

WorldRadio

ONLINE

Year 38, Issue 11

MAY 2009

2009 San Andres Revisited

**An MRE Lesson from a
Second Grader, p. 18**

'Thieves' on the Trail, p. 24

NEWS • FCC • DX • QRP • QCWA • CONTESTS • HAMFESTS • YL • AMSAT • CW



WorldRadio Online Newsfront

Hall of Science ARC Likely to be Evicted

New York City's historic Hall of Science Amateur Radio Club appears to have lost its fight to retain a station at its namesake home of 35 years. Despite a cordial meeting and demonstration of amateur radio with the museum's boss, Thomas Tumino, N2YTF, says it appears very unlikely WB2JSM will ever be activated again from the Hall of Science. "I would say that there is a 90 percent chance that it is all over at the Hall of Science," Tumino says. There were discussions with the museum about putting the ham radio exhibit on a wheeled cart with remote control of the radios. That's the 10 percent chance of return Tumino is talking about.

You might recall that the museum, located in Flushing Meadows on the site where the World's Fair was held in the mid-1960s, had asked the club to take down its antennas during a renovation project. It then banned them from putting them back up and began talking about ousting the organization. That sparked an on-line petition drive which netted some 1300 signatures. But Tumino, President of the Hall of Science Amateur Radio Club, concedes that hasn't changed the museum's mind.

The Hall of Science Amateur Radio Club in New York is now looking elsewhere for a home. "A well-known New York City area ham has kind of taken up our cause to some extent and is helping us with that," Tumino says. "So, we don't know yet whether that's a set solution, moving to another museum within the New York City limits. But that also looks very promising and we've already had one meeting with that institution and hope to schedule a second."

While Tumino declined to identify that museum for fear of jeopardizing negotiations, he did say it may be in one of New York's boroughs - but not in Queens. He did say it's an ideal operating location for amateur radio, especially emergency communications.

If you would like to sign the petition to help keep the Hall of Science Amateur Radio Club at New York City's Hall of Science, please take your web browser to <http://tinyurl.com/6ljost>, (ARNewsline™)

National Weather Service (NWS) Changes Hail Reporting Criteria

Winds of change are sweeping across Indiana, in an effort to streamline the Severe Thunderstorm Warning Criteria. Beginning April 1, 2009, reporting stations and Skywarn spotters will begin reporting hail that is one inch or larger. Previous reports looked for hail that was pea size or larger.

"Usually, damage begins at one and a quarter size hail rather than warning for hail that is penny size or smaller," according to Dan McCarthy, Meteorologist in charge of the Indianapolis National Weather Office. He says parameters for reporting wind

speed have also been refined. He says winds reaching 58 miles per hour are now considered a threat. At 60 miles per hour, tree branches break and trees begin to uproot. McCarthy said the whole idea is to provide a more precise service for the public.

This change in criteria comes following a four year study of hail damage and the issuance of Severe Thunderstorm Warnings in Kansas and the central plains. The study found one inch hail rather than the historical three-quarter inch threshold as a better indicator for Thunderstorm Warnings. Illinois, Iowa and Missouri will join Kansas and Indiana April 1st to change the hail stone criteria.

NWS officials felt the public was becoming desensitized by numerous warnings being issued for marginal hail sizes. McCarty say this new criteria should cut down on the number of warnings and cut down on the number of programming interruptions that local broadcast stations are forced to make for Severe Thunderstorm Warnings. When Severe Thunderstorm Warnings are issued, the storms will have the potential to cause damage. (W8ISH, ARNewsline™)

Hams Needed for May 3rd Bread Walk for Hunger in Boston

Organizers of the ham radio support group for this year's Project Bread Walk for Hunger in Boston, Massachusetts are looking for volunteers. The date of the event is May 3rd and this will be the 41st running of the event.

Eric Horwitz, KA1NCF, the Amateur Radio Communications Coordinator for the event, says that hams are needed to provide communications support along the 20 mile walk. If you are interested in helping out this year, go to <http://wfh.mmra.org> and fill out the signup form.

ARNewsline on Facebook

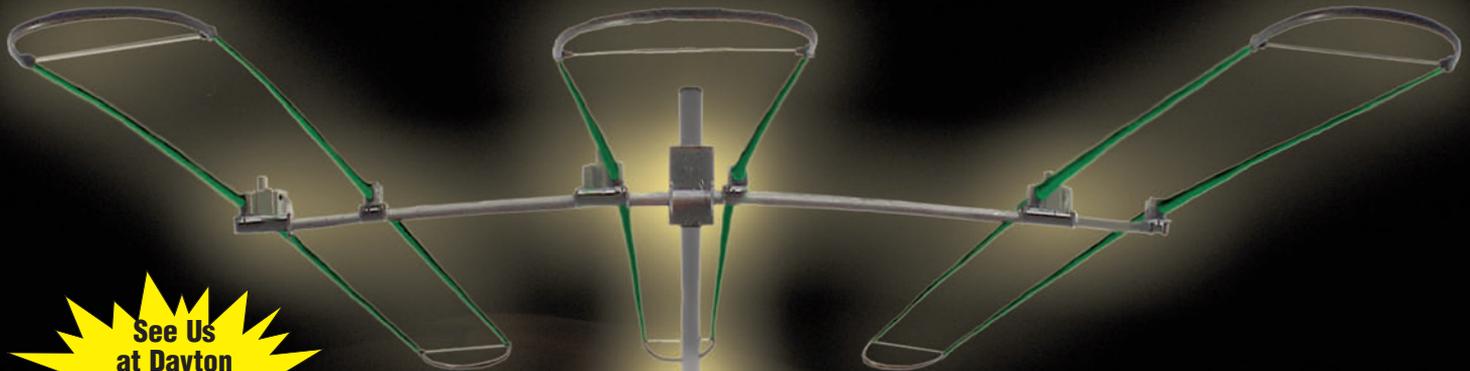
Amateur Radio Newsline is now on Facebook. After looking at all the social networking sites it was decided that the format of Facebook is the best way for direct interaction with its listeners. If you are already on Facebook, you are invited to "friend" the Amateur Radio Newsline page. You will find it by searching the Organizations, Clubs and Societies area of Facebook (ARNewsline)

Practice Morse Code on 2 Meter FM

If you live in the Kansas City area and want to practice CW, take your radio to the Kansas City 145.37 repeater for the Independence CW over FM Net. The net meets at 1900 Central Standard Time every Monday night. Anyone with an interest in Morse and who owns a CW practice oscillator is more than welcome to participate. (KC0WTS)

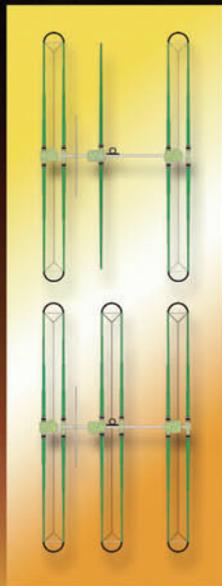
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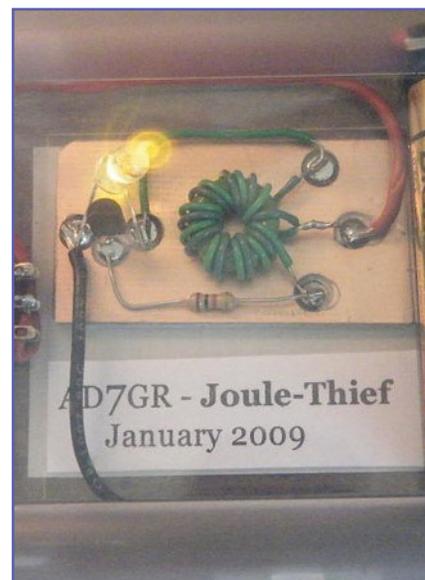
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ON THE COVER

Rob, HK3CW, and Cal, WF5W, of the Texas DX Society set up the K9AY array in San Andres. Details of their trip are on page 8.



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One of the items in the magazine editor's job description is to select the feature articles each month. It's one of the more interesting tasks, because as the editor of *WorldRadio Online*, I have the privilege of reading articles from many different segments of amateur radio.

WorldRadio typically had a monthly DXpedition feature. Only a small percentage of hams actually go on a DXpedition, but the stories about the trips include things that most hams are interested in—antennas, portable operating, and experiences shared with fellow ham friends. Articles about contesting are popular, too, for the same reason. Now that we're online, color photographs give the stories the added dimension.

That doesn't mean we don't want to read about what you're doing in your own backyard or condo. Quite the opposite!

Now that we have established a presence on the Internet and so many people are logging on to download the newest issues that they are clogging up the web server, we want to remind you that we still need your input. Not just about the big ham events in your life, but those little victories too. Remember getting 5 wpm Morse code under your belt or how exhilarating it was to finally get that last state needed to complete your Worked All States? Has your club held a licensing class where people earned their licenses and have gotten on the air now? Did you try a new antenna configuration that blew the socks off the DX? How about memories of your grandfather warming the room with his vacuum tube rig? Or tell us how you built your first rigs from salvaged parts. Our "people" stories are what make *WorldRadio Online* a unique publication. Share your stories and pass on the tradition of ham radio.

May means Hamvention®, and although we will miss seeing Armond and Helen Noble at the corner booth in the main arena, there will be a *WorldRadio Online* presence at the CQ Communications booth. We are planning a display to showcase our new online format and will have staff available to answer any questions you have about viewing *WRO* and downloading it. I will be there, running between the FISTS booth and the CQ Communications booth, so be sure to stop by and say hello. We're still the *WorldRadio* family, regardless of the format we are using. I received confirmation from the kind folks at Hamvention® that FISTS will occupy our usual spot on the ramp between the main arena and the main cafeteria. We are all looking forward to seeing everyone again and hearing your comments and suggestions.

I am embarrassed to say that I have not made a dent in my shack clean-up project. Paul Gates, KD3JF, sent an email saying that he thought guys had the monopoly on being a packrat, but I'm showing all the signs of having the packrat syndrome! Yep, Paul, you hit the nail on the head. If I tossed even half of the stuff I might use "some day", it would be half the battle of cleaning the shack...or at least allow me to see my tabletop.

In these times of economic challenge, isn't it nice to have a hobby that we don't have to spend a lot of money on to have fun? Has anyone decided to downsize or get back to basics? You know, toss a dipole or two into the trees and dust off those mean green Heathkit machines? Maybe mothball the amplifier and run barefoot? If you have, write it up and send it in, we'd love to hear how you're operating on a budget.

Don't forget about our *WRO* Golden Megaphone club competition. Is your club doing anything special to make Field Day an attraction for the public? Document it; take lots of photographs and have sign-in sheets as well as keep notes on what activities you have so it can be written into an article and sent in to us.

See you at Hamvention®! 73 88, Nancy Kott WZ8C.
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**AT-1000Pro Review
in Nov. '08 CQ**



NEW! IT-100

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AT-1000Pro

Building on the success of the AT-1000, LDG Electronics has refined and expanded its 1KW tuner. The AT-1000Pro has an Automode that automatically starts a tuning cycle when the SWR exceeds a limit you set. Operates at any power level between 5 and 1,000 watts peak. RF Relay protection software prevents tuning at greater than 125 watts. Tunes from 1.8 to 54.0 MHz (inc. 6 meters), with tuning time usually under 4 seconds, transmitting near a frequency with stored tuning parameters, under 0.2 seconds. 2000 memories. 2 Antenna connections. All cables included. **Suggested Price \$599**



NEW! KT-100

LDG's first dedicated autotuner for Kenwood Amateur transceivers. Easy to use - just right for an AT-300 compatible Kenwood transceiver. The KT-100 actually allows you to use the Tune button on the radio. The LEDs on the front panel indicate tuning status, and will show a match in seconds, or even less of you've tuned on or near that frequency before. Has 2,000 memories for instant recall of the tuning parameters for your favorite bands and frequencies. If you have an AT-300 compatible Kenwood radio, you can simply plug the KT-100 into your transceiver with the provided cable; the interface powers the tuner, and the Tune button on the radio begins a tuning cycle. The supplied interface cable makes the KT-100 a dedicated tuner for most modern Kenwood transceivers. **Suggested Price \$199.99**

Z-11Pro

The original portable Z-11 was one of LDG's most popular tuners, accompanying adventurous hams to their backyards, or to the ends of the earth. Now meet the Z-11Pro, everything you always wanted in a small, portable tuner. Designed from the ground up for battery operation. Only 5" x 7.7" x 1.5", and weighing only 1.5 pounds, it handles 0.1 to 125 watts, making it ideal for both QRP and standard 100 watt transceivers from 160 - 6 meters. With an optional LDG balun, it will also match longwires or antennas fed with ladder-line. All cables included. **Suggested Price \$179**



NEW! Z-817

The ultimate autotuner for QRP radios including the Yaesu FT-817(D). Tuning is simple; one button push on the tuner is all that is needed - the Z-817 takes care of the rest. It will switch to PKT mode, transmit a carrier, tune the tuner, then restore the radio to the previous mode! 2000 memories cover 160 through 6 meters. The Z-817 will also function as a general purpose antenna tuner with other QRP radios. Just transmit a carrier and press the tune button on the tuner. Powered by four AA internal Alkaline batteries (not included), so there are no additional cables required. A coax jumper cable is also included for fast hook up. **Suggested Price \$129.99.**



NEW! Z-100Plus

LDG's popular Z-100 economy tuner is now the Z-100Plus. Still small and simple to use, the Z-100Plus sports 2000 memories that store both frequency and tuning parameters. It will run on any voltage source from 7 to 18 volts; six AA batteries will run it for a year of normal use. Current draw while tuning is less than 100ma. The Z-100Plus now includes an internal frequency counter so the operating frequency is stored with tuning parameters to make memory tunes a blazingly fast 0.1 seconds; full tunes take an average of only 6 seconds. **Suggested Price \$159.99**



AT-100Pro

This desktop tuner covers all frequencies from 1.8 - 54 MHz (including 6 meters), and will automatically match your antenna in no time. It features a two-position antenna switch, allowing you to switch instantly between two antennas. The AT-100Pro requires just 1 watt for operation, but will handle up to 125 watts. All cables included. **Suggested Price \$219**



AT-200Pro

The AT-200 features LDG's new "3-D memory system" allowing up to eight antenna settings to be stored for each frequency. Handles up to 250 watts SSB or CW on 1.8 - 30 MHz, and 100 watts on 54 MHz (including 6 meters). Rugged and easy-to-read LED bar graphs show power and SWR, and a function key on the front panel allows you to access data such as mode and status. All cables included. **Suggested Price \$249**

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2009 San Andres Revisited

by Cal White WF5W

Last year six members of the TDXS (Texas DX Society) gang went to this lovely island for an SSB contest. That year we were interviewed by the local television station at the San Andres Airport, stayed at the Red Crab resort, and had a great week of DXing. It was a good trip with excellent results. We had a great situation for antennas, nice weather, a golf cart for driving around to sample the local fare, and felt easy with all the friendly folks we met - especially with the house staff and our new friend, Manrique, who could do all that we needed to have done on the island.

Fast forward to January 2009

On January 22, Mike Bragassa, K5UO, and I met Rob Reyes, HK3CW, and his lovely wife Elizabeth in Bogotá and all together journeyed to San Andres. This time, there were no TV cameras at the airport. No one was there to meet us, however, we felt so at home, there was no need. We were staying at the Red Crab again. The original owner, Rafael Rojas, died of a heart attack weeks before we arrived and his daughter, Ximena, has continued on with the business seamlessly, as if her father were still there. We were impressed with the help given by the new owner of our apartment and her staff. Lucy, our housekeeper, met us at the gate. Even the old two guard dogs in the back wagged their tails at us.

We had the same rooms as last time. The chicken wire for our antenna was rolled up in the garage, as well as our old 20 foot pole for the Yagi. I would have to say these folks are very ham friendly.

Mike, Rob and I got busy rolling out the wire and with the help of the children of our caretaker cut it up into sections. We then put up the pipe on the second floor and installed the pretty little Super Antenna from Vern Wright, W6MMA (provided by Virgil Stamps in Houston). It breaks down to 12 pounds and a 36" package. The K9AY loop array was put up in the vacant field to the north of our place.

The chicken wire was somewhat difficult. Same wire, same stuff as we used in Houston but it just did not want to roll



The K9AY loop array set up in the field.

into frequency and SWR. More on this one later...

The gear was the same as last year, with the exception of the new little Tokyo Hy-Power amp with 600 watts at 22 pounds of weight, courtesy of Tom Rum, the U.S. technical representative for the company.

Before we go further - weight and size really matter on the airlines. Even with the downsizing of our gear, we still paid over \$130.00 in baggage charges. The antenna and amp were part of that downsizing effort.

Murphy, as always, rode along. The headphones connection shorted out. The K9AY loop array was very effective until someone, I won't say who, zapped about 500 watts into it during the early part of the 160 contest. We all knew that we had to change settings each time we used it and we all knew that one of us would forget. It was just a matter of who would be

first. So, we used the Chicken Wire Special antenna exclusively for transmit and receive.

HK3CW's wife, Elizabeth, isn't a ham, but she knows how to get along with hams and provided a continuous pot of hot Colombian coffee, and she kept the rest of us civilized. We even had to wear clothes around the apartment and no noisy airbursts were allowed.

Rob had to go to town with her the first time in a taxi, but after that, she took the local bus everywhere. You feel safe on that island. Even though our U.S. Coast Guard allegedly receives danger pay for being at the local radar base, we did not experience any feelings of danger. To be fair, we did see several big housing and hotel projects that had previously been started by Colombian drug lords. Notice I said "had" been started. The Colombian government seized all of them for money



Putting the chicken wire up the old tree.

laundering and they are now out of business in San Andres. The locals we talked to did not know it was drug dealers; they just thought some rich Colombians wanted to invest in the infrastructure of the island.

The local folks were friendly. On our first visit, we found three sisters who made bread and sweet rolls for sale in their home. They were still there. When we walked down one day, they had just put the rolls in the ovens. They told us they would deliver the rolls to us on their way to town. They did and when we went to the gate to meet them, found that we were short 200 pesos. That is not a lot of money, and the woman said that was okay. Later that evening I walked down to their house and presented them with the 200 pesos. They were shocked, but I said a deal is a deal. Remember, hams are the ambassadors on DXpeditions. We did make points with them for sure. Bet next trip, we will get the big sweet rolls.

Before and just after the contest, we were playing radio, not really DXpeditioning. On Monday, we set a goal for QSOs, which was a smart move. From that moment on, we were DXpeditioning and working hard to keep up a good rate. Goals are a good thing.

Chicken Wire Special

The antenna we thought was going to be great on 160 meters turned out to be not so great. It worked wonders on 80 and 40 but we had come for the 160 contest! Eventually we found out what was wrong and corrected it, but too late for the contest.



The crew: Rob, HK3CW; Cal, WF5W; and Mike, K5UO.



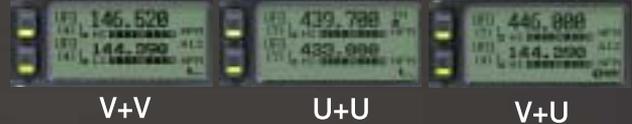
Rob, HK3CW working at the rig..

