WorldRadio ONLINE

Year 40, Issue 1 JULY 2010

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

Domestically-produced Transceiver Introduced in Cuba

A prototype of the new Caiguaran low-cost 1.8 MHz transceiver, manufactured at one of the factories controlled by the Cuban Ministry of Informatics and Communications, was unveiled at the 8th Congress of the Cuban Ham Radio Federation.

Designed to put out 20 watts on 160 meters, it is Cuba's first domestically-produced transceiver and is expected to be used to support emergency communications in the country. The radio can be modified to cover 80 and 40 meters with additional hardware.

Pedro Rodriguez, CO2RP, chairman of the Cuban Ham Radio Federation, told the Cuban News Agency that the first 600 units were ready for delivery to Cuban amateur radio operators. *(See John Wood, WV5J's, "What's New" in July's CQ Amateur Radio magazine for more details and a photograph – ed.) (Southgate ARC)*

Renowned DXer Vince Thompson, K5VT, becomes Silent Key

A famed DXpeditioner credited with activating many countries in Africa has become a Silent Key. Vince Thompson, K5VT, died April 24. A physician in practice in Phoenix, Ariz., he trained doctors overseas on his trips, according to the American Radio Relay League.

He was a founder of the Voodoo Contest Group and served as the League's Southwestern Division representative to its DX Advisory Committee. *(ARRL)*

Southern California Amateur Arrested Following Radio Threats

A 29-year-old San Jacinto, Calif., radio amateur has been arrested on suspicion of interrupting police and fire communications and making threats.

According to published reports, Irene Levy, KJ6CEY, was taken into custody after she allegedly made a transmission on a Hemet, Calif., police frequency using a commercial handheld radio.

A report on Amateur Radio Newsline said investigators from Hemet as well as Cal Fire "say the unauthorized, random transmissions made from Levy's mobile home in San Jacinto went beyond nuisance calls."

Hemet Police Sgt. Mark Richards said in published reports that Levy disguised her voice during the transmissions. Some came during a Cal Fire search and rescue call, a major traffic accident, and a brush fire, he said.

"Levy was charged on suspicion of making terrorist threats, falsely reporting a bomb threat, and maliciously interrupting, disrupting, impeding or interfering with a transmission on a public radio frequency," the ARN report said. *(ARN)*

U.S.-based 4 Meter Beacon Set Up in Propagation Test

Using the experimental call sign WE9XFT, a United States-based 4 meter beacon went on the air in early May.

The 70.005 MHz beacon is based in Bedford, Virginia, running 3 kilowatts of Effective Radiated Power.

Brian Justin, WA1ZMS, filed an application with the FCC in January for a Special Temporary Authority to operate the beacon "for domestic as well as trans-Atlantic reception tests," according to published reports. "The FCC granted the request as a non-amateur experimental license since there isn't a 70 MHz Amateur band in the United States."

The beacon is being beamed toward Europe and is in operation 24 hours a day. The experimental license is valid through Sept. 1.

WA1ZMS requests signal reports be sent to: WA1ZMS@att.net. *(ARN, VHF Reflector)*

10 Meter FM Repeater Now On the Air From Portugal

A new 10 meter FM amateur radio repeater sponsored by the Ham Radio Association of Beira Alta, is on the air from Portugal.

CQØHAR–with an input of 29.5 and an output of 29.6 MHz–operates on European repeater channel RH4. A 67 hertz CTCSS tone is required for access.

For more information, visit: http://www.ct1arb.com. *(ARN, EC1AME)*

Cayman Islands Radio Amateurs Get New Regulations

The Cayman Islands Governor in Cabinet has adopted a set of new regulations to govern that nation's amateur radio service, according to a report on Amateur Radio Newsline.

"The effect of the new law will be to create a plan for the issuance of amateur radio licenses by the Cayman Islands Information and Communications Technology Authority to persons who have satisfied the certification process by way of examination of their knowledge and competence with respect to electricity and radio, including amateur radio apparatus," the report said.

"The new rules also allow for the recognition of licenses issued by the United Kingdom and other countries which have agreed to grant, with respect to the Cayman Islands, reciprocal amateur radio operating privileges. Also they will ensure compliance with international standards, including the requirement that amateur radios be operated without any financial interest and at the same time minimize the likelihood of interference caused by, and suffered by, amateur radio operators," ARN reported.

The regulations were developed in collaboration with the Cayman Amateur Radio Society. "As an Information and Communications Technology Authority agent, the society will administer the examination for license applicants," the report said. *(ARN)*

Donation Made to Underwrite AMSAT-UK Funcube Project

Great Britain's Radio Communications Foundation has announced it is processing a legacy donation that will help fund the AMSAT-UK FUNcube project.

The grant to the Foundation requires the funding "be used for the development of a suitable amateur satellite project," according to a report from Southgate Amateur Radio Club.

Foundation officials adopted "a proposal from AMSAT-UK to use the inheritance to help with the FUNCube educational project that has the aim of educating young people about radio, space, physics and electronics," the story said.

The FUNcube satellite will feature a 145 MHz telemetry beacon "that will provide a strong signal for the students to receive. A tentative launch date is sometime this fall," after the satellite completes a review of flight readiness. *(Southgate ARC)*

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See "It's Time to Take to the Water" article in July 2009 QST.

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DEPARTMENTS

ON THE COVER: A protective communications shell strikes a solitary pose atop snowy Mount Panacea in the Yukon Territory. The repeater site is one of more than a dozen operated in a wide-ranging linked system developed and maintained by the Yukon Amateur Radio Association. In the inset photo, technicians work at the commshell site on Pilot Mountain while a helicopter hovers overhead. Story, Page 8.

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The Icom IC-718 covers 160-10 meters. This radio is very easy to operate with one touch band switching, direct frequency input via keypad and auto tuning steps (senses the rate at which the tuning knob is turned). The receiver section features IF Shift, Adjustable Noise Blanker, RIT and formerly optional UT-106 DSP Automatic Notch/ Noise Reduction. These big rig features give you the necessary tools to fight interference. You get 99 regular memories and 2 scan edge memories. You can scan memories or scan between two specific frequencies. The transmit section features up to 100 watts of RF output and AF speech compression to increase average audio output. A Morse keyer is built-in. The meter shows output power, ALC and VSWR. The layout and basic operation of this rig is simple, but through a menu system you can adjust many operational parameters such as: peak-hold on the meter, mode lock out, RF/SQL knob behavior, key type, etc. The TS function allows you to vary the tuning increment to your liking. The easy-to-read, large LCD and front firing speaker make this rig ideal for either mobile or base installations. The IC-718 comes with the HM-36 hand mic and DC power cable. The IC-718 requires 12 VDC at 20 amps. 9.7 x 3.8 x 9.5 inches 8 Lbs 6 oz. The IC-718 is a great value, providing reliability and DSP at a 'used rig' price. With **free carry case** for a limited time. *Order #0718* **$599.95**

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EDITOR'S LOG

Bring Back A Station-of-the-Month Feature? Let's Try It!

One of the really neat things about working on an interactive magazine such as ***WorldRadio Online*** is that we are wired to receive lots of feedback from a reading community that is wired for instant gratification.

One drumbeat we're hearing from readers is for ***WRO*** to bring back a monthly feature that for years was a staple of the print version: *Station Appearance* – a picture submitted by a reader showing his or her operating position and equipment, along with details of what was what.

The idea of resurrecting it in the online version got enthusiastic support from several participants in May's live, online ***WRO chat:***

Steve Katz, N8WL, from Granville, Ohio, said after seeing other operators' layouts he'd "often get good ideas. Please bring that back, with big color photos and video files of the owner explaining what he has and why he did what he did. Also, feature antenna installations."

Wow. That's taking it to the next level, isn't it?

Richard Critchlow, KD8NID, of Niles, Mich., liked the idea, too: "Oh, hey. 'Station of the Month.' YES! And a good description of why he uses that equipment (and) what (it does) for him that mine doesn't. Good idea."

Tom Guyer, KG6AO, of Boulder Creek, Calif., recalled seeing "messiest shack" pictures in other publications, "so the rest of us actually looked good. That would be fun."

Ken McVie, ZL4NR, chatted from Brockville Dunedin, New Zealand: "There are some very tidy shacks out there and I enjoy looking at them."

We like the idea a lot and hope to re-launch the station-of-the-month with, say, the September ***WRO***. *Hope*, because sustaining such a monthly feature largely depends on you, the readers. So, let's give it a try.

Are you proud of your station's appearance? Or do you proudly "bless this mess?" Send digital photographs of your station with details to: **WorldRadioOnline@gmail.com** and we'll get things going. If there's a You Tube video to accompany the still pictures, let us know and we'll set up a link.

In the Mirror: A Wrap-up of May's WRO Online Chat

Our live online chat May 2 via the ***WorldRadio Online*** **blog** was a blast – as always. About 130 people were on board for the session, which lasted almost an hour-and-a-half.

About 340 comments were posted. The conversation touched on everything from Field Day and Dayton Hamvention® preparations to feedback on ***WRO's*** May edition and suggestions for possible stories to consider as we move ahead.

Amateurs from across North America and some DX locations checked in – Cyprus, New Zealand, Canada, Alaska and Hawaii, to name several.

It was great to have two ***WRO*** monthly columnists stop by: *Propagation's* Carl Luetzelschwab, K9LA; and *DX World's* Kelly Jones, NØVD. From *CQ Amateur Radio* magazine, we had Kit-Building columnist Joe Eisenberg, KØNEB, on board.

During each session, we post several poll questions. For example, in May we asked: *How long have you been licensed?* 3 percent said less than 1 year. Eight percent said 1 to 5 years. Another 8 percent said 6 to 10. Those licensed 11 to 15 years were 7 percent. Another 7 percent answered 6 to 20 years. The majority – 67 percent – has been licensed more than 20 years. Wow.

Was the elimination of the code examination requirement good for amateur radio?: 55 percent said it was; 41 percent felt it was not; 4 percent didn't know.

Responding to the prompt: *"Typically I get on the air . . .,"* 40 percent of respondents said every day; 33 percent, a few times a week; 11 percent, once a week; 9 percent, a few times a month; and 7 percent, hardly ever.

A replay of May's chat can be viewed on the ***WorldRadio Online*** **blog: http://www.WorldRadioOnline.blogspot.com**.

Many thanks to everyone who took part in the polls and the May chat. Our next session will be Sunday, July 11 at 8 p.m. Eastern. Hope you can stop by.

- Richard Fisher, KI6SN

WorldRadio Online

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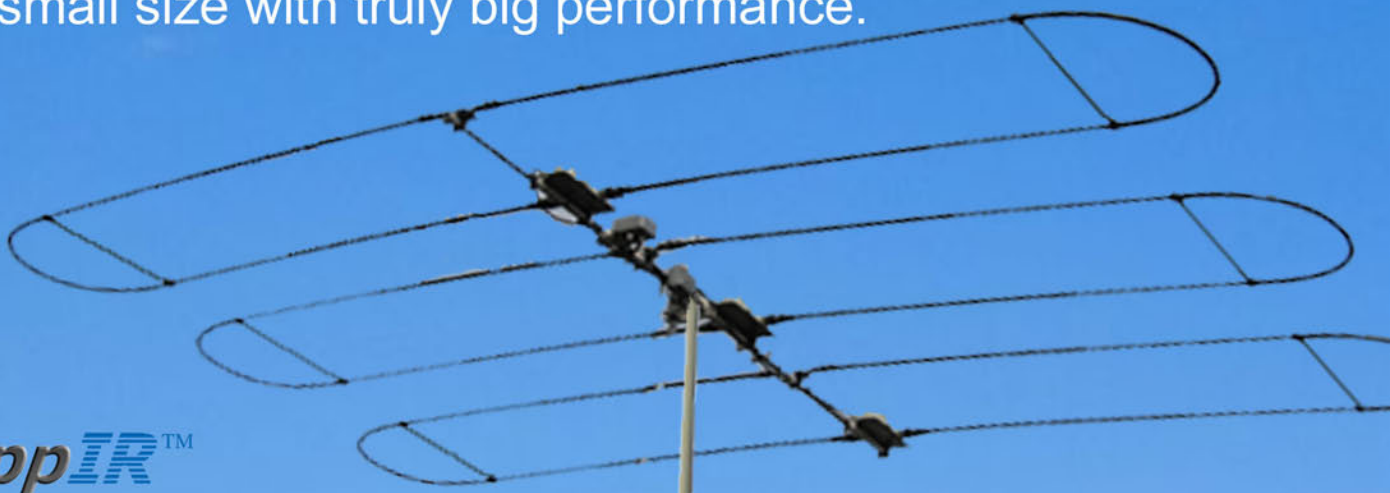

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10m	3
6m	3

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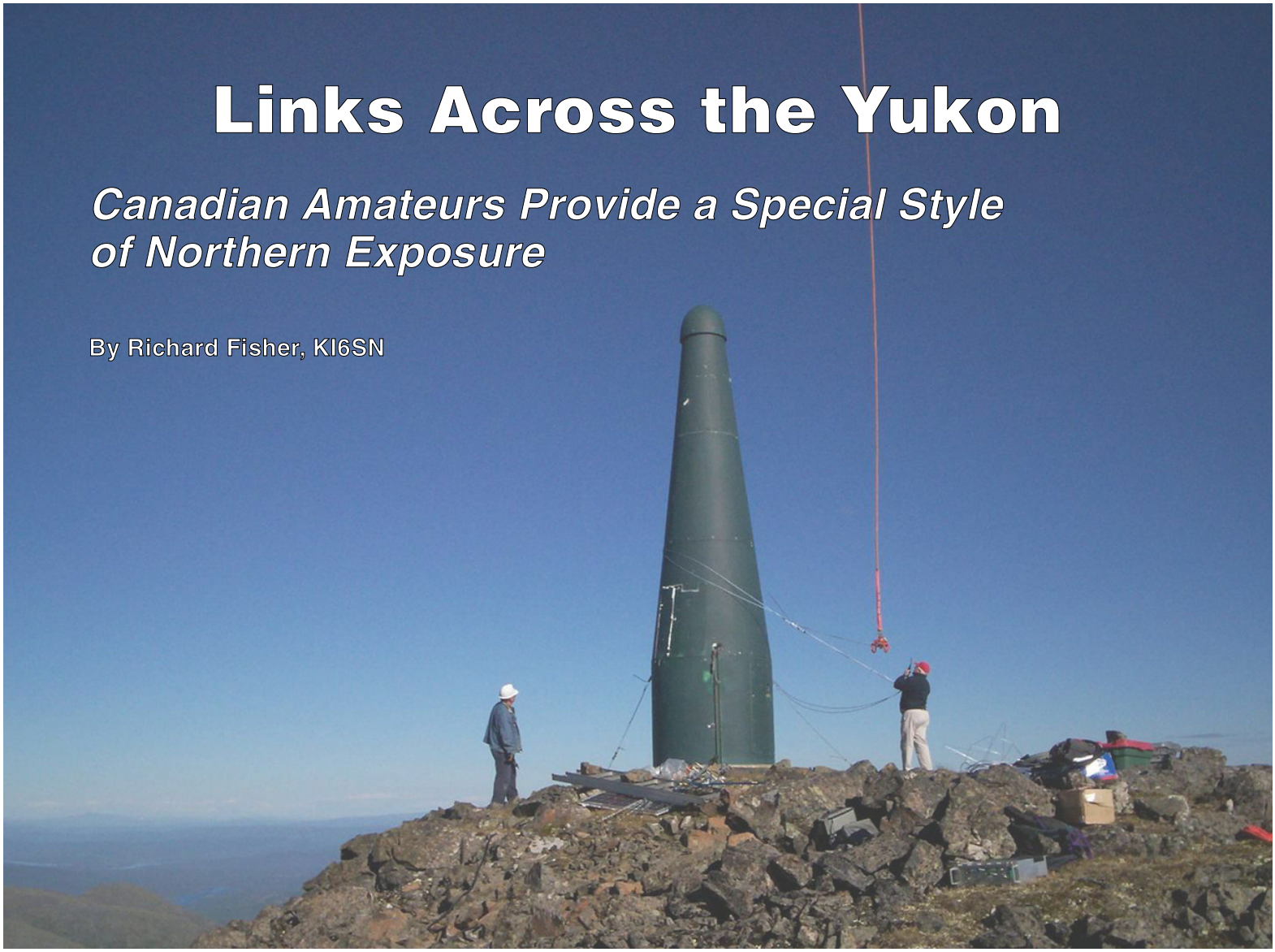
Picture is an artistic rendition to show scale and portability of antenna.

Links Across the Yukon

Canadian Amateurs Provide a Special Style of Northern Exposure

By Richard Fisher, KI6SN



On the Yukon's Pilot Mountain, a long line to a helicopter overhead is used to lift a green "comshell" – a 28-foot tall fiberglass enclosure that houses batteries and radios in the bottom portion and antennas inside the top, providing an ideal location for mounting the solar panels. The unit's dark color helps absorb heat from the sun, which, along with the flexing of the fiberglass in the wind, assists in clearing ice and frost buildup over the winter. ***(All photos courtesy of YARA)***

In the radio days of Sergeant Preston of the Yukon it was sometimes the duty of this intrepid Royal Canadian Mounted Policeman to mush his sled dogs – led by the faithful Yukon King – in a desperate attempt to "get word" to Whitehorse or Dawson City that bad guys were on the loose.

Communication in the vast Yukon Territory of Northern Canada was a tremendous challenge at the time of that popular 1950s radio drama. It still is.

Since 1976, though, Canadian radio amateurs have been building a VHF network that would have made Sergeant Preston's life a whole lot easier. Today, a system of 15 linked repeaters and four non-linked local machines under the operation of the Yukon Amateur Radio Association is vital to a population scattered across almost 200,000 square miles.

The diversity of the region's terrain provides a canvas for some of the most breathtaking repeater sites in the world.

In a recent interview, YARA President Scott Williamson, VY1SW, underscored the multi-level value of the organization's communications system and provided a snapshot of how careful planning, cooperation and tremendously hard work have resulted in a far reaching system that provides a link to areas where none other exists.

WRO: **How critical is the YARA repeater network in providing communications in a region as massive as the Yukon?**

VY1SW: The Yukon covers 483,450 square kilometers – about 187,000 square miles – and has a total population of only 34,000 people. As such, there is not much (need) for (broad) cellular coverage – only within the major communities. And satellite phone coverage is spotty at best. Too far north.

WRO: **About how many people use the system? In what remote and urban locations?**

VY1SW: The Yukon Amateur Radio Association has about 35 members who regularly use the network. In the summer months we have many traveling tourists who use the system to get directions, ask for assistance or access Echolink and IRLP repeaters.

All the major communities south of, and including, Dawson City have coverage – about 90 percent of the population. There

A wind-powered generator - which sees duty in summer months on Pilot Mountain – is covered in snow and ice in winter. At 6,620 feet elevation, the generator is in action from about early June to the beginning of September.

At 7,650 feet, Mount Deceoli, with its knife-edge ridge, is the highest elevation site in the YARA network. It's located on the western edge of the Kluane Mountain Range and experiences severe winds and ice. "The first 'standard' comshell was shredded by flying ice in the first winter," wrote VY1SW. "The second 'beefed up' comshell disappeared from the mountain about two weeks after installation following a severe wind storm. The current installation is a small square metal building anchored with 30+ guy wires and has survived about 18 years now." The site "provides excellent coverage including our longest UHF link (a 2-watt transmitter providing a 200km link!"

is coverage on most of the major highways except the Dempster Highway, which heads north from Dawson City.

