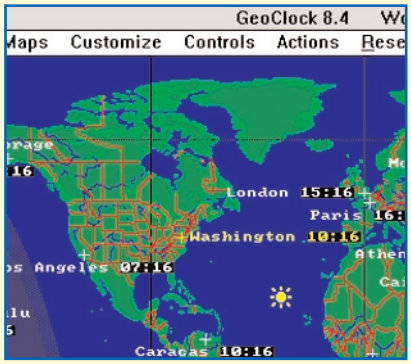
WorldRadio ONLINE

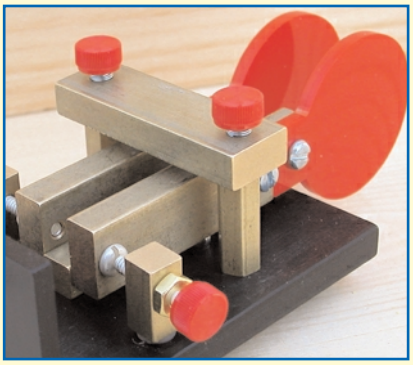
Year 39, Issue 2 AUGUST 2009

The DXpedition to Mozambique

A Do-It-Yourself Ammeter

Kurt N. Sterba Discusses the Half-Vertical Antenna





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

Clique to Texting Using Morse Code

Texting addicts will soon have a new plaything, but will need to learn CW to use it. This, as Toshiba teams up with microprocessor manufacturer Intel to produce Clique. This is described as a handheld, thumb-operated communications device that uses only three keys produce Morse code for sending text messages.

A Toshiba spokesperson says that Morse was chosen as the communications medium because it is an easily learned and is ideally suited to the single-digit platform. She explained that the Morse code has been in use for more than 160 years which longer than any other electronic encoding system.

Earlier attempts to create a Morse-based texting device were stymied by the variable length of the Morse characters which made it hard to adapt to automated text conversion circuits. Toshiba's solution is the three keys. One is used for dots, another for dashes and the third that acts as a space-bar between letters. One tap separates letters while two taps go between words.

First released in Japan at the 2008 Microprocessor Forum, the Clique is the size and shape of a lollipop with the handle acting as a miniature joystick. Its reception in Japan has been described as fast and furious as early adopters added `Clique' to their armory of hand-held communications devices.

The Clique is not yet available in the United States but more about it is on-line at http://mhpbooks.com/mobylives/?p=6535 (KZ1Z)

Three New Ham-Band Cubesats Launched

Three small "CubeSats" carrying amateur radio transmitters were among five satellites launched successfully in late May from NASA's mid-Atlantic spaceport on Wallops Island, Virginia. An Air Force satellite was the primary payload, and a fourth CubeSat did not carry a transmitter on amateur frequencies.

According to the AMSAT News Service, the three satellites carrying ham-band transmitters, all operating on 437 MHz, are PharmaSat-1, launched by NASA and Stanford University; CP-6 from California Polytechnic State University (CalPoly), and HawkSat-1 from the Hawk Institute for Space Sciences. At press time, none of the sponsors had requested or received OSCAR numbers for the satellites.

FCC Getting Tough With Power Company

Nearly three years after first contacting Duke Energy about interference complaints from a ham in Cincinnati, the FCC is starting to lose patience with the utility. In a May 4 letter to the company, Special Counsel Laura Smith recounted the exchanges of correspondence and promises of action but pointed out that the problems persist. She even noted that the complainant had gone out on his own and noted the specific locations of several possible noise sources.

"Given the fact that this case has been ongoing for quite some time without resolution," Smith wrote, "you are directed to respond to the undersigned within 30 days … detailing what steps you have taken to resolve (the interference)." In addition, she told the company that if the problems persist for more than 60 days, "Duke Energy will be required to provide (the FCC) with a status update every two (2) weeks going forward as to what progress, if any, has been made to resolve the matter."

President Obama Says to be Prepared

United States President Barack Obama has urged residents of hurricane inclined areas to take responsibility for their own safety and start planning now.

Following a disaster preparedness briefing at the Federal Emergency Management Agency the president said that individuals should have a supply of nonperishable food, water and first aid kits in case they need to wait out any emergency that might hit their area. He added that it is also essential to have at least one waterproof radio.

At his press briefing, the president noted that state governments have the primary responsibility for preparing for and responding to disasters. However, he added that all the resources of the federal government is there to back them up.

(Published news reports)

Cirque du Soleil Founder to Visit ISS

The British Broadcasting Company reports that the founder of the performance group Cirque du Soleil will visit the International Space Station in September. According to the news service, 49 year old Guy Laliberte will travel to the ISS on a Russian Soyuz transport vehicle.

Laliberte's trip to the International Space Station is estimated to cost at least $25 million dollars. The Quebec-based billionaire will become the seventh private citizen to visit the orbital outpost since April 2001. No word yet if he plans to obtain an amateur licensee and operate from space, as all past space adventurers have.

And for those of you who do not know that Cirque du Soleil means, its French for Circus of the Sun. You can read the full BBC news story at http://news.bbc.co.uk/1/hi/sci/tech/8083336.stm)

(Southgate)

WE5I on the Air – 6-Meter AM

If you have an old 6-meter Gonset Communicator, Clegg 99'er or other ancient 6 meter AM transceiver and a crystal for 50.4 Megacycles—er—Megahertz, then you might want to dust it off and fire it up. This is because Graham Welch, WE5I, wants to talk to you using good old fashioned full-carrier AM.

During the summer 6-meter DX season, Graham, who lives in Oklahoma City, Oklahoma, is on 50.4 daily from grid square E-M-15. He is listening for callers who want to take the time to talk with middle-America on the Magic Band using AM. He is also posting his operating schedule on the W6YX VHF Reflector and says that even if you do not hear him first to call him anyway. He just may be listening and waiting to hear your call.

(VHF Reflector)

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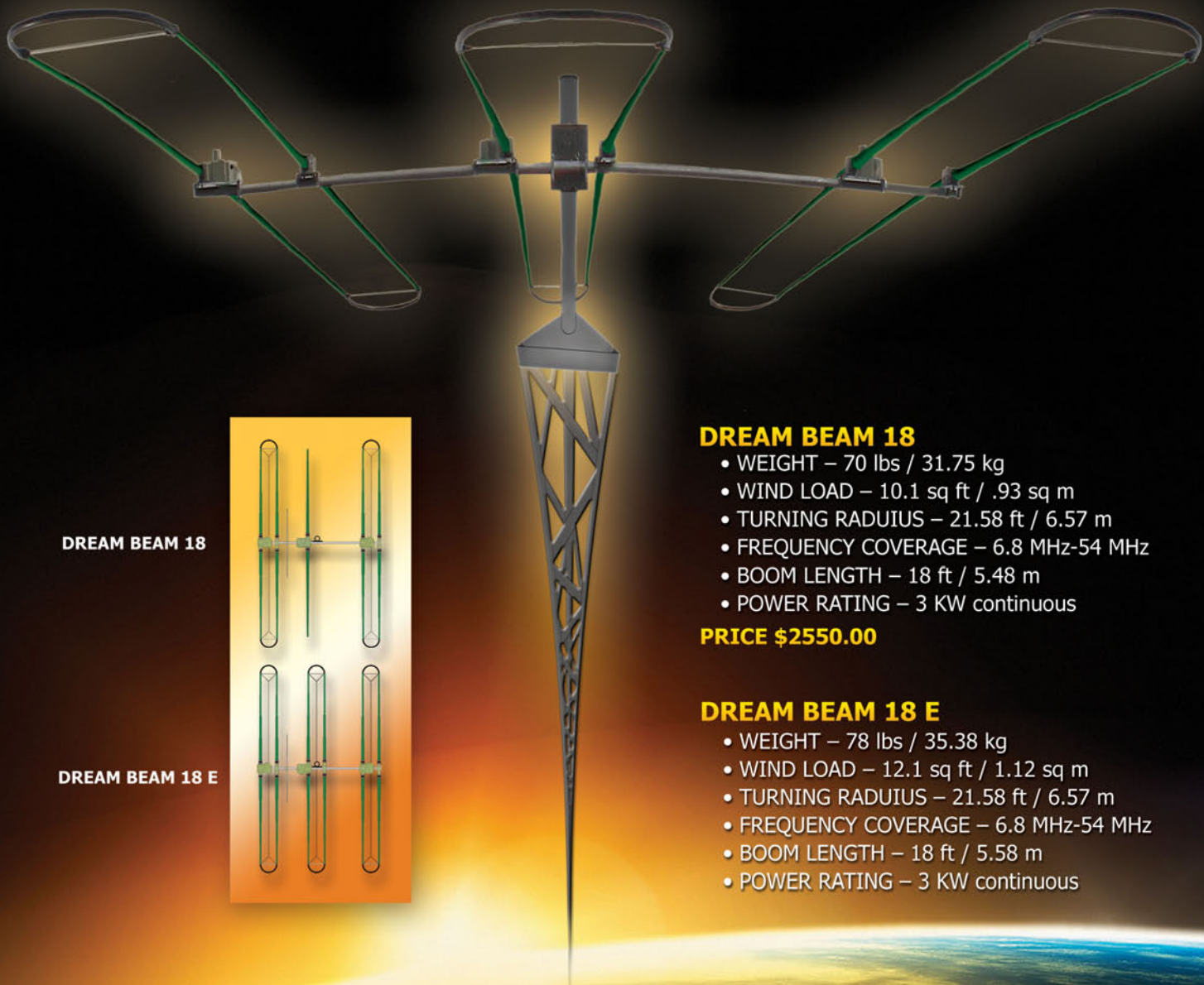

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Picture is an artistic rendition to show the entire antenna.

WorldRadio ONLINE

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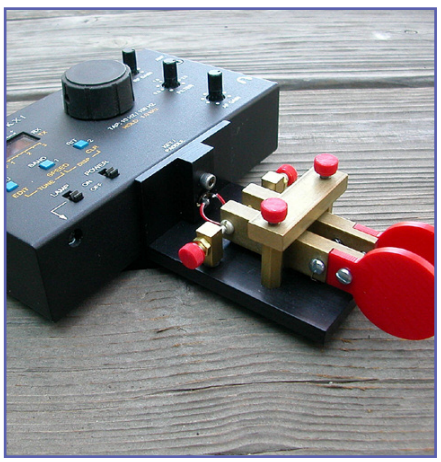
Inside this issue you will read about the adventures that hams are having while operating portable around the globe—from Africa to local parks, as well as ways to promote ham radio and attract teens to the Amateur Service.



HF In the Field

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*Frequency specs may vary. Refer to owner's manual for exact frequency specs.

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EDITOR'S LOG

We're picking up a trend that ham radio is takin' it to the streets…and campgrounds, boats, bikes - just about anywhere you can tote a solar panel or a battery. The mode doesn't seem to matter; people are operating portable using both code and voice, although code does appear to be more prevalent because it gives more 'bang for the buck' and requires lower power.

With the rare occasional exception of a request pertaining to their specialty, our columnists have free rein to write about whatever they want. It is a coincidence that several of our columnists chose to write about operating mobile and portable this month. We hope you're inspired to try operating portable, even if it is from your backyard. It is a fun way to get your kids and grandkids involved. If you set up a tent in your yard with a rig inside (to keep it simple, you can even run an extension cord from the house) you can bet the kids will be intrigued.

This is also Special Event season—especially in the northern parts of the country. Not everyone is lucky enough to live in an area with an active local club, but don't let that limit you. A Special Event station can celebrate or commemorate just about anything. In a rural area, there are Centennial Farms, local harvest festivals start in September, tractor shows, state and local fairs—you are only limited by your imagination. Again, keep it simple, especially if you don't have the benefit of the assistance of a local club. All hams should know how to set up a simple emergency station, which is a variation of operating portable. A Special Event station or backyard set-up is a good way to learn to do this. Take advantage of the nice weather and get out and ham it up!

I'm happy to report that there appears to be a renewed interest in Morse code. The change in the band plan has given over 384,000 Novices, Techs, both code-tested and non-tested, privileges on 15, 40 and 80 meters in the CW-only parts of the band. Novice and Techs I spoke with in Dayton last May expressed an interest in learning and improving their code skills so they can take advantage of this band space. Many are interested in the ARRL Triple Play awards and they want to get all 50 states on CW.

To help these hams upgrade and enjoy more operating room, Chuck Adams, K7QO, has made a disk of mp3 files containing the entire General written test question pool, sent in Morse code. It is not a beginner course, it starts at about 10 wpm and gradually increases in speed every four or five hours of the question pool questions. If you are just getting started, you may be interested in the K7QO Basic Code Course. Both of these disks are available free. To get your copies, send $1 per disk to cover postage and mailing envelope to FISTS, PO Box 47, Hadley MI 48440. Please include a label with your address written on it and specify which disk you are requesting.

Join in on the fun of operating portable using Morse code. It not only provides experience that will be necessary in an emergency but will give you a new mode to try.

Hope to see you on the air!

73 88 33, Nancy Kott WZ8C

WorldRadio Online

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Z-11Pro

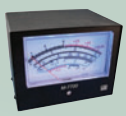
The Z-11Pro, designed from the ground up for battery operation. Only 5" x 7.7" x 1.5", and weighing only 1.5 pounds, it handles 0.1 to 125 watts, making it ideal for both QRP and standard 100 watt transceivers from 160 - 6 meters. With an optional LDG balun, it will also match longwires or antennas fed with ladder-line. All cables included. ***Suggested Price $179***

NEW! Z-817

The ultimate autotuner for QRP radios including the Yaesu FT-817(D). 2000 memories cover 160 through 6 meters. The Z-817 will also function as a general purpose antenna tuner with other QRP radios. Powered by four AA internal Alkaline batteries (not included), no additional cables required. A coax jumper cable is also induced for fast hook up. ***Suggested Price $129.99***

AT-100Pro

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***



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FTL Meter 2.5" face with calibrated scales for signal strength, discriminator reading on receive, and power output, SWR, modulation, ALC action and supply voltage on transmit, all selectable from the radio's menu. ***Still Only $49***

NEW FTL Meter For Yaesu FT-857(D) and FT-897(D). 4.5" face with calibrated scales for signal strength, discriminator reading on receive, and power output, SWR, modulation, ALC action and supply voltage on transmit, all selectable from the radio's menu. ***Suggested Price $79.99***

NEW! M-7700 For IC-7700. It will display S-meter on receive, or power out, SWR, ALC level or supply voltages, all selectable from the radio's menu. What's more, the M-7700 and the virtual meter on your radio can work together. ***Suggested Price $79.99***

See AT-1000Pro Review in Nov. '08 CQ

AT-1000Pro

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! IT-100

Matched in size to the IC-7000 and IC-706, the IT-100 sports a front panel push-button for either manual or automatic tunes, and status LEDs so you'll know what's going on inside. You can control the IT-100 and its 2000 memories from either its own button or the Tune button on your IC-7000 or other Icom rigs. It's the perfect complement to your Icom radio that is AH3 or AH-4 compatible. ***Suggested Price $179.99***

NEW! KT-100

LDG's first dedicated autotuner for Kenwood Amateur transceivers. Easy to use - just right for an AT-300 compatible Kenwood transceiver. Has 2,000 memories for instant recall. 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***

NEW! Z-100Plus

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-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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Musings from Seven Miles Up: The DXpedition to Mozambique

by Cal White, WF5W

Our DXpedition to Africa started on a beautiful March day in Texas. I went to the ham shack at 5 a.m. and worked some 160 meters. When it was time for our ham luncheon, I left the house and locked the door, but realized I forgot my keys inside. I called the XYL on the cell phone and got the keys, made it to lunch with the guys, then came home to get ready to go to the airport while trying to ignore the XYL's bent nose about not going along on the trip to Mozambique.

It is a sixteen hour flight from Houston to Dubai with Emirate Airlines. We flew on a nice airplane, each seat equipped with a screen showing dozens of menus of games, movies, TV, etc. You could almost spend all your time in the air just fiddling with the touch screen.

Six of us old timers are on our way to Mozambique for a ham radio DXpedition. (Jim N4AL, Madison W5MJ, Bill K5WAF, Paul W5PF, Dale KG5U, and me, Cal WF5W) We go on several DXpeditions a year, but this is the farthest we have been in a while and certainly the longest single plane ride. We are all grumpy and a little testy, but are excited about the trip. When we were younger, our world was so small we could not even dream of going to such a place.

A lot has happened since my early days in ham radio. Wooed the wife, married her, bought houses, kids grew up, heart attack, stock market money made and lost, retired at least one time, on Social Security, 50th wedding anniversary, house paid for, 5-Band DXCC, Honor Roll, 100-Oblast award. Where has the mystery gone? Seems like we now have done everything worth doing and we're not having as much fun as we used to. Maybe that's the reason for these DXpeditions; we get a little edgy sometimes. Our trip to the island of Yap was just a few years ago, but it seems like it was 500 years ago. We've been to the Falkland Islands, which still has 135 active mine fields left over from the war with Argentina in the 80s. The trip to Tortola in the British Virgin Islands was somewhat of a domestic trip. The straight key DXpedition to Belize was really fun! Now we're going to Beline, Mozambique.

When people ask what a DXpedition is and what we get if we win, it's hard to explain that we don't get anything but the satisfaction of having worked many other countries on the radio. Non-hams just shake their heads. We must be a weird bunch of guys.

We started planning this trip about six months ago. "Frosty" Frost, K5LBU, one of our TDXS (Texas DX Society) members, is in partnership with a guy named Daniel from Jo-Burg, South Africa. They are both hams and arrange non-ham safaris in the National African Parks as well as DXpeditions to Lesotho, Mozambique and other places in Africa. Frosty was a missionary there for some twenty years until his wife died. He now teaches school in Missouri City, Texas. His daughter is an airline hostess, so he gets free flights.

We operated from Bilene, Maputo Province, Mozambique. Bilene is 180km from the capital city of Maputo. Latitude: 25.2867S Longitude: 33.2475E Grid Square: KG64

But back to the DXpedition. Two of our team are interested in CW. Two more are very interested in the digital modes (RTTY, like the old teletype, but more up- to-date) and the other two guys say they just want to do SSB. People from all over the world have contacted us, asking for us to listen for them on certain frequencies. During a DXpedition, your time on the air is really dictated by the propagation gods, so who you talk to at any given time might not be who you had planned to work.

The equipment is in place. Daniel is in Mozambique setting up the stations with towers, verticals, and wires. He has three radios and two amplifiers and we are bringing one amp. If all goes well, we will have three stations on the air most of the time. Six guys, three stations, ten days, that should be a hoot! We'll see how it all holds up.

Everybody brought their computer. Two new little ones, called mini's, are about _ the size of a regular laptop, but just as powerful. Sign of the times, we have to have our electronic gadgets to be happy. Radios, computers, cameras, even an electronic book reader. Would you believe it weights 10 ounces and can have up to 150 full books in its memory! How things have changed. Used to be we could be happy with just a deck of cards.

Neat thing about old timers is they have a lot of experience. As you get older, you begin to better understand our hobby. When we first got our licenses, we had an inkling about wires, propagation, bands but not really anything in depth. Now we know. I wonder about the new hams, they don't have to do anything but memorize a few questions to get their licenses. Wonder what they will do in 20 or 30 years, will they still appreciate the hobby or will they let it go?

I started out as a gandy dancer on the Chicago Great Western Railroad in 1954. A gandy dancer is a worker who maintained the railroad tracks, using specialized hand tools called gandies,

Bill K5WAF and Paul W5PF are all smiles as the first RTTY QSO is made! (Photos courtesy of Dale Martin KG5U)

The view from the ham shack was beautiful!

to lever rail tracks back into position. Did that for a month and about wore me out - and I was in pretty good shape. When the station master put out a sign for trainee telegrapher, I applied, thinking it had to be better than working the rails! So, I started my move into the field of Morse code at the age of 17. Every one of our guys has a unique story to tell as to how he got into radio.