This antenna has to have the vertical section, vertical. As our favorite palm tree that had previously held the antenna had died, we asked a local man to climb the remaining pole to about 40 feet and set our vertical section at that height. Not a good idea, as we found out. The vertical leg had to be draped over a clothesline, run for about 20 feet at the 6-foot level and then down to the feed point at the chicken wire. High SWR, high take-off on 160, and generally not good. With several changes, we ended

A TECHNOLOGY BREAKTHROUGH

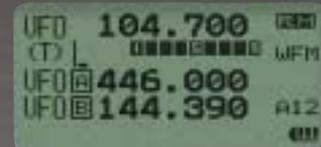
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*1 With optional accessories

*2 Cellular Blocked per FCC rule Part 15.121, may not receive 900 MHz Amateur band

*3 Assuming a duty cycle of 6-second transmit, 6-second receive, and 48-second standby (50 MHz 5 W)

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Photograph depicts after-market keyboard, keyer paddle, and monitor, not supplied with transceiver. Display image simulated and may differ in actual use.

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"The K9AY array is said to be a good addition to any DXpedition...Grounding seems to be the key to making this antenna really work."

up with the vertical section going at an angle to the feed point, not on the clothes line and the 160 wire pointed north across the vacant field (it had been pointed south over the wire and with only a 40 degree angle difference coming off the 80 meter coil.) No wonder our SWR was high. When we put the wire to the north, there was a dramatic difference in SWR. The last thing to do was redistribute the chicken wire so that at least half the wire was going from the feed point out north, under the 160 horizontal wire. NOW we were talking. We could actually call CQ on 160 and get an answer!

The K9AY array is said to be a good addition to any DXpedition. We had previously put this one up at the home QTH and did not see any real differences from the regular antennas. However, when we put it up on San Andres, it worked. What was different? We had three ground rods, one four footer just for the radials under the elements, and two for the control and

coax. Grounding seems to be the key to making this antenna really work. When we had it at the home QTH we only used one two-foot ground rod.

How it all ended: 83 countries, 2290 contacts in 6 days

I know, I know, you will say those aren't big numbers, but it was what we did and it was very enjoyable. We gave many folks their first contact with this island on 80 meters, including QSOs with hams on the Falklands, South Korea and New Zealand.

Overall, we were very satisfied with the trip. We went back to Bogotá on the midnight flight and spent a few hours sitting and sleeping in the Juan Valdez café at the airport before getting back on the flight to Houston. A few hours later, we were home, out in the shack, and wondering how that time flew by so quickly. We brought back a couple of packages of Juan Valdez Colombian coffee beans to help us remember the trip.

In less than two months we will be off to Africa for the next one.

See you on the air.
73 Cal White WF5W



Fine-Tuning the Chicken Wire Special on 160 Meters

by Cal White, WF5W

This antenna is a good choice for Field Day and DXpeditions. After several additional field tests, we made some modifications to make it work even better on 160 meters.

1. Place most of your chicken wire radials in the general direction in which you want to transmit. You should still have some in other directions, but the majority should be forward under the horizontal line for 160 meters.
2. The 160 horizontal wire should be pointed in the general direction of interest.
3. It is critical to have the vertical wire absolutely vertical for its entire length. Not doing so will adversely affect the antenna's performance.
4. If you're stuck with less than vertical for your antenna, make it a sloper in the opposite direction of your horizontal wire.
5. Whatever you do with the horizontal wire, make sure that there is a sufficient angle between it and the vertical member to gain a good SWR. Less than 45 degrees will not work. Your solid-state amplifier won't handle the mismatch. As you spread the angle out, SWR comes down dramatically.
6. You're going to have to "wiggle" the wire a bit from the optimum setting listed in the instructions. It may be a little shorter or longer; we added a 5-foot tail hunk just for that "wiggle." When you find the magic setting, bend the unused wire back onto the member and twist it around so it doesn't droop.
7. The MFJ SWR antenna analyzer is a MUST to have along to set your antenna to frequency. Start with the 80 meter section and after you get the frequency you want, wiggle the 160 leg to the desired frequency.
8. Survey your area find the highest point you can for the 80 meter coil. Take note of where the other tree you're going to use is located. Will you be able to spread the wire out like you need to?
9. Last but not least, check your coax and connectors. That may sound silly, but two different times we had a bad connector. You look for everything else when there is a problem, so just make sure you check them.



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The Rules Say...

John B. Johnston, W3BE

FAMILY PLAN

Q What would you think of proposing a rule that would sanction me – as a licensed amateur operator - to permit non-FCC-licensed persons such as my XYL and my kids to use my station, provided that I retain responsibility for any violations that they cause?

W3BE-O-GRAM: Very risky. That could be totally inconsistent with the justification for the very allocation of our spectrum: To enable duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest to carry out self-training, intercommunication and technical investigations. If that description doesn't fit your targeted family members and friends, their radiocommunications needs might be accommodated by one of the Personal Radio Services: HF Citizen Band, UHF Family and General Mobile and VHF Multi-Use. They would, moreover, have to put down their beloved cell phones.

Q. But don't we want more hams?

W3BE-O-GRAM: Here's hoping that every person on the planet for whom our spectrum is allocated goes on to qualify for an amateur operator license and utilizes our spectrum for doing that for which it was allocated.

Q. Our weekly net is called by our club president's non-ham son using his father's call sign. Sometimes the father will also check in. When asked if he personally needs to identify the station, he says no. How can people listening know that the legitimate control operator is present if they don't identify?

A. Unless they can recognize the voices, listeners can only assume that the station is transmitting in compliance with Section 97.7: When transmitting, each amateur station must have a control operator. The control operator must be a person for whom an amateur operator/primary station license grant appears on the ULS or who is authorized for alien reciprocal operation. That is what the FCC does. Section 97.103(b) says the station licensee must designate the station control operator. The FCC will presume that the station licensee is also the control operator, unless documentation to the contrary is in the station records.

W3BE-O-GRAM: Seemingly, your club president does not appreciate the necessity for every control operator to prove his or her competence through examination. The fallacy with this refutation is that it bypasses our qualifying system. In fact, it undercuts the need for any operator license or examination and nudges our amateur service toward irrelevancy.

Q. Most hams do not intend to violate the rules on Field Day. The problem lies in the meaning of the term "control operator." Isn't it time for you to request a definition in this context from the FCC?

A. The FCC has already spoken repeatedly to that matter.

The definition of the term "control operator" is codified in Section 97.3(a)(13): an amateur operator designated by the licensee of a station to be responsible for the transmissions from that station to assure compliance with the FCC Rules. That definition applies to all contexts: Field Day, contests, special events, rag chewing, DXing, etc.

Section 97.7 says that when transmitting, each amateur station must have a control operator. The control operator must be a person for whom an amateur operator/primary station license grant appears on the ULS, or who is authorized for alien reciprocal operation.

Section 97.105 says the control operator must ensure the immediate proper operation of the station, regardless of the type of control. A station may only be operated in the manner and to the extent permitted by the privileges authorized for the class of operator license held by the control operator.

Section 97.103 says the station licensee is responsible for the proper operation of the station in accordance with the FCC Rules. When the control operator is a different amateur operator than the station licensee, both persons are equally responsible for proper operation of the station. Further, it says the station licensee must designate the station control operator. The FCC will presume that the station licensee is also the control operator, unless documentation to the contrary is in the station records.

There is additional information about the control operator on the FCC webpages.

W3BE-O-GRAM: Those assaults on the necessity for a FCC-licensed station control operator ("SCO") may just be an expression of a fundamental disagreement with the need for every SCO to qualify for privileges by examination and/or with our frequency-based-incentive operator license class structure. The danger in these tactics is that they conflict with the very purpose for our spectrum allocation. In fact, it undercuts the justification for any amateur radio service whatsoever.

The accommodations for third party communications in Section 97.115 are just too tempting for some non-hams - aided and abetted by some licensees - not to exploit as the loophole for bypassing both requisites. Such is setting the stage for an eventual one operator class system, total de-licensing or outright extinction. For background information on this disturbing movement, see BE Informed No. 33 OUR TPMS (third party message stating participant) "CLASS."

Q. Part 97 does not specify whether or not VOX can be used when the SCO is monitoring and supervising a third party who is actively participating in "stating" their message. Questions:

1. Does the SCO have to cough in order to control keying the transmitter if VOX is used during a third party voice transmission?

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2. Does the SCO have to stand behind the third party and reach around him/her to activate the PTT?

3. If a foot switch is used, does the third party have to sit in the lap of the SCO so that the control operator may activate the foot controlled PTT?

4. If Morse code is used to express the words, does the SCO have to hold the hand of the third party on the J-38 key while stroking it?

A. As you describe so wittily, one set of how-to solutions cannot fit every situation without being silly overkill in certain instances.

W3BE-O-GRAM: When you are the SCO, don't allow your third party message stating participant (TPMSP) to key the mike, tap the keyer, use VOX, etc., unless you are convinced absolutely your TPMSP will do exactly as you intend. The FCC granted the license to you because you qualified by passing the necessary examinations. You are the one with the privileges. You cannot delegate your accountability for performing your SCO duties. When things go sour, you cannot pass the buck to the TPMSP.

Q. I understood that the purpose of a Field Day Control Operator was so that Technicians could operate on HF. Now I'm getting the picture that they can only operate with their own Technician privileges. What, then, is the purpose of the Field Day Control Operator?

A. As on every day of every year, the purpose of the SCO is to be responsible for the transmissions from that station to assure compliance with the FCC Rules. For a station having a SCO who has been granted an operator license of Novice, Technician, or Technician Plus Class, Section 97.301(e) authorizes only small segments in the 80, 40, 15 and 10 meter HF bands.

Q. Your point about third party communications was eye-opening. Third party communications can be pretty complicated, especially if it involves a foreign country. The fact that e-mail might get passed by ham radio without anyone looking it over is rather scary to me.

W3BE-O-GRAM: Thank you for your concern for our amateur service.

Q. Your point about third party communications was eye-opening. Third party communications can be pretty complicated, especially if it involves a foreign country. The fact that e-mail might get passed by ham radio without anyone looking it over is rather scary to me.

W3BE-O-GRAM: Thank you for your concern for our amateur service.

Q. While the SCO must be at the control point to monitor the transmissions, the control point is not defined to be the actual placing of the hands on the key or mike. I can let a third-party key the mike as long as I am at the control point to monitor the station. Therefore, the visiting General Class operator licensee is at my station acting like a third-party and they can use my Amateur Extra class privileges. Your diagram (BE Informed No. 7 ALL ABOUT THIRD PARTY COMMUNICATIONS) makes it appear as the transmission must go through the control operator which is not correct.

A. Section 97.3(a)(14) defines the control point as the location at which the SCO function is performed. The authority for

an amateur station to transmit third party communications is codified in Section 97.115. Section 97.3(a)(46) defines such as a message from the SCO of an amateur station to another amateur station SCO on behalf of another person. Section 97.115(b) says that the third party may participate in stating the message under certain circumstances.

W3BE-O-GRAM: In your vernacular, indeed, the third party message "must go through" the SCO.

Read the rules—Heed the rules at: www.gpoaccess.gov/ecfr/ and click on [Title 47], then on [Part 97]. Also visit <http://wireless.fcc.gov/> and click on [amateur]"

Enforcement reports are at: <http://www.fcc.gov/eb/AmateurActions/Welcome.html>.

Report violations to: fccham@fcc.gov.

BE Informed! Have a question about the amateur service rules? Visit <http://w3be.home.att.net/>; and e-mail john@johnston.net.

APPRECIATION



Our R&R Superham-of-the-Month is Ken McKee, W3RFQ, from our QCWA Chesapeake Chapter No. 20. Congratulations, Ken, for receiving the QCWA Presidential Section 97.1(e) award for continuing and extending the amateur operator's unique ability to enhance international goodwill.

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An MRE Lesson from a Second Grader

By Jerry Wellman, W7SAR

When I respond to a public service event as a communications person, I try to anticipate what I might need and gather gear accordingly. Some items are obvious – like food and drink. For many years I’ve tried to carry a MRE (meal, ready-to-eat) or two and some containers of water. I have to admit, however, that I will often go hungry rather than eat my MRE. Why? They’re expensive and sometimes not all that appealing.

On a training event, I might stop by a fast-food outlet on my way to the scene and (more than I want to admit) other times I don’t grab the MRE or fast-food, telling myself that “I’ll be OK, it’s just for a couple of hours.” Getting a burger or not taking the basics is a wrong move on my part if I’m trying to teach myself preparedness. I might be unable to find a functioning food outlet during an actual emergency or I could be delayed in getting home and might find myself pretty hungry.

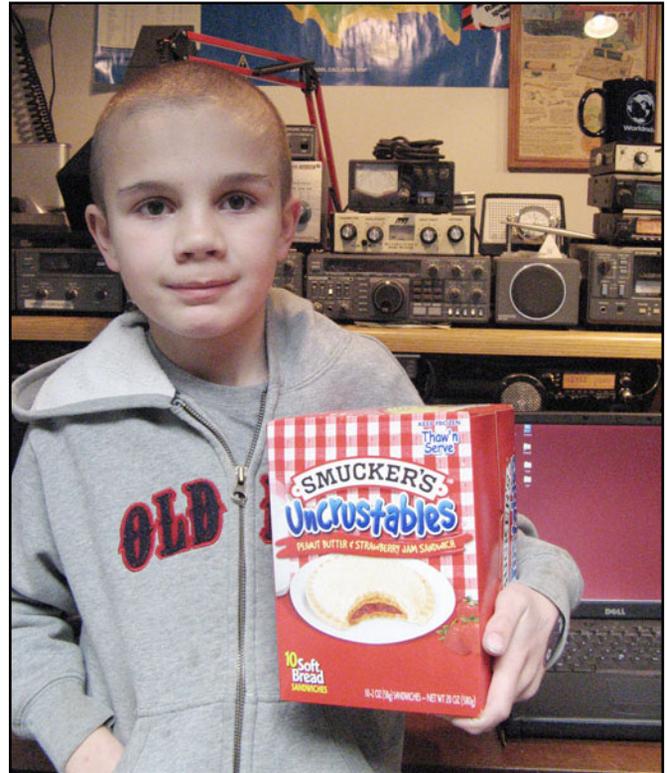
Which brings me back to my need to have available and bring appropriate gear for any event, training or actual. I have several bags that contain one, two (or more) MREs and a bag of personal items such as soap, toothpaste, a towel and a AA-battery shaver. If I neglect to take them, I’m just being lazy. But, if I want to use the gear I take, I find it inconvenient and costly to open the MRE package and just nibble on the desert or eat only one or two items in the MRE – then to go find the MRE store and replenish my supply.

Well, I have been educated by my 8-year-old grandson, Nolan Wellman. And, I have a solution that I am comfortable recommending to you as well. A couple of weeks ago, I was asking all the normal grandpa questions such as, “How is school?” “What are you learning?” and “Are you getting good grades?” Nolan was a wealth of information and carefully outlined his school experiences. Then he said, “Do you know what I like best about my school?” I replied that I didn’t and prodded him to tell me. “The part I like best,” he said, “is lunch and especially the Uncrustables.”

Priding myself in being somewhat knowledgeable in school matters (my wife is a 4th grade teacher) I had no idea what an “Uncrustable” was or to what purpose it was used. Nolan began to describe, in 2nd grader detail, what an Uncrustable was. It sounded very interesting. In fact, it was so interesting that I did what any grandpa would do and took Nolan to a neighborhood store to purchase several boxes of Uncrustables. Nolan was delighted and I was excited to find what I think will be an excellent grab-and-go food item.

If you have already sampled these goodies, you know that they’re made by Smuckers and are a frozen peanut butter and jelly sandwich (either grape or strawberry). They’re called Uncrustables because they have no crust – it’s like you took a sandwich and cut the crust off.

Here’s the deal. You get your box of Uncrustables and store them in your freezer. When you leave the house, you can grab several and just toss them in your gear bag. You don’t nuke



Nolan Wellman has introduced a new “emergency” food to his grandpa. He’s posing in the shack with a box of strawberry Uncrustables.

them in the microwave or heat them or do anything except wait for them to thaw. In about 30 minutes, you have a pretty tasty peanut butter and jelly sandwich.

Last weekend I was headed out the door to a training class. I made the effort to take appropriate gear (radio bag, food bag, etc.) AND I grabbed a grape and a strawberry Uncrustable. The box says they’re good unfrozen for as many as 12 hours, so about four hours later I’m headed home and munching on my thawed sandwich. Cost? About a dollar for two. And, I didn’t need to open an MRE package and I didn’t need to find the MRE store. I still had 18 more Uncrustables in my freezer (and I don’t tell my grandkids they’re there or I’d have none left).

My recommendation? If you’re not allergic to peanut butter and jelly, it’s worth consideration for including in your list of things to grab when you go.

Fixing Things And Soldering Things

I was proud of myself at the last swap meet I attended. I got out of the building with only one or two small treasures! Usually, I overindulge and my goodies get donated to a local

thrift shop after I realize I didn't need the item and discover that no one else I know wants it either.

I do like to get a new "toy" from time to time and usually justify it as "emergency gear." I am also discovering just how much "broken" gear is out there for pretty inexpensive prices. You can do pretty well if you're willing to take a chance on something and attempt to fix it. Let me give you an example.

I have four Motorola chargers and had noticed a gang-charger that I could use to replace the four individual units and have room to charge a couple of batteries as well. I went shopping and discovered these chargers are pretty expensive, especially the name-brand models. Being a little more patient than usual, I just kept looking and finally found one listed as "not working, needs repair." Best of all, it was a \$10 item. The seller told me it worked intermittently, but had stopped completely and was too expensive to repair.

I quickly paid for the item and took it home. Sure enough, it didn't work. On the bottom of the charger was the standard label "no user serviceable components inside," but that didn't stop me. What have I got to lose? Worst case, I'm out \$10 and a little time. I got to work with my screwdriver and soon had the unit spread across the worktable.

Step one was to carefully wiggle components to see if something was loose. Nothing came to life. Next step was to see if power was coming in and power was going out of the supply. Going in was good, but nothing was going out. Hmmm. The transformer was putting out voltage but some of the components had no measurable voltage. Time to take the power supply out of the box. With some careful disassembly, I had the power supply components out of their enclosure and I was looking over the bottom of the circuit board. There it was - a cold solder joint on one of the parts. It was very obvious and a quick re-solder made the connection solid.

Reversing the process I was able to put the parts back into the power supply enclosure and when I tested the supply, voltage went in and voltage now came out. Re-assembling the gang charger took only a few moments and I now have a functional charger - and - I've fixed the "no serviceable components inside." All for \$10 and some time.

Did I take my time and carefully take the item apart? Yes. Did I take the time to be safe? Yes (always respect things that

are plugged into outlets). Were my troubleshooting skills sharpened? Yes. Can you do this too? Yes. If you've never fixed something, find someone who has and have them mentor you. This is a critical skill for today's communications volunteers. A lot of people can operate radios. Not a lot of people can troubleshoot problems and fix things.

Another example. I found a rather nice CB radio on an online auction. These models often sell for \$250 or more, even in used condition. I just wanted one because of all the features but I didn't want to spend a lot of money. Being patient I did find one in need of repair. It arrived and sure enough, it was broken. The radio's faceplate (which has the display and buttons) would not stay attached to the radio. One option was to simply glue it to the radio and then never remove it. The second solution was to see why the faceplate would not stay on the radio. With careful inspection I noticed that a small plastic "catch" was broken. The catch wasn't very strong (or so it appeared) to start with and it was easy to see why the faceplate wouldn't stay in place.

