WorldRadio ONLINE

Year 40, Issue 5 NOVEMBER 2010

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

Radio Amateurs Provide Vital Support in Pakistan

The Pakistan Amateur Radio Society reports that a cross-band emergency repeater was set up to provide the first communications of its type to the Swat Valley – a site of devastating floods. The repeater was linked to the rest of the country through a chain of 2 meter repeaters.

According to Pakistan Amateur Radio Society emergency communications organizer Asad Marwat, AP2AUM, the linking of so many repeaters "will cause a squelch tail delay. However, given the circumstances and lack of proper equipment, AP2AUM says it will be more than acceptable," according to a report on Amateur Radio Newsline.

A convoy of radio amateurs was relocating a repeater already installed at Changla to the Malakand Heights "so it can be linked into the emergency communications system."

A team of radio amateurs was transporting a VHF base station with a high gain antenna via helicopter, AP2AUM said. With the availability of a 12 volt car battery, "all should be up and running shortly."

On the heels of the massive flooding, the Pakistan Amateur Radio Society "continues to work in partnership with Islamabad Jeep Club members and the Pakistan Academy of Family Physicians to provide support for those affected," the ARN report said. "Some 30 radio amateurs are involved in providing emergency communications in response to the disaster that so far has affected an estimated 20 million people and claimed 1,500 lives. *(ARN, PARS)*

DXpedition Activity Heats Up in November and 2011

Members of the Caracas DX Group will be active as YW5LF from the Los Frailes Islands from November 18 to 22. QSL this operation via DM4TI.

Meanwhile, G0OPA will be active as 8P9LJ from Holetown in St.James Parish on Barbados through November 8. "His operation will be on all of the high frequency bands," according to an ARN report. "If you make contact, please QSL via his home callsign, either direct or via the bureau."

The Ohio Penn DX Newsletter reports VK2IR – with the help of 3D2AA – "will be heading up a team of 10 operators to activate Rotuma in July 2011. VK2IR says that further details of this operation will be forthcoming as plans progress." *(ARN, DX sources)*

Hamfest India Set This Month in Pollachi

The 19th annual Hamfest India will be held November 13-14 in Pollachi, Tamilnadu in India at the Pollach P.A. Educational Institution. More information and complete details are available at the Hamfest India 2010 website. <http://www.hamfestindia.com> (*Southgate ARC)*

Wanted: QCWA Member Stories of Youth Mentoring, Education

Dave Hayes, VE3JX, Quarter Century Wireless Association (QCWA) columnist for ***WorldRadio Online,*** told Amateur Radio Newsline that he is "is looking for input from members regarding their involvement in youth oriented projects such as ham radio youth mentoring and education. To that end, Dave says that he would like to ask those chapters who have experience in this to relate them to him."

VE3JX cites among other activities, Chapter 151 in Alberta, Canada, whose members "have gone to various schools and conducted live contacts with the astronaut and cosmonaut hams on-board the International Space Station. He also asks if other members or chapters have participated in the youth mentoring program sponsored jointly by the QCWA and Amateur Radio Newsline."

If you are a QCWA member and have experience with any aspect of ham radio youth mentoring, please send your story along with any related photos to Hayes. His e-mail is VE3JX@arrl.net or VE3JX@rac.ca. *(ARN, VE3JX)*

Amateurs Provide EmComm Support for Colorado Wildfire

The American Radio Relay League reports hams are providing communications at a massive wildfire that broke out in September just northwest of Boulder, Colorado.

"Amateur Radio operators are located at the Red Cross shelter set up at the University of Colorado Event Center and also at the Boulder County Emergency Operations Center," a report on ARN said. They provided "voice and ATV communications between forward fire units, the Incident Command post and the Emergency Operations Center," ARN said. "Hams are also providing voice and packet communications for the Red Cross." *(ARN, ARRL)*

CQ Amateur Radio Launches Easier-to-Navigate Website

CQ Amateur Radio magazine <http://www.cq-amateur-radio.com> has launched "a new and easy-to-navigate website," company officials said. "The updated cyberspace home for the magazine features a clean new look and a streamlined user interface which, according to Editor Rich Moseson, W2VU, is a major step forward," a report on Amateur Radio Newsline said.

"The main benefit of our new website is ease of navigation," Moseson told ARN in September. "We've had great things on there for years but they have been added piecemeal and they have built up into a kind of a patchwork and it's been hard to find things. Now, we've reorganized things and it's all easy to find with much of it easy to get to with just one or two clicks."

The new site features links to special information for new and prospective hams as well as hamfest and special event listings. "We also have a couple of new features on the website such as the current issue highlights right on the front page; links to our other magazines and a direct link to our Facebook page," W2VU said.

"The updating of the *CQ* website completes a company-wide website upgrade for all four magazines published by CQ Communications, Inc.," which include Popular Communications, CQ VHF and WorldRadio Online magazines. *(ARN, CQ Amateur Radio)*

CORRECTION: September's *WRO*

The U.S. Patent number for William Lattin, W4IRW's, Stub Antenna was incorrect in September's Aerials column. It is 2535298. A direct Web link to Lattin's design is available on the Internet. <http://www.freepatentsonline.com/2535298.html>

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WorldRadio ONLINE

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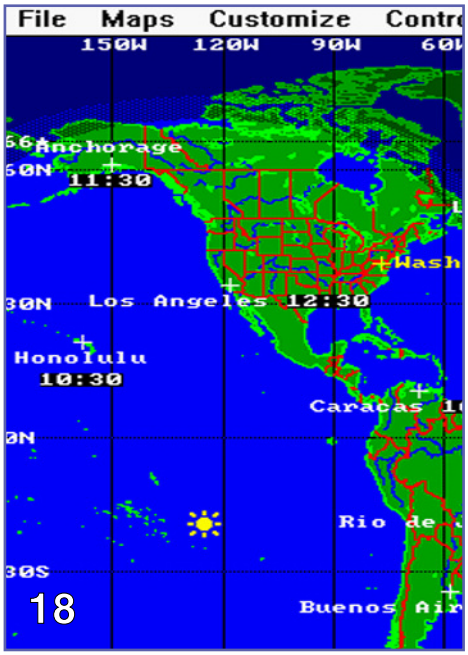
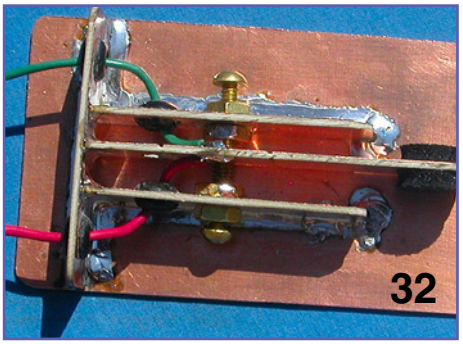
ON THE COVER: YLs from around the world gathered in Germany for the 2010 International YLMeeting in Munich. For details, see Cheryl Muhr, NØWBV's, YL column. *(Photocourtesy of WB3EFQ and KB4RM)*





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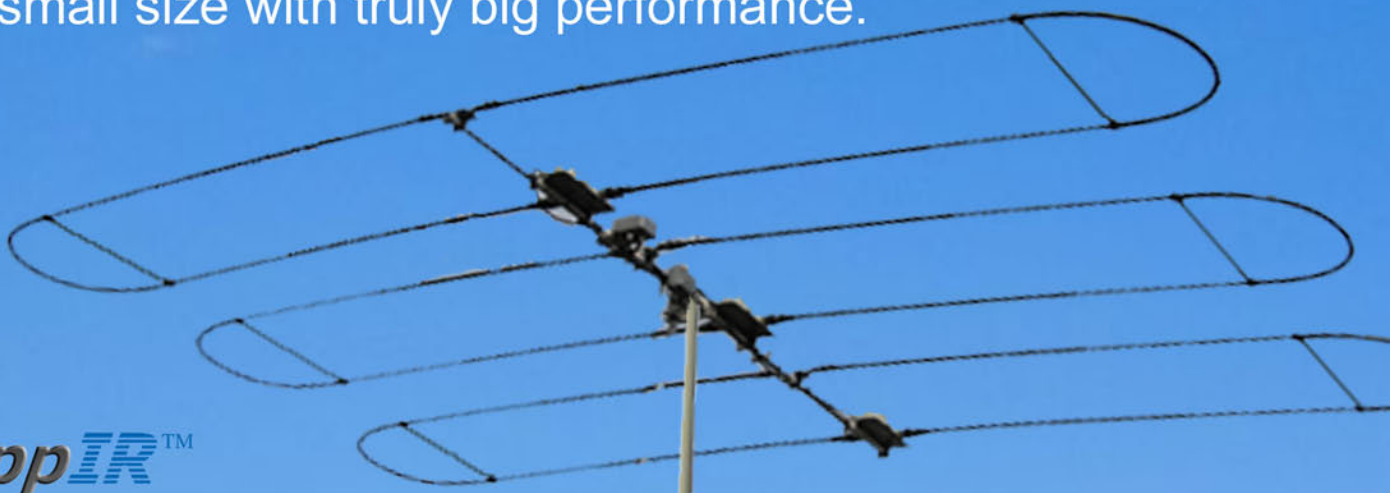

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6m	3

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

EDITOR'S LOG

A Stream of Consciousness Leads Right to the Dumpster

WorldRadio Online readers who have been unable to take part in one of our monthly *WRO Live Online Chat* sessions occasionally drop an e-mail asking *"what goes on there?"*

Of course, anyone can catch an encore of the entire Internet session by visiting the ***WorldRadio Online Blog*** < http://www.WorldRadioOnline.blogspot.com > and pressing *Replay*.

One way to describe the live event, though, is a *stream of consciousness*. At the appointed hour – 8 p.m. Eastern time on a designated Sunday – we open the chat window and participants begin checking in. Comments fly fast and furious. We keep it very informal and friendly – a conversation among friends.

Invariably, someone mentions an on-air activity or poses a technical question and we're off and running.

Our chat on September 12 is a fine example. As you'll see, it ultimately led right to the dumpster.

From Overland Park, Kansas, **Steve Everley, KCØVYS,** signed-in early and soon excused himself: "Sorry, got to go and try to contact ISS (the International Space Station) which will be over Kansas City in about seven minutes. Will log back in after."

Gil Woodside, WA1LAD, of West Warwick, Rhode Island, quickly posted: "Good luck with the ISS, Steve. I had a QSO with them back in July. It was *awesome!"*

'LAD went on to say he "worked the ISS mobile while driving home from work one evening. Col. (Douglas) Wheelock (KF5BOC) does *a lot* of operating from the ISS. The key is to *listen* first. I was thrilled to finally make the QSO . . . I had a few voice and digital QSOs with (the Russian space station) MIR before they de-orbited it."

KCØVYS subsequently returned: "Back from trying to contact ISS here in Kansas City. They are sleeping now, so no voice. But heard lots of packet traffic – but no decoder right now."

Fascinating detail for those of us who have never worked the ISS.

And On It Went . . .

Gene Bartsch, WI7N, asked from Banks, Oregon: "I wonder if we get Worked All States on this chat. Is there any way to keep track?" We're looking into the ***WRO*** chat tool – *CoverItLive* – to see if that's possible. The footprint of chatters is pretty broad. People from across North and South America, Europe, Asia and Africa have checked in. We've even heard from Antarctica. It wouldn't be surprising to see we've achieved *WAS*.

Ray Lajoie, KB1LRL, reported from Fitchburg, Massachusetts he'd been involved in a local public service event over the weekend: "We had a women's triathlon here today (and) we have a 250th anniversary parade coming up," he said. "It went excellent. We are well received with these events. There are three in this area in the year. They love us. We also get a lot of practice from the Boston Marathon. That is a monster of logistics!"

Steve Katz, N8WL, of Granville, Ohio, said he'd been involved in a mini-Field Day – "an Ohio State Parks On The Air (OSPOTA) event. Portable operation in Ohio's State Parks, and picnics/food/cook-outs. I think it went well."

Valmarie Rivera, NP3YL, checked in from Trujillo Alto, Pureto Rico. She was featured on the cover of September's ***WRO,*** photographed during Field Day operations from KP4. Responding to a good-natured comment about her new *star status,* Valmarie credited **Angel Santana-Diaz, WP3GW,** with being "a good public relations agent, I think." Angel jumped in to note that NP3YL had appeared in an online newspaper and a regional newspaper, as well. He's one of Puerto Rico's greatest proponents of amateur radio.

(Continued on page 51)

WorldRadio Online

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*Want to try building your own trail-friendly single-lever CW paddle? See KI6SN's **Trail Friendly Radio** in this month's **WorldRadio Online** for a twist in NB6M's design that's easy and inexpensive to duplicate and works well in a home or field environment.*

The Single Life: A Simpler Way of Keying

By Bruce Prior, N7RR

Call them bipolar if you wish. There is an old-new movement afloat: governing electronic CW keyers with single-lever paddles where a stroke in one direction activates a *dit* circuit and a stroke in the other direction turns on a *dah* circuit.

This trend is especially active among elite European operators, but it's catching on here in North America. Marshall Emm, N1FN, of Morse Express, has written an online essay, *Iambic Keying - Debunking the Myth*, <http://www.morsex.com/pubs/iambicmyth.pdf> which promotes single-lever paddling. Marshall wrote in some detail about the relative efficiency of sending through an electronic keyer with one lever versus two.

I think the critical question is how we can increase our operating speed while retaining accuracy. I read Marshall's article a long time ago and filed it in the back of my mind, while I blithely continued to use dual-lever paddles. Finally I decided to find out what all the fuss was about. The marketplace is now rich with a number of quality single-lever paddles.

Learning Single-Lever Paddling

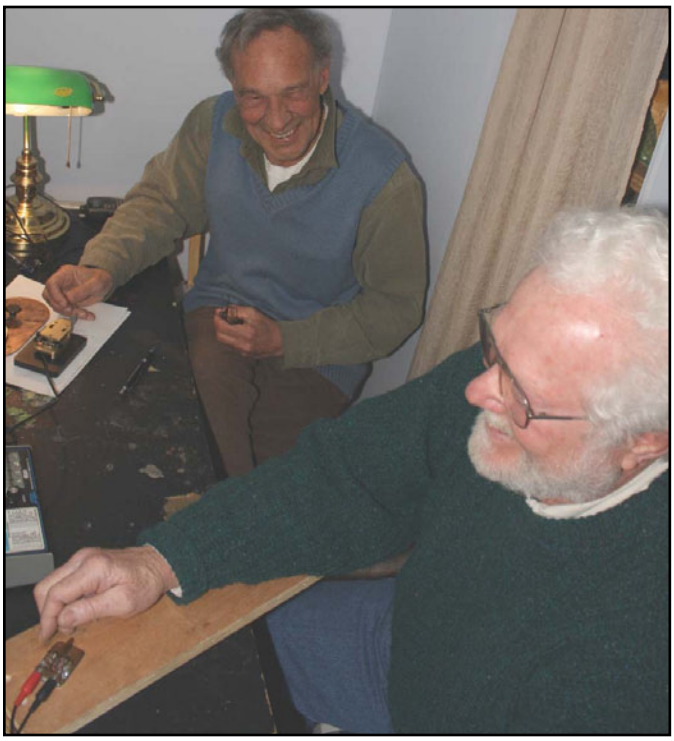
For high-speed keying, an increasing number of operators prefer single-lever paddles, because above some threshold, perhaps typically 35+ wpm, they only rarely use both sides of a dual-lever paddle at the same time. That extra lever can actually increase errors at high speeds.

I have had the most trouble with the letter *F* using a dual-lever paddle, even though I can usually send *L* at higher speeds without error. My challenge was to unlearn those old carefully-honed dual-lever skills in order to learn proper single-lever paddling.

I decided to take the plunge by building a Bushwhacker <http://www.americanmorse.com/bushwhacker.htm> single-lever paddle kit from American Morse Equipment. It is compatible with the mounting accessories designed for the AME Porta-Paddle II, <http://www.americanmorse.com/portapaddle.htm> including a Leg Mount, <http://www.americanmorse.com/portapaddlelegmount.htm> a Qwikmount plate <http://www.americanmorse.com/ppquickmount.htm> (whose 3M™ Dual Lock™ bottom allows the keyer to be fastened to any convenient hard surface) plus a special base <http://www.americanmorse.com/portapaddlebase.htm> for home-station use.

For someone like me with a lot of dual-paddle experience, the hardest characters to re-learn on a single paddle are:

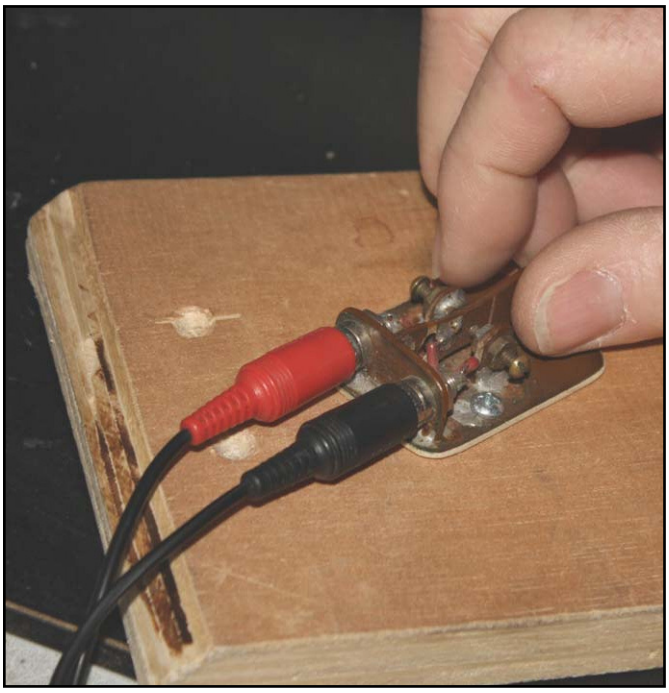
C	*dah-di-dah-dit,*
end of message	*di-dah-di-dah-dit,*
. dot or **period**	*di-dah-di-dah-di-dah,* and the brand-new Morse character
@ at or **each**	*di-dah-dah-di-dah-dit.*



CW experts Wayne McFee, NB6M, (foreground), and David Goodwin, VE7DWG, take part in a single-lever paddle training session hosted by Bruce Prior, N7RR. *(Photographs courtesy of Matt Prior, VE7MHP)*

A good source of practice text for the *dot* and @ characters is to use a list of email addresses. One way to remember the @ character is to think of how it's written by hand. Most people start by writing a cursive lower case *a,* which is then connected to a closed surrounding *C*. So, that's *A + C* or *di-dah + dah-di-dah-dit* sent as a single character.