The stew in our cabin just brought me a sandwich and coffee, nice touch! Finished it and now it's time to settle down. I'm going to put on my eyeshades and try to get a little shut eye before all the babies wake up and start crying. We'll fly over the Atlantic Ocean and go over Russia on our way.

What day is it? Got into Dubai and after a look around the awesome airport (indescribable in its beauty and cost), got on the hotel bus and went to the Millennium Airport hotel. Between the marble in the airport and the hotel, I am not sure if Italy has any marble left! There are many tons of marble slabs, floors, and columns. What monies the UAE folks have from oil, they certainly have spent a good part of it on their airport and city structure. Wealth is apparent everywhere you turn.

Next, we boarded a Boeing 777-ER. It has all the electronic stuff we now have come to expect. You can call home, use e mail, plug in your laptop to charge the battery, work on your computer, watch hundreds of movies, listen to world radio, CDs, you name it. Mind boggling for this old codger.

We will be in Johannesburg, South Africa in about five or six more hours. Then, on to a bed and breakfast for the rest of the day and night. Tomorrow, we drive to Mozambique in a conventional van for about six hours. Quite a lot of seat time to get to our ham DXpedition site!

This is about it for rambling from seven miles high, I'm anxious to get back on the ground and start operating. I think it's Wednesday, but not really sure, my insides and my computer say it's really Tuesday.

2nd Day in Mozambique

It took 38 hours of seat time, and two nights in hotels to get here. Fourteen hours in the van yesterday including 1_ hours at the entry point into Mozambique. Over four days.. NEVER again. We are really out in the boonies. In all the DXpeditions we have gone on, never has taken this long to get to the destination and we never have had so many visits from Murphy. Some days things don't go well. I am really not a whiner, but am a bit disgusted.

Three stations running the pile-ups. (l-r) Madison W5MJ, Cal WF5W, and Jim N4AL

We are learning a bit about this place. It was under communist rule for twenty years and to this day the modus is from that era. It is an experience every time you cross their border.

I started out on the bands last this afternoon and true to form, a monster pile-up developed from Japan. After that, the Ukrainian guys all came on. Monster pile-ups for everybody. Frosty had warned us about this. He said we would not have had this kind of pile-up before and he was right.

I have moved over to the ham shack where there is a bathroom with toilet paper. That seems to be a premium. I didn't go to dinner today, but will go to breakfast in the morning. This morning I had asked for a "toasty", a well-known term in the restaurants of South Africa, expecting eggs and ham on a sandwich. What I got were several pieces of dry toast.

The CQWW WPX Phone Contest

It's Saturday and we have been on the air since last night. Half the contest is over. We have some avid contesters, working a good rate when the bands are open. The bands are not really very open in the late evening, but we were able to keep all three stations on the air at the same time for several hours. We have some kick-butt antennas including a 63-foot vertical for 160 meters.

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Submersible Construction

- Large Backlit LCD Display for easy operation
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- 800 mW of Loud Audio for noisy field operations
- 200 Memory Channels for Serious users
- Commercial Grade Receivers Performance
- Submersible Construction (3 ft. for 30 min)
- Yaesu Exclusive Power Saving Circuit Design Guarantees Longer Operating time
- Hands Free Operation with Optional VC-24 VOX Headset

Wide Range of available Options includes:
- CD-26 Charger Cradle
- VAC-370B 1.5 Hour Desktop Rapid Charger
- External DC Jack for Cigarette-Lighter adapter E-DC-5B or DC Cable E-DC-6
- FBA-25A Alkaline Battery Case (for 6 X AA cells)
- FTD-7 DTMF Paging Unit

Actual Size

VHF FM 5 W COMPACT HANDHELD TRANSCEIVER

FT-270R

Size: 2.4" (W) x 4.7" (H) x 1.3" (D) Weight: 13.8 oz.

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Compact Field Radio with Top Mounted LCD and Loud Audio

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2 m/70 cm DUAL BAND

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50 W 10 m/6 m/2 m/70 cm* Quad Band FM Mobile

FT-8900R

*70 cm 35 W

QUAD BAND DUAL RECEIVE

50 W 2 m/70 cm* Dual Band FM Mobile

FT-8800R

*70 cm 35 W

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TDXS C91TX Team: (left side l-r): Jim N4AL, Madison W5MJ. Right side top to bottom: Bill K5WAF, Paul W5PF. Cal WF5W, and Dale KG5U

Today's runs were great, we are all rotating thru the periods after setting up the schedule for the contest, and keeping the times for all the rest of the trip. We won't break any records, but it appears we will be at least respectable in numbers of contacts.

Sunday night and all is well, the contest is over at 2 in the morning, local time. Jim, N4AL, now known as Captain List, has prepared the schedule for the rest of our tour. Everyone rotates around a three hour sked so you never have the same time to operate and therefore won't have to be up all night, every night. The days work went well, the antennas still doing their job. But RF and a floating ground in the background are playing havoc with the electronics that support the radios. This problem has a side affect of slowing down the QSO rate while you're trying to get the computers to work.

We're already getting tired of the same food. The limited menu at the main restaurant in the area has already been exhausted. However, we have breakfast at another small place that really wants our business. They have put up a good array of eggs, potatoes, meats and salads along with passable coffee in the upstairs open-air room.

BUT everyone is getting along, that may be in part to less sleep deprivation. It's good to know we are going to really have fun. We are all adjusting to the bare accommodations and resigned that we will live. Even the food has become somewhat better, or at least we're getting used to it.

Wednesday afternoon - April Fool's Day

It's been a pleasant few days. A couple storms blew through causing some electricity outages, but not more than could be expected from a location such as this.

We appear to be working all that hear us. Ham-wise not a bad run, but the living space leaves much to be desired.

The lunch and evening restaurant finally figured out how to fix dried beans. So we now have beans and rice and they are good! Maybe not as good as at home, but pretty darned good for here.

The view to the sea from our porch is beautiful; we all take turns sitting out there when not on the air, kind of looks like an old folk's home for retired hams.

We are all ready to go back to Texas; we are kind of tired of this location.

Time To Head Home!

It's Friday! Just about time to go. I am really ready to leave this place. The propagation is fine; the DX is fine but guess I just don't like this part of Africa. Maybe it's just the accommodations, maybe I am just spoiled, or maybe I want more for my money than we got here.

We worked a bunch on 80 meters this morning. Q's are running about where we want them to be but you can see everyone is looking forward to heading home. Strange. Oh well, we had to try it once.

Saturday

Last good breakfast in Beline. We are approaching 12000 Q's; not a bad run.

The radio has been pretty good here, but we want to visit the State Park, we hope it's up to its reputation. It's sunny and about 70 degrees, nice weather.

Dale did an overnighter on 80 meters and got it going. Lots of folks need it. 160 has eluded us, we tried and tried but only made about 20 Qs.

We all went to dinner together and then went back at the shack. Things are pretty much over with. We all are tired. Madison tried

Breakfast in Bilene: (l-r) Paul W5PF, Dale KG5U, Bill K5WAF, Madison W5MJ, Cal WF5W, Jim N4AL

to get one QSO going, but RF got into the keyer and he couldn't complete it. So, we packed and slept till 5 a,m. Bob arrived, packed the van, and off we went. It was a bumpy 4 hour ride to the border with S. Africa.

But, now the good part: We came into the Krueger Game Reserve and WOW. We saw elephants, monkeys, rhinos, zebras, kudos, impalas and a dozen rare birds including eagles. Ten elephants crossed the road just in front of us. All of the animals look healthy, well fed and certainly not afraid that we are going to do them any harm. What a nice day! We ended up at one of the in park camps staying in a really nice room. And the food at their restaurant was first class. So we are all looking forward to tomorrow. It's like going to a zoo without walls.

Monday

We spent a very memorable full day at the Park on Monday. We had the chimps all over the van and around us. That might have been scary in an open vehicle. At night, we spent another good night at the lodge with a fine meal. It almost made us forget the awful stuff in Mozambique.

Tuesday

On Tuesday morning, on the way out of the park headed back to Jo-Burg, we had a herd of about ten elephants stop us on the road. There were two little ones who romped around on the road and were in no hurry to go into the bush. Mamas or aunts, not sure which, were watchfully guiding them. No cars dared to get too close until they decided to finish crossing the road. There is communication that is understood by people when an elephant wants you to do or not to do something. Like, stay away from our babies.

Then on the plane to Dubai, uneventful eight-hour flight. We had four hours to shop in the airport mall at Dubai, which was an eye opener. At 5 a.m. the mall was filled to capacity, you would not know what time of the day it was based on the crowd. Paul and I had a coffee and a muffin for $22.00 US. Just a little higher prices than we had come to expect, at least in South Africa.

Now we're on the final leg of the trip, with sixteen more hours on the 777. Computer, radio, CDs, movies several meals and snacks and there were still four hours to go. Long flight. We're back home once again from a successful DXpedition. 12,300 QSOs, all entered into the LOTW (Log of the world).

Where to next? Till then, 73 Cal White WF5W/C91EA and C91TX.

DIY RF Ammeter

by Mike Herman, WB8EVI
wb8evi@arrl.net

Building your own RF ammeter from junk box parts is an easy and fun afternoon project. I've been a ham for 40 years and never owned one until this year. Now I have four; three of them I built myself. Your first question is probably, "Why do I need one?" The simple answer is that tuning for maximum current to your antenna always results in maximum power out, regardless of your SWR. That statement is correct; you may want to read it again.

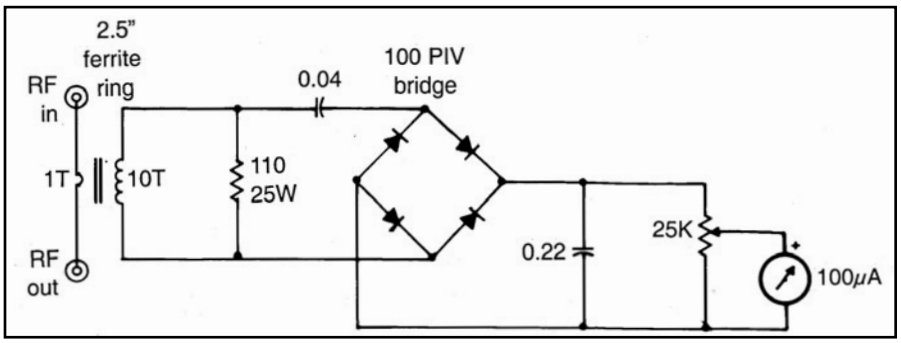

Figure 1.

This can easily be demonstrated if you have an antenna tuner, an SWR meter, and an RF ammeter. You can probably get a low SWR with more than one setting of your tuner, but the RF current going out to your antenna will not be the same with each of those tuner settings. Obviously you want to use the tuner setting that gives you the most current to your antenna, and hopefully with little reflected power as well. Several antenna tuner manuals I have read say to use the antenna load setting with the most capacitance that gives you a match. This setting will give you the most power output toward your antenna.

Your antenna tuner manual should tell you which direction of the control is toward maximum capacity. If not, pop off the cover and look yourself. With the RF ammeter between your tuner and antenna, you can verify this by watching the current reading. Keep the SWR meter between your transceiver and tuner, as always. You need to keep the SWR 2:1 or better to keep most of the solid-state transceivers happy. If you exceed that, most likely your transceiver will cut back on power output to save the final amplifier transistors from burning up. I suggest reading the manual that came with your transceiver.

There are three simple formulas for showing power in watts (P), current in amperes (I), and resistance in ohms (R). This can be very useful. If you know any two of them, you can compute the third. The formulas are:

$P = I^2 \times R$ watts = (amps squared) times ohms
$I = \sqrt{(P/R)}$ amps = square root of (watts divided by ohms)
$R = P/I^2$ ohms = watts divided by (amps squared)

Note that your antenna load resistance will seldom be exactly 50 ohms, and will vary with frequency. Some operators like to tune up first into a 50 ohm dummy load then switch to their antenna and try to tune for the same current reading.

Construction Time

OK, enough theory, on to the construction. For my first homebrew RF ammeter, I found a 200 microampere meter in my junk box and bought an aluminum mini-box to hold the meter. At the time, I thought a snap-on ferrite ring would make a good transformer core. It was mounted easily to the box by drilling a small hole in the plastic that surrounded it. See the photo for details.

Forget about trying to drill into the ferrite material to make a mounting hole. I quickly discovered that ferrite is extremely hard, melts from the heat caused by excessive drill pressure, and cracks easily. I destroyed a nice ferrite ring trying to drill a mounting hole in it.

Mount your choice of coax connectors on opposite sides of the rear section of the box, down close to the bottom. Connect them with a piece of #10 or #12 copper wire passed straight through the ferrite ring. That is the single turn primary winding - just a single pass through. For the transformer secondary you may use may use a much smaller diameter wire, and wind 5 or 8 turns around the ring. That means pass the wire through the ring 5 times for 5 turns, etc. This is not really critical and the circuit can be adjusted for variations. I chose to run a ground wire from connector to connector. This is optional if you have both connectors securely grounded via the box. That completes the transformer assembly.

Mount the meter in the upper section on the front of the box. If you are building a dual range meter, mount a DPDT switch below it. The switch must fit between the meter and the ferrite ring, so pick a switch that is not too large.

Next mount the calibration potentiometers, also leaving room for the ferrite ring. The small parts are wired in next. You could use a small perf-board here, but I just soldered it "floating style" being careful not to short anything together. I also put insulating electrical tape over the meter terminals since they were close to the rear of the box. I put some insulating plastic around most of the circuitry. Use what you have, but do not let anything short to the box. If it looks close, insulate it. Better safe than sorry.

Calibration is very easy with an accurate wattmeter and a dummy load. Measure your dummy load resistance with an ohmmeter. Set your power output to a known value, like 10 watts for the small scale and 100 watts for the second higher power range. Now use the formula to find the current. Then adjust each calibration potentiometer to set the meter to match the calculated current. I compared my readings to a commercial RF ammeter and found this method to work well. Accuracy depends upon the accuracy of your wattmeter and ohmmeter. Calibration is not absolutely necessary, as you will be tuning for a peak reading. So do not worry if you cannot calibrate it, just tune for maximum current. However, I believe it is of value to know what you have going on with your antenna system, so do calibrate if you can.

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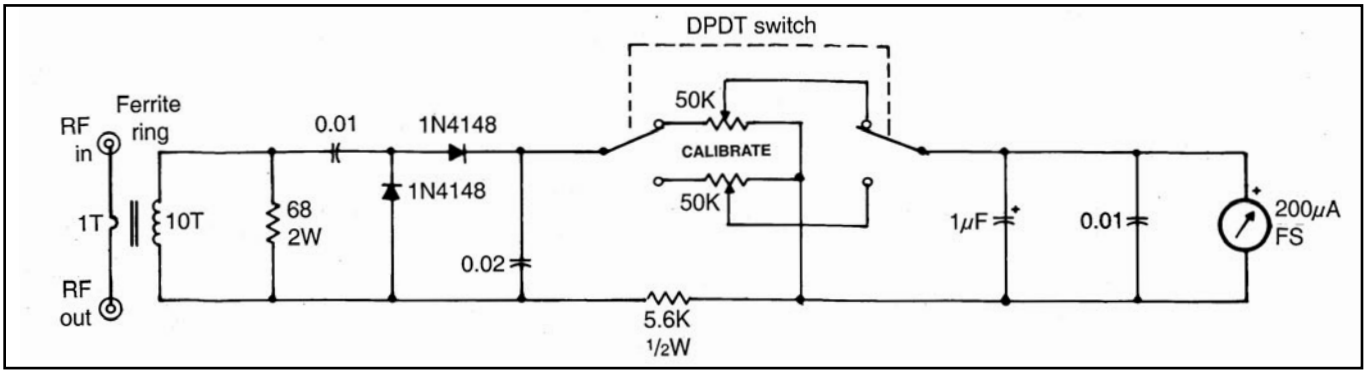
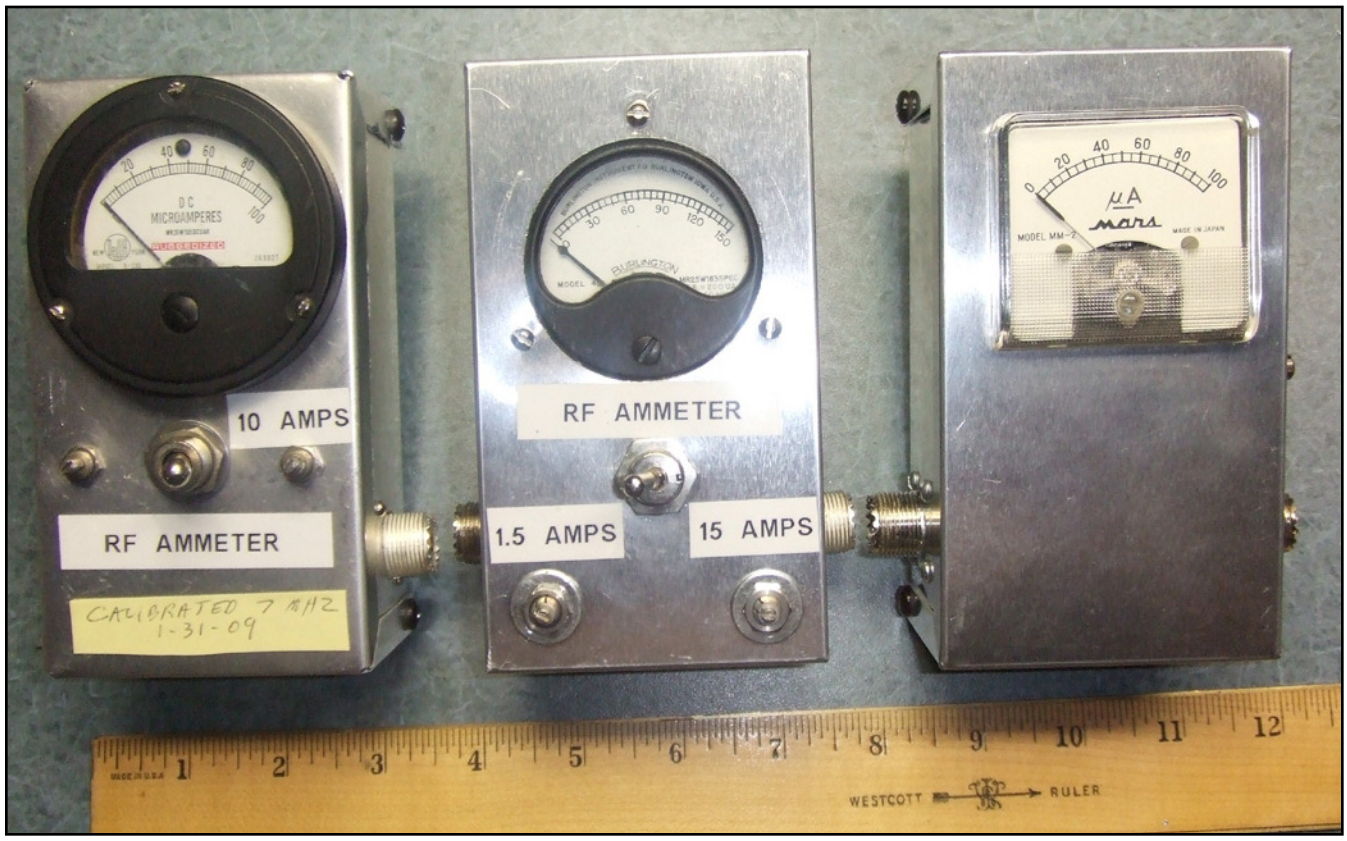


Figure 2.

If you find that you cannot get enough meter movement with any potentiometer setting, then you will need to adjust the circuit. More turns on the secondary will give a higher meter reading. Fewer turns will give you a lower meter reading. You can also experiment with the resistor values; I sure did. The 5.6k ohm resistor could be increased to lower the meter reading or decreased to raise the meter reading. The 56 ohm 2-watt resistor can also be changed. I originally used a 100 ohm 1/2 watt resistor, but quickly burned it up. The 56 ohm is the next value I found in my junk box that was fewer than 100 ohms with a higher power rating. In the second unit I built, I used a 68 ohm resistor, rated at 2 watts. In the third unit, the one that takes 1500 watts, I used a chassis mount 110 ohm 25-watt resistor. Just remember that if you change anything in the circuit after calibrating, then recalibrate.