So, out came the screwdriver and I dismantled the radio. Inside I found where the small part was attached and I called the manufacturer. Worst case I could still put the radio back together and use epoxy. But, the tech in customer service said the small plastic parts were an abundant item - for \$2 each. He cautioned me that I'd need to unsolder a couple of components (the volume and squelch pots) to get to the right place on the board, but if I was comfortable with a soldering iron, it was an easy fix.

Sure enough, the part was easy to install (I bought several because I know it will break again) and I have the pricey model of CB at a much reduced price because I took the chance I could repair it.

A warning. Not everything I've bought can be repaired. I still have an all-mode VHF radio that puts out no power despite installing a new output module. I also have several other radios that I've been unable to fix. Bottom line? I'm not out more than \$10 or \$20 and I do enjoy the challenge of fixing things.

I have been asked by other operators if I'd fix a microphone connector or solder an antenna connector and they have even offered to pay me to do the repair. My solution has been to offer to help them do the repair. One fellow came over and we fixed his mic connector. He had several others that needed repair and he called me later the day to just tell me thanks, as he was able to go home and make the repairs himself. Another couple of fellows came over and we built some j-pole antennas. They, too, have gone home and built other j-poles and one even had a mini-class for his radio group and showed others how easy these antennas are to build.

Please take the time to learn some technical skills. I am not advocating that you take apart your new little Icom DSTAR radio and try to fix the surface mount components. But, you can tackle basic repair, especially of antenna connectors, microphones, power supplies and perhaps older rigs that may only have broken plastic parts. Use your common sense!

Until next month, best wishes from Salt Lake City.

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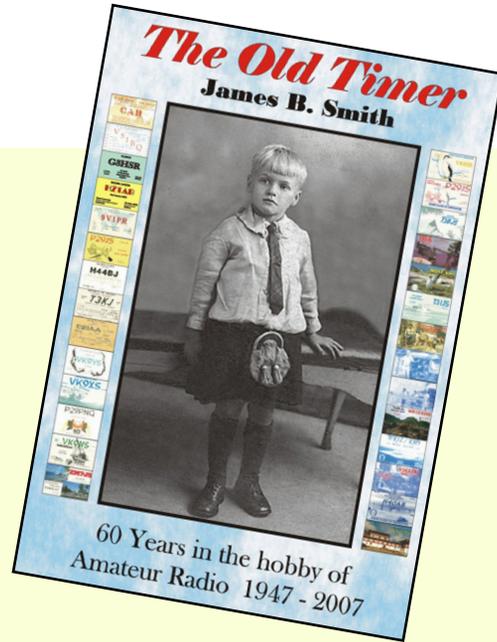


A Silent Key and the Key to Success

Kelly Jones, N0VD



Jim, VK9NS and his XYL Kirsti, VK9NL.



The cover of Jim's recent book.

Jim Smith, VK9NS - SK

When I came down to the shack on the morning of February 10, as I do every morning before heading off to work, I was astonished to find an email in my inbox that stated Jim Smith, VK9NS, had become a Silent Key.

The short message, sent by his son Bruce, G3HSR, read: "It is with deep sadness that I inform you that Jim (VK9NS) passed peacefully away on Norfolk Island at 15:40 local time on 10 February 2009 after a short illness. Jim is survived by his wife Kirsti (VK9NL) and his four children: Bruce (G3HSR), Stuart, Sheena and Fraser (all living in the UK). Jim's contribution to Amateur Radio, DXing and IOTA is inestimable. He will be sadly missed. Further information and condolences can be sent to Kirsti at jimkirsti@ni.net.nf Bruce (G3HSR)"

Indeed, he will be sadly missed. During my nearly 25 years as an active DXer, Jim was one of those iconic figures who seemed to have always been around. My first QSO with VK9NS was on February 28, 1992. I was in graduate school at the time and had a very meager station, let alone much time to chase DX. Jim used to frequent the Southern Cross DX Net in those days and that is where I managed that first QSO with him – a QSO that I remember to this day. Over the years we worked many more times with one of the more memorable QSOs coming on 80 meter CW.

Jim was an avid DXer putting many rare countries on the air. Unlike today, where lots of "press and media attention" surround rare DXpeditions, Jim had an uncanny ability to pop up unannounced and activate a country where others failed.

I distinctly remember when Jim was able to put Bhutan (A5) on the air in 1990. For years, various DXpeditioners had tried to get permission to operate from A5. At the time Bhutan was very close to the top of the most wanted list. However, Jim was able to get on the air and hand out a new one to many. It wasn't until ten years later that the government of Bhutan opened the door to ham radio and the first major DXpedition (A52A) took place. Many credit Jim's diplomacy and teachings as the ground work responsible for putting A52A and subsequent DXpeditions on the air from Bhutan.

In 1980, Jim started the Heard Island DX Association and just three years later he and his wife, Kirsti, VK9NL, put the rare island on the air as VK0NS and VK0NL. A rare one indeed, as there have been only a handful of operations from this desolate location with the last being in 1997.

The legacy of VK9NS is far more than I could ever say here in words. While the operator may be gone, he did leave us with something that is sure to become a collector's item. Jim recently completed a book entitled *The Old Timer – 60 Years in the Hobby of Amateur Radio* that chronicles his life as a DXer. In Jim's own words he reflects how ham radio, and DXing in particular, has affected his life:

"My book is finally written and it is the story of my travel through life and my becoming involved in the hobby of Amateur Radio. I mention being dragged 'kicking and screaming' into the hobby but once there now feel that I have participated in the hobby in many ways. I have been lucky (if that is the right word) to have trav-

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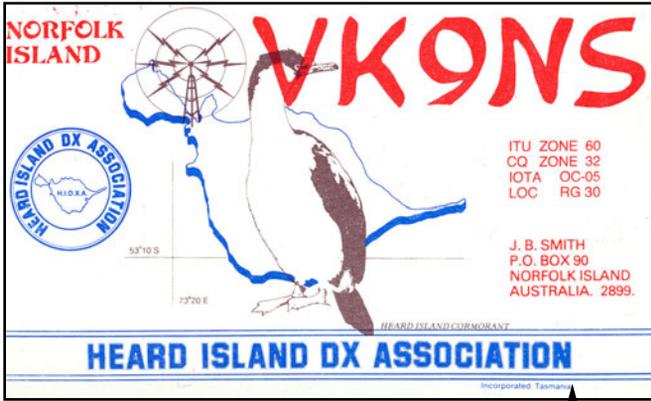


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VK9NS' QSL card, 28 Feb, 1992

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KE9KD							YOUR REPORT		
DATE	GMT	3.5	7	14	21	28	2 WAY	REPORT	OSL
28 FEB 1992	0347			✓			SSB	CW	PSE/TKS
							SSB	CW	PSE/TKS

C/S-VS1BQ-G3HSR-DL2TH-HZ1AB-MP4BER-9V1PR-P29JS-VR4BJ-H44BJ-C21AA (OP)- T3KJ (OP)- T3AJ-VK9YS-VK9XS-VK9NS-VK0JS/VK9N-9M8JS-VK0JS-ZL0AAB-ZM7JS-ZL1BUN-T30JS-T31JS-T32JS-T33JS-A35MR-A51JS

The QSO was recorded by Kelly
 Many thanks Kelly 73 Jim VK9NS

eled extensively and often the travel has been related to Amateur Radio in the sense of DXpeditions.

"So within the pages of my book you will see that I have 'been there and done that' in no uncertain manner. It was the DXpedition to very remote Heard Island – now almost 25 years ago that focused my mind - would I (and of course our group) actually survive, live to tell the tale? A sobering thought.

"I have always been interested in DXing and being able to give something back to the hobby has been lots of fun and dare I say it often hard work. I also like the hobby in a practical way and have always been a home brewer and I also have a great interest in the administration of the hobby.

"In this first edition of *The Old Timer* it is my hope that you enjoy it; realize just how special our hobby is in an International sense."

He is so right about the International friendships that DXing and ham radio can bring. Rest in Peace my friend – may the propagation always be open and the pileups large.

K5D Observations

It has been a couple of years since a "Top 5" DXCC entity has been on the air. Desecheo Island, KP5, is (or should I say, was) ranked #2 Most Wanted in Asia and #3 Most Wanted in Europe. While the North American ranking was somewhat lower due to a very brief DXpedition in 2005, KP5 was ranked

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#6 Most Wanted overall in the world. That was until recently.

If you happened to be on the bands during the second half of February, you had an opportunity to put this rare DXCC country in your log. The two week DXpedition lead by Bob Allphin, K4UEE, and Glen Johnson, W0GJ, put nearly 116,000 QSOs in the log. However, as with any major DXpedition, it seems that some operators want to complain about not getting a QSO.

Some of the comments being made on the various DX reflectors and Internet web sites are reminiscent of those that came after the 2007 BS7H DXpedition to Scarborough Reef. I'm always perplexed when it's somehow the DXpedition's fault that a QSO couldn't be made. Now, I realize that for stations in North America, propagation to KP5 is almost always present on some band. But the reality is that if you wanted to work this DXpedition, the opportunity was there – even if you were in Europe or Asia. I did not need KP5 for an all time new one, but I did take the opportunity to fill in some band countries. And honestly, it took very little effort (for the most part), to put them in the log – the key was to figure out the operator's pattern.

The K5D team did a decent job of working regions of the world when the propagation dictated. They were working the various parts of the world when they should have been. I will admit, however, there were a few nights they were working North American on the low bands during the European sunrise which left me a little perplexed.

This leads me to one of the complaints I happened to see recently. A gentleman from the US was complaining that K5D was only working Europe every time he listened. I could only assume he was listening at the same time every day so my suggestion to him was to stagger his listening throughout the day. If you wanted to work them on 80 or 160 meters, a really good time might be 3AM. Ok, it might be inconvenient to get up in the middle of the night, but at this time in the morning it should be fairly easy. It's well past the European sunrise and most of the DXers in North America are in bed! This is exactly how I put them in the log on 160. Of course, that's wasn't the answer this gentleman wanted to hear.

As with the BS7H operation, some of the "less than optimal" stations ended up on the short end of the stick. One station from the UK was upset that the team at K5D didn't take time to listen for QRP

stations. Look, at the risk of sounding crass, a #3 Most Wanted DXCC entity is going to cause an enormous pileup. Even with two weeks, I'm certain the pileups were still plenty deep and running QRP to work a "Top 5" DXCC is going to be challenging at best. The goal of the any large DXpedition is to give "The Deserving" a new country. Unless the pileups have thinned to the point of begging, there is no reason to expect special treatment. How is it the DXpedition's fault that you didn't work them because you have chosen to put yourself at a disadvantage? The same is true for those that feel the DX should listen higher in the band because of license restrictions. There is a simple solution to this "problem", it's called an upgrade. I can remember years ago listening to DX in the lower 25 KHz portion of the bands and not being able to call them. I never once expected them to somehow accommodate my shortcomings due to my license class. As a result, I took it upon myself to get my Extra class license – problem solved.

Look, I think we all enjoy a good pile-up as much as the next guy. There is something about the competition that triggers the adrenaline rush. But in this day and age of instant satisfaction, stop for a moment and look around at what you can do for yourself in order to put that new country in the log. We need to stop asking for special treatment by the DXpedition because of (fill in the blank). A pileup is called that for a reason, it's every man (or DXer) for himself. It's not pretty – and in fact can be downright ugly! But with a little work and effort, you can move closer to the front of the line during the next big Dxpediton.

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 my next column. Until next time, see you in pileups!

—Kelly, N0VD

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There are Lots of ‘Thieves’ on the Trail

By Richard Fisher, KI6SN

We begin this month with a thank you to the many radio amateurs who took the time to send a welcoming note about *WorldRadio Online*’s new Trail-Friendly Radio (T-FR) column. There is an audible clamor in the radio community for a regular forum on outdoor operation. It is really gratifying. Your kindness, recommendations and feedback are sincerely appreciated.

If you have a suggestion or question to be covered in a future T-FR column, please let me know at: KI6SN@aol.com

Right out of the box, February 2009’s T-FR piece on the Joule Thief homebrewed, trail-friendly, ecologically correct mini-flashlight seems to have struck a chord.

We ran across the circuit in a popular YouTube video featuring Bre Pettis and Windell H. Oskay who were inspired by a Web site by Big Clive: “Things to Make and Do” at <http://www.bigclive.com/mkendo.htm>

Apparently, lots of trail operators like the idea.

Wondering: How Does The Joule Thief Work?

Ed Kotz, AD7GR, writes from Baker City, Oregon that he had fun with the Joule Thief light in the, new *WorldRadio Online* magazine.

“I scraped together mostly substituted parts and built one for myself. We don’t have access to those nice Trader Joe mint tins, but I did find a plastic playing card box with a clear section. A nice quick build project.

“If I may, I have one suggestion: Would you include the theory? The ‘how-it-works’ behind the projects? This would be invaluable for the novice ham and a good review for your readers. I have already had to field one ‘how-does-it-work?’ e-mail from a friend.

“Thanks, and do keep the Trail Friendly Radio articles coming.”

AD7GR does really impressive work (see photo), doesn’t he? My apologies for not including the theory behind the circuit. These Web sites have “how-it-works” data on the Joule Thief:

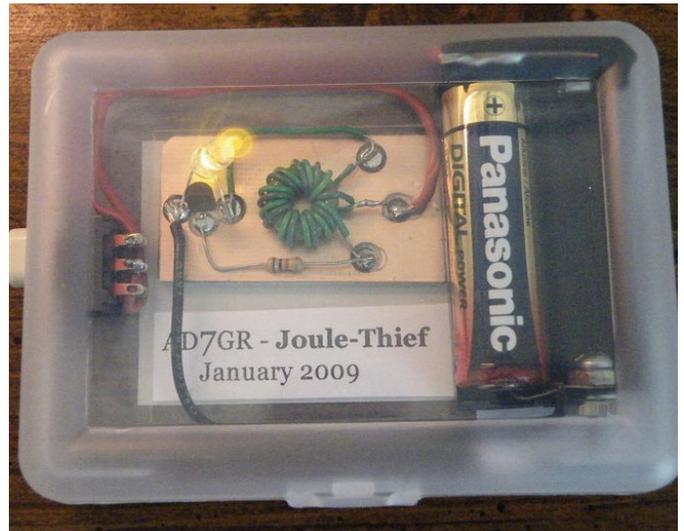
- http://www.ledsales.com.au/kits/joule_thief.pdf
- <http://www.instructables.com/id/My-Joule-thief/>

Variations On The Joule Thief

Doug Phillips, W7RDP, of Sammamish, Washington sent along some photographs of his Joule Thief (you can see them on the Trail-Friendly Radio Extra Web site: <http://www.TrailFriendlyRadio.blogspot.com>) and provided this background on a different design:

“Here is the link to the circuit I finally ended up using from EDN magazine:

- <http://www.edn.com/contents/images/6413790.pdf>



A clear plastic playing card box was used to house Ed Kotz, AD7GR’s version of the energy-efficient Joule Thief mini-flashlight, suitable for use on the trail.

“The photo of the board on my fingers (at T-FR Extra on the Web) was the first try at converting the circuit from ugly construction leaded parts to hand-scribed islands on printed circuit board using surface mount parts. I ended up using an FT23-43 for the transformer with 28 turns of No. 30 wire for the primary— all I could fit on the FT23 core— and 8 turns for the secondary.

“I checked the output on an oscilloscope and found about 6-volts peak so I added a second LED in series and got satisfactory results. I had a package of the larger 10mm LEDs from ‘Cy the LED Guy’ that I acquired as a door prize at Pacificon® 2006 and always wanted to put something in the Altoids gum tins I collect.

“I drilled the end of the tins, used five-minute epoxy to mount them and used double sided tape to hold the board and single AA battery holder.

“I get over 48 hours use from a new AA battery and have used them at Salmoncon®, other camping radio/fly fishing adventures, and around the house during power outages we have up here after wind storms. They work really well and are much safer than candles.

“The circuit is elegant, just two 2N3904s (2N2222s will work just fine also), transformer, 200 ohm resistor, battery, and two LEDs. The designer is Jim Grant of Scientific Controls, Orlando, Florida and the Design Ideas column in EDN is edited by Brad Thompson, AA1IP.

“The only tricky thing is to get the phasing correct on the

transformer, if the circuit doesn't work, reversing either the primary or secondary leads will fix it."

Thanks to W7RDP for sharing his ideas for variations of the Joule Thief. If others try the EDN version, please drop us a note to let us know how it worked out.

And What About That Toroid?

Alan Mode, KK6ZL, of Pleasanton, California asks, "Where did you find the FT50-61 toroid for the Joule Thief in the WorldRadio Online article?"

Many parts houses stock the FT50-61. One is Dan's Small Parts and Kits, Box 3634, Missoula, MT 59806-3634. Call: (406) 258 2782.

For his catalog on the Web go to <http://www.danssmallpartsandkits.net/>

A Less Expensive 'Thief' Enclosure

John Dundas, W6SU, writes from San Marino, California that "after reading your article in the February 2009 issue, I rushed right over to Trader Joe's and obtained the necessary Green Tea Mints.

"If I can finish them, then I can work on the project. But while at Trader Joe's, I found a way to lower the cost of the project - namely the Licorice Altoids which sell for only \$1.49, as opposed to \$1.99 for the green tea version.

"I had been working on a similar project to use up old batteries, and had just about gotten it to the prototype stage when I saw your article, beating me to the punch.

"My idea was to make a cylindrical holder for two batteries and connect them to a 3-volt light bulb, through a switch, to allow it to flash. Was going to call it a 'light flash,' or something similar. Oh well, another one of my brilliant ideas down the toroids.

"Anyway, good to catch up with you again, at least in print. In person would be better!"

As it happens, I met up with W6SU at a local amateur radio swap meet a week after receiving his e-mail and told him how much I liked his two-battery idea. After a visit to my local TJ's, I learned that, indeed, it had carried the less expensive Altoids in the see-through case similar to the green tea.

In addition, we found some larger, circular cases with plastic windows bearing TJ's Dark Chocolate Wedges (\$3.29) and Espresso Pillows (\$2.49), if you'd like to

go with a more elegant, higher-end look for your Joule Thief.

T-FR Antennas For RV'ers?

Dick Booth, W7VPV, of Portland, Oregon writes, "I just wanted you to know that when I got notice of the first (WorldRadio Online) issue, I spent the next hour reviewing the issue, especially your column 'Trail-Friendly Radio.'

"Very good article. You gave me a heads up about your blog earlier, which featured that project but it was a good review. It will be my next project. I still have more to look at in this issue.

"You asked for ideas for T-FR and here is one thought: My wife and I are RV'ers. We have a fifth wheel trailer. I know that to many campers, using a trailer is not really camping. However, we are past the tent camping phase. We still like to hike and do so when we are out and about.

"It would be interesting to see some ideas on antennas to try both on our fifth wheel and when we are hiking around.

"Hope this wouldn't be too basic for a

few ideas in the future."

Great topic. Outdoor, trail-friendly radio can take any form you'd like - including RV'ing. If there are RV'ers out there who have had success in using antennas on their vehicle or on the trail, we'd certainly like to hear from them. With the number of RV'ing radio amateurs traversing North America, there must be some great ideas to share with 'VPV and other T-FR column readers. Thanks for the question.