WRO: **What approximate square mileage does the network cover?**

VY1SW: It's hard to tell exactly due to the remoteness and the ruggedness of the terrain. I would expect that the entire network covers around 200,000 square kilometers – 77,000 square miles. Most of the repeaters are located on mountaintops that are significantly higher than the surrounding area.

WRO: **Are there any specific incidents in which the network proved to be critical in getting information passed? Emergencies?**

VY1SW: We have been involved with several emergencies and have been asked by the local government EMO (Emergency Measures Organization) and the local Search and Rescue to provide communications assistance.

One example was during a bad fire burning close to one of the main microwave towers that carries all the land line communications out of the territory. A couple of our members were onsite at the fire command post providing relay and programming assistance to both Yukon and British Columbia Forestry workers.

We also had manned the Government JEOCC (Joint Emergency Operations

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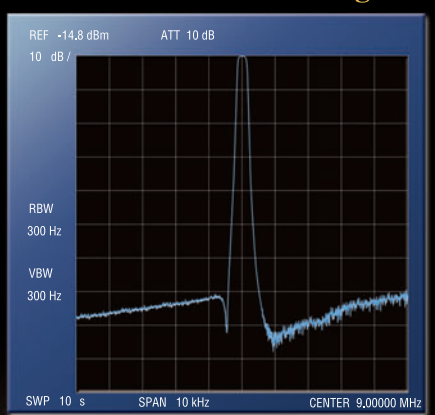
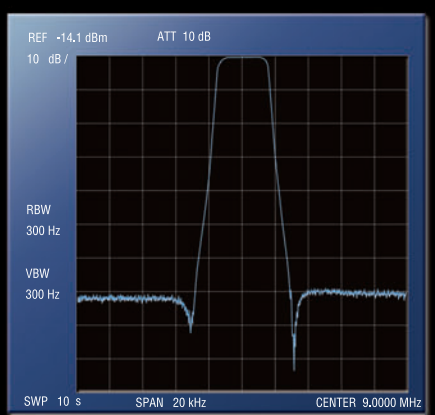


300Hz



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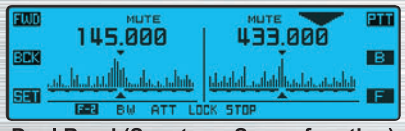
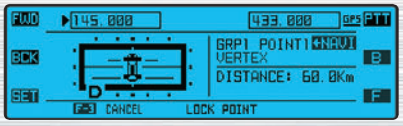


Dual Band (Spectrum Scope function)



Navigation (with GPS antenna unit attached)

Mono Band (Spectrum Scope function)

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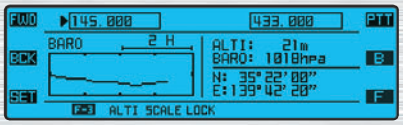

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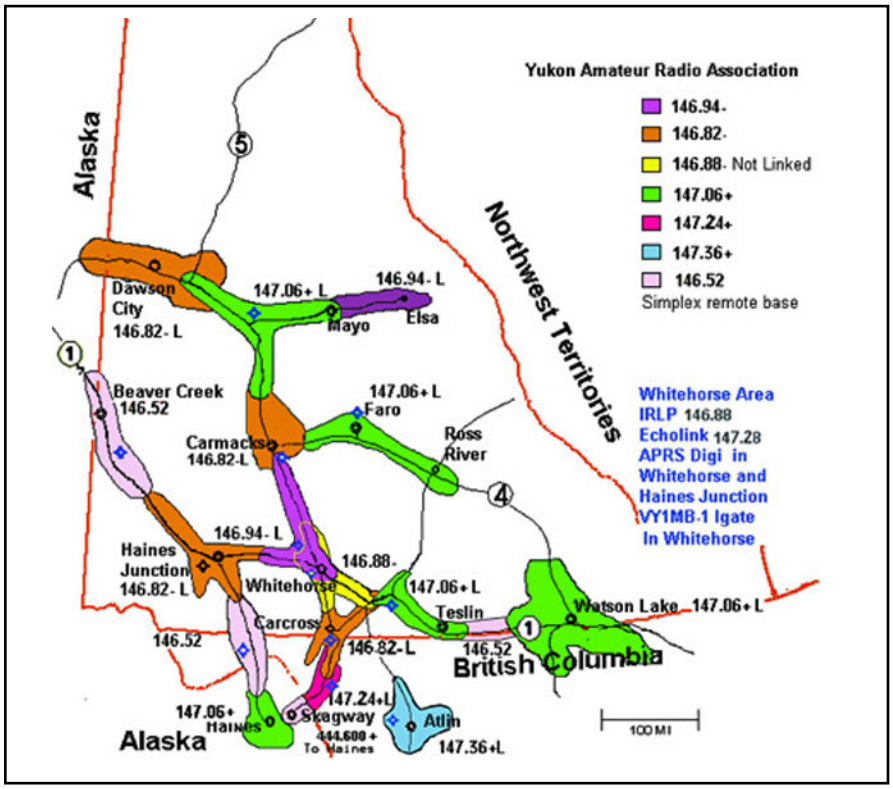
Command and Control) radio room. Our network was the only system capable of communication between the front line fire personal and the commanders in Whitehorse.

WRO: **What is the system's primary use? Nets? Emergency communications? Rag chewing?**

VY1SW: It sees various uses – primarily rag chewing and emergency communications.

WRO: **How was the network developed and over what period of time? Is it still growing?**

VY1SW: The first repeater was installed on a local mountain known as



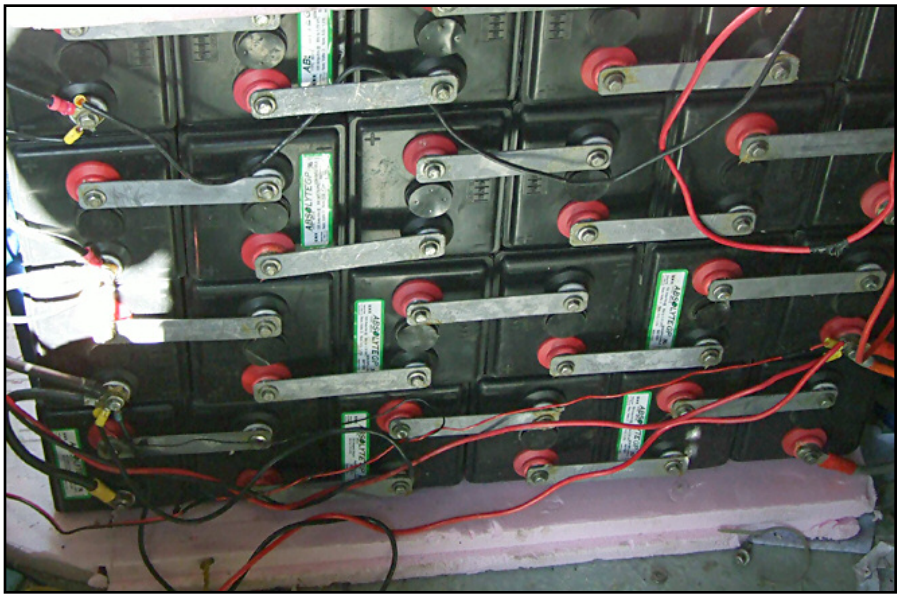
Yukon Amateur Radio Association Linked Repeater System

VA7ATN – Atlin Mountain – 147.34+
VY1RCM – Chilkat (Haines Rd) – 146.52 simplex remote base
VY1RMD – Dawson Lookout – 146.82-
VY1RFH – Ferry Hill (Steward Crossing) – 147.06+
VY1RBT– Galena Hill (Keno) – 146.94-
VY1RHP – Hayes Peak (Johnsons Crossing) – 147.06+
Miners Ridge (White Pass Summit) – 146.52 simplex remote base
VY1RHH– Horsecamp Hill (Beaver Creek) – 146.52 simplex remote base
VY1RMM – Montana Mountain (Carcross) – 146.82-
VY1RMB – Mt. Berdoe (Carmacks) – 146.82-
VY1RHJ – Mt. Deceoli (Haines Junction) – 146.82-
VE7RFT – Mt. Panacea (Bennett Lake) – 147.24+
VY1RPT– Pilot Mountain (Whitehorse) – 146.94-
VY1RRH – Rose Hill (Faro) – 147.06+
VY1RM – (Whitehorse) – 147.18+

Local Only (not linked):

VY1IRL– Haeckel Hill (Whitehorse) – 146.88- PL100 IRLP Node 1662
VY1ECH – Mt. Sima (Whitehorse) – 147.28+ Echolink Node 322488
VY1RTM – Transport Mtn (Watson Lake) – 146.82- (link to be completed in 2010 via two new sites at Mount Hazel and McNaughton)
VY1RPM – Haines Junction – 146.88- Echolink Node 322804

Courtesy of VY1SW



Due to the limited charge opportunities available on Mount Panacea, four large banks of grid plate batteries have been installed by YARA providing more than 2,400 amp-hours of capacity. Each bank has six 2-volt cells weighing about 90 pounds each – lots of work to haul and install.

The comshell for Mount Panacea is lifted by a Bell 204 helicpoter.

Though it requires a 2,300+ foot vertical hike, the Horse Camp Hill repeater site is accessible on foot. It is one of YARA's remote base sites, which are 146.52 FM simplex repeaters linked into the network. There is no local repeating but they receive and transmit into the network. There have been several humorous instances with traveling tourists when they realize that they are talking on 146.52 MHz simplex to someone who is 1,000 km away, VY1SW said.

Haeckel Hill – now the site of our IRLP linked repeater – in 1976. In the mid '80s the linked network of repeaters was started and it has slowly grown since then.

Last year we added the Southern Extension which gives us coverage along the South Klondike Highway down to Skagway, Alaska.

***WRO:* How is the system maintained and funded? Is it affiliated or tied-in with any other public service agencies?**

VY1SW: Most of our sites are in partnership with various other organizations such as the Yukon Marine Distress System – run by YARA and funded by EMO, Department of Fisheries and Oceans, and Yukon Electric – the Yukon Government, Yukon Electric, White Pass & Yukon Railway, Parks Canada, Department of Fisheries and Oceans, Northwestel, Environment Canada, and Discovery Helicopters.

Each site has an agreement with one or more of the organizations mentioned. We have access agreements for several of the sites, but many of them are controlled by

A comshell and wind generator on Montana Mountain are accessible on foot after a 2,200 foot vertical hike. This site was destroyed by a lightning strike several years ago. Since then, YARA is "much better at properly grounding the spike on the top to a network of copper wire laid out on the the top of the mountain."

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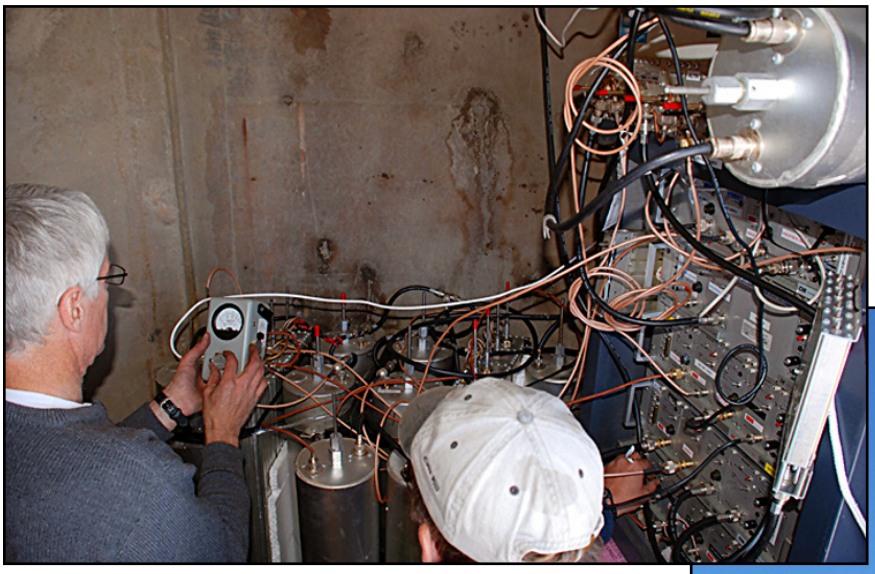


A view inside the lower part of the comshell on Atlin Mountain shows gear at the site, which includes several UHF and VHF transmitters, requiring complex multi-coupling and filtering.

YARA – we have done the work and been granted the land access.

Each site and build project is (different), but generally YARA supplies the expertise, manpower and some of the repeater equipment – sourced from years of scavenging, dismantling of other systems, and purchased using various grant applications. The site partners pay for the required helicopter time and some of the equipment.

***WRO:* From a technical standpoint, what challenges have you overcome?**

VY1SW: Technically, we have learned many things. Since the majority of our sites do not have access to AC power, we have had to become experts at setting up equipment that minimizes power consumption, battery and power storage technology, and solar and wind generation capability.

The majority of our sites are also located at the top of mountains in areas that see temperature extremes, high winds, frost and ice, and lots of snow. The accompanying pictures highlight some of these issues.

***WRO:* How do technicians get to those remarkable repeater sites?**

VY1SW: The access to the sites varies from a few drive-ups and some hiking to basic mountaineering and helicopter-only access.

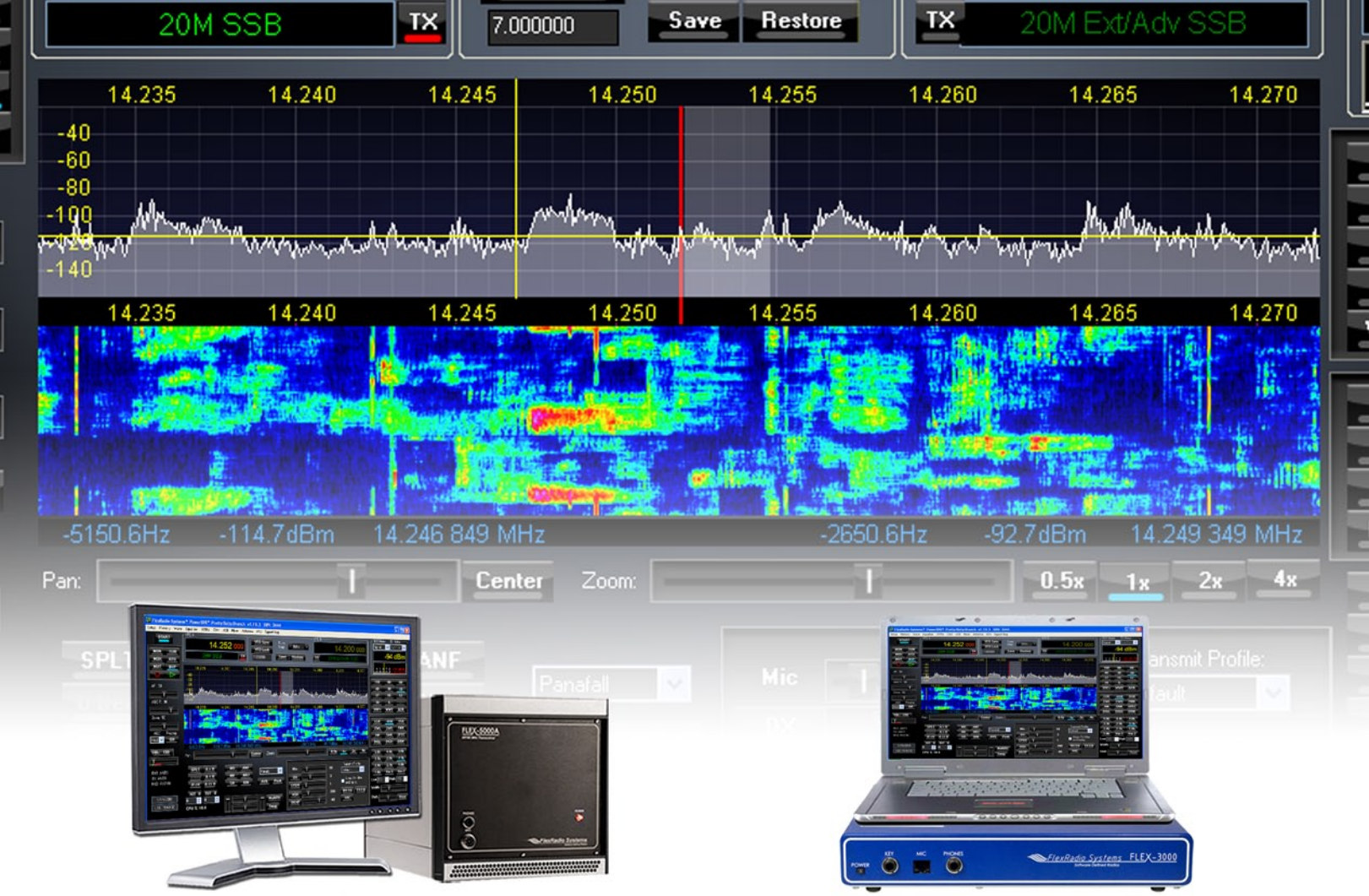
***WRO:* What lessons have been learned in developing such an ambitious project?**

VY1SW: The importance of partnerships has certainly been the key to our success. We have been fortunate enough to have several very talented volunteers capable of all the engineering and tuning that goes into building these sites.

We have been able to leverage those skills to be able to offer something of value to our various site partners. It costs them less to get the sites established and maintained with the partnership with us and we get access to funds and equipment that we would not have otherwise. Everybody wins!

For more information about the Yukon Amateur Radio Association and its linked repeater system, visit: **http://www.yara.ca**

The specially reinforced comshell at the top of Atlin Mountain does not require any guy wiring. All the anchoring is from below with rock anchors and concrete footings. "This was necessary at this site as the mountain drops off quite steeply on three sides of the comshell," VY1SW said. "(You) need to be very careful of footing when stepping out the door as an extra step would take you down a few thousand feet."