The four main dual-paddle characters in which a single *dit* or *dah* is inserted also require some extra practice when sent with a single-lever paddle: *L, F, Q,* and for me especially *Y*.



NB6M's homebrew single-lever paddle made the pages of *QST* magazine a decade ago.

American Morse Equipment's Bushwacker single-lever paddle was used during the N7RR training session with NB6M and VE7DWG.

I've been using Curtis Mode B keyers for a long time. (See the online article by Chuck Olson, KB9KZY, *What's all this iambic keyer A and B stuff, anyhow?*) <http://www.morsecode.nl/modeab.pdf > Making the transition from mode B dual-lever keying to single-lever style, I often tried to send *C* and ended up truncating it to *K* by omitting the final dit. I tended to make the same error if I tried to key with dual levers when the keyer is set to Mode A. I think it may be easier for operators who prefer Mode A to make the transition to single-lever paddling than for those who habitually use Mode B.

Some single-lever paddlers hold onto the finger piece all the time they are sending. Those operators are able to use a paddle which is not self-centering. I find it much less awkward to hold my pointer finger and thumb apart and rotate my wrist back and forth to move the finger piece. For that style, a paddle which automatically returns to a neutral position is necessary. (The high-quality Scheunemann Morsetasten Einhebel <http://www.mtechnologies.com/scheun/> paddle is designed specifically for operators who maintain contact with the finger piece, whereas the Scheunemann Morsetasten Einhebel 2 has a center stop, so it is more convenient for operators who keep their thumb and finger open while they are paddling.)

N1FN told me that some operators hold their wrist relatively still and move a finger and thumb while keying with a single-lever paddle. He considers that uncomfortable, since the smaller finger and thumb muscles can become fatigued more easily than those of the wrist.

A Single-Lever Paddle Demonstration

I decided to pull together a training session with two genuine CW experts. One is Wayne McFee, NB6M, a mariner and musician and amateur radio homebrewer. The other is David Goodwin, VE7DWG, a long-time traffic handler and CW ragchewer who is at home using a straight key, a bug, or any kind of paddle governing a keyer.

I brought the AME Bushwhacker and my old AEA "The MorseMachine" keyer. Wayne and David installed themselves at David's station, chatting merrily in Morse at a good clip while their paddles were both controlling The MorseMachine.

Most of the time, Wayne used the homebrew single-lever paddle about which he published an article a decade ago (*QST*, March 2000, pp. 53-54, reprinted in the 2006 ARRL publication *More QRP Power*, pp. 5-25 and 5-26), while David tried out the new AME Bushwhacker.

The keying techniques of both opera-

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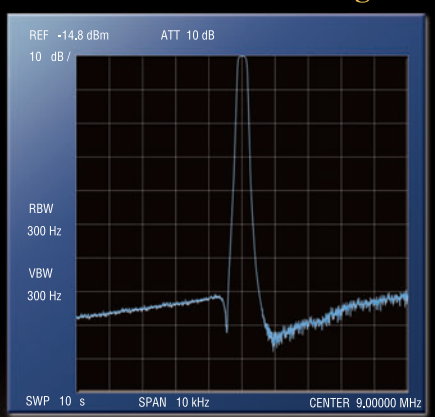
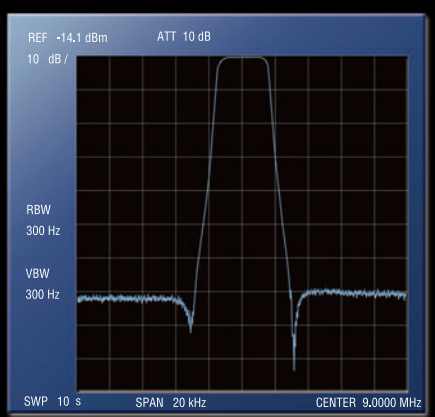


300Hz



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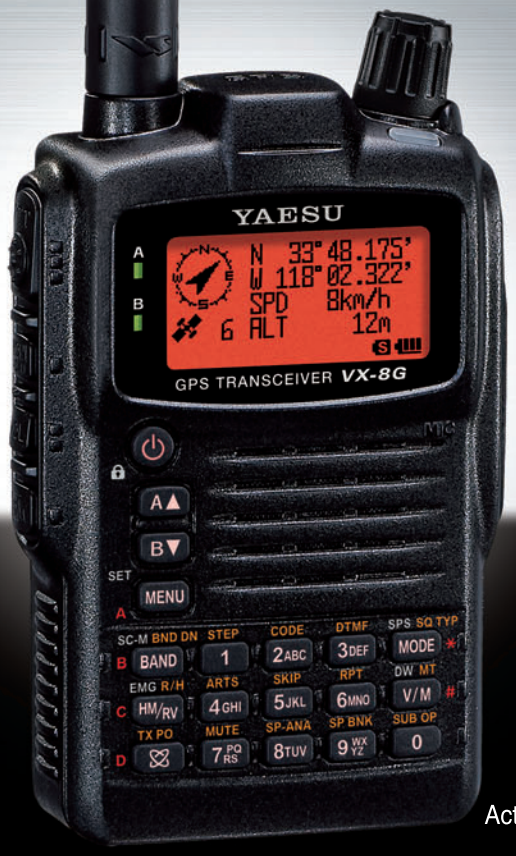

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tors were almost identical. They held their fingers apart and slapped the fingerpiece rather vigorously. David used so much force that he needed to hold the heavy Bushwhacker base steady with his non-keying hand to prevent its being dislodged.

Wayne's homebrew portable paddle is designed for simplicity and minimal weight, so he also tended to hold it steady while paddling, even though it was attached firmly to a plank which was long enough to accommodate his whole forearm. Wayne normally mounts the paddle on the plank for operating CW mobile. He simply holds the unmounted paddle with his non-keying hand for lightweight portable operation.

Wayne almost always keyed only with his thumb and pointer finger. David occasionally used his middle finger in place of his pointer. He remarked that the middle finger tends to hit the finger piece in a more direct line than the pointer finger. The thumbs of both amateurs tended to stray well above the finger pieces when not in use during their fast, jocular Morse conversation.

Wayne's homebrew paddle is very low profile, so it sits close to the operating surface. The Bushwhacker rides quite a bit higher when mounted on its companion base. The difference didn't seem to bother either operator when they traded paddles. This demonstration encouraged me to keep up my practicing.

More Practice

The Bushwhacker is a nifty paddle in a small package, but American Morse Equipment has now developed an even smaller single-lever paddle, called the Mini-B, which is the best backpacking paddle I've ever used. It's not only lightweight (2.5 ounces), but its sophisticated mechanism is well protected inside its rounded shell.

I prefer to use it with the AME Qwikmount accessory. All of my portable transceivers now sport Dual Lock™. The simplicity of single-lever paddling really comes into its own in the often-awkward operating situations of the back country.

I've acquired the heavy Begali HST Single Lever paddle, <http://www.i2rtf.com/html/hst.html> which is an exceptionally high-quality single-lever paddle for a fixed station. Although my dual-lever Begali Sculpture <http://www.i2rtf.com/html/sculpture.html> and N2DAN Mercury <http://www.eham.net/reviews/detail/1552> paddles are still at the operating postion, the HST gets almost all of the action. I have 3M™ Dual Lock™ installed at the operating surface, so I fastened some Dual Lock™ on the bottom of the HST without removing its four rubber feet, and that already-heavy paddle now feels glued to the desk.

My accuracy with the HST has improved now that I am sending Morse via the Begali/N2DE CW Machine, <http://www.i2rtf.com/html/cw_machine.html> which gives immediate computer-screen feedback, disciplining my fist. I'm using the trainer facility of the CW Machine to improve my receiving speed as well. I feel comfortable with single-lever paddles. I'm one of a growing number of amateurs who have converted to paddling Morse with one lever.

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Vintage Radio Gear On Battleship North Carolina Used to Commemorate End of Pacific War

By WRO Staff and News Services

Using original equipment aboard the Battleship North Carolina, operators of the Azalea Coast Amateur Radio Club made voice and Morse code contact with the Battleship Missouri docked in Pearl Harbor September 2, commemorating the 65th anniversary of the end of World War II in the Pacific.

The operators of the ACARC have for several years maintained the old radio equipment on the North Carolina, docked in Wilmington, North Carolina.

The Battleship Missouri < http://www.ussmissouri.com/> was where the treaty was signed ending the war in the Pacific and was the flagship of Admiral William "Bull" Halsey, a club release noted.

"The contact (September 2) was facing some difficulty due to the approach of Hurricane Earl. However at about 8:30 p.m. conditions improved and Morse code contact was made," according to a club spokeman, "which was the usual mode of communications at sea during World War II."

With "constant upkeep and maintenance" by ACARC members, the equipment on board the North Carolina "performed as if it were new. The members who maintain the equipment are Jack Jacobs, WD4OIN; Norman Clemmons, KI4SY; and Bill Usher, AG4PA.

Morse operators included ACARC President Charlie Vaughn, K4UWH, and Allan Pellnat, KX2H.

Also present were club Treasurer Hutch Hutchison,NKØS; and Public Information Officer Glenn Cox, KE4BMY.

For more information, visit the North Carolina Battleship Memorial and Museum Web site. < http://www.battleshipnc.com/page1.php>

If you are interested in helping to maintain the Battleship North Carolina radio equipment, contact Glenn Cox: ke4bmy@hotmail.com.

Azalea Coast Amateur Radio Club President Charlie Vaughn, K4UWH, at the operating position aboard the Battleship North Carolina during the club's efforts September 2 to contact the Battleship Missouri docked at Pearl Harbor. *(Courtesy of ACARC)*

Out of the Shadows: An Introduction to *Gray Line* Propagation

By Kelly Jones, NØVD

Now that fall is upon us and cooler temps are here, there is a good chance you'll have a little more free time to spend in front of the radio. And with all of your new-found radio time – *you now have extra time, right?* – perhaps you'll have more opportunities to chase those new and rare ones.

After spending the past few years in the sunspot doldrums, it is certainly nice to have the bands in a little better shape when you actually do sit down and tune around.

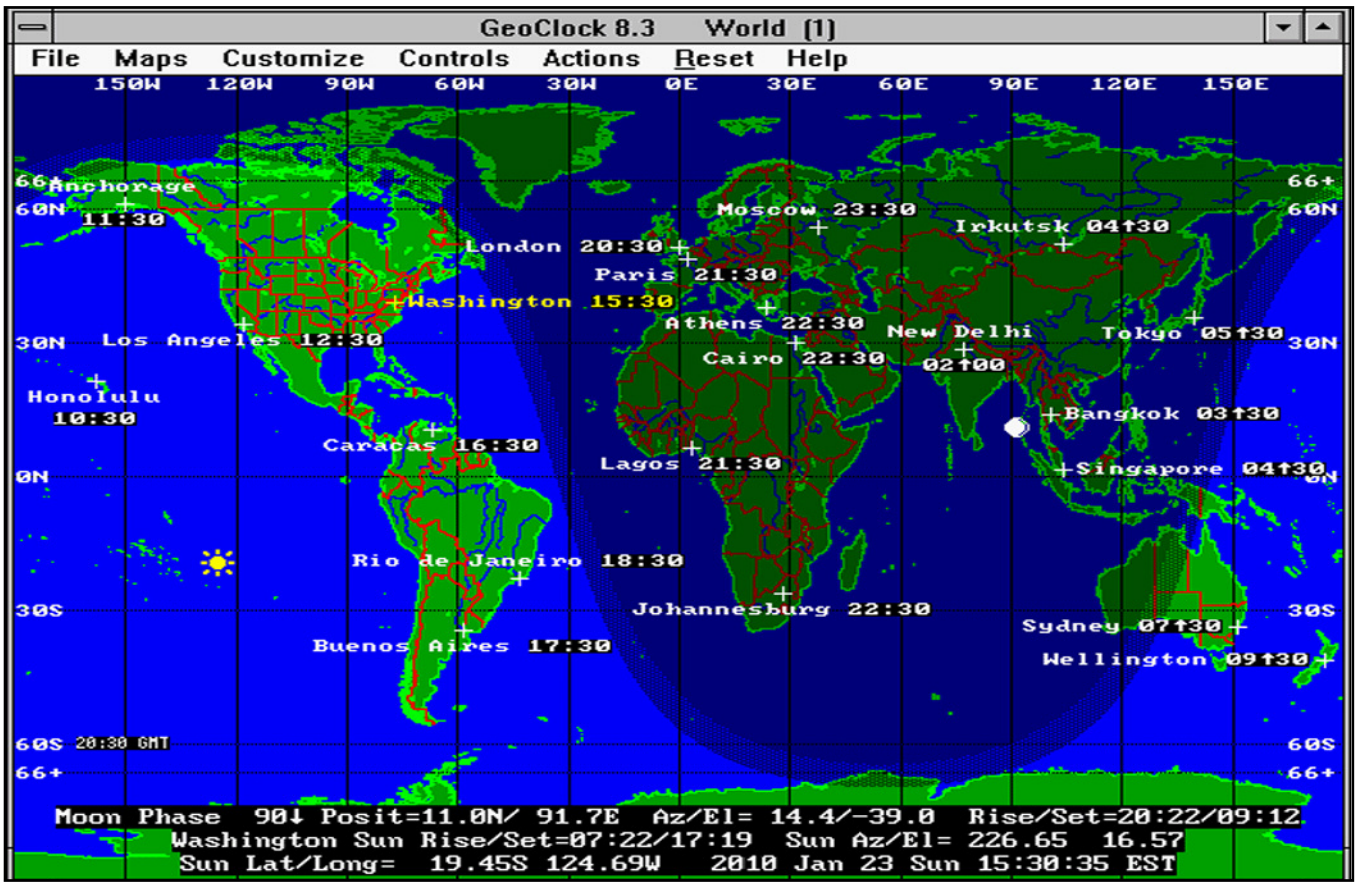
That said, the bands are far from the days of 10 meters being open around the clock. Typically, by mid-evening the higher bands have closed for the night. However, all is not lost. There is another phenomenon similar to the solar cycle that happens every day – actually, twice per day. It's called the *gray line*.

For many years most of my operating time was spent on the higher bands, 10-20 meters. This was partially due to the fact that antennas for these bands are reasonably small and can easily be something as simple as a wire.

Another reason was that I always seemed to have something going on in the evenings and I'm by no means an early riser. So for many years the higher bands suited my DX needs. However, there came a time when I yearned for a bigger challenge. Enter the world of *gray line* DXing.

Early in my DXing career I had heard of guys working DX during the "twilight" hours on 40 and 80 meters, but had never really experienced it myself. However, once I decided to finish up 5BDXCC I knew I had to learn more about this phenomenon.

If you have spent any time at all on the low bands, you know that the gray line is the key to working DX on these bands. But what is the *gray line* and how does it affect propagation? In



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simple terms, the *gray line* is a band around the Earth that separates daylight from darkness. High-frequency propagation along this band is very efficient. One major reason for this is that the D layer, which absorbs HF signals, disappears rapidly on the sunset side of the gray line, and it has not yet built upon the sunrise side.

As you know, the ionosphere surrounds the Earth and is responsible for allowing us to make contacts with stations hundreds or even thousands of miles away. It is comprised of several layers, each having a distinct effect on how our radio signal travels and how it propagates during the sunrise and sunset hours.

During the day, solar radiation collides with the molecules in the ionosphere, knocking off electrons. This is called ionization. They are called "free electrons" because they are not attached to an atom or molecule. All of these free electrons cause the density of the ionosphere to increase – the denser the ionosphere, the higher the frequency that is reflected back to earth. This is often called the "maximum usable frequency" or MUF.

At sundown solar radiation no longer strikes the ionosphere directly above our heads and the ionization stops. This means there is no solar radiation to form free electrons. In fact, without solar radiation, the free electrons tend to recombine with their host molecules – *recombination*.

As it begins to get dark, recombination causes the electron density to go down, forcing the MUF to go down as well. This is why the higher bands tend to go silent after the sun sets.

The D-Layer of the ionosphere is the closest to the Earth's surface and is the first layer where ionization stops. This is because sunlight is no longer reaching this layer – remember the sun has set on the horizon – but it is still illuminating (and ionizing) the ionosphere far above our heads. As the D-Layer goes into recombination, the electron density goes down as does the absorption.

During the twilight hours, or *the gray line* as it's often called, the D-Layer suddenly causes little absorption of signals passing through it, while the E and F layers are still being ionized by sunlight. This makes for about 45-60 minutes of very interesting propagation. There is almost no signal attenuation, but the MUF is still very high, so very long-distance communications are possible.

However, when the sun quits illuminating the E and F layers, the MUF can drop dramatically, sometimes with only a few minutes of warning.

Another advantage of gray-line DX is that your signals tend to reflect off the edge of the ionized portion of the upper layers. This means propagation will often be in a southerly direction, bouncing along the shadow, or terminator, between sunlight and darkness.