Trail-Friendly Radio Extra Web Links

Quick links to all of the Web sites cited in this column can be found on the Trail-Friendly Radio Extra Web site: <http://www.TrailFriendlyRadio.blogspot.com>

You'll also find additional photographs of the Joule Thief craftsmanship of AD7GR and W7RDP.

Please make a point to check the T-FR Extra Web site from time to time for updates.

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Brown Bag Lunch Visit

Carole Perry, WB2MGP

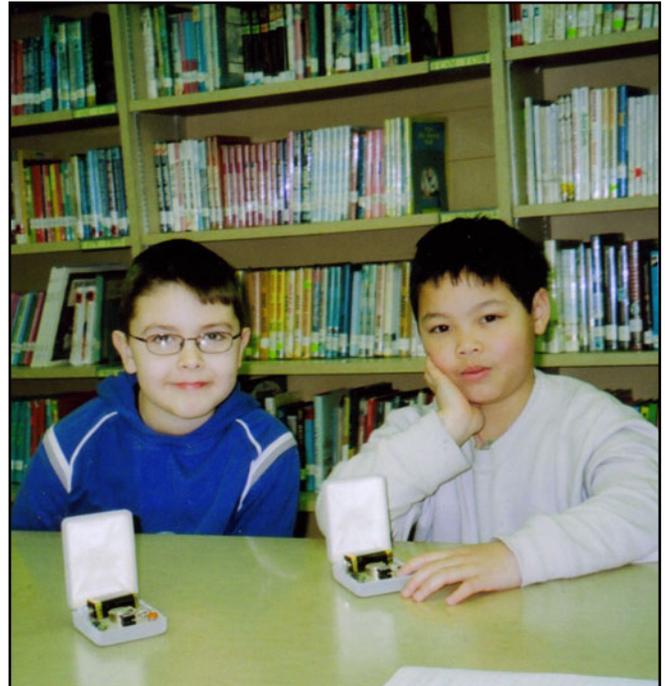
I recently received an invitation to do a ham radio demonstration at a local elementary school on Staten Island, New York. Public School 69 has created a wonderful program called "Brown Bag Lunch Visits." Several students are chosen to bring their lunch and listen to an interesting guest speaker from their community.

The children have recently heard presenters who are bakers, electricians, naval officers, magicians; and one lady who demonstrated calligraphy; and another who taught them simple knitting. Then it was my turn!

It was my second time there as a presenter; so I knew what visual aids would work in that particular setting. This time I would be speaking to 2nd graders, 4th graders, and 5th graders in separate sessions. Having been retired from teaching now for almost 5 years, I was really excited to work with the kids again.

I decided, because of the big age range to pick a topic that ALL the children always enjoy....the role that ham radio had in my classes making astronaut contacts. I had a huge chart of the space suit with all the names of all the many parts drawn in. It always amazes me how so many children are under the misconception that the astronauts wear their spacesuits on board the shuttle.

To clear up many of the mysteries and questions about life on board the space shuttle, I showed them a video that depicts eating, sleeping arrangements, doing exercise, and just having fun in microgravity. We, of course, discussed the role of communications with a shuttle that is more than 200 miles above earth. At this point I showed them the DVD of my ham radio



Two boys with the codekeys brought to the demo.



Carole Perry presented a wonderfully received lesson on space travel and ham radio.



A 5th grade girl checking out the details on the chart of the astronaut spacesuit.

“As much as I love doing these demos for youth groups, my main goal is to get a radio program started in as many schools as possible.”

classes contacting the “Challenger” in 1985 via slow scan tv equipment set up in our school auditorium with the help of the local ham radio clubs.

You could feel the excitement in the air with all 3 of the groups. They had so many questions for me; it was terrific. During the discussions about radio communications, I took out my little codekeys that I had custom made for me when I was teaching. It’s actually a small code practice oscillator in a little earring box that has its own volume and tone adjustments. Before I left that day, all of the students were “sending” SOS. The fun and enthusiasm spilled out of the room as other teachers came to the doorway to watch what we were doing.

I left the kids with a ham radio search-a-word puzzle. The first 2 to complete it correctly were each given a package of “astronaut ice cream.” What a great day!

As much as I love doing these demos for youth groups, my main goal is to get a radio program started in as many schools as possible. In my new role of heading up the Radio Club of America’s Education Committee I am constantly on the look out for schools across the country with licensed hams who would like to start a radio program; but don’t know how to begin. Please, please, contact me. Through the many wonderful resources of the Radio Club of America, we can help make it happen, by providing all kinds of resources; both technical and otherwise.

The purpose of going into schools and doing these kinds of demos is an enlightening, fun experience for all the children who are exposed to it. Don’t reinvent the wheel; contact me for more tips on how to inspire youngsters to get involved with technical pursuits. Also, please share with me any successful experiences you or your group has had with presentations at schools. I know there’s a wealth of valuable resources out there amongst devoted ham operators. Let’s spread it around for the next generation!

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LOOKING WEST:

A Welcome to Laura L. Smith and the VHF Connection

Bill Pasternak, WA6ITF

Perhaps the words of QRZ.com Editor Terry Graves, K7FE, say it best. "There is a new sheriff in town. The FCC has appointed Laura Smith to take Riley Hollingsworth's former position in enforcement. The FCC has been slow to fill the position and for a while we wondered if Riley's successor would ever be named. It looks like they were waiting for the right person. Now that Laura is on the job, let's give her our full support."

Laura Smith is not a licensed radio amateur; her background is communications law. She is a 1990 graduate of the Pepperdine University School of Law and began her legal career with the FCC, working in the Mass Media Bureau and Wireless Telecommunications Bureau. She also served as Deputy Division Chief of the Public Safety and Private Wireless Division. She is currently licensed to practice law in the Commonwealth of Virginia.

In 1998, Smith departed FCC service to become Executive Director of Governmental Affairs for the Industrial Telecommunications Association. In 2001, she was named the organization's President and Chief Executive Officer. She has also served as counsel with the Maryland law firm of Shulman Rogers, where she dealt primarily with telecommunications issues.

Laura Smith has also served as an industry consultant and has written columns for a variety of trade publications, including *Mobile Radio Technology Magazine* and the *Private Wireless Magazine*.

Her appointment has been very welcome news to the nation's ham radio community, which in recent months has seen a noticeable increase in overt rules violations. As Terry Graves stated on QRZ.com, "...amateur radio has always been somewhat self-policed, but when peer pressure is not enough to maintain civility, then a stronger hand is needed. The FCC has the muscle to demand compliance of the few wayward operators."

We will add our view that the appointment of Laura Smith as our new "sheriff" should make it clear to those who break the Part 97 Amateur Service rules that the FCC intends to continue to work with the ham radio community to get regulatory violators to reform, or if necessary, take them off the air.

If you have an enforcement issue, she may be reached by e-mail at laura.smith@fcc.gov

History: Enforcement Before Riley Hollingsworth and Laura Smith

The concept of self-policing is just that. It is a concept that relies on the majority to control the activities of the minority of operators who violate the FCC Part 97 rules. In the early days

of the hobby it worked well, primarily because just about everyone was fearful of receiving a notice from an FCC monitoring station that he or she had violated a rule. In the early days, most of these notices were for not having a signal that met the standards of the era, such as "key clicks" on CW or "splatter" on a full carrier AM signal.

This was quite effective until the late 1960's when some of those in violation began "fighting back" through court challenges and litigation. Some of this litigation involved the person charged with one or more violations hiring an attorney to file a civil action against those who leveled the charges against them. These suits were based on the plaintiff's belief that those complaining to the FCC were in essence uttering libelous and slanderous accusations, defamation of character and the like. And incredibly, they were winning those cases.

One of the earliest litigations of this type that I know of involved the old WestCars Traffic Net. The civil court decision in that case was like a "stop sign" to hams nationwide. Few were willing to complain to the government about what they perceived to be a rules violation if it might lead to the person whom they were accusing filing litigation against them and winding up before a judge and jury. Self-policing had come to a screeching halt!

In the 1970's the world of FM and repeaters caught the imagination of the world's ham radio community. Starting with a single success in the late 1950's by the late Art Gentry, W6MEP, repeater growth took off around the nation and the globe. The big spurt began about 1965 and did not stop until 2005. That's a solid 40 years of more and more repeaters activated on the air with few going away. The majority of the growth was on 2 meters with 70CM coming in a close second. Even 10 meters, traditionally considered a high frequency band, began seeing a mounting number of in-band relay devices at its high end.

As you might expect, in most cities one or two repeaters became the general meeting ground for the local ham community. In the 1960's in New York City it was the WA2SUR (146.13 / 146.73) repeater located at the WXTV transmitter site in lower Manhattan and the WA2KEC machine (146.40 / 147.00) on the Chrysler Building in midtown. When I moved to Los Angeles I quickly found that the Mt. Wilson WA6TDD (146.40 / 147.435) machine was the place to be if you wanted to make new friends and meet new people. When I began writing "Looking West" for the late *73 Magazine*, I learned that this same paradigm of an "in repeater" seemed to hold true in every major city around the world.

The success of the idea of an "in repeater" as a central meeting spot was a great one, but it had one pitfall. It was the perfect spot for hams with their own agendas to set up shop, hog

the use of a repeater, and preach their own "cause du jour." Repeaters, by their very design allowed them to talk for a great distance.

While repeaters were supposed to be for mobile-to-mobile or mobile-to-base communications, factions grew up in some cities and towns with home (base) stations that used high power amplifiers and directional antennas to "capture" the repeater's input. These operators would also use a second receiver and antenna to monitor the repeater's output to know if or when they timed out so that they could briefly drop their signal, reset the repeater's time-out feature and continue their diatribes.

There were also those who are just plain vicious. Their enjoyment in life came from inflicting misery on their fellow radio amateurs by jamming transmissions, transmitting obscenity, or anything else that they could think of to cause disruption.

By the latter part of the 1970's some of these goof-balls actually teamed up to form what can best be described as loose-knit jamming groups. Names like "Underground Radio" in Los Angeles, the "Jammers" in the northeast and "Jamming International", which seemed to have its roots in Europe (though nobody was ever certain), came to the attention of the ham radio public. Most, though not all, of the folks involved in this on-the-air malevolent behavior used the excuse that they were (paraphrased) "...in a war to free repeater users from the tyranny of oppressive repeater owners, an oppressive ARRL and/or an oppressive FCC."

Now, I know that for some of you new to the hobby, a lot of this may be a bit hard to believe. But it was well documented in the ham radio news media and magazines of the time. If you want to learn more about the strife affecting many repeaters in the latter 1970's through the early 1990's all you need do is find a library that has back issues of the old "HR Report" or "Westlink Report" ham radio newsletters or the now defunct 73 Magazine. It is all there, exactly as it happened.

A Hero Was Needed And One Appeared

History has shown that when a champion or hero is needed by society, one seems to appear out of nowhere. You know, that old description of a knight in shining armor riding a white horse.

In the case of malicious interference, there was no shining armor nor horse of any color involved. Our champion came to the ham radio public's attention in 1978 driving a brown Cadillac with a Kenwood 2 meter radio under the dash and a legal briefcase in the trunk. He was Joe Merdler, N6AHU, an attorney from North Hollywood, California. From 1978 almost to his death more than a decade ago, Joe was the crusader against rules violators.

Joe Merdler was directly responsible for more than a half dozen folks losing their licenses. He was heavily involved in forcing the FCC to act against organized repeater jamming in the southwest. In fact, he became such a high profile enemy of the nation's 1980's ham radio counter-culture -- and so successful in leading enforcement efforts -- that he made national headlines when several crosses were burned on his front lawn. While this crime was never solved, it was believed to have been a warning from the Underground Radio group for him to back off.

But Joe Merdler was one lawyer who would not be bullied. Possibly because of this incident, N6AHU went full steam ahead and spent the next decade working with the FCC, ARRL, and the local Los Angeles ham community. This directly led to the previously noted license cancellations and revocations.

Joe was also an adviser to several groups in other parts of the nation facing similar problems, including a famed Alabama repeater jamming prosecution in the latter 1980's. For his efforts in combating malicious interference Joe Merdler, N6AHU, was named recipient of the 1980 Dayton Hamvention® Special Achievement Award.

After Merdler's passing there was little amateur radio enforcement for about four years, with one exception: The ongoing actions against the late Richard Burton, ex-WB6JAC.

Burton was a former ham who had his license pulled in the 1970's but refused to go off the air. And it was only due to the diligence of now retired FCC Los Angeles FCC EIC Larry Guy that Burton kept going back on trial, being convicted and sent off to jail.

By the late 1990's the situation on HF SSB and VHF repeaters had deteriorated to a point where, in some places, it was impossible to get on a repeater or a net without getting jammed or harassed. More and more hams were reticent to turn

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on their gear and demonstrate it for fear that a "CQ" would be answered by a diatribe of "four letter" words from an unidentified operator. Ham radio was just not very pleasant back then.

That's when the ARRL started to pressure the FCC to take some definitive action against the most egregious violators. The FCC did one better by assigning Riley Hollingsworth, K4ZDH, as a "Special Counsel" to deal with amateur radio enforcement issues. In short order he eliminated the most high profile offenders. Among other things, he forced an end to a so-called "ham radio call-in talk show" on 20 and 75 meters, which for several years was a true bone of contention in our ham radio community.

And if you go to the bands at 144 MHz and above, the level of malicious interference to repeater operations has dropped immensely from where it was just a decade ago. Yes, today the number of hams that use repeaters has also dropped, but that's cyclical and will rise again with the next influx of new operators.

Being a news writer, I have been on the FCC's press release list since the late 1970's. As such I automatically began receiving email copies of every action in Part 97 matters as soon as Riley Hollingsworth began his clean-up effort. Many of you may not be aware that the number of matters in amateur radio enforcement went into the hundreds. Yes, you've heard about the high profile cases, but these were really a small number of the overall actions Hollingsworth's office was involved in. And there are the hundreds of complaints that never even resulted in a follow-up letter to an offender. Many of those were solved in a simple telephone conversation with Hollingsworth.

To The Future

What will the enforcement policy of the FCC will be under the aegis of Laura Smith? No matter what direction she takes, we in the ham radio community can only be better off for it. As it was in the era of "FCC Rules Enforcer" Riley Hollingsworth, K4ZDH, the only ones who will be complaining will be those who get caught breaking the Part 97 rules and who feel that they must now make a lot of noise in order to save face with their peers. The fact is that the only ones they will be fooling will be themselves and it could be a very costly joke.



HAMFESTS & SPECIAL EVENTS

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INDIANA

W9M Special Event Station - 9 May 2009 from 1300 to 0100 (UTC) Commemorating the twenty-fifth Anniversary of the Mid-State Amateur Radio Club, Franklin, IN on 21.340, 14.240, 7.240, 146.520 MHz. For a QSL, please send a SASE to MARC, PO Box 836, Franklin, IN 46131

MICHIGAN

47th Annual Cadillac Swap Saturday sponsored by the Wexaukee Amateur Radio Club, Saturday, May 2 at Cadillac Junior High School, 500 Chestnut St., Cadillac, MI. Admission \$5, tables \$10. Talk-in 146.98 (no PL) vendors and VE session info contact Alton McConnmell, Wexaukee ARC, POB 163, Cadillac, MI 49601, 231-867-3774, nu81@81yahoo.com.

NEVADA

EMCOMMWEST/PACIFICON '09 May 1, 2 & 3 at Circus Circus Hotel and Casino in Reno, NV. Vendors, VE Testing, Ham Cram, swap meet, BBG, banquet, seminars, Special Event Station and much more. The banquet speaker will be Riley Hollingsworth, K4ZDH, retired FCC and Key Speaker is Steve Ewald, WV1X. For additional details contact Don Carlson kq6fm@charger.net <http://www.emcommwest.org>.

JUNE

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N6R Special Event Station - commemorating the lives of President & Mrs. Ronald Reagan, from the grounds of the President Ronald Reagan

Presidential Library & Museum, Simi Valley, CA, 1800Z 26 June 2009 to 1900Z 28 June 2009 on 7.289, 14.289, 21,289 & 28,369 MHz. Other bands planned include 3.5, 50, 144, 440 MHz and 10 GHz. Hosted by the Ronald Reagan Presidential Library & Museum. Sponsored by Ventura County Amateur Radio Society (VCARS), the Simi Valley ARC (SSARC) and Ventura Co., ARC (VCARC). QSL w/SASE to Ventura Co. Amateur Radio Society (VCARS) c/o Peter Heins, 1559 Norwich Ave., Thousand Oaks, CA 91360. www.vcars.org.

NEW YORK

The Hall of Science Amateur Radio Club Hamfest will be held at the NY Hall of Science parking lot in Flushing Meadow Corona Park, 47-01 111th Street, Queens, NY. Doors open for vendors at 7:30 AM. Buyers admitted at 9:00 AM. Free parking, door prizes, drop and shop, QSL card checking, food and refreshments. Free admission to museum from 10 AM - 11 AM or \$6 after with hamfest ticket. VE Exams at 10 AM. Admission by donation, Buyers \$5, Sellers \$10 per space. Talk in on 444.200 Repeat, PL 136.5, 145.270 -600 khz offset PL 136.5. More info call at night only, Stephen Greenbaum, WB2KDG, 718-898-5599, wb2kdg@arrl.net; website www.hosarc.org

TENNESSEE

Knoxville Hamfest & Electronics Exposition and ARRL TN State Convention - June 13, Kerbel Temple, Knoxville, TN. VE exams, tickets \$7, inside tables \$20, outside tailgating \$5, 9AM - 4 PM. Contact Lou Dreinhofer, WB3JKQ, email wb3jkq@arrl.net or David Bower, K4PZT, email d.bower@ieec.org. Latest info <http://www.w4bbb.org> (talk-in 147.300, 224.500, 444.575).

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After Kilroy Comes the QCWA

Alan Pickering, KJ9N

It is a matter of fact that Kilroy and the QCWA began life together, the latter being only a year in separation from the former. The story of QCWA's beginnings is briefly recounted on the QCWA website; that during the Christmas season in 1947 that original group gathered in New York City to initiate an Association that would soon be known throughout Amateur Radioland as "the Elite, the Proud, and the Many." Therefore, that story need not be repeated here. On the other hand, the story of Kilroy is hardly known at all, and should receive some appropriate attention. Here's the skinny as I got it from retired Captain. Kenneth "Dutch" Rauch, the Secretary-Treasurer of the Association of Naval Aviation, a group of which we are both Life Members.

Anyone who is a veteran of World War II will surely remember the phrase "Kilroy was here" along with the logo of the top half of a head, looking over a fence, with a long nose peering over the top. That logo is rarely seen these days, while the QCWA logo of an old man, smoking a pipe while manipulating a "straight" telegraph key continues to be recognized world-wide. But on with the Kilroy story, which began in the Fore River Shipyard in Quincy, MA, in the early days of World War II.

Kilroy was a 46-year old shipyard worker who worked as a quality assurance inspector of the ships that were built for the US Navy at Quincy. His job was to go around and check on the number of rivets that had been properly driven into the seams of the steel plates of a ship's hull. Riveters were paid on a piece-work basis, and their income depended upon the number of properly placed rivets that they had driven into the hull seams. Kilroy would count a block of rivets and then place a wax chalk mark in a semi-circle, which became the official standard of completed work. His task was important in order to prevent rivets from being counted twice, thus inflating the cost to the Navy of ships that were built at the Fore River Shipyard. While counting rivets twice meant double pay for riveters, it also meant over-budget costs to the Navy. Before Kilroy, quality assurance inspectors had always checked the number of rivets and then painted with paint the number of them which were properly placed alongside the block of the hull that was being built.