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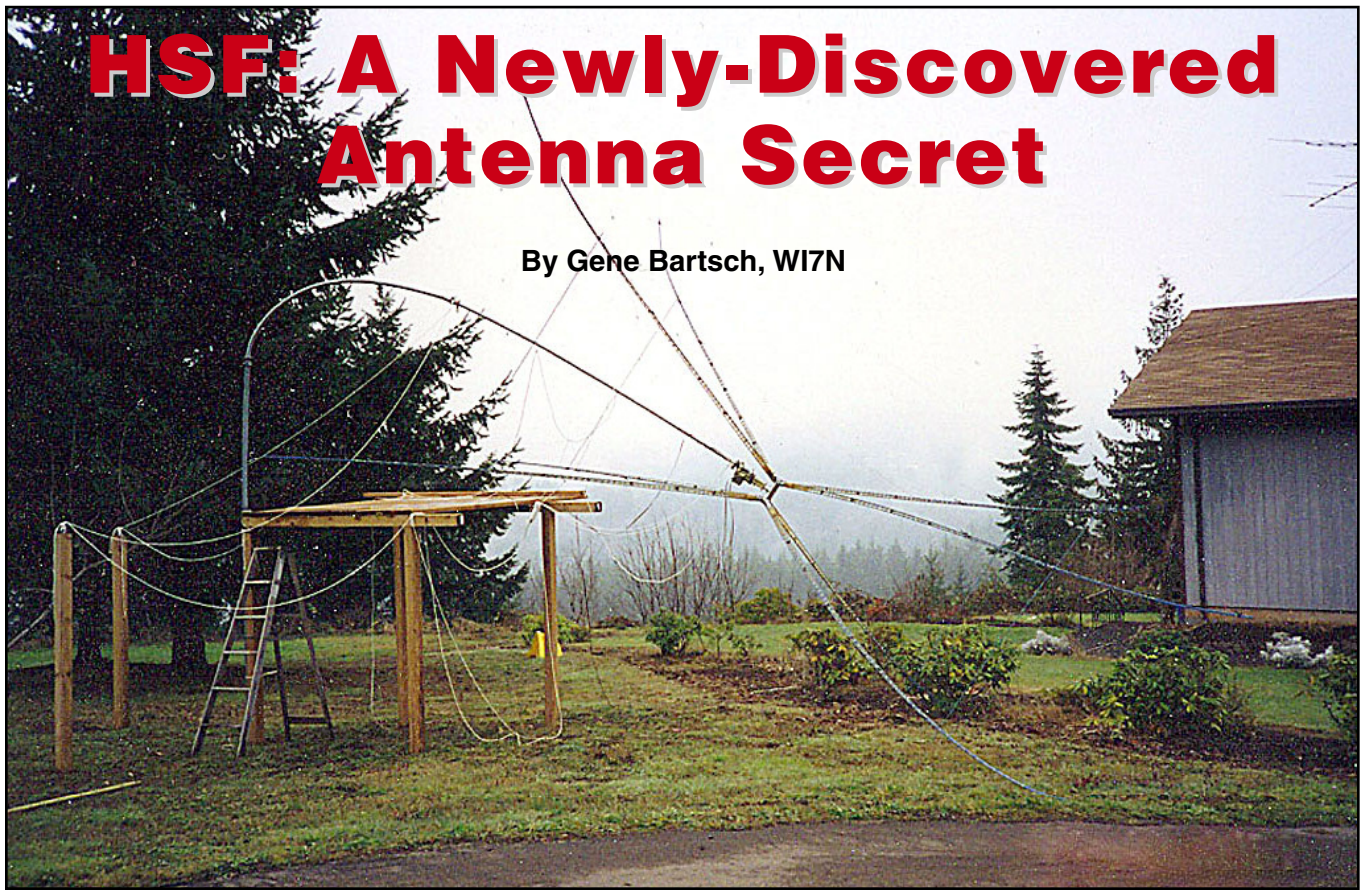
HSF: A Newly-Discovered Antenna Secret

By Gene Bartsch, WI7N



HSF at work? Strong winds at WI7N, who lives about 30 miles west of Portland, OR, took its toll on a TV antenna mast holding a 2-element quad on the first night of the CQWW DX contest a few years ago. "I managed to erect several dipoles so I could keep operating, but it was snowing hard before I had them up," Gene Bartsch said.

After being a ham for more than 50 years I was convinced I knew everything about wire antennas. I'd accumulated an extensive library of antenna design and construction literature and had carefully studied each book and manual until my understanding was complete.

Dipoles, verticals, inverted-Ls, quads, loops and half-loops, wire beams, and most of their antenna cousins and neighbors – I had built and used them all with success.

Impedance matching? *No problem*. Radiation efficiency? *Trivial!*

Fresnel angles? *Ha!* I *laugh* at Fresnel angles. I spit at Fresnel angles!

If you've been a ham for more than a few years, perhaps you feel somewhat the same way about simple wire antennas. After all, they are thoroughly covered in the literature, and the equations for them are relatively easy to understand. You can even follow cookbook instructions without understanding the technical details: just cut the wire to the proper length, make sure the appropriate antenna elements are sufficiently elevated above ground, use the proper feedline, make certain you have a decent SWR, call CQ, and eventually work a few hundred countries. Not a big deal, right?

Still, something bothered me: Occasionally an antenna worked far better than it should, at least according to the published literature. *So, what's the big deal?* you might ask. *"You got lucky or had a superior location. We should all be that fortunate."*

Well maybe, except when I replaced an existing dipole with an absolutely identical one – same wire type and dimensions, same kind of coax and length – the replacement didn't work nearly as well. That ignited my curiosity and caused me to review previous cases in which an antenna worked better than expected.

I consulted my station equipment journal to try finding the answer. (You *do* keep a station journal, don't you?)

The result of my analysis was astonishing. Over the years I've lived in a dozen states and had usually taken my antennas with me from location to location. Also, I had sometimes moved the same antenna to an adjacent site at the same QTH. Although the traditional elements of proper antenna design – things like proper length and height above ground and fed properly and low SWR – are important, an unknown factor seemed to make certain wire antennas truly exceptional.

A careful analysis yielded the following observations:

(1) all other things being equal, a wire antenna erected in a location associated with poison oak or poison ivy will outperform that same antenna when positioned mere feet away in a place not overgrown with any poisonous flora;

(2) a wire antenna located above a briar thicket will outperform the same one positioned above clear, uncluttered lawn, where it's easy to work;

(3) a wire antenna erected under demanding conditions – such as during a blizzard or dust storm or extreme heat and humidity – will outperform an identical antenna raised when the weather is clear and the temperature is mild and pleasant;

(4) an antenna raised in haste and only minutes before a major contest such as CQ WW will outperform the same one if erected without any time urgency;

(5) as a subtle variation, an antenna located where the person raising it expects exposure to poison oak or poison ivy will outperform the identical one associated only with a briar thicket – *unless* the person raising the antenna believes that thicket is infested with chiggers or ticks, in which case the enhancement is the same.

The difference in performance can easily be several S-units of signal strength. After spending weeks wracking my brain, I finally isolated the cause and have labeled it the *Human Stress Factor* of antenna performance. That is, the level of stress emanating from the brain of the person raising the antenna somehow affects the wire itself, perhaps creating electromagnetic eddies or subtier dipoles within the wire that somehow lowers the launch angle of the transmitted radio wave.

An ordinary dipole erected under low-stress conditions apparently has an HSF multiplier of 1, but an HSF-enhanced dipole – one erected above a grove of poison oak and during summer heat, for example – has a performance multiplying factor between 1.5 and 3.2, depending on the amount of the poison oak involved, the likelihood of exposure, and the actual temperature.

Similarly, a dipole raised in sub-zero cold during a blizzard and just minutes before the November *CQ WW* contest seems to have an HSF multiplier between 2.5 to 3.5 depending on the wind-chill, amount of snow plastering your face, the general discomfort level of the person raising it and the intensity of your desire to use that antenna during the contest.

This HSF-enhancement explains why an antenna raised hurriedly for Field Day or by a DXpedition team will sometimes outperform the same antenna erected slowly, carefully, and casually at your home QTH.

Conversely, there seems to be an HSF performance-damping effect. If you erect an antenna under miserable conditions, even with plants that cause allergic reactions or have thorns, but don't *believe* it will perform well, then you likely aren't really under much stress and it probably *won't* perform very well, so keep that in mind.

Has anyone else noticed this *Human Stress Factor* causing signal enhancement?

Licensed since 1974, Gene Bartsch, WI7N, is an electrical engineer living in Banks, OR. His previous call signs were WA5IZR and WB6OBS.

Gene Bartsch, WI7N, theorist behind the Human Stress Factor of antenna performance, sits at the controls of his amateur radio station in Banks, OR.

10/10/10: Several 'New Ones' Are One Step Closer

By Kelly Jones, NØVD

There has been a lot of talk, rumors and otherwise hearsay regarding the breakup of the Netherland Antilles. However, after several false starts, there is now a very real possibility that on Oct. 10 we may see the birth of several new DXCC entities as a result of this event.

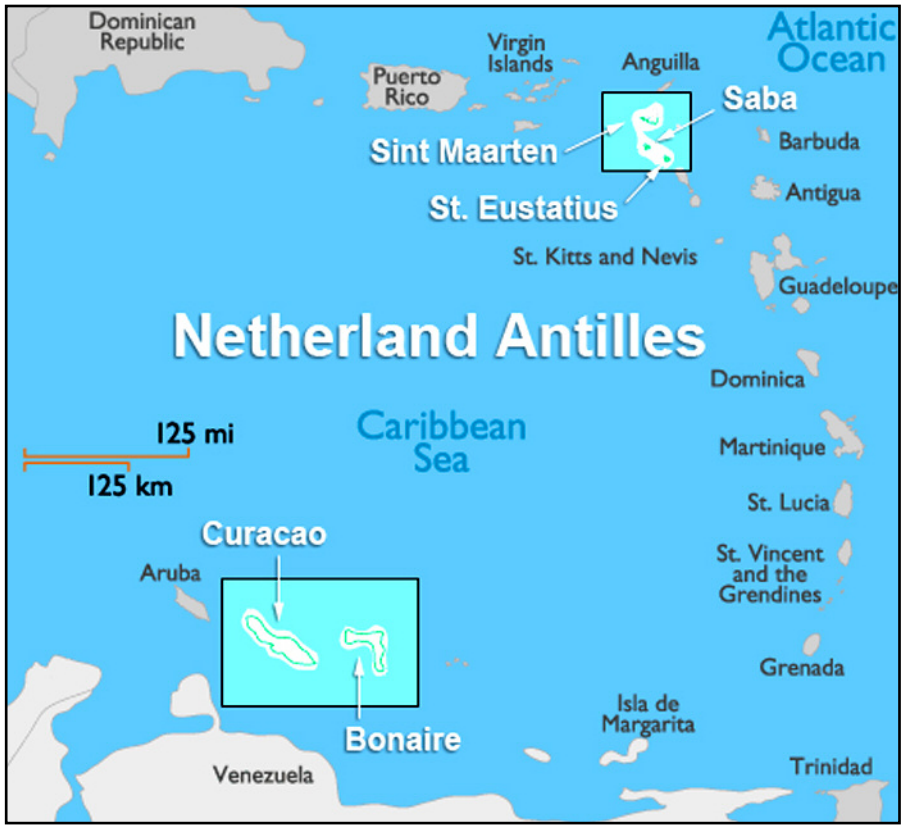
There had been a lot of speculation that things would once again become sidetracked due to various political forces both within the Netherland Antilles and in Holland. However, on April 15 the Dutch Second Chamber voted in favor of all 10 Kingdom Consensus Laws paving the way for a new organization of the Dutch Kingdom.

The anticipation is that four new DXCC entities will be born: PJ2, PJ7, PJ4 and PJ5/PJ6. Bonaire (PJ4), St. Eustatius (PJ5) and Saba (PJ6) will form the BES Islands and become an integral part of Holland, while Curaçao (PJ2) and St. Maarten (PJ7) will become independent "countries" within the Dutch Kingdom. Under the plan, PJ2 and PJ7 would attain what is called "status aparte" within Holland. This is the same status Aruba (P4) obtained in 1986.

PJ4 would become a "municipality" within Holland. Due to its distance from Holland, Bonaire should qualify for DXCC status under Rule 2 of the DXCC Criteria List (Geographic Separation Entity).

PJ5 and PJ6 would also become "municipalities" within Holland and should qualify under Rule 2 as well. However, because they are close enough to each other, the expectation is that they will be grouped together as a single DXCC entity.

The passage of the Consensus Laws was a huge milestone in that it sets the ball in motion with plenty of time to meet the October changeover date. There are, in fact, at least three groups planning to activate the various islands on or around the anticipated "10/10/10" date.



The islands of the Netherland Antilles which is scheduled to dissolve on 10/10/10.

Joe Pater, W8GEX, along with co-leader Joe Blackwell, AA4NN, had originally planned to activate St. Eustatius (PJ5). However, a change in location was recently announced and they will now activate St. Maarten (PJ7) when it becomes a new country. They expect 10 days of operations, with an international crew of operators and at least four stations on the air 24/7. Joe indicates more details will be forthcoming as we get closer to the October date.

In addition to W8GEX's planned operation from St. Maarten, three members of the Southeastern DX Club (SEDXC) and the K5D team – Bob Allphin, K4UEE; Gregg Marco, W6IZT; and George Nicholson, N4GRN – were on the Island of Saba (PJ6) during the month of March. Their purpose for that mini-DXpedition was to finalize plans and begin building a station for the anticipated political realignment later this year.

And finally, look for Bonaire to be activated by a group led by Peter de Graaf, PJ4NX. Plans are currently in the works for an international team of operators including PJ4NX, PJ4LS, PA8A, K6AM, WØLSD, your author (NØVD) and possibly others, to be active for two weeks from various stations located around the island. Further information and a website will be forthcoming.

As you can see, if everything goes according to plan, October may prove to be a very interesting month when it comes

to DXing. Hopefully you will be ready to hit the bands running and put a few "new ones" in the log.

Best Call Letters

Recently there was an interesting thread on one of the email reflectors I subscribe to discussing the best letters for call signs. I found this particularly interesting because after moving from 9-land to Ø-land in 2000, I struggled with the notion of being "out" of my district.

While I had held my previous call sign – KE9KD – for nearly 20 years, being a 9 in Ø-land was always awkward for me. However, it wasn't until I returned to contesting in 2002 that I decided it was time to "move" to the right district.

So in 2003 I began looking at available zero 1x2 and 2x1 call signs. KE9KD seemed to be confusing to DX stations. I would often get KD9KD, KD9KE, KE9KE and every combination imaginable on SSB.

On CW, the "E" would often get dropped and my call would end up as K9KD. So when I began looking for a new "zero" call sign, I took into consideration how distinct each call would sound on phone and CW. I knew having a 1x2 would be better for DXing since most DX stations were accustomed to this type of letter grouping. However, as 1x2s are quite rare, only a handful were available. And while there were a few more 2x1s available, most of them were not appealing.

John Geiger, AA5JG, was the original poster and asked if anyone had done a study (or had anecdotal evidence) about which letters get through best on SSB during pileups or during marginal/weak conditions. He thought "J" would be a decent letter but apparently his experience was that many people hear "Juliet" as "India."

Doug Smith, W9WI, chimed in, saying that "stations seem to copy the 'I' in my call as 'R,' whether I use phonetics or not."

Al Lorona, W6LX, then pointed out that "the only three letters in the English alphabet that sound unique when said are 'L', 'O' and 'R.' All the others can be easily confused with another letter. Looking at it from a strictly phonetic viewpoint, stay away from the 'eee,' long 'A' or long 'I' sounds, which spectrally are much weaker than 'eh', 'ah', 'oh', and 'ooh,' in that order."

Applying W6LX's reasoning, this would explain why I would get all kinds of wrong combinations on SSB with my previous call sign. In addition to thinking about how a new call would sound on SSB, I specifically gave thought to how the "rhythm" of a new call would play on CW.

Mike McCarthy, W1NR, made the comment that "on CW any call sign with E, I, S, H or 5 is a problem. Take the following: 5H5/JH1SHV. That is a fist-full and I remember a CW contest where there was someone using a call from 5H very similar to that."

I would have to completely agree with Mike. I once heard a station signing EE5E during a CW contest. I don't know how many times I had to hear the call to get it. It should have been fairly simple to pick the letters out on CW, but with all "dits" in the call, it threw me for a loop. And given the fact that many stations would drop the "E" in my previous call, I knew I wanted to stay away letters that only consisted of "dits."

Joe Mayenschein, WB9SBD, confirmed both my thoughts and W1NR's opinion. Joe stated that when their club " . . . decided to go for a vanity call to aid in contesting (we) had to get rid of the old call – it was terrible! KC9OMQ. YUK! Can it get much longer? And phonetics? Yikes!

"Anyway we opted to get a better vanity call and went the usual route of the list in order of preference, etc. And at the top of our list (was) W9ET."

"We thought, 'awesome – fast on phone and on CW for a 9 land call, can't get too much shorter!' But actually on CW it slowed down a bit. We, on contest programs, had to insert a space between the '9' and the 'E.' A lot of people would miss the 'E,' so we'd get answered with W9T or even better W9A. So when sending this call we had to resort to sending it like this: W9 E T (W9 [space] E [space] T)."

David Sourdis, HK1A, thought about things from every angle. He says, "You have to get more picky if you (want a great call) on CW and SSB. I took several things on account to get to HK1A." They included:

- Phonetics and phonetics contrast.
- Musicality and rhythm of the call on both modes.
- Same as above for SSB.
- Availability and quality (readability) of phonetic code for the letters. For example: the letter "A" has Alfa, Adam and America.
- Similarity (high chance of confusion) of

letters on CW, like D, B, 6 or U, V, 4, or worse: E, I, S, H and 5 .

• Avoid dots together. Use them if there is contrast made with a dash next to the dot(s), like Dahdihdihdah – the X is a sing-song on CW.

• A "K" is terrible at the end of your call on CW, especially if it isn't a one-letter suffix.

• The average power level while transmitting the call. Try this: Send EE5E on CW to see how much the needle jumps on transmit and then try it with a call with more dashes, like HK1A or OK1A. As a matter of fact, some people tune the linear amp sending dots, (which) is about 50 percent duty cycle even if you send while the switch is on SSB.

• The time it takes to send or say the call. If time is an issue, then instead of HK1A, better was HK1T (my second choice). The phonetics for the "T" are Tango, Toronto – not as good as Alpha and America, but not bad. On CW, the "T" is two dots less than the A – the dot and the space to the dash is shorter. (This may

Peter (PJ4NX) is one of two local hams on PJ4. He is organizing the local operations around the anticipated new DXCC status on 10/10/10.

seem a bit exaggerated, but you better read the article "How long it takes to say P40E.") Then, before the suffix there is the number "1," one dot and four dashes and then the dash of the "T." The "T" gets "swallowed" by the bunch of dashes before it. No contrast in "1T." In the case of the "A," the dot makes the contrast with the dashes belonging to the "1." It shows where the number "1" ends. So, for this and many other considerations like above, "I decided that HK1A was a '1-A' call."

Obviously David put in a lot of thought when he changed his call sign – much the same way I did when I changed mine. While not perfect, NØVD has worked out much better than KE9KD ever did. And while you can come up with at least one "interesting" word combination for my suffix, the consensus of discussion was to use standard phonetics whenever possible.

That said, Chip Margelli, K7JA, pointed out that many might not recognize the call "KH6 Bravo Zulu Foxtrot." However, "KH6 Bloomin' Zipper Flipper" is an unmistakable call sign that still lives in minds of many today.

That's it for this month's column. I look forward to hearing your comments, complaints or whatever is on your mind. If you have a story or opinion you would like to share, please send it to me at n0vd@dxcentral.com. I'll do my best to include it in and upcoming column. Look for me on Facebook or Twitter and until next time, see you in pileups!

The Radio Netherlands relay facility (and their many transmit arrays) is a potential location for one of the special event stations on PJ4.

Chasing Contacts: YL Awards and Contests

By Cheryl Muhr, NØWBV

Right now there are loads of things for a YL to do in amateur radio and a number of them, the OMs can do as well.

For instance, the Australian Ladies Amateur Radio Association (ALARA) has the **ALARA Award** and it is open to everyone who contacts ALARA members on or after June 30, 1975.

Just contact 10 VK or ZL members including 5 Australian call areas. DX stations only need to make 5 contacts including 4 Australian call areas. The only catches? All contacts must be made from the same call area and repeater and official ALARA nets do not qualify. Full details are at: h.

