WorldRadio ONLINE

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

W9KNI's 'CQ DX Marathon' Detailed in 'A Year of DX'

A new book by renowned DX'er Bob Locher, W9KNI, chronicles the author's "all out effort to win the 2008 running of *CQ Amateur Radio Magazine's* CQ DX Marathon," according to the book's publisher, Idiom Press.

Locher's *A Year of DX* details his Marathon effort – "a year-long operating event during which a contestant works as many countries and CQ zones as possible, any band or any mode," Idiom said. "The Marathon chase is like telescoping a career of DX'ing into a single year – but without requiring QSLs."

W9KNI's previous book – *The Complete DX'er* – has sold more than 28,000 copies, "making it the runaway all-time best selling DX book," the publisher noted.

Publication of *A Year of DX* launched May 1. For more information, visit: http://www.idiompress.com/yearofdx.php.

For details about the 2010 CQ DX Marathon, visit: http://www.cq-amateur-radio.com/DX%20Marathon%20Rules%20Dec09.pdf. *(WRO Staff)*

Success: New York QSO Party Makes Its Return

Results of the 2009 New York State QSO Party are posted online and marks the return of the event "for the first time since the early-to-mid 1980s," according to organizers.

Paul Mackanos, K2DB/K2NNY, and Rick Mintz, W1TY, helped set up the Party, with the support of the Rochester DX Association (RDXA) and the Western New York DX Association (WNYDXA). "New York State was again in the QSO Party arena," they said.

"We want to thank all of our 'data team' members – Carey Magee, K2RNY; Ken Boasi, N2ZN; and Vic Gauvin, K1PY – for their diligent efforts in providing the results," Macakanos and Mintz said.

For more details and complete results, visit: http://www.nyqp.org. *(WRO Staff)*

Special '4B' Prefix Authorized for Mexican Stations

The Mexican Federal Telecommunications Commission has authorized the use of the special 4B prefix for Mexican stations during 2010 in commemoration of the bicentennial of Mexico's independence and centennial of the Mexican Revolution.

To see the formal announcement about 4B authorization in Spanish, visit: http://www.cofetel.gob.mx/wb/Cofetel_2008/resolucion_mediante_la_cual_el_pleno_permite_el_us. *(OPDX and WRO Staff)*

AMSAT Space Symposium Headed to Chicago

The 2010 AMSAT Space Symposium will be held in Chicago on the weekend of Oct. 8-10, event officials said.

The agenda includes: amateur satellite presentations; operating techniques, news and plans from the amateur satellite world; a Board of Directors meeting open to AMSAT members; an opportunity to meet board members and officers; annual general membership meeting and a banquet with keynote speaker and door prizes.

The symposium will be held at the Elk Grove Holiday Inn near O'Hare Airport.

For symposium updates, visit: http://www.amsat.org/amsat-new/hamvention/2010/Dayton.php. *(ANS and WRO Staff)*

Hams in Action After Mexico's 7.2 Magnitude 'Quake

Radio amateurs in Los Angeles County activated on Easter Sunday after shockwaves from a 7.2 magnitude earthquake in Mexico's Baja California shook the Southern California region just before 4 p.m. Pacific time.

"The Los Angeles Section ARES immediately activated its emergency net with hams from all over the area checking in" on April 4, according to a report on Amateur Radio Newsline™.

After hearing no reports of damage in Southern California, "soon attention was turned to the South. That's when the net's Spanish speaking operators were asked to monitor the high frequency bands for possible traffic from the 'quake area."

According to ARN, "Dr. Armando Montalvo, KI6TAA, in the Los Angeles suburb of Woodland Hills was able to contact Francisco Menses, XE2FMS, in the city of Mexicali, Mexico, along with mobile operators XE2DZZ and XE2BRL. Initial reports said that most stations in and around the 'quake's epicenter were without electric power. Also, the major highway between Mexicali and Tijuana suffered severe thrust fault damage. This information was forwarded to the United States Geologic Survey."

The report said that "in all, some three dozen stations were involved at one time or another during the call-up, but no large scale ham radio relief effort was needed on either side of the United States-Mexico border." EmComm planners said "it was definitely a good test of the ability of the region's hams to respond at a moment's notice." *(ARN, LAX ARES)*

EmComm: Kentucky Radio Amateurs Recycle Old TV Towers

Bowling Green, KY-area radio amateurs "want to give new life to old residential TV towers by incorporating them into an emergency communications system," according to published reports.

The Kentucky Colonels Amateur Radio Club and the Kentucky 4th District Amateur Radio Emergency Services have been seeking donations of the towers, "which have become increasingly obsolete as more households have turned to cable, satellite and digital TV providers," a story on Amateur Radio Newsline™ said.

"In an article in the *Bowling Green Daily News*, Bill Schlicht, KJ4DGW, of the Kentucky Colonels Amateur Radio Club, said members will remove the towers for free, recondition them and install them at numerous locations in the 10-county Barren River Area Development District." The initiative is "to support emergency communications among ham radio operators, hospitals, county emergency management directors, American Red Cross chapters and other emergency workers."

Schlicht said Kentucky Colonels ARC "wants to set up at least 16 towers, mainly at area hospitals where ham radio operators can communicate with emergency workers during a large-scale disaster. There are about 400 amateur radio operators in Warren County and the Bowling Green area."

To see the *Daily News* article, visit: http://bgdailynews.com/articles/2010/03/31/news/news6.txt. *(ARN, eHam.net)*

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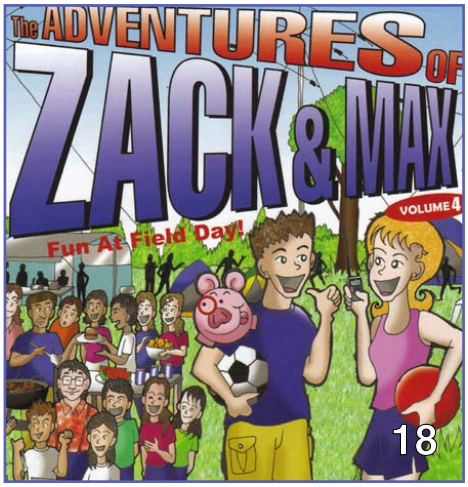

ON THE COVER: Steve Galchutt, wGØAT, of Monument, CO, operates 2006 ARRL Field Day by himself from the top of Mt. Raspberry, 50 miles south-southwest of Denver. His solitary pursuit, along with other radio amateurs with a similar passion for operating solo, is the focus of this month's Trail-Friendly Radio column, Page 26. *(Photograph courtesy of wGØAT)*

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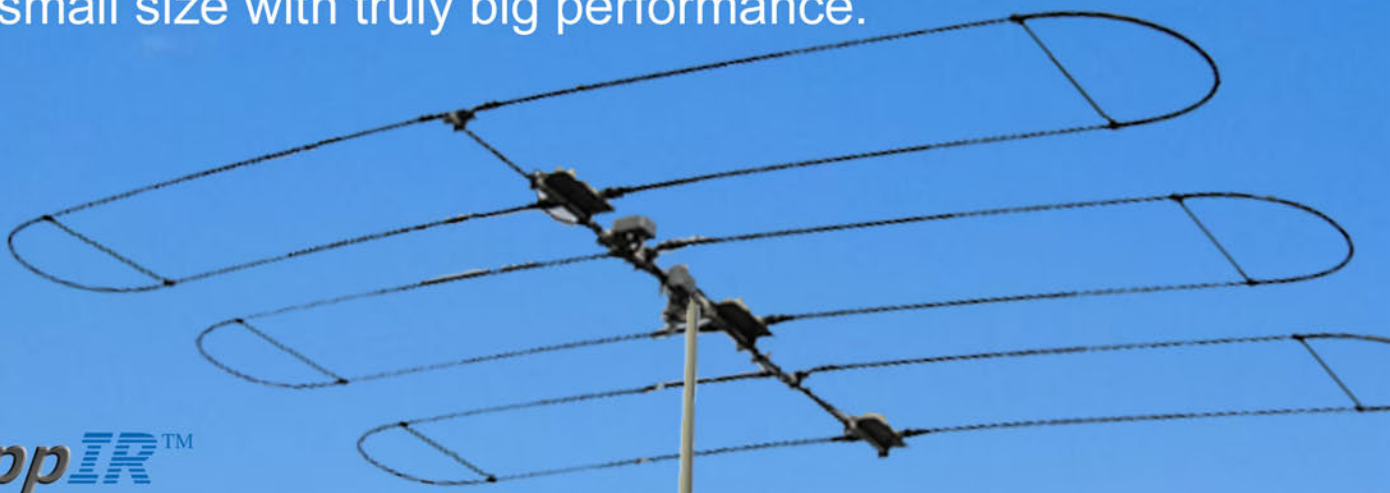

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15m	3
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6m	3

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

EDITOR'S LOG

Say 'Cheese' This Month On ARRL Field Day

One item we hope you remember to pack for 2010 ARRL Field Day on June 26-27 is a digital camera. Wouldn't it be great to see photos of operating sites from around North America and beyond? We sure think so.

By all means, snap some shots of your station set-ups, antennas, campfire circles, chow tents or Field Day teams in action and send them to us at: WorldRadioOnline@gmail.com.

We'll periodically publish Field Day photos in the pages of ***WorldRadio Online*** magazine and on the ***WorldRadio Online Blog***: http://www.WorldRadioOnline.blogspot.com.

Be sure to include a sentence or two describing the action, the call sign of your Field Day station and its location. We'll take it from there.

Oh, and please be careful while you're operating in the field. We want everybody back home, safe-and-sound with great stories to tell.

Join Us: Live WorldRadio Online Internet Chat, June 6

If you haven't had a chance to join in on one of our live online ***WRO*** chats, please mark your calendar for Sunday, June 6 at 8 p.m. Eastern time.

That's when we'll next meet on the WorldRadio Online Blog: http://www.WorldRadioOnline.blogspot.com. You'll find a window on the site that will guide you through the chat log-in. It's really easy.

I'll be moderating and it's open to everyone. Here's your chance to chat with me, lots of other ***WRO*** readers and some of our columnists. It's very a casual, friendly gab session.

The feedback so far has been really positive.

Our first session April 4 lasted about an hour-and-a-half. Great fun. We had about 140 people take part and more than 200 comments were posted.

In addition to the conversation, we invite everyone to sound off in several live, online polls. In April, for example, we asked: *"What's your favorite mode?"* SSB got 44 percent of the vote, followed by CW with 35, Digital with 15; and AM and FM tied at 3 percent.

We also asked: *"How do you read WRO each month?"* A solid 97 percent said they download the entire magazine, while 3 percent download it in sections.

"Of the monthly WRO columns," we asked, *"which one is a 'must read?'"* Participants rated Kurt N. Sterba's Aerials column highest, with 56 percent. It was followed by Propagation, Trail-Friendly Radio and Contest Corner, all at 12 percent. DX World got 6 percent and Rules & Regulations got 3 percent.

We asked: *"What's your favorite activity?"* Almost half of respondents (48 percent) said ragchewing. Twenty-three percent chase DX and 10 percent like contesting. Nineteen percent listed "other."

April's chat has been replayed by Web users more than 400 times.

We'll let you know the results of May's poll questions after we've had a chance to crunch the numbers.

The live chat conversation is free-wheeling, covering everything from current band conditions and operating successes to suggestions from participants about what they'd like to see in upcoming editions of ***WRO*** magazine.

You can see a replay of the April 4 and May 2 chats on the ***WorldRadio Online Blog***. We're hosting the chat sessions monthly, so please feel free to stop by.

If you'd like an e-mail reminder about upcoming chats, please subscribe to the WorldRadio-L mailing list at: http://mailman.sunserver.com/mailman/listinfo/WorldRadio-L.

Follow WRO on Facebook and Twitter

Just a reminder that WorldRadio Online is on both Facebook and Twitter. If you haven't gotten on board, we'd certainly like to welcome you.

To access ***WRO's*** Facebook home, log into: http://www.facebook.com. Then search for ***WorldRadio Online***. We have well over 500 followers regularly checking in.

To follow us on Twitter, go here: http://twitter.com/WROmagazine.

You'll find breaking amateur radio news and links to some fascinating online content at both sites – updated daily. Hope to see you there.

Meantime, please keep in touch. Write ***WorldRadio Online*** at: WorldRadioOnline@gmail.com.

– Richard Fisher, KI6SN

WorldRadio Online

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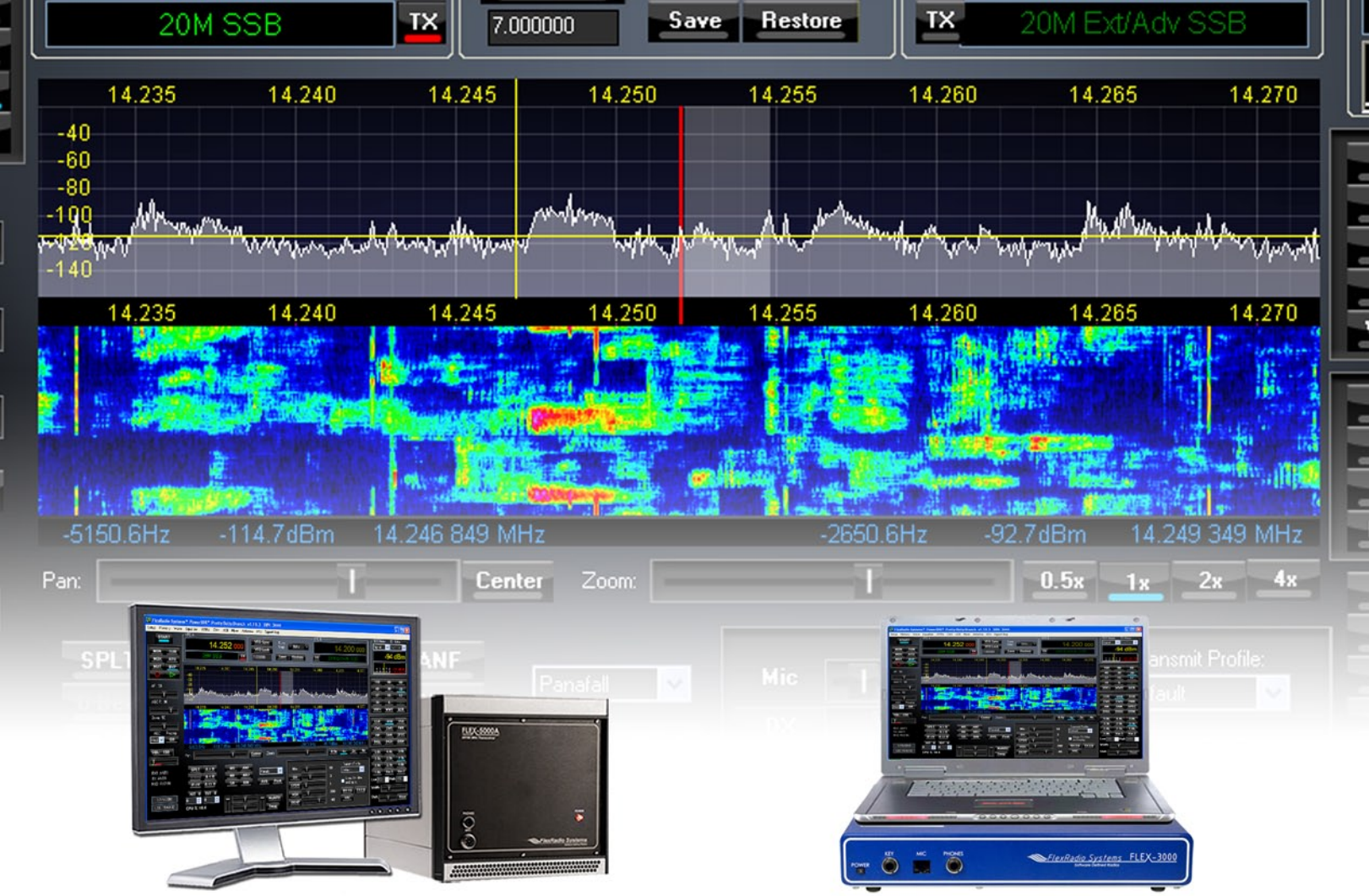

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From a Boyhood Fascination Grows a Remarkable Crystal Set Receiver

By Richard Fisher, KI6SN

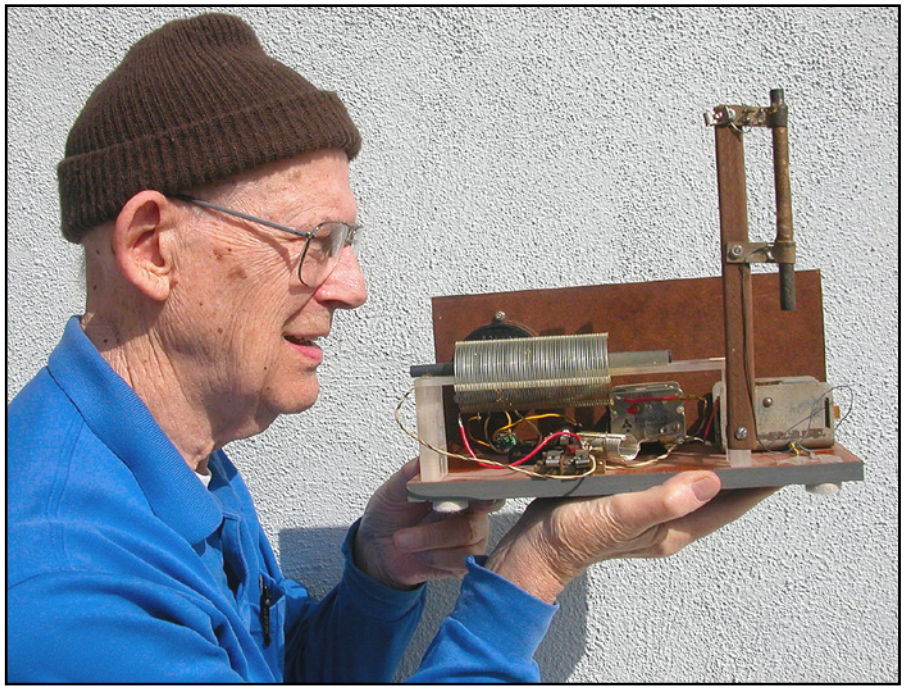
With its moveable ferrite rod in a horizontal position, a view of the Myers Crystal Set shows the versatility of inductive coupling possible when operating the receiver.