Your signals can also bounce northward along the evening terminator, bending around the pole, and down the morning terminator. So *gray-line* DX also affords an opportunity to work portions of the world not usually accessible during the day, when propagation tends to be in a more east-west direction.

The flip-side of this applies during sunrise. The upper layers begin to become ionized, while the D-Layer is still dark and offers low absorption. The MUF in the morning generally does not support propagation on 10 meters, so most people tend to work *gray-line* DX on 20 meters. In fact, I have worked some very juicy DX during the sunrise hours which is simply not workable during other hours of the day.

Morning *gray line* is also very effective on 160, 80 and 40 meters due to the low absorption before the sun starts heating the D-Layer. In fact, it could be argued that sunrise is the best time to work DX on the low bands – not just at your sunrise, but also sunrise at the DX end.

During the North American winter months working *gray line* propagation on the lower bands, 40-160 meters, can be a real treat. In addition to the bands being (mostly) free of static crashes that riddle

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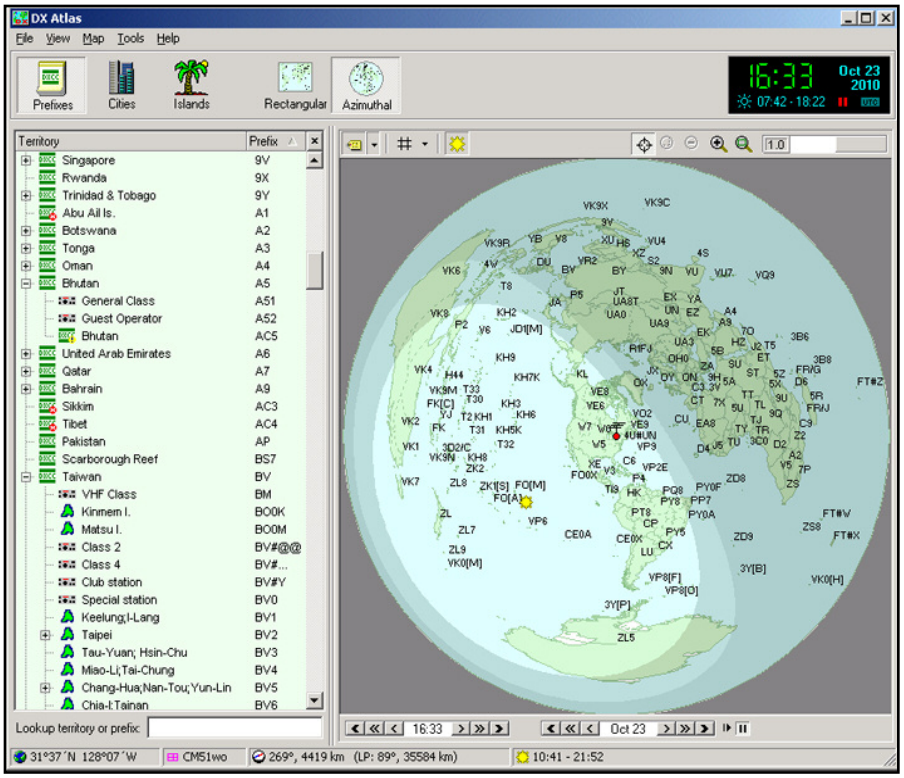

DX Atlas - a very powerful tool from VE3NEA that can display gray line propagation.

these bands during the summer months, you don't have to have a monster sized antenna system to enjoy the signal peaks that *the gray line* can offer. For many years I used a simple ground-mounted multi-band vertical with only four radials and achieved DXCC on both 40 and 80 meters using that small antenna.

Once you start working DX during *the gray line*, you will learn a few things about its propagation. Typically on 40 meters, the propagation will peak before your sunset and after your sunrise.

I have found that occasionally on 80 meters there will be a double peak: One right at sunrise/sunset, then another about 10 minutes later. However, there may not always be a double peak, or even a peak at all. It is quite interesting to listen to the signals at 10 minutes before sunrise, exactly at sunrise then 10 minutes after.

And then there is 160 meters. This is a very unpredictable band. Some days you will have fantastic propagation around *gray line*, while on other days the band will be completely dead.

I've only scratched the surface of *gray line* propagation. But here is a simple rule of thumb to keep in mind: Even if it's completely dark at your QTH, a sunrise and sunset is occurring at some location in the world. You have the opportunity to take advantage of their *gray line* propagation, particularly on the low bands. There have been many winter nights that I've been up until 2 a.m. working the European sunrise. It's quite interesting following the propagation as the sun rises across Europe and there are many DX QSOs to be had.

If you have never tried working *gray line* propagation, I hope I've created enough curiosity for you to give it a try.

I can vividly remember working one of my first *gray line* contacts. It was my first YB on 40 meters. And to top it off, it was long path – just prior to my sunset, just after his sunrise. I nearly fell out of the chair when he answered my call. And the contact was made on that little ground-mounted multi-band vertical I mentioned earlier.

It just goes to show that you don't need large antenna arrays to work some great DX during the gray line hours.

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. Also look for me on Facebook or Twitter and until next time, see you in pileups!

Is the Road Narrowing for VHF and UHF Repeaters in Florida?

By Bill Pasternak, WA6ITF

If you live in Florida and are a user of any type of repeater – analog or digital – then 2011 could be a year of major change. That is, if the Florida Repeater Council (FRC) proceeds with its proposal to further *Narrow Band* the repeater subbands on 2 meters and 70 cm.

On July 16, the FRC published a proposal on its website for consideration by the amateur radio community based directly on the FCC-mandated changes in the Business and Public Safety services.

Quoting from the notice, this is the gist of what the state's repeater coordination body is considering implementing:

"The longterm growth of the demand for 2-meter frequencies in Florida indicates that we must act to serve the future needs of the ham community. Some of this demand comes from the desire to implement newer technology repeater systems. Most of these new technology systems such as Digital D-Star or P-25 as well as newer analog voice repeaters can use 2.5 KHz or less *Narrow Band* deviation.

"The FCC has set the date for *Narrow Banding* of Business and Public Safety systems by ruling in Section 90.209(5)(i)and(ii) that beginning January 1, 2011, no new applications or modifications that increase the station's authorized interference contour, (Range or ERP) for the 150-174 MHz and / or 421-512 MHz bands will be acceptable for filing if the applicant utilizes channels with an authorized bandwidth exceeding 11.25 KHz. Essentially this means that no new or expanded Part 90 (Public Safety and Business) systems will be authorized on 12.5 or 25 KHz bandwidth allocations and all new systems must use *Narrow Band*.

"Most, if not all, of the newer amateur radio equipment available on the market today in the 144-148 MHz and 430-450 MHz range is capable of using 6.25 KHz (with 2.5 KHz deviation) channels. Since the use of these new technology systems usually requires the purchase of new radios which are compatible with the new technology systems, by allocating *Narrow Band* channels for these newer technology systems there should be a minimal impact on existing *Wide Band* repeaters and their users.

Back in the 1960s when WA6ITF was WA2HVK in Brooklyn, New York, he "had a pup that loved to get on 6 meter AM and bark VQ. His unofficial call was SK1PPY." *(Courtesy of WA6ITF)*

"While 12.5 and 6.25 KHz channel spacing has been used on UHF ham and commercial bands for some time, the VHF bands have used 15 KHz spacing for decades. Since the legacy spacing of VHF commercial and 146-148 MHz ham bands does not permit the use of 12.5 or 6.25 KHz spacing without a complete and disruptive re-farming of the entire band, the FRC proposed to follow the FCCs VHF plan (90.20 and 90.35 Tables) and allow use of 7.5 KHz spacing between the legacy 15 KHz channels and 10 kHz spacing between the existing 145 MHz (144.5 to 145.5 MHz subband) channels. Most newer amateur radio equipment evaluated will program to the 7.5 or 10 KHz spacing without difficulty, however the scanning or stepping functions may require software or firmware updates to properly *scan* these new channels in VFO mode. *(Columnist Note: In other words, if your radio does not provide a set-up function for this channel separation then you will have to contact the manufacturer to see if a firmware upgrade is available.)*

"The proposed changes will create 71 new frequency pairs for *Narrow Band* repeaters on 2 meters, thus providing spectrum for experimentation and development of the newer technology systems that utilize *Narrow Band* emission. Therefore we propose the following change to the 2 meter band plan and rules to be presented for adoption by the Florida Repeater Council.

"The changes to be published on the FRC web site for review and comments and considered for adoption at the Spring 2011 FRC Annual meeting.

Proposed Changes

1. The FRC will only coordinate *Wide Band* repeaters on those frequencies that were previously allocated for wide band repeater use in the FRC 144-148 and 430-450 MHz Band Plan prior to 1-1-2010.

2. No new *Wide Band* coordinations will be issued after 1-1-2014.

3. We recommend that all existing *Wide Band* repeaters be changed to *Narrow Band* (2.5 KHz Deviation) by 1-1-2020. The FRC will not routinely renew a wide band coordination which expires after 1-1-2020. However, a repeater oper-

ator may apply to the FRC Board for renewal of an existing *Wide Band* coordination after 1-1-2020 upon showing of sufficient need to continue to serve legacy *Wide Band* users or other advanced technology experimentation. The FRC Board shall determine the appropriate requirements for such showing of sufficient need.

4. The FRC will coordinate *Narrow Band* repeaters on any frequency allocated for repeaters in the FRC Band Plan in the 144-148 and 430-450 MHz bands. This will allow assignment of the frequencies located between the existing repeater pairs for *Narrow Band* systems such as D-Star, P-25 or narrow FM repeaters.

5. FRC will only issue a new or modified coordination on the newly created pairs provided the proposed system meets the new part 90 requirements as *Narrow Band* or less than 2.5 KHz deviation. In addition these systems will require a minimum 30 mile adjacent channel separation.

In concluding, the FRC says that it understands there may be an impact on some repeater operators who have very old systems which do not have reasonable selectivity or filtering on their receivers but it feels the majority of systems operating with relatively modern equipment will not experience any significant issues from the implementation of these changes.

The FRC has also published on the Internet a set of charts that illustrate the existing allocations and the frequencies that will be added under the band plan. <http://www.florida-repeaters.org/FRC%202meter%20narrowband%20policy%20released%207-18-10.pdf>

As you will note, since the 144.5 to 145.5 MHz repeater subband allocations in Florida use 20 KHz spacing. Here the FRC will assign *Narrow Band* systems on 10 KHz spacing between the existing frequencies.

On the other hand, the 146 through 148 MHz repeater allocations in Florida are spaced at 15 KHz. In that subband the FRC will assign *Narrow Band* systems on 7.5 KHz between the existing frequencies. This proposal does *not* require any relocation of existing repeater frequencies but will create 71 additional pairs in the 2 meter repeater sub-band.

While no chart is provided for 70 cm, any eventual change to 6.25 kHz in the 430 to 450 MHz repeater subband will effectively double the number of UHF repeater pairs available in the state.

How Will This Impact Florida Repeater Users?

By now, I'm certain many repeater users are asking*: What will this mean to me? Am I going to have to buy a new 2 meter transceiver or dual-bander?*

At this point it's impossible to say because, as this is written, the proposal is only a month old and thus far no independent analysis of the FRC proposal has been made.

That said, to this writer the key words in the FRC band plan proposal as they affect *Joe Ham* are: "Most, if not all, of the newer amateur radio equipment available on the market today in the 144-148 MHz and 430-450 MHz range is capable of using 6.25 KHz (with 2.5 KHz deviation) channels."

What is really meant by *newer amateur radio equipment?* Does this refer only to gear presently on the market? Does it include most or all of the FM transceivers manufactured in the past decade? How about gear from the mid to late 1990s? Is that considered *newer amateur radio equipment?*

In reality, the bottom line is if your favorite repeater or repeaters elect to stay wide band then you will likely witness no change nor have to make any yourself. However, if your favorite on-the-air meeting spot (or spots) decide to go *Narrow Band*, then you as a user will have to modify your gear accordingly to comply or find a repeater (or repeaters) in your area that are staying *Wide Band*.

And, what if your favorite repeater decides to abandon FM entirely and adopt some form of digital-only operation? In this case there is no option other than buy new gear to continue on those repeaters or find other repeaters that are remaining *Wide Band* FM.

It also has to be remembered that Florida has more retirees living on fixed income than any other state. Some in the Florida ham community are using truly archaic radios (at least archaic by 2010 standards) and likely do not have the funds to replace their older gear with radios to meet the new requirements – if the repeaters in their area are affected by the change.

Yes, any FM transmitter can be made to meet the +/-2.5 kHz deviation standard simply by turning down the audio deviation control in the transceiver. However, without modification to some receivers,

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the recovered audio will be very thin sounding on a receiver designed to accept and demodulate a signal containing +/- 5 kHz deviation.

At the same time, the *Narrow Banding* of operating channels is nothing new in ham radio circles, as we went through it several times in the evolution of amateur radio FM and repeaters: Back in the late 1950s, and through the early to mid-1960s at the dawning of coordination the first systems operated with 60 kHz inter-system separation and +/- 15 kHz deviation.

By the late 1960s the first round of *Narrow Banding* took place when 30 kHz separation and +/- 5 kHz deviation was adopted. Then in the early 1970s most regions went to 15 kHz system spacing in the 146 to 148 MHz repeater subband while introducing 20 kHz spacing in the 144.5 to 145.5 MHz subband that was created with *repeater deregulation*.

Deviation remained +/- 5 kHz, though the standard became more strictly enforced by the repeater owner-operators. In each case, hams either modified their current gear to the new FM standard or bought new radios.

Presuming that many current Florida repeaters will remain FM – either *Wide Band* or adopting the new *Narrow Band* standard – the impact on *Joe Ham* should be minimal.

On the other hand, if the majority of Florida repeater owners decide this change is the opportune time to go to digital voice, then the impact on and financial cost to *the ham in the street* could be quite high. Only time will tell because as this is written, it's all still a *proposal*.

Six Meters: Spread Out A Little

I guess hams in other parts of the world have developed a different operating philosophy for 6 meters than those of us here in North America.

"In the 1950s and 1960s, if you had *real money*," says WA6ITF, "you bought a Gonset G-50 – 50 watts input to a 6146 final amplifier modulated by a pair of 6L6s and VFO controlled. Not a bad receiver either for the era it was designed for." *(Courtesy of KC6WFS)*

It's a philosophy that seems to work well for them, especially for 6 meter DXers in Japan: Get off the so-called *designated DX calling frequencies* and spread out across the lower megahertz of the band, call CQ, and tune a bit either side of their operating frequency for a response.

Hey wait a minute: Isn't that the way we did things back before someone, somewhere convinced the maddening crowds that *strict compliance with specific band plans with designated calling frequencies* were the only way to go?

A discussion on this subject was triggered on the VHF Reflector last spring following a brief Trans-Pacific opening. One of the reflector's users said it did not seem to be a good idea for the stations in Japan (or anywhere else) to call CQ off the *calling frequency*. The point being made by hams on this side of the Pacific was that to call on random frequencies and state where they would be listening meant that more than one frequency would be tied up and that other potential QSOs could suffer interference.

I have to disagree, if for no other reason than we are talking about 6 meters which is one of ham radio's most under-utilized bands. It's also one that still seems to suffer from the after effects of decades of fear of causing TVI to stations operating in the VHF Low-Band, especially TV Channel 2.

Calling random *CQs* on a given random 6 meter frequency is far from new and it is not likely to breed a lot of QRM to others. True, there are other non-voice and non-Morse users on 6 meters nowadays, but most of these newcomers have set up shop for their *digital mode du jour* and claimed squatter's rights.

If you are one of those who goes by band plans, here are a few to look at. First the ARRL approved plan which is the one that appears to officially guide most of us. Frequencies given are in MHz.:

50.0-50.1	CW, beacons
50.060-50.080	Beacon subband

50.1-50.3	SSB, CW
50.10-50.125	DX window
50.125	SSB calling
50.3-50.6	All modes
50.6-50.8	Non-voice communications
50.62	Digital (packet) calling
50.8-51.0	Radio remote control (20-kHz channels)
51.0-51.1	Pacific DX window
51.12-51.48	Repeater inputs (19 channels)
51.12-51.18	Digital repeater inputs
51.5-51.6	Simplex (six channels)
51.62-51.98	Repeater outputs (19 channels)
51.62-51.68	Digital repeater outputs
52.0-52.48	Repeater inputs (except as noted 23 channels)
52.02, 52.04	FM simplex
52.2	TEST PAIR (input)
52.5-52.98	Repeater output (except as noted 23 channels)
52.525	Primary FM simplex
52.54	Secondary FM simplex
52.7	TEST PAIR (output)
53.0-53.48	Repeater inputs (except as noted 19 channels)
53.0	Remote base FM simplex
53.02	Simplex
53.1, 53.2, 53.3, 53.4	Radio remote control
53.5-53.98	Repeater outputs (except as noted 19 channels)
53.5, 53.6, 53.7, 53.8	Radio remote control
53.52, 53.9	Simplex

Now this plan from the AC6V Ham Radio Informational Website <http://www.ac6v.com/callfreq.htm> which appears to have been based on input provided by individual hams:

50.06-50.09	Beacons
50.0-50.1	CW
50.090	CW calling frequency
50.06	QRP CW calling frequency
50.7	RTTY calling frequency
50.100 to 50.130	DX window (USB)
50.110	DX calling frequency (USB) – *usually non-USA stations call here*
50.115	DXpeditions – *frequently operate CW and SSB here*
50.125	USA National SSB simplex frequency (USB) – *lots of USA hams call here for local and across country*
50.1-50.6	Weak signal AM
50.260	WSJT Meteor scatter calling frequency in the USA
50.270	FSK Meteor scatter
50.300	FM simplex calling frequency (West Coast)
50.385	USB PSK31
50.4	National AM simplex frequency
50.885	QRP SSB calling frequency
51.910	FM Internet linking
52.525	National FM simplex calling frequency

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6 Meter Simplex Frequencies: 51.500, 51.520, 51.540, 51.560, 51.580, 51.600, 52.490, 52.510, 52.525, 52.540, 52.550, 52.570, 52.590.