The Canadian Ladies also have a few CLARA awards to work and the basic information can be found at: h. Just a few of the awards you can earn are:

CLARA Certificate: Canadian and U.S. stations work 10 members in 5 Canadian call areas (limit 4 VE3/VA3). DX stations work 5 members in 3 Canadian call areas (limit 2 VE3/VA3).

CLARA Family Certificate: Work a member plus any licensed family member scoring 1 point for each contact made. Family members need not reside in Canada nor at the same address. A total of 10 points are required for certificate. Your log must show family relationships.

CLARA 10 DX-YL Certificate: Work 10 YLs in 10 different countries. Use the approved DX country list. Endorsement stickers will be issued for each additional 10 YLs in 10 other countries to a maximum of 100 contacts. When 100 DX-YL contacts have been confirmed you may apply for the Engraved Plaque.

The Japanese Ladies (JLRS) organization has a number of its own awards listed at: h and though it is in Japanese, you can use Google Translate or a similar program to get more details if needed.

The Young Ladies' Radio League (YLRL) not only has many similar awards to these other countries, but also issues a YL only award each year.

This year's **YL Friendship Award** has to do with the month a YL was born in and you don't need day or year.

Just work a YL born in January and you have your January contact. Twelve months and 12 YLs get you this award, but it isn't quite as easy as you think. You may talk to 5 YLs, but if 3 of them were born in August, you would have to keep hunting.

For the full details on *all* the YLRL awards go to: h and click the tab for contests and awards.

Hmmmm. That reminds me, I need to go through my logs and see how many of these awards I have earned and not even realized it!

Time to Try Contesting?

If awards aren't your style, maybe you have been looking to get into contesting, but have been a little intimidated by some of the bigger contests. All these YL organizations hold contests as well and in the majority of them, OMs as well as YLs can participate.

In fact, the next contest is just around the corner! The **ALARA Contest** is held the last *full weekend* of August. All licensed operators throughout the world are invited to participate. It is also open to SWLs.

Participation: YL works everyone; OMs and clubs work YLs only. One contest (combined phone and CW) run over 30 hours.

Starts: Saturday, August 28 at 0600 hours UTC.

Ends: Sunday, August 29 at 1159 hours UTC.

The Contest Manager must receive logs by September 30. For full details, suggested frequencies and the current contest manager information go to: http://www.alara.org.au/contests/.

Present and Past: How Was Field Day?

Speaking of contests, as I write this Field Day is just around the corner and you will read it, just as it has passed. What did you do for Field Day? Did you work with a club? Did you go out of state and work it there? I started Field Day as a logger two years before I was even licensed and haven't missed one since. What is your Field Day history? Let me know for the next column!

A Family Affair

Almost all of these experiences can be a family event as both YLs and OMs can participate in most cases. So try to earn the awards together. While some resources can't be used by everyone, find the resources that can be.

For YLs only, check out the unofficial YLRL Thursday night net. It starts at 0100 UTC and call or listen for CQYL on the bands. The YLRL is trying to help get YLs interested in HF and upgrading and using this net to get YLs in contact with other YLs.

The net is in the general bands and can be found either on 20 meters around 14.288 +/- or 40 meters around 7.188 +/- depending on propagation and other operators. Many YLs have checked in using family members as third party control operators to allow them to get on HF. I am pleased to say that these YLs have enjoyed themselves enough to want to upgrade and get on the bands with their own call signs.

There was even an OM who was voice control to check in his YL who was suffering Laryngitis and couldn't be heard. He did a great job and we enjoyed talking to them "both." One of the few ways for an OM to get on the YL only net!

Where to Find YLs Next?

Always check the DXpedition reports to find out where YLs are going next. It is a great way to find YLs you may need for DXCC or certain awards. For instance, if you have been reading the DX news, you already know about http://home.online.no/~la6rha/greenland.htm.

This is the site for the first YL DXpedition to Greenland happening September 16-20, which includes six YLs from different countries operating both CW and SSB.

Be patient with this group as they say on the website "Some of the YLs have good training in expeditions and pile ups, some have less. But we will all do our best to serve as many radio amateurs as possible around the world. Let's only hope for good propagation whilst on Greenland."

This is great advice for *all* DXpeditions. Not just hoping for good propagation, but remember for some operators, this may be their first time in a big pileup.

I will sure be looking for the YLs from Greenland!

Dayton Hamvention® News Needed

The Dayton Hamvention® may have come and gone, but YL news is still needed. I hope you were able to make the YL forum on Friday or at least stop by the YLRL/Buckeye Belle booth to say hello and sign in the YL log.

I enjoy my time there every year. Look for some of the comments and pictures from the 2010 event in the next YL column.

‘Up Over’ to ‘Down Under’: W6 to ZL on 6 meters – Part 2

By Carl Luetzelschwab, K9LA

Last month’s column reviewed K6QXY’s QSOs with ZL3NW and ZL1RS on 6 meter CW around 2230 UTC on December 31, 2009. The result of that column was the hypothesis that these QSOs took place via a sporadic E hop on each end coupled with a chordal hop across the geomagnetic equator compliments of trans-equatorial propagation. This month’s column will try to dig up data to support that hypothesis.

The data we’ll look at is ionosonde data. Thus we need to find ionosondes along or near the W6-to-ZL path. Figure 4 (continuing the numbering scheme from last month’s column) is Figure 1 from the June column with the available ionosondes indicated by blue stars.

With this path being mostly over water, it’s not surprising to see that the available ionosondes are few and far between. That’s nothing unusual – if you’ve been a regular reader of this column you know that ionosondes generally aren’t in the right place to properly analyze a path. That’s frustrating, but we’ll just have to make do as best we can.

Let’s first look at the Point Arguello ionosonde. It’s in Southern California, and it is 856 kilometers (km) northeast of the mid point of the sporadic E hop out of K6QXY (the mid point is the green triangle).

Going to http://www.swpc.noaa.gov/ftpmenu/lists/iono_month.html showed no tabular data. That’s not good. But we do have another option – let’s look at the raw ionogram data at http://car.uml.edu:8080/common/DIDBFastStationList.

Figure 5 shows the ionogram at 2030 UTC, which is two hours before the QSOs.

The horizontal axis is frequency in MHz, and the vertical axis

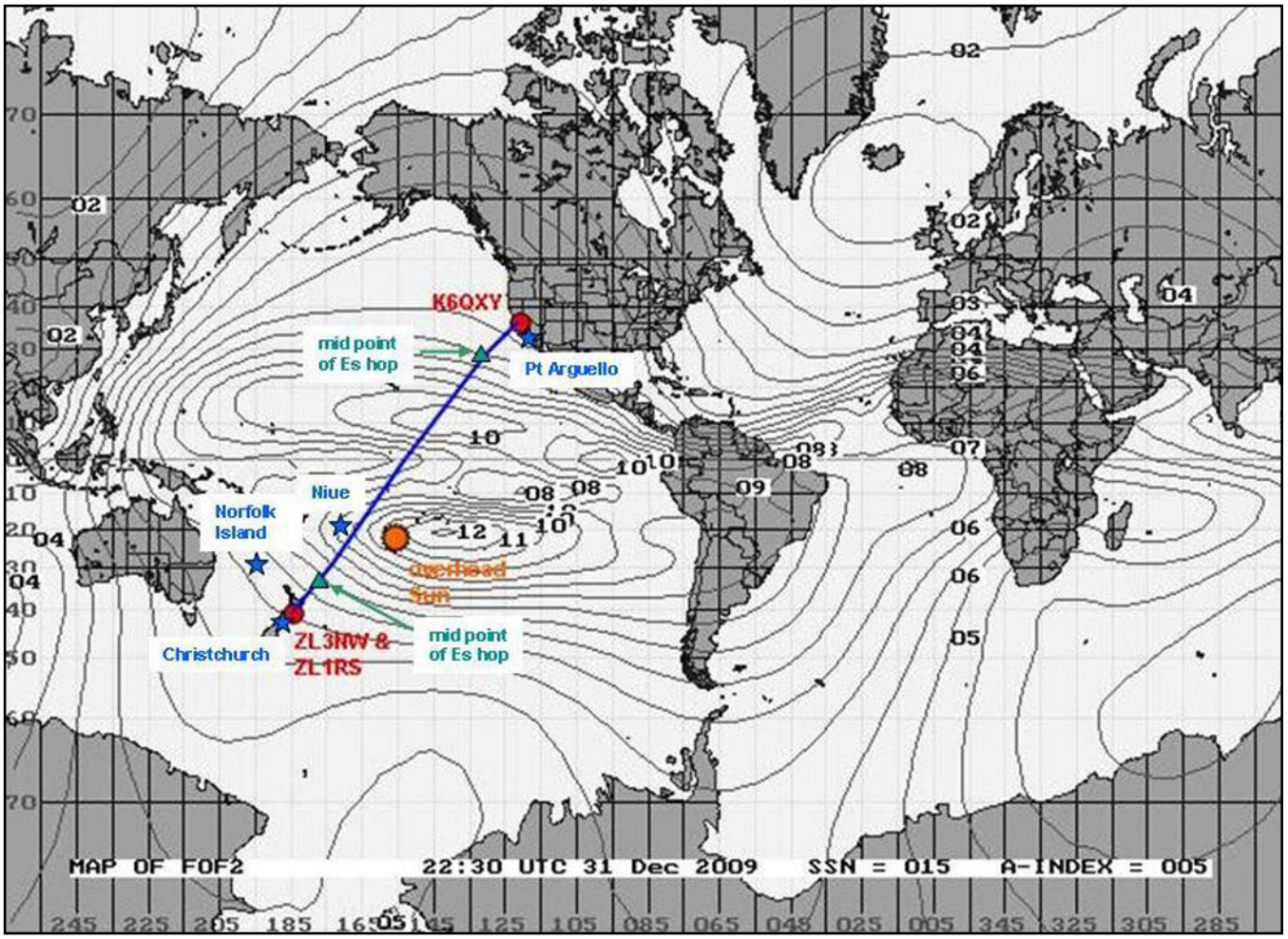


Figure 4 – Ionosondes Along or Near the Path.

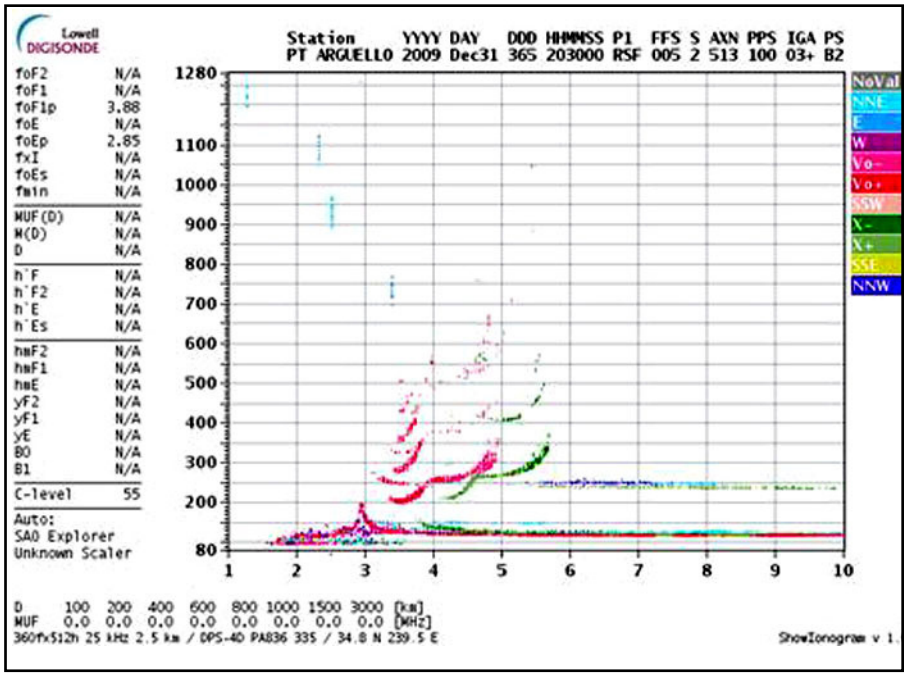


Figure 5 – Pt Arguello Ionogram.

is altitude in km. What's important to note is the horizontal red and green echo traces at just above 100 km all the way out to 10 MHz (and maybe even higher).

The red traces are for the ordinary wave and the green traces are for the extraordinary wave. With the sporadic E maximum usable frequency (MUF) about five times the sporadic E critical frequency (which is what the traces just above 100 km are), it's easy to see that sufficient sporadic E was occurring in the vicinity of the K6QXY end of the path to support 6 meters – albeit a couple hours earlier.

Now let's look at the ZL end of the path. For the record, the ionosondes with data that are along or near the path are Christchurch (about 1,300 km southwest of the mid point of the sporadic E hop on the ZL end), Norfolk Island (about 1,500 km west of the mid point) and Niue (about 1,900 km northeast of the mid point).

Unfortunately there's nothing closer than 1,300 km, which is even worse than the K6QXY end. The tabular data shows no sporadic E of sufficient magnitude over the Christchurch ionosonde. But the Norfolk Island and Niue ionosondes show sufficiently high critical frequencies to support 6 meters for about an hour, but not at 2230 UTC. Again, all we can say is sporadic E was in the general area at times other than 2230 UTC.

That leaves the middle portion of the path – that which was hypothesized to be a chordal hop due to trans-equatorial propagation. With no ionosondes even remotely close, all we can do is perform ray tracing (a mathematical method with results in graphical format to calculate the path, the amount of absorption, and the polarization of an electromagnetic wave as it progresses through the ionosphere) using the monthly median ionospheric parameters from our prediction programs. Figure 6 does this for 2230 UTC on December 31, 2009.

The start of the ray trace (at 0 km on the left side of Figure 6) is where the hypothesized 2,000 km sporadic E hop out of K6QXY comes back to Earth. The ray trace shows a nice chordal hop of 6,200 km across the magnetic equator.

There are two observations here. First, it would have been nice if the ray trace would have gone a bit further – ideally to about 7,000 km, which would put it around 2,000 km out of ZL for a sporadic E hop into ZL. But I'm not too troubled by that. That's because the second observation is likely more important.

The second observation is annotated on the figure – the ray trace frequency was 33.0 MHz. That was the highest frequency I found to be supported by trans-equatorial propagation. That's quite a way from 50 MHz, so let's dig a bit deeper.

Note that I said the ray tracing was done with monthly median ionospheric parameters. That means the actual MUF in the equatorial region on December 31 could have been higher. How much higher? A good estimate can be made using the tables of MUF variability built into our prediction programs (and available in references such as Supplement to Report 252-2 published by the International

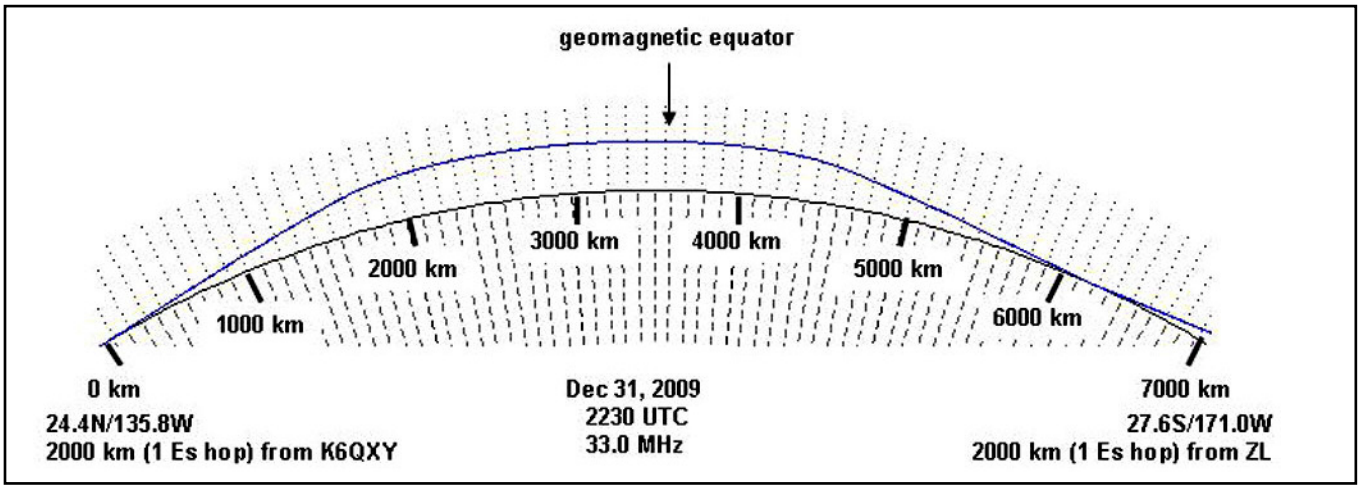


Figure 6 – Ray Trace Showing Trans-Equatorial Proapgation.

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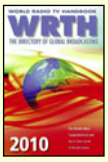

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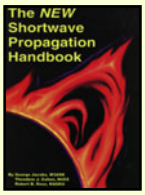

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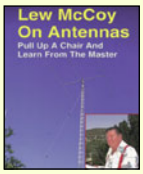

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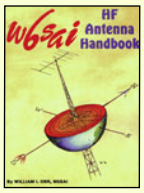

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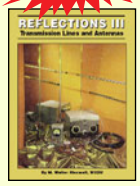

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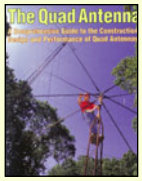

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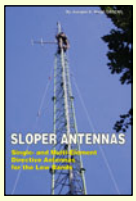
By Weigl, OE5CWL



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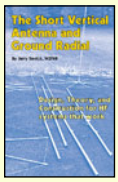
by Sevick, W2FMI



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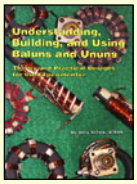
by Sevick, W2FMI



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Radio Consultative Committee, abbreviated CCIR, in 1978).

Knowing that 2230 UTC is around noon local time in the equatorial portion of this path as seen in Figure 4, we can use the "smoothed sunspot number less than 50" table in Report 252-2 to determine that the ratio of the upper decile to the median MUF is 1.24. Plugging various operating frequencies into the equation that approximates the true chi-squared probability distribution of MUF variation gives Table 1.

Operating frequency in MHz	Number of days in the one-month period centered on Dec 31 that propagation should be possible
33.0	15.5 (half the days – the median)
35.0	10.5
40.0	3.9
44.0	1.1
45.0	0.6

Table 1 – MUF Probabilities

Thus we predict that 44.0 MHz could have been supported on one day of the month of the one-month period centered on December 31, 2009. That's close, but no cigar. But there's a clue in the June column that suggests something else might have been occurring. The clue is the reported weak signal strengths.

To understand this, we can estimate the ZL signal power at K6QXY by using the transmit antenna gain (13 dBi for a single small Yagi on the ZL end), the receive antenna gain (21 dBi for a 4-high stack of 10-element Yagis on the K6QXY end), the ZL transmit power (assumed to be 100 Watts = +50dBm), the free space path loss (147 dB), the ground reflection losses (6 dB from two ground reflections at 3 dB each), and the loss due to ionospheric absorption (since absorption is inversely proportional to the square of the frequency, it's going to be very low on 50 MHz – I assumed a pessimistic total of 6 dB).