The first two units I built worked fine up to 100 watts, but seemed to act crazy with over a kilowatt of RF applied to them. I tried several resistor values after burning up a few. I tried various windings on the ferrite core. I tried some internal shielding also. Nothing seemed to get it to properly track with higher power. Then it dawned on me that I might be saturating the ferrite core. I tried a 2.5 inch ferrite toroidal core from a 1500 watt balun in my third design, this one worked fine with 1500 watts going through it. I also used a full-wave bridge rectifier and some extra capacitors on that one. See the schematic for details.

The circuit is not all that critical. The full scale meter reading can be 100 microamperes, 200 microamperes, or whatever you have that is close. You could use half or full wave rectification, and you can change the capacitor values. The resistor values will be determined by the meter sensitivity, the transformer winding, and the amount of RF power you wish to apply through it. So it may take a little tweaking to make it look just right and properly track on your meter scale. With the exceptions of the meter, the ferrite core, and the coax connectors, you should be able to find all the parts at your local RadioShack store or local hamfest flea market. Most of my component choices were based on what I had in stock with a lot of trial and error. Much to my delight, the third time was a charm, and it works fine.



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The Rules Say...

John B. Johnston, W3BE

ACCEPT COMPENSATION?

Q May I–as a FCC-licensed amateur radio operator–accept compensation for consulting services that I provide regarding the use of amateur radio for emergency communications?

A. Certainly, unless you are selling your services via messages transmitted on our amateur service radio spectrum. Give them the BE Informed No. 3 Section 97.113 SMELL TEST. Even then, Section 97.113(c) provides a very narrow possible exception: A control operator may accept compensation as an incident of a teaching position during periods of time when an amateur station is used by that teacher as a part of classroom instruction at an educational institution.

Q. The dictionary says that an "amateur" is a person who engages in a study, sport, or other activity for pleasure rather than for financial benefit or professional reasons. How then can those technicians, engineers, salespersons and others who make their living in radio be considered amateurs?

A. They can be both. People should be capable of pursuing their livelihoods in some aspect of communications while satisfying their curiosity about radio technique solely with a personal aim and without pecuniary interest. They can bring us valuable expertise and be great assets to our amateur service community.

Q. Is it a violation to use my station call sign in my business card or my e-mail address?

A. No, it isn't. There is no rule prohibiting the showing of your station call sign on your business card or anywhere else. Section 97.3(11) says that a call sign system is the method used to select a call sign for amateur station. Other than for use in the station identification procedure required by Section 97.119, the FCC rules do not apply to other uses of the combination of letters and numeral that make up the call sign.

Q. I am the trustee of the club station at a wildlife sanctuary. A newspaper wants to run an article about the sanctuary. Can we mention our club station without being commercial about it?

A. Be as commercial as it can stand in the newspaper. Just don't transmit any commercial messages on our amateur service radio spectrum.

Q. Is a CW ID still required for a 2-meter repeater?

A. Yes, at least to one part of your question. Section 97.119(a) says that each amateur station, except a space or telecommand station, must transmit its assigned call sign on its transmitting channel at the end of each communication, and at least every 10 minutes during a communication. So, any repeater – including your 2-meter repeater – must transmit a station identification announcement. The purpose of the announcement, as explained in the rule, is to make known clearly to those receiving the transmission the source of the transmissions.

As to the part of your question concerning identification by CW, Section 97.119(b)(1) says, in effect, that the station identification announcement may be transmitted by a CW type emission. This comes about because Section 97.305(a) says that an amateur station may transmit CW on any frequency authorized to the control operator. You have, however, another choice. Section 97.119(b)(2) says, in effect, that the call sign may also be transmitted by a phone emission in the English language.

That sound of telegraphy that you hear on a FM repeater, though, is probably not a CW emission type as defined in Section 97.3(c)(1). It is most likely a MCW tone-modulated telegraphy emission type.

Q. But is MCW authorized for ID?

A. Although MCW is not specifically authorized for the station identification announcement in Section 97.119, it is authorized in one instance. Note that the definition of a phone emission type in Section 97.3(c)(5) says that MCW for the purpose of performing the station identification procedure may be considered phone. So, MCW may be transmitted for the identification announcement on those channels where phone is authorized.

Q. Can a repeater rely upon its users to ID it, or is the repeater owner obliged to take stronger measures to ensure compliance?

A. That's an issue for the station licensee to decide. There is nothing in the rules that prohibit the users from making the station ID announcement. Section 97.119(a) says that every amateur station, except space and telecommand stations, must transmit its assigned call sign on its transmitting channel at the end of each communication, and at least every 10 minutes during a communication, for the purpose of clearly making the source of the transmissions from the station known to those receiving the transmissions.

W3BE-O-GRAM: Celebrate that Part 97 is practically devoid of those "how-to" rules that would be inappropriate for our amateur services. They can lead to situations where a well-intentioned "how-to" requirement, based upon some particularly popular interest of an era, finds its way into the rules only to take on a life of its own. Then, after the interest wanes, it can cause unforeseen grief to those pursuing newer interests.

Q. To what altitude does the amateur radio service extend?

A. Section 97.5(a)(1) says within 50 km of the Earth's surface. Above that, the station is in the amateur-satellite service.

Q. Our club has twice filed a FCC Form 605 with FCC Gettysburg together with a Schedule D, a personal check and a letter of permission from the son of a deceased member representing the feelings and intent of the family, which includes his widow, his daughter, his sons and grandchildren. Both times we received a Notice of Dismissal. He was past-president and we would like to have his former call sign in-memoriam. What are we doing wrong?

A. You have been mailing your application to the incorrect address. FCC Gettysburg cannot accept a filing for which there is a fee. Those filings must go to the address for the location where such fees can be processed. Currently, that is:

Federal Communications Commission
P.O. Box 979097
St. Louis, MO 63197-9000

Refer to the current Fee Filing Guide at http://www.fcc.gov/fees/appfees.html for the current procedure. You can make payment by check, credit card, electronic transfer or wire transfer. Do not send cash. Checks must be mailed along with FCC Form 159. You might, however, find it simpler to file via the internet and pay by credit card. Do not include your letter of consent; place it into the club station record file.

Q. Is it permissible for a Technician to use AM (DSB) on 28.3-28.5MHz?

A. No. Double sideband on 10 meters is not authorized to a station having a Technician Class control operator. True, the table in Section 97.301(e) authorizes 28.0-28.5 MHz "For a station having a control operator who has been granted an operator license of Novice Class, Technician Class, or Technician Plus Class," in all three ITU Regions and the table in Section 97.305(c) authorizes Phone and Image emission types on 28.3-28.5 MHz.

There is, however, a note for this latter line item referencing Section 97.307(f)(10). It says, "A station having a control operator holding a Novice Class operator license or a Technician Class operator license and who has received credit for proficiency in telegraphy in accordance with the international requirements may only transmit a CW emission using the international Morse code or phone emissions J3E and R3E. It advises consulting Section 2.201 for an explanation of these terms.

A minimum of three symbols are used to describe therein the basic characteristics of radio waves. The first symbol represents the type of modulation. "J" represents single-sideband, suppressed carrier and "R" represents single-sideband, reduced or variable level carrier. Your Technician Class control operator, therefore, is not authorized amplitude modulation (AM) types double side-band (symbol A), single side-band, full carrier (symbol H) or vestigial sideband (symbol C) privileges on 28.3-28.5 MHz.

Q. I hear unidentified HF stations tuning up on-air for long periods of time. Is that allowed?

A. No, it isn't. Section 97.111(b)(1) authorizes brief one-way transmissions necessary to make adjustments to the station. This hardly justifies tying up a channel annoyingly for a lengthy period.

W3BE-O-GRAM: The procedure used here keeps the transmitter contented with only a few seconds on air tune-up. It is first adjusted off-the-air into a non-radiating dummy antenna. Then the antenna tuner is adjusted separately using an antenna analyzer. After re-connecting the transmitter with the tuner, a short transmission is made for tweaking followed by the station ID announcement.

Q. Where can I find the special event call sign database?

A. Click on: http://www.1x1callsigns.org/index.php?option=com_jumi&fileid=3&Itemid=9 . For each special event call sign, it lists the station's assigned call sign and the period of time the call sign has been, or will be, used.

APPRECIATION

Our R&R Superham-of-the-Month...

is Chuck Walbridge, K1IGD, General Manager of the Quarter Century Wireless Association. Thanks much, Chuck and XYL Janet, for doing a great job.

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.

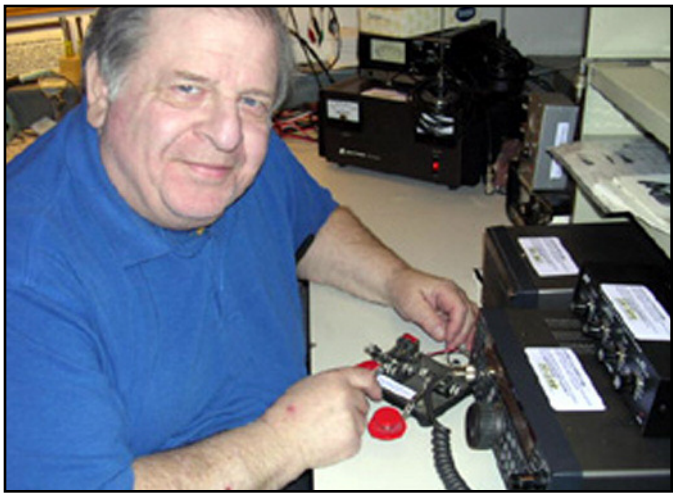
Report violations to: fccham@fcc.gov.

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

We Want Our Morse Code!

By Avery Finn, K0HLA
Handiham Education Coordinator
avery.finn@couragecenter.org

Avery, K0HLA, "All right – which one of these things sends code?"



Avery, K0HLA, "Now THIS is more like it!"

In my capacity as Education Coordinator at Handihams, I take a lot of phone calls about every aspect of amateur radio and how it relates to people with disabilities. Last week I had two from people going for their General Class licenses.

There is nothing unusual in that, except they mentioned that after they get their upgrades they plan to learn the International Morse code.

Why?

Because they think it might come in handy to know at some time in the future. They also feel that it would be a fun mode of operation. I notice more and more people are enjoying the process of learning the code and using it on the air now that the requirement has been removed.

The phone bands can be very crowded at times, and it can be hard to find a clear spot. On CW there always seems to be a place on the band clear enough for a couple of stations to enjoy a nice QSO and not have interference from other stations.

In case you didn't guess, operation on CW is a little bit more private and fewer people will be listening in. Unless you are working a rare DX station there won't be much interference, as experienced operators can copy in their heads four or five levels down just by noticing the difference in pitch of the station. Newer rigs have excellent filters so you only hear the one station you want to copy.

With CW, you can get by with a lot less power than you would need for a phone contact. Many times you will find stations on CW that hardly ever get on the phone bands, so that is the only way to work them.

What about CW nets you say? Well, there are several around and many still are in operation for traffic handling. The CW nets have their own system of "Q" signals you should get used to before you check into a net, or at least have a copy handy you can refer to. It could be embarrassing if the net control used one and you didn't know how to respond. I would like to recommend the Handiham Slow-Speed CW Net Friday mornings on 7.112 MHz. Net Control is on the East coast so some of us west of the Mighty Mississippi may have a problem hearing them sometimes. The International Morse Code group known as FISTS has a whole page of CW nets listed on its web page, http://www.fists.org.

Okay, so what if you have not tried CW because you are afraid of your slower speed? Do not worry about it, as there is an unwritten agreement that the other operator should go at whatever speed you do. If you use a "bug" or an electronic keyer, it is very easy to speed up without realizing it and it can be a little embarrassing to have to ask the other person to QRS (please slow down.) In case you are wondering, QRQ is "please speed up", which, with a bit of practice enjoying CW contacts, you may get to use one day!

You can reach Handihams at:

Courage Handiham System
3915 Golden Valley Road
Golden Valley, MN 55422
1-866-426-3442 toll-free
http://www.handiham.org

The Baby Black Widow: 'Houston, we *don't* have a problem.'

By Richard Fisher, KI6SN

Field operators and people into low-power communications follow a similar philosophical path: "Less is more."

For the backpacking radio amateur though, the adage has less to do with power output and more to do with " stuff."

Putting an efficient station on the air in the middle of nowhere and miles from home is like doing a puzzle. Things are great if you have all of the pieces. If any of your " stuff" is missing, though, you are in for trouble.

So, when we heard about Jerry Haigwood, W5JH's, new Baby Black Widow cable-less keyer paddle kit designed specifically for the Elecraft KX1 and Hendricks PFR3 transceivers, we took notice. You will see that it can be fashioned to work with any transceiver.

'JH has a long, distinguished record of designing, producing and kitting top-quality, precision keyer paddles. The Baby Black Widow polishes that portfolio even more.

A quick study of this top-drawer CW instrument shows its " docking" feature eliminates the need for a keyer cable between the paddle and the radio. That is one less piece of " stuff" to have to think about when hitting the trail.

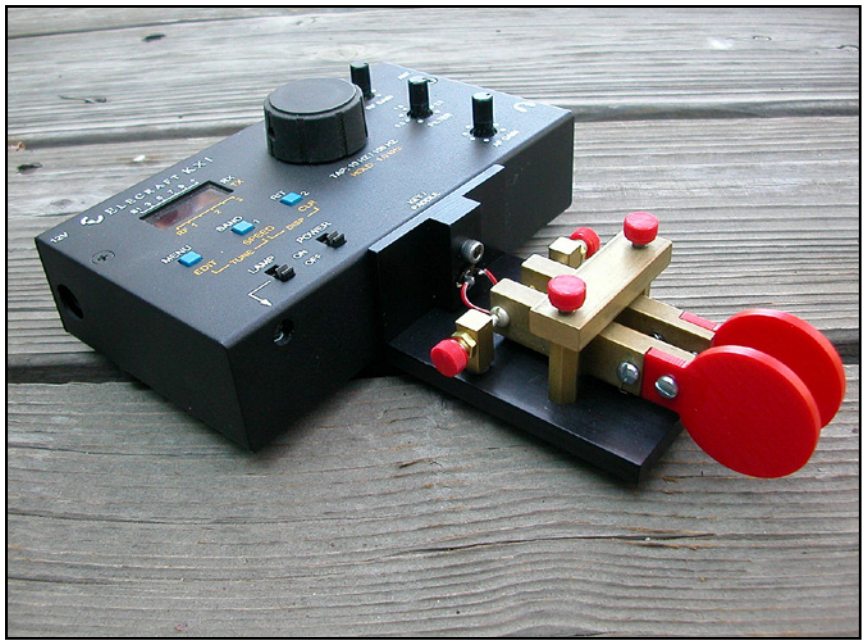
In NASA and cinematic terms, it's like Kevin Bacon docking the Lunar Excursion Module (LEM) with the Command Module in *Apollo 13*. The Baby Black Widow " captures" the field transceiver command module and is locked into place with a setscrew.

In this case, though, "Houston, we *don't* have a problem."

A plug permanently affixed to the Baby Black Widow's front housing is the genius of the 'JH design – one flavor for the KX1 and another for the PFR3.

Certainly not as complicated as the LEM-Command Module scenario, the Baby Black Widow is no less a piece of art once you've seen it linked-up and in action.

And if you like the look of the paddle but don't own a KX1 or PFR3, don't despair. Even a homebrewing newcomer can fashion a cable that will allow the Baby Black Widow to be used with virtually any transceiver or keyer. You can see an example of a work-around on the KI6SN Trail-Friendly Radio Extra Web site: http://www.TrailFriendlyRadio.blogspot.com



Docked to the Elecraft KX1 transceiver, the W5JH Baby Black Widow iambic keyer paddle is a perfect fit for operation in the field.

Heck, you can even fashion your own docking port for the Baby Black Widow on a favorite field transceiver.

Don't be fooled into thinking the Baby Black Widow is a novelty gadget. It will give any keyer paddle on the market today a run for its money.

" First, it is a small size but not too small," wrote 'JH in his product announcement in May. " The base measures 2 inches-by-3 inches.

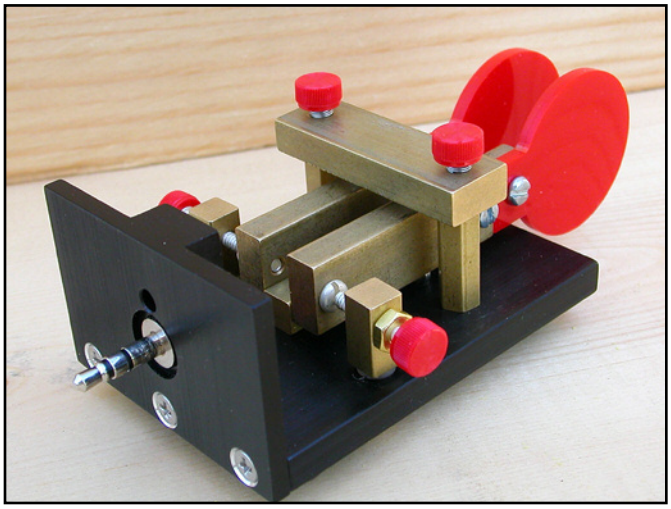
" The base is black anodized aluminum. The front bracket (which must be ordered specifically for either the KX1 or the PFR3) is also anodized aluminum. This keeps the weight down to 7.5 ounces for the entire paddle."

That is great news for the station-weight-conscious backpacker. Not only is the Baby Black Widow light and portable, it has the ruggedness, craftsmanship and keying adjustment options of the most popular home station keyer paddles.

" The paddle arms, contact posts, tension bar and posts are made of brass. All parts are machined on CNC milling machines," 'JH wrote. " The heavier brass arms help prevent contact bounce. Most keyers are very forgiving of contact bounce but some of the high speed keyers are not forgiving at all.

" The arms ride on ball bearings – just like the standard Black Widow paddle – for a very smooth feel. In fact, (the Baby Black Widow) shares many of the design concepts of the Black Widow. Because of the similarities, the new paddle has been named the Baby Black Widow. The contacts are the same silver-plated screws used by the Black Widow. Like its big brother, this paddle comes as a kit.

" However, since the base and bracket are anodized, there is less finishing to be



The Baby Black Widow paddle is a top-quality CW keying instrument that is easy to build and a pleasure to operate.

done," 'JH said. " I have tried to hold costs down so that almost everyone can own one of these paddles."

When the KX1 version of the Baby Black Widow kit arrived at KI6SN, we jumped at the opportunity to start building. Opening the envelope, we found all of the parts nicely packaged and ready for inventory.

Building instructions and lots of pictures are on a CD that accompanies the keyer paddle's components.

'JH recommends reading the CD manual from start-to-finish before starting construction. His piece-by-piece build-it narrative, along with 38 photographs make successful completion darned-near foolproof.

Builders might find the most challenging part of construction the insertion of a small tension spring between the paddle arms. It must be carefully positioned in recesses milled into the brass. Once in place, it's not going anywhere. The trick is maneuvering it into the locked position without the spring flying off into who-knows-where in the process.

Having built many keyer paddles at KI6SN – and learned the hard way about runaway parts – we preemptively tied a six or eight-inch piece of sewing thread to the spring before attempting to install it. That way, if it shot off in the wrong direction, we'd have a tether to bring it back for another try. Once the spring is safely in place, cut and remove the thread. No fuss, no muss.

If you'd like to try using this keyer spring tether feature, there's a photograph and instructions at Trail-Friendly Radio Extra on the Web.

Once completed, we haywired the KX1 Baby Black Widow to a NorCal 40-A transceiver to see how it played. Wow. This is one great-feeling paddle that is perfect for trail operations.

In addition to the built-in docking plug, there are adjustments for paddle-contact spacing and paddle arm tension. With the brass " dit" and " dah" arms resting on ball bearings – both top and bottom – you'll find extremely smooth operation.