The tight spaces that the rivet inspectors had to crawl into to check the number of rivets did not readily lend themselves to lugging along a can of paint and a brush to number the rivets used. It was Kilroy who decided to use waxy chalk instead, and so he began to mark the number of rivets in a semi-circle along with the statement that "Kilroy was here," thereby eliminating any double-counts as well as demonstrating the amount of riveting work completed. In time, the semi-circle with numbers written inside came to be inverted, and became the top half of a head with a long nose over a line showing



that Kilroy had counted rivets and visited the work site that was marked by his logo.

Ordinarily, such construction records or paint marks would be covered over by regular hull painting crews long before the ships were slipped into the water. But with the need so great in the first year of the war, there simply wasn't time to do the hull painting, so most of the ships built at Quincy were taken from their drydock before that happened – all of them showing Kilroy's logo and rivet counts.

As a result, Kilroy's quality inspection trademark/logo was seen by thousands of servicemen and women who boarded the ships built at the Quincy shipyard. Kilroy's message obviously rang a bell in the minds of those folks, who picked up the phrase that "Kilroy was here" and spread it all over Europe and then into the Pacific. By the end of World War II, Kilroy's logo and written testimony of presence had been here, there, and everywhere on the way to Berlin and Tokyo, even though Kilroy himself never set foot outside of Quincy. To the soldiers, sailors, and Marines outbound on ships from Quincy, Kilroy was a complete mystery. Who was he? All they knew was that some jerk somewhere had left his mark on the ship or the military base or some other facility used by American military personnel. Kilroy was always there "first" and his presence became a standard joke as graffiti showing Kilroy's logo got marked everywhere.

Kilroy became the super G.I. who had already been wherever American forces went. It became a challenge to put "Kilroy Was Here" in the most unlikely of places imaginable, such as Mount Everest, the underside of the Arch de Triumphe in Paris, France, and the base of the Statue of Liberty. And as the war continued, the legend was extended. Underwater demolition teams routinely sneaked ashore on Japanese-held Pacific islands to map the terrain for the coming invasion and to count the number of enemy soldiers stationed there. American military scouts left the logo, and Japanese soldiers then tried to paint them out.

In 1945 an outhouse was built for the exclusive use of Roosevelt, Stalin, and Churchill at the Potsdam conference. The first person inside was Stalin, who emerged and asked his aide (in Russian), "Who is this Kilroy?"

By the end of World War II, Kilroy's logo was so ubiquitous and well-known that a national search was instituted to discover just who Kilroy really was, and whether or not anyone by that name had actually ever existed. Sponsored by the American Transit Association and featured on that group's radio program, Speak to America, the Transit Association offered as a prize a genuine American-made trolley car to any person who could prove that he was for certain the original, genuine Kilroy of logo and legend. Forty men stepped forward and claimed the prize, but only one man, a James Kilroy from Halifax, MA, had compelling evidence of his identity. He was the 46-year old quality control inspector who began it all with his wax chalk logo. He brought along not only his shipyard supervisor, but several of his fellow riveters. He rightfully won the trolley car, which he gave to his nine children as a Christmas gift in December of 1946, where it was transported to the front yard of his home in Halifax, MA, and became the favorite playhouse of the entire neighborhood. All just a year before the organization of the Quarter Century Wireless Association with its unique logo of the old telegraph operator and straight key.

I can't help but make some comparisons between QCWA and Kilroy's reputation as always being there first, no matter where you traveled during the six years of World War II. Like Kilroy, QCWA members have been among the first in intelligence, creativity, and ethics among all radio amateurs. The QCWA has always represented the elite in operating experience and communications skills.

QCWA, being a world-wide organization, has chapters throughout the universe, and large contingents in Germany and Japan. Kilroy and the QCWA have been there. We are indeed the Elite, the Proud, and the Many. You may qualify. Simply check our website at www.qcwa.org and download an application.

Until next-time, I remain yours at Alan.Pickering@earthlink.net and send you my best regards, 73 & 88, KJ9N.

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Anomalies in the F₂ Region

By Carl Luetzelschwab, K9LA

If you pick up a technical book on the ionosphere, you'll discover that the normal E region is considered to be well-behaved. That is, the normal E region is quite predictable (sporadic E is another story). In fact, you may run across an equation such as

$$f_oE = 0.9 [(180 + 1.44 R_{12}) \cos _]^{0.25}$$

where f_oE is the E region critical frequency in MHz, R_{12} is the smoothed sunspot number, and $_$ is the solar zenith angle in degrees (0 degrees is when the Sun is overhead). For example, if the Sun at your location is halfway between overhead and on the horizon ($_ = 45$ degrees) and the smoothed sunspot number is 100, f_oE would be about 3.50 MHz.

From that simple equation, you would know that the E region MUF (maximum usable frequency) for a 2000 km or so hop centered over your location would be around 17.5 MHz (that comes from the Rule of 5 for the E region – the MUF for low elevation angles is approximately five times the critical frequency). So knowing where the Sun is and where we are in a solar cycle allows you to pretty much pin down what the E region is doing.

Unfortunately this simplistic approach does not work with the F₂ region. That's because the F₂ region does not only follow the solar zenith angle. In other words, the ionization present in the F₂ region at any location in the world is modified by processes other than ionization by solar radiation. Yes, solar radiation is the instigator of ionization, but these other processes determine what the final ionization will be.

Based on a recent posting to the topband reflector, this concept of the F₂ region electron density being modified by processes other than ionization by solar radiation appears to be new to some people. That's too bad, as a simplistic view of the F₂ region can get you into trouble if you try to understand or explain F₂ region phenomena.

So how does the behavior of the F₂ region deviate from solar zenith angle dependence? It does so in several ways, and these deviations are called anomalies. We'll talk about two of the F₂ region anomalies that impact our amateur radio activities the most – the seasonal anomaly (also referred to as the winter anomaly) and the equatorial anomaly.

The F₂ region seasonal anomaly results in the daytime values of mid latitude peak electron densities being greater in winter than in summer despite the fact that the solar zenith angle is less in summer (the Sun is more overhead in summer). Figure 1 shows representative data from the Millstone Hill (MA) ionosonde for a summer day and a winter day.

During the day (roughly 1400 – 2000 UTC) in the winter, the F₂ region critical frequency is around 7.5 MHz, which means the MUF for low elevation angle signals is around 22.5 MHz. This comes from the Rule of 3 for the F₂ region – the MUF for low elevation angles is approximately three times the critical frequency. The multiplying factor for the F₂ region is lower than the E region because the wave encounters the higher altitude F₂ region at less of a grazing angle. For more on these multiplying factors and how they're derived, visit mysite. [verizon.net/k9la/id10.html](http://www.verizon.net/k9la/id10.html) and download the paper titled *The M-Factor*.

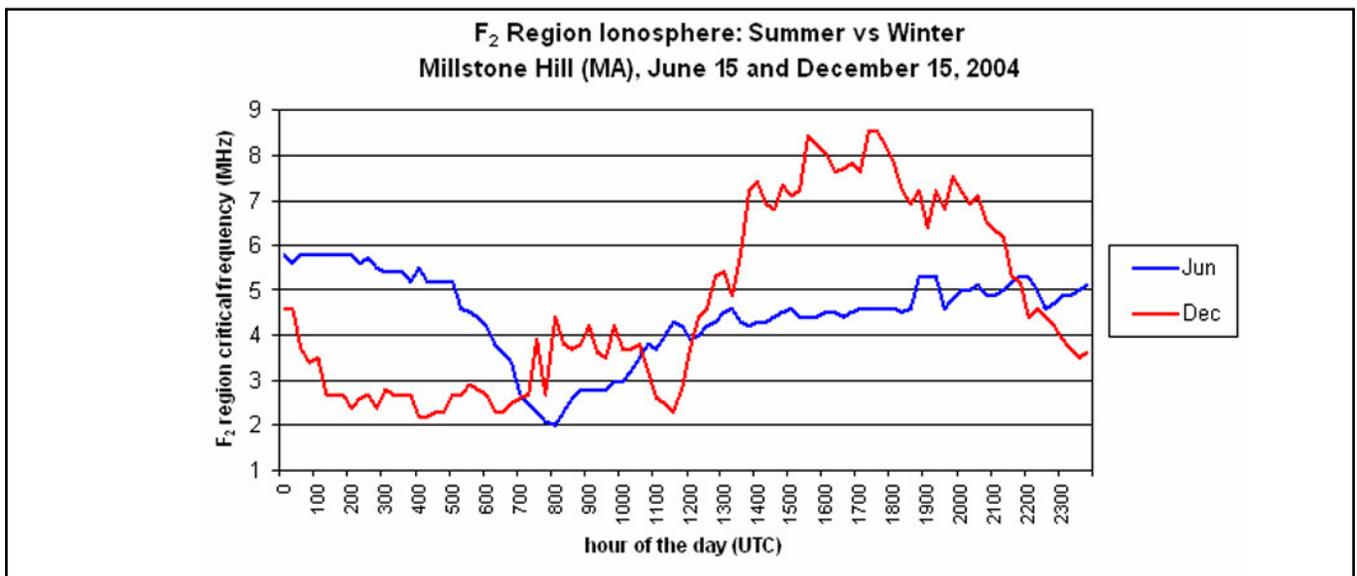


Figure 1 – Diurnal electron density on a summer day and winter day

Thus during the winter one might expect all the way up to 15m to be open if Millstone Hill was the center of a 3000 km or so path. Compare that to the same time during the summer – the MUF would be around 14 MHz. Only up to 20m might be open for the same path during the summer.

Note that this situation reverses during the night. The summer nighttime MUF would be around 15 MHz, whereas the winter nighttime MUF would drop to around 9 MHz. In other words, 20m would be open well into the night during the summer. Sound familiar?

What causes the seasonal anomaly is a change in the composition of the upper atmosphere. In winter the ratio of atoms (specifically oxygen) to molecules (specifically molecular oxygen and molecular nitrogen) is higher. Since atoms are important for electron production and molecules contribute to recombination, it stands to reason that winter will give higher electron densities in spite of the fact that the Sun is lower on the horizon.

Ok, now let's move on to the equatorial anomaly. As the name applies, this anomaly only occurs in the equatorial regions. Additionally, it's tied to the mag-

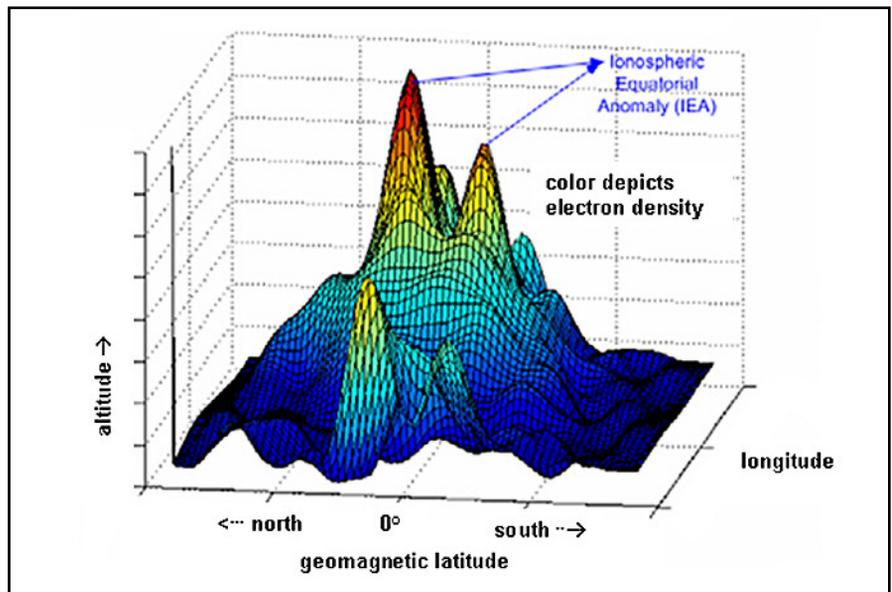


Figure 2 – The equatorial ionosphere

netic equator, not the geographic equator. The end result is significantly more F₂ region ionization at much higher altitudes than the normal F₂ region. Figure 2 (adapted from Oliveira and Walter, *Ionospheric Equatorial Anomaly Studies During Solar Storms*) is a representative

picture of the main characteristics of the equatorial anomaly.

On either side of the magnetic equator at approximately 15 - 20 degrees south and north, two humps of intense ionization (the reddish color) form at great altitudes generally during the late afternoon

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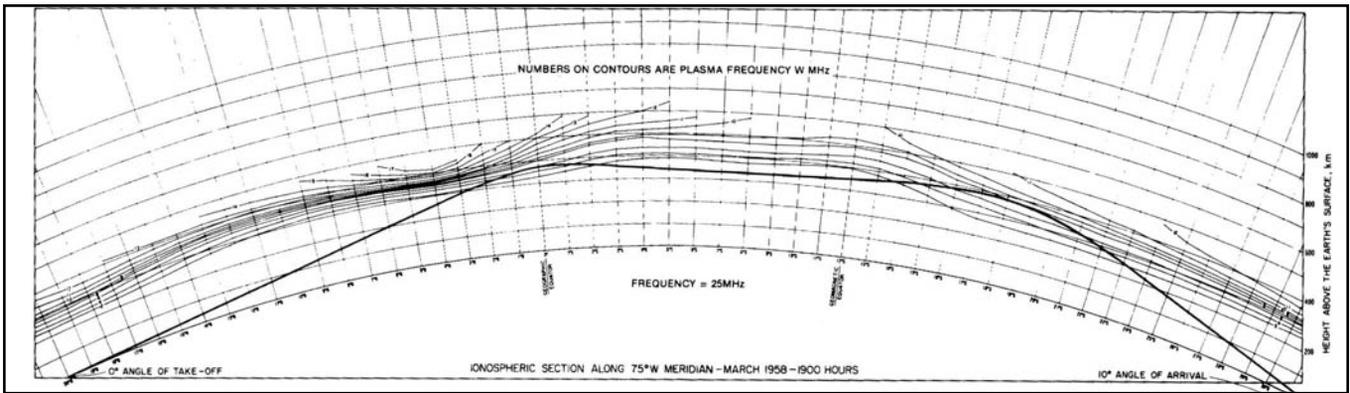


Figure 3 – TEP across the geomagnetic equator

hours. As you move away from these two humps towards the poles, the F_2 region ionosphere becomes more normal in the altitude at which the peak electron density occurs and more normal in the peak electron density itself.

These two humps are responsible for trans-equatorial propagation (TEP), whereby an electromagnetic wave can propagate across the equatorial region via a chordal hop (two ionospheric refractions without an intervening ground reflection) at a much higher frequency compared to propagation in the

mid latitude ionosphere and for a much greater distance than experienced with a normal F_2 hop. Common TEP paths on 10m and 6m are the Caribbean to South America, Japan to Australia, and southern Europe to South Africa. Figure 3 (from Davies, *Ionospheric Radio*, 1990) shows the concept of a chordal hop across the geomagnetic equator.

This unique characteristic of the equatorial ionosphere is due to a process called the *fountain effect*, in which electrons are moved upward along magnetic field lines (due to an interaction

between the Earth's electric field and its magnetic field) to clumps on either side of the magnetic equator.

There you have it – two interesting anomalies in the F_2 region that clearly indicate that additional processes other than ionization by solar radiation determine the ultimate electron density at a given location. As I said at the beginning, these two anomalies (the seasonal anomaly and the equatorial anomaly) aren't the only ones – it's just that they are the two that most likely affect our amateur radio operations.

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DX Predictions

MAY 2009

Maximum usable frequency from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 1934, Middleburg, VA 20118). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa-Kenya/Nairobi, Asia-Japan/Toyko, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio de Janerio. Smoothed sunspot number = 7. Chance of contact as determined by path loss is indicated as bold *MUF for good, plain MUF for fair, and in (parentheses) for poor. UTC is hours.

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
10	(13)	*13	*15	(11)	*16
12	(18)	10	*14	15	(14)
14	21	*13	*13	17	20
16	22	13	(12)	19	*23
18	*24	15	(12)	18	*26
20	*23	*19	23	15	*28
22	19	*20	28	(12)	*27
24	16	*20	*29	(10)	*25
2	14	*20	*29	(9)	*20
4	*15	*19	*28	*14	*17
6	18	*18	*24	15	*15
8	15	*16	*17	13	*14

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SA
8	(12)	13	*16	(11)	*13
10	(15)	*11	*14	15	*14
12	19	*14	*13	*17	*19
14	22	14	*12	*19	*23
16	23	(12)	(12)	*19	*26
18	*24	(11)	(11)	*19	*28
20	*23	15	23	*17	*29
22	19	17	27	15	*28
24	16	19	29	13	*23
2	*14	19	29	*11	*19
4	*15	17	28	*12	*16
6	16	15	*24	*13	*14

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
7	17	13	*19	(11)	*14
9	18	(11)	*15	14	*13
11	23	15	*13	*17	*19
13	*26	16	(12)	*19	*23
15	*28	13	(12)	*19	*25
17	*28	(11)	(11)	*19	*27
19	*25	(14)	(17)	*18	*28
21	*21	17	26	*17	*28
23	18	19	28	15	*26
1	*15	18	29	*13	*21
3	*13	17	*28	*11	*18
5	*18	15	23	*13	*16

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“The Rumors of my Death have been Greatly Exaggerated.” ...Mark Twain

By Randall Noon, KCØCCR

Consider the following items:

1. In 1991, the FCC established the No Code Technician license category. For the first time, a person could obtain an amateur license without having to pass a 5-words per minute Morse code test. The 5-words per minute code test was still required for the Novice and Technician Plus class licenses. The General Class and Advanced licenses still required a 13-word per minute test, and the Extra Class still required a 20-word per minute test.

2. The last commercial use of Morse code in North America was July 12, 1999. The Globe Wireless Station, KFS, located south of San Francisco, signed off commercially for the last time.

3. In 2000, the FCC eliminated the 13 and 20 wpm exams, leaving a single 5 wpm code test for all classes of amateur licenses.

4. On December 15, 2006, the FCC removed the remaining 5-words per minute Morse code test requirement from all U.S. amateur licensing examinations. Many other countries had already done so.

Taken together, these items suggested to some that the use of Morse code was in line to become a historical footnote. As the old timer brasspounders died off, Morse code would die with them. Morse code would be replaced, it was argued, by the more technically advanced digital modes. In fact, some people suggested that ham radio in general was soon to become a historical footnote. Technically savvy kids who had grown up with computers were interested in cellular telephones and the Internet.

It has been 18 years since the initiation of the "No Code" Technician Class license. It has been nine years since Morse code was last used commercially. It has been more than two years since mandatory Morse code testing for amateur radio was completely removed. So, were the arguments correct about the demise of Morse code? What do the facts say?

Below are some statistics concerning Field Day participation in 1996, and 2004 to 2008 provided by the ARRL from their website.

What do the facts indicate?

1. The number of participants in Field Day has generally risen in the past five years. It has increased 11% since 1996.

2. The number of CW QSOs has not significantly dropped off in the past five years, even though the band was quite poor this past year and in 2007. Recall that CW testing stopped altogether in 2006. Despite the poor band this past year, the number of CW QSOs actually increased 7% since 1996.