In 1932, a copy of *Radio For Everybody* by Austin C. Lescarboura, lured Arlo Myers into a world of wireless and a love of crystal set receivers that has fascinated him for almost 80 years.

The book, published in 1922 by Scientific American, was given to him in his Seattle boyhood home by his father. Pages explaining radio theory of the time included directions for building a receiver. Using a piece of galena affixed in wood's metal for its crystal detector, a cat's whisker for finding the "sweet spot" on the mineral, a variometer for tuning and a capacitor across high-impedance headphones, the Myers kid went to work.

"My dad said, 'It'll never work,'" Myers said. But the little radio did. It picked up "five or six" stations using a wire strung from Myers' bedroom window to a fir tree 100-feet away. "I could hear KOMO, KJR and KPCB in Seattle," he said. "And KVI in Tacoma." It was magic.

Ivan Lee, a classmate, was developing a similar passion for learning about wireless. The two embarked on an excit-



Arlo Myers, WA6UDR, holds the high-performance crystal radio receiver he first began developing more than 40 years ago. One of the set's ferrite rod coils is swiveled into its vertical position.

WA6UDR cautions builders not to be casual about choosing the right high-impedance headphones for optimum performance with his crystal set.

ing journey of experimentation. Lee would later become N7IL.

"When I was 11 or 12," Myers said, "I made a crystal set for my Aunt Bertha. She lived south of Seattle in a house that had no electricity. So I built her a set to listen to KTW, the church station."

In 1939 Myers passed the examination for his amateur radio license, becoming W7HOL. After attending the University of Washington, he'd go on to graduate school at Yale, earning a PhD in psychology. From 1951 to 1961 he held the call sign W1UZG while doing animal behavior research at Jackson Laboratory in Bar Harbor, ME.

All the while, Myers' love of crystal sets fed his fascination for experimentation – making them perform better and better.

After moving to Southern California in 1961, Myers picked up WA6UDR – the call sign he's held to this day.

The summer of 1967 turned out to be a benchmark for 'UDR in his quest for the perfect crystal set receiver. That's when he'd begin development of the Myers Crystal Set, a high-performance receiver for the broadcast band and high-frequency shortwave bands.

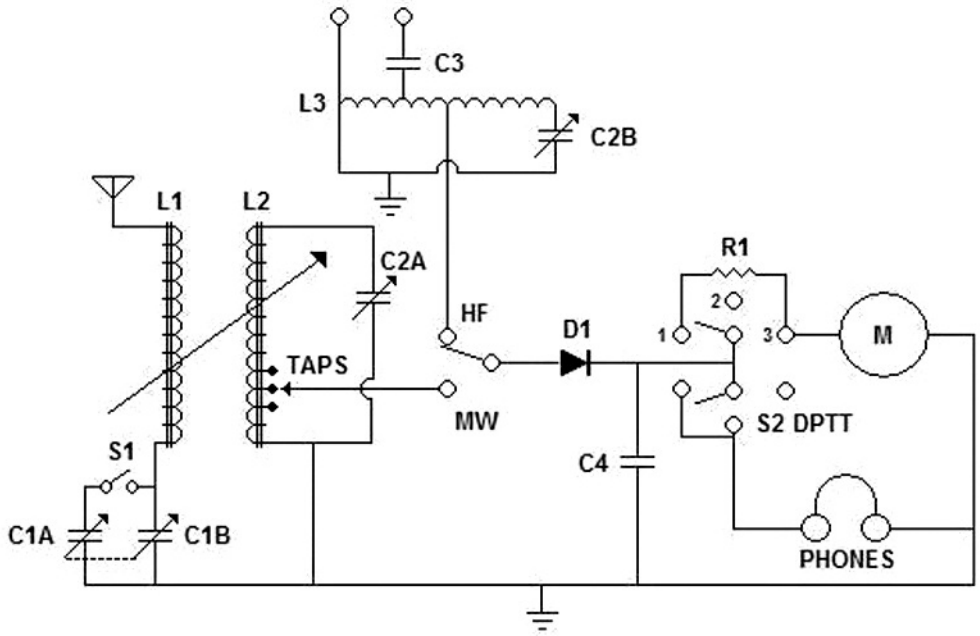
Using the receiver from his Riverside, CA home, Myers has copied 73 stations on the standard broadcast band – 29 of which he can clearly copy during daylight hours.

Unlike many other designs, Myers chose to use a high-inductance ferrite core coil from a garden-variety transistor radio. While coils wound on oatmeal boxes or toilet paper tubes capture the nostalgia of the crystal set era, Myers believes high-Q ferrite cores should be the choice of builders aiming for optimum performance – sensitivity, selectivity and volume.

The accompanying schematic shows the intricacies of the Myers' design. Its physical attributes, though, are what set his receiver apart from many others.

THE MYERS CRYSTAL SET

Designed by Arlo Myers, WA6UDR



Parts List for the Myers Crystal Set

L1 – 490 microhenry, ferrite core (from broadcast set)

L2 – 250 microhenry, ferrite core (64 turns, one-and-seven-eights inches diamater, tapped at 5, 10 and 17 turns from the ground end with ferrite core through center)

L3 – 5 microhenry airwound inductor, two-inches long and five-eighths-of-an-inch in diameter; 16 turns per inch. (tapped one-third and one-half up from the ground end)

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C2A/C2B – Two-section air variable, 365 to 400 picofarads, maximum

C3 – 33 picofarads

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R1 – 8.2K ohms

M1 – 20 microampere meter (2,000-ohm movement)

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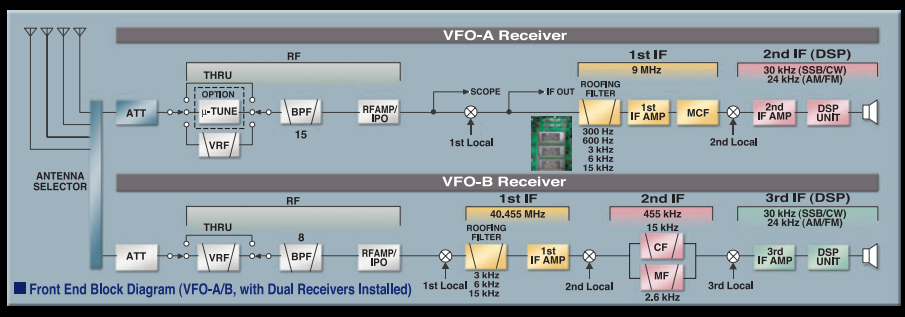

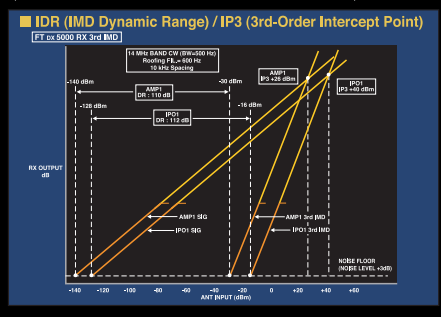

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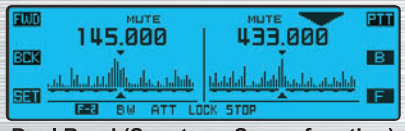
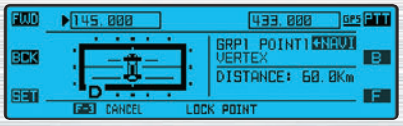


Dual Band (Spectrum Scope function)



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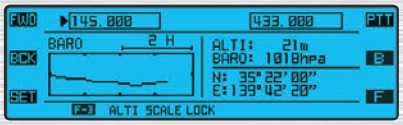

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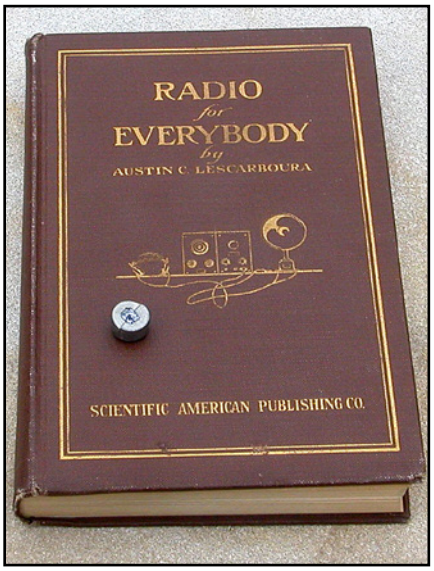


A 1922 copy of "Radio For Everybody" provided inspiration for WA6UDR's passion for crystal set receivers that has lasted almost 80 years. A piece of galena encased in wood's metal sits on the book's cover.

L1 is on a swiveling arm that allows the operator to easily adjust the coupling between it and L2, a 64-turn air wound coil with a ferrite rod through its center. L2 is one-and-seven-eighths inches in diameter and four inches long, with 16 turns per inch.

"There's nothing magic about either (L2) or the (ferrite) rod," he wrote. "The object is to get a high-Q coil that has the inductance to tune the whole (broadcast) band with a standard (broadcast) tuning capacitor."

Myers notes that "ferrites are made in a lot of different mixes for top efficiency at frequency ranges. So your best bet might be to use one that actually came from a BC set," or buy one from a ferrite dealer specifically designed for the broadcast band.

The fundamental components of the Myers Crystal Set are found in many receivers through the years. L3 and its associated components put it into the high-frequency shortwave band.

A 20 microampere meter – with 2,000-ohm movement – "is not important for tuning the set," Myers says. "But it's very useful for comparing different antennas, components, primary-secondary (coil) couplings, detector impedance matchings, and so on." Its assignment is to indicate the amount of rectified carrier current of the receiver.

With S2 in Position 1, and headphones of 2,000 ohms DC resistance plugged in, the meter reads six times the marked scale units, or 120 microamperes full scale.

In Position 2, the meter is disconnected from the circuit, so "all demodulated audio goes to the phones, giving maximum headphone sensitivity."

Position 3 "disconnects the phones, and all rectified current now goes to the meter – which now reads its actual scale values," 0 to 20 mircoamperes.

"The swinging arm used for (L1-L2) coupling variation is 8.5-inches long," Myers said. "And when rotated 180-degrees out to the side, the centers of the primary and secondary coils are separated by 12-inches. That's usually enough coupling. The tightest coupling that is ever practical is with the arm straight-up vertical – perpendicular to L2."

Myers emphasizes the "extreme importance of connecting the detector diode to one of the taps near the bottom (ground) end of L2" – not the top, which would put the diode across the whole coil. "The taps are there to produce a large impedance step down from L2 to the detector circuit, which greatly reduces the detector loading on the L2-C2 circuit."

For the broadcast band, Myers uses a 40-foot vertical antenna with a capacity hat on top. From his inland Southern California location, at night he can consistently copy KCBS, KNBR and KGO in the San Francisco Bay area, KDWN (Las Vegas), KBOI (Boise, ID), KSL (Salt Lake City), KOA (Denver), KOB (Albuquerque), KFBK (Sacramento) and KOMO (Seattle).

"On a really good night," Myers said, "KCBS (San Francisco) will occasionally pin the meter at 20 microamps. That's loud. On poor nights it'll hardly register

A vintage 1N34 germanium diode detector is part of WA6UDR's component collection.

Two tuning capacitors and a 20 microampere meter dominate the front panel of the Myers Crystal Set receiver.

a fraction of a microamp at best. But you can still copy signals by ear that are absolutely undetectable on the meter."

Myers said the "HF coil at L3 was a bit of an afterthought. A better quality coil and more selective tuning set-up could easily be devised." It's 2-inches long and five-eighths-of-an-inch in diameter; 16 turns per inch. It's tapped at 10 turns for the antenna, and at 16 turns from the ground end for the detector.

The receiver covers from about 3.7 to 17 MHz. He uses a 130-foot long wire that is center fed with open wire feeders for HF listening. Myers has copied the Republic of South Africa, Radio Moscow, Voice of America, BBC, Radio Beijing, Deutsche Welle, Radio Canada International and Radio Nederland. He copies WWV on 5, 10 and 15 MHz.

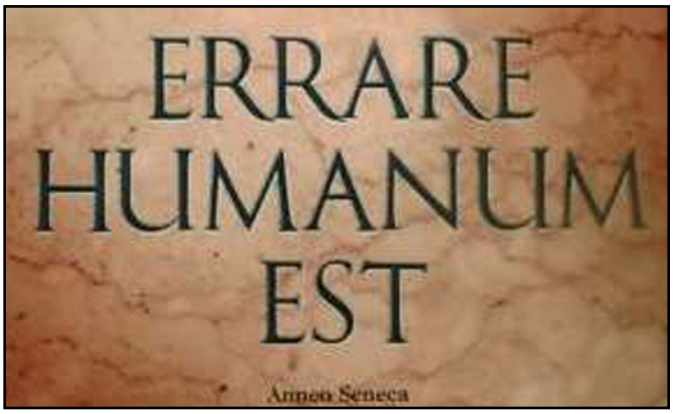
"Evening hours are usually the best," he said, "with signals often hitting maximum just after sunset. Selectivity on HF is not so hot with the single tuned circuit, but you can separate two or three signals transmitting simultaneously in the 31 meter band, for example."

For prospective crystal set builders, Myers advises not to choose headphones casually. "Some are a lot better than others," he said. "I've tested many. The best I've ever used are the Dictograph R-1 and R-3 models. They outperform Baldies, Western Electric 509-Ws and everything else I've ever had my hands on. If you can find a pair, buy them."

For more photographs of the Myers Crystal Set, visit the WorldRadio Online blog page: http://www.WorldRadioOnline.blogspot.com..

More information:

For more information on crystal set receivers and links to parts sources for the Myers Crystal Set, visit the WorldRadio Online blog: http://www.WorldRadioOnline.blogspot.com..