Hand-adjustable screws on top of the Baby Black Widow's main crossbar holding the paddle arms each have small tension springs to allow either a light or a heavy touch. It's the operator's option.

Paddle-contact spacing is also hand adjustable.

On the bottom side of the Black Widow are solder lugs for " dit," " dah" and ground connections. They can be used as an option if you want to forego that docking plug altogether and solder a standard three-wire key line to a garden-variety keyer plug.

Rubber feet on the base of the paddle help keep the Black Widow from wandering around the operating table if it is not docked to a KX1, PFR3 or other transceiver.

The brass-black-red-silver color scheme makes the Baby Black Widow as attractive as it is practical. Of course, builders who want to finish the paddle to a high sheen can polish to their heart's content.

We were very curious to know how this paddle would work when docked to its intended transceiver – the KX1. A call to good friend Cam Hartford, N6GA, resulted in an invitation to bring the Baby Black Widow to his shack for a shakedown with his Elecraft radio.

The paddle nestled perfectly with his transceiver – the keyer plug into the KX1 jack and the setscrew into the side of the radio for secure lockdown. Alignment was perfect, like the two were made for each other. That's an observation that we suspect W5JH will heartily agree with.

The KX1 and PFR3 Baby Black Widow keyer paddles are available from W5JH, priced $46.50 each when ordered online and shipped in the USA with payment via PayPal. If ordered via the U.S. mail, the paddles are $39.95 plus $4 shipping to U.S. addresses. Write: Jerry Haigwood, W5JH, 11402 N. 98th Dr., Sun City, AZ 85351.

For complete information or updates on pricing and ordering – including costs for orders from Canada, Mexico and DX – visit: http://www.w5jh.net/Paddles.htm

The W5JH Web page also has close-up photographs of both the KX1 and PFR3 versions of the Baby Black Widow.

When it comes to top-quality keying instruments, this is one little spider you'll not want to pass up.

Summertime, and the Promoting is Easy

Devere "Dee" Logan, W1HEO

We're into the good ole summertime; the season when enjoying outdoor fun in the sun is the thing to do. While promoting our amateur radio hobby isn't seasonal, summer does present many special opportunities where it can shine.

Among the more popular events where ham radio can be on display are fairs, festivals, youth camps, scout camps, parades, walkathons, bike-a-thons, picnics and much more.

Field Day, of course, offers wonderful opportunities to showcase hams in action, emphasizing a most important public benefit: emergency communication. We trust that your radio club took advantage of this annual activity by inviting local officials, police and fire department personnel to visit your site.

Community events and activities provide lots of promotional potential. Where does ham radio fit in? Let us count the ways!

First and foremost are displays and demonstrations. A booth at a fair, for example, could include an operating station, displays and literature introducing ham radio and your radio club, plus friendly hams to answer questions from the public. Even a mobile station could be parked in a well-trafficked area, with signs, banners, and a display alongside. While some event sponsors require a fee for display space, others may offer them free to non-profits such as radio clubs after hearing about the emergency communication they can provide as a public service. Part of your approach could be to offer some communication assistance for the event itself.

Helping Local Events

Walkathons and parades are ideal for demonstrating how radio hams can be a great help, while making us very visible to the public.

One such event is held annually in Lake County, Ohio. Mike Goffos, WB8ZGH, the ARES Coordinator, reports that the area's Multiple Sclerosis Walk involves amateur radio operators in this yearly fundraising event that attracts 600-700 participants.

"Our role is to position operators at various checkpoints on the course where we can transmit radio updates, report medical emergencies, and take care of logistics such as the status of water stops and supplies," he says. " We also shadow the director of the walk and Wpass along status checks from the field."

Radio operators usually wear amateur radio identification, including printed shirts, jackets, or ID patches and logos that help distinguish hams among event staffers.

It's also a good idea to provide the organizers of events with an advance written background summary on amateur radio, the sponsoring radio club, and its role in the event so that publicity by the sponsors can include a mention of ham participation.

Radio Campouts

Summertime is also camping time for Boy Scouts, Girl Scouts, YMCA and YWCA groups. They provide great opportunities to get out of our shacks and take portable radios into the great out-of-doors. HTs, QRP rigs and various other pieces of lightweight, portable, battery-operated gear are ideal for demonstrations in remote areas far removed from convenient electricity sources.

Scouts certainly represent a logical target audience for hams. The Boy Scout Radio Merit Badge is one way to introduce young people to our hobby, and possibly entice them to consider getting a license. Gary Wilson, K2GW, has a terrific Website with information on the Radio Merit Badge and how radio ama-

teurs can get involved in the program. Check it out at http://k2gw.tripod.com/radiomeritbadge .

Even shopping malls and their parking lots can serve as perfect spots to locate a ham radio demonstration. While some mall operators charge organizations for inside space, an outdoor locale near a mall entrance might be arranged at no charge. Shopping centers generate a lot of foot traffic, which can present hams with a sizeable potential audience.

The Orange County (NC) Radio Amateurs set up a demonstration station in the parking lot of a local bank.

Raymond "Woody" Woodward, K3VSA, says that the security officer of the bank is a ham, which helped. "Another organization was scheduled to hold a bake sale there, but didn't show up, so we had it all to ourselves. Next time we'll bring our own baked goods to sell, which will help the club's treasury!"

Recognition of Your Efforts

Before summer fades into fall, clubs should have developed their promotion plans and turned them into actions, no matter how modest. Yes, turning good intentions into results is sometimes difficult, so we're providing an incentive for your club to get moving. Radio clubs that conduct promotional activities during the year 2009 are invited to apply for a Golden Megaphone Award. This new awards program is designed to encourage radio clubs and organizations such as hamfest committees to actively promote amateur radio in their area. Individuals are not eligible. Winners will be announced nationally in *WorldRadio Online* and other publications.

Here's how it works. As your group conducts various promotional activities, document them with photos, letters, press write-ups etc. At the end of the year, submit your application and materials with an official entry blank to the judging committee. The address will be on the entry form. Awards will be given for the best overall promotion program, best individual promotional event, best targeted promotion, and best club-developed promotional materials.

Deadline for entries will be January 31, 2010. Entry forms are available from *WorldRadio Online* and the Ham Radio Promotion Project and should accompany materials documenting activities. Judging will be done by an independent panel of communications professionals. Winners will be announced in *World - Radio Online* during the first quarter of 2010.

"Before summer fades into fall, clubs should have developed their promotion plans and turned them into actions, no matter how modest...Radio clubs that conduct promotional activities during the year 2009 are invited to apply for a Golden Megaphone Award."

We hope that your group will become "radio active" and step up your 2009 promotion efforts. An important benefit could be more new members for your club. The most important payoff is helping to build our amateur radio service and ensuring its future.

Promotional Recycling

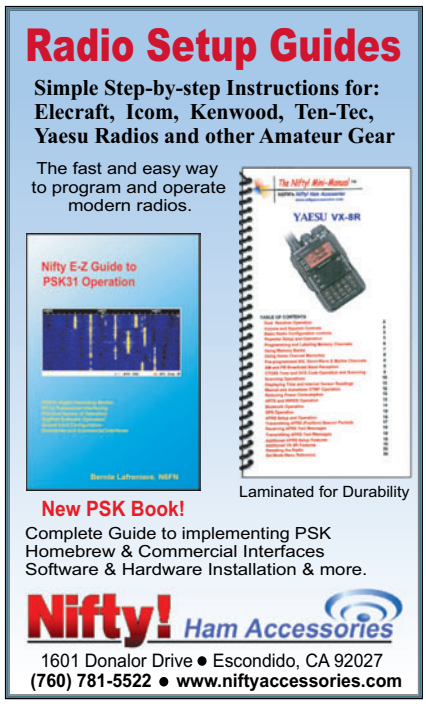
What do you do with your old radio magazines? Sure you can "go green" and recycle them, but how about using them as publicity tools *before* recycling? It occurred to me as I sat in a doctor or dentist's waiting room that leaving copies of ham magazines would be a cool idea. Certainly better than those year-old magazines! We should get permission, of course.

You could cover up the printed address labels with a radio club contact number or website. Maybe even insert a short description of ham radio and your radio club's meeting information inside the magazine.

There must be lots of possible uses for our magazines, so let us know your ideas. We've used them as handouts during ham radio presentations and you can probably come up with a few more uses.

Until next time, please send us updates on your activities and check out the Ham Radio Promotion Project Website, www.neoham.org. My e-mail is delogan@ameritech.net, and photos are welcome via regular mail to 9901 Cypress Circle, Mentor, OH 44060.

Devere "Dee" Logan, W1HEO, is a professional public relations counselor and writer who has been an active radio amateur for 45 years.



FISTS CW CLUB

Celebrate Our Brasspounding Legacy—Go Portable

By Randall Noon, KCØCCR

Like ice cream cones, girls sunning themselves at the beach and baseball games on the radio, CW portable is a fine summer treat. For those who keep emergency "go bags", this is a chance to make sure everything works. Nothing beats actually using the equipment a few times in the field to figure out what works, what should be brought next time, and what is just excess baggage.

There are all kinds of ways a person can operate portable. The simplest is to go hilltopping with an HT. Some carry gear in their RV and set up a station wherever they park their RV. There are many RV nets on the HF bands and several web pages devoted to their activities, such as http://www.rvradionet.net/nets.htm.

There are also hams who like to operate HF while backpacking. One of those organizations can be located at http://hfpack.com/. Many of the backpacking crowd operates both QRP and CW. There is a nice QRP backpacking story by AE5X that I recommend about hiking the Appalachian Trail at http://www.eham.net/articles/7010.

There are even people who enjoy operating in the great outdoors while riding a bicycle. They have several web sites, including this one: http://75.60.24.163/BMHA/Info/Info-BicycleMobile.htm. For those purists who quibble that backpackers who walk and operate, or bicyclists who operate while moving are not strictly portable operators but mobile operators since they are moving, albeit slowly, I can only say that when I am operating portable, I can't hear your quibbling.

The very first brasspounders who operated portable did not have it so good. In fact, if they were caught operating portable, they were usually shot. I am speaking about the clandestine brasspounders during the Civil War who belonged to the United States Military Telegraph Service, the forerunner of the U.S. Army Signal Corps. These intrepid Morse code enthusiasts were spies - 007 types of guys. They would climb telegraph poles, tap into lines to intercept messages from the Confederate military, and then relay those messages to Union commanders.

In some cases they were more than just passive listeners, they actually pretended to be the other end of the wire. In other words, a Union telegraph operator would tap into a Confederate line and send messages to a Confederate operator as if he were a Confederate general giving orders. Pretty brazen operating! And these guys often were not even paid or considered full time solders. They were considered volunteers by most military commanders.

Consider the story about two operators named F. Van Valkenbergh and Patrick Mullarkey in 1863. They tapped the wires along the Chattanooga Railroad near Knoxville, Tennessee and intercepted Confederate message for a week. When they intercepted a message that ordered the local soldiers to search the area for spies that were reportedly working in the area, they decided it was time to pack it in and high-tail it out of there. They barely escaped in time. After dodging Confederate patrols, fighting with guerillas along the way, and fleeing Confederate spies, they reached the safety of Union lines with bleeding bare feet and hardly any recognizable clothes left on their bodies. Now that is operating portable!

The Union, of course, did not have a lock on this brasspounding spy stuff. There is a story about a wire-tapper from General Lee's army who tapped the line between the Union War Department and General Burnside's headquarters for several days. Union operators eventually

detected the presence of the operator and with a certain 'camaraderie of the key', advised him to leave before he was found and shot. He did.

One hundred and forty six years later, here is how I go portable. I pack a lunch, some cold drinks, a stenographer pad to serve as a log, and drive to a pretty park with a lake with ducks and geese. The lake improves signal transmission and reception if a person sets up close to the edge. The ducks and geese, of course, add ambience.

My set up includes a Yaesu FT-817 transceiver; a Maldol HMC-6S mobile antenna mounted on a magnetic base on the car top, a Hi-Mound HK-705 straight key, headphones, and a gel-cell lawn tractor battery. The Yaesu FT-817 is a QRP rig that fits nicely with all its accoutrements in a small knapsack or fanny pack. It will do all modes and bands except for 1.25 meters and bands higher than 70 cm. It is also a good general purpose receiver, picking up just about anything from a low of 100 kHz up to 450 MHz, not quite DC to daylight, but close.

The FT-817 is just a little larger than a TI-92 calculator and can operate on its internal battery or from an external battery. To ensure that the voltage is sufficient for 5 watts of output, I use a gel-cell battery as an external source. The FT-817 can operate all weekend and not run the gel-cell down.

One interesting feature of the FT-817 is that the buttons on the microphone serve two purposes. You can use them to scan up and down the bands or use them as a CW keyer - one button for dits, the other for dahs. However, this is not the easiest way to send CW, so I plug in a straight key that doesn't need to be bolted down when used. Hence, the Hi-Mound HK-705 is a good choice. It has a rubber pad underneath so it doesn't slide across a table or need to be held down while operating. It is small and will not take up much space in the knapsack.

The Maldol HMC-6S is an easy to use 6-band mobile antenna. Once the 20, 15 and 10 meter bands are tuned in, no tuner is required. When the FT-817 is directly connected to the HMC-6S, a person can switch between all six bands and maintain an excellent standing wave ratio. The car itself is the counterpoise and does a fine job. The antenna folds down flat and can even be left on the car when driving.

With this set-up, I can work CW stations on any of the six bands, listen to the ball game, work the local repeater, have a cold drink and a sandwich, enjoy the park and the good weather all at the same time with one rig and one antenna. The set up and take down time is less than a few minutes.

Of course, my version of going portable is not the only one, and I have used several versions in the past. The MFJ QRP monoband CW transmitters, like the MFJ 9015, can be bought with their own D-cell battery power supply, and are quite amenable to use with a magnetic base and ham stick. This is also a very simple and inexpensive set-up. The only thing missing is a key.

The 3-watt Cub monobander, which costs even less, comes in a kit or can be bought already assembled. It is also amenable to a properly tuned ham stick mounted in a magnetic base on a parked car, the car being the counterpoise. Sometimes I use a Buddipole dipole antenna with an FT-897 transceiver. The FT-897 comes with its own battery supply, so it doesn't need the gel-cell. The variations, of course, are many. The point is to get out there, operate portable, and have a good time.

As you open a cold one in the shade, search the band for another CW contact, and enjoy being in the open air in a gorgeous park, remember that if you were doing this 146 years ago, you would be as daring as Bond, James Bond. So be daring, have some *savoir faire*—go portable.

Thinking about the 'Big One' and Preparing for it – For Real

Bill Sexton N1IN/AAA9PC

With war clouds swiftly gathering over Asia in the summer of 1941, you'd have thought a weekend full-scale air defense exercise would make sense at the Pacific Fleet's main base in Hawaii, wouldn't you?

Or, given Al Qaeda's menacing record, how about a joint disaster drill of New York City's fire, police, medical and EMA services in the summer of 2001? Surely a smart move considering the city's lack of coordination even after the first World Trade Center bombing in 1993, right?

Ah, the clear vision of hindsight!

It is indulged here only long enough to set the stage for a far more timely question: What sort of man-made catastrophe might now be lurking down the road, the way it lurked just over the horizon in the days before Pearl Harbor and 9/11 when the nation's attention was also directed elsewhere?

Please note that if the successive WTC bombings of 2/26/93 and 9/11/01 establish a trend line, then that Big One could be really big. And if anyone thinks the eight-year interval between 1993 and 2001 has particular significance, look where we are right now in relation to 2001.

What if, next time, it turns out to be an event that directly impacts all 50 states? Something, say, on the order of simultaneous fire-bombing of Atlantic and Pacific LPG tanker ports, as envisaged by homeland security consultant Stephen E. Flynn in his 2007 book? Or an influenza pandemic like the one that really and truly disabled this country in 1918? Or infiltrators simultaneously shooting up major American cities, the way ten infiltrators paralyzed Mumbai, India last year—the largest city in the third most-heavily defended country in the world, a land that was surely on full alert after hundreds of previous terrorist incidents?

Right in line with the dismal precedents bequeathed by 12/7 and 9/11, the United States has never tested its capacity for a whole-country disaster response. Not even seriously talked about it outside of a small corner of the homeland security consultocracy.

It's true that in 2008 then-President Bush issued Homeland Security Presidential Directive-8 "to establish policies to strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies by requiring a **national domestic all-hazards preparedness goal**."

So far, however, that word "national" has seemed only to mean "in" the nation. HSPD-8 did produce a series of highly-publicized annual local exercises named "TOPOFF" (for "top officials)." TOPOFF-4 of October 2007 took in Phoenix, AZ; Portland, OR; Washington, D.C. and Guam (that's right, the Pacific territory) but hardly simulated "national"

The Chief to Members

"Your readiness in an emergency—any kind of emergency—is the whole point of this operation. I ask each member of Army MARS to set aside extra time . . . This is a daunting task, but it must be done."

—Stuart S. Carter, Chief Army MARS, in Feb. 23 bulletin message

Demonstrating the MARS focus on interoperability, Air Force MARS member Frederick Erickson Jr. KA1GCN (FA1VY), right, logged for Army MARS operator John Record W1VQ (AAR1HZ) during a three-day Southern New England Army MARS deployment exercise over Memorial Day weekend at Ft Devens MA. (Photo: Matthew Hackman)

impact. (TOPOFF-5, scheduled for early last year, vanished in a cloud of suspected contractor misdealing).

This subject of national cataclysm—or rather, the lack of talk about it—popped into mind this spring during a period of heavy strategic thinking within Army MARS. The concern at the time was our role in an unpredictable future. With a little background you'll see the connection.

On very short notice in late winter, the 3,000-some members of Army MARS were given a task that involved all 50 states simultaneously. It asked 100 percent participation, required careful attention to reams of complex instructions, used all the modes of communication in the MARS toolkit, and mandated "perfect attendance" not for a night, not for a weekend but over a three-month period. Such demands on the membership were without precedent.

Funny thing: It only occurred to leaders midway through the activity how much its scope, though certainly not its intensity, bore some degree of resemblance to the stresses a real-life, long-term, whole-country emergency might impose on responders. It certainly was no conventional Communications Exercise with stations sending each other imaginary situation reports and resource requests for a day or two at most.

Actually, the aforementioned "activity" was only a training course. But a very unorthodox one.

"MARS 101," the mischievously named high-intensity educational project, was conceived to achieve swift realignment of Army MARS doctrine and performance to fit the just-revised National Incident Management System (NIMS). That had come along just as the Pentagon was refining its own new approach for Defense Support to Civilian Authority (DSCA—remember the initials). Along with defining fresh priorities, the "Army MARS Road Ahead," as Chief Stu Carter labeled a new long-range plan, mandated heightened requirements for membership including General Class FCC license (up from Technician, and did that became an issue!).

DHS took two and one-half years to revise NIMS following Katrina's grim chastening. The new version came down in December, at the end of the 2008 hurricane season. Chief Carter was determined to have his total membership updated and a whole raft of procedural and priority changes implemented *before* the next hurricane season. That would begin June 1. Not even six months to prepare!

That allowed about three months to pull together the numerous threads of doctrine, to debate and polish the changes and write the comprehensive 12-week long 101 course, and then only three months to carry out system-wide makeover through a combination of correspondence course (e-mail) and on-air discussion (the "classroom") in hundreds of state and region nets. Carter pulled out all the stops emphasizing the importance of meeting the new demands imposed on

Looking to the EMCOM Future

"This document is published with the frank intention of initiating profound change in the way members of Army MARS approach their mission and their tasks.

"The Army MARS mission is constant but dynamic. It says to emergency response agencies at every level: We're here to help. What do you need?

The tasks, modes and methods we employ or provide will vary. During the Korean and Vietnam conflicts, we provided MARSgrams and phone patches. During the Northridge Earthquake of 1984 and after, we provided situational information reports. In the aftermath of 9/11 and Hurricane Katrina, we provide E-mail-over HF Radio (Winlink) augmenting with a full spectrum of older HF modes...