3. The number of phone QSOs has also held its own in the past few years despite poor band conditions. However, there were 8% fewer phone QSOs in 2008 than in 1996. (Is phone on the way out?)

4. In 2008, 41% of all QSOs were CW. In 1996, only 38% of all QSOs were CW.

5. Digital QSOs constituted just over 2.2% of all QSOs in 2008. Five years ago the mode constituted just less than 1.6%. The use of digital has certainly increased, but it is still a niche mode as compared to phone and CW.

In last year's CQ World Wide DX Contest, a year which saw a record number of logs submitted despite poor propagation conditions, the number of CW logs was greater than the number of SSB logs for the first time since 1986.

The numbers do not paint a picture of an activity that is in decline or that CW is being replaced by phone or digital modes. In fact, an argument can be made that phone usage is being nibbled at by digital and CW. The figures indicate that even when Field Day is held at the bottom of the worst sun spot cycle since there have been Field Days, the use of CW has remained robust.

To throw a couple of more logs on the fire, consider the following. When I first joined FISTS in July 1999, there were just over 6,500 FISTS numbers assigned. Soon the total will reach 15,000 members. FISTS was founded in 1987. The rate of membership increase from 1987 to 1999, a twelve-year period when there was FCC testing, was about 549 per year. Since 1999, the membership increase rate has been 741 per year.

So, what does this mean? It means that the use of CW on the amateur bands did not depend on proficiency tests. Passing a CW test did not make operators continue to use it year after year. Once an operator passed CW tests, he was free to use whatever mode he wished. Some, of course, after testing, never used CW again.

The underlying reason of why Morse code still popular is because it is a very practical operating mode. Operators continue to use it on Field Day because it is efficient and it counts for more points. As all FISTS members know:

1. Morse code takes up little bandwidth; a person can work the world on 5 watts or less using Morse code. This is why it is a mode of choice for QRP'ers.

2. The equipment needed to operate CW mode is uncomplicated.

3. Morse code can get your message through when other modes can not cut through the noise or overcome band conditions.

But, you already knew all this, didn't you?

Table 1. Field Day Participation

	2008	2007	2006	2005	2004	1996
CW QSOs	506,139	511,580	518,799	503,205	517,738	471,931
PHONE QSOs	702,849	679,240	696,567	692,722	787,444	762,011
DIGITAL QSOs	27,869	22,112	21,459	21,766	20,940	NA
Total QSOs	1,236,857	1,212,932	1,236,825	1,217,693	1,326,122	1,233,942
TOTAL ENTRIES	2,409	2,331	2,199	2,212	2,241	1,932
PARTICIPANTS	35,798	34,833	32,506	33,078	33,002	32,066



YLs are Out There

Cheryl Muhr, NØWBV

I am happy to report that YLs are definitely getting on the air. How do I know this? From first hand experience: I am talking to them.

This year I decided to work on a few of my YL awards. The good news is that there are a lot of YL awards and certificates available, including many that OM can earn as well. Many countries, including the United States, Canada, and Japan have YL awards.

The awards that I am concentrating on this year are:

- The YL Century Club (YLCC) - work 100 different YLs
- The YL-WAS, because I am so close to completing it
- The YL Friendship Award.

Some of these aren't difficult, just get on the air and try to work YLs. Okay, so maybe it isn't that easy. When I get on and call for YLs, many OM don't realize what I am doing. I have to specify that I am looking for other ladies and not the prefix "YL".

That leads me back to the YLs being on the air. First, I worked a few in January. Some YLs were on for the YLISSB QSO party and some I just found calling CQ - usually there was a big pile-up as well. Second, in February I got on and called CQ YL/CQ ladies. As I mentioned earlier, I had to differentiate what I was doing.

My call for YLs resulted in a massive pile-up. Woo Hoo! It's always fun to run a pile-up. The kicker was that they were mostly OM, but some DX as well. A few people weren't too thrilled at the rate I was working stations and asked why I don't stop and ragchew. I DO ragchew sometimes, but in this case it was a very big pile-up, I wanted to talk to more people and was hunting for YL contacts.

This is one area that we have always had issues with in the hobby. You have to remember that just because you like contesting, doesn't mean everyone does, too. Those who don't contest get mad during contest weekends. Ragchewers get mad at short QSOs and people who like short QSOs get mad at ragchewers. We need to respect that many of us have a different



Joan Jones, W4JMJ.



Nine year old Kaitlyn Cole, KS3P, at her rig.

style of operating and that we don't always agree. (Okay, off my soapbox.)

The great news is that a lot of YLs responded to my CQ. The men would hunt up their wives to get them on for a contact. A few YLs were down in the noise at first, even when I stopped to call YLs only, but I think most of them came up later in the day. I tried to work everyone I could.

Not only does this help with the YL Century Club, but also the YL Friendship Award. (Don't forget to QSL as some awards need confirmation of the QSO) Many of the OM found out they could work the YLCC award themselves. There was a bit of confusion over the YL Friendship Award, though..

The YL Friendship Award is for YLs only and each YL has to talk to 26 different YLs. The catch? First, you have to exchange a tidbit; a favorite color, some-

thing about your hobbies, pets, etc. This shows the YLs actually stopped to "make friends" and have a bit of a conversation. Then take each YL's callsign and use one letter in it to contact all 26 letters of the alphabet. Sound easy? Sure, at first. Then try fitting W4JMJ, KJ4AUW and AJ4IJ along with 17 others into the mix. So few letters! Look at all the Js, As and Ks. I am down to five letters at this writing and looking for gals with those letters fervently. You can rearrange as needed, but it gets to be a big puzzle. I almost dread getting down to the last letter!

In a period of a couple of hours, I talked to eight YLs along with Spain, Italy, France and many OM. Some of these contacts mean a lot to me because I know the person on the other end, but we have never had a chance to meet on the air. One of these YLs was Joan Jones, W4JMJ who is District 4 Chairwoman for YLRL. I met her at the Huntsville, Alabama hamfest last year.

I also met Kaitlyn Cole, KS3P, in Huntsville. Kaitlyn was one of the 2 YLs who gave me hope for the hobby. She was licensed at age 8 and was an Extra by age 9. Along with Kaitlyn, I talked to Ashby Bird, KJ4EGJ, who is 12. It is great to see younger hams keeping up with the hobby.

All in all, I had a blast. I am so glad that there were YLs listening and even better, sending their calls! For more information the YL certificates that both YLs and OM can earn and links to DX YL certificates check out www.ylrl.org for more information.

YLs On DXpeditions

I hoped to be reporting on the all-YL DXpedition to VP8-the Falklands this issue, but the information was delayed. Don't worry, I am still in contact with members of the trip and will get you the information soon.

Send news! I need to hear from you. Where are you going? What are you doing? And if you are at Dayton, stop by and see me at the Young Ladies Radio League (YLRL) table.

33 Cheryl, N0WBV



Healthy Radio Clubs: Keys to our Future

Devere "Dee" Logan, W1HEO

Spring is the season for fresh, new beginnings. It's also a perfect time to take an inventory of your radio club's health. Has it grown in the last year or is it stagnant? Is the club "radio active" with lots of activities, interesting programs, and participating members? In short, is it growing or standing still?

Keeping a radio club in good health is vitally important. We've observed over the years that there is a strong connection between strong, active clubs and the growth of amateur radio itself. For example, clubs that offer classes and VE testing provide the very lifeblood of growth; not only for the sponsoring radio club, but for the Amateur Radio Service itself.

Keeping radio clubs alive and lively should be a priority. I strongly believe that radio clubs that provided licensing classes are a big reason why there was a 1.5% growth during 2008 in the number of hams in the U.S. Our numbers grew to 663,500 in 2008. Let's do our best to help those 28,066 new licensees get on the air by extending a helping hand from your club.

Speaking of helping new hams, we heard from Bob Patterson, K5DZE, who is a true Elmer and has written a book called, "Now That You Have Your License, Where Do You Go From Here?" He has made access to this 45-page book quite easy –

and free – by making it into a PDF that can be downloaded. Check it out at: <http://www.k5dze.net/Bookshelf.htm>.

Anatomy Of Healthy Clubs

An investigation of successful radio clubs will reveal many of the same characteristics that identify solid businesses: a clear purpose, good organization with motivated people, solid plans, and measurable results.

We're not suggesting that clubs need a complex written business plan. But they do need a clear focus on certain things that each member will understand and support.

First, a clear purpose pretty much says why the club exists and how it will be run. A club's bylaws and constitution should spell that out. Each year, it's a good idea to decide on a few objectives that members can buy into. Example: sponsor a training class and conduct a membership drive. Clubs that don't bother to set goals and try to reach them will tend to drift into a passive coffee klatch mindset. When that happens, the future is bleak.

Goals are reached by actions, not words. The challenge is having enough members who will step up and get involved. Field Day is a typical example of this. Success certainly



Part of the 33-foot showcase featuring amateur radio's service to New Mexico at the Sunport Airport. (Photo courtesy of Mike Langner, K5MGR)

depends upon active participation. While some club members are vocal in making suggestions, few actually roll up their sleeves and help carry them out. It was ever thus! The better clubs encourage participation and motivate their active members by publicly recognizing their "doers," even using them as role models.

Club officers generally handle most of the planning and programming during board meetings. A benefit is keeping meetings less bogged down with business matters. But members do need to be involved in the process, since they are critical to success.

Programming 101

Club meetings are primarily where things get discussed, but they must be interesting and fun to attract and hold members. We've seen many instances where a lack of programs and activities results in declining attendance and ultimately, the end of the organization. A good mix of meeting programs plus various activities such as Field Day, flea markets, field trips etc. is a good idea.

We would urge clubs to plan at least one activity during the year that would promote amateur radio and the club itself. These events can often involve several club members, and provide a good chance to meet the public and spread the good word about ham radio. Even a demonstration at a local emergency operations center, police or fire department station would be a solid investment in building your support network.

We've collected a few other ideas for club programs in addition to having interesting guest speakers and topics. First, you can show a video or film. Some very interesting ones are available from the Northern California DX Foundation. You can hold an auction or mini flea market during a meeting. A show and tell night is popular, inviting members to show a project and tell about it. Related to this is a homebrew night, featuring equipment built by members. Feature a review of a new rig by a member who owns one. Have an antenna night, with members describing their experiences in building them and how they performed. And, technical programs can focus on specific topics. How many other ideas can your club suggest? Let us know (delogan@ameritech.net) and we'll share them with our readers.

A Promotional Case History

Mike Langner, K5MGR, is a New Mexico dynamo who is doing some great things to promote amateur radio in the Albuquerque area. He contacted the Ham Radio Promotion Project (www.neoham.org) for assistance and made ham publicity a part of the 2008 Duke City Hamfest, which attracted some 2,000 persons.

But his notable accomplishment was to help develop a 33-foot, brightly-lit showcase featuring amateur radio's service to New Mexico at the Sunport Airport, the state's largest (see photo). The display was seen by over 370,000 travelers during the holiday season. Information cards steered viewers to local clubs.

Thanks to Mike and the New Mexico Amateur Radio Alliance which is comprised of representatives from several radio clubs. The project was initiated by Bill Ripley, KY5Q. Congratulations to all for a blockbuster publicity effort.

What's your club doing? Please let us know so that we can tell our readers.

Devere "Dee" Logan, WIHEO, is a veteran public relations counselor who has been active in clubs for over 40 years. Contact him at <delogan@ameritech.net>

BOOKS

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ARIZONA

Green Valley Amateur Radio Club. Meets 7:00 p.m., 2nd Wed. of the mo. @ SAV Building. Nets weekly on 2M, & 20M in the summer. Come join us for breakfast every Wed. 7:00 a.m. Contact Gene W0KAD, 214 N. Crocodile Rock Dr., Green Valley, AZ 85614 or 520/207-4706 or theschou@cox.net. 12/09

CALIFORNIA

Amador County ARC. P.O. Box 1094, Pine Grove, CA 95665. Usually meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Ctr., 229 NY Ranch Rd., Jackson, CA 95642. Alternate days or locations will be announced by the board. Info. 146.835 10/09

Catalina Amateur Rptr. Assn., P.O. Box 425, Garden Grove, CA 92842. Meets 2nd Sat. (even months) 8:00 a.m. Hometown Buffet, corner of Knott & Lincoln Ave., Buena Park, CA. Rptrs: AA6DP 147.09(+), 224.42(-) PL 110.9 on Catalina Island; www.cara.nu 12/09

Contra Costa Communications Club, Inc., WD6EZR/P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 8:00 a.m., Denny's, El Cerrito, CA. 145.110, 224.300, 444.275w/PL 82.5 Info: Victoria Thompson, KE6FSU, 510/724-4966. 9/09

Downey ARC, Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m. at the First Baptist Church, 8348 E. 3rd St., Downey, CA 90240. Info. k6tv@arrl.net. Nets: Tues. 7 p.m., 145.595 simplex, www.downeyarc.org 9/09

East Bay ARC, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Salvtn Army, 4600 Appian Wy, El Sobrante, CA. Info: 510/233-7509, w6cusi@juno.com. 7/09

El Dorado County Amateur Radio Club, Meets 4th Thursday/monthly, 7:15 p.m., Federated Church, Thompson Way, Placerville, CA. Net 8p.m. Tuesday 147.825-PL82.5Hz, POB 451, Placerville, CA 95667, www.edcarc.net. 3/10

Golden Empire Amateur Radio Society, W6RHC, meets 3rd Fri./monthly, 7:00 p.m. (rag-chew 6:30 p.m.). Search & Rescue Building, 2591 Morrow Lane (East end), Chico, CA. Visitors welcome. Net Tue, 2000 hrs, 146.850 PL 110.9; K6RSC@randallistone.net 10/09

Independent Radio Club, WA6IRC meets 7p.m., last Friday of the month, Lamplighter Restaurant, 5043 Van Nuys Blvd., Van Nuys, CA. We are a family-oriented radio club whose members are interested in all aspects of Amateur Radio. Check out our weekly nets Tues. 6 p.m. & Thur. 8 p.m. on 445.340 (-) PL 103.5 & 224.480 (-) PL 110.9. More info, www.ircradio.org or 3624 Foothill Blvd., #1, La Crescenta, CA 91214. 12/09

Nevada County ARC meets 2nd Mon./monthly, 7 p.m., Salvation Army Bldg., 10725 Alta St., Grass Valley, CA. Net Tues. 7 p.m. 147.285, www.ncarc.org. For info. e-mail president@ncarc.org 12/09

North Hills Radio Club meets 3rd Tue monthly, 7:30 p.m., North County Corporation Yard, Elkhorn Blvd & Don Julio Blvd in Sacramento. Field Day, annual picnic, code classes, antenna builds & more! Contact Maynard Wright, W6PAP; P.O. Box 417370, Sacramento, CA 95841-7370; 916/726-1673; k6is@arrl.net; www.k6is.org. 7/09

Oakland Radio Communication Association (ORCA) meets 1st Sat/monthly (no meeting July - weekend after Labor Day Sept.); Oakland Fire Station #1 OES Media Room (17th & MLK); weekly net Thurs. 7:30 p.m. 146.880 + 77. Talk-in on same frequency. P.O. Box 21305, Oakland, CA 94620-1305, w6bner@arrl.net; www.w6or.com 9/09

Orange County ARC meets 3rd Fri./monthly, 7:00 p.m., Orange County Red Cross, 601 N. Golden Cir., Santa Ana, CA. Talk-in 146.550 (S). Nets Wed: 7:30 p.m. 28.375 MHz SSB & 8:30 p.m. 146.550 MHz FM simplex, W6ZE net control. Monthly breakfast 1st Sat monthly. Contact Ken Konechy, W6HHC, 714/744-0217; w6hhc@w6zi.org; www.w6ze.org 6/09

Rio Hondo ARC. P.O. Box 1781, Whittier, CA 90609, meets 2nd Mon/monthly, 7:00 p.m., Parnell Community Center, 15390 Lambert Rd. @ Scott Ave., Whittier. Net Wed., 8:00 p.m., 146.175 (+) PL100. Contact Vi Barrett, W6CBA, 562/947-1356; w6cba@juno.com 5/09

River City A.R.C.S. Meets 1st Tues./monthly, 7:30 p.m., N. County Corp. Yard Facility, 5020 Don Julio at Elkhorn, Sacramento, CA. Message Phone: 916/492-6115; www.n6na.org 12/09

Sequoia Amateur Radio Group meets the second Saturday each month (except Dec) 9:30 a.m., Kern River Valley Youth Center, 3640 Golden Spur, Lake Isabella, CA. VE exams follow at 11 a.m. each month. For more information contact Mike, KA6IYS, 760/378-1028, www.sarg-krv.org or sarg-krv@mchsi.com. 5/09

Sonoma CRA, Inc. W6LFFJ. P.O. Box 116, Santa Rosa, CA 95402; 707/579-9608. Meets 1st Wed./monthly, 7:00 p.m., 2050 Yulupa Ave., Santa Rosa. Net each Tues. 7 p.m., W6SON. Rptr. 147.315 MHz (+) PL88.5 www.sonomacountryradioamateurs.com 9/09

South Bay Amateur Radio Association. Fremont, Newark, Union City - SBARA meetings, 2nd Fri./monthly 1930 hours, local, Hurricane Electric, 760 Mission Ct., Fremont. Visit www.sbara.org. 5/09

South Bay Amateur Radio Club. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on W6SBA rpt. 224.38(-). Info: 310/328-0817; www.w6sba.org 12/09

Southern Sierra ARS meets 2nd Thurs./monthly, 7 p.m., except Jul., 600 Dennison Rd., Tehachapi, CA 93561 (The club house at Mountain Aire Estates). Info: N6MLD, 661/203-7005, 224.42(-) PL 156.7. APRS 144.390(S). ARES nets 7 p.m. 147.51(S) Mon. 1/10

Stanislaus ARA, Inc. (SARA). P.O. Box 4601, Modesto, CA 95352; Meets 3rd Tues./monthly, 7:30 p.m., Modesto Police N/E area Substation, 3705 Oakdale Rd., Modesto, CA. Net 1.2+4 Tues. 7:30 p.m. 145.390(-) PL136.5 www.saraclub.net 5/09

Tri-County ARA (TCARA). Meets 7:30 p.m. 2nd Wed monthly, Administration Building, Brackett Field, La Verne, CA, in the Pilot's Lounge. Different guest speaker every month. Anyone may attend, Ham & non-Ham welcome! Club net Sun., 7:00 p.m., Mt Baldy Rpt. 145.440 MHz -600 PL 136.5; web site: www.tcara.org, e-mail: k6ag@arrl.net 12/09

United Radio Amateur Club, K6AA. Club station open to members and guests in the Los Angeles Maritime Museum (LAMM), Berth 84, Foot of 6th Street, San Pedro, CA 90731. Meetings held 3rd Fri. monthly (except Aug & Dec), 1900 local in the LAMM. All are welcome. Monitors 145.52 simplex Tue-Sat 1000-1630 & Sun 1200-1630. 7/09

Victor Valley ARC. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tue./monthly, 7 p.m., Lewis Ctr., 17500 Mana Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-), www.vvarc.org 01/10