Notice the big difference: If the ARRL plan could talk, it seems to be saying "…OK, let us on a handshake reserve a few spectral parcels and frequencies and use the rest of the band for whatever we want."

On the other hand, the plan published at AC6V.com would likely say: "…OK. All of you be good soldiers. Each one of you has an assignment. Fall in line, stay on it and do as the commandant says, even though nobody has any idea as to whom, the commandant is."

And these are far from the only 6 meter band plans seemingly proposed or in use across the USA or all of North America for that matter.

When I got on 6 meters back in 1959, that's exactly the way we did it. Oh, there were a few folks with VFOs, but 99.9 percent of us sat on, or really near, one frequency – mainly 50.19 or 50.25 – and called *CQ* until our voices were gone.

And using that method we worked hundreds of stations – many that, for the day, were considered to be (to quote the late Larry Levy, WA2INM) . . . *rare and exotic DX*.

In those days for a teen ham in Brooklyn using a 40 watt home built transmitter, Techcraft CC-50 converter and a five-element Telrex – *rare and exotic DX* was any station not in New York, New Jersey or Connecticut. There were no grid squares. Nor were we the only ones doing that.

So were the early JA six meter operators. I cannot give you an exact date, but in late 1959 or early 1960 I can recall listening on my puny station (Ameco CN-50 and a Lafayette HE-10 receiver) and recording the event on a Wollensak T-1500 tape recorder as the late Marie Simon, K2YEA, answered a CQ and made what's believed to have been the first ever NYC to JA QSO on 6 meters – on AM!

Marie's station was a Lettine 242 transmitter (40 watts plate modulated AM), an Ameco converter, Hallicrafters S-40B receiver and a 4 element Telrex on a one story house in the borough of Queens.

She heard this JA calling and answered him, and he heard her. And the tape was the proof. Marie was in seventh heaven at not just making the contact, but having both sides of it on tape for posterity.

The bottom line is that calling an *in-the-dark CQ* to work 6 meter DX is far from new. I did it for years that way and worked 38 states plus Puerto Rico and several Canadian Provinces, all back in the 1960s. Most of them while I was sitting crystal controlled on 50.19 MHz, which was the frequency where my 60-cent war surplus crystal fell.

And while the guys with the VFOs put out their dire warnings about the crystal controlled guys becoming a source of QRM because of our inability to move, it simply never happened and I doubt it would happen with Jas, who use that method to make contacts.

Heck, if you want to work me, listen on 50.140 which is where I tend to hang out – away from the *calling frequency*. I still operate there as I did on AM on 50.19 in the 1960s. The only real difference is that these days its SSB rather than AM and the FT-847 is VFO controlled and I'm in the Los Angeles area rather than Brooklyn.

After 50+ years on 6-meters, I doubt I'm going to change my operating style. It works for me. And if more stations got off .125, spread out a bit and called *CQ* at random times, a lot more QSOs would be made with far less QRM.

My Only New Year's Resolution

As 2010 began, one of my non-ham radio, on-line friends came up with a truly great idea: "How Do You Measure *A Day in the Life?* – The 365 Project."

She'd carry a small camera with her. She'd be certain to take one photo each day over the year. Have it be a photo with some direct or special relevance to her life. Then post it someplace on-line where it can be shared with her friends.

The young woman is Heather Colon-Smith. Some of you may recognize her name from her on-line involvement in the live musical theater community and graphic arts.

With this background it was no surprise to me that she would come up with the idea of capturing visual moments in her life and then sharing them with the rest of us.

Now as 2010 is drawing to a close and 2011 approaches, I cannot think of a better project than this and I plan to make it my singular New Year's resolution.

So, if you see me at a hamfest with my Canon A530 or Fujifilm S-700 pointed your way, then be aware that you might wind up in my *2011: How Do You Measure a Year in the Life* Facebook photo album. And if you do wind up the subject of my lens, it will be because our meeting will have meant something special in my life.

With that, please permit me to wish you a happy holiday season and healthy 2011 to you all.

de WA6ITF

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Spending Our Time Wisely On the Bands and Around the Globe

By Cheryl Muhr, NØWBV

It's interesting how the time of year can set the table for how radio amateurs channel their energy.

For example, if you need to improve your station, summer is a great time to work on antennas. If you need to work on operating skills, winter is perfect.

As the days shorten and the weather continues to cool, band conditions improve – at least here in Colorado. Time to get more serious about being active on the air.

Although winter is officially still more than a month away – December 21 – the waning months of the calendar year are a great time for radio in multiple ways.

Think about it: In addition to improving band conditions, the kids are back in school, so no need to feel guilty about talking on the air. Not to mention all the great contests to run in during the last part of the year.

Do *you* have plans to be active with the holidays approaching? Are you planning to operate on New Year's Eve for Straight Key Night? There are so many ways to stay active.

YLs Are Traveling All Over the World

Mio Mioshi, JR3MVF, writes that she recently took a trip to attend the Second Shanghai Ham Radio Festival and had very good eyeball QSOs with old friends.

Her first trip to the People's Republic of China was in 1983 to its BY4 and BY5

YLs from all over the world made time for sightseeing and a trip to the famous German Hamfest in Friedrichshafen during the International YL Meeting, Munich 2010. *(Courtesy of WB3EFQ and KB4RM)*

call areas. "It has been about 10 years since I visited there last," she said. "But many friends welcome me and had (a) wonderful time with them."

By now the YLs from Greenland will be back, as well. The first YL Greenland DXpedition was held in September and I should have more details for the next column. Hope many of you got to work them!

If you need QSL or other information on this trip, check out the Greenland YL Expedition 2010 Web page <http://home.online.no/~la6rha/greenland.htm> for more information.

International YL Meet 2010

There are multiple YL gatherings around the world and you can usually find at least one major event each year. Some are just DX trips, but others are get-togethers for YLs to catch up with eyeball QSOs.

There are two large YL meetings held around the world. The Young Ladies' Radio League (YLRL) holds its convention every three-to-four years to keep an anniversary schedule. It alternates with the International YL Meet, which is unaffiliated with any particular YL group.

The YLRL conventions are usually held in the United States as the bulk of members reside there, but members from all over the world attend. There are often 10-12 countries represented and the next YLRL convention will be held in Boston in July 2011.

This year included the International YL Meeting, Munich 2010 in Germany where YLs from all over the world enjoyed sightseeing and a trip to the famous German Hamfest in Friedrichshafen.

A number of YLs wrote in about this great event.

From **Lois Gutshall, WB3EFQ**:

"We had a wonderful time at the YL International gathering in Munich in June.

"The group from (the) U.S. included **Rose-Marie Battig, KB4RM** and **Charles Battig, K4TY; Anne Manna, WB1ARU,** and **Tony Manna,WA1ENO; Lois Gutshall, WB3EFQ,** and **Tom Gutshall, W3BZN;** and our VE chairperson, **Suzanne Snape, VE7IM.**

"Also attending were five hams from **VK-land,** two from **Japan** and **Sarla Sharma, VU2SWS,** from India. Of course the rest of the group was from various parts of Germany.

"We traveled to many interesting sites in the area including the Zugspitze Summit, although the day we went it was fogged in. (Also) Salzburg, Austria where we had a nice tour and I had the chance to meet a friend I had not seen in over 50 years.

"The castles at Neuschwanstein and Hohenschwangau were very impressive once we walked to them.

"Being that this was my first international YL Meet, I thoroughly enjoyed it and look forward to attending many more. I hope more of our members will be able to attend these events in the future."

Rose-Marie Battig, KB4RM, who traveled with her OM Charles, K4TY, has this to add:

"We started in Munich with the International YL meeting. **Conny Wellner, DF8MN,** and **Horst Wellner, DL2GA,** had organized a great week of programs.

"Saturday started with a round tour of Munich, and first (stop) was (the) BMW plant and showroom – Munich's most modern building. I tried out a BMW motorcycle that was parked in front.

"Next came Nyphenburg Schloss – beautiful and with 1,000 rooms, (but) didn't say how many bathrooms, if any . . . Then

Christine Taylor, VK5CTY, with Lois Gutshall, WB3EFQ, and Anne Manna, WB1ARU, during the International YL Meeting, Munich 2010. *(Courtesy of WB3EFQ and KB4RM)*

Mio Mioshi, JR3MVF, at the operating position of BY4AA in Shanghai, China. *(Courtesy of JR3MVF)*

Mio Mioshi, JR3MVF, in front of the welcoming sign at China Ham Radio 2010 Expo + Fest. *(Courtesy of JR3MVF)*

Hosts in Munich included Horst Wellner, DL2GA; and Conny Wellner, DF8MN, who put together a full week of programs. *(Courtesy of WB3EFQ and KB4RM)*

we stopped at the famous Munich open market place, but in the rain it was hard to manage umbrella and people, so we returned to the hotel.

"Sunday we had our YL-meeting all day at the hotel. Sad to say only 21 YLs and eight OMs attended the meeting.

"Volker Strecke, DL8JDX, gave a talk about research in Antarctica and presented a very interesting slideshow.

"Mitch Wolfson, DJØQN, and **Christian Entsfellner, DL3MBG,** gave us information about the Deutscher Amateur Radio Club (DARC), same as the ARRL here.

"Tina Clogg, VK5TMC, and **Christine Taylor, VK5CTY,** informed us of the next DX-YL meeting in Adelaide, Australia, May 3-7, 2012. They are so organized and fired up and already have the whole program on their website: www.ylinternational2012.110mb.com if you need more information.

"Lois Gutshall, WB3EFQ, and Anne Manna, WB1ARU, spoke of YLRL and the YL meeting in Boston, July 2011. We hope many will come from Europe and other countries as Boston is close to the (New York City) and Washington, DC airports.

"Monday, my last day with the group, we went to the famous city plaza of Munich (Marienplatz) to listen to the glockenspiel, the big clock on City Hall that has figures that dance around to music. **Christa Elksnat, DJ1TE;** Mio, JR3MVF; Charles, K4TY; and I went to a wonderful restaurant to eat good German food.

"The weather with rain and temperature of only 12 degrees (Celsius) made the outings not as pleasant (as) they could have been, and some events got canceled because of this. By Wednesday, summer came and stayed for rest of our trip.

"Four days later was Friedrichshafen at the Ham Radio convention. It is like Dayton's (Hamvention®) but a bit smaller . . . very nice exhibit halls with very good restaurants.

"Here we met all the German YLs. They have a great meeting place in the large exhibit hall, and served coffee and cake, yum!

"We all signed in and soon got to meet YLs from many countries.

"Saturday at 2 p.m. all the YLs met in one room and there we had coffee and cake, again.

"Then **Anette Sawatzki, DL7GAS,** opened the YL meeting. This year **Anette Coenen, DL6SAK,** spoke in both German and English so we could all understand what was presented.

"DL6SAK is the first YL to serve on the DARC governing board. They also provided an interpreter for WB3EFQ and WB1ARU when they spoke.

"We all were surprised over how many YLs come to Friedrichshafen every year. I estimate there were close to 200 of us."

Ladies, it sounds like you had a blast! I wish I could have been there.

Don't Forget to Send Us News!

If you are a YL or you know a YL active in amateur radio, be sure to send information in for the YL column. I need to hear from readers to get all the latest happenings of the YLs.

So whether you are participating in your first contact, contest or DXpedition or have been active for years, send in your YL news.

See you on the bands!

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NOVEMBER

A colorful QSL card has been designed for Special Event Station CG3MUG, commemorating 100 years of service of wireless station MUG Port Arthur during November, "the first and only Canadian Great Lakes Marconi station ever built." *(Courtesy of Thunder Bay MCTS Centre)*

THUNDER BAY, CANADA - Thunder Bay MCTS Centre (Canadian Coast Guard Radio Station) during November celebrates 100 years of radio service with the operation of **Special Event Station CG3MUG.** Built by the Canadian Marconi Company, in the fall of 1910, the new "wireless" station, MUG Port Arthur, was the first and only Canadian Great Lakes Marconi station ever built. In 1912, following the success of MUG, the Canadian government built a chain of marine radio stations from Port Arthur down to Kingston, Ontario. In 1913, the Marconi station was rebuilt, and assigned its current government callsign of "VBA". The "V" denotes a Canadian station, "B" is for the Great Lakes, and the "A" was given for its historic position as the first. There will be several options for amateur radio stations and SWL'ers to obtain a special 100th anniversary CG3MUG QSL card (a certificate may also be designed). As we get closer to the event, and make the final preparations, we will update the CG3MUG listing on the QRZ.com website. VHF and HF operation via CW, PSK, RTTY, SSB, FM, VoIP (CQ100) and perhaps other digital data modes, on the amateur radio bands. The email address for this special event station is: cg3mug@yahoo.ca. For more information, visit: http://my.tbaytel.net/va3rom.

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.

INDIANA – 38th Annual Fort Wayne Hamfest and Computer Expo, sponsored by the Allen County Amateur Radio Technical Society (AC-ARTS), will be held Nov.13-14 at the Allen County War Memorial Coliseum at the corner of Indiana 930 (Coliseum Blvd) and Parnell Ave. Open to the public 9 a.m. to 4 p.m. EST on Saturday and from 9 a.m. to 3 p.m. EST, Sunday. Vendor setup is Friday evening and Saturday morning. Admission, $6 both days; $4 for just Sunday at the door only. Children 11 and under are free when accompanied by an adult. Parking, $4. There are over 750 commercial and flea market tables (108,000 sq. ft.), all under one roof, containing both new and used radio, computer, and general electronics items. Advance table reservations are required – no table sales at the door. Vendors include several International ham equipment manufacturers. Activities will include forums and meetings, and VE testing on Saturday. Talk-in on 146.88(-). For more information leave a message on the answering machine at (260) 579-2196 and you will be contacted. You can also send an inquiry to AC-ARTS / Fort Wayne Hamfest, P.O. Box 10342, Fort Wayne, Indiana 46851-0342, or visit our World Wide Web site at http://www.fortwaynehamfest.com.

ONTARIO, CANADA – The Guelph Amateur Radio Club, Guelph, ON Canada, Special Event Station, VA3IF, at McCrae House, the birthplace of Col. John McCrae, the author of the poem "In Flanders Fields." The station will operate from Saturday, Nov. 6 to Thursday, Nov.11, Remembrance Day. The station is in honor of remembrance and world peace and will be visited by numerous student groups, many of whom will be getting their first exposure to amateur radio. Hours of operation: Saturday and Sunday, 1 to 5 p.m EST; Monday through Thursday, 10 a.m. to 5 p.m. EST. Operations will be on 10, 15, 20, 40, and 80 meters, as well as IRLP, VE3OVQ, at 147.5400MHz, node 2260.

PENNSYLVANIA – WACOM 2010 HAMFEST, Washington Amateur Communications, Sunday, Nov. 7. Washington County Fairgrounds, 2151 North Main St., Washington, PA. 8 a.m. to 2 p.m. EST. Admission, $5. Doors open for vendor setup at 6 a.m. Talk in on 145.49 MHz. VE session at 10 a.m. Vendors contact: Bud Plants, N3TIR, via: N3TIR@arrl.net. Six-foot tables supplied at $12 each. Discount reserve more than five tables, $10 each. Vendor payments to WACOM, c/o Norma Plants, N3YJJ, 236 Chambers Ridge, West Alexander, PA 15376. Visit: http://www.WACOMARC.org. More information: Bud Plants, N3TIR: (724) 350-6745.

FLORIDA - Veterans Day Special Event Station: K4NYC. To honor and thank all military personnel who served the United States military past and present. Recognition Day. On the air from Nov. 11-13, 1200Z - 1159Z. Frequencies: 3.825, 7.185, 14.250, 21.300 SSB, 3.580.150, 7.080.150, 7.035.150, 14.070.150, 21.070.150 PSK. Veterans Day is officially observed on Nov.11. For K4NYC Special Event Veterans Day QSL, send your QSL and SASE to: Ed Ramos 11200 NW 39th StCoral SpringsFL33065-2751. For information: http://www.qrz.com/db/k4nyc or http://www.k4nyc.com.

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

Bring On the Heat: N2GJ, Kingston, New Jersey

(Editor's note – This month's ***Station Appearance*** *features the operating position of* ***Gerry Jurrens, N2GJ, of Kingston, New Jersey.*** *Even being relegated to a corner of the basement couldn't put a chill on his enjoyment of amateur radio. He's beside the furnace!*

Meantime, are ***you proud of your station's neat appearance?*** *Or does that* ***clutter provide just the comfort level*** *you need to most enjoy the hobby?*

Send digital photographs of your station with details to: ***WorldRadioOnline@gmail.com*** *and we'll consider them for publication in* ***Station Appearance*** *in an upcoming edition of* ***WRO****. If there's a You Tube video to accompany the still pictures, let us know and we'll set up a link.)*

"I share a corner of the basement with the oil furnace," says Gerry Jurrens, N2GJ, from New Jersey's Somerset County.

"In winter, Heil headphones and a noise-cancelling microphone are a must. My equipment includes an ICOM IC-756 Pro III, ICOM IC-7000, Yaesu FT-817, operating WSPR mostly on 30-meters; an NUE-PSK modem, an Elecraft KX1, and a trusty Bencher paddle. Remember: On CW *no one can hear you scream!"*

Close Quarters

Gerry acknowledges "it's a pretty small space, for sure. The whole station is piled up on a small desk, but it works for me.