Certain DXers, From a Roman Philosopher's Point of View

COMMENTARY

By Francisc Grünberg, YO4PX

"Errare Humanum Est." That aphorism by an ancient Roman philosopher contains an unexpressed thought: that man, recognizing his error, can correct it, surpass himself and approach perfection.

Operators of rare DX stations who reside in exotic locations and those who spend time and money on DXpeditions and contest operations firmly allege that in most every case the much-trumpeted amateur spirit of friendship and international cooperation is forgotten when arises Hamlet's question: *"To work or not to work a new one?"*

No wonder, say those exasperated amateurs, that many DXpeditioners, bored by the silly hodgepodge produced by certain DX chasers, prefer to turn their antennas elsewhere to maintain a reasonable QSO rate.

No wonder many amateurs residing in rare countries, stuck on believing amateur radio is still a hobby, hide on frequencies less monitored by these certain DXers or simply go QRT when found and cornered. They probably don't feel obligated to devote their leisure time to making thousands of rubber stamp QSOs and filling out thousands of QSL cards because destiny threw them onto one of the rare islands on the DXCC countries list.

If someone compiled a classification of the manners on the amateur bands, he would likely be forced to put DXers at the bottom of the list. The jamming champs are everywhere, and we DXers know them.

Risking oversimplification, let's examine these DXers. They may occasionally provoke a smile, but too often spoil our fun.

The Monologist

This operator prefers the microphone, but can sometimes be found on CW. He is usually equipped with very reliable and up to date equipment with which he monitors the bands for his victims. It does not matter too much for him who will be his interlocutors, or what they say to him – he has too little patience to listen. The only role others have is to listen to what he says, despite its lack of content.

Hopefully, the Monologist has VOX, so when the victim has nearly fallen asleep, he can save himself by shouting *Break!* and pretend he has to go QRT. After doing this it is recommended the victim does not show on the bands for the next few hours in case the Monologist finds him again.

The Monologist-type of amateur is not generally interested in DX contacts or QSL cards, but still calls DXpeditions and involves them in long QSOs against their will. The illness of the Monologist is a chronic one and has to be regarded rather like a natural calamity, which is beating you without any possibility of self-defense.

The Impatient

This operator is under continuous strain. He is driven by an unhealthy curiosity. The Impatient posts himself on the DX station's transmitting frequency, despite the operator indicating he is listening up, and then starts to ask questions. He immediately wants to know the DX station's call, his QTH and QSL information and in the process disturbs everyone trying to work the DX station.

With a bit of patience, the Impatient could hear the DX station provide this information every 10 or 15 QSOs, and spinning his VFO a bit he would find where others are calling. In nets the Impatient ignores net control's instructions and carries on calling, even though he is not located in the country requested by net control. He calls regardless of the situation, usually in the middle of your QSO.

The best expedient, and one not usually advised by DXing experts, is to give him the information he wants, accept him, let

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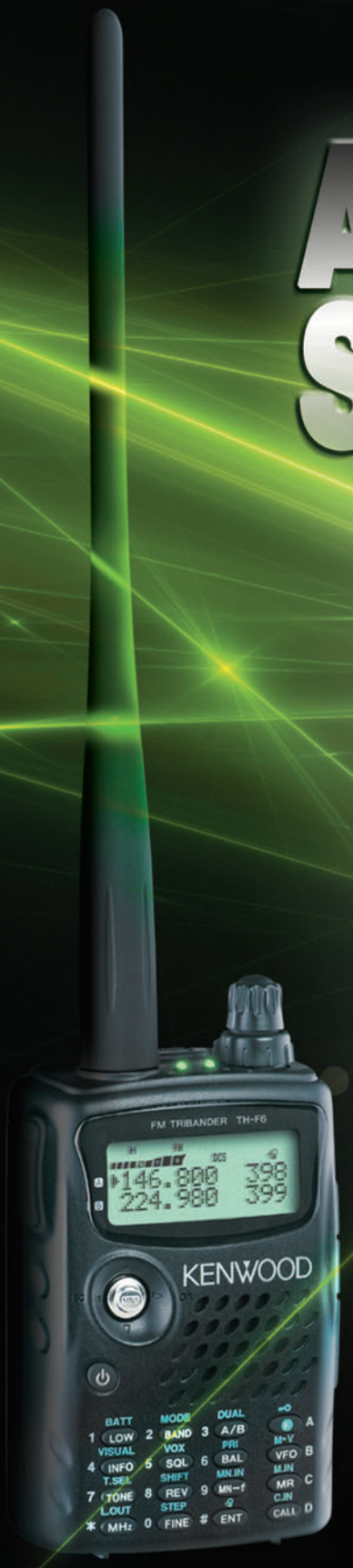
[1]Note that certain frequencies are unavailable. [2]5W output



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him join the QSO, put him on the list. Otherwise he may continue to call and cause endless disturbance.

The Omniscient

This operator knows he can teach everybody else. If he thinks an operation is failing he will not hesitate to interfere, nursing and lecturing the ignorant, setting the situation right from his vast store of knowledge and experience.

Let's say a novice at working DX dares to ask something on the transmitting frequency of a DX station working split. That is enough for the Omniscient: vigilant and deeply worried about the destiny of the operation, he takes prompt action. He remains on frequency for hours and hours continuously sending or shouting *Up!* to reprimand intruders. His QRM completely covers the DX station and nobody can tell who the DX station is answering.

Despite his well-meaning intentions, one prefers hearing the novice's short questions than the "teacher's" repeated reprimands. There is no remedy for this "helpfulness." Hopefully he will get bored and move on to another crowded spot on the band. Attempts to silence him only redouble his claims of eminence.

The Avenger

This operator is tortured by feelings of frustration – a real inferiority complex. He hasn't learned to be a good loser. Net control didn't call him first? The DX station didn't hear him, or perhaps some QRM when he called? That is enough for the Avenger. He switches his transceiver to the tune position and puts an endless carrier on the frequency, which pierces like a hot knife the ears and brains of those digging out the weak DX station with their AF and RF levels at maximum.

The Avenger injects various noises into his microphone. Ever hear a vacuum cleaner on HF? Some Avengers are music lovers. They love to broadcast piano music on DXpedition frequencies.

If you fail to answer the Avenger's call because you want to work DX, and answer a DX station, the Avenger waits for you to finish. Now he wants to work that UA9 you just finished with and if you do not give up the frequency you have occupied for the last hour, a heavy artillery barrage commences. Linear pushed beyond its limits and beam turned in your direction, the Avenger ruthlessly QRMs with a keyer stream or endlessly CQ'ing. In a rage, the Avenger is completely irrational. Dialogue is useless. The only solution is to QSY to another frequency, mode, or, better still, to another band.

The Aggressive

In many respects, this operator is related to the Avenger. But his attacks are direct, often without a call sign, and not under the guise of a CQ and noises.

The Aggressive works with high power, but unfortunately doesn't use it very successfully. He calls desperately, for him the pile-up is a matter of life and death – a place where common sense goes untapped. If other well-equipped operators on frequency dare compete with him, he feels hurt. His reputation and his honor are endangered, and he will defend it his way. Discarding civility, the Aggressive splashes competitors with abuse. Polyglot in this field, he knows how to offend each in their mother tongue and indulges in chauvinist outbursts. He relies on the last word being his, because no one else will degrade himself to reply in like manner.

Super DX-Man

Endowed with the most sophisticated equipment, his linear and antennas are custom made to his pretensions. He usually lives in desert areas so he can surround his house with a thicket of towers and antenna systems, approaching in scale those of a broadcasting station.

As he has nothing more to achieve on the higher bands, he indulges in 80 and 160 meters, stretching many thousands of meters of wire in all possible directions. He gives 59+20 dB signal reports to antipodean stations not even heard by others on the band. His signals bend S-meter needles as he breaks the hugest pile-ups, working the DX station on his first call. He doesn't even bother to give his call sign, simply says, *Hello, Jackie,* and Jackie, who is on an uninhabited island in the middle of the Pacific, immediately recognizes his voice.

Super DX-Man is on the Honor Roll for ages and has worked everything workable. He doesn't like to chat with amateurs other than Super DX-Men of his size. If someone else calls him he seems to have corked ears.

He ceaselessly wonders how others have the patience to stay in nets for long hours to work a single DX station, as he boasts that not one of his 360 countries has been worked with anyone's help.

It seems Super DX-Man cannot fathom that some people struggle to work with 10 watts, stretching out antennas each night, because they haven't permission to erect a poor ground plane on the roof of their flat. He only really becomes annoying when he stops to ask the operator of a DXpedition "What's new on Kingman Reef?" or "How's the weather on Peter I today?"

The Discontented

This operator can be found in the stands of all the sport stadiums. In amateur radio he has a fondness for criticizing DXpeditions. He suffers *omniscient kibitzer syndrome*: he knows better than the player how the ball should have been passed and how the goal should have been kicked. He knows better than the coach how the team should have been composed, and better than the zebra when a penalty should have been granted. But a run from one end of the field to the other would bring on convulsions.

From his comfortable chair, the Discontented loudly declaims the DXpedition. He doesn't like the operators (they are lazy, deaf, incompetent); he doesn't like their organization (they didn't turn their antennas toward his QTH when he thinks the opening occurred); the DXpeditioners have materialistic preferences (they worked 10 Japanese stations in a row, they requested "North America only" - Aha, these QSO dealers!!! They want green stamps!!!); they didn't keep their word (starting later and departing earlier than announced). It's no matter that the DXpedition crew assembled and then dismantled 20 antennas in extremes of heat or cold; made tens of thousands of QSOs; slept fitfully in tents; and made their meals from canned goods: all that plus paying handsomely for the honor of satisfying the Discontented – this all doesn't matter. If he missed the expedition his verdict is final and irrevocable: They are blunderers. An expedition was a success only if the Discontented got it in his log on nine bands and in all modes.

The Lid

This is the name given to the amateurs whose working methods leave much to be desired. Lids are very numerous and often originate from those amateurs who got their licenses without too much trouble, and who did not bother to go through a learning process before getting on the air.

The Lid never understands what is happening, tunes up interminably on a DX station's frequency – not because he wants to

disturb anybody, but without first checking the frequency.

The Lid doesn't listen before calling CQ, and gives the impression he doesn't have a receiver because he doesn't hear "QSY" from the people he QRMs, nor hears the weak DX station on frequency. He calls the DX station on his transmitting frequency, despite the DX station stating he is listening up, because the Lid doesn't know what "up" means. The Lid calls the DX station when he comes back to someone else, or even while the DX station is transmitting.

If the DX station catches a suffix only and states he is only listening for that station, you can be sure that some Lids will call, even though their call signs bear absolutely no resemblance to that suffix.

The Lid continues to call the DX station even when the DX station comes back to him, because he doesn't realize it. When he eventually understands, he will ask the DX station to repeat his call sign several times. Then he wants all the other details, as he has not heard when the DX station repeated them periodically.

The Lid answers "CQ DX" calls from non-DX stations because he doesn't know what "DX" means. On CW the Lid sends much faster than he can read, causing the other station to send his name and QTH several times, because he refuses to request "QRS." The Lid inadvertently works split, not to keep his frequency clear, but because he doesn't realize his clarifier has to be switched off.

The Lid will call you when you are calling in a pile-up, and worse still, will start the contact without waiting to see if you have come back to him, or he will end it without knowing whether you have logged him or not. He confuses YO with YA and Bucharest with Budapest.

The Lid is able to send CQ 25 times and his call sign only once. The inventiveness of the Lid, in that he does everything upside down, is inconceivable and inexhaustable.

* * *

Now, to end this enumeration let's try to discern why there are so many Lids on the amateur bands – because we are pretty sure many amateurs branded Avengers or Aggressives are actually Lids.

Is it human nature to make mistakes? Of course, especially when one is not prepared. It begs the question why the novice does not learn about on-air procedures before using his new call sign.

After passing the examination he shouldn't be left to his own devices to find out about procedures on the air. He should be advised that he should initially listen for 90 percent of the time to avoid finding himself suddenly in the middle of crowded amateur bands, exposing himself to the risk, unintentionally, of the shame and reputation of a Lid.

It was different aforetime. Long before getting his transmitter license the amateur started by being a short wave listener. For many months he only listened to the contacts of other hams and undoubtedly he enjoyed it, since some amateurs, for some reason, remained SWLs. (Let's not forget those living under dictatorial regimes, who would like to become transmitters and aren't allowed to do it.)

Reception was the best school for learning our written and unwritten laws. Then came the day full of excitement for the first QSO made from the club station, under the instructor's attentive guidance. Then came other contacts, the first DX stations, the participation in contests. And only when the young amateur accumulated some experience and built his own station would he start to work from home with his own call sign.

The Internet offers study and work tools to help get novices on the air while avoiding the epithet "lid." They should use them diligently – knowledge is not innate.

Errare humanum est, perseverare diabolicum. To err is human, to persevere is devilish.

Editor's note: Francisc Grünberg, YO4PX, can be contacted via e-mail via: yo4px@rdslink.ro. Visit his website at: http://yo4px.blogspot.com/. A version of this article appeared on the British Southgate ARC Web site: http://www.southgatearc.org.

The Envelope Please: Meet the Newest Golden Megaphone Winners

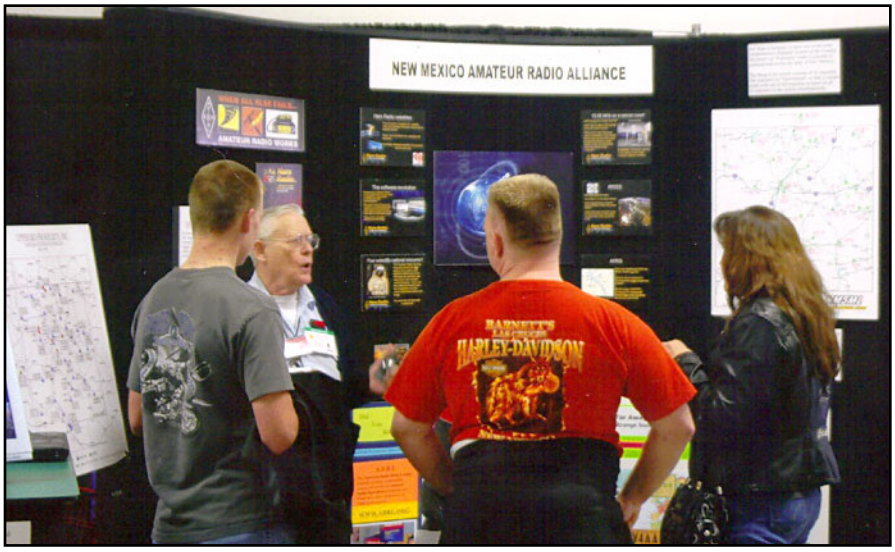
Devere "Dee" Logan, W1HEO

The presentation of the 2009 Golden Megaphone awards recognizes the promotional accomplishments of several radio clubs. It's an impressive group!

Our winners demonstrate the variety of ways in which organizations can transform people's ham radio interest into a desire to become licensed. As we've noted, promotion is a team sport, which is why these awards focus on radio clubs and group activity.

An important reason for establishing Golden Megaphone Awards is to recognize effective and innovative promotion and recruitment approaches. The winners also serve as excellent examples for those considering similar programs. Our hope is that the success stories of our winners will also provide motivation for others in the amateur radio community to become activists in spreading the word and encouraging people to join our ranks. Amateur radio's future depends upon steady growth, and that's up to us.

In establishing four award categories, we enable clubs to select the one that best suits their specific activities.



Visitors get information about amateur radio at an exhibit by the New Mexico Amateur Radio Alliance.

The first category includes the best overall general promotion program incorporating a variety of communication elements such as media publicity, displays, special events and fliers. Second is the best individual promotional event. Third recognizes targeted promotions that focus on specific groups such as students or seniors. The fourth covers specific publicity materials such as displays, printed materials and media announcements including the Internet.

Impressive exhibits and displays were developed by the New Mexico Amateur Radio Alliance, winner of a Gold First Place award in the Golden Megaphone Award contest.

