWR on 50-ohm coax would be 1.8:1, exactly what the constructor measured.

Why the big difference in resistance between perfect and real ground? The antenna has a strong "inductive field" that remains close to the antenna. This is different than the "radiating field" that sends our signals to distant listeners.

As the inductive field gets closer and closer to the ground, more and more of its energy is absorbed in the *lossy* ground. This loss of energy shows up as added resistance in the antenna.

When we raise the antenna higher above ground these losses decrease and the antenna resistance becomes closer to the values expected over perfect ground. At 0.2-wavelength above ground (about 100 feet on 160 meters) we get the 73 ohms we always talk about as the feed-point impedance of a center-fed dipole. SWR would be about 1.5:1. At 185 feet, or about 0.35-wavelength above ground, we would see 100 ohms and 2:1 SWR.

Maybe the constructor put his dipole up this high. More likely, it is probably much lower where we would expect to see close to 1:1 SWR. If so, why did he see 2.2:1 SWR?

Without knowing the surroundings, Kurt can only guess. Proximity to trees, buildings and power lines can influence and lower the resistance. Those obstructions can look to be far away but, remembering that the wavelength is 530 feet, the distance in wavelengths may be rather small.

Why does the antenna resistance vary so with height above ground? We've seen that ground losses make a big difference when over real ground. But even over perfect ground the resistance varies from 0 to 100 ohms as the height changes. This is due to ground-reflected RF power changing the current in the antenna from what it would be in free space, and thus changing its resistance. We know from Ohm's Law that power is equal to current squared times resistance ($P = I^2 \times R$). So for a given transmitter

power, if the current goes up, then resistance goes down. Depending on distance above ground, the added current may be in phase and thus increase the antenna current and lower the resistance or be out-of-phase — decreasing the antenna current and raising the resistance.

The result of all this is shown graphically in the *ARRL Antenna Book* and is well worth looking at and remembering.

'So, the Tuner Tunes Your Antenna?'

John Skubick, K8JS, of Naples, Florida, is curious: "A multi-band, center-fed, balanced dipole fed with 50/52-ohm coax has an antenna tuner located at the rig **PLUS** either:

"A 4:1 balun located at the dipole antenna center feed point, or

"A 4:1 balun located near the rig with a short piece of coax between the rig and balun and then balanced ladder line from the balun to the center of the antenna.

"Obviously there will be a reactance present at some frequencies on the various bands covered. Will the antenna tuner match the antenna reactances **THROUGH** the balun? Or will the tuner only 'tune out' whatever reactance is present between itself and the coax feedline because the balun does not entirely pass through the antenna reactance back to the tuner?

"If it does not, then the antenna will not accept full power thus causing the balun to heat up, causing additional RF loss and — depending on power level — might destroy the balun. Is this correct?"

To start with, Kurt wants to make one thing clear: An antenna does not have to be resonant to accept the full transmitter power. Even if the balun does not "pass through" the antenna reactance to the tuner it will still radiate all the power fed to it. This will be the full transmitter power — minus power lost in the balun and the transmission line.

The real question here is: *If you apply 50-ohms resistance and 100-ohms reactance to one side of a 4:1 balun do you get 200-ohms resistance and 400-ohms reactance on the other side? If you don't, is there loss of power in the balun?*

A lot depends on the balun and the power level. If you use a 100-watt rated balun at 500 watts, the core may saturate, little power will pass through and there will be big losses. If you use a 500-watt balun at 100 watts it should work fine. That doesn't mean that the exact resistance and reactance expected will be seen on the output side. But it will be close enough to work well and the losses will be minimal.

Any loss in the balun will subtract from the power delivered to the antenna, but all the rest of the power, minus feedline loss, will be radiated.

To get an idea of balun loss, just put full power through it for a few minutes and then see if it is hot. If it gets really hot, get yourself a bigger, better balun.

Kurt welcomes questions of general interest from readers and will answer them in his column. Write to him at: < WorldRadioOnline@gmail.com >.