"I'm close to the cellar window, so getting the RF out of the basement is no big deal. I have nothing fancy in the antenna area – just a G5RV up in a swamp maple tree, the center about 40-50 feet up. With 100 watts or less, I've worked most of the world. I do have a work table behind me for projects, but sadly it's become more of a place to pile up my *QST* and *CQ* magazines!"

Share, and Share Alike

So, how does one end up in a corner of the basement? "Not sure how it happened," Gerry said, "but my XYL, Connie, N2ATJ, got the laundry room, I got the furnace area, and our eldest son got the remainder of the basement for his plastic model workshop and collection. Can you say 'Borg Collective?'" <http://memory-alpha.org/wiki/Borg_Collective>

N2GJ's Many Interests

Gerry says he's "always been into public service communi-

A corner of the basement is home for Gerry Jurrens, N2GJ's, amateur radio operations in New Jersey. " . . . my XYL, Connie, N2ATJ, got the laundry room, I got the furnace area and our eldest son got the remainder of the basement for his plastic model workshop and collection." *(Courtesy of N2GJ)*

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Little Tarheel II

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cations. I've been net manager for an NTS CW net – the New Jersey Morning Net <http://www.qsl.net/k2ul/njtb/current-njtb.pdf> – for years, so HF (high frequency) CW would have to be my favorite mode.

"However, I enjoy all facets of the hobby: PSK31, with my NUE-PSK modem; WSPR, with the FT-817; QRP, using my newest toy – the Flex-Radio Systems FLEX-1500 software defined radio – and VHF/UHF contesting at K3EOD and K1JT. Especially the January event."

What parts of amateur radio does N2GJ find most interesting? "I love it all! I've been doing it since high school in the '60s and there isn't a facet of the hobby I don't enjoy."

In the Beginning . . .

"I was first licensed as a Novice as WN2VTT in 1966, passing my test at the now-defunct Princeton YMCA Radio Club. I got my General shortly thereafter, traveling into New York City at what became the site of the World Trade Center (*aka Radio Row*) to take the test at the FCC office there.

"My call was WB2VTT then. A few years later I upgraded to Advanced in Philadelphia, again at the FCC. In 1975, I upgraded to Extra at the FCC office in suburban Philly and applied for and got N2GJ. I thought it would be cool to have one of the new 'N' callsigns as I'm also a private pilot and U.S. aircraft all have 'N' (callsigns)."

Hooked Forever: Love At First *Dit*

In a round-about way, unrequited interest in a girl provided Gerry's pathway to amateur radio. "Larry Pieroth, ex-WB2RZD, was a neighbor about my age," N2GJ recalled. "He had a *really cute* sister, Jessica, I wanted to meet. So I stopped by their house to see if she might go out with me sometime.

From N2GJ's QRZ.com page is a photograph of Gerry Jurrens ready to roll in his amateur radio license plate festooned car. *(Courtesy of N2GJ)*

"She invited me in and I heard Morse code coming from downstairs. I asked her, *What's that noise?* She said, rolling her eyes, *Oh, that's my stupid brother, probably talking to someone in England.* She introduced me to him and I ended up buying his entire ham station and getting my license!

"Oh, and I *never did* go out with her!"

Just the same, Gerry believes he's "hooked forever" on amateur radio. "I'm a life member of the ARRL, AMSAT, 10-10 International and ***WorldRadio Online.***"

The Rules Say...

John B. Johnston, W3BE

Apprentice Understudy?

Q My friend thinks he might like to get a ham license. Can he first give it a try by operating my station with my Amateur Extra privileges as my apprentice understudy? I would sit right next to him.

A. That is your decision to make. As the station control operator ("SCO") you have at least two protocols to consider: your understudy might partake as a third party message stating participant (TPMSP). Read BE Informed No. 33: <http://www.w3beinformed.org/id3.html> Our TPMSP Class; or as a verbalizing person or device (VPOD). Read BE Informed No. 56: <http://www.w3beinformed.org/id56.html> *The VPOD Protocol*.

W3BE-O-GRAM: How close together you are sitting is secondary to how effective you are in supervising your understudy.

Q. What is the difference between a TPMSP and a VPOD?

A. It depends upon whether the person for whom the message is being transmitted is the SCO or the understudy. Both protocols have these basics:

- The station must be under local or remote control. Read Sections 97.109(b) and (c). <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.5>
- The SCO must be a person for whom an amateur operator/primary station license grant appears on the ULS consolidated licensee database, or who is authorized for alien reciprocal operation. Read Sections 97.7. <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.5>
- The SCO must be at the station control point. Read Sections 97.109(b) and (c). <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.5> The control point is the location at which the control operator function is performed. Read Section 97.3(a)(14). <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.1.157.2>
- The SCO, together with the station licensee - if a different person - is responsible for the proper operation of the station in accordance with the FCC Rules. Read Section 97.103(a). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.2>
- The SCO must ensure the immediate proper operation of the station, regardless of the type of control. Read Section 97.105(a). <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.3>
- The station may only be operated in the manner and to the extent permitted by the privileges authorized for the class of operator license held by the SCO. Read Section 97.105(b). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.3>

The TPMSP protocol stems from our third party communications rules. Your apprentice understudy is the third party. Each transmission is a message from the SCO (first party) of an amateur station to another amateur station SCO (second party) on behalf of the apprentice understudy. Read Section 97.3(a)(46) <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.1.157.2> and BE Informed No. 7: <http://www.w3beinformed.org/id4.html> *All About Third-Party Communications*.

The apprentice understudy may participate in stating his or her message. Read Section 97.115. <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.8> Should this occur, these additional third party communication rules must be observed:

- The SCO must continuously monitor and supervise the third party's participation. Read Section 97.115(b)(1). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.8>
- The SCO must make certain that the station transmits only to stations within the jurisdiction of the United States; to stations within the jurisdiction of any foreign government whose administration has made arrangements with the United States to allow amateur stations to be used for transmitting international communications on behalf of third parties; or to stations within the jurisdiction of a foreign government when transmitting emergency or disaster relief communications. Read Section 97.115(a)(2). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.8>
- The SCO must make certain that the TPMSP is not a prior amateur service licensee whose license was revoked or not renewed after hearing and re-licensing has not taken place; suspended for less than the balance of the license term and the suspension is still in effect; suspended for the balance of the license term and re-licensing has not taken place; or surrendered for cancellation following notice of revocation, suspension or monetary forfeiture proceedings. The TPMSP must not be the subject of a cease and desist order which relates to amateur service operation and which is still in effect. Read Section 97.115(b)(2). <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.8>

Under the VPOD protocol, only the expressions and intentions of the SCO are conveyed; each transmitted word spoken and every action taken by the apprentice understudy is for the SCO. It is analogous to voice and control actuation from some sort of pre-programmed apparatus being employed by the SCO.

Q. Because my understudy intercommunicates on my - the SCO's – behalf, would I have to write a script for him?

A. The how-to is up to you, the SCO.

Q. Isn't VPOD just a bypass around the third party restrictions that hinder the usage of our spectrum by non-licensed persons?

A. Possibly. More significantly, however, both protocols bypass our VEs' qualifying examination system.

Q. How about my apprentice understudy operating in a contest?

A. That would be up to the contest sponsor.

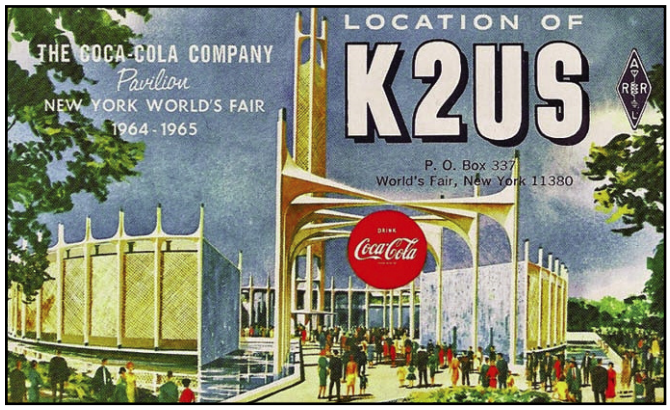
Q. Can a Technician use the Amateur Extra Class operator frequencies as an apprentice understudy?

A. Yes, provided the SCO is listed on the ULS as having an Amateur Extra Class operator license grant. Read Section 97.105(b). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.3>

Q. Understudies are not *duly* authorized as required by the international Radio Regulations, <http://life.itu.ch/radioclub/rr/art25.htm> the Communications Act <http://www.fcc.gov/Reports/1934new.pdf> and Section 97.3(a)(4). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.1.157.2>

A. ***Au contraire.*** The third party participation done by a TPMSP is authorized by rule Section 97.115(b). <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.8> All of the intercommunicating and apparatus actuating carried out by a VPOD is on behalf of the SCO, who is authorized by Section 97.7. <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.1.157.4>

Q. During the 1964-1965 New York World's Fair, <http://en.wikipedia.org/wiki/1964_New_York_World's_Fair> I made several visits to K2US - the most complete modern amateur station that we hams of that era could even imagine.



The station managers were protective of the integrity of K2US. They inspected my license document before approving me to be the SCO. It had to bear my signature - no exceptions. There was a report of one unfortunate ham being denied approval because he had neglected to sign his license before having it plasticized. How, then, did this apprentice understudy claptrap come about?

W3BE-O-GRAM: Our amateur service community of that pre-incentive licensing period was about one-third of the size it is now. We were viewed as eccentric TVI-causing electronic wizards who could oftentimes fix an ailing radio or TV. We were proud of having measured up to the demanding license qualification challenge: We had passed telegraphy receiving and sending tests of 13 or 20 words per minute. Our exam questions were strictly FCC-confidential. No questions or answers were ever disclosed. Examinations were administered during business hours by FCC agents, usually in an imposing federal building. A well-worn, soldering iron-charred handbook was our typical study text.

The ULS <http://wireless.fcc.gov/uls/index.htm?job=home> has made license documents obsolete. Departed also is that CW skill stipulation. The VECs' pools – with the exact questions, answers and distracters – are memorized in cram sessions. Pride and precaution seem to have given way to a progressive expansion initiative. People are encouraged to experience firsthand actual amateur radio intercommunicating. For instance, at gatherings of people where there is an amateur radio station on exhibit, visitors are sometimes encouraged to speak into the station microphone and actuate its transmitting apparatus controls as apprentice understudies. After trying it out, perhaps some of them may decide to undergo the 10 hours or so of study in preparation for passing the VEs' examinations.

Q. Promoting apprentice understudies is neither a good amateur practice nor is it enforceable. No one can know just by listening to a station's transmissions whether the SCO is really present at the control point and is continuously monitoring and supervising.

A. The SCO and the apprentice understudy would know. Our safeguard against abuse depends upon the degree of effectiveness of the SCO's supervision.

Q. If some infraction of the rules does occur, who is accountable?

A. Not the apprentice understudy. Section 97.103(a) <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.2> says that the station licensee is responsible for the proper operation of the station in accordance with the FCC Rules. When the SCO is a different amateur operator than the station licensee, both persons are equally responsible for proper operation of the station. Section 97.103(b) <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.2> says that the station licensee must designate the SCO. Section 97.105(a) <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.2.157.3> says the SCO is responsible for the immediate proper operation of the station. The FCC will presume that the station licensee is also the SCO, unless documentation to the contrary is in the station records.

Q. We are kidding only ourselves with that legal fiction. Promoting apprentice understudies will surely take ham radio down the CB path to de-licensing. Our hard-won radio spectrum should be used only by trained operators, technicians and electronic experts, not by non- or under-unlicensed people. No one should be allowed to use our spectrum until they have proven to our VEs that they know what our rules say, what our good amateur and engineering practices are, and possess the technical expertise to make those rules and practices meaningful.

W3BE-O-GRAM: It does appear to be risky. But apprentice understudies enable any so inclined SCO to assist as many people as possible to experience amateur radio intercommunications. If our VECs get their pools right, if the SCOs do their jobs effectively, and if the amount of abuse is not intolerable, the expansion initiative might succeed in addition to accommodating the intended operators <http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=1fd042880fafafd63f70c7382a7efee2&rgn=div5&view=text&node=47:5.0.1.1.6&idno=47#47:5.0.1.1.6.1.157.1> you mention.

Appreciation

Thanks to the readers who helped with this column through their thought-provoking questions, comments, and suggestions.

Read the rules - Heed the rules

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

Build A Single-Lever Paddle, Then Take A Walk In the Woods

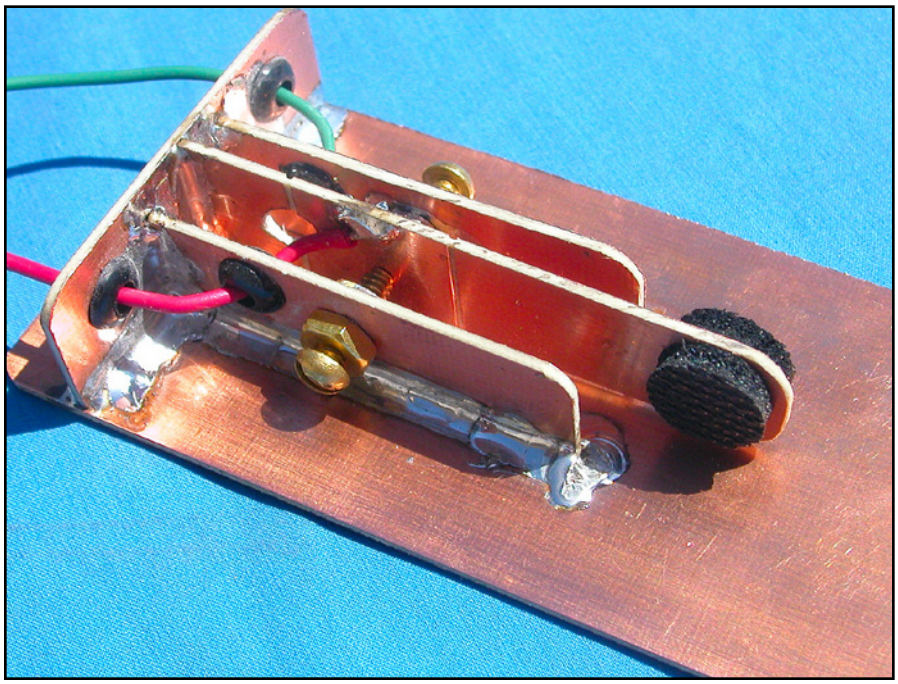
By Richard Fisher, KI6SN

Up front in this edition of ***WRO*** is wonderful piece by Bruce Prior, N7RR, focusing on "the old-new movement" fueling the resurgence of single-lever CW paddles – *The Single Life: A Simpler Way of Keying*.

"This trend is especially active among elite European operators," he writes, "but it's catching on here in North America," as well. Prior's story is a real eye-opener and a great primer on the art and efficiency of one lever instead of two.

While doing his research, N7RR called upon CW and homebrewing expert Wayne McFee, NB6M, who more than a decade ago introduced the now-classic *NB6M Single-Lever Paddle* <http://bit.ly/akPptM> – a superb design that's really easy to duplicate. It has a footprint of just 1-7/16 inch by 2 inches. There's a good picture of the paddle and of NB6M accompanying Prior's article.

Hmmmmm, we thought. Why not twist the McFee design into a high octane trail-friendly version? Afterall, with an investment of a little time and a handful of inexpensive parts, just about anyone should be able to make a single-lever paddle that's tweaked for the field.



A trail-friendly single-lever CW paddle is easy to build and won't break your bank on your way to the field. *(Courtesy of KI6SN)*

More, it would answer several queries we've gotten about *ham radio on a shoestring* alternatives to the somewhat pricey single-lever commercial models.

First a disclaimer: Although a paddle base 6-inches long by 2-inches wide might not fit the T-FR *teeny-weeny* criteria, for several reasons we opted to go that route.

Some small, lightweight paddles are difficult to handle in a trail environment. They tend to wriggle and crawl and can be more trouble than they ought to be.

You'll see the KI6SN Single-Lever T-FR Paddle mirrors NB6M's classic design, but makes adjustments to component sizes we figured would enhance both field stability and durability.

Here's the thinking: A larger base provides a nice underside plane to place on the ground, your knee or other uneven surface. On the topside is a *porch* for resting the unused fingers of your keying hand. Both of these help with stability.

And for an instrument that's likely to be bumped around in your backpack, a larger base presents a great surface to solidly solder and reinforce larger parts for a bulletproof field version. Read that: *durability*.

So, what's it take to build this T-FR paddle? Not much.

Let's start at the bench. You'll need a soldering iron (we used a 40-watter), a hacksaw, a hand or power drill and bits, a metal file and some steel wool to shine things up.

The *cheapo* parts list includes:

- Enough dual-sided printed circuit board to create the paddle's five surfaces
- Two 1/2-inch-long 6-32 brass bolts
- Four 6-32 brass nuts
- Four rubber grommets (optional)
- Two small circular rubber pads (optional)
- Enough solder to puddle a sturdy bond along the PC board seams.

It's important that the nuts and bolts be brass. As you'll see, there's soldering associated with them. Most big home improvement stores have a nice selection of brass hardware.

After we'd sketched the TF-R Single-Lever Paddle design on paper, it was time to carefully outline each piece of the puzzle on the PC board material:

- The front plate is 2-inches wide by 5/8-inches tall. It's the surface on which other vertically-oriented parts are soldered.
- The paddle arm is fashioned from PC board cut to 2-3/4-inches long by 1/2-inch tall. As you'll see, it's the most intricate part of the paddle.