West Coast ARC, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, testing 6 p.m. meeting 7 p.m., Rogers Senior Center, 1706/1718 Orange Ave., Huntington Beach, CA. Info: Russ, N6QZV, 714/848-4501. 8/09

COLORADO

Boulder Amateur Radio Club (BARC) Meets 3rd Tues. monthly, 7 p.m., Bld J, Boulder Municipal Airport or Valmont Community Presbyterian Church, 3262 N. 61st St., Boulder, CO. Talk-in: 146.70(-) Info: BARC70@arrl.net or www.qsl.net/w0dk/ 11/09

Denver Radio Club (DRC) meets 3rd Wed, 7:30 p.m., St. Joseph Episcopal Church, 11202 West Jewell, Lakewood, CO. Learning/Tech sessions 6:30 p.m. Oldest club in Colorado (1917). Net Sun 8:30 p.m. 145.490 rptr.; w0tx@arrl.net; www.w0tx.org 4/10

CONNECTICUT

Connecticut DX Association, (CTDXA). Meets at ARRL HQ, Newington, CT. 1st Wed. (except Summer) 7:30 p.m. Contact Dan, W1ZTQ; 860/583-1165 11/09

FLORIDA

Englewood ARS. P.O. Box 572 Englewood, FL 34295. Meets 3rd Thurs./monthly 7:30 p.m. Englewood United Methodist Church, 700 E. Dearborn St., Englewood, FL. Rm: Fellowship Hall. Info: Vic Emmelkamp, KA4VHX, 941/473-5560 or www.earsradioclub.org. 11/09

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:00 p.m., 6909 Tierra Verde St., Port Richey, FL. Rptrs. 146.67(-), 145.33(-), 444.650, serving all of Pasco County. VE testing 6:30 p.m. 1st Wed/monthly. See website for more info. www.gulfcoastarc.org 5/09

GEORGIA

North Fulton Amateur Radio League meets 3rd Tues., 7:30 p.m. See www.NFARL.ORG/meetings.html for meeting location & directions; 145.470(-) PL100, 147.060(+), PL100; 404/434-4499; www.nfarl.org; info@nfarl.org 5/09

HAWAII

Honolulu ARC meeting 0900 for breakfast in Jan, Mar, May, Jul, Sep and Nov at the Sizzler Restaurant at Pearl Ridge. Contact John, K1ER, 808/484-9748. 4/10

ILLINOIS

Bolingbrook ARS meets 3rd Mon., monthly, 7:00 p.m. at Bolingbrook Fire Station Number 5 on Rodeo Dr. Talk-in is usually 147.33 MHz +0.600. ARRL affiliated club number: 1271. Club web page is www.k9bar.org. 10/09

Fox River Radio League. www.frrl.org. Open meeting 2nd Tue./7:30 p.m. Rasmussen College, 2363 Sequoia Dr., Aurora, IL 60506; 147.21 MHz (+600 kHz, 103.5 Hz), 444.30 MHz (+5 MHz, 114.8 Hz, IRLP), 2M net Tue. 7:30 p.m., except 2nd Tue. P.O. Box 673, Batavia, IL 60510-0673. 11/09

McHenry County Wireless Association (MCWA). Open to all interested in Amateur Radio. Meets 1st Tuesday monthly, 7:30 p.m., Nunda Township Office, Bay Road between Crystal Lake & McHenry, IL. Talk-in 145.41 PL 107.2. VE testing in Woodstock by calling first - Steve, 847/516-1292, 3rd Tuesday 7:00 p.m. every other month - see web site, www.mcwa.org 6/09

Peoria Area ARC, (PAARC). P.O. Box 3508, Peoria, IL 61612. Meets 2nd Fri./monthly, 7 p.m., Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Superfest each Sept. Rptrs: 147.075(+), 146.85(-). D-STAR: 144.505 (+), 448.46875 (-), 1272.4000(+). Web: www.w9uvi.org; e-mail: w9uvi@arrl.net. Voice mail: 309/692-3378. 12/09

The Starved Rock RC, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7 p.m. Rptr. net 7 p.m. Wed./weekly, 147.12(+), PL 103.5. w9mks@qsl.net; <http://www.qsl.net/w9mks> 12/09

Wheaton Community Radio Amateurs meets 1st Fri./monthly, 7:30 p.m., First Presbyterian Church (Jefferson & Ellis streets), Wheaton. All are welcome. See our website at www.w9ccu.org for all club info or call 630/604-0157. Annual Hamfest each January. Rptrs: 145.390 (-) 107.2, 444.475 (+) 114.8. 9/09

LOUISIANA

Baton Rouge ARC meets last Tue./monthly, 7 p.m., St. Luke's Episcopal Church, 8833 Goodwood Blvd., Baton Rouge, LA. Net: 146.79MHz, 8:30 p.m. Sun. www.brarc.org e-mail: brarc@cox.net 7/09

Ozone Amateur Radio Club of Slidell meets the first and third Thursdays of each month. 7:30 p.m. at the Emergency Communications Building at 4th and Cousin Streets in Slidell. Everyone Welcome. Net: 147.27 pl 114.8 every Friday at 7:30 p.m. Club website: www.w5sla.net, email: w5py@arrl.net. 5/09

MAINE

Saint Croix Valley ARC meets at the Calais Methodist Home, 10 Sunrise Circle, Calais, ME, 04619, third Sunday of each month, 6:30 p.m. Contact Mike Breckinridge N1JXP, 207/454-8571. 9/09

MASSACHUSETTS

Boston ARC meets 3rd Thurs. 7:00 p.m. (except July/Aug), Salvation Army Boston HQ, 147 Berkeley St. Boston, MA. Free parking in adjacent lot. Talk-in: 145.23MHz (-) PL 88.5, www.barc.org, email: w1bos@arrl.net. 12/09

Framingham Amateur Radio Association meets 1st Thurs., 7:30 p.m., Sept-June in the basement of the Danforth Museum, Framingham, MA. Contact Gordy, K1GB, 781/891-5572; k1gb@arrl.net 01/10

MICHIGAN

Genesee County Radio Club, Inc. Meets 3rd Tues. of the month during school year. 7:30 p.m. Davison High School, 1250 N. Oak Rd., Davison, MI 48423; www.qsl.net/w8acw/; e-mail: w8acw@arrl.net. 10/09

Hiawatha ARC of Marquette Co. P.O. Box 1183, Marquette, MI 49855. Meets 1st Thurs./monthly, 7:30 p.m. Marquette County Health Department, R. Schwenke, N8GBA, 906/249-3837; www.qsl.net/k8lod 12/09

MONTANA

Yellowstone Radio Club meets 3rd Mon except July-Aug., 7:30 p.m., North Park Center, 19th & 6th Ave., N., Billings, MT. Contact 147.36/100 Hz tone. Box 883, Billings, MT 59103. Testing odd months, 3rd Sat.; <http://www.k7efa.org/> 09/09

NEVADA

Las Vegas Radio Amateur Club (LVRAC) meets 3rd Tuesday monthly, 7 p.m., Salvation Army building, 2900 Palomino Lane, Las Vegas, NV. Talk-in 146.94 (K7UG6 Repeater) PL 100, Offset - 600 Hz; <http://www.lvrac.org> 6/09

NEW JERSEY

The Garden State ARA, (GSARA). Meets 1st Wed./monthly, 8 p.m., Fort Monmouth MARS Station, Eatontown, NJ. Info: B. Bus, W2OD, 732/946-8615. 7/09

Glooucester County ARC meets 7:30 p.m. 1st Wed./monthly, Pfeiffer Community Center, Blue Bell Rd. & Main St., Williamstown, NJ 08094. Contact Ken Newman, N2CQ, P.O. Box 370, Pitman, NJ 08071; 856/848-4345; n2cq@comcast.net; <http://www.w2mmd.com> 10/09

North America DX Assoc., Inc. (NADXA). P.O. Box 357 Bradley Beach, NJ 07720. Jersey Coast Chap. 1 meets 4th Mon./monthly, 7:00 p.m. Contact: Mike, KC2Q, 732/927-0171; kc2q@arrl.net; nadxa@juno.com; wr2dx@yahoo.com 8/09

NEW YORK

Genesee Radio Amateurs, (GRAM). P.O. Box 572, Batavia, NY 14021-0572. Meets 3rd Thurs./monthly, 7:00 p.m. (except Jul, Aug, Dec), Salvation Army Community Center, Corner N. Spruce & E. Main St., Batavia, NY, 14020. Public Information Officer, gram_radio_club@yahoo.com; http://www.geocities.com/gram_radio_club/index 07/09

Hall of Science ARC. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 8:00 p.m. Rptr. 444.200 PL 136.5. Info: Voice mail 718/760-2022; www.hosarc.org 10/09

Orleans County ARC, (OCARC). Meets at the Orleans County EMO 14064 W. County House Rd., Albion, NY 14411, 2nd Mon./monthly 7:30 p.m. Contact: Marion Toussaint, KA2BCE, 585/798-0861. 1/10

NORTH CAROLINA

Orange County Radio Amateurs meets monthly 2nd Mon. at 7:30 p.m. at Sunrise Church, 1315 New Hope Trace, Chapel Hill, and weekly Sat. at Hillsborough Bojangles, 330 S. Churton St., abt 9:30 a.m. W4UNC/R on 442.150 (131.8). Contact Woody Woodward, K3VSA, 4008 New Sharon Church Rd., Hillsborough, NC 27278; 919/732-9895; www.ncocra.org 8/09

Stanly County ARC Albemarle. Meets 4th Thurs./monthly 7 p.m., Stanly Community College. Talk-in 146.985 (-) tone 100 Hz. Nets: Wed. @ 9 p.m. Club/ARES Net on 146.985. Fri., @ 9 p.m. Tech Net. 147.390 (+) Tone 100 Hz. Contact: Bill Greene, K4VET 704/463-1202. 8/09

OHIO

Ashtabula County ARC. K. Stenback, W8KS, 440/964-7316. Meets 3rd Tue./monthly, 7:30 p.m., County Vo-Ed School, Jefferson, OH. County rptr., 146.715(-). 7/09

Clyde ARS (CARS) meets 1st Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 10/09

OREGON

Umpqua Valley ARC. Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:00 p.m., Douglas County Court House, #310, Roseburg, OR. Info: K7AZW 541/679-9338 or 146.90(-)(PL100), <http://www.aa7gc/uvarc/index.html> 12/09

PENNSYLVANIA

RF Hill ARC meets 7:30 p.m. 1st Thurs./monthly, Perkasio Fire Company, 5th St., Perkasio, PA. Info: Jim Soete, WA3YLQ, 215/723-7294; wa3ylq@hotmail.com; www.rfhill.ampr.org 12/09

Washington Amateur Communications Radio Club (WACOM) meets 1st Thur./monthly, 7:30 p.m., Washington Co. Bldg., 100 Beau St., Washington, PA 15301. Contact Elmer Plants, N3TIR, 724-484-0207. 145.490. www.wacomarc.org 11/09

VIRGINIA

Mt. Vernon ARC, K4US (MVARC). Meets 2nd Thurs./monthly (except Jul. & Dec.), 7:30 p.m., INOVA Mt. Vernon Hospital, 2501 Parkers Ln., Alexandria, VA. Contact: Bob, KT4KS, 703/765-2313 or 146.655-. 10/09

WASHINGTON

San Juan County Amateur Radio Society meets 2nd Fri./monthly 11:30 a.m., Friday Harbor Firehouse. Serving hams throughout the San Juan Islands, Washington, we welcome members and visitors to our weekly nets, Wed. 8:00 p.m. local, through linked repeaters N7JN, 145.250MHz PL 133.8 Hz & 443.45MHz PL 103.5 Hz & CW @ 7:30 p.m. local on 3710 kHz or nearby. Contact Dan Drath, N6AU, for more information; drathmarine@rockisland.com 11/09

WEST VIRGINIA

Tri-State ARA meets 3rd Tues./monthly, 7 p.m., Museum of Radio & Tech., 1640 Florence Ave., Huntington, WV 25701; 304/525-8890. 9/09

WYOMING

University ARC N7UW, University of Wyoming, Dept. 3625, 1000 E. University Ave., Laramie, WY 82071 meets 1st Tues./monthly in the Wyoming Student Union room 2 or 10 at 7:30 p.m. local time. All interested persons are welcome. johnmh@uwyo.edu 12/09



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CONTEST CORNER

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BANDS/MODE: 80 & 40M CW
POINTS: 1 Pt. each QSO; 2 Pts. QSO with Class A sta
MULTIPLIERS: DXCC Countries
EXCHANGE: RST + Serial # + category
ENTRY CATEGORIES: A = <5W; B = 5-10W
ENTRIES: 31 May Jo (Juergen) Mertens, DJ4EY, Am Muehlenbruch 32, D-59581 Warstein, Germany E-mail: qrp-party@agcw.de
 Rules at: www.agcw.org/en/?Contests:QRP-QRP-Party

CONTEST: 7th Call Area QSO Party
DATE & TIME: 1300Z 2 May - 0700Z 3 May
BANDS/MODE: 160-2M SS/CW/Digital
POINTS: 2 Pts. SS; 3 Pts. CW or Digital
MULTIPLIERS: 7th call area stas count States/Provinces/Countries; All others count 7th call area counties (259)
EXCHANGE: 7th call area stas give RST + 5-letter state/county designator; All others give RST + State/Province/Country
ENTRY CATEGORIES: Single op High, Low (<150W), QRP (<5W); Multi single High, Low, QRP; Multi-multi; Mobile
ENTRIES: 5 June 7th Call Area QSO Party, c/o CODXC, 61255 Ferguson Rd., Bend, OR 97702
 Cabrillo logs to: 7qplogs@codxc.org (Note: Any log with 40 or more QSO's must be submitted electronically)
 Rules at: www.codxc.com/new/Page.asp?Content=DRYLAND7S&Page=3

CONTEST: New England QSO Party
DATE & TIME: 2000Z 2 May - 0500Z 3 May & 1300Z - 2359Z 3 May
BANDS/MODE: 80-10M SSB/CW/Digital
POINTS: 1 Pt. SSB; 2 Pts. CW/Digital
MULTIPLIERS: NE Counties: CT/8; MA/14; ME/16; NH/10; RI/5; VT/14. (NE sta's use States/Provinces/DXCC)
EXCHANGE: RS(T) + State/Province/DX; NE sta's give RS(T) + County/State
ENTRY CATEGORIES: Single op - High, Low (150W or less), QRP; Multi op - single XMTR
ENTRIES: 30 Days NEQP P.O. Box 3005, Framingham, MA 01705-3005
 Cabrillo to: logs@neqp.com Web page: www.neqp.org

CONTEST: MARAC County Hunters CW
DATE & TIME: 0000Z 3 May - 2359Z 4 May
BANDS/MODE: 80/40/20/15/10M SSB
POINTS: 1 Pt. fixed stations; 5 Pts. DX; 15 Pts. for U.S. mobiles and portables operating from more than one County
MULTIPLIERS: Total of U.S. Counties (3,077)
EXCHANGE: RST + County + State (DX gives Country/Province)
ENTRY CATEGORIES: Single op only!
ENTRIES: 30 Days Randy Hatt, AA8R, 7878 W. County Line Rd., Howard City, MI 49329 E-mail: AA8R@aol.com
 Rules at: www.marac.org/ssbrules.htm

CONTEST: 10-10 International Spring CW/Digital
DATE & TIME: 0001Z 2 May - 2359Z 3 May
BANDS/MODE: 10M CW/Digital
POINTS: 1 Pt. non-member; 2 Pts 10-10 member
MULTIPLIERS: None
EXCHANGE: Call + Name + State/Country + 10-10 #
ENTRY CATEGORIES: Single -op; Club; QRP
ENTRIES: 22 May Dan Morris, KZ3T, 131 Valencia Ln., Statesville, NC 28625
 E-mail: tenencontest@roadrunner.com Web page: www.ten-ten.org
 Rules: www.ten-ten.org/Forms/QSOPartyRulesRevised.pdf

CONTEST: Alessandro Volta RTTY DX
DATE & TIME: 1200Z 9 May - 1200Z 10 May
BANDS/MODE: 80-10M RTTY
POINTS: Not clear - see rules at: www.contestvolta.com/volta43.pdf
MULTIPLIERS: DXCC Countries worked each band
EXCHANGE: RST + Serial # + CQ Zone
ENTRY CATEGORIES: Single op, Single band; Single op, All bands; Multi op; SWL
ENTRIES: 30 June Francesco Di Michele, I2DMI P.O. Box 55 I-22063 Cantu Italy
 Cabrillo to: log2009@contestvolta.it Rules at: www.contestvolta.com/volta43.pdf

CONTEST: CQ-M International DX
DATE & TIME: 2100Z 9 May - 2100Z 10 May
BANDS/MODE: 160-10M + Satellites CW/SSB/SSTV
POINTS: 1 Pt. own "P-150-C" Country 2 Pts. same continent 3 Pts. other continents (See Web page: www.mai.ru/~crc/crc_e/award/r150s_e.htm for P-150-C country list)
MULTIPLIERS: Each "P-150-C" country, once per band
EXCHANGE: RS(T,V) + serial #
ENTRY CATEGORIES: Too many to print! See web page; www.mai.ru/~crc/cq-m/cqmain_e.htm for a list
ENTRIES: 30 Days CQ-M Contest Committee Krenkel Central Radio Club of Russia P.O. Box 88, Moscow, 123459 Russia E-mail: cqm@srr.ru

CONTEST: FISTS Spring Sprint
DATE & TIME: 1700-2100Z 9 May
BANDS/MODE: 80-10M CW
POINTS: 5 Pts. member; 2 Pts. non-member
MULTIPLIERS: States/Provinces
EXCHANGE: RST + State/Province + Name + FISTS # (non-members give power)
ENTRY CATEGORIES: QRO = > 5W; QRP = <5W; Club
ENTRIES: 30 Days Dan Shepherd, N8IE, 1900 Pittsfield St., Kettering, OH 45420
 Cabrillo or ASCII to: w8pig@yahoo.com Rules at: www.fists.org/sprints.html

CONTEST: EU PSK DX
DATE & TIME: 1200Z 16 May - 1200Z 17 May
BANDS/MODE: 80-10M PSK31
POINTS: 1 Pt. own Country; 2 Pts. own Continent; 3 Pts different Continents; 5 Pts. EU sta's
MULTIPLIERS: DXCC/EU Countries per band
EXCHANGE: RS(T) + Serial #; EU sta's give RS(T) + EU area code
ENTRY CATEGORIES: Single op - All band, low (<10W); Single op - All band, High
ENTRIES: 30 Days SRARS, P.O. Box 7469 Glasgow, G42 0YD, Scotland, U.K.
 E-Mail (Cabrillo): eudx@scotland.net Web page: <http://eudx.srars.org>

CONTEST: His Majesty The King of Spain
DATE & TIME: 1800Z 16 May - 1800Z 17 May
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. per QSO
MULTIPLIERS: Spanish provinces in each band
EXCHANGE: RST + Serial #; EA sta's give RS(T) + Province + Serial #
ENTRY CATEGORIES: Single-op, EA or non-EA monoband; Single-op, EA or non-EA multiband; Multi-op, EA or non-EA
ENTRIES: 30 Days URE HF Contests P.O. Box 220, 28080 Madrid Spain
 E-mail: concursoshf@ure.es
 Rules: www.ure.es/foreign-visitors/99-ure-contests/431-sm-el-rey-contest-english-version.htm

CONTEST: CQ WW WPX
DATE & TIME: 0000Z 30 May - 2359Z 31 May
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. Same Continent, 20/15/10M; 2 Pts. Same Continent, 160/80/40M; 3 Pts. Other continents 20/15/10M; 6 Pts. Other Continents, 160/80/40M; 2 Pts. NA sta's (same continent), 20/15/10M; NA sta's (same continent), 4 Pts. 160/80/40M
MULTIPLIERS: Prefixes
EXCHANGE: RS + serial #
ENTRY CATEGORIES: Rookie; Single Op - Single Band, QRP (<5W), Low (<100W), High, Triband/Single Element; Single Op - All Band, QRP, Low, High, Triband/Single Element; Multi Op; Single-op, assisted; Multi Op - 2 XMTR's; Multi Op - Multi XMTR's
ENTRIES: 1 July CQ WPX Contest 25 Newbridge Road Hicksville, NY 11801
 Cabrillo to: cw@cqwpx.com; Forms and rules at: www.cqwpx.com

CONTEST: MI-QRP Memorial Day Sprint
DATE & TIME: 2300Z 24 May - 0300Z 25 May
BANDS/MODE: 160-6M CW
POINTS: 2 Pts. W/VE non-members; 4 Pts. DX non-members; 5 Pts. MI-QRP members
MULTIPLIERS: States/Provinces/DXCC
EXCHANGE: RST + State/Province/Country + member number (non-members give power)
ENTRY CATEGORIES: A = <250mW; B = 250mW-1W; C = 1W-5W; D = >5W
ENTRIES: 30 Days Hank Greeb, N8XX, 5727 11 Mile Rd. NE, Rockford, MI 49341-9502 E-mail: n8xx@ar1.org
 Web page: www.qsl.net/miqrpclub/contest.html



Ten-Tec's model 715 RF Speech Processor.