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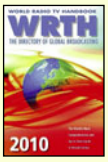

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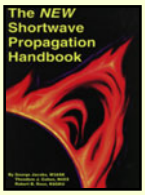

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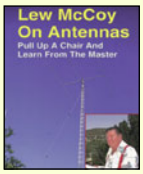

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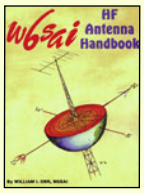

One of ham radio's most respected authors, W6SAI was known for his easy-to-understand, down-to-Earth, writing style. In keeping with this tradition, this book is a thoroughly readable text for any antenna enthusiast, jam-packed with dozens of inexpensive, practical antenna projects that work!

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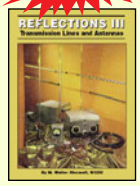

by Walter Maxwell, W2DU

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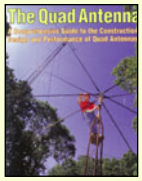

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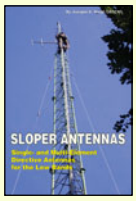

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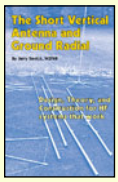

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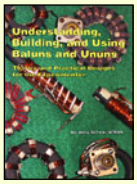

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Although there are four different award categories, all of the 2009 entries were concentrated in two: a radio club's overall promotion program, and promotional activities targeting specific groups.

Our panel of judges was provided by the Lake Communicators, a Northeast Ohio organization of marketing and public relations professionals. We thank them for volunteering their services.

And the Winners Are . . .

In the first category, winner of the Gold First-Place Award for the best *overall promotion* program is the New Mexico Amateur Radio Alliance (NMARA) of Albuquerque. This relatively new organization of hams active in several local clubs set ambitious goals for introducing the general public to amateur radio.

Its objectives included emphasizing the emergency communication role of ham radio, the recruitment of new licensees and explaining the benefits of allowing amateur radio antennas in residential neighborhoods.

One of the most significant and ambitious parts of its promotion program was the creation of a nearly 40-foot long multi-media display about amateur radio. It was installed in the Albuquerque International Airport and viewed by an estimated 100,000 persons over six weeks. Tri-fold brochures with a "Please Take One" sign were part of the exhibit.

Additional publicity events by the New Mexico group included booths, displays and amateur radio handouts at the Albuquerque Home and Lifestyle Show, the Duke City Hamfest, and the Albuquerque Home and Lifestyle Expo. Their presence at these events exposed another 35,000 persons.

Overall, this was a very impressive program in the opinion of our judges, who noted the amazing energy and enthusiasm of the group.

Targeting Specific Groups

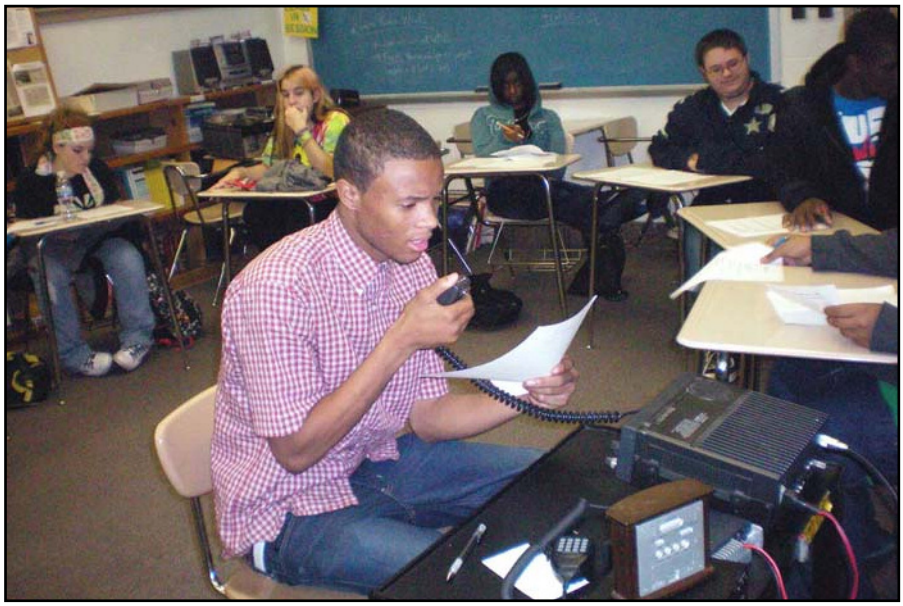
The remainder of entries concerned radio club activities that targeted specific groups such as students and young people. All of the top three award-winning submissions involved schools, students, and parents.

Winner of the Gold First Place Award for a *targeted program* was the K4AMG Memorial Amateur Radio Club of Chesapeake, VA. Its main audience was students in the Chesapeake Center for Science and Technology broadcast radio class. Objectives included getting young

people involved with amateur radio, assisting with electronics, wireless and ham radio Elmering (mentoring), promoting kit building, preparing students for their licenses, and providing radio equipment to newly licensed students.

The major activities of the club included assisting the school in forming its own radio club and securing a club license, KJ4PGJ, (now the vanity call W4FOS), sponsoring fund-raising events for the purchase of 2-meter radios as students passed their tests, and working with a classroom instructor to promote electronics.

The club also gave the school an HF station and helped the school participate in the School Club Roundup.



K4AMG Memorial Amateur Radio Club of Chesapeake, VA, donated radio gear to the Chesapeake Center for Science and Technology broadcast radio class. Here, students operate in the School Club Roundup.

Chesapeake Center for Science and Technology students pose with certificates from K4AMG Memorial Amateur Radio Club of Chesapeake, VA.

Several communication tools were used by the club. A flier promoted the radio communication class and a newsletter to Elmers encouraged their participation in events such as Field Day and the School Club Roundup. The club supplied a W4FOS banner to the school and helped develop QSL cards for its station.

In slightly over two years of participation, the club has helped 15 students become licensed, with a potential for a dozen more this year. Six 2-meter radios have been provided to students, along with help in getting on the air.

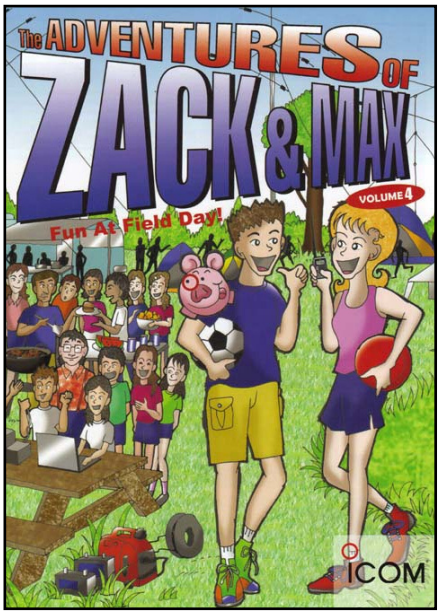
The judges commented that this program had a truly targeted audience and clearly defined objectives along with a great array of public relations materials.

Licensing Washington Kids

Winner of the Silver Second Place Award for its program of conducting licensing classes focusing on 9-12 year-olds is the Lake Washington Ham Club of Kirkland, WA.

Since 1993, the club has run children's ham radio licensing classes in which both students and their parents participate. The parent is needed to support the child in the purchase of a radio, to provide transportation to the classes, and to join in class activities.

The course includes three sessions of three hours each, with classes limited to short, 40-minute lessons with built-in recess times between each lesson. Doughnuts, juice and coffee are provided. The course covers enough material to enable a student to earn a ham radio license. The final session includes the exam. Since the classes began, more than 1,000 youth, ages 6-18, years have become licensed.



Students working with the Lake Washington Ham Club of Kirkland, WA, have written for the ICOM comic series "The Adventures of Zack and Max."

The Lake Washington Ham Club also offers two kid activity classes during the year plus a radio fox hunt that concludes with a free hamburger and hotdog barbecue. The club operates a kids' net Sunday nights on 2 meters and also on the IRLP reflector 9255. The young radio operators participate in special events such as Field

Student Christa Hopkins, KE7HVF, works with instructor Dave Condon, KI7YP, a member of the Lake Washington Ham Club of Kirkland, WA, winner of a Silver Second Place Golden Megaphone Award.

Day and the arthritis foundation's "Jingle Bells Race" as course marshals.

Sponsor support has been provided by ICOM America, Alinco USA, Diamond Antennas, M^2 Antennas and the ARRL. Students have written volumes of the ICOM comic series, 'The Adventures of Zack and Max.'

Targeting Physics Students

The Bronze Third Place Award for targeted promotion goes to J.R. Tucker High School of Richmond, VA. It modified its physics courses from a basic electricity core to include modern electronics, using amateur radio projects in its laboratory curriculum to illustrate basic principles. A primary benefit was providing a head start for students planning careers in engineering, science or related fields while exposing them to amateur radio.

Instructor Richard Castanet, WD4DMZ, is a licensed professional engineer who is introducing creative ways to get his students involved in the learning process. With a grant from Virginia Power, breadboard electronics sets were purchased that students used to build code practice oscillators during lab time. Next, they built a QRP transmitter, sending their names over the air. Future radio physics classes will include AM, FM, SSB and digital communications and antennas.

Using ham radio to demonstrate basic electronics and wireless concepts is expected to interest students in eventually becoming active radio amateurs.

Attracting New Members

Honorable mention goes to the Ski Country Amateur Radio Club of Glenwood Springs, CO. Its recruiting communication efforts targeted potential club members, including inactive hams and potential new hams.

A multi-media campaign was conducted, using local press releases and letters to more than 80 licensed amateurs in the region. The key message was an invitation to participate in the club's Field Day, and to attend a future meeting. As a result, the club connected with several inactive members, boosted attendance at its Field Day site, and produced a new licensed amateur.

Devere "Dee" Logan, W1HEO, is a veteran radio ham and writer who helped establish the Ham Radio Promotion Project (www.neoham.org) and may be reached at deverelogan@gmail.com.

‘Up Over’ to ‘Down Under’: W6 to ZL on 6 meters – Part 1

By Carl Luetzelschwab, K9LA

On December 31, 2009, Bob Magnani, K6QXY, of Santa Rosa, CA, worked Rod Mackintosh, ZL3NW, and Bob Sutton, ZL1RS – both in New Zealand – on 6 meter CW at 2228 UTC and 2230 UTC, respectively.

K6QXY reported both signals were weak – he gave them 519 reports. Magnani’s 6 meter antenna array consists of a four-high stack of 10-element Yagis on a 120-foot rotating tower.

K6QXY was running 1,300 watts for these QSOs and advised he has a very good radio horizon toward the Pacific. Figure 1 shows the path from K6QXY to ZL3NW and ZL1RS on a world-wide map of the F2 region critical frequencies (from Proplab Pro Version 2) at 2230 UTC on December 31, 2009.

The curved lines on the map with numbers nearby are contours of F2 region critical frequencies, with maximum usable frequencies (MUFs) typically about three times higher.

Note the path is pretty much equatorial. Both ends are at roughly 40 degrees geographic latitude, so the path never gets above 40 degrees North or South geographic latitude.

What’s also obvious in Figure 1 is the path’s nearness to the crests of the equatorial ionosphere – those areas around 2230 UTC in late December with high critical frequencies on either side of the geomagnetic equator at roughly 145 degrees West longitude in the Pacific. This suggests trans-equatorial propagation (TEP) via a chordal hop may have played a role in these QSOs.

Figure 1 is a view looking down on the path. Let’s take another look at the path – but now with a side view of the ionosphere. Figure 2 does this (also from Proplab Pro Version 2).

Figure 2 shows plasma frequencies (the maximum plasma frequency in a given ionospheric region is the critical frequency) versus height along the K6QXY to ZL path, with K6QXY on the left at 0 km and ZL on the right at about 11,000 km.

Figure 2 clearly shows the telltale ionospheric signature of TEP – two crests or "clumps" of increased electron density on either side of the geomagnetic equator. The northern crest is about 3,900 km from K6QXY and the southern crest is about 3,600 km from ZL.

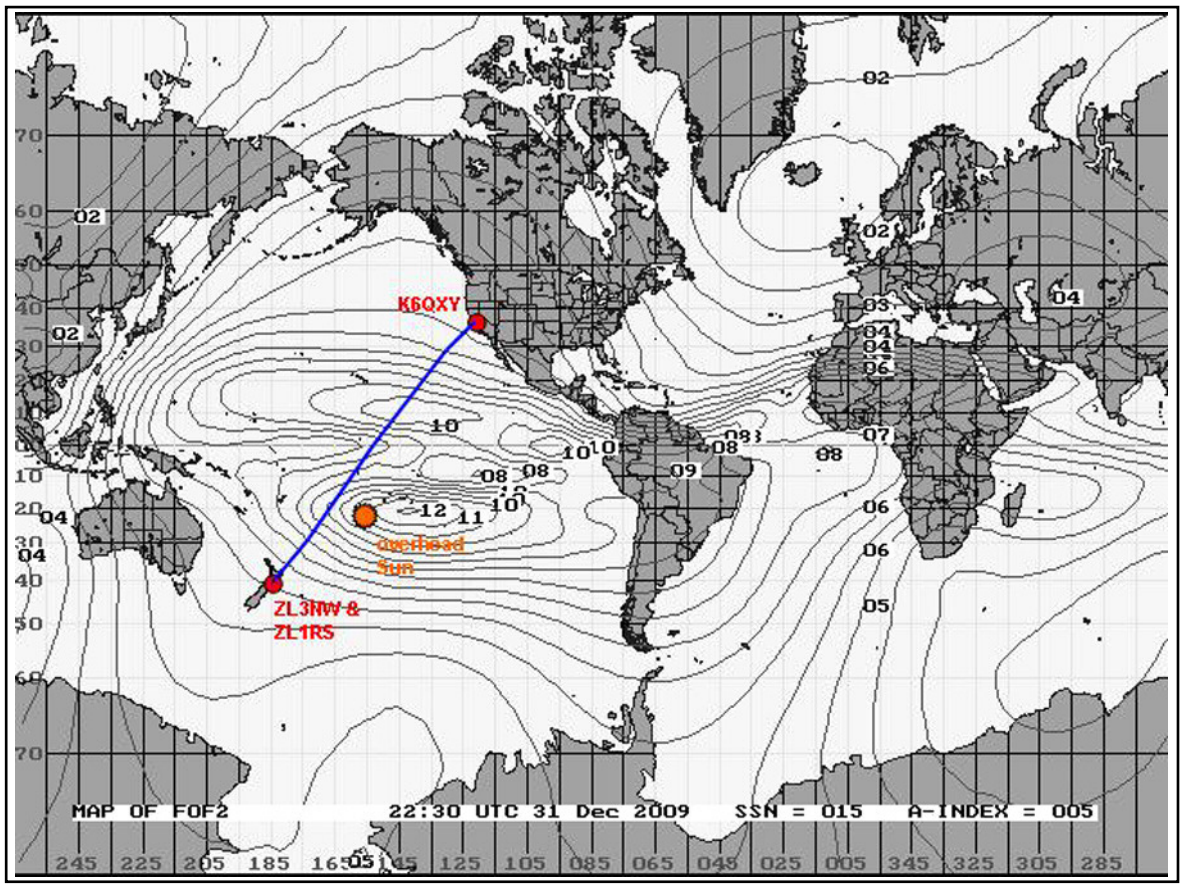


Figure 1 – K6QXY to ZL on 12/31/09 at 2230 UTC

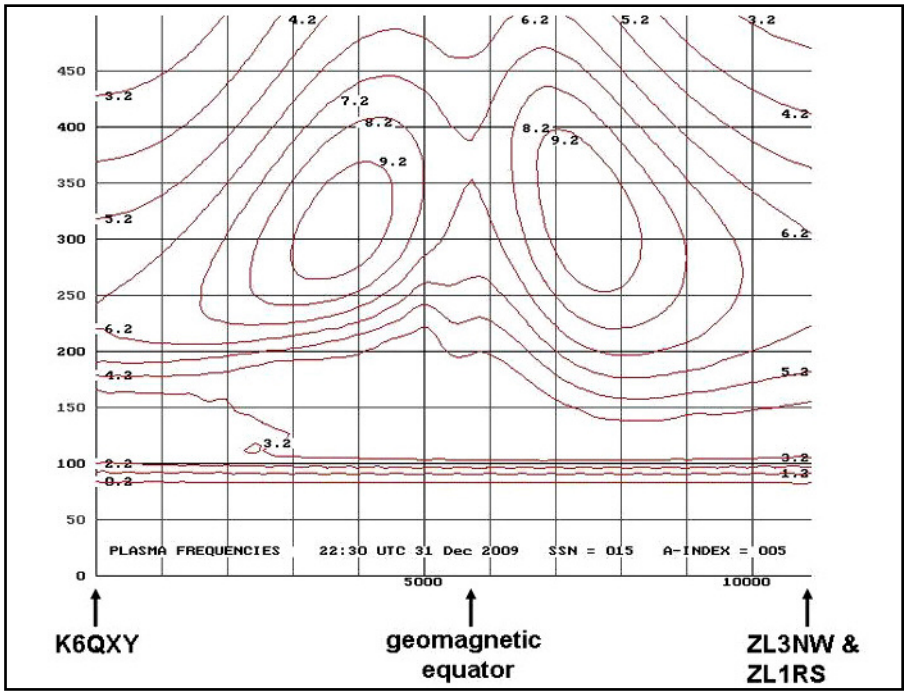


Figure 2 – Side View of Path from K6QXY to ZL.