Going through the math gives a signal power of -75 dBm. This is around S9, and assumes pure refraction. Since K6QXY reported a much lower received signal power, it very well could be that some forward scatter – with additional losses – was occurring to allow frequencies somewhat higher than 44.0 MHz to propagate via a chordal hop.

This forward scatter mode is known as an over-the-MUF mode. What we're interested in is the additional loss incurred for frequencies higher than the pure refraction MUF. That's not tough to determine as the over-the-MUF mode is documented in the ITU (International Telecommunications Union) publication Report ITU-R P.2011.1.

The equation in that reference estimates that the additional loss for a 50.1 MHz frequency with a pure refraction MUF of 44 MHz would be on the order of 14 dB. That's about three S-units, and would reduce the pure refraction signal power estimate from S9 to S6. That's still quite a bit above what K6QXY reported, which suggests even more forward scatter might have been occurring with the chordal hop due to an even lower pure refraction MUF than our estimated 44.0 MHz. Or for that matter, some forward scatter could have also been occurring with the sporadic E hops.

That's about as far as we can go. What can we say in summary about these unusual 6 meter QSOs? All we can really say is our hypothesis of two sporadic E hops coupled with a chordal hop due to trans-equatorial propagation is feasible and is supported by the limited data we uncovered.

Will we ever know what truly happened to enable these QSOs? I seriously doubt it, so all we can do is make our best guess.

The Rules Say...

John B. Johnston, W3BE

What is That Assigned Call Sign?

Q Section 97.119(d) requires a special event station to transmit its assigned call sign once per hour, in addition to its one-by-one call sign every 10 minutes. What is that *assigned* call sign?

A. It is the call sign shown on the FCC's ULS station license grant under the authority of which the station is transmitting. Section 97.119(d) says that when transmitting in conjunction with an event of special significance, a station may substitute for its assigned call sign a special event call sign as shown for that station for that period of time on the special event call sign coordinators' common data base of 1X1 call signs. It shows the specific call sign for which the special event call sign is being substituted. Additionally, the station must transmit its assigned call sign at least once per hour during such transmissions.

Q. Isn't the special event station's *assigned* call sign the one for the station licensed to the control operator that is on duty at the time?

A. No, not unless that duty control operator also happens to be the licensee of the station shown on the SECSC'S common data base. All other duty control operators must be designated by that station licensee and use that station's FCC-assigned call sign. See Section 97.103(b). Their station's call signs are of no consequence to this.

Q. Section 97.119(a) says that each amateur 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. But there are situations where the communication is very much shorter than 10 minutes. For instance, where a rare DX station is exchanging signal reports rapid fire. Is it still necessary for my station to ID at the end of my final transmission?

A. Yes. Note that Section 97.119 contains no exceptions for very short transmissions.

Q. Just answer yes or no the question of whether it is OK to sign /B for a beacon station ID, because "B" is supposedly a prefix assigned to another country. While the entire BAA-BZZ block is assigned to China, I don't believe a single B is used in Chinese amateur station identifications.

A. No, not by stations transmitting from places where the amateur service is regulated by the FCC, anyway. Whether or not the foreign country does or does not make use of its ITU-assigned block is beside the point. Use of the letter B is the People's Republic China's prerogative, that being its nationality identification. To use B for a self-assigned identifier, therefore, would not be compliant with Section 97.119(c) which says that no self-assigned indicator may conflict with any other prefix assigned to another country.

I.T.U. Article 19.50.1 says that for call sign series beginning with B, F, G, I, K, M, N, R, W and 2, only the first character is required for nationality identification. For a more comprehensive discussion, see BE Informed No. 52 Including A Self-Assigned Indicator.

Q. How should I report such violations?

A. Try our amateur volunteers. They may interact with FCC personnel in responding to complaints/allegations and developing procedures which emphasize cooperation and "no fault solutions," and if and when impasses occur, aid and encourage development of solutions through independent mediation.

Q. Is D-STAR a repeater?

A. The FCC has answered yes to that very question in a declaratory ruling. Some stations that digitize and retransmit the user's voice reportedly had been transmitting on channels in band segments other than those authorized for repeaters. Their rationalization was that in the definition of a repeater, Section 97.3(a)(39), it is only an amateur station that simultaneously retransmits the transmission of another amateur station on a different channel or channels. The digitizing process can add a slight delay. The issue, therefore, was whether the word simultaneously refers to the signal information being retransmitted, or to the fact that the receiver and transmitter must both be active at the same time while acting on the same signal information.

The FCC declared that the word *simultaneously* is used to modify the word *retransmit*. Referring to comments it received when it adopted the current definition of a repeater, it concluded that simultaneously as used in the definition refers to the receiver and transmitter both being active at the same time.

W3BE-O-GRAM: It was our amateur service community that petitioned the FCC for special accommodations for repeaters, including protection to our stations *from* repeaters on certain bands and segments of bands. We were, it now appears, not in agreement on what it was that we wanted protection from. So, we called upon the FCC to decide for us.

As a result of numerous petitions and rulemaking proceedings, there is the aforementioned definition as well as the special accommodations for repeaters. For example, the rules exclude repeaters from two 500 kHz segments in the 2 meter band. This preserves in our premier VHF band some spectrum for us to carry out non-repeater-based self-training, intercommunication and technical investigations.

There is, moreover, Section 97.113(f) which says, "No amateur station, except an auxiliary, repeater, or space station may automatically retransmit the radio signals of other amateur station[s]." If your station is *automatically* (i.e., without intervention by the control operator) retransmitting the radio signals of other amateur stations using the D-STAR or any other protocol, it has to be doing so under the rules for either an auxiliary, repeater or space station.

Q. The VECs should include schematics in their questions.

A. Assuredly so, as well as the other time-proven visual tools helpful to understanding the technologies utilized in our amateur service. Such tools apparently do not lend themselves well to multiple-choice examinations - the preferred format choice of the VECs. In their 2010 Element 2 question pool, however, they have found a way to include three elementary circuit diagrams.

Instructors and training aid providers:

Teach your students the basics of schematic and block diagrams as well as charts, symbols, graphs, and mathematical equations necessary to understanding the FCC rules and our practices.

Q. What is my ITU Region?

A. If your station is within the territorial limits of the 50 United States, the District of Columbia, Caribbean Insular areas or Pacific Insular territorial Islands Johnston or Midway, it is in ITU Region 2.

If your amateur station is within the Pacific Insular territorial limits of American Samoa, Baker Island, Commonwealth of Northern Mariana Islands, Guam Island, Howland Island, Jarvis Island, Kingman Reef, Palmyra Island or Wake Island, it is in ITU Region 3. See Appendix 1 to Part 97.

Q. Now that it's OK to send picture files using "digital slow-scan" in the phone part of our HF bands, would it also be OK to send data files in the phone portion or would we have to move down to the "data" part?

A. Move. Transmit *data* emissions on authorized data emission segments. Sections 97.3(c)(2) and (3) define data emission types as certain telemetry, telecommand and computer communications and define image emission types as certain facsimile and television emissions. Refer, therefore, to Section 97.305. For the HF band of interest, note the segment where data type emissions are authorized and the segment where image type emissions are authorized.

Q. My friend, a Technician Class operator, is visiting while I (Amateur Extra Class) am operating in a contest. She would like to make DX contacts with her call sign and get some QSL cards. So I allow her to operate my station on 20 meters. I am the control operator so I have her ID with [her call]/[my call]. She makes a contact with G6 who says her's isn't a legitimate contact. I take the mike and tell him I am the control operator and she is the operator so this is a valid call. The G6 ham doesn't give credit for the contact and tells her it is not a legal call. I think he is wrong because she is just the operator and I am control operator standing by her side so he should send her a QSL.**

A. That G6** ham, at least, apparently understands our Section 97.301(a): Technician Class operators have no frequency privileges on 20 meters. Those rights are for General, Advanced and Amateur Extra Class operators. For some international communications, the control operator of the station is authorized to allow a third party to participate in stating his or her third party message. That third party, however, is not an *operator* in our sense of the term. If Technician Class operators want to enjoy the privileges of General Class operators, they should upgrade.

APPRECIATION

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

is Jim Wise, W4PRO, of Virginia Beach, VA.Thanks, Jim for your great DXpeditions to Bhutan and Nepal and as VP2MDX, FG0CXV/FS, CE0/W4PRO, VP5W, SV5/W4PRO and YK9A.

Read the rules - Heed the rules

Visit http://www.w3BEInformed.org for links to amateur service rules and information sites. E-mail your questions to john@johnston.net.

Visit Your Local RADIO CLUB

CALIFORNIA

Fresno Amateur Radio Club - Meets 2nd Friday/monthly, 7 PM at Cedar Lanes bowling alley, Cedar and Shields in Fresno. Net Sunday at 7 PM on W6TO/R, 146.94 (-) PL 141.3hz. Tech Net Wednesday at 7 PM on W6TO/R www.W6TO.com; W6TO@ARRL.net. Contact Ken, WA6OIB @559-323-6753 12/10

ILLINOIS

North Shore RC - www.ns9rc.org. - is one of Chicago's largest/most active radio clubs. Meetings feature a wide variety of amateur radio topics and are normally held on the second Tuesday of each month at 7:30 PM, the Heller Nature Center, 2821 Ridge Rd., Highland Park, IL. Regular weekly net is held on Thursday night at 8:00 PM on the 147.345+ (107.2) and 442.725+ (114.8) repeaters. Club's other repeaters include: 224.32- (110.9), D-Star 442.09375+ and 1292.20- voice and 1242.20 data. Provides licensing classes, exams and help to new hams. 11/10

VIRGINIA

Williamsburg Area Amateur Radio Club (WAARC) meets on 2nd Tuesday of each month at 7PM at James City County Library, 7700 Croaker Rd., Williamsburg, VA. Talk-in on 146.76 (~). Contact Ken, NU4I at 757-564-7731 or nu4i@arrl.net. Website www.k4rc.net 03/11

Click here to have your club listed!

Two Pressing Questions: 'Where Am I Going to Operate?'

By Richard Fisher, KI6SN

A couple of decisions most trail-friendly operators must make before heading to the field are: "Where am I going to operate?" and "Where am I going to operate?"

One is in respect to terrestrial location. Should I set up in a local park, on a mountaintop, from a kayak on a beautiful pond? So many choices.

The other focuses on radio frequency: What's my best bet for making contacts today? Is it 40-meter CW, 20-meter SSB or maybe 2-meter FM simplex? And if so, what specific frequencies are likely to bear the most fruit?

Of course, there are many factors that go into answering each variation of "Where am I going to operate?" But doing a bit of quiet thinking before packing your gear can make trail-friendly radio operations all the more fun and rewarding.

'Where Am I Going to Operate?' – Location

In the case of choosing an operating site, we called on two T-FR veterans to get insight on how they choose where to go – and why.

Jim Cluett, W1PID, of Sanbornton, New Hampshire, has worked the bands from across New England and has documented dozens of his field operations in photographs and beautifully written narratives.

Dr. Bob Armstrong, N7XJ, of Manti, Utah, has operated from some of the most beautiful and remarkable places in the Southwestern U.S. for many years.

Both men's passion for outdoors operation is unparalleled. W1PID and N7XJ are expert hikers, excellent radio operators and have a seemingly insatiable appetite for trekking to interesting places, throwing an antenna into a tree or over the side of a rock and taking in the sheer joy of the marriage of amateur radio and Mother Nature.

"I try to exercise every day," said W1PID, "and if the weather is good, I bring a rig with me. So I've got some favorite places that are pretty close to home. One of those is a Corps of Engineers flood control area along the Pemigewasset River in Sanbornton.

"There are several thousand acres of wilderness there with fields and tall trees and a great view. It's one of the most beautiful places on Earth. During much of the year I can ride my bicycle there. I set up a little station and make a few contacts before returning home."

Cluett has lived in New Hampshire most of his life. "Neighbors and friends have directed me to many of my favorite spots," he said. "Others I've discovered by wandering down trails or following my nose."

He also likes to visit "a remote cabin on Knox Mountain. The hike to the cabin is about a mile and a half on a trail that follows a brook. The place is gorgeous. At the cabin there's a pond that always has wildlife. I can watch mallards swimming or beavers plying the water while I talk to someone in the Ukraine."

Within a minute of sitting down at a cabin on Knox Mountain in New Hampshire, Jim Cluett, W1PID, makes contact with ZF2XP in the Cayman Islands. *(Courtesy of W1PID)*

W1PID sets up T-FR operations near the Pemigewasset River in New Hampshire. *(Courtesy of W1PID)*

W1PID believes that "every place has its own allure. I prefer solitude when I operate. So I find places where nature is rife and people are scarce."

"Weather has a lot to do with my choice on any given day," he said. "I usually sit on the ground, so if it has been wet, I go where I know there's sandy soil and good drainage. In the spring, I find a place with a good southern exposure so snow will be melted and it will be warm. Some places are buggy at certain times of year . . . I prefer an expansive view, good antenna trees and quiet."

W1PID said he doesn't "worry about the technical aspects (of the operating site). I've set up in ravines so I could enjoy a brook." Also he visits "low places and spots I know will not be conducive to propagation. You can work around those limitations with your choice of antenna and bands. I choose a place I want to be in – where the surroundings are beautiful or the view is uplifting."

One of Dr. Amstrong, N7XJ's, favorite operating locations is "near Angel's Landing at Zion National Park (in Southern Utah). To get there, climb a dramatic trail called 'Walter's Wiggles' with multiple switchbacks to the top of a huge rock overlooking a 1,500 foot vertical fall."

Armstrong also likes Grand Gulch, which "contains ancient pictograms and Indian ruins" and is located in the desert region of southeastern Utah. His third choice is "an alpine lake in the mountains near my home in central Utah."

What makes these places so desirable to N7XJ?

In the case of Angel's Landing, Armstrong said "operating there is like sitting on top of a very, very high antenna support. I have had some incredible operating success from this spot – my 2 watts seems more like 500 watts. The scenery is beyond description."

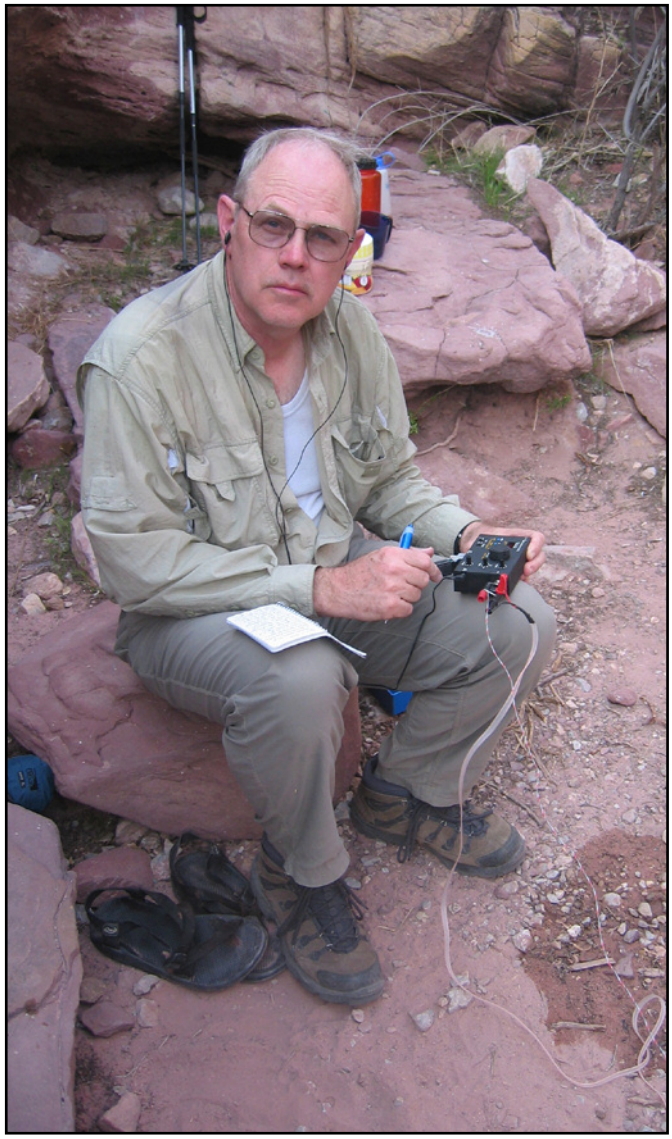
The desert, on the other hand, "is very remote and peaceful. I like to imagine inhabitants of the desert gazing over the same rock formations 800 years before. Echoes of the past permeate the solitude giving the location a nearly palpable 'soul.' The pictograms and ruins add to the mystique.

"I always feel refreshed and reborn in the desert. I have been astonished on many occasions what a dipole antenna strung 10 feet over solid rock will do . . . "

The alpine lake "is secluded and private" for Armstrong. "Going there is like entering a beautiful, peaceful world far removed from my daily reality. When I sit quietly to operate, beavers, deer, elk, a variety of birds appear. The breeze and smells waft me aloft with my tiny signal and I imagine I am traveling with it through a serene universe."

N7XJ said serendipity has also been in play. "In each case, I was hiking with my radio in my backpack and simply decided to stop and operate. I had a good experience and the memory of it has taken me back again. If the operating or the band isn't great, the ambience itself is adequate."

Armstrong believes that "in terms of making contacts, I am convinced that high ground with few obstructions makes a big difference, even if I can't put my antenna up very high. But for me it is really the



Dr. Bob Armstrong, N7XJ, operates T-FR at the bottom of the Grand Canyon near "'Thunder River,' an amazing spring that pours out of a small limestone cave and cascades several thousand feet to the Colorado River." *(Courtesy of N7XJ)*

aesthetic value of a site that feeds the soul. Operating a great station is a thrill; operating in the midst of solitude and beauty is bliss."

'Where Am I Going to Operate?' – Frequency

Finding a great operating site is winning only half the battle. We've got to be smart about synching up what radios, antennas and operating frequencies will be best for a good on-air experience – based, of course, on operating needs and current band conditions.

It's one thing to be heading into the field on, say, a contest weekend. You're pretty much assured there will be band activity. But what about those times when you're ready for some laid back ragchewing?

Darrel Swenson, KØAWB, of Omaha, NE, put together a very nice chart of HF and VHF frequencies regularly monitored by various amateur communities and organizations. Much of

Every Spring for the past six years, N7XJ has taken a 50 to 70 mile backpacking trip through Fox Pass in the Uinta mountains, located on the eastern end of the High Uinta Wilderness area in northern Utah. The region loomed large in his 2010 Field Day plan. *(Courtesy of N7XJ)*

his frequency information is displayed in the chart accompanying this month's column.

KØAWB said his data is "from a Power Point (presentation) I put together . . . a couple of years ago. I don't remember where I found all the listings. I've tried to keep them more or less up to date."

Given that organizations frequently make adjustments to their suggested calling frequencies, let's not consider the chart material here etched in stone. It certainly can serve as a handy cheat sheet for possible band activity when heading into the field, though.

Operating frequencies include those that have been monitored by members of the low-power QRP community, FISTS International Morse Code Preservation Society, Straight Key Century Club (SKCC), HF Pack portable operation organization and others.

Please let us know of any additions or corrections to the chart. We'll keep the most up-to-date version posted on the Trail-Friendly Radio Extra Web site: http://TrailFriendlyRadio.blogspot.com.

Swenson reminds, too, that "all ham frequencies are shared. No band plan recognition is intended or implied" in the chart. "These are just good places to start looking" for trail-friendly contacts. But, "no guarantees."