Ten-Tec Speech Processor

Ten-Tec recently announced the new model 715 RF Speech Processor. The model 715 is a high-performance true RF-type speech processor designed to operate with most modern HF amateur radio transceivers. Ten-Tec describes it as follows: "RF speech processing is a superior system to the traditional AF clipping, AF compression, or RF compression found in a typical HF transceiver for achieving the highest ratio of average-to-peak power from an SSB transmitter."

Features include average SSB power output increase of up to 6 dB and enhanced readability by stations hearing your signal, all in an easy to install and operate unit. "This power increase, coupled with the ability to tailor the speech passband, can mean the difference between a signal buried under band noise or an intelligible, copyable signal," according to Ten-Tec.

The unit is installed between the microphone and the microphone jack on your transceiver. Two inputs for microphones are provided: a conventional 8-pin microphone connector that is wired the same as the 8-pin microphone input on the Omni-VII and Orion II transceivers (also wired the same as 8-pin Yaesu connectors), and a second 1/8-inch input used for direct connection of microphones or headsets such as those made by Heil Sound and others. The output connector is a 1/4-inch stereo connector. Output cables are available for 4-pin Ten-Tec, 8-pin Ten-Tec (also used by Yaesu), 8-pin ICOM, and 8-pin Kenwood (also used by Elecraft).

The model 715 RF Speech Processor is priced at \$249.00 plus shipping. The price includes one of the output cables mentioned above (your choice). Additional output cables are available at \$35 each. For more information or to order visit <<http://radio.tentec.com/accessories/715>>.

MFJ Compact GrandMaster™ Cross-Needle SWR/Wattmeters

MFJ has announced four new models of the GrandMaster™ wattmeters. Each has a 3-inch



MFJ's GrandMaster™ 883 wattmeter. Each of the four in the series has a 3-inch precision illuminated cross-needle meter for easy wide-angle viewing.

precision illuminated cross-needle meter for easy wide-angle viewing. "You can read SWR, forward and reflected power all in a single glance!" A three-color scale provides improved readability and reliability. LED backlighting gives excellent night vision. It requires 13.8 VDC or 110/VAC power. Each unit is precisely factory calibrated for accurate measurements. Coax connectors are air-dielectric SO-239 connectors with gold-plated center pins, providing good performance to beyond 525 MHz. A functional and simple front-panel layout lets you select power ranges, bands, or make SWR readings intuitively.

The four models include the following: The MFJ-880, which covers 1.6 to 60 MHz with a power range from 0-2000 watts in three ranges—20/200/2000 watts; price is \$129.95. The MFJ-882, which covers 1.8 to 200 MHz

with a power range from 0-200 watts in three ranges—2/20/200 watts; price is \$129.95. The MFJ-883 (photo B), which covers 125 to 525 MHz with a power range from 0-200 watts in three ranges—2/20/200 watts; price is \$149.95. The MFJ-884, which covers 1.8 to 525 MHz (two separate HF and VHF/UHF power sensors with SO-239 connectors) with a power range from 0-200 watts in three ranges—2/20/200 watts; price is \$169.95.

All of the GrandMaster™ series feature peak and average, forward and reflected power readings and have selectable power ranges. Each is housed in an all-metal cabinet with rubber feet and protected by a durable speckled-black paint. A designer injection-molded grey front panel complements any transceiver. Each measures 5 1/2"W x 3 1/8"H x 5"D. For more information visit <www.mfjenterprises.com>.

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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 VE 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				MISSISSIPPI			
Mesa	3rd Mon	Steve KY7W, 480-804-1469, kj7wk@cox.net	w/i	Harrison County	1st Sat	Don, W5DJW, 228-868-5670, donw5djw@bellsouth.net	w/i ok
Phoenix	4th Sat	Gary Hamman, 602-996-8148, K7GH@arrl.net, George Cooney, 602-274-6212, KQ7C@arrl.net		NEW JERSEY			
ARKANSAS				Bellmawr	3rd Thurs	Diane, N2LCQ, 609-227-6281	p/r
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net		Roselle	5/23	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
Sherwood	3rd Sat	Daryl, N5VLZ, 501-227-9183, n5vlz@arrl.net	p/r w/i ok	NEW YORK			
CALIFORNIA				Canandaigua	1st Wed	Squaw Island ARC, David A. Foster, 585-398-0216, D1161F@aol.com	w/i
Highland	5/16	Ed , WU6I, 909-864-0155, wu6i@arrl.net	p/rw/I ok	Canandaigua	1st Wed	David Foster, 585-398-0216, www.siarc.us	w/i
Lake Isabella	2nd Sat	Mike, KA6IYS, 760-378-1028	w/i pref	Yonkers	5/3	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
Long Beach	3rd Sat	Louise, N6ELK, 562-429-1355	p/r	OHIO			
Manteca/Tracy	4th Sat	David, N5FDL, 209-835-6893, n5dfi@arrl.net	p/r	Cincinnati	1st Sat	Dale, KC8HJL, 513-769-0789	p/r pref
Mission Viejo	5/18	Ernie Senser, W6ETS, 949-458-2504, w6ets@aora.org, www.soara.org	p/r pref.	Independence	5/10	Gary Dewey, N18Z, 216-642-8705	p/r pref
Napa	5/3	/Rich Rau, 07-252-6276, ko6r@arrl.net	w/i pref	Sandusky	5/19	Luther, N8HC, 419-684-7864, n8hc@arrl.net	p/r
Redwood City	5/16	Al, WB6IMX@arrl.net, www.amateur-radio.org	w/i	OREGON			
Sacramento	Hotline!	916-492-6115, n6na@arrl.org		Astoria	Call!	AA7OA, 503-338-3333	p/r
Santa Rosa	Hotline!	Hotline-Recording 707-579-9608	w/i ok	Bend	Weds	Joe, K7SQ, 541-385-3152	p/r
Sebastopol	Hotline!	Recording 707-579-9608		Grant Pass	5/22	Bill Tyner, WX7U, 541-476-2703 goodgrendl@gmail.com	w/i
Sunnyvale	5/9	Gordon, W6NW, Sv@amateur-radio.org, www.amateur-radio.org	w/i	Lincoln City	1st Sat	Carl, w7i@arrl.net, 503-965-7575	w/i ok
FLORIDA				McMinnville	Call!	Mark, AC7ZQ, 503-843-3580	w/i only
Melbourne	1st Sat	John, AA8IS@earthlink.net, 321-412-2779	w/i ok	Sisters	Call!	Dave, N7TYO, 541-549-7831	p/r
North Port	Call	Bill Norris, KC7TSG, 941-426-0214	w/i pref.	Tigard	Call!	John, KS0F, 503-626-7399	p/r
St. Pete	Call	Mark, NP3R, 727-528-0071	w/i pref.	PENNSYLVANIA			
HAWAII				Erie	3rd Sat	Ron, KB3QBB, 814-833-6829, kb3qbb@arrl.com, www.wattsburg-wireless.us	p/r
Oahu	Call	Lee, KH6BZF, 808-247-0587, 808-551-3494, leewical@aol.com	p/r	Pittsburgh	5/9	Bob Benna, N3LWP, 412-366-0488, n3lwp@verizon.net	
ILLINOIS				PUERTO RICO			
Aurora	3rd Tues	Fox River Radio League, Doug, W9RD, ve@frrl.org, www.frrl.org	w/i pref.	San Juan	Last Sat	Hotline: 787-789-4998, prarl@prarl.org	w/i
Bolingbrook	3rd Sat	Dale, W9KHX, 815-723-3332	w/i ok	SOUTH CAROLINA			
Burr Ridge	Any Day	Argonne ARC, W9DS, 630-986-0061	p/r	Charleston	3rd Wed	Robert Johnson, ae4rj@amsat.org; www.qsl.net/wa4usn/	w/i
Roselle	2nd Tues	Sam Baribeau, W9SFB, 630-894-0708, W9SFB@aol.com	p/r	VIRGINIA			
INDIANA				Alexandria	2nd Sat	John, WZ4A, 703-971-3905, wz4a@arrl.net	w/i
Richmond	5/2	Mike Chambers, 765-439-4230, w1idx@arrl.net	w/i	Stafford	2nd Sun	Bart, N3GQ, 540-373-4506, n3gq@arrl.net, www.qsl.net/semcomm	p/r
South Bend	3rd Mon	Alan, NY9A, 574-232-6883	p/r	WASHINGTON			
IOWA				Tacoma	2nd Tues	Radio Club of Tacoma, 253-759-2040, www.w7dk.org	
Vinton	5/28	Al Hammond, k0hwe@inav.net, 319-446-7570	p/r pref.	Vancouver	Hotline!	CCARC, 360-896-8909	p/r
Vinton	3rd Thurs	Ken, NØEGV, 319-223-5739	p/r pref.	WISCONSIN			
KANSAS				Racine	1st Sat	Robert, W0WLN, 262-886-8551	w/i pref
Salina	2nd Wed	Sid Ashen-Brenner, NØOBM, n0obm@arrl.net, 785-823-6560	w/i or p/r	Sheboygan Cty	5/19	Art Pahr, K9XJ, 920-876-2370, k9xj@arrl.net	w/i or p/r
MASSACHUSETTS				Tomahawk	Last Sat	Terry, KB9AUP, 715-453-4633, dcollins@newnorth.net	w/i ok
Brookline	2nd Mon	Dick Doherty, KA1TUZ, 617-527-2968, ka1tuz@arrl.net, www.barc.org	w/i ok	MINNESOTA			
Chelmsford	2nd Wed	Bruce, w1lus@att.net	w/i	Apple Valley	2nd Thur	Jim, NØOA, 612-384-7709, N0OA@arrl.net	p/r pref.

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I'm a Good Driver and You're Not

By Patrick Tice, WAØTDA
wa0tda@arrrl.net

There is an old saying that tells us, "Every person with a driving license believes that they are a very good driver and that other drivers have a lot to learn".

Isn't that the truth?

We all like to think we are good at just about everything that we do. Other people think of themselves in exactly the same way, because that is human nature. The problem is that we can't all be correct, can we? Even though I have been driving a car since I have been a sophomore in high school, those decades of driving experience don't necessarily mean that I drive better than everyone else. After all, I may have some bad driving habits that I have picked up over the years. I may not recognize my own bad habits because of my assumption that I am a good driver. All those people flashing their headlights and honking their horns at me just because I am driving on the wrong side of the road while talking on my cellular phone and playing the banjo don't know a good driver when they see one!

Okay, that's a little extreme, but the same thing can happen in amateur radio. How many people have you heard on the air proclaiming that someone else is a poor operator, has done something wrong, doesn't know what they are doing, should never have gotten a license, and so on? Oddly enough, these same operators who complain so loudly often times have rather poor operating habits themselves. You can be licensed for many years, even decades, and still not have a clue that your operating technique leaves a bit to be desired. One wise amateur radio operator once told me that there is a big difference between having 10 years of experience on the air and having one year of experience 10 times over. What he meant by that was that some people simply do the same thing over and over again, never venturing forth to learn new things or to really improve their operating techniques.

Now, I am not going to claim that I am a genius at self-realization, which is to say really understanding myself and knowing for sure what I do correctly and realizing where I need to make some improvements. But one thing I do know for sure is that as certainly as I am not the world's best driver, I am also not the world's best amateur radio operator, and just knowing that helps me keep an open mind to learning new things, especially things that will make me a better radio operator.

It's still hard to improve on "The Amateur's Code", which you can find on the ARRL website:<http://www.arrrl.org/acode.html>

Thanks to the members of the Handiham Radio Club, you will have an opportunity to learn how to be a better amateur radio operator. You can check into the regular Wednesday night Handiham EchoLink net and... lucky you: The first Wednesday of each month, the theme of the net is one of learning and training!

Although the primary focus is on how to be a good, even great, net control station, most of the same operating techniques that make a good net control will also apply to normal, day-to-day amateur radio communications. Please join us and check in or simply listen in, as you see fit:



When:

- Wednesday evenings at 20:30 hours USA Eastern Daylight Time (8:30 pm)
- 17:30 hours USA Pacific Daylight Time (5:30 pm)
- GMT: Thursday morning at 01:30 Z

Where:

- 145.450 MHz NØBVE repeater (Minneapolis-St. Paul)
- Node 89680 (EchoLink worldwide)
- IRLP node 9008 (Vancouver BC reflector)
- WIRES system number 1427

Everyone is welcome. You do not need to be a member and the net is relaxed, friendly, and informal. It is only a training net on the first Wednesday of each month. The other Wednesdays are simply regular social net nights. You can check in each week, and if you feel brave enough, offer to take the net control position.

If you make a mistake, so what? We are all learning to drive, so to speak. Better to learn in an informal setting with your friends than to make those mistakes on a traffic net in an emergency situation!

Find out more about the non-profit Handiham System, whose mission is to help people with disabilities earn their amateur radio licenses and be great operators:

<http://handiham.org>

Courage Center Handiham System
3915 Golden Valley Road
Golden Valley, MN 55422
Toll-Free: 1-866-426-3442
hamradio@couragecenter.org



Antenna Efficiency

Kurt N. Sterba

Krusty Olde Kurt likes to get questions from readers. They almost all are thoughtful and bring up points about antennas that interest all readers. Here is a recent one:

“Is it possible to find the efficiency of an antenna by using, for example, the MFJ antenna analyzer and a SWR/power meter that shows forward and reflected power? Also, what are the equations and parameters involved in finding the efficiency of an antenna above average ground? I am currently using a 51-foot G5RV with 14-foot 300-ohm twin lead to 50 feet of RG8X, then a tuner. Both legs are 10-feet above the ground. The antenna is operated on 30 meters through 6 meters.”

The quick answer is that no, you cannot find the efficiency with an antenna analyzer or with an SWR/power meter. Here's why: Efficiency is defined as output power divided by input power. With your power meter, you can only find the *input* power. In addition, unless you put your meter right at the antenna, you don't know exactly the power going into the antenna. There will be some losses in the tuner, the coax, and the twin lead.

Measuring the output power radiated from the antenna is a very difficult problem. If you could enclose it in a giant spherical enclosure, and could measure all the power going through the sphere, you could find the radiated power. A common measurement method is to set up a dipole antenna, which we know to be almost 100 percent efficient, and measure its field strength at a distance. Then put the antenna whose efficiency we want know in its place and measure its field strength. If both antennas are dipoles, for example, a dipole and a G5RV, we can get a good idea of the efficiency.

But even this is not 100% accurate because, depending on the lengths of the antennas, they may not have the same radiation pattern. On some frequencies, the G5RV may radiate a lot of power in a direction different from the direction we are measuring. If so, there would be less radiation in the measurement direction and we would conclude that it was less efficient than it really is.

Another way to measure efficiency is to measure the heat radiated from the antenna. This works on the principle of conservation of energy. If you put power into an antenna, it does not disappear. Either it is radiated or it is turned into heat. If you measure the heat radiated from the antenna you then know the losses. Subtract the heat loss from the input power and you now know the radiated power. The radiated power divided by the input power then gives you the efficiency.

The problem here is measuring the heat radiated. You can imagine a UHF antenna enclosed in a sphere where you can measure the temperature rise. But, you can't imagine a sphere in your back yard big enough to enclose your 40 meter beam

and also imagine paying for the insulation to keep the wind and the outside temperature from influencing your results.

Kurt hates to bring bad news, but he thinks that it is not practical to measure the efficiency of your backyard antenna. He also suggests that you not worry about it, if it is a full size horizontal antenna. A horizontal antenna has very little ground losses, especially if it is up in the air a reasonable distance. If you make it of #18 or larger copper wire, the losses in the wire will be low. If you keep it away from trees that can absorb RF and from structures such as your house then you have an antenna that is nearly 100% efficient. You can't do better than that.

Dipole Radials

A reader says, “I understand the importance of grounding with vertical antennas, but I have a question about other “balanced” antennas. I use a folded dipole with a low power transceiver. The antenna is fed from the balanced line output of an antenna tuner. I've had good luck without an explicit ground, but generally have a long cable to the battery, which may supply counterpoise. Can you comment on the use of a ground and its position in this circumstance? I assume there are no radials for this kind of antenna.”

The reason that radials are so important for vertical antennas is that ground (and the radials) is the return path for antenna currents. We have to make this return path have low losses and therefore we use radials. The radials are much less lossy than ground.

Horizontal antennas do not need this return current because the antenna is “balanced.” The current that, in a vertical flows into the ground, flows into the other half of the antenna. There is no need for ground. That does not mean that the presence of ground does not affect radiation from a horizontal antenna. There are two ways that radiation from the horizontal antenna reaches the distant receiver. One is the direct ray that leaves the antenna toward the distant receiver. The other is the reflected ray that leaves the antenna, is reflected from the ground, and then joins the other ray on its journey to the receiver. The strength of the resultant ray is affected by ground losses on reflection.

The reflections take place so far from the antenna that is usually is not practical to use radials. And the losses are not great anyway. The best way to get best radiation efficiency at the low angles you want for distant communication is to raise the antenna higher above ground. This reduces ground losses and improves low angle radiation.

Although a ground is not needed for a horizontal antenna to function, it is desirable to provide a ground path for lightning induced transient currents. Krusty Olde Kurt covered this subject in a recent column.

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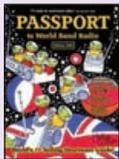
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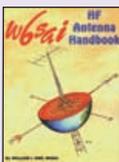
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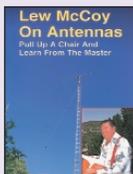
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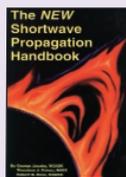
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