"The great strength of Army MARS has been the ability of its members to identify new opportunities for service and then quickly apply their skills and energy to the new need.

"MARS has traditionally drawn that strength from the flexibility of its organizational structure and the technical skills of its membership. In the violent, volatile post-9/11 world of today and tomorrow, a third factor assumes importance. It is the *imagination* of Army MARS leaders and members to prepare a response to disaster scenarios never faced before that strengthens the value of Army MARS to the American EMCOM community."

Army MARS 'Road Ahead (Long-Range Plan), Feb. 19, 2009

the system. Point is: Pressure. Tension.

How did the system respond? This is being written during the 12th week of instruction and a couple of weeks before the on-line final exam of 50 multiple-choice questions. Lots of data still to come before drawing final conclusions! Still, if doctors can accept a quick pulse-taking as indicative of future health, the MARS 101 experience might offer a few clues about a whole-nation emergency.

It's a stretch, but at least it's an empirical stretch, not a theoretical one. [Fair disclosure: This writer was a member of the team that drafted the documents used in MARS 101. The opinions about to be expressed are his alone, and may not be borne out by the final results.]

With that caveat, here goes:

LEADERSHIP: A few instances of confused execution resulted from the sudden arrival of admittedly complex instructions from HQ. Would that be a problem in wide-scale disaster response? Should leader training be tightened? Chain-of-command discipline reinforced? Should the format and phasing of real-time directives be taken into account in response planning?

PARTICIPATION: Reaction fell into two broad categories. The larger segment of members recognized the seriousness of the task and plunged right in. Comments heard on numerous nets indicated some even found it exhilarating after a long period of operational boredom. The less-than-enthusiastic minority seemed to include a wait-and-see subgroup and a this-isn't-for-me-anymore subgroup. How to mitigate it? Is it worth the trouble? Would the wider public similarly react in a real emergency?

COMMUNICATION: Planners, at least in this instance, considerably overestimated the capacity of leaders and members to digest a sudden influx of information. The substance of the information wasn't particularly complex nor was it unfamiliar. It seemed as if the mere sight of four single-spaced pages of text had the effect of attenuating comprehension. Challenged attention span? For the general public in the age of video that's understandable. For emergency communicators, perhaps attention span needs to be worked on. Even in the stress and chaos of disaster operations, the *presentation* as well as the *content* of vital instructions needs careful attention. But communicators have to deal with whatever they get as soon as they get it.

From the MARS viewpoint there's another side to this coin. Unintentional or not, the information overload was great training because overload is endemic to crisis management. And it certainly added to the genuine tension that indelibly marked MARS 101 as the game-changer it was intended to be.

As to readiness for the "Big One," maybe 100 coordinated "101s," staged simultaneously in all 50 states under conditions of real, not scripted, tension, would be a useful first step.

Late News

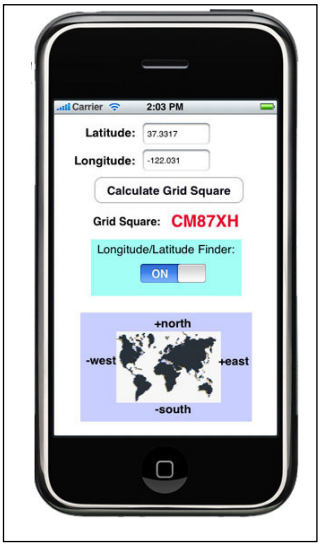
President Obama rescinded HSPD-8 within a month of assuming office, and put homeland security under the wing of his National Security Council.

He called on the reshaped NSC to integrate "all aspects of national security policy as it affects the United States—domestic, foreign, military, intelligence and economic…" It remains to be measured just how far this White House body, starting from scratch, will be capable of looking beyond the horizon.

NEW PRODUCTS

By Anthony A. Luscre, K8ZT

iGridSquare & HamBands



Carl Yaffey, K8NU, has developed two applications for the iPhone/iTouch: iGridSquare, and HamBands. Both are available through the iTunes store for 99 cents each.

iGridSquare will calculate the grid square you are in using the longitude and latitude provided by the iPhone's built-in GPS. Great for roamers! On an iTouch, you can manually enter the longitude and latitude since its WI-FI capability will not always provide them automatically.

HamBands displays the layout of each Amateur Radio band from 160 meters up to the microwave allocations.

For more information: http://www.carl-yaffey.com/igridsquare.html and http://www.carl-yaffey.com/hambands.html

ICOM's IC-80AD

ICOM's IC-80AD is the "matching HT" to the ID-800H mobile, and the two rigs share many functions and settings. To manage many of these features, ICOM's free-download CS-80/880 cloning software is available from the company's website. Used with this software, various settings can be made from a PC, and the memory channels and other settings can be shared between the two radio models. Approximate price is $450, and the optional HM-189GPS GPS speaker is $200.For more information visit <www.icomamerica.com/en/amateur/default.aspx>.

Yaesu FT-2900R75-Watt 2-Meter Mobile

If you are looking for a low-price and high-power 2-meter mobile, the new FT-2900R provides 75 watts at under $170. Yaesu is calling it "The King of Mobile." The massive heatsink handling 75 watts with no cooling fan, 3 watts of audio output for noisy environments ,and large easy-to-read display help explain this name. The FT-1900 is sort of the little brother of the FT-2900, but still provides 55 watts (with fan cooling) and an under $150 price tag. The FT-7900R is a back-to-basics, heavy-duty 2m/70cm FM mobile with 50 watts VHF and 45 watts UHF. The Smart Search feature automatically sweeps a band and loads active frequencies into dedicated memory banks, making it easy to find repeaters when visiting a new location. Price is $275. For more information visit <www.yaesu.com>.

ARISS: A Major Motivator

Terry Douds, N8KI

Hello once again everyone. Summer is in full gear here in the northern hemisphere; a great time for families and friends to enjoy the outdoors and do fun things – like erect satellite antennas! If you've been considering building a satellite station, this is the perfect time to get the aluminum in the air, tweak the rotors, and prepare for an exciting time operating on the satellites. There's a great deal to cover this month, so let's get to it.

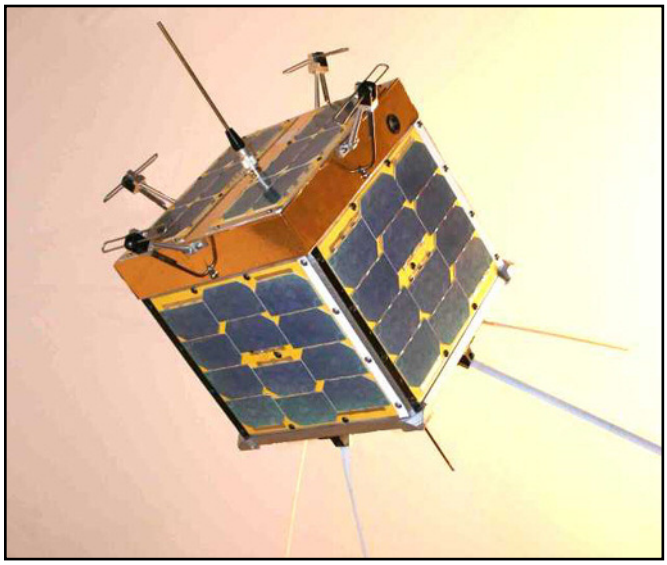
I hit ARISS operation pretty hard in my last column, and I'll be doing it again this time. It is truly an amazing collaboration that amateur radio operators can work with NASA and the ISS (International Space Station) to bring the excitement of satellite operation to literally thousands of kids around the world. Many of these children move into science and technology careers, and can cite their ARISS experience as one of their major motivators into pursuing that employment path.

I was contacted via e-mail by Greg, VE9GFI, concerning the ARISS contact made last December 8, 2008 with Quispamsis Middle School in Quispamsis, New Brunswick. The event was videotaped, and can be seen at http://exclusive.bellaliant.net/spacestation/. The 37 minute video is excellent, and really shows once again the excitement and wonderment that accompanies these contacts! You can scan through the presentation if you only want the 10 minutes of the contact itself, but this particular video shows the entire presentation done by the school and members of the Loyalist City Amateur Radio Club of Saint John, NB, who were instrumental in making the event happen. Once again, in the short time between my columns, contacts were made between the ISS and students in the US, Canada, UK, Australia, Japan, France, Belgium and Puerto Rico – yes, when they say *INTERNATIONAL* in ISS, they mean it.

When conversations turn to all of the problems in the world today, with instability in the financial markets, terrorism around the globe with hunger and poverty abounding, point towards the sky and tell people about the ISS – one place where we seem to have put aside our differences and are able to work together towards a common goal – something we should consider putting to work terrestrially as well.

The status of New Zealand's AMSAT-ZL - KiwiSat – is progressing at a rapid pace. Check out their steady march to a launch at: http://kiwisat.org/index.html. This satellite will have linear and FM transponders aboard that will operate with uplinks in the 70 & 23 cm bands, and downlink in the 2-meter band. It will be a low earth orbit (LEO) satellite, so it will have pass times in the 10 minute range.

The Auckland VHF Group (NZART Branch 66) has donated $1000 for the purchase of the special aluminum blocks from which the structure of KiwiSAT was milled. Mike Jack of Stanier Engineering, a small specialist precision engineering company based in Auckland, has done the milling of the mainframe from those solid blocks. You can see a video of this work being done on the KiwiSAT web page. They are still negotiating over a launch provider and the costs inherent in that, so it will still be a bit before they are ready for an actual launch, but the working bird will be completed in a few months.



KiwiSat

The launch of South Africa's Sumbandila microsatellite will now likely take place on or around August 20. SumbandilaSat will be launched as a secondary payload on a Russian Soyuz launch vehicle, and this latest delay is reportedly because the primary payload for the launch, a Russian Meteor M weather satellite, will not be ready until then.

SumbandilaSat has been designed and built by specialist South African microsatellite company SunSpace and Information Systems (SunSpace), which is based in Stellenbosch in the Western Cape. The bird is currently in South Africa awaiting export permits, which will allow it to be sent to Russia for the launch, probably in late July 2009. It takes about 40 days to prepare the satellite for its flight, including its integration to the uppermost stage of the carrier rocket.

SumbandilaSat is an 81 kg Earth observation microsatellite; its name means "lead the way" in the Venda language. It is based around a new satellite platform developed by SunSpace. The microsatellite's main payload is a 6.25 m multispectral imager – that is, the imager has a resolution of 6.25 m x 6.25 m.

Wind Farms

In a bit of offbeat but related news, this report seems very interesting, and may become an issue of some importance as

For those who fancy themselves as one who tries to work all the birds, don't forget that AO-7, the nearly 35 year veteran of the amateur satellite service, is still working strong on a daily basis.

we move towards more alternative sources for electric power. Ofcom, the UK's version of our FCC, has published a document about the effects of interference to UHF & SHF communications by Wind Farms.

The report, by ERA Technology Ltd and Aegis Systems Ltd, describes a technical study in which a series of measurements were carried out with regard to the presence of wind turbines near to wireless services. Some of their findings include:

* A single turbine can produce measured fades as large as 3 dB for UHF scanning telemetry links and 2 dB for fixed links operating between 1.5 and 18 GHz, when the turbine is lying on the transmitter-receiver path.

* A wind farm (with seventeen turbines) can produce measured fades as large as 10 to 15 dB for 1% of the time when the wind farm is lying on the transmitter-receiver path.

The full report in PDF Format is available: http://www.ofcom.org.uk/radiocomms/ifi/licensing/classes/fixed/Windfarms/rf_measurement/

For those who fancy themselves as one who tries to work all the birds, don't forget that AO-7, the nearly 35 year veteran of the amateur satellite service, is still working strong on a daily basis. It is in a more circular orbit, not a Molniya orbit as the "DX" satellites have used in the past, but it is high enough that you can work some DX toward Europe fairly easily from the eastern US. It only works in daylight, as it is powered completely by solar panels, its batteries gone long ago. At the present time it is encountering some eclipse time during its passes, so it may go south in mid-QSO, but keep it in mind!

AMSAT announced that the 2009 AMSAT Space Symposium and ARISS Operations Team Meeting will be held on Friday, October 9th through Sunday, October 11th at the Four Points Sheraton hotel, located at the Baltimore-Washington Airport. There is a free shuttle bus from the airport to the hotel.

Watch http://www.amsat.org/amsat-new/symposium/2009/index.php for more up-to-date news on the symposium as it becomes available.

To learn more about satellite operation, you can listen to some of the dedicated weekly nets that focus on the topic. The Houston AMSAT Net is now being carried live every week on the *AMSAT* Echolink conference on Tuesday 8PM Central Time. This is Wednesday 0100Z during USA Daylight Savings Time and 0200Z during USA Standard Time. ARISS contacts using the AMSAT conference will preempt the Houston Net. Effective June 1, 2009, the Houston crew no longer feeds their net over the SkyScanner Satellite Radio Network. Their podcast and mp3 files will continue to be available after the net is complete at http://www.amsatnet.com/

The Hudson Valley Satcom group net is on the Mt. Beacon ARC 2-meter repeater. This net is also available on the N2EYH-l node on Echolink. This net meets on alternate Thursdays during the year. More information can be found by clicking the "HV Satcom" link at http://www.wr2abb.org. Past nets are archived and available at this site.

That's it for this month's column – I hope to see you all soon on the birds!

Never Stop Learning

By Jerry Wellman, W7SAR

Last month I called several public service agencies and talked with some of the top brass and with some of the line officers. They told me my "amateur radio license alone" doesn't cut it! I explained to one police captain that I had a license issued by the FCC and had a properly programmed and certified radio as well. I asked, "Doesn't this qualify me for an important role with your agency in an emergency?" Apparently not.

For many years I've been associated with the Civil Air Patrol and I'll often meet pilots who make the same claim. They tell me that it's no big deal to go flying to find missing people and scour Utah's 10,000-foot terrain. In some cases I agree. In other cases, I tell the pilot to be sure to leave a note listing his or her next-of-kin before they take off. When are we going to get past the idea that having some kind of government-issued license does NOT qualify us for specialized service? When I was first licensed as an amateur radio operator, I had to drive to Denver (uphill both ways in a snow storm with bald tires) and take a test with questions which I did not know in advance. The test required a fair amount of study and preparation. There were no online practice exams – in fact, there was no "online."

I say that not to diminish today's testing procedure or take away from any licensed amateur radio operator. Some operators have skills and common sense that make them well suited for emergency service. For others, an education process takes a little more effort. I know two or three local folk that are simply radio experts. If I have a question about grounding or about repairs (or anything electrical) I know I can make a call and be completely enlightened. These are the folks who can diagram the most complex circuit on the back of a napkin in the local eatery during a lunch break. They just know their stuff. There are others with many years' experience (and an FCC license) who cannot solder a connector on a piece of coax.

Unfortunately for those of us who are not genetically inclined toward electrical wizardry, it's a lot of hard work to become technically proficient. It is the same for on-the-air skill. I have monitored two local public safety dispatchers for years. They've changed departments a couple of times, moving from a local fire department to a sheriff's office and then to another agency. I have never met them and do not know their names. But I do know their voices and "hear their skill" as they dispatch. It seems they are usually on shift when major events occur. Maybe they're put on the desk when major events occur because they're the ones who are needed on the dispatch end when bad things happen.

You can hear the skill in the voices of these dispatchers. You can also hear it in the voices of the officers or crews at the scene. They evoke situational awareness and those in the field respond in kind. If you're in a bad situation, having an experienced dispatcher makes a HUGE difference. You know they're paying attention. You know they're doing all they can to have information available or relayed accurately and in a timely manner. If your heart is a little fluttery, the calm and seasoned voice at the dispatch center is just what you need to hear.

It's not about the number of certifications and the number of training classes an emergency worker has. It's about willingness to be taught and a willingness to learn. It's having a passion for what you do and going beyond "adequate" into the "excellent" realm. For some, the license (or certification) is an excuse to quit learning and quit progressing. That's why several friends with pilot's licenses won't have me as a right-seat passenger. They've stopped learning to fly "better" and they scare me! They are also the worst choice to send on a search sortie, as they pose a significant risk to themselves and their crew.

The sad thing about the folks who quit learning once they have a license is that they do not listen when one tries to suggest training to them. Often their answer is to buy more radios (or a newer aircraft) in an attempt to show you how good they are – I guess to indicate that expensive toys somehow translate into better skills. I have yet to hear of an increase of talent with the purchase of a new radio. Often the opposite is true – a newer, more complicated radio, results in worse operation because the owner didn't take the time to even learn how to work all the new controls and settings.

Never stop seeking ways to learn new skills and seeking ways to improve your skills. Once you've obtained an attitude that you know everything, you're probably not qualified to respond any more.

New Things

Over many years, I have installed radios in a number of personal vehicles. Some months ago you may recall my efforts with a Chevy Tahoe I bought to replace my very old Ford Explorer. I related how my radio install happened over a couple of weeks and involved removing all the seats and the headliner to install wiring and antennas. I'm not trying to tell you I did it all correctly, but I am pleased at how it all turned out now that I've been able to use the vehicle on a couple of events.

I've never been a mobile HF kind of person, so I've not had too much experience installing HF antennas and learning the theory about mobile HF operation. That has changed. Last week I got a killer deal on a Scorpion HF antenna. I'd never heard of the Scorpion before and I was a little hesitant in spending the money, even though the cost was a fraction of the original cost. If you do an Internet search for Scorpion Antennas, you will find Ron Douglass (NI7J, who makes and sells them) and will see lots of photos of installations.

I thought learning about HF mobile installation would be a simple matter (after all I'm licensed). What I learned is that I didn't know a lot about HF mobile antennas AND about things like bonding various vehicle parts and how to get rid of vehicle-generated noise. Egad, there was a lot to learn. It wasn't a simple matter of mounting the antenna to the vehicle. It's become an involved process and it's taking a fair amount of time to do it right. Over the years I've learned a lot and done some good installations. Now I'm learning how to do a top-notch job – way beyond "good enough."

One of the links from Ron's website led me to Alan Applegate (K0BG) and a huge amount of information about putting radios in vehicles. I discovered that all ferrite beads are NOT the same – that some have different "mix" values that work better for radios. I learned that a DC ground is not the same as an RF ground. I spent a number of hours reading Alan's stuff and putting it into practice – and it's taking a lot of time to do it right. Alan offered a good rule of thumb on how to save money when he wrote that if you're not going to take the time to do a quality install, don't buy an expensive antenna. He points out that the best antenna you can buy won't work in a poor installation. And then he offers a plethora of articles to guide you to a best possible mobile installation.

I did feel good that when I put in the power wiring for my Tahoe, I followed good practices as Alan points out in his material (I have learned something over the past 30 years). Two of the AM radios in my SUV, the CB and the aircraft band, worked (with some engine noise) and I thought I'd done OK by adding some ground cables from the engine to the frame. The radios received OK but I noticed some RF noise, when the engine was running, on the aircraft band and I couldn't seem to get rid of it. Well….I learned a lot from Alan and after a lot of work all-day Saturday my aircraft radio reception is solid! No pops and whines.

Here's what I did (and I'm still not done). I found some inch-wide ground straps and bonded (not grounded) the engine to the frame in two places. I bonded the exhaust system in three places. I bonded the frame to the fenders. I bonded the hood across both hinges. I used the braid from some RG-8 to bond across door hinges. That was my Saturday – drilling and bonding. And that was after a trip Friday to Fastenal to get the proper lock washers (the "star" kind with interior and exterior grounding "fingers") and after finding the grounding braid earlier in the week. It's not been easy and wasn't an hour project.

I ordered the proper ferrite split beads and they should arrive in the next few days. I've got some for the plug wiring and for things like the fuel pump wiring. Fortunately, when the shop tuned my SUV a few months ago, I had specified high-quality plugs and wiring, so I was OK in that department. The whole process will take at least one more Saturday and maybe part of another – once the remaining parts arrive.