FREQUENCIES TO CONSIDER WHEN HEADING OUT INTO THE FIELD

BAND		QRP		FISTS	SKCC
160M	1810	1812	1815	1808	1820
	1816	1818	1825		
80M	3530	3560	3579	3558	3550
	3686*	3710*	3716*		
40M	7030	7040	7060	7028	7055
	7104	7106	7110	7058	7114
	7112	7116	7122	7118	7120
30M	10106	10110		10118	10120
	10116	10123			
20M	14030	14060	14116	14058	14050
17M	18069	18080	18086	18085	18080
	18096	18106			
15M	21030	21060		21058	21050
	21110	21116			
12M	24900	24906		24918	24910
	24910	24916			
10M	28030	28060		28058	28050
	28101	28110	28116	28158	
6M	50060	50096		50058	50090
2M	144060	144116		144058	144070

***OLD 80M NOVICE FREQUENCIES ARE NOW IN THE EXTRA/ADVANCED VOICE SUB-BANDS**

SUGGESTED STARTING PLACES FOR OTHER MODES

BAND	PSK31	SSB	EUR SSB	HF PACK CW	HF PACK SSB	OTHER VOICE	
160M	1812	1910	1843	1845.0	1997.5	1825	
	1838						
80M	3540	3985	3690	3565.0	3791.0	3845.0	3687.5
	3580			3596.0		3996.0	3572.5
60M		5346.5			5371.5	5403.5	
40M	7035	7285	7090	7022.5	7185.5	7087.5	
				7038.5	7242.5		
				7065.0	7296.0		
30M	10130			10117.5			
	10142			10137.5			
20M	14070	14285		14097.5	14342.5		
17M	18100	18130		18107.5	18157.5		
15M	21070	21385	21285	21107.5	21437.5		
	21080						
12M		24950		24927.5	24977.5		
	24910	24916					24956
10M	28120	28385	28360	28107.5	28312.5	28380	28400
	28101	28885			28327.5	28425	28600
			29285AM			28800	28825
6M	51120	50285	50885		50162.5	53585FM	
2M	144610	144285	144585		144162.5	145585FX	147585FX

Frequency information courtesy of Darrel Swenson, KØAWB

In the Beginning . . .

by Dave Hayes VE3JX

Welcome to summer! This month, we are going to look at some of QCWA's roots, and answer such questions as: *What is QCWA? Where did it come from? When did it start? And why?*

Apparently, it all began as an idea expressed during a 10 meter round table in the New York City area. It was Friday night, Nov. 14, 1947, when the six founders decided to form an association and meet with other "old timers" licensed for 25 years or more.

Their first official meeting was on the evening of Friday, Dec. 5, 1947. Thirty-five " old timers" were there that night and they elected various officers for their new group. Thus, the QCWA was born. By the end of the year the charter members numbered 54. Incidentally, it was Frank Lester, W2AMJ/W4AMJ (SK), who suggested the name: *Quarter Century Wireless Association.*

On the QCWA website there is a scanned copy of QCWA's 1953 Yearbook. The photographs accompanying this month's column are from that yearbook. Interestingly, the yearbook shows there were more than 600 members only five years after the founding.

Understandably, since QCWA began in the New York City area, most of the call signs listed in the roster were W2s. However, there were members representing every district in the U.S.

Internationally, there were members in seven countries – including four Canadians. The countries represented were: Brazil, Canada, England, Germany, Mexico, Peru, Puerto Rico and, of course, the United States.

John Di Blasi, W2FX, President and Founder.

The missing chapter

Early on, members in places outside the New York City area requested permission to form local chapters. Mentioned in the 1953 Yearbook is the forming of the first two chapters – one in Cleveland, OH and the other in Louisville, KY.

Chapter No. 1 in Cleveland was chartered on June 1, 1951 and currently has about 100 members. However, the chapter in Louisville is an enigma.

Everyone likes a good mystery and we have a delicious one in Louisville. The evidence that there ever was a chapter there can be found in references to it in 1952 and 1953. In the 1953 yearbook, John Di Blasi, W2FX (SK), the first QCWA President, wrote in the Forward:

Today we have over 600 members located in every call area of the United States and several foreign countries, also we have established Chapters in Cleveland and Louisville.

Even before that, the QCWA News Letter dated June 1952 and edited by Ralph Barber, W2ZM (SK), had this news item on Page 2:

Our membership continues to grow and we now have 458 members. At present a new chapter has been formed in Louisville, Ky., having ten members and there is also one in Cleveland, Ohio, with more than 25 members.

We hope, in the near future, to have more information on Chapters and their doings."

And that appears to be *all* the evidence there is that there ever was a chapter in Louisville. In fact, there are 16 cities named Louisville in the United States, and there is apparently no record at QCWA Headquarters that a chapter ever existed in *any* of these.

What is more, later interviews with Frank Lester, W2AMJ/W4AMJ (SK), a QCWA Director in 1953, and Ralph Hasslinger, W2CVF (SK), revealed that these two charter members have no recollection of a Louisville chapter. Therefore, it appears that it was probably short-lived, if it actually did get off the ground and functioned at all.

Of course, today the QCWA has established closer ties with its chapters, requiring regular communication between them and headquarters – but such was not the case in its infancy.

You will notice that the Cleveland chapter is numbered " 1." Number 2 goes to the Chicago chapter, chartered on June 13, 1954. Our " missing" chapter – Louisville, KY – has been

unofficially assigned No. 1A. If anyone has additional information on Chapter 1A, please send it to us. We'll all be happy to solve the puzzle of our " mystery" chapter.

Currently, chapter numbering goes up to 220. Local chapters are the essence of QCWA. If members are the " lifeblood" of the organization, then the chapters are the " arteries" in which they flow.

Why Was the QCWA Formed? What Were the Criteria?

Why is any group formed? Is it not to pursue common goals and interests?

How many seniors clubs and associations are there here in North America? Were they not established because people with similar life experiences enjoy associating with one another, sharing common interests, and perhaps working together on some project or enterprise?

It is no different with QCWA. Here you have a group of people with a specific common interest and many years' worth of experience associated with it.

In the case of QCWA, all members were (1) first licensed 25 or more years ago as amateur radio operators and (2) are presently licensed. These criteria have never changed. In 2010, those current amateurs who were first licensed anytime in 1985 or before were eligible to join QCWA from January 1 onward.

Continuous licensing during the 25 years is not required. This stems back to when QCWA was founded. No one then had continuous licensing, due to the World War II period when amateur radio was QRT for the duration.

In the beginning (1947), Charter Members would have been first licensed in 1922 or before. The year 1922 was smack-dab in the middle of the transition period of spark-to-CW.

Transmitting vacuum tubes were becoming more affordable and the general efficiency of CW versus spark was being established. Even so, spark remained popular for a few more years.

This era also saw the opening of the "shortwave" frequencies, the delight of dependable transcontinental communications and the wonderful surprise of daytime DX.

It was a time when distance records were falling every few days and communications dependability was continuously increasing. Soon would come the stability of piezoelectric crystal control. Advances in circuit design would come fast and furious over the next few years.

What was once record-setting would become commonplace. Such was the time and experience enjoyed by our QCWA founders and charter members.

Proof of First Year Licensed

QCWA is an international association incorporated in the U.S. of currently-

Frank Lester, W2AMJ, Director.

Ralph Barber, W2ZM, Director.

Ralph Hasslinger, W2CVF, Charter Member

licensed radio amateurs who were first licensed at least 25 years ago. So, since this is 2010, 25 years ago would place us in 1985.

QCWA does not require that the month be taken into consideration. Therefore, a person whose date of being first licensed was *anytime* during 1985 would be eligible to join QCWA on January 1, 2010 and onward. So, how does one validate when they were first licensed?

The easy way is with a photocopy of the applicant's first amateur radio license. That, together with a photocopy of their current license, establishes their eligibility to join QCWA. As pointed out previously, you *do not need* to be *continuously* licensed in order to qualify.

But, what if you don't have a copy of your first license? You may have other evidence available. For example, there may be another amateur who can testify to your being licensed in a certain year. Or, perhaps you have your first logbook or a QSL card for a contact made in your year first licensed.

Such evidence can establish your eligibility for QCWA membership. Or, if someone you contacted that year has your entry in their logbook, that too would be evidence.

A dated receipt for purchasing parts or equipment may have your call on it. If you joined the local club they may have something. Did you achieve an award for Worked All States or Worked All Continents back then? The key is to be creative in thinking where there may be evidence of your licensed entry into ham radio.

QCWA has on file a very extensive collection of U.S. Callbooks, as well. They can be used to help in establishing that your year-first-licensed was 25 or more years ago. Granted, there was a delay from when you received your ticket and when that got published. However, unless we are dealing with a case of marginal eligibility – for example, exactly 25 years ago – the Callbooks can generally establish that the entrance criteria has been satisfied, even though we may be out a year due to publication lead-time.

What if you're not a U.S. amateur? There may be a collection of appropriate Callbooks associated with a radio museum in your country. Such was the case when researching the first-year-licensed of a Canadian applicant who had misplaced his first license when moving.

There is a collection of " Flying Horse" DX Callbooks at the Manitoba Amateur Radio Museum near Austin, Manitoba which include Canadian amateurs. (Canadians were in the " International" Callbooks before 1986. Thereafter, Canadians were listed in the " North America" Callbooks.)

Suffice it to say, evidence of your year-first-licensed should be obtainable one way or another with many resourceful QCWA members willing to assist. Of course, evidence of current licensing is much easier to provide.

With these two pieces of eligibility, you are now ready to join the Quarter Century Wireless Association and enjoy the company and camaraderie of those who are similarly experienced in the greatest hobby in the world.

Until next time . . . *Vy 73 de DaVe3JX.*

HAMFESTS & SPECIAL EVENTS

JULY

WISCONSIN—South Milwaukee Amateur Radio Club's 42nd Annual SWAPFEST, Saturday, July 10 on the grounds of American Legion Post No. 434, 9327 S. Shepard Ave., Oak Creek, WI beginning at 6 a.m. local time. Free parking, picnic area. Limited free overnight camping. Hot and cold beverages, donuts and sandwiches available. Admission: $5 per person. Prizes include $100, presented at noon. You need not be present for the top prize. Talk-in will be on 146.52 MHz simplex and local repeaters. Information and map: http://www.qsl.net/wa9txe and click on SWAPFEST.

TEXAS—The Tidelands Amateur Radio Society is hosting the **2010 TARS Hamfest** in Texas City, TX, Saturday, July 10, 8 a.m. to 2 p.m., local time at the Doyle Convention Center, 2010 5th Avenue North. More than 100 tables. Also forums, Left Foot CW contest, foxhunt, VE testing, hourly prizes including a grand prize. New this year: QSL card checking. Food, free parking, more. Complete information and registration: http://www.tidelands.org.

MASSACHUSETTS—Special event station N1M, operated by the Algonquin ARC in celebration of the 350th anniversary of Marlborough, MA. On the air June 25 through July 5, 0000Z-2300Z. Frequencies: 7.250, 14.250 MHz, +/- QRM. QSL: AARC, PO Box 258, Marlborough, MA 01752. Information: http://www.n1em.org.

PENNSYLVANIA—Special event station W3ACH, from the 24th annual Chambersfest Festival in Chambersburg PA, Saturday, July 17 from 1330 UTC to 1930 UTC (9:30 a.m. to 3:30 p.m. Eastern). Frequencies: 7.260 or 14.260 MHz SSB +/- QRM and on the CVARC 147.120 repeater and other local machines. Held in commemoration of the rebuilding of the town of Chambersburg after it was burned during the Civil War. All stations who work W3ACH will get a certificate following confirmation of your address via on-line callsign databases. Each station sends a paper QSL card (not electronic) to add to our card collection. Send QSL card and contact details to Chambersfest, Cumberland Valley Amateur Radio Club, PO Box 121, Chambersburg, PA 17201. All are welcomed to stop at the CVARC booth next to the Courthouse annex. Talk-in: 147.120 MHz. Information: http://www.chambersburg.org and CVARC: http://www.w3ach.org.

TENNESSEE — Special event station K4F, operated by the DeKalb County Amateur Radio Club. 1400 to 2200 UTC, July 3 at the 39th Annual Smithville Fiddlers' Jamboree & Crafts Festival in Smithville, TN. Frequencies: 28.425, 21.335, 14.280, 7.275 MHz. For QSL send SASE to: Wm. Freddy Curtis, KC4GUG, 288 Dogwood Circle, Smithville, TN 37166-2712. Information: http://www.dcarc.drivehq.com/.

COLORADO—Pike's Peak Radio Amateur Association Ham Radio Megafest - Saturday, July 17, 8 a.m. to 1 p.m., Lewis-Palmer High School, 1300 Higby Rd., Monument, CO 80132. East of I-25, Exit 158 or 161. Vendor setup 6 a.m. Ticket sales open 7:30 a.m. Talk In: 146.970 MHz (-) 100 Hz tone. Raffle drawing at noon for Elecraft, Flex Radio, ICOM equipment. License testing at 10 a.m. Forums. Hourly door prizes. 6-foot table rentals available. Latest information: http://www.ppraa.org.

NEBRASKA—Pioneer Amateur Radio Club's 13th Annual Flea Market - Saturday, July 17. St. Charles Parish Center, 8th & Locust St., North Bend, Nebraska. Contact Rich Mehaffey, KBØARZ. Phone (402) 652-3410. E-mail: 4randjme@futuretk.com. For more details: http://www.k0jfn.com.

PENNSYLVANIA—Mid-Atlantic ARC's Valley Forge Hamfest, July 18 at Kimberton Fire Co. Fairgrounds, Rt. 113, Kimberton, PA. Contact Mike Pilotti, KF3CD at kf3cd@arrl.net or 610-696-5040. Information: http://www.marc-radio.org. Talk in 145.13- and 147.06+ CTCSS 131.8.

MARYLAND—Special event station W3C will be commemorating 100 years of power boat racing in Cambridge, MD, July 22 through July 25, 1400Z to 2100Z daily. Frequencies: 7.200, 14.250, 21.250, and 28.350 MHz. QSL to E.A.R.S., P.O. Box 311, Easton, MD 21601. Information: http://www.k3emd.com.

WISCONSIN—Special event station W9ZL at EAA Airventure 2010, Oshkosh, WI. Station operated by Fox Cities Amateur Radio Club July 28 to Aug. 1, 1300Z to 2100Z. World's largest airshow and fly-in. Frequencies: 14.250, 7.270, 52.550, 146.520 MHz. Certificate: FCARC Airventure 2010, P.O. Box 2346, Appleton, WI 54912. Information: http://www.FCARC.us.

AUGUST

MARYLAND—Special event station W1H, operated by the Antietam Radio Association (W3CWC) on Aug. 14-15 in commemoration of Hiram Percy Maxim, W1AW, who married the daughter of the governor of the State of Maryland and is buried in Hagerstown, MD's Rose Hill Cemetery. Frequencies: 14.290, 7.178, 3.902 MHz +/- QRM. Also on W3CWC's two repeaters. Special QSL card for an SASE and contact information sent to WA3EOP (address available at www.QRZ.com) or to: W3CWC, Antietam Radio Association, P.O. Box 52, Hagerstown, MD 21741.

OCTOBER

NEW YORK CITY—Hall of Science Amateur Radio Club Hamfest, New York Hall of Science parking lot, Flushing Meadow Corona Park, 47-01 111th St., Queens, on Oct. 3. Doors open for vendors at 7:30 a.m.; buyers admitted at 9 a.m. Free parking. Door prizes, Drop and Shop, QSL card checking, food and refreshments. Free admission to museum from 10-11 a.m., or $6 after that with hamfest ticket. VE exams at 10 a.m. Admission by donation: buyers $5, sellers $10 per space. Talk-in: 444.200 MHz repeater (PL 136.5); 145.270 MHz, -600 kHz (PL 136.5). Information: http://www.hosarc.org.

NOVEMBER

FLORIDA—South Florida Ham Fest, Nov. 6 from 7 a.m. to 1 p.m. by the Boca Raton Amateur Radio Association at South County Civic Center, 16700 Jog Rd., Delray Beach, FL 33446. Sixty indoor vendor tables, FCC testing, technology forums, EmComm demonstrations, door prizes and more. Talk-in: 145.29 (PL 110.9) and 442.875 (PL 110.9). Admission $2 at the door, kids 12 and under free. $10 vendor tables. Contact: Walt Dreyfus, 954-481-5327 or email sfhf@brara.org. More information: http://www.southfloridahamfest.org.

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

EmComm Preparation: Three for the Road

By Jerry Wellman, W7SAR

In our communications response planning, the tendency is to focus on the normal electronics need such as the radio or the antenna when in reality we perhaps should also include some discussion of the peripheral items such as a comfortable headset or other items that simply make our response a little less stressful. (By the way, my headset choice is an aviation-style David Clark.)

Three items of interest caught my eye recently and I've had the opportunity to test all three during some training activities.

The Amazon Kindle

The first has been around for a while: The Amazon Kindle (the "Kindle DX wireless reading device"). Mike Renlund, KC7IID, showed me his Kindle onto which he'd uploaded various training materials, certificates and checklists, explaining that he could carry thousands of pages of material and have it easily available.

I kept thinking about this and bumped into a used Kindle DX (the larger screen size of the two Amazon sells) and quickly became a fan of the device.

The display is very easy to read and I was able to upload dozens of .PDF files to the device as well as some maps and

When folded closed, the Standard command board by Command Concepts is 15 X 22 inches. *(Courtesy of W7SAR)*

When open, the command board expands to 31 X 56 inches. *(Courtesy of W7SAR)*

other reference checklists. If I am careful when I prepare the .PDF files, they are easily used under field conditions.

I was excited to test (and verify) that once charged, the device was good for more than two weeks of use. It does have a wireless component (which I don't need to use) and turning that function off extends the battery life.

I've uploaded a lot of reference material, checklists, maps and items that are in .PDF format. I can scroll down the list of documents and find a safety briefing or an aircraft inspection checklist. The device is easy to carry and easy to learn to use – even for an old guy like me.

On the downside, I worry that if dropped, the device would be out of commission rather quickly. It's also pretty thin and I presume sitting on it would also render it unusable.

The one I got was used and I've been able to put it through some serious – but gentle – abuse and it's been OK. If I'm careful, it will be great for field use. The instructions say to keep it out of wet conditions, so that may be a limitation, but then a binder of paper material would suffer from the elements as well.

The Kindle is somewhat expensive, so having other uses is a plus. One significant "plus" is having a library of books to read during the "slow" times on an event. You can also put .mp3 audio files on the device and listen while you read.

I found a great many classics on the Internet available to download at no cost, and I've been reading a lot of great works, using the Kindle as it was intended!

The Command Board

The second item of interest is a "command board" available from the folks at Command Concepts: http://www.commandboard.com. It is designed for "on scene" incident command functions such as tracking resources, keeping track of paperwork and having a white board for planning and diagramming.

The version I have is the "Standard board" with no extras. It is well designed and folds into a compact size of 15 X 22 inches. Expanded it is 31 X 56 inches. It is constructed from durable material and would hold up as it's bumped around in a car or aircraft.

When the board is unfolded there are six clipboards (with elastic straps to keep the papers from blowing around) and a white board. A pocket holds another couple of white boards and marking pens.