Let's assume TEP played a role in these QSOs. Could one F2 hop out of K6QXY and one F2 hop out of ZL reach these increased electron density areas? Nope – at least not by conventional wisdom. Normally the maximum F2 region hop distance is assumed to be 4,000 km, with the encounter with the ionosphere at the mid point around 2,000 km. Thus some other mode likely took place to get RF from K6QXY and ZL to the equatorial ionosphere. That mode was likely sporadic E (Es).

Es occurs mostly in the summer months, which would be December, January, and February in the southern hemisphere. This fits the QSO on the ZL end nicely. Es also has a minor peak in the northern hemisphere winter month of December, and this fits the QSO on the K6QXY end nicely. Thus our hypothesis is that these QSOs involved Es on both ends to get to the equatorial ionosphere, in which a chordal hop due to TEP occurred.

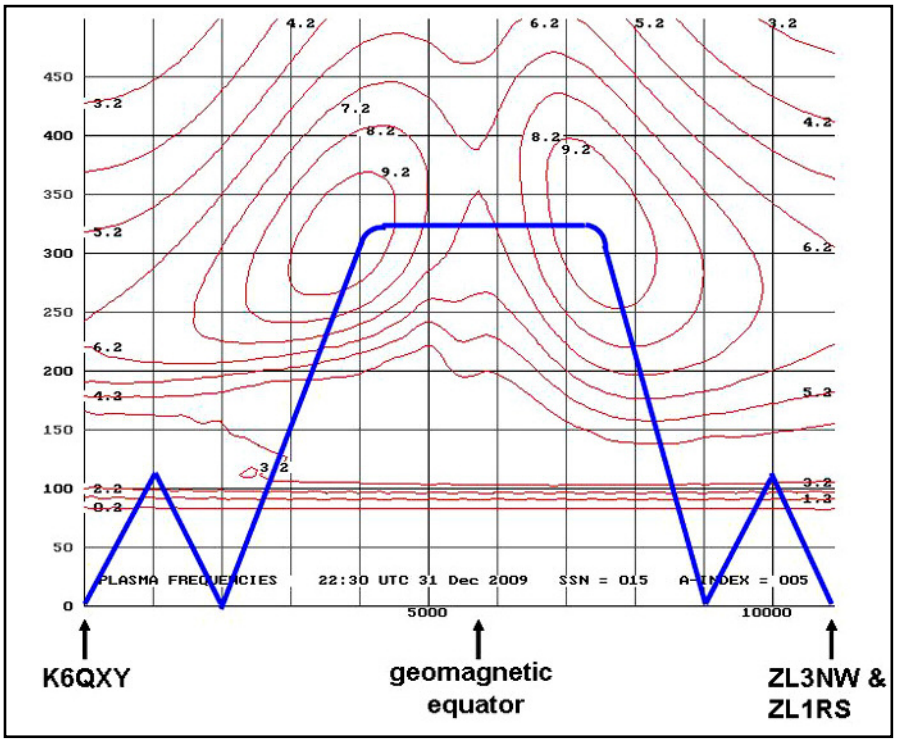


Figure 3 – Hypothetical Hop Structure.

Figure 3 shows this hypothetical scenario in a rectangular coordinate system (it looks a bit odd since it is not in a spherical coordinate system as the real Earth-ionosphere system is). Note that Figure 3 is simply Figure 2 with the hop structure superimposed on it.

But that's enough for this month. We've covered the easy part (putting words on paper) by proposing a hypothesis for these QSOs. Next month we'll tackle the hard part – seeing if we can capture evidence to support this hypothesis. In other words, can we back this up with some hard data?

To do this, we'll look at ionosonde data for the Es portions of the path and do some ray tracing for the TEP portion of the path. So stay tuned – it gets both interesting and frustrating.

Flying Solo: Operating 'Alone Together' On ARRL Field Day

By Richard Fisher, KI6SN

On the countdown to 2010 ARRL Field Day this month, many radio amateurs are scrambling to take part in communal gatherings of radio clubs or friends the weekend of June 26-27 – a yearly pilgrimage that's a great time to be part of a team providing the means to a common end.

There are lots of operators, though, who see Field Day as an opportunity to be "alone together" in a solitary, trail-friendly effort to experience this granddaddy of all operating events.

From the wilds of Colorado to the backyard gardens of El Paso, here are observations of some who have operated Field Day alone – experiencing the unparalleled joy and thrill of *flying solo*.

wGØAT: A Singular Spiritual Experience

For Steve Galchutt, wGØAT, of Monument,CO, solo Field Day operation provides the "pure spiritual experience of being miles from nowhere and yet having civilization at your fingertips" and "the proverbial pileup eager to get your solar-powered" signal report in their log.

"What really *does* it for me is making contact with another kindred spirit – someone who's also 'out there' in the woods," he said.

Galchutt is world renowned for his trail-friendly radio excursions – many documented on YouTube – with his two goats, Rooster and Peanut. They do much of the "heavy lifting" when toting radio gear to the beautiful and remarkable operating locations wGØAT likes to visit.

When Galchutt considers solitary Field Day pursuits, he says sometimes "large groups tend to elect leaders and usually it's someone who *likes* to lead and enjoys the power trip – and that can be a good or a bad thing.

"Hopefully it doesn't go to their head and ruin their ability to perform their primary function. Some of this behavior has driven me from clubs and large groups in the past. It's where they spend more time on arguing politics, rules of order . . . and very little time, if any, is on the fun stuff!

"I realize I may spell *fun* differently than some, but the politics and rules just aren't my cup of tea . . . I guess you could say *simpler* in this case is better and much preferred.

"It's not about the (high-dollar) rigs, the big hardware you own . . . or have in the sky," Galchutt said, "but it's all about using (the gear and antennas you have) and becoming skillful with them and having fun with them . . . kind of like fly-fishing. You can spend big bucks on the equipment, even make your own, spend more on clothing, food and lodging, guides and

Steve Galchutt, wGØAT, of Monument,CO, an ARRL Field Day veteran, enjoys the "pure spiritual experience of being miles from nowhere and yet having civilization at your fingertips." He's often accompanied by his goats, Rooster and Peanut. *(Courtesy of wGØAT)*

plane fares to get 'there,' even." However, don't get him wrong, Galchutt said. "All of this can be – and is in some cases – part of the fun, too."

The alternative, though, is to keep it simple: "Hike several miles into the woods to your favorite lake and sometimes this journey is the 'destination,' too. There's nothing that comes even close to replacing the absolute *'thrill of the moment'* when that big hungry rainbow (trout) bursts through the surface on that tranquil eddy to you're drifting a dry fly on" – a lure perhaps you've made yourself.

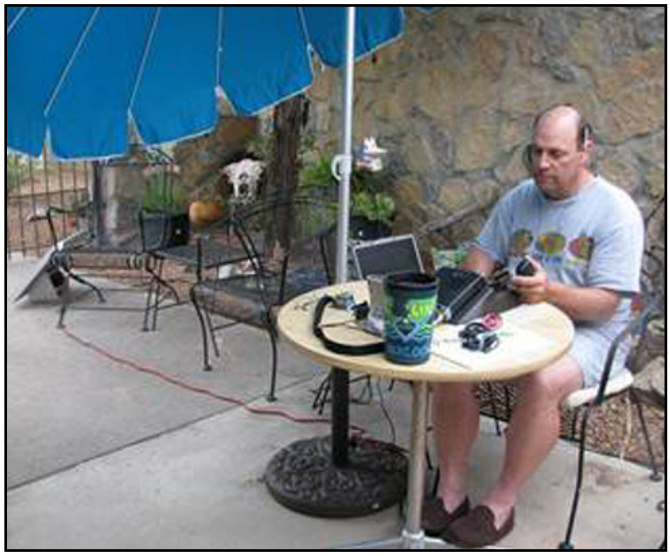
"It's akin to hiking for a few hours and finding a good spot for playing radio. Sitting down on a log to call CQ with that tiny homemade CW rig . . . after struggling to get your antenna wire as high as possible in that dead tree that leans over the cliff. Suddenly you hear your call faintly being answered through the noise" and it's another operator "with good ears rewarding your efforts – or maybe even better yet, it's a KL7 in rural Alaska. *Woohoo!* . . . what joy is that, my friend?"

WB2VUO: Solo Operating Strategies

Keith Hibbert, WB2VUO, writes from Amherst, NY that he's "not been out on Field Day except with the club for quite a few years," but used to compete in the 1B/Battery category in the 1970s "while stationed in New London, CT. I ran a Ten-Tec Argonaut and a 13.5-volt 'D' cell battery pack" consisting of nine inexpensive Radio Shack batteries "soldered together and mounted in a plastic food container – the Navy's equivalent to Tupperware™!

"I parked in the campgrounds and operated under a tarp over the back of my 1968 VW pickup truck. Think of the VW truck that the *Mythbusters* sometimes drive – a VW bus with a pick-up body behind the driver's seat. I made a bracket to hold 30-feet of surplus mast and ran an 80 meter dipole with jumpers at the 40, 20 and 10 meter points – drop the dipole, move the clip leads and change bands."

Hibbert said recently he had spoken with Brad Mitchell, N8YG, who "you might remember from (the kit company)



Mike Olbrisch, KD9KC, dodged blazing sun rays and raindrops during 2009 ARRL Field Day as a single operator in El Paso. *(Courtesy of KD9KC)*

Embedded Research back in the '90s. His input, based on 1B and 2B (Field Day) ops back then was that you should consider concentrating on one or two bands.

"This fits with a minimalistic trail-friendly radio philosophy," Hibbert said. "Brad had hauled an Argosy with a gel-cell out there and a pack of inverted V (antennas). By the time the weekend was over he found that 90 percent of the time was spent on one band and a few contacts were picked up on maybe one other band . . .

"I would be hard pressed as to keeping with just 20 meters or just 40 meters," Hibbert said. "Forty would give better results for the entire 24 hours but 20 will have better propagation this year as the sunspot cycle is starting to warm up. I will say that regardless of the band or bands, with a field op in 1B or 2B, it's best to concentrate on CW. The power budget is far friendlier and the performance edge will offset even a beginner's slower CW speed.

"If I was doing a single-op 1B operation, what would I take? Two possibilities come to mind: a single-band QRP CW rig (Small Wonder Labs SW-40 or Wilderness Radio SST-40 transceiver) with a dipole or the equivalent on 20 meters. On 20 I might consider phased verticals for a little boost on the band, but a 30-foot push-up with a dipole would play quite well."

W5ESE: Boiling Things Down to the Basics

Scott McMullen, W5ESE, from Dripping Springs, TX, recalls his 2005 Field Day effort was "pretty modest. Hiking in and setting up the station in late June in south Texas sapped a lot of energy out of me. Looking at my log I see that my last contact Saturday evening was at 9:46 and the first Sunday morning at 6:24 . . . What I remember most enjoying about this outing was how it reduced the hobby to basics – no digital readouts, droning generators, laptops, or gizmos. Just a few single-conversion superhets, a pair of headphones, batteries, small paddles and a keyer, and a tuner."

On the other hand, McMullen said, "to take kind of a 'devil's advocate' position, I think it's possible sometimes to let radio ruin a perfectly good camping trip.

"On my two Texas QSO Party trips, after operating the weekend in the contest, I stayed in the area a few more days and did one or two more backpacking trips each time – in all cases, leaving the radio 'stuff' back in the car.

"On trips where I can't stay out that long, I'll sometimes limit the 'role' of radio by just taking a 40-meter Rockmite (500 milliwatt, single frequency, crystal-controlled transceiver), to keep the radio in the 'right proportion' to everything else."

KD9KC: From the Backyard Garden in West Texas

Mike Olbrisch, KD9KC, of El Paso, said that "Field Day 2009 was the first I worked in 28 years. I had visited a local Field Day site a few times, but never took the time to get on a radio.

"What prompted me to try FD 2009 was the addition of a new Yaesu FT-817 into my home," he said. "So I gathered up some stuff and proceeded to assemble a small single-op QRP station. Headphones, small Morse key, antenna tuner, a 12-volt /12aH battery and a 25-watt solar panel, the usual cables, and so on.

"I had a lot of fun, but I did have my share of problems too," Olbrisch said, recalling friends who were visiting on the morning of Field Day. "By the time they were leaving it was exactly noon. So I decided to just set up as quickly as I could and go for it anyway."

Having a simple radio set-up in the garden was easy, he said. "The solar panel/battery combo had been in the sun

wGØAT unpacks his gear at a trail-friendly operating site with helpers Rooster and Peanut looking on. *(Courtesy of wGØAT)*

all morning long, so it was charged and ready to go. Hanging the 75-foot wire was a bit more difficult, but I had the whole station assembled and operating in 15 minutes."

Olbrisch decided "to do mostly SSB. So at 1816 UTC I answered my first CQ . . . As the day progressed the hot West Texas sun moved overhead, and it started getting hot in the garden. I was hiding from the sun under a big beach umbrella. But I was still hot. So I ran to the garage and got a big floor-stand fan. The rules say only your radio and any accessories connected to the radio need to be battery powered, and I already had a power cord for the logging laptop, so powering the fan was quick.

"I was wearing light running clothes and after a while I started (dousing) myself with a garden hose and wearing a wet wash rag on my head to stay cooler. About mid afternoon the sun was blistering hot even if my QSO rate was not. But I was slowly and steadily adding contacts into the log. Being QRP, I was running hunt-and-pounce rather than calling CQ.

"The sun finally got low enough that it wasn't heating me directly anymore," Olbrisch said. "Oh, it was still plenty hot, but I had plenty of shade now, too. I used the garden hose to wet down the trees and garden plants, and the evaporative cooling effect was nice.

"I grabbed a quick bite for dinner and stayed at it. As the sun set we got one of those beautiful El Paso desert evenings – the cooler air slowly drifted into the upper valley, and the garden was pleasant.

"I kept at it until about 0444 UTC when a summer thunderstorm blew up. I was hoping it would miss me, or maybe just mist me some and I could stay huddled under the beach umbrella. No such luck.

"It started raining harder and harder. So I shut down and started running the gear into the house. I checked the ham shack computer for a radar view of the storm. *Hmmm*, looks a few hours big, so maybe I will take advantage and nap a while.

"I woke up about 1000 UTC. It was still dark, so I dressed in some warmer running clothes and began setting up again. At about 1030 UTC I was back on the air. Twenty meters was dead, so I checked 40 and 80. What a surprise I got. Eighty was in good shape, even with the storms that blew through. At 1111 UTC I broke a pile-up on 80 to work Alaska with a 5-watt signal on a 75-foot sloper! I was awake now . . . 5 watts with a random wire on 80 and working Alaska. *Cool*.