• Two ground rails are 2-inches long by 1/2-inch tall. The 6-32 size brass bolts and nuts will be mounted on them to adjust the paddle's keying action and spacing.

• Then there's that 6-inch by 2-inch paddle base we've talked about.

Patterns drawn on the PC board, it was time for the *saw*- and *drill-a-thon*. A pair of vice grips holding things in place sure made the job more manageable.

Many more photographs of the KI6SN Single-Lever T-FR Paddle can be found on the ***Trail-Friendly Radio Extra Blog:*** <http://www.TrailFriendlyRadio.blogspot.com.> There's a handy reference guide detailing each PC board piece's pattern and dimensions, as well.

Notice that the corners on the paddle are rounded. That'll prevent this little rascal from poking holes in your backpack – or anything else.

By the way, the grommets came as an afterthought to provide a safe, insulated route from the paddle to a keyer or radio. So you won't see holes for them in the picture of the prefabricated pieces.

With all the basic parts cut and in hand, it was onto paddle arm preparation. In order to make this lever flexible for side-to-side action, NB6M cleverly added a hole, making the piece less rigid. You'll see it in the accompanying pictures.

In the KI6SN T-FR version, this flex-hole is 7/32-inch in diameter. There's nothing magic about that, by the way. It just happened to be the drill bit we grabbed at the time.

By lightly scoring a line with the hack-saw through the arm's metal PC board surface – thereby exposing the piece's insulated core in several places – NB6M created *islands* for isolating part of the lever from ground, and creating the paddle's *dit* and *dah* functions.

One of these scores bisects the paddle arm's 7/32-inch hole, adding even more side-to-side flexibility. The other score is about 3/4 inch to the left – as illustrated in the parts photograph. A similar pair of scores is mirrored on the flipside of the lever.

So, we've got a *dit* island on one side of the arm and a *dah* island on the other. When moving the paddle from side-to-side, each island will strike the tip of an adjustable brass bolt, which in turn grounds that side of the arm and completes the *dit* or *dah* circuit to your electronic keyer.

A ground wire, which can be attached anywhere on the T-FR paddle's base, is the third connection between your paddle and keyer or radio.

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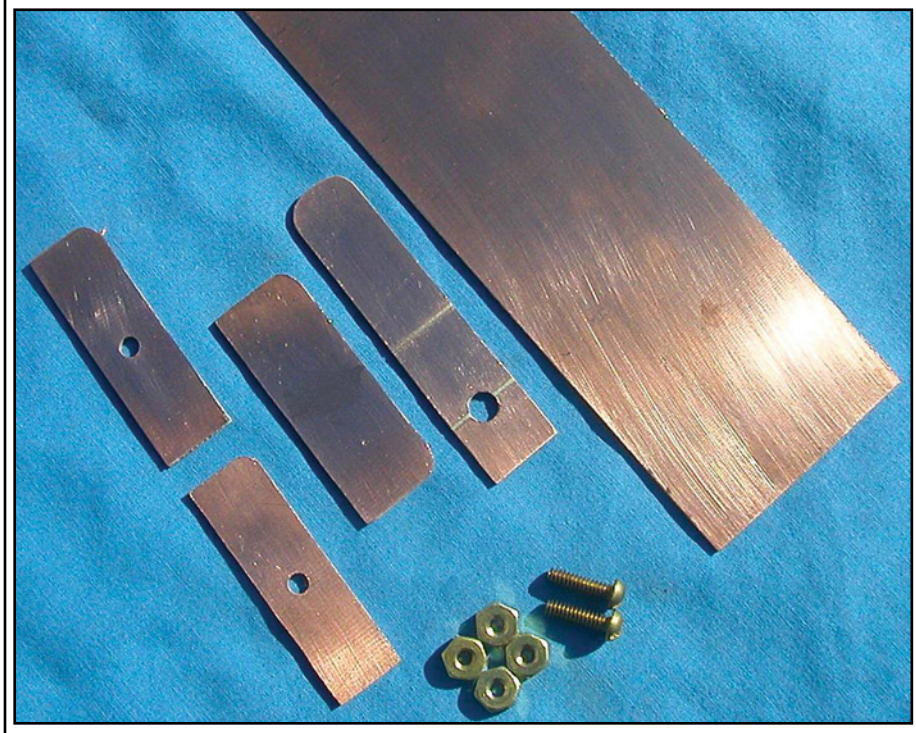

Four pre-cut and drilled PC board pieces are firmly soldered on the T-FR single-lever paddle's 6-inch long by 2-inch wide base. *(Courtesy of KI6SN)*

Next: The two ground rails. They're the 2-inch long by 1/2-inch tall PC board pieces with the hole drilled in the center. Each hole accommodates a brass 6-32 bolt – part of the paddle's spacing adjustment scheme.

One brass nut – aligned with the small drilled hole – is carefully soldered onto the *inside plane* of each ground rail (closest to the paddle arm), which will allow you to position the brass bolts *just so* to capture the spacing and *feel* of your keying preference.

The soldered *inside* nut is the bolt's stabilizer, while tightening an unsoldered *outside* nut locks the bolt's optimum spacing in place. The ground rail nuts-and-bolts configuration is identical on both the *dit* and *dah* sides of the paddle arm.

Once all the vertical and horizontal planes have been prepped, we fire up the 40-watt iron and let the solder flow.

First, the paddle's front plate is mounted. It's the surface to which the paddle arm and ground rails are soldered.

Once firmly in place, we solder the paddle arm flush to the top of the front plate, leaving about 1/8-inch clearance between the bottom of the lever and the paddle base.

Next, the ground rails are spaced about 1/2-inch on either side of the keying arm and soldered solidly to the front plate and paddle base.

At this point, we drilled holes for the four optional grommets which, as mentioned, came as an afterthought. Additionally, the optional circular rubber pads were squeezed onto the paddle arm as a garnish. Presentation is critical, as we've learned on *Top Chef*. We want to set a lovely table. *Bon appetite*.

To finish the project, *dit* and *dah* wires are soldered to each *island* on the paddle arm – one RED; one GREEN – and routed through the grommets on their way to the electronic keyer, transmitter or transceiver we'd be using.

By the way, if you want to use the NB6M-designed paddle as a genuine straight key-style *sideswiper* without an electronic keyer, just tie the RED and GREEN wires together and connect them, along with the ground wire, to your transmitter or transceiver's straight keying circuit.

For the smoke test, we connected the KI6SN Single-Lever TF-R paddle to a NorCal-40A transceiver – with internal electronic keyer – and were blown away by the beautiful CW this paddle's action can produce. It was a pleasure to use at any speed.

NB6M really knows how to craft top-notch keying instruments. We don't think you'll be disappointed by this TF-R twist on his remarkable design. Build it and take a walk in the woods.

Justly Deserved: Recognition Can Pay Great Dividends

By Dave Hayes VE3JX

I will always fondly remember the evening of May 6, 2010. It was the night of the monthly meeting of our local Algoma Amateur Radio Club.

In conversation at the April meeting, AARC President Bob Rayner, VE3RQR, asked if I was going to be at the May meeting. He informed me that he had a Certificate of Appreciation for me, in connection with the three-year stint I had completed as the club's newsletter editor. So, I knew about this presentation beforehand.

At May's meeting, after the necessary business of the club was dealt with, Bob presented a framed certificate to me. It was a moment of pleasure and satisfaction as I had put my heart and soul into the composition of our monthly "rag." I always had the inner satisfaction of doing a good job with *The Algoma Amateur*, our club's newsletter, but to have tangible evidence that our readers also enjoyed it was the icing on the cake. However, the evening was just beginning.

No sooner had I sat down from this presentation when the chairman of the ***"Dave Allison Award"*** committee, Dave Pitcher, VE3DPT, took the floor to announce Algoma's *"Amateur of the Year,"* the recipient of the *"Dave Allison Award."* Me! He mentioned my "setting a new bar" in producing the newsletter and my involvement as EC and DEC with ARES.

It took at least a couple of weeks to wipe the permanent smile off my face! Such recognition is greatly appreciated by all those who receive it.

***WRO* QCWA columnist Dave Hayes, VE3JX, with AARC's *"Dave Allison Award"* for 2010.**

Longevity Awards

Recognition is also a big part of QCWA. Just being accepted as a member is recognition of the fact that the applicant has been involved with amateur radio for 25 years or more. It is a milestone in that person's life to be part of the Quarter Century Wireless Association.

It is a noteworthy accomplishment in a short-attention-span world where many flit from hobby to hobby, quickly losing interest with each in turn. Therefore, QCWA members are rightly proud of their QCWA membership as a sign of their long-term interest in our majestic hobby.

However, it doesn't stop there. Twenty-five years is but one milestone in a member's life. There are specific longevity certificates given to each member reaching 50-years or more in amateur radio, issued in five-year increments. Chapter reports in the QCWA Journal usually indicate those who have been presented with 50 through 80 or more years of seniority in this avocation.

Why are such milestones celebrated? And, does this mean we consider those so-honored QCWA members as *better than anyone else?* No.

It is really the same idea as wedding anniversaries. It is an accomplishment - even more so these days - to be married more than just a handful of years. It is with good reason we celebrate the longevity of a couple's mutual love and regard, especially when the years mount up to 25, 40, and even a half-century or more. Does that make such couples *better than those around them that have not been so fortunate?* No.

Notwithstanding, it is something to be celebrated and honored in both the cases of marriage and seniority in our hobby. In QCWA, we do just that – we recognize our longtime fellow amateur radio aficionados.

Special Honors

Besides longevity acknowledgement, QCWA also marks outstanding achievements and performance by our members.

Last column, we mentioned about three presentations made to certain members who had made significant contributions to amateur radio and QCWA. The first of these was made to **Croft Taylor, VE3CT**, longtime member, past-director and past-president of QCWA. Croft was awarded QCWA's most prestigious honor, the ***"Hall of Fame Award."*** It is given only to those who have already been honored nationally or internationally.

In Canada, the highest honor bestowed on an amateur is becoming a ***"Member of the Canadian Amateur Radio Hall of Fame."*** Croft is the latest QCWA member to be inducted. Five others have been so honored in the past. This recognition,

Croft Taylor, VE3CT, right, receives the *"Hall of Fame Award"* from QCWA President, Bob Roske, NØUF.

Alan Pickering, KJ9N, left, receives the *"Roll of Honor Award"* from QCWA Secretary, Walt Supina, N3WS.

together with his timeless service to QCWA, made Croft the logical choice for this award.

To say that Croft was surprised and pleased would be an understatement. I believe it was one of the happiest moments of his life. *Congratulations again, Croft!*

There are several other special awards that QCWA hands out to worthy recipients. Another Canadian amateur, **George Roach, VE3BNO,** has received the 2010 ***"Roll of Honor Award."*** The requirements for this are very similar to the *"Hall of Fame Award"* except that national or international recognition of the individual's achievements is not necessary. George has been involved with amateur satellites, voice repeaters since 1964, and fast-scan ATV repeaters. George is a former QCWA Director. For many years he was Convention Manager - offering guidance to any chapter organizing a national convention. Also, he continues to be Operating Activities manager - responsible for various operating activities and also Net Manager for the QCWA CW and SSB International Nets. *Congratulations, George!*

The ***"John DiBlasi Award"*** is QCWA-specific. It recognizes *"any QCWA member who has over a long period of time made an outstanding contribution to the honor and preservation of our Association."* This year's recipient is **Blanche Randles, W4GXZ**. Blanche started the QCWA taping program in 1987, where specific sections of the QCWA Journal are taped for the

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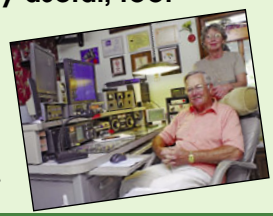

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benefit of our sight-impaired members. She was the QCWA Tape Coordinator from 1987 to 2008. She was also a QCWA Director from 2004 to 2008. *This is a well-deserved honor, Blanche!*

QCWA's ***"Distinguished Service Award"*** is used *"in recognition of outstanding service to QCWA."* Our President, **Bob Roske, NØUF**, received this award back in 2007 *"for his many years of faithfully maintaining the QCWA website."* (This occurred before he became QCWA's President.) And, he is still our webmaster.

Other meritorious awards that QCWA hands out are: the ***"Member of the Year"*** award, and the ***"Presidential Award."*** The former is *"given to the QCWA member who has made the greatest contribution to QCWA or amateur radio during the preceding year."* As mentioned last column, this went to **Vic Culver, W4VIC**, for his work associated with the Taping program, the 2008 QCWA Virginia Beach Convention, and his participation on QCWA`s Standing Committees. *Good job, Vic!*

The *"Presidential Award"* is given out at the sole discretion of QCWA`s President to as many individuals as he may choose. In 2008, five members received this distinction, and 11 were awarded it in 2007.

There is even an award that individual chapters can request *"to recognize the outstanding service of a chapter member:"* the ***"Meritorious Award Certificate."*** One of these can be sent to each chapter annually (upon request), making for an honor that is endorsed by QCWA National.

Incidentally, our beloved past QCWA columnist, **Alan Pickering, KJ9N**, has earned multiple QCWA awards over the years. Among them are the ***"Presidential Award"*** in 2002, the ***"John DiBlasi Award"*** in 2006, and the ***"Roll of Honor Award"*** in 2009. This last award specifically acknowledges Alan`s many years in writing this column (from 2001 through 2009), plus *"his service as a QCWA National Director and Secretary and as a past President of QCWA's Sun City Center Chapter 195." Congratulations Alan! You are our hero!*

Operating Awards

QCWA has various operating awards available for members. The 60th anniversary of the formation of our organization was marked in 2007. A special award, the ***"60-60 Award,"*** was created *"for making 60, two-way contacts with 60 different QCWA Members between May 17, 2007 and June 30, 2008."* It was a nice way to celebrate that milestone. The QCWA website shows that 39 members were able to qualify for this award.

Other operating awards have proved even more of a challenge. One is the ***"Worked 50 States Award."*** It is *"issued to QCWA members who have contacted* ***members*** *in each state of the union.*. Imagine the difficulty level in that!

Other ones include: ***"Worked 60 Chapters Award," "Worked 100 Members Award,"*** and ***"Worked 500 Members Award."*** These also indicate quite an accomplishment on the part of each recipient.

While all QCWA awards have not been covered here, suffice it to say QCWA does honor its members.

QCWA and recognition: they go hand in hand. In QCWA, everyone is recognized for their longevity in the hobby, their meritorious service to amateur radio, and their operating skills. Why not join us and be recognized as a "senior" member of the greatest avocation in the world?

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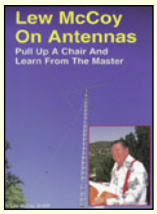

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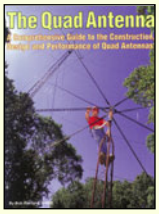

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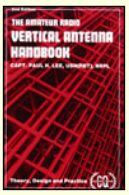

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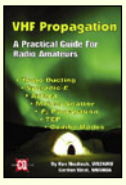

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A Collapsing Upper Atmosphere – Does It Impact HF Propagation?

By Carl Luetzelschwab, K9LA

The July 15, 2010 NASA *Science News* was titled "A Puzzling Collapse of Earth's Upper Atmosphere." <http://science.nasa.gov/science-news/science-at-nasa/2010/15jul_thermosphere/> It told of the analysis of the decay rate of the orbit of more than 5,000 satellites ranging in altitude from 200 to 600 kilometers (124 to 372 miles) during the 1967 to 2010 period.

The decay rate of a satellite tells us about the density of the thermosphere (that portion of the atmosphere from 90 km to more than 600 km, or 55 to more than 372 miles), as the decay rate is dependent on this density.

As a refresher, the thermosphere is one of the *spheres* of the atmosphere based on temperature. The lowest temperature *sphere* is the troposphere where most of our weather occurs and temperature decreases with altitude.

The next *sphere* up is the stratosphere in which the temperature increases with altitude. The mesosphere is next, and temperature again decreases with altitude. The thermosphere is the highest temperature *sphere*, and the temperature again begins rising.

Normally the thermosphere is less dense when solar activity is low (as at solar minimum), and this results in less decay of satellite orbits. But the scientists doing the study found that the density of the thermosphere in 2008 and 2009 was lower than any previous measurements.

The second image in the referenced *Science News* article shows the magnitude of the decrease in density – the density during this solar minimum period was about 28 percent lower than the density in the previous solar minimum period.

Let's see if we can detect any impact of this lower density on propagation. We'll do this by looking at ionosonde data for this solar minimum (2006, 2007, 2008, 2009), and compare it to ionosonde data from the last solar minimum (1995, 1996, 1997). We'll start with data from the Point Arguello ionosonde in California. (An ionosonde is a pulsed radar device used to measure heights of ionospheric layers.)