Here's my bottom line. First, I've learned a lot about mobile radio installation. Even if I don't use the HF rig a lot, my installation is more efficient and radios such as my aviation rig perform better. Even the CB radio works better, although that wasn't my focus. I have confidence in the power lines I ran and in how I installed the DC grounds and fuses. Fortunately I'd taken time to do it right and didn't have to go back and fix things. The mount I built for the Scorpion antenna (it's quite hefty) was done right and looks good. I had fears that it wouldn't hold up at highway speeds, but it's solid and will do fine.

Lastly, I called Ron (NI7J) and wrote to Alan (K0BG) with questions. I spent some "design time" before I ordered the materials and before I began welding and drilling. My dad taught me to "measure twice and cut once" when building things. It's sound advice. I still hit my thumb with a hammer, but that will heal. The bonding straps and antenna mount are in the right places and done with the right materials. I'm using ferrite beads that are proper for the intended use and learned that all ferrite beads are not the same (don't fool yourself thinking the surplus ones you get at the computer store will work for radio needs).

Sure, I'm licensed by the FCC to do radio stuff. The license didn't mysteriously endow me with knowledge or common sense or situational awareness. I'm still learning. It's an exciting process. Next month I'll offer some photos of my new HF installation. I may only make a few HF contacts in the next months. The value was in learning something new. There is some personal excitement in knowing you're doing something right and not cutting corners.

Until next month, best wishes from Salt Lake City!

DXing 101

Kelly Jones, N0VD

As has been tradition for the past several years, the August DX World is where I typically provide a recap of the Dayton Hamvention®. And while there were great presentations at this year's DX forum, I thought I would take a left turn and skip tradition. Let me explain.

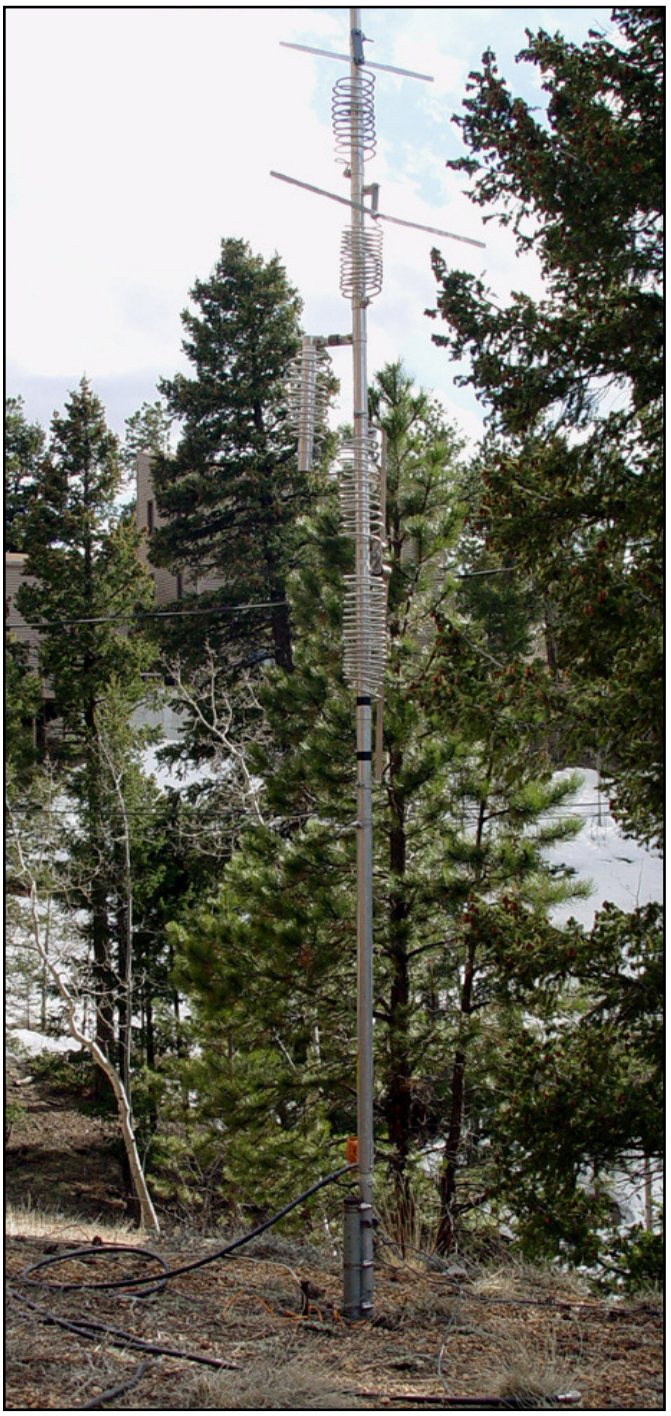
In late 2008 I had the honor of being asked to be a forum speaker at the ARRL Rocky Mountain Division Conference – HamCon 2009. This event, interesting enough, was scheduled just two weeks after Dayton on May 29-31. The conference was also scheduled during the same weekend as the CQ WPX CW contest. If you've been a reader of this column, you know that I am a "sometimes contester". And with WPX being one of the major DX contests, I had to give this some thought – about 3 seconds worth. Of course, I accepted the invitation. So, this year instead of doing a recap of Dayton, I thought it might be worthwhile to provide a recap of what I called "DXing 101".

The forum was put together with the beginning or casual DXer in mind. Topics covered a wide spectrum, ranging from working DX from a postage size lot, to being on the other side of the pileup. It also touched on various tools that can be added to your DXing toolbox such as computer logging, DX clusters, grayline, and other propagation factors. In addition, we covered tips and tricks that can help get you closer to the "front of the line." These included techniques for working split and understanding the pileup's rhythm. Let's take a look at a few topics that will help you get started in your DXing career.

What is needed to Work DX

Oftentimes, when one thinks of working DX, the first vision that comes to mind is a field full of tall towers and big antennas. It's no secret that the bigger the antenna, the quicker (usually) you'll get into the DX station's log. However, very modest antennas such as wires and verticals can put DX fruit in the basket. For example, during the first couple of years of my college life, I spent time operating from my 11th floor dorm room. The trickiest part of setting up a shack in the dorm was figuring out a way to get some type of antenna fed to the outside. I noticed that once upon a time the windows in the high-rise could be opened, but at some point all of them had been sealed shut with non-reversible screws. With a little ingenuity, a way was found that allowed a flat piece twin lead to be squeezed to the outside. A single strand taken from a six-strand 22 gauge wire (this had to be a mega-stealth antenna!) was tossed outside and tied off in the trees around the corner. To this day I distinctly remember working my first JW contact, Math, JW5NM, from that dorm room.

In addition to wires, verticals are another option for space limited or budget conscious DXing. My first "real" antenna was a Butternut HF6V. I still have one of these planted in the yard and it still catches some nice DX. During the conference



After all these years, a Butternut vertical is still part of N0VD's antenna arsenal.

I pointed out that the W1AW/0 station, which was active from the main convention center, was using a simple vertical in the courtyard. And with the WPX contest coinciding with the conference, it would be very easy to pick up some nice DX stations. Interestingly enough, I later noticed several forum attendees trying their hand on HF at W1AW/0. If you're in a restricted neighborhood or simply want o try DXing on a budget, being creative with wires and verticals will not only get you on the air, but will also get you well on the way to catching some great DX.

DX Toolbox Arsenal

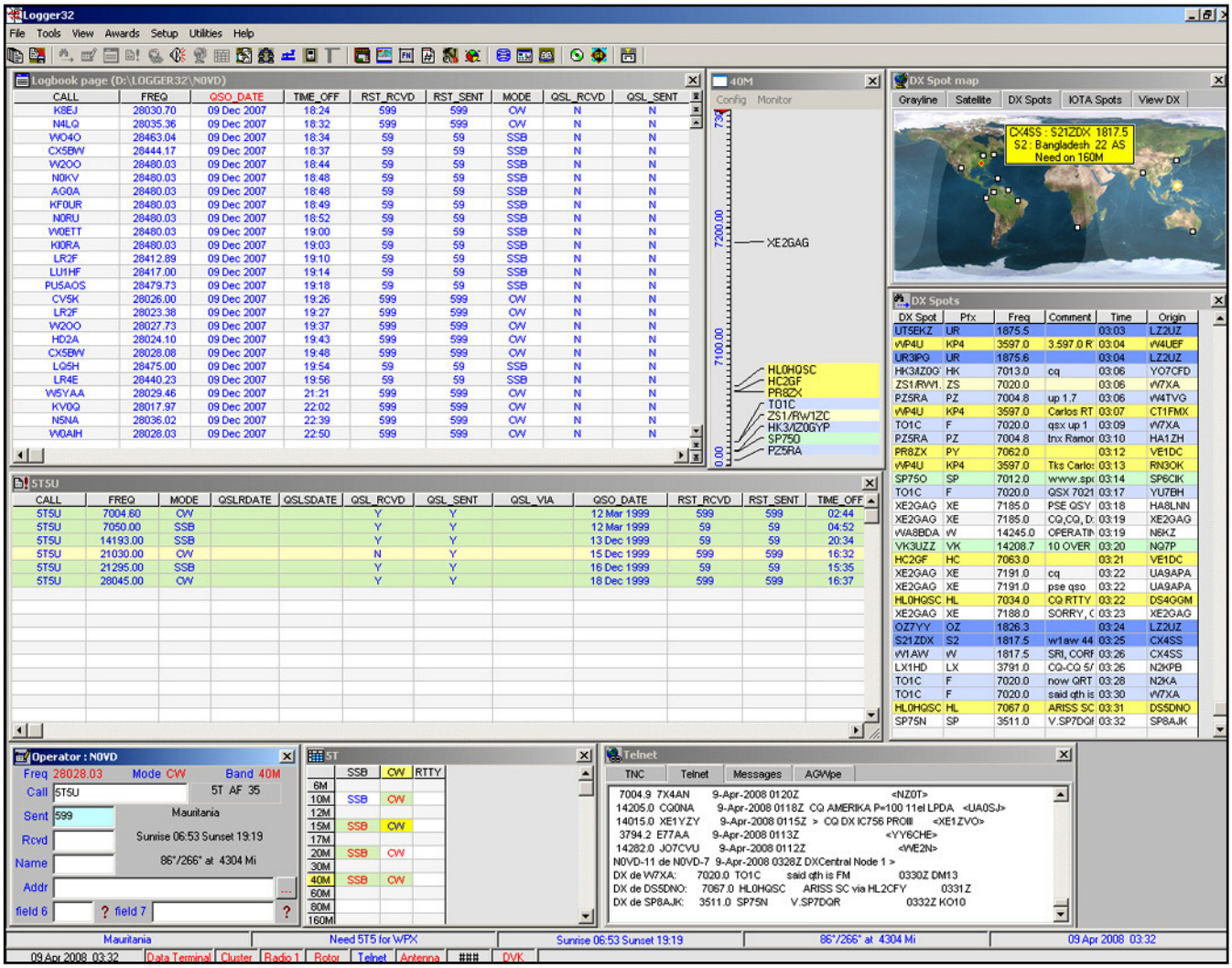
One of the most helpful tools (and most polarizing among DXers) is the DX cluster. In layman's terms, a DX cluster is a network of computers that pass DX information between them. In the early days, these were called Packet Clusters as most everybody connected to them via 2-meter packet. At the time, the clusters were primarily linked via RF and not always very reliable. However, in the late '90s many cluster operators began linking them together through the internet. This is when their use really began to take off. Today, almost every computer logging program on the market allows you to connect to the cluster network via the internet. DX clusters are very useful because in essence you have "ears" from around the world. Instead of having to continuously spin the dial looking for the DX on your own, the DX is "spotted" by another Dxer, alerting everyone connected to the cluster network. And this is where the controversy comes into play. Instead of having to find the DX station for yourself, somebody else is doing it for you. While I can understand this sentiment, I'm still a big proponent of DX clusters and have been using them since 1994.

Computer logging is another great tool – on many levels. If your logging program is connected to the DX cluster network, it can compare each incoming spot against your logbook and alert you when a "new one" comes up. You can also get a visual representation of the spots as they are compared to your log. You can see if you need a DX station on a certain mode or band.

This is particularly useful as you begin chasing awards. If you have ever tried to figure out whether or not you qualify for an award by looking at a paper log, you know it's a pretty painful experience. However, with computer logging and a click or two, you can instantly know if you qualify for DXCC, WAS, WAZ or any number of other awards.

The Ionosphere

The ionosphere is our best friend – in addition to sunspots, of course. Without the help of the ionosphere there would be almost no DXing as we know it. The ionosphere is broken down into four layers – D, E, F1 and F2.



Computer logging connected to the DX Cluster network. A visual representation of your log.

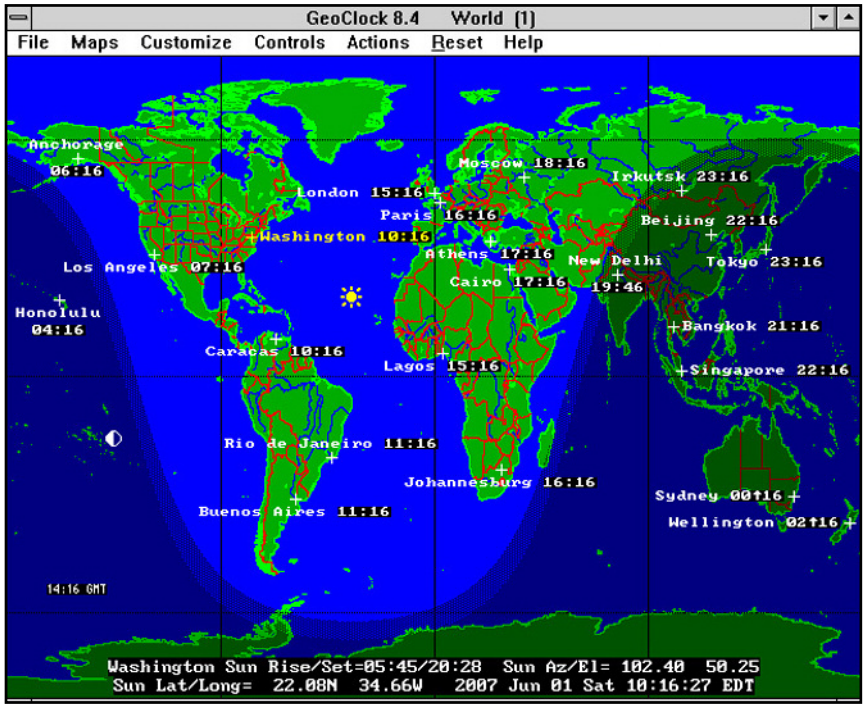
During the day, solar radiation causes ionization to form distinct layers. The layer closest to the earth is called the D-Layer. However, it generally does not reflect signals but it does absorb some of the energy. Thus the D-Layer is often called the "absorption layer".

Higher up in the ionosphere, we find the E and F Layers. These layers do reflect the signals back to earth and this is exactly what causes skip propagation and enables us to chase those DX stations.

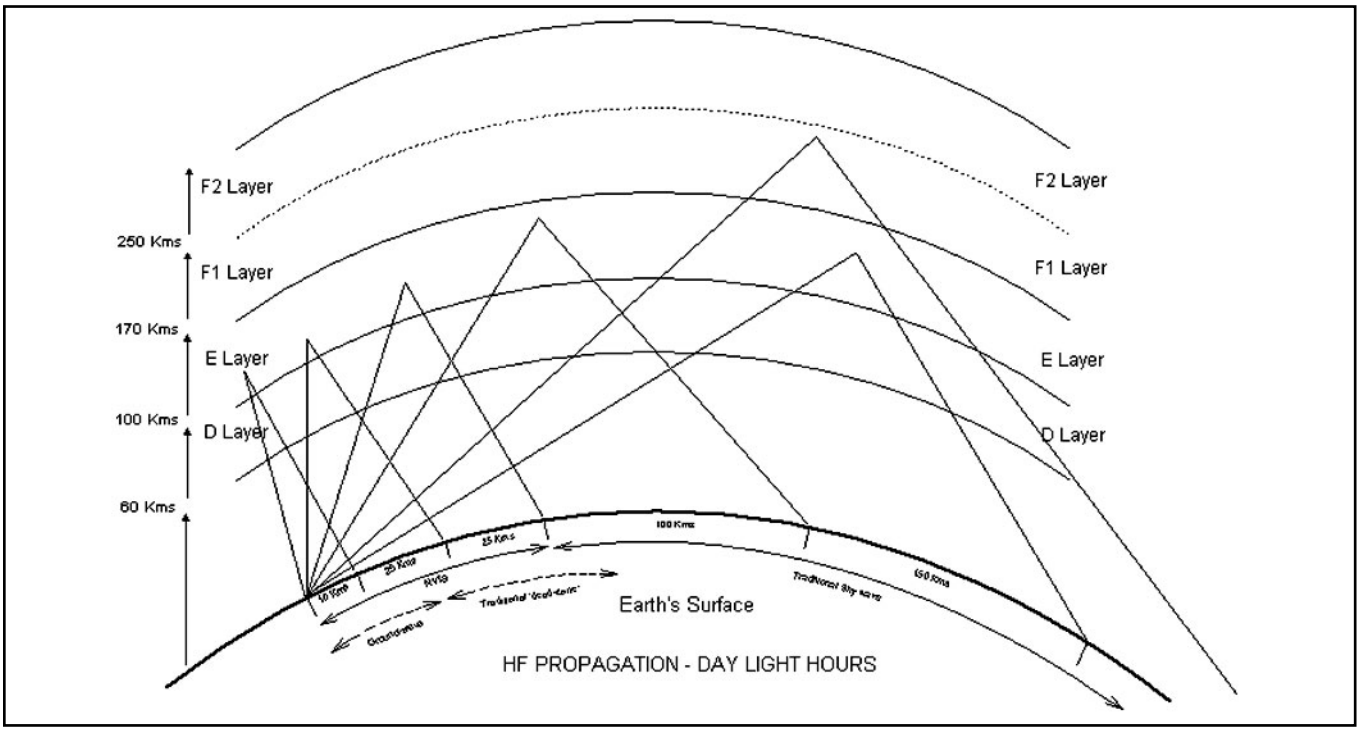
Grayline

One of the more interesting phenomena is grayline propagation. This is the time between sunset and darkness or darkness and sunrise. During this time of twilight, the D-Layer suddenly causes little absorption to signals passing through it, while the E and F layers are still being ionized by sunlight. This makes for about 45-60 minutes of interesting operating. There is almost no signal attenuation, but the MUF (maximum usable frequency) is still very high, so long-distance DX is still possible. However, when the sun quits illuminating the E and F layers, the MUF can drop dramatically, sometimes with only a few minutes of warning.

One other advantage of grayline DX is that your signals tend to reflect off the edge of the ionized portion of the upper layers. This means propagation will often be in a southerly direction, bouncing along the shadow, or terminator, between sunlight and darkness. This is good for working into South America and the South Pacific from the USA. Your signals can also bounce northward along the terminator, bending around the pole, and down the morning terminator across Eastern Europe, the Middle East, and into Africa (depending on the time of year). This affords an opportunity to work portions of the world not usually accessible during the day, when propagation tends to be more in an east-west direction. Of course, as you become familiar with the low bands (40, 80 & 160), you'll find the



Geoclock. Arguably the granddaddy Grayline program.



The ionosphere and it's various layer's effects on HF propagation.

grayline plays a major role in the DX capabilities of those bands.

Pileup Tips & Tricks

One of the more common techniques used by DXpeditions is to operate split. This means the DX station is transmitting on one frequency and listening on another. So as you tune around the band and find a DX station calling CQ, listen before answering. If you hear the DX station working guys but you don't hear the pileup, there is a good chance he is not listening on his transmit frequency. A typical rule of thumb for split operation is to listen up 5-10 kHz on SSB and 1-2 kHz on CW. However, if the DX station is a good operator, he will tell you where he's listening (or say "up") after every few QSOs.