"I continued to hunt-n-pounce all morning long . . . I was doing pretty well, right up until about 1318 UTC when another rain shower started. This time my strategy was different. I opened the gate to the back yard, picked up the whole garden table, and carried it under the big patio cover. There was no lightning, so I got a coax extension and kept operating. But I was running out of time. My goal was to make 150 contacts before the end of the contest. I was so close. As the minutes ticked away I was still hunting-and-pouncing.

"With less than a minute to go, I worked a YL at WØFT. Whew, I got my 150 contacts," Olbrisch said. "I had a *blas*t. I was already thinking about doing it again for 2010."

Trail-Friendly Radio Extra On the Web

For more solo Field Day photographs and links to videos, visit the Trail-Friendly Radio Extra Web site.: http://www.TrailFriendlyRadio.blogspot.com

Wanted: Your Solo 2010 ARRL Field Day Stories

Are you operating the 2010 ARRL Field Day as a solo act? We'd like to hear about your in-the-field experience for an upcoming Trail-Friendly Radio column. Please send your stories and photographs to: KI6SN@aol.com.

FO-29 News From Japan, and Lots of Other Activity Overhead

Terry Douds, N8KI

After long eclipse periods in early November 2009 took it off the air temporarily, the Japan Amateur Radio League (JARL) switched FO-29 from continuous operation to scheduled operations, allowing the command team to monitor the state of the battery charge aboard the spacecraft and adjust operations as required.

FO-29 is a small Low Earth Orbit (LEO) satellite equipped with a 100kHz-wide SSB / CW linear transponder that operates in V/U mode and a Digitalker beacon that transmits a digital voice on FM.

Since the last power-up of the analog transponder on January 27, team members have received reports worldwide indicating FO-29 has been able to maintain continuous operation. The power budget aboard the spacecraft is improving as the eclipse periods decrease.

JARL places no restrictions on the use of FO-29 during scheduled operation periods except to remind satellite ground stations to transmit with as little uplink transmitter power as possible. This allows for conservation of the onboard batteries.

Giving Satellites the Ol' College Try

College Satellite Night is planned for all available satellites on the first Thursday of each month – a regular monthly event! College club stations plan on being on birds AO-51, SO-50, AO-7, VO-52, HO-68 and FO-29. Mark your calendars and spread the word to college hams/club stations that you know.

'Cube-ism' in Orbit

NextGen CubeSat Program Manager Alex Harvilchuck, N3NP, has provided an update on AMSAT's cooperative CubeSat development project working with senior class engineering students at the State University of New York at Binghamton (SUNY) and the IBM Research Center.

Using the ARISSat power supply unit as a baseline design, the backplane and solar panel charge controller designs have been redesigned to use pseudocapacitors – a battery replacement that is actually an electrolytic capacitor with a liquid dielectric that exhibits a Faradaic reaction – instead of traditional batteries. Based on a worst-case 600km orbit, the student design can produce a whole-orbit power budget of 7.5 watts using a 3U (30X10X10 cm) CubeSat design.

Analysis has shown if a spacecraft is launched into a more optimal orbit – such as sun-synchronous – one of the two pseudocapacitor banks can be removed. The design can be scaled to be used with other classes of spacecraft: 2U (20X10X10 cm) / 1U (10X10X10 cm) CubeSat or Microsats. The design has gone through two reviews with AMSAT Engineering including Lou McFadin, W5DID; Barry Baines, WD4ASW; and Tony Monteiro, AA2TX.

A second student engineering team has designed a lightweight deployable solar panel design with integral magnetorquer coils for attitude control. The design will produce about 12-15 watts per minute in any orientation (worst-case) for 3U; less with 2U or 1U. If a spacecraft is launched into a more optimal orbit, the number of solar cells can be reduced while maintaining the power budget

This work on NextGen R&D is being done by engineering students for their senior design projects. There are eight mechanical engineers and electronic engineers plus 26 systems engineering students involved in the project. As a current engineering student myself (finishing my Master's in Industrial Engineering), I can't begin to tell you how exciting this work is for students – and it helps both them and AMSAT, so it is a win-win for all involved!

Putting Some More Fun Into the CubeSat Scene

FUNcube is the latest satellite project being developed by AMSAT-UK members. In addition to a telemetry beacon, FUNcube will carry a 435 to 145 MHz linear transponder for SSB/CW operation. It will be the first time a satellite this small has carried such a transponder.

Information can be seen on the FUNcube site at http://www.FUNcube.org.uk/. FunCube frequencies for the inverting linear transponder are: Uplink 435.080 – 435.060 MHz; Downlink 145.960 – 145.980 MHz; Beacon 145.955 MHz CW and BPSK.

OSCAR News From the UK

AMSAT-UK publishes a color magazine, OSCAR News, that is full of amateur satellite information. Information to join AMSAT-UK can be found on-line at: https://secure.amsat.org.uk/subs_form/.

SpaceX Conducts Test of Falcon 9 Rocket

On Saturday, March 13, SpaceX successfully completed a test firing of the inaugural Falcon 9 launch vehicle at Space Launch Complex 40 located at Cape Canaveral. Following a nominal terminal countdown, the launch sequencer commanded ignition of all 9 Merlin first stage engines for a period of 3.5 seconds.

This was the final step for the rocket and launch pad before launch itself. SpaceX is now waiting for completion of the final set of tests of the flight termination system, specifically the explosives and initiators, and the acceptance of that test documentation by U.S. Air Force range safety. This is very exciting as SpaceX is finally commercializing the launch vehicle business, which should be great news for all space enthusiasts.

Three New CubeSats Scheduled for November Launch

NASA plans to launch three new CubeSats in November. They come from Montana State University, the University of Colorado and Kentucky Space.

Kentucky's KySat-1 is believed to be the first CubeSat to carry a 2 meter-to-70 cm FM transponder – truly a crossband repeater in space and one that should be accessible by most radio amateurs within its flight path, authorities said.

Icecast Streaming Server Up and Running

I've spoken in the past about the Houston AMSAT Net, but it now has a new open-source streaming server, thanks to Mike Norrbom, NØVZC. During the net – Tuesday, 8 p.m. Central Time (Wednesday 0100 UTC) – the audio can be heard by pasting the following into your URL, Winamp, iPhone, iTunes or almost any other player: radio.arert.net: 8000/amsat.m3u

You can also listen on Echolink in the *AMSAT* conference, or after the net by downloading a Podcast from the iTunes store or your favorite Podcast player.

Highlights of the ARISS Teleconference

The Amateur Radio on the International Space Station (ARISS) International team met for the monthly teleconference on March 16. Two highlights of the meeting include the planned installation of VHF and UHF FM amateur radio equipment and possible digital amateur television from the Columbus module at the International Space Station.

The installation of the Ericsson radio used by ARISS in the Columbus module is scheduled to be done by astronaut Mike Fincke, KE5AIT, on the STS-134 shuttle flight planned for late July 2010. ESA hopes to have a special contact to commemorate the first operation of amateur radio in the Columbus Module.

DATV-to-S Band Proposal Being Made

Gaston Bertels, ON4WF, reported that the Amateur Radio-Columbus (ARCOL) Working Group is currently proposing the flight of a digital amateur television (DATV) system to downlink TV on S-band. ARISS US team members Mark Severance, N5XWF; Mark Steiner, K3MS; Lou McFadin, W5DID; Kenneth Ransom, N5VHO; Rosalie White, K1STO; and Carol Jackson, KB3LKI are assisting.

The digital television capability, under consideration for installation by the ESA in December, 2010 poses technical challenges. The biggest is obtaining a suitable power supply. Gaston is working with ESA to resolve this.

While DATV from the Columbus module will open up an exciting new capability for education contacts, it will require a more capable ground station to receive the S-band DATV signals. This has implications for the existing telebridge stations, including how the DATV images would be routed to the event sites. Gaston will be establishing a working group to help tackle these two challenges (reception and passing to the event site), and is actively soliciting volunteers to help out.

The ARCOL group has already accomplished the assembly and installation of the L- and S-band patch antennas mounted on the exterior of the Columbus Module.

That's a Wrap . . .

Well, that's a bunch of new and exciting news about the amateur satellites. I'm out of room for this month (as always), but hope to bring you more in the next column. Till then I hope to see you on the birds!

Where Are EmComm's Heroes of Yesteryear?

Serious Thoughts on MARS' Past and Future On the Occasion of a Serious Anniversary

By Bill Sexton, AAA9PC / AAR1FP / N1IN

For a global phenomenon that impacts technology, culture and national security as the need arises, amateur radio offers American adherents relatively few heroes from its century of public service. There is the ARRL's iconic Hiram Percy Maxim, of course; yet even his career outside radio as inventor and innovator is little remembered.

Emergency communicators seem especially neglected, although you can argue this is because grave emergencies are not, thank goodness, all that frequent.

Still, how many of today's hams ever heard of Ralph Hollis and Forrest Dana? These unsung stalwarts brought help to shattered South Florida (via high-frequency communications in Morse code) after the Okeechobee hurricane of 1928, which claimed upwards of 2,000 lives in that state alone. The two amateur operators won the U.S. Army's plaudits and made national headlines for ham radio – but are 4FC and 4AGR memorialized in anybody's Hall of Fame today?

On the other hand, we've all heard the name Windom, which is attached to what "was, is, and will be the number one antenna in the world" (according to the Web site of "Buck" Rogers, KA4BT).

But does anybody remember 1st Lt. Oren G. Windom, W8GZ, as the officer who established the U.S. Army's first joint net with amateur operators? That was in 1923, two years before the progenitor of today's Army, Air Force and Navy-Marine Corps MARS branches came into being. (The antenna arrived six years later.)

I can think of seven new names deserving consideration for the pantheon of EmComm (if there were one). They made their way to Haiti in the first days after the earthquake, helping the medical responders.

Of the many contributions by many amateurs and relief organizations, these seven apparently were the first civilian members of MARS ever to deploy themselves outside the United States for civil support. That was some *DXpedition*, working around the clock for the medics while injured Haitians amassed outside overwhelmed field hospitals.

Moreover, it was the first time the three MARS chiefs worked together developing the operational response to an emergency. (More about that later; first, our birthday.)

This year MARS is observing the 85th anniversary of its creation, an occasion worthy of commemoration alongside the

Six American amateurs from four states deployed to provide communications for the University of Miami Hospital's sprawling Port-au-Prince field branch in tents. Theywere among the first MARS volunteers providing civil support outside the continental U.S. *(Courtesy of Louis Cruz, N4LDG, © 2010)*

150th birthday of the Army Signal Corps. It was on Aug. 7, 1925 that the U.S. Army's Chief Signal Officer, Maj. Gen. Charles McK. Saltzman, wrote ARRL founder Maxim conveying "a plan for the affiliation of the Signal Corps with the transmitting radio amateurs of the United States."

There's been a lot of history accumulating since then. The best of it will soon be told by Maj. Scott Hedberg, AD7MI / ex-AEN5AC, in the master's thesis he is writing for the Army School of Advanced Military Studies at Ft. Leavenworth, KS. A military intelligence officer who served two tours in Iraq, Hedberg was scheduled to receive his degree in Military Arts and Science (his second master's) this spring after a year's intense study.

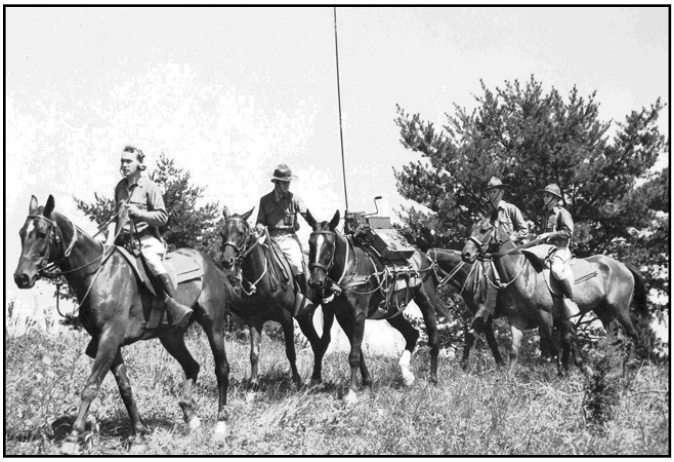
MARS was known as the Army Amateur Radio System up until 1941 when, on the day after Pearl Harbor, the government suspended ham activity for the duration. Full operations resumed in 1948 under the new name Military Affiliate Radio System, but with separate branches for the Army and the newly-fledged U.S. Air Force.

The "MARS" acronym (so reports Hedberg, who interviewed its creator) was derived from the Roman god of war for whom the planet Mars is also named. The Navy, which had actively pursued a close relationship with amateur radio dating back to the First World War, established its MARS branch in 1962.

The defense role of K4USA and K4AF may be a bit overstated by this 1951 magazine cover, but there's no question the stations were strategically located after World War II on the Pentagon's ground floor. *(From the collection of Robert Rathbone, AG4ZG/AAM4EFL)*

As this is written, a new chapter may be shaping up for Hedberg's chronicle. The current chiefs of the three MARS branches had a conference scheduled for mid-April at the Pentagon presumably to discuss implementation of the Defense Department's recently-updated charter for MARS. This goes by the name DoD Instruction 4650.2 dated Dec. 23, 2009. Its most-noticed provision was a new name for MARS: Military Auxiliary Radio System.

One subject not dealt with: combined operations. Yes, three-service interoperability remains fundamental to MARS doc-



This photograph, believed to have been taken between 1925-1939 in the Southwestern U.S., shows the lead horseman with his headphone cord leading back to the radio, which is on the horse with the antenna. "Sure gave going mobile a new meaning," said Robert Rathbone, from whose collection the picture came.

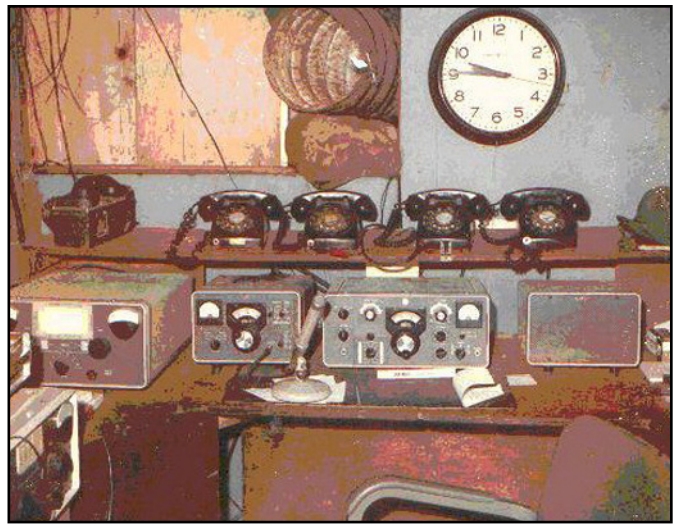
A World War II radioman pounds brass at a "boat anchor" field station. *(From the collection of Robert Rathbone, AG4ZG/AAM4EFL)*

trine, and NIMS (the National Incident Management System) still demands unity of command. However, the new DoDI avoided prescribing any mechanism for applying either concept. It's an issue that has bedeviled MARS planning at least since Hurricane Katrina demonstrated the fearful cost of uncoordinated response. If the Pentagon conference resolves it, that will really be a milestone.

Unlike today, when MARS seems to encounter difficulty establishing its own niche in the nation's disaster planning, amateurs in the 1920s rode the leading edge of communications research and development. The Signal Corps eventually recognized radio's game-changing role in warfare but found itself desperately short of operators. Corps chieftain Saltzman had the bad luck to take over when military budgets were grievously starved. Sounds familiar, doesn't it?

Today Saltzman would probably be considered the very model of a modern major general. A West Pointer, he won his Silver Star with Oak Leaf Cluster for gallantry in the horse cavalry during the Spanish-American War. He wisely switched from cavalry to the technocentric Signal Corps before the 1917 war.