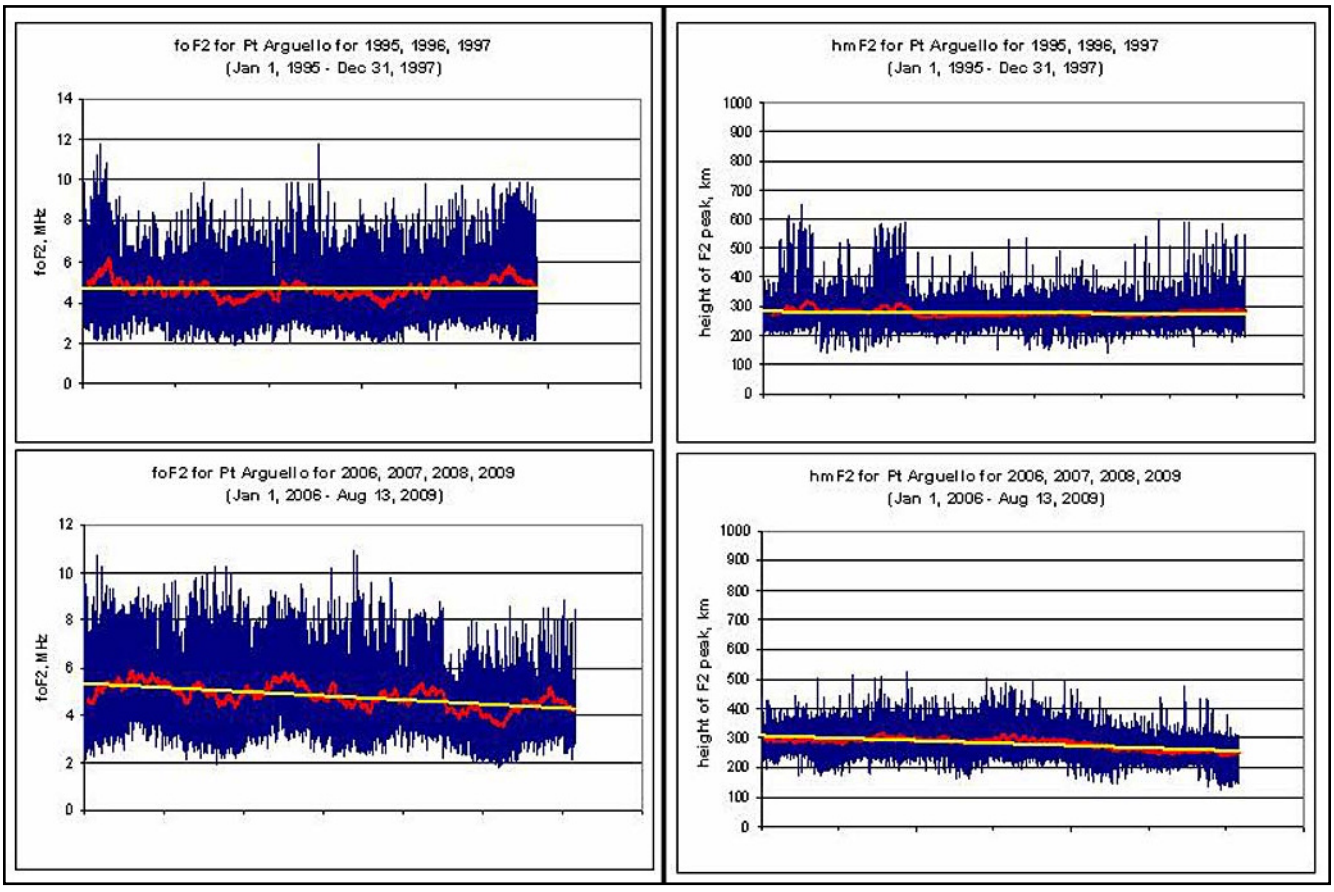

Figure 1 – Point Arguello F_2 Region Data

Now what ionosonde data should we look at? From the information cited earlier, the thermosphere includes both the E and F regions of the ionosphere. This suggests we take a look at four basic ionospheric parameters: foE (the E region critical frequency), hmE (the height of the maximum E region electron density), foF_2 (the F_2 region critical frequency), and hmF_2 (the height of the maximum F_2 region electron density).

But as stated earlier, the raw analysis of satellite decay rates only covered 200 to 600 km. Thus including E region ionosonde data would assume that the thermosphere density at altitudes less than 200 km also decreased as it did at 200 to 600 km altitudes. That could be a questionable assumption, so we'll just focus on the F_2 region parameters for now.

Anyway, the F_2 region is the most important region for our long distance DXing on the higher bands, so it would be nice to know if we see any trends that can be associated with this extremely low thermosphere density.

Figure 1 plots foF_2 and hmF_2 data from the Point Arguello ionosonde for both solar minimum periods. The two plots on the left are foF_2, with the top one for the last solar minimum and the bottom one for this solar minimum.

In a similar manner, the plots on the right are hmF_2 (top for the last solar minimum, and bottom for the recent solar minimum). The actual ionosonde data is dark blue, and it is data for every hour of each day throughout the two solar minimum periods.

To better see what's happening over the multi-year time frames, I've added two trend lines to each plot. The red trend line is a 255-day moving average – it shows the short-term ups and downs of each parameter. The yellow trend line is a linear trend line – it best shows the long-term trend in each parameter – this is the one we're most interested in.

That data of Figure 1 indicates that both foF_2 and hmF_2 over the Point Arguello ionosonde were essentially flat over the long-term during the last solar minimum period (with short-term ups and downs). But they both had a definite downward long-term trend during this recent solar minimum period (while still showing short-term ups and downs).

From this data we could conclude that there may be a tie between the extremely low thermosphere density and ionospheric F_2 region parameters – the lower density caused foF_2 and hmF_2 to decrease.

But using data from only one ionosonde could lead us astray. So let's play it safe and look at some more ionosonde data. We'll use the ionosondes at Eglin AFB (Air Force Base) in

	Last solar minimum period		This solar minimum period	
ionosonde	**foF_2**	**hmF_2**	**foF_2**	**hmF_2**
Pt Arguello	flat	flat	decrease	decrease
Eglin	increase	flat	decrease	flat
Puerto Rico	increase	flat	decrease	decrease
San Vito	decrease	flat	decrease	flat

Table 1 – Long-Term Trends in foF_2 and hmF_2

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Florida, at San Vito in Italy, and at Puerto Rico to complete this brief study.

Figure 2 plots foF_2 and hmF_2 data from the Eglin AFB ionosonde for both solar minimum periods. The two plots on the left are foF_2 (with the top being the last solar minimum and the bottom being this solar minimum), and the two plots on the right are hmF_2 (the last solar minimum on top and this solar minimum on the bottom).

Right off we see an anomaly with the Eglin foF_2 data for the last solar minimum period – it appears to have increased long-term, which is a different trend than the same Point Arguello data (which essentially remained constant). The foF_2 data did show a downward trend during this solar minimum period, in concert with the Point Arguello data. But we do have some more anomalous data in the Eglin hmF_2 data – it was essentially flat during both solar minimum periods.

The Puerto Rico data (not shown) also has anomalous long-term trends compared to the Point Arguello data. The long-term trends in the Puerto Rico foF_2 data are similar to the long-term trends in the Eglin foF_2 data (an increase during the last solar minimum period and a decrease during this solar minimum period).

The long-term trends in the Puerto Rico hmF_2 data are similar to the long-term trends in the Point Arguello hmF_2 data (flat during the last solar minimum period and a decrease during this solar minimum period).

As for San Vito (data not shown), the long-term trend in foF_2 during the last solar minimum period doesn't match any of the three other ionosondes – the San Vito data shows a decrease. The rest of the long-term trends are similar to the Eglin data.

Table 1 summarizes the long-term trends for all four ionosondes.

The only consistent trend at all four ionosondes is in hmF_2 during the last solar minimum period (they were all flat) and in foF_2 during this solar minimum period (they all decreased).

So does that mean the lower thermosphere density is responsible for this? I hesitate to make that conclusion for several reasons. First, the number of samples on which to base a conclusion is small (only four ionosondes). Second, the range of dates over which data was available varied (for example, the Eglin, Puerto Rico, and San Vito data did not span all the years in the two solar minimum periods). Third, we know nothing about the quality of the ionosonde data (was the data manually scaled from the raw ionograms or was it automatically scaled?). There are probably more caveats, but you get the idea here.

So I think the best conclusion for now is no conclusion. Perhaps a deeper look at the short-term trends would provide a clue into the long-term trends. It could be that these trends are more tied to global warming (warming at the surface which translates to cooling in the upper atmosphere). Thus my advice is to go out and work DX as if nothing happened.

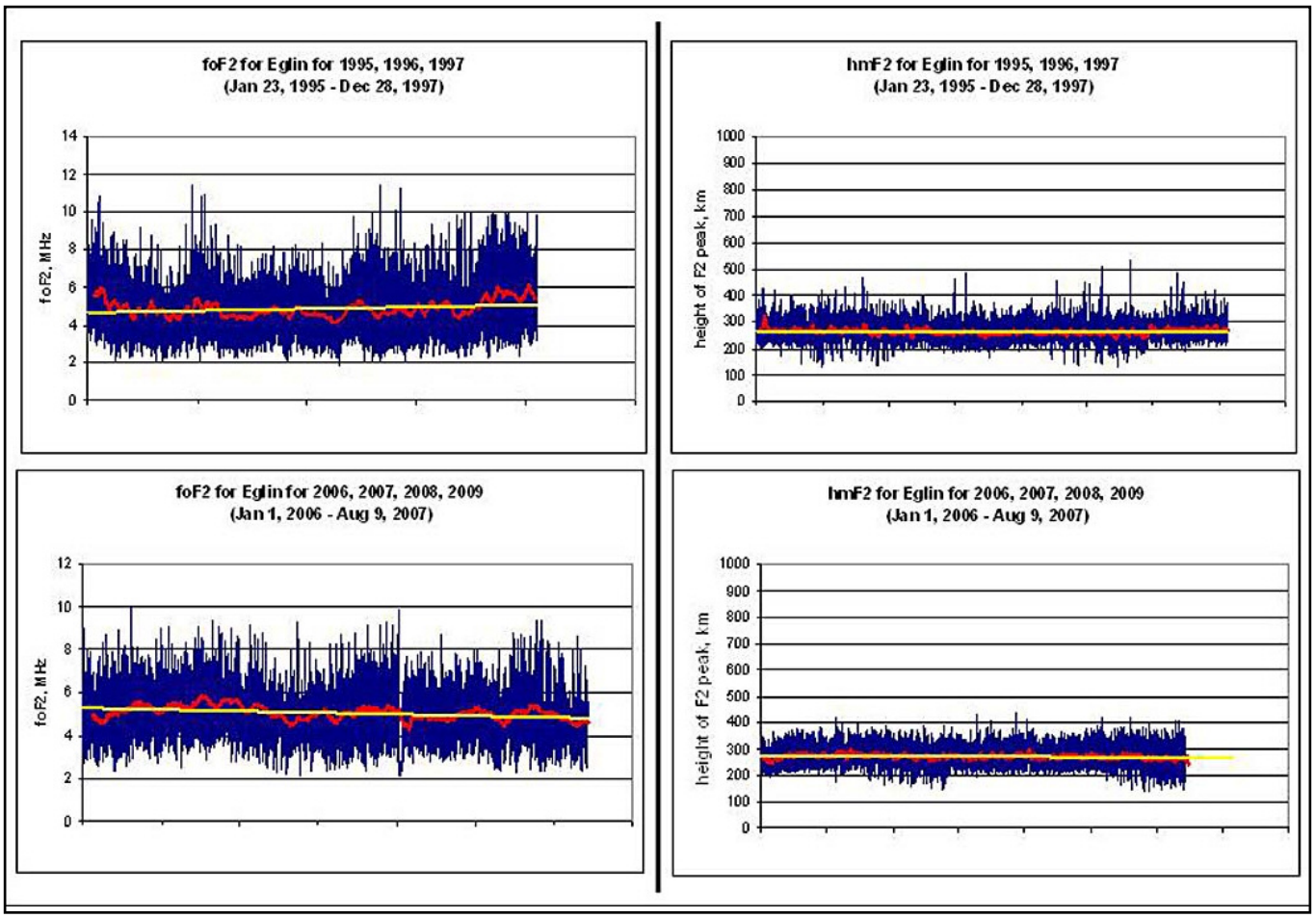

Figure 2 – Eglin AFB F_2 Region Data

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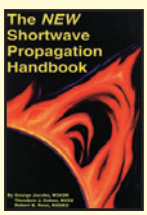

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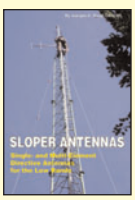

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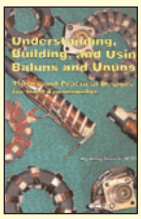

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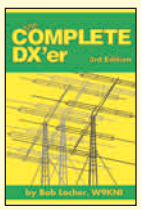

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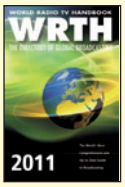

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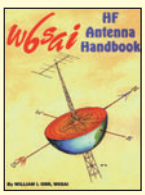

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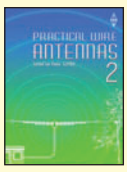

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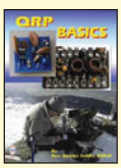

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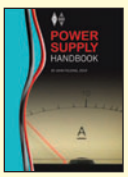

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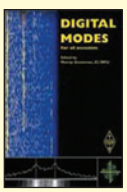

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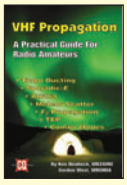

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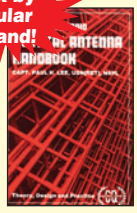

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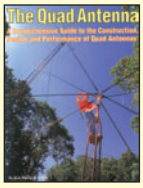

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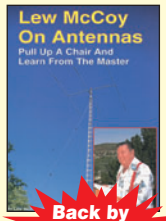

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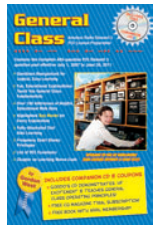

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CONTEST: ARRL Sweepstakes
DATE & TIME: 2100Z 6 Nov. - 0300Z 8 Nov.
BANDS/MODE: 160-10M CW
POINTS: 2 Pts. per QSO
MULTIPLIERS: ARRL/CRRL sections + VE8/VY1
EXCHANGE: The required exchange consists of: A consecutive serial number; Precedence; "Q" for Single Op QRP (5 Watts output or less); "A" for Single Op Low Power (up to 150 W output); "B" for Single Op High Power (greater than 150 W output); "U" for Single Op Unlimited; "M" for Multi-Op; "S" for School Club; Your Callsign; Check - The last 2 digits of the year of first license for either the operator or the station. The same Check must be used the entire contest. ARRL/RAC Section
ENTRY CATEGORIES: Single op; Single op - QRP; Multi op - single XMTR; School club
ENTRIES: 15 Days ARRL Contest Branch 225 Main St., Newington, CT 06111
Cabrillo (preferred) to: sscw@arrl.org
E-mail: contest@arrl.org
Rules at: www.arrl.org/sweepstakes

CONTEST: Kentucky QSO Party
DATE & TIME: 1400Z 13 Nov – 0200Z 14 Nov
BANDS/MODE: 160-6M CW/SSB
POINTS: 1 Pt. SSB, 2 Pts. CW, 500 Pts. QSO with KY4DXA
MULTIPLIERS: KY sta's count States/Provinces/Countries; All others count KY Counties (120 possible)
EXCHANGE: RS(T) + State/Province/Country; KY sta's give County (120 possible)
ENTRY CATEGORIES: Single Op only!
ENTRIES: 31 December WKDXA, P.O. Box 73, Alvaton, KY 42122
Cabrillo (preferred) logs to: k4cms@aol.com;
Rules at: www.wkdxa.com/mainsite/index.php?option=com_content&view=article&id=45:wkdxa&catid=35:kyqsorules&Itemid=56

CONTEST: WAE DX
DATE & TIME: 0000Z 13 Nov. - 2359Z 14 Nov.
BANDS/MODE: 80-10M RTTY
POINTS: 1 Pt. per QSO
MULTIPLIERS: WAE Countries
EXCHANGE: RST + serial #
ENTRY CATEGORIES: Single op - Low (<100W); Single op - High (>100W); Multi op
ENTRIES: 30 Days
Cabrillo to: waertty@dxhf.darc.de
E-mail: waedc-info@dxhf.darc.de
Web: www.waedc.de
Rules at: www.darc.de/referate/dx/contest/waedc/en/rules/

CONTEST: Japan International DX
DATE & TIME: 0700Z 13 Nov - 1300Z 14 Nov.
BANDS/MODE: 80-10M SSB
POINTS: 1 Pt 40/20/15M; 2 Pts 80 or 10M
MULTIPLIERS: JA Prefectures + JD1 (Maximum of 50)
EXCHANGE: JA's give RST + Prefecture #; all others give RST + CQ Zone
ENTRY CATEGORIES: Single op - single band, high or low; Single op - multi-band, high or low; Multi op; Maritime Mobile
ENTRIES: JIDX Phone Contest C/O Five-Nine Magazine P.O. Box 59, Kamata Tokyo 144-8691 Japan
Rules at: http://jidx.org/jidxrule-e.html
(See rules for E-mail submission link)

CONTEST: OK/OM DX
DATE & TIME: 1200Z 13 Nov. - 1200Z 14 Nov.
BANDS/MODE: 160-10M CW
POINTS: 3 Pts. per QSO with OK/OL/OM sta's
MULTIPLIERS: OK/OL/OM prefixes (WPX rules)
EXCHANGE: RST + serial #; OK/OL/OM sta's give RST + district

ENTRY CATEGORIES: Single op - high (1500W max), all band; Single op - high, single band; Single op - low (100W max), all band; Single op - low, single band; Single op - QRP (<5W), all band only; Multi op - Single XMTR, 1500W max
ENTRIES: 1 Dec. OK-OM DX Contest - CRK P.O. Box 69 113 27 Praha 1 Czech Republic
Cabrillo (preferred) to: okomdx@crk.cz
Rules at: http://okomdx.crk.cz/g.html

CONTEST: SKCC Weekend Sprint
DATE & TIME: 0000-2359Z 14 Nov
BANDS/MODE: 160-10M CW
POINTS: 1 pt. per QSO, per band
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + QTH + Name + SKCC # (Non-members give "NR NONE"
ENTRY CATEGORIES: Single Op
ENTRIES: 6 days!
Online submission only at: www.skccgroup.com/sprint/wes/wes-submit.html
Rules at: http://www.skccgroup.com/sprint/wes/#RULES