The board allows you to keep your staff logs, briefing papers, maps and other materials organized and easily available and the center white board allows you to sketch the scene, list assignments or record planning data. There are a couple of grommets so you can hang the whole thing on a wall or secure it to a table or hood of a vehicle.

While this is called the "command board" it can be used by the communications function or any incident function where you need the ability to organize paperwork and track resources.

In past years I've struggled when I'm outside and need to have a nice and easy way to keep data organized. This fits the need and is well made so it should last for many years and many events. Command Concepts, the manufacturer of the board, has many options such as map cases, additional white boards and even forms you can customize.

One of the extra white boards I have is a standard ICS organizational chart that allows me to keep track of who is assigned to what function.

During a recent tabletop training event, I started the activity in an EOC using the "command board" and then transitioned to a field assignment. The board allowed me to record information and then just fold it up, take it into the field and quickly get going again.

Where setup time is critical, this product is ideal! I was impressed with how functional it was to fold and carry and not need to unclip the documents or gather materials into different cases. This was easy and functional.

The downside is the expense – the Standard version is listed at $270 on the company's Web site – and may not be something each responder will obtain. I debated the cost and decided to give it a try. I'm pleased with the purchase because it's something I will use.

There are other versions of this product and you can view them on the Command Concepts Web site and contact the company if you have questions. They're quick to answer inquiries and I got the impression they'd even work with you if you needed something custom designed.

The Versatile 'Netbook'

A final high-tech device I have in my grab-and-go gear is a tiny laptop computer called a "netbook." These small computers are fully functional (they don't have abbreviated operating systems) but don't include a CD/DVD drive, network or phone connections or even PCMCIA slots.

These have built-in wireless capability and the netbook seems pretty durable. They have a lot of USB ports and the one I have has a smaller but nice-sized screen and keyboard.

The netbook has an external monitor plug so I've been able to use it with a small projector for mission briefings, weather charts, etc. I was able to find a higher capacity battery from an after-market vendor so my netbook will keep going for five to seven hours where the supplied battery would only last about two hours.

I've loaded all my SAR applications on my netbook as well as mapping programs and other logging programs. It's small enough to be included in my gear and I've included only a vehicle power adapter as this is my "field" computer.

The price was under $200 and the 160-gigabyte drive is more than adequate for storage. I did buy the optional external CD/DVD drive to allow easier loading of programs but I don't pack that in my grab-and-go.

As with any computer, it's not designed for too much abuse or for wet conditions – but it does suit my need for a field computer with wireless access.

Until next month, keep alert for the "other" stuff you can add to your response gear to make life easier. Best wishes from Salt Lake City!

Getting That Proverbial 'Foot In the Door'

By Carole Perry WB2MGP

As many readers already know, in my retirement I have become passionate about getting radio/technology programs into schools across the country. Sometimes the biggest hurdle for those of us pursuing this goal is to get that " foot in the door" so you can make the pitch to an administrator.

Here are some successful techniques from my recent experiences:

There are three groups who you will need to convince of the value of a radio/ technology program in the school.

First, administrators are interested in the bottom line. Questions principals want to be answered are: What will be innovative and exciting for the students? What will bring positive publicity to the school? What will help the school's standing in the community? How much will it all cost? Be prepared to show and explain how a ham radio program will stimulate and excite the kids, and how space shuttle and International Space Station contacts will bring lots of media coverage, and how service to the community can be part of the radio program.

Second, once you've convinced a principal, he or she will ask you: " Who will teach the class?" Do your homework ahead of time. Find out if there is a science teacher who is looking to create an innovative program. Do research to find out if there is a ham on the staff – that would be even better. If you convince a ham who is a licensed teacher to go along with this, that person will get you an introduction to the administrator.

Third are the students – the most important group of all. If the kids show a real interest in what you have to offer, you're already on the right track. They'll have their parents talking to the principal.

Making Your Entrée

You need that first proverbial " foot in the door." One very successful technique I use is to go to a school at the beginning of the school year and introduce myself as someone who would like to enrich the school's curriculum by coming in, either alone or with other club members, and volunteering to do a hands-on demonstration with a radio.

A great idea is to volunteer to set up a radio in the school's cafeteria one day, and let the kids come to the microphone. If the principal won't let you do that, offer to do an assembly where

Hams With Class columnist Carole Perry, WB2MGP, speaks at Neptune High School about space shuttle contacts her classes have made.

A Neptune High School student in New Jersey practices Morse code on a code practice oscillator WB2MGP brought to the school that day.

the children can watch you making contacts, and make some themselves.

Very often, I take a back door approach, by volunteering to speak at the PTA meeting. Parents groups are always on the lookout for interesting speakers with innovative ideas.

Make sure you are prepared with lots of visuals of kids having fun on the radio. " FUN" is the operative word at all times. A *fun* way to enhance the learning experience is what everyone wants.

Expanding Horizons

Recently I volunteered to be a speaker at two high schools for their Career Day and Engineering Day. While I am not an engineer, I convinced the principal I had a lot to offer the students by telling them about interesting careers and engineering opportunities that ham radio could lead to.

What could be more exciting than showing students video of Space Shuttle contacts I had made with my classes during the years? I did power points of students building their own code practice oscillators, participating in Field Days, going on fox hunts, and testing signal strengths on hot air balloons, boats, and trains. Children relate to seeing other children doing fun, adventurous, activities.

At the College of Staten Island High School for International Studies, I participated as a teacher who had an innovative technology program for many years, when they invited me for " Career Day." We spoke about the career of teaching, of course, but I also had the opportunity of informing them about careers they might not have known about, or thought of, that some of my former students pursued, as a result of being exposed to different disciplines and a variety of people, in the ham radio program.

One of my former students, in fact, worked on the Hubble telescope at the Goddard Space Center. Years later he came back to the school to tell me he wouldn't have known about radio astronomy if he hadn't been in the radio class.

A Special 'Thank You'

I got the supreme teen age compliment that day from the kids at Career Day. They thanked me for " not being boring." They took it upon themselves to ask their teacher if I could be invited back to talk more about the radio.

The other school I visited recently for a third time was in Neptune, NJ. It had an event sponsored by the South Jersey IEEE Women's chapter about engineering opportunities. There, too, I pointed out examples for career opportunities in engineering in communications, the space industry, design engineering, computer technology, physics, biology, botany and so on.

At this school, thanks to the terrific response of the kids, the principal has agreed to set up a ham radio program. One of my fellow Radio Club of America members lives near that school and has volunteered, along with his amateur radio club to help the school get started. It all came from that initial " foot in the door."

Above and Beyond

If you really want to do something very special, I suggest you volunteer to go into a low-performing school where kids may not have access to many role models. If the kids you connect with are responsive to what you're showing them, you will have learned a secret that teachers know: When you influence the life of a child, you change your life as well.

If you need any backup material, or copies of press releases, please contact me before you go into the school.

Volunteer. Get involved with a school. Teaching technology through the fun of a ham radio program is an asset to every school. Let's make education be a fun, positive experience for every child.

Everyone Should Have a 'Go Kit,' Shouldn't They?

By Bill Pasternak, WA6ITF

The idea for this month's column comes from a QSO I was listening-in on recently. It's not important what band it was on, or the specific individuals taking part. But with the names and calls withheld to protect the guilty, the exchange went something like this:

Ham A: "So tell me Mike, do you have a radio "Go Kit?"

Ham B: "What the heck is a "Go Kit? I've been a ham for 37 years and ain't never heard of no "Go Kit" before."

Ham A: "You got'ta be kidding. You're licensed 37 years and you don't have a fully equipped portable survival station in a suitcase that you can take anywhere and set up in an instant? When I took my weekend ham class last year the teacher told us that one of these days the FCC might make having a 'Go Kit' mandatory. He said that eventually the only thing hams will be permitted to do is emergency work. That's the only reason I even got my ham license. To do emergency communications. Over."

Ham B: "Well, I don't know about having one of those emergency kits. I used to belong to AREC (the ARRL's predecessor to ARES) but I gave that up a long time ago. There's a lot more to ham radio than playing at being a cop or a fireman. I'm a DX'er and rag chewer. To me there's nothing more enjoyable than to chat with a guy on the other side of the world just like we're doing here on the repeater. I'm a Collins and Swan man. All tubes and in an emergency I can fix anything here. Well maybe not this 2 meter thing, but all the rest of the station. You really need to come over and experience some DX. The door is wide open. Over."

Ham A: "Old man – and I do mean *old man* – you are a relic. You don't belong. Ham radio is not for just talking. Its for recruiting people into our emergency communications group. It's for making every ham alive a trained disaster communicator. That's the only reason I responded to your call. But if you are not interested in EmComm, then I'm not going to waste any more time with you. K6??? this is KC6??? clear. We gone."

And with that the KC6 station was off to hunt and pounce on some other unsuspecting ham, likely leaving the experienced operator wondering what the relative newbie had for lunch. And as you might expect, soon another local who had obviously been eavesdropping as I, called the K6. He told him not to pay any attention to the guy who had so abruptly insulted him. He explained that the guy was akin to one of those religious zealots

The portable "Go Kit" station set up and ready to go using the carrying case as a mount. The antenna is to the left in the background.

who you see on street corners holding up signs that say *"Repent. The End Of The World Is Near."* In short order both of them and this eavesdropper were having a great belly-laugh at the expense of the now gone KC6.

The Curiosity Factor

Soon the conversation got back to the "Go Kit" with each of the two older operators guessing at what it was and what it might contain. It was at this point that I was going to break into the QSO and offer my view when I realized that I really had no idea what an official "Go Kit" contained. So I just kept driving and kept my nose out of the QSO.

Fast forward a few hours. I get home, sit down at the computer, go to the new ARRL website and use the search argument "Go Kit." I figure the first thing it will show me is a standardized list of what a "Go Kit" should contain. Instead, it gives me the contents of a ham radio Public Relations Go Kit, not one for responding to an emergency or for my own survival. After about an hour of searching, the only direct reference to a "Go Kit's" content I can find is: *"The short answer is: It depends! At the very least, you'll be asked to just show up. Or, the situation may call for you to bring your hand-held and some batteries as part of your Go Kit."*

OK. I know the new ARRL site is still going through its growing pains so I decide to simply Google "A Go Kit contains" and see what comes back. The first hit – http://www.tcoek12.org/~tcarc/hlist.html – better known as "WB6FZH 'Go Kit Info' – 72-Hour Emergency Deployment Kit" provides a plethora of information on what to pack, how to pack it and what it can accomplish. It begins with this very sound advice:

"First, you cannot be of any help to anyone if you are not well prepared and in reasonable health. Be sure to have what you need to sustain yourself (food, water, medicine, etc.) so others will not have to take care of you.

"Second, you need to have your equipment and supplies in readiness ahead of time at (a) specific location. If there is an item that you need elsewhere that is part of your kit, place a note (easily seen) on the outside of the kit so you or another you can retrieve it. Keep an inventory inside the container itself.

"Finally, consider the containers you use for your supplies, can you carry them? Can you put wheels on them? Is it waterproof or resistant? Is it clearly marked? Can you sit on it when it is empty?. Can you mount the equipment into it or on it? Should you build a shelf-like framework that fits inside the container? Would your antenna fit inside large PVC pipe with removable end caps? Where is your Duct Tape? Do you have light to see at night? Can you provide battery power to others while not disabling your set-up? How do you plan to recharge your batteries? Did you hide some of your favorite candy, gum, health bar, snack, etc., inside one of your equipment boxes in addition to your food supply? Do you have a plastic tarp to cover you and the equipment? Is your equipment and supplies marked with your name? Good luck!"

A Less Expensive Alternative

WB6FZH then breaks down the content of what he considers to be a valid "Go Kit" to cover just about any emergency. The only problem is that for the average ham to dedicate that much money to assembling a dedicated "Go Kit" might not be feasible. With this in mind, I decided to see if I could put togeth-

The HTX-202 handheld 2-meter FM radio is about 15 years old and has one of the best receivers around.

Be sure to include an LED flashlight or two and lots of fresh batteries. The larger of the two flashlights charges its internal battery from sun or room light.

er a "Go Kit" from "spare stuff" sitting around my house and shack. It did not take very long to find all the components.

First was to decide what band or bands my "Go Kit" should cover. Since out here in Santa Clarita, Calif., most emergency and public service ham radio communications is on 2 meter FM, I decided to limit my kit to that band and to analog-only operation. Even with all the new "whizz-bang" digital messaging programs, in reality most hams will likely be "talkers" not "typers" if something catastrophic happens and the power goes away. Most hams can stay on the air with an HT and a bunch a alkaline batteries, but very few can run a full power base station from a car battery for more than a few hours unless the engine is running to keep the battery charged .

Making Everything Old New Again

OK, let me see what's around and working. Well here's a Radio Shack HTX-202 2 meter hand held with a recently rebuilt and fully charged NiMH battery pack, a "wall wart" charger, a holder for Alkaline cells and an old Icom speaker-microphone.

Having used this radio in some of the most horrific RF environments including the observation platform of New York City's Empire State Building, I know how "RF bullet proof" it is.

But what about situations where a desktop transceiver will better serve? Then I remember that sitting in a closet is a nice Yaesu FT-290 multi-mode portable transceiver. It runs FM, CW and selectable upper and lower sideband. It is fully synthesized covering 144-148 MHz and runs 2.5 watts on CW/FM and 5 watts PEP SSB. It draws a maximum of only 800 milliamps under full load.

The radio has a built-in whip right on the front panel and an SO-239 for an external antenna on the back. This radio also has the ability to operate from eight internally-installed alkaline or NiCAD C cells or any external regulated power supply running anywhere from 8.5-15.2 VDC.

Best of all, it has 10 easily re-programmable memory channels, the optional CTCSS encoder and a switch to turn off the pilot lamps to save battery power. Other than the low 2.5 watts output on FM, it's the perfect emergency communications radio. OK. Into the box it goes.

Oh yes: The FT-290 has an earphone jack on the side. The kind that matches those inexpensive replacement earphone sets with a 3 mm plug that you can buy at any discount store for $3 or less. Only it's a mono jack so I looked through my collection of adapters for one that converts the stereo phones to mono operation. I had a half dozen so one got dedicated to this project.

But what to power it with? Well, obviously a set of internal batteries. NiCads are nice but over long term storage they do not hold a charge. I could buy eight C size NiCads. But if the goal of this project is a basic radio survival or "Go Kit" that costs absolutely nothing, that was out. In the end I decided that good old C size Alkaline batteries would suffice for short term operation. Our local "dollar discount store" always has 3-packs for 99 cents and I have about 10 packs in the closet. Three of these went into the EmComm box.

Next was shore power. I'm well aware that the "standard" connector is the Anderson Powerpole. That's fine if you want to spend the money to buy a box of Powerpoles and a crimping tool for about $50, but again this is a zero cost project – use what's already around the house. And in a box marked "Dell Scanner" I found exactly what I needed: A 12.6 VDC / 1 amp fully-regulated DC power supply. That's more than enough volts and amps to run the FT-290 with its pilot lights on. And

it also had the proper coaxial power plug and was wired to match the FT-290's reverse "center negative" connector.

A check with a DVM showed the output to be 14.1 volts no load and 13,4 under the load of the transceiver in receive, dropping to 12.9 on transmit. Close enough for government work.

And just for good measure I also included a 5-foot long power cord with a coaxial plug on one end and a cigarette lighter plug on the other. Also one with a coaxial power plug on one end and bare wires on the other.

So let's see: So far we have an HT complete with rubber duckie antenna, battery packs and a charger; a low power multimode mobile / portable transceiver that can work on internal batteries or any external power source. We have a 1 amp, 12.6 volt external power supply with matching coaxial power connector that matches the radio plus another coaxial power connector with a five foot pigtail and a cigarette lighter cord for mobile operation.

The only thing missing is an antenna and that's as easy as pie. I chose a generic 1/4 wave (approximately 19-inch) vertical mag (magnetic) mount that I've had for the past 20 years. It normally sits on a closet shelf, but it can be just as at home in my "Go Kit" bag or box.

This mag mount is really 1/2 of a vertical groundplane and it needs a groundplane – something metallic to hold the mag mount in place and about 1/4 wave on 2 meters under it. I happen to own a 16 mm sound projector and all sorts of accessories, among them some empty film reels and film cans.

A film can capable of holding 2,300 feet of film is about 15 inches in diameter and a 3,000 foot film can is about 24-1/2 inches in diameter. Because 16mm film has become obsolete in schools and industrial settings, you can find some good bargains or even free stuff at any school that's in the process of converting from film to video projection.

Unfortunately, most school projectors were limited to 2300' capacity so that's the biggest size you will likely encounter. While they might seem a bit small to resonate on 2 meters as a groundplane, I find they work just fine. And best of all, they are free or only a dollar or two on places like eBay.

Make sure you get a steel reel and/or film can. Many from the mid-1970's on were made of plastic.

Also this warning: Don't get one that contains early celluloid based film. It is a fire hazard and if stored improperly, a death trap. If your reel contains film be sure it's clearly marked "safety film" so that it won't self ignite in a hot environment. And if you are not sure, keep only the can and properly dispose of the film and reel. After all, it's really only the film can that you want as the groundplane. Just put the mag mount dead center on the film can and you are ready to operate.

Now For the Container

Now, what to hold all of this? Looking through my collection of travel effluvia I spotted a soft-sided but reinforced case that I used to use to carry around my old, heavy film SLR, a pair of lenses, strobe, batteries and other accessories. I'll have to buy (shudder) a piece of foam liner and cut it to fit the radio gear, but we are only talking a few dollars.

The Miscellaneous Paperwork and Other Goodies

What else will go into my freebie "Go Kit?" Well, one or two LED flashlights with spare batteries. Actually, I have one

of those "shake for 30 seconds and get 30 minutes of light" flashlights that is not battery dependent, so maybe one of them. Another charges from sunlight or room light.

Also, a small AM or AM-FM-SW pocket radio with extra batteries. I'll need a way to record incoming and outgoing audio such as a tape or digital flash recorder.

There will be a cut-out in the foam to hold 7 days of daily medications and another for caffeine free energy bars.

Last, I pan to follow WB6FZH's advice – at least in part – on what identification to include. He suggests that in addition to having your original driver's license or ID card issued by your state government in your wallet, include in your "Go Kit:"

- A copy of my FCC Amateur Service license.
- An ID card of a specific group (ARES, AREC, REACT, etc.) if you belong to one.
- An optional family photo. With four grandkids I never leave home without one or 5 or 10.
- A personal address book with radio contacts. I'm not the PDA type.

Some other items I'd suggest:

- An up-to-date list of medications that you take and an emergency medical contact.
- A recent repeater directory.
- Copies of certificates of completion from any emergency communications, CERT and other emergency response training courses that you have passed.
- A small roll of "Gaffers Tape." Never heard of it? Well it's the stuff used on film, TV and theater stages to hold just about anything in place, not have it come loose and remove it with a slight tug. It looks a lot like Duct Tape but holds a lot better and leaves almost no residue. If you don't work in "da bizz" you can buy a roll of Permacell brand that's 2-inches wide by 25-yards long from Amazon.com for under $18. For most hams that will last a lifetime.
- A yellow "legal pad" and some good ballpoint pens.
- A small first aid kit.