As a Signaleer, Saltzman played a small role in the creation of the Army Air Service (a part of the Signal Corps until 1918) and served on the International Board on Radio Telegraphy



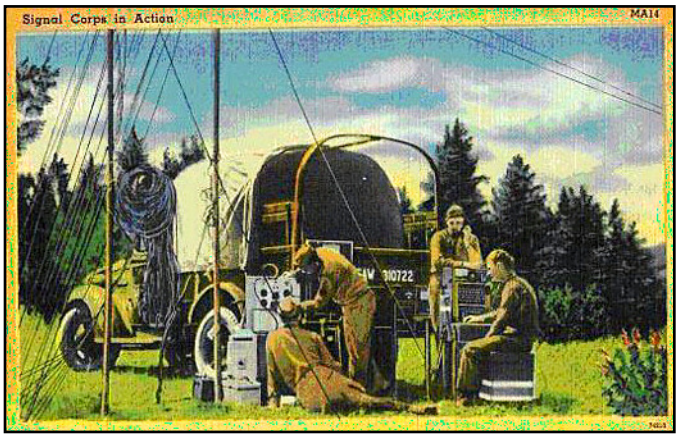
The clock on the wall says it's 9:45, and all is quiet at the MARS station in Vietnam. *(From the collection of Robert Rathbone, AG4ZG/AAM4EFL)*

From October 1925 QST's editorial on the new Army Amateur Radio System:

"It seems to us that this affiliation is about the most important thing that has ever happened to amateur radio in this country. It constitutes a very signal recognition of the importance of the amateur . . . The independence of our existence is not disturbed in the slightest; quite the contrary. We are going to do some things for the Army and they are going to do some things for us in return . . . (W)e amateurs will be able to be of immense assistance in time of national or local emergency and we will be provided with a new and interesting source of important message traffic that will put new vim in the gentle art of brasspounding . . ."

– Kenneth Bryant Warner, Editor and Secretary, ARRL

Titled "Life in the U.S. Army Cantonment," this postcard shows a "Wireless Auto Truck and Outfit," circa World War I. *(From the collection of Robert Rathbone, AG4ZG/AAM4EFL)*



In this World War II postcard, titled "Signal Corps in Action," radio operators set up a field operation. *(From the collection of Robert Rathbone, AG4ZG/AAM4EFL)*

(which assigned call sign prefixes) as well as overseeing AARS operations before he retired in 1928.

"In our big Army net . . ." the Chief Signal Officer bragged in a 1926 speech, "when we get a hard problem and want to reach a far distant point that can not be reached by our system, in a pinch we can always depend on these boys (the American amateur radio operator) to get the message through for us."

The mission he and his staff outlined to the ARRL stands with little alteration today, including "to secure additional channels of communication throughout the continental limits of the United States that can be used in time of an emergency such that land lines . . . are seriously damaged or destroyed . . ."

For that foresight, Saltzman certainly deserves a place on any EmComm honor role along with Capt. Tom C. Rives, a ham and member of the Signal Corps School at Fort Monmouth, NJ, who was appointed as the liaison between the Signal Corps and ARRL. So, too, Saltzman's successor as Chief Signal Officer, Maj. Gen. George S. Gibbs.

Gibbs, who rose from private to general, recognized the weakness of the decentralized structure envisioned by Saltzman, replacing it in 1929 with the typically military hierarchy still in effect in MARS.

I'd hold space in my virtual Hall of Fame for the present MARS chiefs and their Pentagon leadership *if* they succeed in devising *and* implementing the operational integration of the three branches. Of course, devising it is the easy part.

As an impressive starter last January, the chiefs implemented a quick division of labor after the Haiti earthquake. MARS has no authority to order deployment of volunteers to operations away from their homes, much less outside the U.S., but the chiefs did facilitate the response of those who really wanted to go.

Navy-Marine Corps MARS Chief Bo Lindfors' staff would manage identification of volunteers. Army Chief Jim Griffin's would handle special frequency allocations and operations. Air Force Chief Allen Eiermann's would coordinate news releases. It was a level of inter-branch coordination without precedent.

There were more applicants than there were requests for radio support by NGO's (non-governmental agencies) on the ground in Haiti. But as harbingers of what could become a specialized international EmComm resource, I think the selected seven rate recognition when MARS records the achievements of these 85 years.

Let the roll remain open for inclusion of any other American hams who served in Haiti in the crucial first weeks of the disaster, but let's honor these among the first to arrive:

Ronald Tomo, KE2UK / AAT2BC, NY
Jack Satterfield, W4GRJ / AFA4DG, FL
Carmelo Marchese, WA2STL / NNNØYTB, FL
Bill Williams, AG4QX / NNNØYTD/T, FL
Gary Mentro, N3OS / NNNØEKB, FL
George Riedel, N1EZZ / NNNØICH, OH
Allen Shuff, W9ON / NNNØAPN, TX

Note that members of all three MARS branches worked together as one team in this brave endeavor. Let that be the future, too.

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!

Treasures in a Shoebox: Our Most Coveted QSL Cards

Kelly Jones, NØVD

I recently received a package of QSL cards from my manager, Joe Arcure, W3HNK – one of the best known QSL managers. It's always a pleasure when one of his packages shows up in my mailbox. However, each time this happens it means I have some work ahead of me.

By work, I'm talking about having to file those coveted QSL cards. After browsing through them – and marking them off in my log – I promptly pull out my shoeboxes stashed in the shack closet. Doesn't everybody store their QSL cards in shoeboxes?

While it may seem like work filing those cards, it's actually a very enjoyable experience. Each time I drag those boxes out, I find myself sifting through the old cards which in turn opens the floodgates of memories. Even in the world of "paperless," or electronic, QSLing, there is still something special about those pieces of paper and cardboard.

There are many QSLs in those boxes that bring back memories, but two stations I vividly remember trying to work include P5/4L4FN and JT1CO.

Ed Giorgadze, P5/4L4FN, was stationed in PDRK (North Korea) with a humanitarian group and had tried for several years to get permission to operate. In 2002 those efforts paid off and he was able to get on the air.

One of the reasons my QSOs with Ed were so memorable is that I had moved to Colorado in 2000. Unfortunately I was off the air until July 2001 and "ampless" until late 2001. I had missed the operation by Chuck Brady, N4BQW, who was on the island of Bouvet during this time (3Y/B is still one of two I am missing today). Needless to say, I was disappointed in missing that operation.

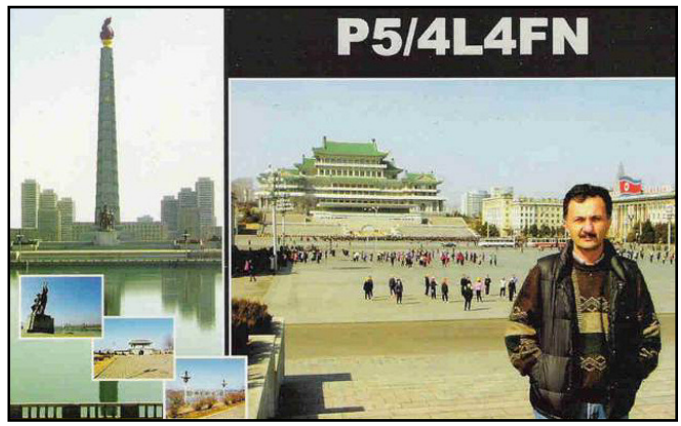
However, as luck would have it, Ed would come on the air after I had my station fully installed and I was lucky enough to work him on several bands.

As you can imagine, the pileups were enormous. However, one Saturday afternoon I happened to be tuning across 10 meters around the frequency on which Ed liked to show up (DX clusters are great for finding patterns in DXers' habits). Just by dumb luck I caught Ed CQ'ing before he was spotted on the cluster.

I quickly turned on the amp but figured I'd call barefoot anyway. With just a few calls, P5 was in my log – I about fell out of the chair. And given the fact he had a stateside QSL manager, the confirmation was as good as gold.

I'm sure many of you have stories similar to mine. Jack Hartley, K4WSB, echoed my sentiments when it came to Ed's card. Jack says, "Up 'til now, my P5/4L4FN card is (my) most cherished. Tomorrow? The 7O (Yemen) QSL that will put me on the No. 1 level!"

I know there is still a huge demand for a valid 7O operation, so I can relate to Jack's need of that one. Although, many of "The Deserving" were given an early Christmas last year when the ARRL decided to approve the 2000 7O1YGF operation which had been in limbo for nearly 10 years.



P5/4L4FN

WØ/JY1

Pete Treml, K8PT, mentioned a couple of memory-filled QSLs in his collection. He writes:

"I have so many great memories of chatting with a few famous people (WØ/JY1 comes to mind and it came covered in white thin tissue - talk about formal) and DXers around the world that I have been fortunate to meet personally."

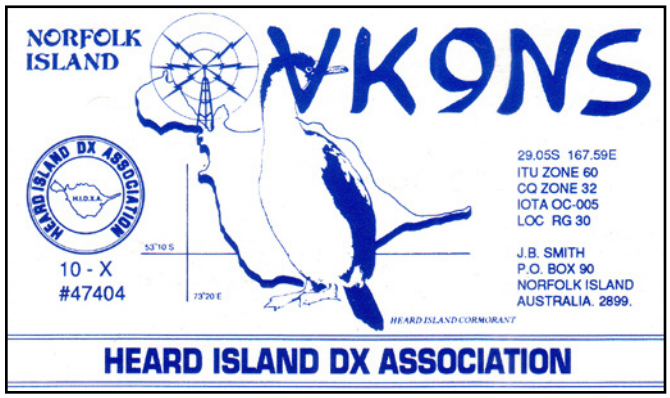
"I thought maybe it was BS7H which was the last one I needed to 'work them all.' No, I think the biggest thrill was the 'first' one that I worked in 1958, CN8CJ. I was 14 years old and getting this card was better than any dates I had up to that time (hi). That QSO and QSL started me off in a DX-focused adventure that still gives me the same thrill 52 years later."

Robert Schaffrath, N2JTX, also holds a couple of cards close to his heart. "Two cards come to mind. The first is Jim Smith, VK9NS. Late one evening I was tuning around and landed on 14260. I heard CQ IOTA, CQ IOTA followed by the call sign VK9NS. A small pileup ensued and Jim responded to one of the stations. He asked the person if they were on an IOTA and they said no. Jim responded he was looking for IOTAs and again called CQ IOTA. The pileup disappeared.

"I live on IOTA NA-026 so I called back and got him on the first try. He asked me if I was on an IOTA and I responded 'Yes, North America Zero Two Six, Long Island, New York.' We had a brief chat and I logged him – a new DXCC entity and new IOTA for me.

"The other memorable QSO was with 3B8CF. This was another fluke. It was late evening – well 10:35 p.m. EDT – and I was tuning around. I heard a faint station calling CQ but no ID. I waited and no one responded. Again I heard a CQ but no ID. I responded with my call sign and the station responded with, 'This is Jacky, 3B8CF.' I was floored and quickly got out a map to see I was talking to the other side of the planet. Even though the signal was weak, we were able to chat. Right after I signed, a pileup broke out!"

CN8CJ



VK9NS

Obviously both of those contacts are nice catches. VK9NS was always a pleasure to work both at his home on Christmas Island and from the multitude of exotic places he put on the air over the years. I was fortunate enough to make friends with him over the air as I'm sure many of you did as well.

Buzz Jehle, N5UR, chimed in by saying his most coveted QSL card is from Mongolia. "Thirteen years ago on New Year's Eve I worked JT1BG on 75 phone using my Carolina windom strung between two pine trees. Everyone told me it was a pirate or I was nuts, but my QSL came through the bureau from JT1BG and it says please QSL! It doesn't get any better."

As I mentioned earlier, I share Buzz's excitement when it comes to working and confirming JT on 80 meters. During the low-band season of 2002-2003 I was working on finishing up my 5BDXCC. At the time, all I had for 80 meters was my trusty Butternut HF6V.

One late fall morning I heard Chak Choigonjav, JT1CO calling CQ on CW. Try as I might, Chak simply could not hear me. However, I didn't feel all that bad because another local whose 80 meter setup was far superior to mine was not able to work him either. We both had a nice chat about how rare it was to hear

JT on 80 and agreed that it was a shame neither of us were able to work him.

Several days later I was again in the shack tuning around 80 looking for new ones. Just at my sunrise this weak signal pops out of the noise – it's JT1CO. Chak is again calling CQ with no takers. As quickly as I could, I reached over to turn on the amp. I'll tell ya, the three minutes waiting on the amp's "green light" seems like an eternity, especially when the sun is beginning to crest over the horizon. Giving it everything I had, and after many tries, Chak somehow managed to get my call. It did take several tries to get the QSL, but I proudly display that 80 meter CW JT1CO card to this day.

And finally, Gary Smith, WA1TJB, explains that he received his first QSL before he was even licensed. "My most prized QSL is from WA4UVI," he said. "I received it in October 1965 when I was just a kid (13 years old) and was an avid SWL but had not gotten my ham ticket yet.

"My dad had a friend who was a ham and he invited me to visit his shack one evening. He was running a Swan 500 to a Mosley Tribander at 50 feet. He taught me how to call CQ and I started putting out the calls. WA4UVI returned my call. As it turns out, WA4UVI was the ship's radio operator on the aircraft carrier USS Forrestal – they were on patrol in the Mediterranean and he had permission from the captain to use ship's radio for ham activities when he was not handling traffic.

"We had a nice chat and I received a QSL card from him several weeks later. Not a rare contact, but a very nice one and my very first ham QSO and QSL. I might not be in the hobby today if I had not had that encounter. I now hold an Extra Class license and am an avid DX'er."

While technology continues to change the landscape of DX'ing and QSLing, there is still something magical about those paper post cards we collect. I'm certainly a fan of the electronic QSL systems such as Logbook of the World and eQSL, but there are many, many memories tucked away in those shoeboxes.

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

DX Predictions

JUNE 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 = 9.

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

CENTRAL U.S.A.

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

EAST COAST

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

An Elmer, a Fracture and Two New Hams

By Randall Noon, KCØCCR

In case you haven't heard, the number of new ham licenses has increased every year since 2005.

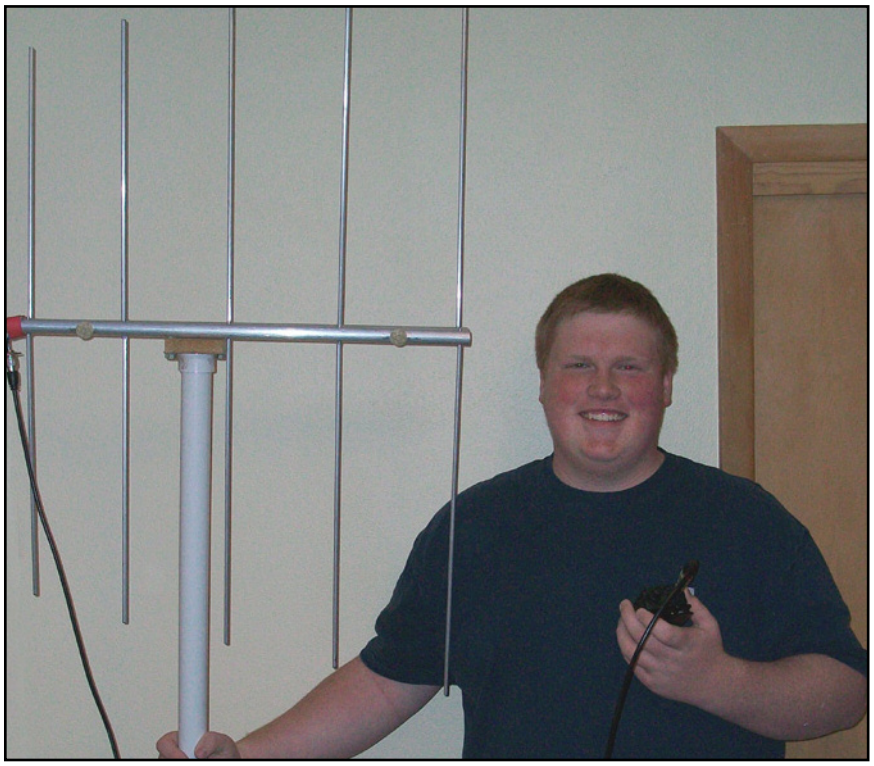
According to the American Radio Relay League, in 2005 there were 16,368 new licenses granted. In 2009 there were 30,144.