CONTEST: NAQCC Sprint
DATE & TIME: 0130-0330Z 18 Nov
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(s); Gain = Gain antenna(s)
ENTRIES: 4 Days! John Shannon, K3WWP 478 E. High St., Kittanning, PA 16201
Log submission online at: http://naqcc.n4lcd.com/sprintlog.html
E-mail: naqcc33@windstream.net
Rules at: http://home.windstream.net/yoel/sprint_rules.html

CONTEST: Run for the Bacon
DATE & TIME: 0100-0300Z 21 Nov
BANDS/MODE: 80-10M CW
POINTS: 1 Pt. non-member QSO; 3 Pts. FP member; 5 Pts. FP member different continent
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + State/Province/Country + FP #; (non-members give power)
ENTRY CATEGORIES: Single band; All band
ENTRIES: Online only!
Form at: www.fpqrp.com/autolog.php
Rules at: www.fpqrp.com/fpqrprun.php

CONTEST: LZ DX
DATE & TIME: 1200Z 20 Nov. - 1200Z 21 Nov.
BANDS/MODE: 80-10M CW/SSB
POINTS: 1 Pt. QSO same continent; 3 Pts. different continent; 10 Pts. QSO LZ sta's
MULTIPLIERS: ITU Zones + LZ Districts
EXCHANGE: RS(T) + ITU Zone; LZ sta's give RS(T) + district

ENTRYCATEGORIES: A - Single Operator/All Bands/Mixed; B - Single Operator/All Bands/CW; C - Single Operator/All Bands/SSB; D - Single Operator/Single Band/Mixed; E - Multi Operators/All Bands/Single Transmitter/Mixed; F - Single Operator/All Bands/Mixed/QRP (max.10W)
ENTRIES: 30 Days BFRA P.O. Box 830 1000 Sofia, Bulgaria
Cabrillo (preferred) logs to: lzdxc@yahoo.com or lzdxc@bfra.org.
Rules at: http://lzdx.bfra.org/rulesen.html

CONTEST: ARRL Sweepstakes
DATE & TIME: 2100Z 20 Nov. - 0300Z 21 Nov.
BANDS/MODE: 160-10M SSB
POINTS: 2 Pts. per QSO
MULTIPLIERS: ARRL/CRRL sections + VE8/VY1
EXCHANGE: EXCHANGE: The required exchange consists of: A consecutive serial number; Precedence; "Q" for Single Op QRP (5 Watts output or less); "A" for Single Op Low Power (up to 150 W output); "B" for Single Op High Power (greater than 150 W output); "U" for Single Op Unlimited; "M" for Multi-Op; "S" for School Club; Your Callsign; Check - The last 2 digits of the year of first license for either the operator or the station. The same Check must be used the entire contest. ARRL/RAC Section
ENTRY CATEGORIES: Single op; Single op - QRP; Multi op - single XMTR
ENTRIES: 15 Days ARRL Contest Branch 225 Main St., Newington, CT 06111
Cabrillo (preferred) to: ssphone@arrl.org
E-mail: contest@arrl.org
Rules at: www.arrl.org/sweepstakes

CONTEST: SKCC Straight Key Sprint
DATE & TIME: .0000-0200Z 24 Nov
BANDS/MODE: 160-6M CW
POINTS: 1 pt. per QSO, per band
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + QTH + Name + SKCC # (Non-members give power, i.e. 150W)
ENTRY CATEGORIES: Single Op
ENTRIES: 2 days!
Online submission only at: www.skccgroup.com/sprint/sks/sks-submit.html
Rules at: www.skccgroup.com/sprint/sks/#RULES

CONTEST: CQ WW DX
DATE & TIME: 0000Z 27 Nov. - 2359Z 28 Nov.
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. per QSO
MULTIPLIERS: States/VE call areas/ARRL-WAE countries/CQ zones
EXCHANGE: US/VE stas give RS(T) + state or CA call area; All others give RS(T) + CQ zone
ENTRY CATEGORIES: Single op - single band (High >100W, Low <100W, QRP <5W); Single op – all band (High, Low, QRP); Multi op – all band; Xtreme (Rules for Xtreme category at: www.cqww.com/CQ_WW_Xtreme_Rules.pdf)
ENTRIES: CQ WW DX Contest 25 Newbridge Road, Hicksville, NY 11801
E-mail: (Cabrillo preferred) - cw@cqww.com
Rules at: www.cqww.com/2009_Rules_cqww.pdf

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VE EXAMS

As a service to our readers, WorldRadio Online presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is two months in advance. For example, if your 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 Sun	Daryl Stout, AE5WX, 501-681-1551, ae5wx@arrl.net	p/r pref.
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net	
CALIFORNIA			
Highland	11/20	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	
San Francisco	10/24	hamcrams.com	
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			
Longwood	4th Sat	James, N4ZKT, 407-333-4245	
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			
Ames	11/9	George, NP2N, georgeoster@msn.com	w/i ok
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
MASSACHUSETTS			
Brookline	11/8	Jim, N1ICN, 617-364-4658, n1icn@arrl.net	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			
Gulfport	1st Sat	Harrison Cty., Clay, W5ACS 228-863-2042 w5acs@arrl.net	w/i ok
NEVADA			
Stagecoach	2nd Sat	Jack, AC6FU, 775-577-2637 ac6fu@arrl.net	

CITY	DATE	CONTACT	NOTES
NEW JERSEY			
Pennington	11/13	Don, AA2F, 609-737-1723 or aa2f@arrl.net	p/r pref
Roselle	4th Sat	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
Winslow	4th Tues	Mark, K2AX, 609-820-1523, JTRA@comcast.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	11/11	Stanley, WA2NRV, wa2nrv@weca.org	
Yonkers	Call	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
NORTH CAROLINA			
Fayetteville	Call	Patricia Edwards, N4UGH, n4ughpat@aol.com, 910-584-1801	w/i
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	11/13	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.

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DX Predictions

NOVEMBER 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 = 14.

*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	(9)	8	***13**	(8)	***12**
12	(9)	8	***12**	(8)	(12)
14	(16)	8	***12**	(13)	***24**
16	20	10	***17**	(13)	***27**
18	21	(10)	(15)	(9)	***29**
20	21	***18**	20	(9)	***30**
22	18	***19**	24	(8)	***29**
24	***16**	***18**	27	8	***25**
2	12	15	25	8	***18**
4	11	10	18	8	***15**
6	(10)	***9**	16	8	***14**
8	(10)	9	***14**	***8**	***13**

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SA
8	(10)	8	***13**	***8**	***13**
10	(9)	8	***12**	(8)	12
12	(17)	8	12	13	***23**
14	21	8	***20**	16	***26**
16	15	(8)	17	15	***28**
18	21	(8)	(15)	12	***30**
20	21	(14)	21	(9)	***30**
22	***18**	17	25	9	***26**
24	***12**	(14)	25	8	***19**
2	11	(10)	16	8	***16**
4	10	(9)	14	8	***15**
6	(10)	***9**	13	8	***13**

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SA
7	(12)	***8**	(13)	8	***13**
9	(12)	8	***12**	(8)	***12**
11	22	8	12	14	***21**
13	***27**	9	***22**	***17**	***25**
15	***29**	(8)	18	16	***28**
17	***29**	(8)	(15)	15	***29**
19	***24**	(8)	(19)	(10)	***30**
21	***20**	(14)	23	9	***26**
23	***16**	(14)	24	9	***20**
1	***14**	(10)	16	8	***17**
3	***13**	(9)	(14)	8	***15**
5	***12**	(8)	(13)	8	***14**

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Sleeves, Halyards and More Observations On the End-Fed Dipole

By Kurt N. Sterba

Several years ago, and more recently in the August edition of ***WRO***, Krusty Olde Kurt described an end-fed dipole by W2OZH from 1991 *QST*. It was actually a center-fed dipole but with the coax feed to the transmitter coming out one end instead of down from the center.

The way this was accomplished was to have one end of the coax go to the transmitter and at the other end attach a quarter-wave of wire to the center conductor. The coax sees this as one side of a dipole.

The outside of the shield looks like the other side of the dipole. The trick is to make the shield a quarter-wave long so the dipole will be resonant. This is done by going back a quarter-wave from the feed point and coiling up the coax to make a self-resonant parallel circuit that is a high impedance at the operating frequency.

Inside the coax the signal goes merrily 'round and 'round and comes out at the feed point. But on the outside no current can go past the tuned coil. Now you have a center-fed dipole but with the coax to the transmitter coming out from one end of the dipole instead of dropping down from the center.

Kurt's End-Fed Dipole

The main drawback in W2OZH's scheme is that it is difficult to tune the coil. Also, after it is tuned it is narrow-band. If you move very far off the resonant frequency its impedance drops a lot. Kurt replaced the coil with a broadband coil wound on ferrite toroids. This is a lot easier to implement and makes the dipole as broadband as any normal dipole. *(See October's Trail-Friendly Radio column for Kurt's end-fed dipole using ferrite toroids. – Ed.)*

The Halyard Antenna

Recently Kurt received a letter from Peter Cole, G3JFS, of Plymouth, England. He wrote via e-mail: "The W2OZH antenna that you wrote about is nothing more than a simplified version of a half-wave vertical sleeve antenna turned on its side to give horizontal radiation. The attachment is a diagram from my 1948 edition of the Editors and Engineers manual by Woodrow Smith where it is described as 'a very simple, yet effective makeshift antenna of the sleeve family for use below 150-Mcs,' *– written long before MHz was 'invented!'"*

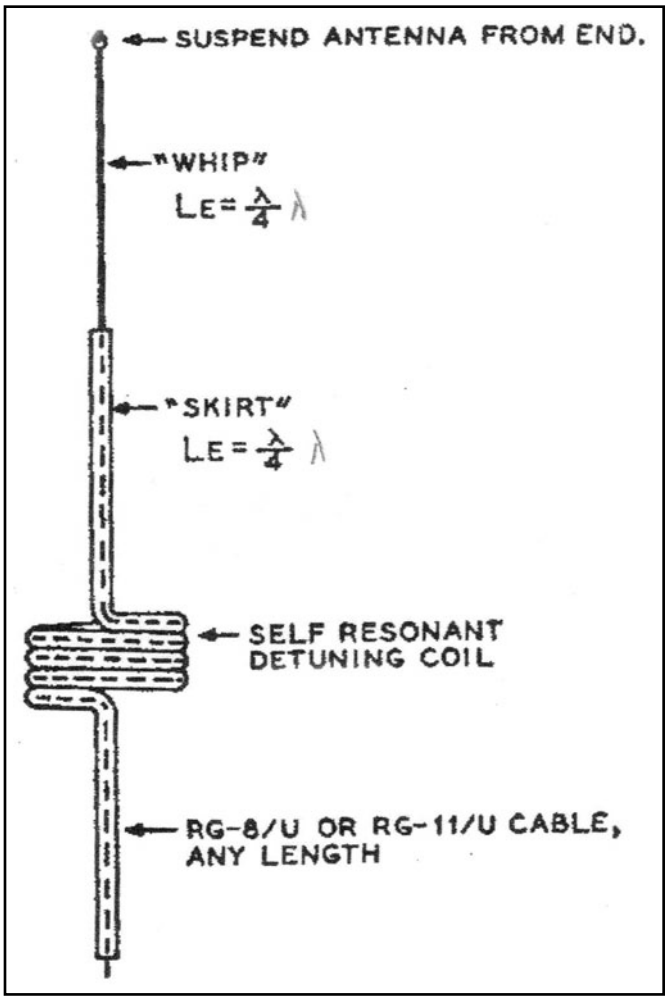
The diagram shows an antenna just like W2OZH's 80 meter dipole except it is vertical instead of horizontal. It is interesting to see that the idea existed back in 1946. Kurt notes that the shield side of the dipole is called a "skirt." But it is not a skirt. The designers were so used to skirt antennas, which were widely used at VHF, that when they came up with this antenna they didn't realize it worked on a different principle.

A skirt antenna looks like this: The skirt is a metal tube connected to the shield at the feed point and is a quarter-wave long. RF current always wants to be on the outside so, in this case, it flows out and down the skirt, not on the coax shield. So now we have a nice half-wave antenna.

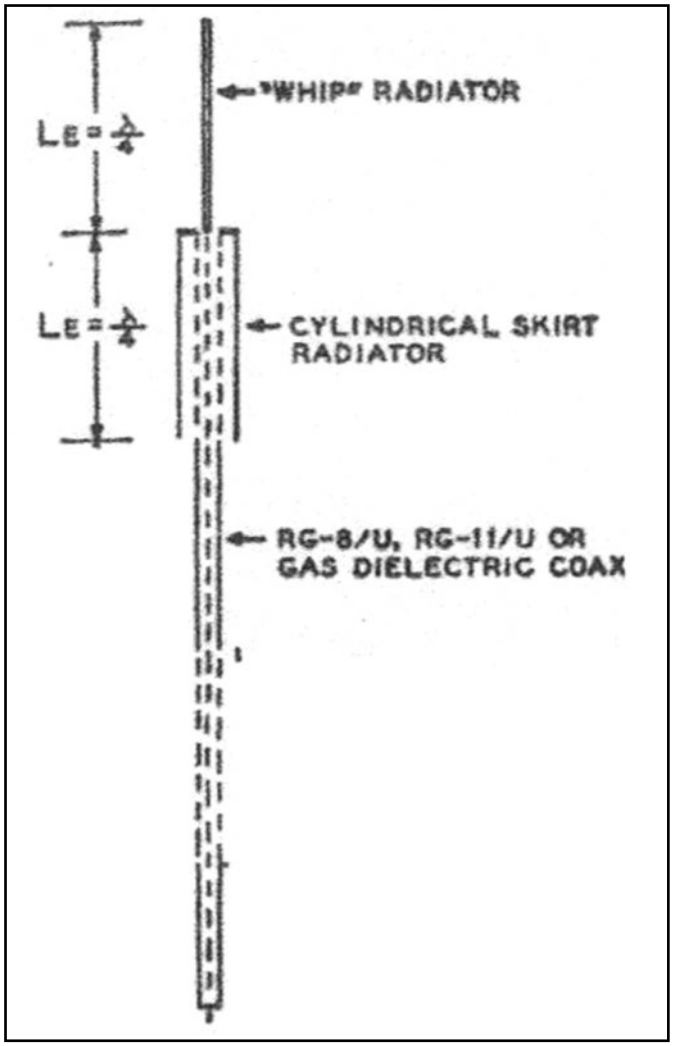
The skirt is one half and the whip wire is the other. Since there is no current on the shield, a trap coil is not needed. This is the theory. In the real world some current does go onto the coax shield. But you get the idea.

Going back to the halyard antenna, the current does go down the shield and to make the upper part of the shield a quarter-wave long the resonant coil is used to stop the RF at the quarter-wave point. You might ask, "If this is a halyard antenna, where is the halyard?" Krusty Olde Kurt remembers from his ship radio operator years that a halyard is a rope that is used to hoist a flag or a sail. No, Kurt was not on a sailing ship. He's old – but not *that* old. In this case we can assume that the halyard is used to hold the antenna up. Use an insulator where the drawing says "Suspend the antenna from the end." Affix the halyard to the other end of the insulator and haul it up.

If you want to build this version, the coil dimensions were 4 turns, 5-inch diameter for 30 MHz; or 4.5 turns, 3-inch diame-



Halyard Antenna



Sleeve Antenna

ter for 50 MHz. Smith's directions are to adjust for maximum field strength.

According to G3JFS, "the theory may be sound but in real life I found it fiddly to adjust and also difficult to prevent feeder line radiation." This is the same problem that Kurt expected for W2OZH's 80 meter dipole. Again, Kurt suggests using his ferrite coil that will not need adjustment and will give full bandwidth. Up at 30 and 50 MHz you need less ferrite and fewer turns than on the lower frequencies. Seven turns on an F-240-61 should do it.

Why didn't the antenna designers in 1946 use Kurt's approach? Because ferrites were not available then. Iron powder cores were in use as tuning slugs for coils. But a commercial process for making ferrite was first developed in 1945 at the Philips Research Laboratories in the Netherlands. Commercial production in the U.S. started in the 1950s and ferrites in small quantities became available to amateur radio enthusiasts in the 1960s.

We're lucky to have ferrites available because they have many applications in amateur radio and we can do things with them that were not possible 50 years ago.

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

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!

Editor's Log *(from page 6)*

There was a chat thread on readers' preferences for technical vs. human interest vs. humor articles in ***WRO.*** We'll be exploring that in more depth in upcoming chats.

One of the most eyebrow-raising topics came near the end of the September session with a comment from **Ron Erickson, KØIC,** of Essex, Iowa, who suggested adding a ***WRO*** column "on restoring Drake rigs."

"Great idea," responded WA1LAD. "I have a set of Drakes I found dumpster diving last summer."

Say what?

"I saw a guy throwing some boxes away that said DRAKE in black marker on the side," he said. "I went and checked it out and found a transmitter, receiver, mic and power supply. And they all work!" he said. Such good fortune brought him a Drake R4B, T4B, MS4 and a Drake desk microphone.

The envy coming from across the ***WRO*** *chat-o-sphere* could be cut with a knife.

You're Invited to Upcoming WRO Live Online Chats

***WRO* Live Online Chats** for the remainder of 2010 include: **November 7** and **December 5.** Please mark your calendar and stop by.

The monthly Internet sessions will be continuing in 2011, as well. We'll be announcing that schedule in December's *Editor's Log*.

Your Internet ***WRO*** chat portal, as always, is via the ***WorldRadio Online Blog:*** <http://www.WorldRadioOnline.blogspot.com>. We'll look for you there.

– Richard Fisher, KI6SN