A pileup will often have a rhythm. Notice how the DX station exchanges calls, signal reports and finally indicates it's OK to call. Some DX will say "QRZ" indicating it's OK to call. Others will simply say "thank you" or something similar. Learn the operator's technique and you'll be one step ahead in getting into his log. Another tip to consider is that if the DX only gets a partial call, he may ask "Who's the 'bravo victor'." If your call does not contain 'bravo victor', don't call! This will only slow down the rhythm and ultimately take you longer to make a QSO.

Finally, always give your full call. Giving your "last two" only causes the DX to have to ask the rest of your call. If you give your full call, the DX can get everything in one exchange and ultimately put more guys in the log – and that's the goal - getting into the log.

Conclusion

With the sunspots starting to make their re-appearance, some great DX is starting to show up on the bands. Twenty meters, for instance, is staying open past midnight. In fact, 20 has been great during the North American evening hours, which is during the sunrise in deep Asia – remember the grayline? And best of all, you don't need a monster tower or antenna to work these guys. A simple wire or vertical will net some nice DX!

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 - and now on Twitter as N0VD!

Is The Worldwide Ionosphere "In Step"?

By Carl Luetzelschwab, K9LA

If you take a simplistic view of atmospheric and ionospheric processes, it would be easy to talk yourself into thinking that the worldwide ionosphere is "in step" – in other words, what happens at a given time anywhere in the world is exactly what happens elsewhere at the same time. For example, if the F2 region ionization decreases at a given time on a certain date over one ionosonde, then it would also decrease over a nearby ionosonde.

This hypothesis easy to check out by comparing data from two ionosondes that are close to each other. Figure 1 does this for Millstone Hill (42N/72W) and Wallops Island (37N/76W) on October 5, 2003 (which is a very typical one-day period). These two ionosondes are only 653 km (408 miles) apart. The MUF (maximum usable frequency) plotted is the MUF over each ionosonde assuming it is the mid point of a 3000 km hop.

Figure 1 only includes data for the daytime in the area of Millstone Hill (Massachusetts) and Wallops Island (Virginia), when solar radiation is directly impinging on the atmosphere in that area of the world.

At sunrise just after 1200 UTC, as expected both ionosondes show a significantly increasing MUF. Both ionosondes generally track until 1400 UTC, after which the Millstone Hill ionosonde shows the beginning of a big increase while the Wallops Island ionosonde continues to show a significant decrease. Around 1500 UTC we again see opposite trends, with Millstone Hill decreasing and Wallops Island increasing. This entire area of opposing trends is enclosed in the big red circle.

Three other periods (also circled in red) show more opposite trends – around 1630 UTC, around 1700 UTC, and around 2030 UTC. From this data, and supported by volumes of other similar data, we conclude that the worldwide ionosphere is not necessarily "in step". That is unfortunate, as it highlights the problem scientists had when they developed the model of the ionosphere used in our propagation prediction programs.

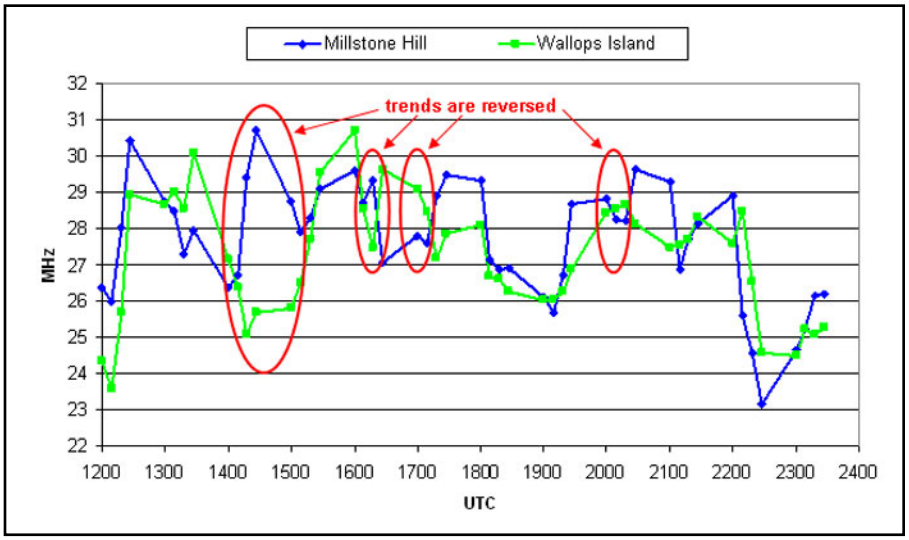


Figure 1 – Millstone Hill MUF and Wallops Island MUF on October 5, 2003.

With armloads of solar data and armloads of ionospheric data, scientists would have loved nothing better than to have developed a model that took today's sunspot number (or today's solar flux) and used it to predict what the ionosphere was doing today. But that specific correlation was very poor. You can understand this problem from the data of Figure 1 – the 10.7 cm solar flux on October 5, 2003 (reported to be 110) would have had trouble predicting what each ionosonde was doing in the red circled periods – or at any other times for that matter, since the MUFs are not constant throughout the day.

So what's the problem here? Is it the fact that we're trying to just use one value

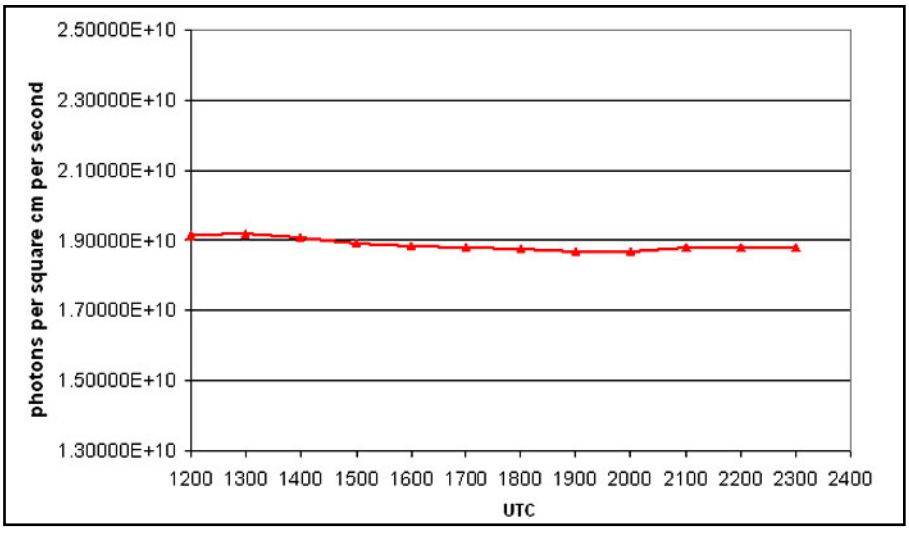


Figure 2 – 10-Minute Average of 30 Nanometer Flux on October 5, 2003.

of 10.7 cm solar flux for the entire day? Would we get better results if we knew how 10.7 cm solar flux varied throughout the day? To check this out, we'll go one step further than using 10.7 cm solar flux and use data that is in the band of wavelengths (and thus energy) of the true ionizing radiation of the F2 region – which is radiation at wavelengths from 10 to 100 nanometers.

We'll use radiation at 30 nanometers, and it is measured by the Solar Extreme Ultraviolet Monitor that is onboard SOHO (Solar and Heliospheric Observatory). Figure 2 plots the 10-minute average of 30 nm radiation for the daylight hours of October 5, 2003.

For all intents and purposes, the 30 nanometer flux is constant throughout the daylight hours. It does not show any variation that would explain the significant ups and downs of the MUF data in Figure 1. Our only conclusion is that processes other than ionization by solar radiation contribute to the ionization at any given location at any given time.

This variation in MUF under conditions of constant solar radiation is also very obvious around solar minimum. For example, let's look at the 3000 km MUF over the Millstone Hill ionosonde for the month of August 2008. There were no sunspots at all during this month, and the solar flux varied between 65 and 68. Figure 3 shows the MUF data at 1630 UTC for each day for these extreme solar minimum conditions.

The MUF varied from a low of 13.9 MHz to a high of 29.7 MHz. Even if we throw out those two high-MUF days (one of which was likely due to geomagnetic field activity), the MUF still hit a high of 19.2 MHz. 13.9 MHz to 19.2 MHz is still quite a spread.

Why does the MUF vary so much even though the ionizing radiation (or even the 10.7 cm solar flux) is constant? One process that causes this was given in the previous paragraph – geomagnetic field activity. The other process is an event in the lower atmosphere coupling up to the ionosphere. Interestingly, each of these two processes contributes about equally to the variation of the daytime F2 region of the ionosphere – and each of these contributions is almost an order of magnitude greater than the contribution to the variation by ionizing radiation. For more details on this interesting topic, visit mysite.verizon.net/k9la, go to the "General articles" link, and read the article Day-to-Day Variability of the F2 Region.

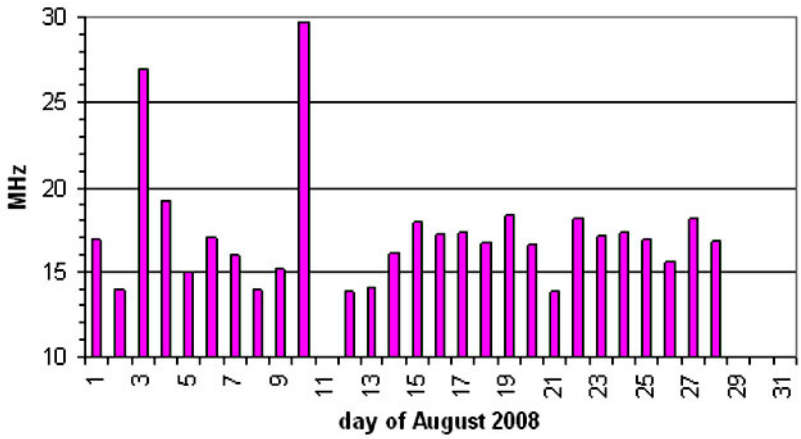


Figure 3 – MUF for 3000 km Hop Over Millstone Hill at 1630 UTC.

In summary, the worldwide ionosphere is not "in step" – even for locations separated by only several hundred miles. More importantly, it's tough to predict what the ionosphere is doing today at a given time. The result of all this unpredictable variation is a model of the ionosphere (which is used in our propagation prediction programs) that correlates monthly median ionospheric parameters to smoothed sunspot numbers (or smoothed solar flux). Until we have a better understanding of all this, that's what we have to work with. ■

DX Predictions

AUGUST 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 = 10.

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

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
10	(11)	***12**	***18**	(9)	***16**
12	(17)	10	***16**	15	(14)
14	21	***13**	***14**	18	20
16	23	***14**	(13)	19	***24**
18	***24**	(12)	(12)	17	***27**
20	***23**	***18**	23	16	***29**
22	19	***21**	***28**	(12)	***29**
24	17	***21**	***30**	(9)	***27**
2	15	***20**	***30**	(10)	***22**
4	***15**	***19**	***29**	***15**	***18**
6	16	***17**	***26**	13	***16**
8	14	***14**	***21**	(11)	***14**

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SA
8	(13)	12	***20**	(9)	***14**
10	(15)	***11**	***17**	15	***15**
12	20	12	***15**	***18**	17
14	23	13	***14**	***19**	***22**
16	24	(11)	(13)	***19**	***25**
18	***25**	(10)	(12)	***18**	***28**
20	***23**	15	24	***17**	***29**
22	19	18	28	15	***29**
24	***16**	20	***30**	11	***27**
2	***15**	19	***30**	10	***22**
4	***15**	17	***29**	***13**	***19**
6	14	15	***25**	11	***16**

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
7	16	(11)	***19**	10	***14**
9	17	(9)	***16**	14	***15**
11	23	***15**	***15**	***17**	17
13	***27**	14	(14)	***19**	***22**
15	***29**	(11)	(13)	***20**	***25**
17	***28**	(10)	(12)	***19**	***27**
19	***25**	(14)	(19)	***18**	***29**
21	***21**	17	26	***16**	***29**
23	***18**	19	29	13	***27**
1	***15**	18	29	***11**	***22**
3	***13**	(15)	***27**	***10**	***19**
5	***18**	13	22	***12**	***16**

CONTEST: ARRL UHF Contest
DATE & TIME: 1800Z 1 Aug – 1800Z 2 Aug
BANDS/MODE: 222 MHz and up
POINTS: 3 Pts. 222 or 432 MHz QSO; 6 Pts. 902 or 1296 MHz QSO; 12 Pts. 2.3 GHz or higher
MULTIPLIERS: Grid Squares per band
EXCHANGE: Grid Square locator
ENTRY CATEGORIES: Single op, Low or High; Rover
ENTRIES: Deadline 1 September Paper logs to: ARRL UHF Contest 225 Main St., Newington, CT., 06111 Cabrillo logs to: augustuhf@arrl.org Online Cabrillo form at www.b4h.net/cabforms

CONTEST: TARA Grid Dip
DATE & TIME: 0000-2359Z 1 Aug
BANDS/MODE: 160-6M RTTY & PSK31
POINTS: 1 Pt. per QSO
MULTIPLIERS: Grid locators once per band
EXCHANGE: Name + 4-digit grid locator
ENTRY CATEGORIES: PSK categories: QRP <5W; Low 5-20W; High 20-100W; Rover 100W max! RTTY categories: QRP <5W; Low 5-100W; High Legal Limit; Rover Legal Limit
ENTRIES: Fill out online form at: http://www.n2ty.org/seasons/tara_grid_score.html E-mail: grid-manager@n2ty.org Web: www.n2ty.org Rules at: http://www.n2ty.org/seasons/tara_grid_rules.html

CONTEST: 10-10 International Summer Phone
DATE & TIME: 0001Z 1 Aug - 2359Z 2 Aug
BANDS/MODE: 10M Phone (SSB, AM or FM)
POINTS: 1 Pt. non-member; 2 Pts. members
MULTIPLIERS: Prefixes
EXCHANGE: Call + Name + QTH + 10-10 #
ENTRY CATEGORIES: QRP (<10W); Individual; Club
ENTRIES: Deadline 17 August. Dan Morris, KZ3T 131 Valencia Ln., Statesville, NC 28625 Rules at: www.ten-ten.org/Forms/QSOPartyRulesRevised.pdf

CONTEST: North American QSO Party
DATE & TIME: 1800Z 1 Aug - 0600Z 2 Aug
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. per QSO
MULTIPLIERS: State/Provinces/Territories/NA Countries
EXCHANGE: Name + State/Province/Territory/NA Country; non-NA sta's give name only
ENTRY CATEGORIES: Single op; Multi op, 2 XMTRS – Note: 100W limit for all categories!
ENTRIES: 30 Days Bruce Horn, WA7BNM, 4225 Farmdale Ave., Studio City, CA 91604 Cabrillo upload: www.ncjweb.com/naqplogsubmit.php E-mail: cwnaqp@ncjweb.com Rules at: http://www.ncjweb.com/naqprules.pdf

CONTEST: WAE DX
DATE & TIME: August, second full weekend. Saturday, August 9, 2008, 0000 UTC until Sunday, August 10, 2008, 2359 UTC
BANDS/MODE: 80-10M CW
POINTS: 1 Pt. per QSO
MULTIPLIERS: WAE Countries
EXCHANGE: RST + serial #
ENTRY CATEGORIES: Single op - Low (<100W); Single op - High (>100W); Multi op
ENTRIES: 24 Aug Electronic log submissions only! Cabrillo or STF logs to: waecw@dxhf.darc.de Additional help for handwritten log conversion: http://contestsoftware.com/e/home.html E-mail: waedc-info@dxhf.darc.de Web: www.waedc.de Rules at: http://www.darc.de/referate/dx/fedcw.htm

CONTEST: Maryland-DC QSO Party
DATE & TIME: 1600Z 8 Aug. - 0400Z 9 Aug. & 1600-2359Z 9 Aug.
BANDS/MODE: 160M - 440 MHz SSB; 80-440 CW/Digi; 6M-70cM FM
POINTS: 10 Pts Club; 5 Pts. Mobile; 4 Pts. QRP; 3 Pts. CW/Digi; 1 Pt. all others
MULTIPLIERS: X1 for each MD County/DC/City of Baltimore; MDC sta's count 25 counties + states + DX Country
EXCHANGE: State/Country/Province - MDC sta's give County/City of Baltimore/DC
ENTRY CATEGORIES: Club, Mobile, QRP, Standard (Multi-ops are conted as Clubs)
ENTRIES: 14 September SASE & Logs to Antietam Radio Assn, P.O. Box 52, Hagerstown, MD 21741-0052 Rules at: www.w3cwc.org/2009rules.htm E-mail: wa3eop@arrl.net Logging software available at: www.n3fjp.com/stateqso.htm or www.qsl.net/W3KM/gen_log.htm

CONTEST: SARTG WW
DATE & TIME: 0000-0800Z + 1600-2359Z 15 Aug; 0800-1600Z 16 Aug
BANDS/MODE: 80-10M RTTY
POINTS: 5 Pts. own country; 10 Pts. same continent; 15 Pts. other continents
MULTIPLIERS: DXCC countires on each band
EXCHANGE: RS(T) + serial #
ENTRY CATEGORIES: A = Single op, all band; B = Single op, single band; C = Multi Op, single XMTS, all-band
ENTRIES: 30 Days SARTG Contest Manager Ewe Hakansson, SM7BHM Pilspetsvagen 4 SE-291 66 Kristianstad Sweden Cabrillo to: contest@sartg.com Rules at: www.sartg.com/contest/wwrules.htm

CONTEST: North American QSO Party
DATE & TIME: 1800Z 15 Aug - 0600Z 16 Aug
BANDS/MODE: 80-10M SSB
POINTS: 1 Pt. per QSO
MULTIPLIERS: State/Provinces/Territories/NA Countries
EXCHANGE: Name + State/Province/Territory/NA Country; non-NA sta's give name only
ENTRY CATEGORIES: Single op; Multi op, 2 XMTRS – Note: 100W limit!
ENTRIES: 30 Days Bruce Horn, WA7BNM 4225 Farmdale Ave., Studio City, CA 91604 Upload Cabrillo: www.ncjweb.com/naqplogsubmit.php E-mail: ssbnaqp@ncjweb.com Rules at: www.ncjweb.com/naqprules.pdf

CONTEST: Run for the Bacon
DATE & TIME: 0100-0300Z 16 Aug
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. non-member QSO; 3 Pts. FP member; 5 Pts. FP member different continent
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + State/Province/Country + FP #; (non-members give power)
ENTRY CATEGORIES: Single band; All band
ENTRIES: Online submission only at: www.fpqrp.com/autolog.php

CONTEST: Ohio QSO Party
DATE & TIME: 1600Z 22 Aug - 0400Z 23 Aug
BANDS/MODE: 80-10M SSB/CW
POINTS: 1 Pt. SSB; 2 Pts. CW
MULTIPLIERS: Ohio counties (88 possible); OH sta's count Ohio counties/States/Provinces
EXCHANGE: Ohio sta's give RS(T) + serial # + county; US & Canadian sta's give serial # + State/Province; DX sta's give serial # + "DX"
ENTRY CATEGORIES: Single op, QRP (<5W CW, <10W SSB) Low <100W); High (>100W); Multi op; Mobile; Rover
ENTRIES: 30 days Paper or floppy disc entries by mail to: Ohio QSO Party c/o Jim Stahl, K8MR 30499 Jackson Rd., Chagrin Falls, OH 44022-1730 Cabillo (preferred) to: logs@oqp.us Rules at: www.oqp.us/rules

CONTEST: SCC RTTY Championship
DATE & TIME: 1200Z 29 Aug - 1159Z 30 Aug
BANDS/MODE: 80-10M RTTY
POINTS: 1 Pt. own country; 2 Pts. own continent; 2 Pts. different W, VE, VK, ZL, ZS, JA and PY call area, LU provinces and Asiatic Russia UA9/UA0 oblasts; 3 Pts. other continents
MULTIPLIERS: Different 4-digit numbers representing op's licensing year, once per band
EXCHANGE: RS(T) + year first licensed; Clubs give RS(T) + year license issued to club
ENTRY CATEGORIES: Single op, Low <100W; Single op, High (<100W); Single op, assisted; Multi op, single XMTR
ENTRIES: 15 Sep Floppy disk entries to: Slovenia Contest Club Saveljska 50 1113 Ljubljana Slovenia Cabrillo (preferred) or ASCII by E-mail: rtty@hamradio.si Rules at: http://lea.hamradio.si/scc/rtty/htmlrules.htm

CONTEST: Kansas QSO Party
DATE & TIME: 1400Z 29 Aug – 0200Z 30 Aug + 1400-2000Z 30 Aug
BANDS/MODE: 80-2M, All Modes
POINTS: 1 Pt. Phone; 2 Pts. CW or Digi
MULTIPLIERS: Non-Kansas sta's count KS counties (105 possible); Kansas sta's count States/Provinces/DXCC
EXCHANGE: Kansas sta's give RS(T) + county; All others give RS(T) + State/Province/Country
ENTRY CATEGORIES: Single Op QRP (<5W), Low (<100W), High (>100W); Unlimited (Multi-op, multi-XMTR, any power); Youth; Kansas Mobile
ENTRIES: Deadline 1 Oct. Cabillo (preferred) online: http://logs.KsQSOParty.org or by E-mail: logs@KsQSOParty.org Paper logs (limit of 50 QSO's) or mail submission: Kansas QSO Party c/o Randy Wing, NØLD, 13138 SW 186th St., Rose Hill, KS 67133-8559. Rules at: http://www.ksqsoparty.org/rules/

AUGUST

COLORADO

The Denver Radio Club Hamfest, August 16th, doors open at 8:30 AM at the Jefferson County Fairgrounds, 15200 W. 6th Ave, Golden, CO. Technical Sessions, Amateur License Testing (10 AM). Talk-in 145.490 or 448.625 (both 100 Hz). Contact Bryan Steinberg, KB0A at drcfest@comcast.net.