Putting It All Together

Well I have almost everything assembled and ready to start putting the kit together. I need a new foam insert for the case. Then cut that to fit the radios and associated gear and secure everything in it other than the medicines and batteries. Those need to be fresh so they will added at the last minute.

And since the radio does do SSB and CW, I'm also thinking of including a simple 2 meter horizontal loop made of coat hanger wire that can be used for hill topping. It's what the computer generation would call "multi-tasking." I call it fun.

You Can Do It, Too

So there you have it. An "almost free" VHF radio survival and/or EmComm "Go Kit" made from leftovers of an earlier era in ham radio. All of it working fine. All of it completely compatible with any other analog voice FM ham station on 2 meters today. Most of all, it's a project that most anyone can design and build based on their own EmComm or survival needs from your currently unused gear. If you are going to keep it and store it, why not do so in a way that it can be put to instant use.

One day it might come in handy on a fun family outing or it could save your life. **– de WA6ITF**

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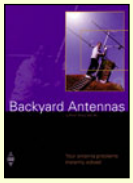

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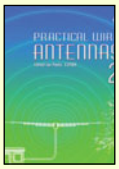

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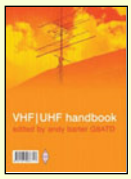
VHF/UHF Handbook

Edited by Andy Barter, G8ATD



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Order: RSHFAC *$33.00*

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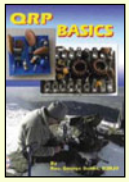

By Rev. George Dobbs, G3RJV

RSGB, 2003 Edition, 208 pages How to get the best results from a QRP station whether from home or outdoors. Explains how to construct your own station, including complete transmitters, receivers and some accessories. Other sections include toroidal coils, constuction techniques and equipping a workshop. You'll also find a listing of QRP contests and awards.

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World at Their Fingertips

by John Clarricoats, G6CL

RSGB,1st Ed., 1993, 307 pages

The story of amateur radio in the U.K. and a history of the Radio Society of Great Britain. Its pages and illustrations give a account of the development of a hobby that has provided technical knowledge and service to the community.

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216 pages

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Order: RSTTC99

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RSGB, 2007 Ed..

Fully updated, lists all islands that qualify for IOTA, grouped by continent, and indexed by prefix. Award rules and includes application forms.

Order: RSIOTA *$18.00*

The Antenna Experimenter's Guide

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Takes the guesswork out of adjusting any home-made or commercial antenna, and makes sure that it is working with maximum efficiency. Describes RF measuring equipment and its use, constructing your own antenna test range, computer modeling antennas. An invaluable companion for all those who wish to get the best results from antennas!

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by Pat Hawker, G3VA

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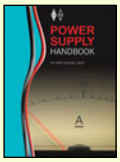

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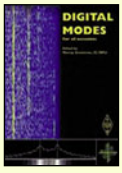

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DX Predictions

JULY 2010

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	(14)	***14**	***15**	(12)	***17**
12	(18)	11	***13**	15	(15)
14	21	***13**	***12**	17	20
16	23	***16**	(12)	19	***24**
18	***24**	14	(12)	18	***26**
20	***24**	***18**	23	16	***28**
22	20	***20**	28	13	***27**
24	17	***20**	***29**	(11)	***24**
2	15	***20**	***29**	(10)	***20**
4	***16**	***20**	***28**	***14**	***17**
6	20	***18**	***24**	***17**	***15**
8	17	***17**	***16**	14	***14**

CENTRAL U.S.A.

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

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
7	16	14	***19**	(12)	***14**
9	18	(13)	***15**	14	***15**
11	23	16	***13**	***17**	***17**
13	***26**	17	(13)	***19**	***22**
15	***28**	14	(12)	***20**	***25**
17	***29**	(12)	(12)	***20**	***27**
19	***26**	(15)	(17)	***19**	***28**
21	***21**	17	26	***18**	***28**
23	18	19	29	15	***26**
1	***16**	19	29	***14**	***21**
3	***13**	18	***29**	***11**	***18**
5	***19**	***17**	24	***14**	***16**

CONTEST: RAC Canada Day
DATE & TIME: 0000-2359Z 1 Jul
BANDS/MODE: 160-2M CW/SSB/FM/AM
POINTS: 2 Pts outside Canada; 10 Pts Canadian Contacts; 20 Pts Contacts with RAC official stations
MULTIPLIERS: CA Provinces/Territories (13 possible)
EXCHANGE: Canadians give RS(T) and Province/Territory; All others give RS(T) + Serial #
ENTRY CATEGORIES: Single op - Single band; Single op - QRP (5W max); Single op - Low (100W max); Single op - High; Multi-op, Low (<100W); Multi-op High (>100W); Multi op - multi XMTR
ENTRIES: 31 July Radio Amateurs of Canada 720 Belfast Road, Suite 217, Ottawa, Ontario, Canada K1G ØZ5, Entry forms and Cabrillo format guidelines available at: www.rac.ca/en/rac/programmes/contests Canada E-mail: canadaday@rac.ca Rules at: www.rac.ca/en/rac/programmes/contests/files/2010%20Canada%20Day%20Rules%20English-French.pdf

CONTEST: MI QRP 4th of July Sprint
DATE & TIME: 2300Z 4 Jul - 0300Z 5 Jul
BANDS/MODE:
POINTS: 2 Pts. non-member sta; 4 Pts. non-member, DX contacts; 5 Pts. member sta's
MULTIPLIERS: States/Provinces/Countries each band
EXCHANGE: RST + QTH + member # (non-members give power)
ENTRY CATEGORIES: A = <250mW; B = 250mW - 1W; C = 1 - 5W; D = >5W
ENTRIES: 30 Days Hank Greeb, N8XX 5727 11 Mile Rd. NE, Rockford, MI 49341-9502 E-mail: n8xx@arrl.org; Rules at: www.qsl.net/miqrpclub/contest.html#MICHIGAN QRP CLUB

CONTEST: IARU HF World Championship
DATE & TIME: 1200Z 10 Jul - 1200Z 11 Jul
BANDS/MODE: 160-10M CW/SSB
POINTS: 1 Pt. own ITU zone; 3 Pts Same continent, different ITU Zone; 5 Pts. Different continent and zone
MULTIPLIERS: ITU Zones + IARU HQ sta;s
EXCHANGE: IARU Member society HQ stations give RS(T) + society abbreviation; All others give RS(T) + ITU Zone
ENTRY CATEGORIES: Single op - Phone, CW or Mixed; Multi op - Single XMTR, Mixed Mode only!
ENTRIES: 30 Days IARU HF Championship IARU International Secretariat Box 310905 Newington, CT 06111-0905
E-mail: (Cabrillo format) iaruhg@iaru.org
Rules at: www.arrl.org/iaru-hf-championship

CONTEST: FISTS Summer Sprint
DATE & TIME: 1700-2100Z 10 Jul
BANDS/MODE: 80-10M CW
POINTS: 2 Pts non-member sta; 5 Pts. QSO with FISTS members
MULTIPLIERS: State/Provinces
EXCHANGE: RST + State/Province/DXCC Country + Name + FISTS # (non-members give power)
ENTRY CATEGORIES: QRP (<5W); QRO (>100W); Club
ENTRIES: 30 Days Gil Woodside, WA1LAD 30 Hilltop Ave., West Warwick, RI 02893-2825 Web site: www.fists.org/sprints.html
E-mail: wa1lad@cox.net (Cabrillo or ASCII)
Rules at: www.fists.org/sprints.html

CONTEST: Run for the Bacon
DATE & TIME: 2100-2300 PM Eastern 19 Jul
BANDS/MODE: 80-10M CW
POINTS: 1 Pt. non-member QSO; 3 Pts. Flying Pig 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: Must be submitted via Autolog at:
http://www.fpqrp.com/autolog.php
Rules at: http://www.fpqrp.com/fpqrprun.php

CONTEST: North American QSO party
DATE & TIME: 1800Z 17 Jul - 0600Z 18 Jul
BANDS/MODE: 80-10M RTTY
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 (100W power limit for all categories)
ENTRIES: 14 Days Shelby Summerville, K4WW 6506 Lantana Ct., Louisville, KY 40229-1544
Cabrillo to: rttynaqp@ncjweb.com
Rules at: www.ncjweb.com/naqprules.pdf

CONTEST: CQ Worldwide VHF Contest
DATE & TIME: 1800Z 17 Jul - 2100Z 18 Jul
BANDS/MODE: 6 & 2M
POINTS: 1 Pt. 6M; 2 Pts 144 MHz
MULTIPLIERS: Grids per band
EXCHANGE: Maidenhead Grid Locator (4 digit)
ENTRY CATEGORIES: Single op - single band (6 or 2M); Single op - QRP (all bands); Single op - All band portable limited (6 Hrs max continuous); Rover; Hilltop; Multi op; Club
ENTRIES: 1 Sep CQ VHF Contest 25 Newbridge Rd., Hicksville, NY 11801; E-mail: (Cabrillo format) cqvhf@cqww-vhf.com
Web page: www.cq-amateur-radio.com
Rules at: http://www.cqww-vhf.com/rules.htm

CONTEST: NAQCC Sprint
DATE & TIME: 0030-0230Z 22 Jul
BANDS/MODE: 80/40/20M CW
POINTS: 1 Pt. non-member QSO; 2 Pts. member QSO
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + State/Province/Country + Member # (non-members give power)
ENTRY CATEGORIES: SWA (simple wire antenna); GAIN (antennas other than simple wire antenna)
ENTRIES: 4 Days John Shannon, K3WWP, 478 E. High St., Kittanning, PA 16201 Contest software for this contest available at:
http://mysite.verizon.net/dmascaro1/
E-mail: naqcc33@windstream.net
(Submit log as plain text, NO attachments!);
Online logger (preferred method) at:
http://home.windstream.net/yoel/sprint_submit_log.html

CONTEST: RSGB IOTA
DATE & TIME: 1200Z 24 Jul - 1200Z 25 Jul
BANDS/MODE: 80-10M CW/SSB
POINTS: 3 Pts own IOTA Reference or non-island sta's; 15 Pts. other IOTA islands
MULTIPLIERS: Total of different IOTA references each mode
EXCHANGE: RS(T) + Serial # + IOTA reference # (if applicable)
ENTRYCATEGORIES: Single op - 12 HRS (CW, SSB or mixed); Single op - 24 Hrs) (CW, SSB or mixed); Single op - 12 Hrs, Assisted (CW/SSB/Mixed); Single op - 24 Hrs Assisted (CW/SSB/Mixed); Multi op – Mixed; All categories – QRP (<5W), Low (<100W), High
ENTRIES: 16 August RSGB IOTA Contest, Radio Society of Great Britain, 3 Abbey Court, Fraser Road, Priory Business Park, Bedford, MK44 3WH, UK
Cabrillo to: iota.logs@rsgbhfcc.org
Rules at: www.rsgbcc.org/hf/rules/2010/riota.shtml
Free logging software at: www.ei5di.com/sd/sdisetup.exe

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

VE EXAMS

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

p/r pref. = pre-register preferred but w/i OK
p/r = pre-registration only-no w/i
w/i = walk-in only
w/i pref. = w/i preferred to p/r

CITY	DATE	CONTACT	NOTES
ARIZONA			
Mesa	3rd Mon	Steve KY7W, 480-804-1469, kj7wk@cox.net	w/i
Phoenix	4th Sat	Gary Hamman, 602-996-8148, K7GH@arrl.net	
ARKANSAS			
Cabot	3rd Sat	Daryl Stout, AE5WX, 501-681-1551, ae5wx@arrl.net	w/i OK
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net	
CALIFORNIA			
Highland	7/17	Ed , WU6I, 909-864-0155, wu6i@arrl.net	p/r pref.
LaVerne	Last Sat	Frank, K6FW, 909-628-8661, k6fw@arrl.net	p/r
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
Redwood City	Call	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	Visit Site	Gordon, W6NW, Sv@amateur-radio.org, www.amateur-radio.org	w/i
COLORADO			
Englewood	1st Sat	Dave, N0HEQ, 303-795-5718, n0heq@arrl.net, Commerical Exams also	p/r pref
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.
Sanford	4th Sat	James, N4ZKT, 407-333-4245, n4zkt@bellsouth.net	
HAWAII			
Oahu Is.	Call	Lee, KH6BZF, 808-247-0587	p/r
IOWA			
Vinton	3rd Tues	Kenneth, N0EGV, 319-223-5739, n0egv@southslope.net	w/i ok
ILLINOIS			
Bolingbrook	3rd Sat	Dale, W9KHX, 815-723-3332	w/i ok
Burr Ridge	Any Day	Argonne ARC, W9DS, 630-986-0061	p/r
Lake in Hills	4th Sat	Jeffrey Dubin, N9MXT, 847-815-9407	
Roselle	2nd Tues	Sam, W9SFB, 630-894-0708, w9sfb@aol.com	p/r
INDIANA			
Richmond	Call	Mike, 765-439-4230, w1idx@arrl.net	w/i
South Bend	3rd Mon	Alan, NY9A, 574-232-6883	p/r
MICHIGAN			
Garden City	Call	Ken Wardell, AB8ZD, 734-421-7730, gsnapshot@att.net	w/i ok
MINNESOTA			
Apple Valley	2nd Thur	Jim, N0OA, 612-384-7709, N0OA@arrl.net	p/r pref.
MISSISSIPPI			
Harrison Cty	1st Sat	Don, W5DJW, 228-868-5670, donw5djw@bellsouth.net	w/i ok
NEVADA			
Stagecoach	2nd Sat	Jack, AC6FU, 775-577-2637 ac6fu@arrl.net	
NEW JERSEY			
Bellmawr	3rd Thurs	Diane, N2LCQ, 609-227-6281	p/r
Pennington	7/17	Don, AA2F, 609-737-1723, aa2f@arrl.net	w/i ok
Roselle	4th Sat	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
NEW YORK			
Bethpage	2nd Tues	Bob, 631-499-2214, w2ilp@optonline.net	p/r
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
Valhalla	7/8	Stanley, WA2NRV, wa2nrv@weca.org	
Yonkers	Call	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	Call	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
Lincoln City	1st Sat	Carl, w7li@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
Lebanon	3rd Sat	Wa3gpm@arrl.net	
Pittsburgh	7/10	Bob, N3LWP, 412-366-0488, n3lwp@verizon.net	w/i ok
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.rr.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
Vancouver	Call	Vancouver ARC-Clark County, 360-892-5580 C. Wayne Schuler, AI9Q ai9q@arrl.net	w/i ok
WEST VIRGINIA			
Parkersburg	2nd Mon	Dana Pickens, WV8G, 304-422-6101	w/i, p/r
WISCONSIN			
Racine	1st Sat	Robert, W0WLN, 262-886-8551	w/i pref.

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

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ADVERTISERS' INDEX

What's Causing That Tuning Blip On the Ol' G5RV?

Kurt N. Sterba

James Fox, N7ENI, of San Diego, is curious about his G5RV and turns to Krusty Olde Kurt for answers:

I'm using a 40 meter G5RV on 6 meters. The apex is at 30 feet. The ends are at 12-feet above ground. There is 14-feet of 300 ohm twin-lead from the apex to the coax-wound balun, then 70 feet of RG-8. I also have a non-resonant length of ground strapping to earth ground and a counterpoise for each frequency - including the 6 meter band.

The question is: If my tuner will tune from 50.090 MHz to 50.200 MHz and from 53.580 MHz to 53.660 MHz with an SWR of 1.0:1, why would it be that I cannot get a reasonable SWR from 52.525 MHz to 52.780 MHz? The SWR on this part of the band is very high – greater than 10:1. But the SWR is very good on each side of this spike.

Let's take a close look at N7ENI's antenna. A 40-meter G5RV is 51-feet long and, in this case, configured as an Inverted Vee. It is fed at the center with 14-feet of 300-ohm twin-lead. The bottom end of the twin-lead is connected to 70-feet of RG-8 cable that runs to the tuner. Right next to where the two cables are connected the RG-8 is formed into a 10-turn coil about 6-inches in diameter. This forms a balun that prevents RF from going down the outside of the coax shield.

So what causes the spike in SWR in the middle of the band? It's not the antenna. It is not resonant but its resistance and reactance will change smoothly across the band. No spike here.

The choke coil is not at fault either. RF goes right through coax whether it is coiled or not.

The most likely culprit is the combination of ladder line and coaxial cable. Remember that the impedance at the end of a 50-ohm line is not likely to be 50 ohms unless the load at the other end is 50 ohms. If the antenna load is highly reactive the impedance your tuner sees can be a lot different.

It is possible there is a "bump" in impedance at some value of reactance at some frequency. Antenna tuners can " tune" only so far. If the impedance is more (or less) than they can handle they will not be able to tune. In this case you may see high SWR on the tuner-to-transmitter line. If this is the problem you can move the problem to another out-of-band frequency by changing the length of the coax. On 6-meters this may be only a couple of feet difference. Give this a try.

Kurt has another observation on your transmission line setup: On the 6-meter band the G5RV is non-resonant. This means the antenna will be reactive. A reactive component of 1,000-ohms or more is quite likely. If this is the case, the loss in the RG-8 cable will be 15-dB. This means if your transmitter puts out 100 watts, the antenna will get 3-watts to radiate. And you get the same attenuation on receive. Not good!

It would be far better to use something like 450-ohm window line. This will cut your loss to 3-dB so your antenna will get 50 watts to radiate. Kurt thinks you will get out (and receive) a lot better if you make this change.

'RF: The Cigarette of the 2000s?'

The above headline in *Electronic Engineering Times* three years ago was an early example of the scare tactics being used by hawkers of " cures" for a perceived problem. They state that RF (they like to call it " EMF radiation" because the word " radiation" conjures up thoughts of atomic bombs) causes cancer and other injuries to the human body.

They are targeting cell phone users now. But we should be wary and expect amateur radio to be affected in the near future. Kurt happily operated his transmitters for more than 60 years without a worry about RF fields. Then just 10 years ago new FCC regulations came in and we are required to check our houses and grounds for RF levels. Only QRPers are exempt. It could get worse.

The makers of the quack devices tell the public that cell phone radiation can cause cancer, including brain tumors; nerve damage, memory loss, muscle spasms, cataracts, and so on. The fact is that, as stated by U.S. Department of Health, there is no significant association between cell phone use and health effects. RF can heat tissue if strong enough. Nothing else. One point the quacks ignore: Ionizing radiation (X-rays, atomic radiation, etc.) can injure the body. Non-ionizing radiation (radio waves, visible light) cannot, except at very high levels.

And what are some of the quack cures? One uses powdered rock glued to a plastic strip. It is a " special rock found only in South America." You affix the strip to the side of your cell phone (or any other transmitter). It does not reduce the radiation or affect the operation of the transmitter in any way but it neutralizes the effects of the radiation on your body. *Sure*!

Another device superimposes a low frequency randomized magnetic field over the RF field from electronic equipment thereby " masking any regular pattern proven to cause biological effects." *Scientific sounding baloney!*

One firm is marketing a small holographic disc which " has been scientifically proven to be significantly effective in neutralizing the harmful effects of electromagnetic waves."

These " cures" are all obviously ridiculous and the dangers these guys trumpet are a bunch of *hooey*. The problem is, if they tell lies often enough and loud enough people will believe them. Many do already.

We have problems with homeowners associations now because they don't like the looks of our antennas. Wait until they believe that the antennas are dangerous to their health. Then we'll have real problems.

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