Campfest 2009, August 28th 18:00Z - August 30th, 18:00Z at the Lake Goeoge Mobile Home Park, Lake George, CO 80827. Sponsored by the Mountain Amateur Radio Club. Talk-In 147.015+ 107.2 tone. Contact Dave, N0HIO@arrl.net. www.nx0g.org

LOUISIANA

Fourth Annual K5R Special Event Station commemorating the anniversaries of huricanes Katrina and Rita will be operating Saturday, August 29th from 1400-2000 UTC on 14.250 and 7.250 MHz. Sponsored by Southeast Louisiana Amateur Radio Club. QSL card available: SELARC (K5R) PO Box 1324, Hammond, LA 70404.

OHIO

18th Annual Columbus Hamfest - August 1st, 8:00AM - 1:00 PM at the Aladdin Shrine Center, 3850 Stelzer Road, Columbus, OH. Free education forums, indoor vendor or outdoor flea market space, wireless internet, parking. VE testing. Latest info at www.aladdinshrine.org/hamfest.htm

VERMONT

The West River Radio Club Special Event Station - August 1st, to celebrate Grace Cottage Hospital Fair Day. Operation will be on 14.250 MHz and 14.070 MHz from 1400Z to 1800Z with the callsign W1RRC. QSL and SASE to John Borichevsky, N1TOX, POB 1087, North Brattleboro, VT 05304.

Click here for information on having your hamfest or special event isted in this column!

The Best Made Plans Don't Always Happen

by Gerald F. Gross, WA6POZ

I am writing this month's column on Memorial Day. If all had gone according to plans made last September, I would have been in San Diego celebrating my wedding anniversary and the wedding of our son. And rather than writing this column about amateur radio, I may have been describing the wedding ceremony, bride's dress, and party. But alas, the plans fell apart when our son and his fiancé decided that they may have acted in haste and called the wedding off.

That was not the only plan that had to be changed this past spring. I normally drive my Blazer to Dayton because I transport all the materials needed for the 10-10 booth. Last year I grumbled about the cost of gas and the poor miles per gallon that the Blazer gets. This past March my wife's car was rear-ended. She thankfully was not hurt, but the car was totaled. We purchased a 2009 Honda Civic Hybrid, advertised at 40 MPG city and 45 highway. Thinking about what I get in the Blazer, I decided that I was going to take the Hybrid. Was I surprised! Going to Dayton I must have had a tailwind, 53 MPG. Wow! Coming home that tailwind was a headwind, 38 MPG, but still double what the Blazer would have gotten. I only stopped for gasoline four times during the entire trip, compared to six stops with the Blazer; $75 versus $300 for gas. Joe Eisenberg, K0NEB, #74181 from Lincoln, drove his 2009 Prius. If you have ever been to Dayton, Joe is the individual who walks around wearing the 'Cat in the Hat' hat. When I see him at the next QCWA luncheon, we'll compare mileage.

Speaking about Dayton, this year we were a little disappointed. Our booth was moved again and there was no Ten-Ten forum. Both of these are important, as many of our members use Dayton to stop by, chat, renew their dues, or simply to meet fellow Ten-Tenners. And when they can't find us, we both suffer. While I don't know the final attendance figures, I would guess that attendance was up overall. Friday was busy all day; Saturday was surprisingly slow, and Sunday was a typical very slow Sunday. Because Ten-Ten Treasurer, Keith Schlottman, KR7RK, #63324 and I work the Ten-Ten booth we rarely attend any forums, so to attend any event during the weekend is a luxury.

This year I was able to attend the ARRL Donor Reception on Thursday evening as Keith's guest. I was surprised by how many of the attendees I knew. I met and chatted with ARRL President Joel Harrison, W5ZN.

On Saturday, with Keith as my guest, we attended the CQ Communications reception. This is purely a social event for the many individuals and companies who support CQ. Keith and I found a table and to our surprise seated to my immediate right were Laura Smith and Bill Cross, W3TN. Laura, if you haven't heard, is Riley Hollingsworth's replacement as FCC Special Council for Amateur Enforcement, Bill is a staff member in the FCC's Mobility Division. Needless to say, Keith and I had an enjoyable evening participating in the many conversations with Laura, Bill, and the rest of the members of our table.

10-10 Board Meeting And Gathering

As this month's column is going online, the Ten-Ten Board is having its annual meeting and preparing for the bi-annual gathering at the Holiday Inn Select in Orlando Florida. The Board agenda has not been finalized but a number of items will be discussed. Among the most interesting are the reduction of Club dues from $15 to $5 per year; Associate and Student membership options, a new operating event for 2010 and various rules changes for several other operating events, lowering the age for Senior Life Membership, and another revision to what constitutes a valid 10-10 contact. This last item was redefined last year to define operation by users of remote bases and it has brought forth some controversy. Ten-Ten Board meetings are open to all and those in attendance are encouraged to express their opinions. It should be a lively meeting.

10-10 Future Events

The 10-10 Summer Phone QSO Party will be held on 0001Z 1 August 2009 through 2359Z 2 August 2009. As is the case with all 10-10 QSO parties, it is open to all; however, awards can only be given to paid up 10-10 members as of the date of the party. All other logs received will be handled as check logs. 10-10 members should exchange call, 10-10 number, name and QTH (state, province or country). Stations without a 10-10 number should use 00000 as their 10-10 number. For non-10-10 members this is a good time to make those initial 10 contacts necessary to obtain their own 10-10 number. QSO Party logs must be returned to the QSO Party Manager and be postmarked no later than 17 August 2009. For complete details refer to the 10-10 NEWS, 10-10 Information Manual or the 10-10 contest page on the 10-10 web site, www.ten-ten.org.

Information about 10-10?

The easiest way to obtain information about 10-10 is to visit the 10-10 web site at www.ten-ten.org. Everything you want to know about the organization is on the web, including a downloadable membership application form. If you do not have computer capabilities, you can receive a copy of the 10-10 NEWS by writing to: 10-10 International Net, PMB 142, 643 N. 98th Street, Omaha, NE 68114-2342. Please enclose $2.00 to cover the cost of mailing.

If you have been issued a 10-10 number and have forgotten your number, send me an e-mail and I will find your number. A 10-10 number is issued to you as an individual and for life, regardless of the call(s) you may hold.

I would also appreciate any comments or suggestions, please send them to:

Gerry Gross, WA6POZ, #21274, 10-10 President, 16046 Orchard Cir, Omaha NE 68135-1068 or e-mail at: wa6poz@ten-ten.org

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
ARIZONA			
Mesa	3rd Mon	Steve KY7W, 480-804-1469, kj7wk@cox.net	w/i
ARKANSAS			
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net	
Sherwood	3rd Sat	Daryl, AE5WX, 501-227-9183, ae5wx@arrl.net	w/i ok
CALIFORNIA			
Highland	8/15	Ed , WU6I, 909-864-0155, wu6i@arrl.net	p/rw/I ok
Long Beach	3rd Sat	Louise, N6ELK, 562-429-1355	p/r
Manteca/Tracy	4th Sat	David, N5FDL, 209-835-6893, n5dfl@arrl.net	p/r
Mission Viejo	8/17	Ernie Senser, W6ETS, 949-458-2504, w6ets@aoara.org, www.soara.org	p/r pref.
Redwood City	8/15	Al, WB6IMX@arrl.net, www.amateur-radio.org	w/i
Sacramento	Hotline!	916-492-6115, n6na@arrl.org	
Santa Rosa	Hotline!	Hotline-Recording 707-579-9608	w/i ok
Sebastopol	Hotline!	Recording 707-579-9608	
Sunnyvale	8/8	Gordon, W6NW, Sv@amateur-radio.org, www.amateur-radio.org	w/i
FLORIDA			
Melbourne	1st Sat	John, AA8IS@earthlink.net, 321-412-2779	w/i ok
North Port	Call	Bill Norris, KC7TSG, 941-426-0214	w/ipref.
St. Pete	Call	Mark, NP3R, 727-528-0071	w/i pref.
GEORGIA			
Athens	Last Mon	Ed, FUQUA, 706-354-1727	w/ipref.
HAWAII			
Oahu	Call	Lee, KH6BZF, 808-247-0587, 808-551-3494, leewical@aol.com	p/r
ILLINOIS			
Bolingbrook	3rd Sat	Dale, W9KHX, 815-723-3332	w/i ok
Burr Ridge	Any Day	Argonne ARC, W9DS, 630-986-0061	p/r
Roselle	2nd Tues	Sam Baibeau, W9SFB, 630-894-0708, w9sfb@aol.com	p/r
INDIANA			
Richmond	8/1	Mike, 765-439-4230, w1dx@arrl.net, wvarc@gmail.com	w/i
South Bend	3rd Mon	Alan, NY9A, 574-232-6883	p/r
MASSACHUSETTS			
Brookline	2nd Mon	Dick Doherty, KA1TUZ, 617-527-2968, ka1tuz@arrl.net, www.barc.org	w/i ok
Chelmsford	2nd Wed	Bruce, w1lus@att.net	w/i
MICHIGAN			
Corunna	4th Thur	Tom, KI8AS, 517-579-0599, www.w8qqq.org	p/r pref.
MINNESOTA			
Apple Valley	2nd Thur	Jim, N0OA, 612-384-7709, N0OA@arrl.net	p/r pref.

CITY	DATE	CONTACT	NOTES
MISSISSIPPI			
Harrison County	1st Sat	Don, W5DJW, 228-868-5670, donw5djw@bellsouth.net	w/i ok
NEVADA			
Stagecoach	2nd Sat	Jack, AC6FU, 775-577-2637, acfu@arrl.net	w/i ok
NEW JERSEY			
Bellmawr	3rd Thurs	Diane, N2LCQ, 609-227-6281	p/r
Roselle	8/22	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
NEW YORK			
Canandaigua	1st Wed	Squaw Island ARC, David A. Foster, 585-398-0216, D1161F@aol.com	w/i
Canandaigua	1st Wed	David Foster, 585-398-0216, www.siarc.us	w/i
Yonkers	8/2	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
OHIO			
Cincinnati	1st Sat	Dale, KC8HJL, 513-769-0789	p/r pref
Sandusky	8/18	Luther, N8HC, 419-684-7864, n8hc@arrl.net	p/r
OREGON			
Astoria	Call!	AA7OA, 503-338-3333	p/r
Bend	Weds	Joe, K7SQ, 541-385-3152	p/r
Grand Pass	8/28	Bill Tyner, WX7U, 541-476-2703	w/i
Lincoln City	1st Sat	Carl, w7i@arrl.net, 503-965-7575	w/i ok
McMinnville	Call!	Mark, AC7ZQ, 503-843-3580	w/i only
Sisters	Call!	Dave, N7TYO, 541-549-7831	p/r
Tigard	Call!	John, KS0F, 503-626-7399	p/r
PENNSYLVANIA			
Erie	3rd Sat	Ron, KB3QBB, 814-833-6829, kb3qbb@arrl.com, www.wattsburg-wireless.us	p/r
Pittsburgh	8/15	Bob Benna, N3LWP, 412-366-0488, n31wp@verizon.net	
PUERTO RICO			
San Juan	Last Sat	Hotline: 787-789-4998, prarl@prarl.org	w/i
SOUTH CAROLINA			
Charleston	3rd Wed	Robert Johnson, ae4rj@amsat.org; www.qsl.net/wa4usn/	w/i
Charleston	2nd Sat	Riley Stone, 843-832-9105,k4hyy@sc.r.com	w/i
VIRGINIA			
Alexandria	2nd Sat	John, WZ4A, 703-971-3905, wz4a@arrl.net	w/i
Stafford	Sat	Bart, N3GQ, 540-373-4506, n3gq@arrl.net, www.qsl.net/semcomm	p/r
WASHINGTON			
Tacoma	2nd Tues	Radio Club of Tacoma, 253-759-2040, www.w7dk.org	
Vancouver	Hotline!	CCARC, 360-896-8909	p/r
WEST VIRGINIA			
Parkersburg	2nd Mon	Dana Pickens, WV8G, 304-422-6101	w/i, p/r
WISCONSIN			
Tomahawk	Last Sat	Terry, KB9AUP, 715-453-4633, dcollins@newnorth.net	w/i ok

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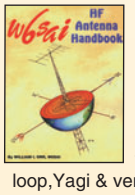

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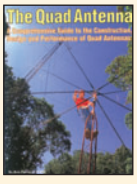

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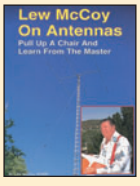

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ARIZONA

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 WØKAD, 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. Regular meetings first Thursday of the month. All meetng dates and locations, with directions are posted at *www.k6arc.org,* as is other club infor and contacts. Reptr: 146.835, PL 100 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 17th & Lincoln Ave., Santa Ana, CA. Rptrs: AA6DP 147.09(+), 224.42(–) PL 110.9 on Catalina Island; *www.cara.nu* 12/09

Contra Costa Communications Club, Inc., WD6EZC/R. 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., 445.640(–) pl 156.7 & Thurs., 7:30 p.m., 145.595 simplex, *www.downeyarc.org* 9/09

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@randallstone.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 first 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 samefrequency. P.O. Box 21305, Oakland, CA 94620-1305, *wb6ner@arrl.net; www.ww6or.com* 9/09

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

Sonoma CRA, Inc. W6LFJ, 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 (+) PL 88.5 *www.sonomacountyradioamateurs.com* 9/09

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

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: *k6agf@arrl.net* 12/09

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: *BARC7Ø@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, K4VHX, 941/473-5560 or *www.earsradioclub.org.* 11/09

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

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

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 ARA 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

NEW JERSEY

Gloucester 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

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.net/uvarc/index.html* 12/09

PENNSYLVANIA

RF Hill ARC meets 7:30 p.m. last Thurs/monthly, Perkasie Fire Company, 5th St., Perkasie, 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; *drath marine@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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ADVERTISERS' INDEX

Half-Vertical Antenna

Kurt N. Sterba

Krusty Olde Kurt received this letter from a ham who replaced his horizontal dipole with a "sort of" vertical and got amazingly improved results.

"This letter was prompted by a recent article, *Selecting Your First Antenna*, in March 2008 QST. The article is directed to newly licensed General class hams. I have used a 135-foot dipole for years. However, after Hurricane Katrina, one of my pine tree supports is gone. I constructed a 40-meter dipole with a center insulator/balun. One leg dropped vertically, the other is horizontal to another tree. I had to use a 6-foot ladder to reach the lower end of the vertical leg so there is no danger of getting an RF burn. The lower end is tied off so it does not move with the breeze. Being lazy, it was the easiest way to get a vertical on my favorite band.

"My first contact asked if I had added an amplifier to my station. When I explained the antenna to him, he said it is a common antenna. I have never seen this configuration in print. My next contact told me, 'Whatever you did, don't touch it'.

"This antenna appears to work very well, is easy to construct, and requires a minimum of space for a full size antenna. Why isn't it mentioned in antenna articles?

"Am I correct in thinking that the maximum current is at the highest part of the antenna, therefore the ground losses would be less than in a conventional vertical? I am assuming the radiation pattern is the same as a quarter-wave vertical with the addition of some horizontal component from the horizontal leg. Wouldn't that horizontal component be lost in radials of a conventional vertical? Any comments on this would be appreciated."

This sounds to Kurt like a good antenna. But, unlike the ham you first contacted, he doesn't think it is in common use. It *looks* like the Inverted L, an antenna that has been used practically forever on the low frequency bands and that Kurt uses on 160 meters. Yours is different, as Kurt will explain.

The Inverted L is a grounded short vertical. It is short because, on the low frequency bands, it is impossible for the average ham to put up a full quarter-wave vertical. On 160 meters, this would be 130 feet. However, the shorter, let us say 30-foot, vertical has low feed-point resistance and thus large ground losses. Adding a horizontal top section brings current flow to the top of the vertical and increases the feed-point resistance, markedly improving the efficiency. This antenna still requires a good ground radial system to work.

Your antenna, on the other hand, is a full half-wave long. There is no current at the base and ground radials are not essential, although radials will improve its performance. The pattern will be about the same as the Inverted L: a vertically polarized component and a horizontally polarized component.

The vertical component makes the big difference in performance over your original dipole. The new antenna is not more efficient than your old dipole and it does not put out a bigger signal. Remember, an antenna cannot make power. It can only radiate the power you put into it. The difference is in the direction the power is radiated.

Your old 135-foot dipole at 40-feet height was 3/10 wavelength high on 40-meters, mostly radiating upward. Hams call this a "Cloud-Burner." Recently it has been given a much more elegant name: *Near Vertical Incidence Skywave* (NVIS) and is used for local contacts. The point is that your new vertical will only cover out about 40 miles. Then there is a long "skip zone" where you make no contacts. Then, far out, the vertical comes into its own and gives good DX performance.

The horizontal dipole radiates straight up and the reflections that are just off of directly up (near vertical incidence) come down close in and allow you to work the area just over 40 miles away and further out several hundred miles. For local work, it is better than the vertical in most instances.

Your new antenna has both the vertical radiation for DX and the high angle radiation for local contacts. Of course, you can't get all this extra for nothing. Your radiation from the DX vertical will be down about 3-dB from what you would have if the whole half-wave were vertical. Some DXers would sell their grandmother into slavery to get another 3-dB, but unless you are a real DX fiend, you are well off with what you have.

Why isn't this antenna configuration seen in articles? Kurt doesn't remember seeing it either. One possibility is in the feed-line problem. Ideally, the feed-line should come away at right angles to both antenna arms. This means a feed-line 40 feet above ground. Fine if your shack is on the third story, but not practical if you are on the ground floor. If you bring it straight down to ground level, it will be parallel to and close to the vertical radiator. This can lead to close coupling between antenna and feed-line with probably lots of RF in the shack.

It would be possible to feed your antenna at the base instead of in the middle. The current distribution would not change. The problem is that the impedance at the base is very high and thus a problem to match.

You don't describe how you ran your feed-line. Nevertheless – the antenna is working great. Leave well enough alone. After all, how many of us have antenna installations exactly according to the book? Very few. It is one of the fun things in amateur radio; making do with what you have.