Nearly doubling the number of new licenses in just four years is a notable accomplishment – especially for a form of communication that was supposed to have been killed off by the Internet by now.

With regard to the growth of amateur radio, here is how 1/30,144th of that accomplishment was achieved in 2009.

My friend Dave Byerly, KB7FSD, lives in Cedar Rapids, IA. By vocation he is a chemical engineer. By avocation he is an assistant Scoutmaster, outdoorsman, and amateur radio enthusiast.

Thanks to Dave, his whole family holds amateur licenses – which comes in handy during the kayak outings, backcountry hikes and the backpacking trips they take. If you don't know what LiTZ or the Wilderness Protocol are all about, ask Dave and he'll explain it all to you. He also takes some of the local Boy Scouts on backcountry hikes and trips, which is where Wyatt Dirks comes in.



Wyatt Dirks, ACØRA, and his most recent log periodic dipole array antenna. The elements fit into the PVC mast for portability.

Wyatt is a senior in high school in Cedar Rapids this year. After graduation he wants to get into a carpentry apprenticeship program. He is also a Boy Scout in Dave's troop and has achieved Eagle Scout – a pretty big deal if you ask any Boy Scout.

Several years ago, Wyatt was also elected to the Order of the Arrow, which is scouting's National Honor Society. He's become a very active member.

Wyatt goes on various hiking, camping and backpacking expeditions with Dave. That is, Wyatt did until he broke his femur – the thigh bone extending from his hip to his knee – in a motorcycle accident last spring. It's not a trivial matter.

Wyatt didn't have a cast on his leg, but he did have a titanium rod put in it. He spent three weeks in the hospital, was initially in a wheelchair and then used a walker. He was supposed to recover in about five months. Being contrary and not knowing any better, Wyatt recovered in about two months.

While recovering at home, Wyatt complained to Dave about not being able to go hiking. He was bored. While Wyatt had a little time on his hands, Dave suggested he should study for the Technician license.

The subject had come up a time or two previously, but Wyatt had other things to do at the time. Now, though, Wyatt was looking for something to occupy his time while his bones knitted.

Wyatt bought the ARRL Ham Radio License Manual at a local bookstore and began reading. As summer progressed, Scouting and Order of the Arrow activities prevented Wyatt from attending the first available local VE session. After missing one VE session, there was a period when there were no local examination sessions. During that time, Wyatt regularly took practice tests on the Internet. When a VE testing session was conducted in Vinton, IA in September 2009, Wyatt became a Technician Class license holder, KDØIZW.

Once Wyatt became licensed, he loaned his Tech book to his friend Nick Ackerman, who then similarly became enthused about ham radio. Nick was licensed as KDØJND in November 2009. I guess Nick is another 1/30,144th of the 2009 new licenses total. The Tech license book has since moved on to an older brother and a cousin who are both interested in getting their licenses.

It will be interesting to know how many people eventually obtain their license from this one book. At that same November VE session, Wyatt earned his General Class license.

In November 2009, at the end of a day hike at Backbone State Park, Dave and Wyatt set up a portable VHF station with a homebrewed antenna. With a five-watt FM voice signal going to the antenna, they were able to reach repeaters in Cedar Rapids and Iowa City, a line of sight range of 80 miles.

This hands-on fun was just another log on the fire. Wyatt not only started building his own antennas, he studied more and took more practice tests on the Internet to work toward his Extra Class license. Wyatt earned his Extra in January 2010. He is now AC0RA.

By the time Wyatt had earned his Extra he had homebrewed several more antennas. His first was a simple 2-meter quarter-wave ground plane. He and his newly licensed buddy, KD0JND, wanted to duplicate the quarter-wave 2-meter antenna Dave had loaned Wyatt. Wyatt and Nick showed up in a panic one Sunday evening at Dave's house because their attempts at soldering had failed. After a little instruction, the antenna worked fine.

Wyatt subsequently built a 2-meter quad, which was then quickly followed by a 2-meter 14-foot quagi – built in Dave's basement over three evenings. The design was from a 1977 article in QST that Dave just happened to have handy.

All of the antennas were fed signals from Wyatt's five-watt 2-meter Yaesu FT-270R monoband HT. Wyatt transported the 14-ft quagi on a 12-foot 2 X 4 mast in the back of a pickup truck. On his last campout near Backbone State Park, Wyatt had no problem talking with Dave in Cedar Rapids using 500 mW – some 60 miles away, line-of-sight. That's excellent performance by a low-power FM HT in anyone's book.

Wyatt earned the Boy Scout radio merit badge on February 1. Now that he holds an Extra Class ticket, Wyatt is learning CW and dreams of earning enough money to get a Yaesu FT-897 with a Buddipole so he can operate portable on both HF and VHF bands.

Wyatt also recently completed two antennas: a log periodic dipole array and a portable copper J-pole. He is squeezing everything he can from that little HT.

By the way, Wyatt is learning CW at a great time since Field Day is just around the corner – June 26-27. CW is not only a fun mode that uses little bandwidth, but it also counts for double points as compared to a voice QSO. A person can readily work the world with five watts using CW. That is certainly one reason why in the past few years CW activity has actually increased despite the bands being in a sunspot minimum.

Wyatt is not currently associated with any local club, so I hope he connects with one before Field Day and has the kick of working the HF bands with some old hands to show him the ropes.

Picking Up a 'Buddy'

As a reminder to those CW fledglings who may be a little embarrassed or shy about getting on the air, the FISTS Organization has a no-cost Code Buddy Program. This is where a FISTS member is assigned to be your "Code Buddy" and will practice sending and receiving CW QSOs back and forth with you.

The Code Buddy doesn't care how slow or how poor your code is. He or she is glad to help you practice. It's an excellent program that has helped a lot of brass-pounders build up confidence to work the pileups. For more information about the Code Buddy program, visit: http://www.qsl.net/w9em/index.html.

Code Practice CDs Available

FISTS also offers a CD to help a person learn CW from scratch that can be played on a computer, loaded into an I-Pod, or played in a CD player that uses an MP3 format.

There is also a CW upgrade disk – also in MP3 format – that starts at 10 wpm and takes a person to about 30 wpm. It sends the General Class Question Pool in code, so it's also a good review for the test.

You can get either disk or both disks for $1, which covers FISTS' mailing costs. The CDs themselves are free. To get your disks, contact FISTS, PO Box 47, Hadley, MI 48440 or use PayPal to fists@tir.com.

If you'd like more than one disk each – for a club training function, for example – contact Nancy Kott, WZ8C, at nancy@tir.com.

With apologies to an old television series cop show that predates almost everyone reading this line: There were 30,144 Elmer stories in the Naked City in 2009; these are a couple of them. – KC0CCR

Situational Awareness and the Importance of Checklists

By Jerry Wellman, W7SAR

I attended a safety briefing presented by the U.S. Air Force that included a video recorded during the landing of a small aircraft. The video was taken from the back seat and, as the plane was on final approach, you could hear some sort of audible alert. During the landing process, no one was heard commenting on the alarm. The video also showed no one looking at a landing checklist.

As the aircraft touched down, there was a noise as the runway was now grinding off the bottom of the aircraft. What happened? The landing gear had not been lowered. The alarm sound was a warning of the error. The crew had been discussing other things that didn't include a landing procedure.

Had a landing checklist been used, the flight would have had a positive ending. Fortunately only the aircraft was damaged. There was no post-touchdown fire. The aircraft did not turn and flip. When the craft came to rest, all occupants were uninjured.

The "lesson learned" for all of us should include the value of checklists and the value of not being complacent as we undertake "routine" tasks.

Several months ago there was an article about an electrocution as an antenna mast came in contact with overhead electrical lines. How many times have you or I set up a field antenna mast? For some it's just a "normal" part of setting up a field station and I've done it in the dark or without help – and perhaps been complacent about what I was doing.

Last fall I set up a station and used a portable generator. Did I have a checklist or follow some safety guidelines? When I refueled the generator in the dark, was I safe and using a checklist? I don't believe I did, as I've done this many, many times and "know what I am doing."

After watching two experienced pilots land gear-up, my thought was: "Here are experienced pilots that knew what they were doing. Yet, they didn't follow correct procedures."

The lesson for me? I now have additional checklists for some activities that I once considered routine. Generators, antennas, grounding, chemical materials – there are categories of activities that encompass safety risks. When I start my portable generator I now use a checklist. In my portable antenna kit, I have a checklist that includes having someone look for overhead power lines.

A friend told me I was being overly concerned and that some routine activities simply don't need this level of supervision or attention. In today's world, I would disagree. Many of us have become complacent with regard to what we consider "routine" events and we need to set an example of competency for all those around us; watching us.

I've started using a vehicle checklist and recently discovered the tire pressure was in the "unsafe low" range. Before I back up in dark parking lots I walk around the vehicle. Once I noticed a dark red fire plug I'd not realized was behind my SUV. I would have backed into it in this unfamiliar parking lot, but I used my vehicle checklist which reminded me to do a walk around before backing up.

Use of a checklist has become almost second nature for many of my amateur radio activities now. Responding on a public safety event is often inherently risky because we're operating in conditions that created the emergency, such as bad weather or hazardous materials.

Having a high state of situational awareness in a challenging environment makes good sense. My situational awareness is now enhanced with a set of checklists.

Challenge Your Limits

I've done a lot of the same things for many years. I know what I need to bring and can almost gather the gear and do the task with little or no preparation. I've found this to be less than satisfactory so I've volunteered to take different assignments.

The response may be the same (for example, using the same gear) but maybe it's to a different location or a different task. This helps me maintain an edge of preparedness and not become complacent.

During a recent SAR exercise, many of the group's members accepted the request to step into different roles. This got several people out of a comfort zone and the reaction was one of enjoyment as they were challenged to higher levels of involvement, performance or expertise in different areas.

A communications officer was asked to help with debriefing search crews. He learned that his communications plan was not easily understood, so he now has a better communications plan *and* he's qualified as a debriefer.

I'm discovering that there is enjoyment in stretching our competency limits and learning new things. Our communications officer may not be a debriefer for every event, but he stretched into unfamiliar territory and the communications process improved because of his new perspective.

It's often easy to complain about operations or planning or logistics or safety or briefing, and so on. Once we work that area and understand those special challenges we discover ways to fit our expertise into making the whole process better.

Guests At the Event

I was in an Emergency Operations Center where everyone was required to have a visible (and color coded) ID tag. When you checked in, your credentials were verified and you got a pass that allowed you into particular areas.

And in came a visitor. He somehow got past the front desk (another topic for another column) and was wandering down the hall toward the restroom. It was clear he had a need that was not mission related. And out of the dark of the hallway

came a well-meaning individual who simply gave this "visitor" the bum's rush back down the hallway and out the door. To add insult to the action, the visitor was verbally assaulted – in a loud voice – about being in a secure area without an ID. The visitor, now embarrassed and feeling unwelcome, turned tail and left.

How might that situation have been better handled? It might have been preferable to simply approach the visitor and ask if he (or she) needed directions. The visitor could have quietly been asked for an ID.

A number of approaches would have been better – even helping him find the restroom and then politely directing him back to the check-in desk.

What happened was an unfavorable introduction to volunteer service. This "visitor" will forever recall the "welcome" he got to an EOC. He might have had the potential to greatly benefit the group. He might have been able to financially contribute to the groups' coffers. He might have been friends with political leaders. We don't know.

I would recommend you have some plan in place for how your people interact with unexpected visitors to your operation, whether it is an EOC or a field communications trailer. I would also recommend your plan not be to have the most abrasive person in your group physically escort "visitors" to the parking lot with a "do not come back" message.

In short, treat visitors like VIPs and maybe you'll grow your group. If nothing else, you will gain supporters because you treated people with respect.

Security Issues

In the example of the unidentified visitor, our well-meaning member was only trying to observe a security policy that required an approved ID of all participants. This is becoming a growing concern, especially in government buildings and on large airport facilities. If your group is anticipating assisting during events where access is a concern, you should work out the details well in advance.

For example, to obtain a "ramp pass" for our local airport, the process could take several weeks. If there's an emergency and you need a credential, you could find yourself outside looking in.

In one of my volunteer roles, the police chief suggested I could be on call for the airport in the event of an airline crash. He noted that I had a proper badge, carried a police ID and even had access to a police vehicle. He overlooked the fact that the airport would require a ramp pass and that no amount of other documentation or official recognition would suffice. Now that I have the correct credential, I can be on the response list for the airport as the chief suggested.

We live in a world today that has requirements far beyond what we may have experienced years ago. And it's going to be an issue that will change depending on agency, threat level and need.

Before you just assume your radio and license will get you access to a facility or staging area, it's a good idea to inquire in advance. As with our local airport, it may be physically located within a jurisdiction, but the entry requirements may not be under the control of the agency you're with. Do your homework in advance and work out the details before you need to respond.

Until next month, best wishes from Salt Lake City!

New @ 10-10: The Spirit of 76 (7 Days 6 Modes) QSO Party

By Gerald F. Gross, WA6POZ

There are amateur radio contests and QSO parties sponsored by many organizations and most follow the general theme of making contacts using just one or two modes and lasting for a period generally no longer than 48 hours.

The 10-10 International board of directors at the August 2009 meeting approved a new on-air event on a trial basis for this year to be called "Spirit of 76 QSO Party." The name comes from when the party will be held, which is during the week of July 4. It will start at 0001Z June 28 and will run until 2400Z July 4.

The idea is to make as many contacts with 10-10 members and non-members as you can during the seven days using six modes. Here they are, with suggested frequencies for activity: USB, 28.345 MHz; CW, 28.050; PSK 31, 28.120; RTTY, 28.086; FM, 29.600; and AM, 29.000.

Scoring will be the same as for all other 10-10 QSO parties: two points for contacts with 10-10 members and one point per contact with non-members. Duplicate contacts will be allowed as long as it is only once for each mode. Therefore, it is possible to work the same call six times – once in each of the six modes – for a maximum total of 12 points if it's a 10-10 member.

All of the other usual 10-10 rules apply. This QSO party will also allow 10-10 members to work toward the Lucky 13 Award, making a contact at 13 of the 100 KHz spots on 10 Meter band.

The first Spirit of 76 logs will be scored by Paul Hemby, WN4AMO, #73825. Send them to phemby@hotmail.com or 40601 Thomas Boat Landing Rd., Umatilla, FL 32784-9702.

10-10 BoD Meets This Month in Missouri

The 2010 10-10 board of directors meeting will be held at the Sheraton Westport Hotel, 900 Westport Plaza, St. Louis, MO on June 20. The meeting is open to all members. If you are in the area, join us to see your board of directors in action. The meeting agenda will be posted on the 10-10 Web site about 30 days prior to the meeting.

Join Us At Ham-Com in Texas

10-10 will also be represented at Ham-Com in Plano, TX on June 11-12. If you will be there, stop by and sign the log.

It's Almost 'Open Season' On 10 Meters

The Open Season Contest will begin at 0000Z June 5 and run through 2359Z June 6. This event is to stimulate PSK activity on 10 meters and is jointly hosted by 10-10 and the PODXS 070 and EPC digital groups. It is not necessary to be a member of any group to participate.

For more information on the other two groups, please visit their web sites. Click here for The PODXS 070 Club and here for the EPC site. Open Season logs must be returned to the QSO Party Manager and be postmarked no later than June 26.

Summer Phone QSO Party Set for August

The 10-10 Summer Phone QSO Party will be held 0001Z August 7 through 2359Z August 8. As is the case with all 10-10 QSO parties, it is open to all – however, awards can only be given to paid-up 10-10 members as of the date of the party. All other logs received will be handled as check logs.

10-10 members should exchange call, 10-10 number, name and QTH (state, province or country). Stations without a 10-10 number should use 00000 as the 10-10 number.

For non-10-10 members this is a good time to make those initial 10 contacts. QSO Party logs must be returned to the QSO Party Manager and be postmarked no later than August 23.

For complete rules, exchange, scoring and where to send logs for all 10-10 activities, visit the 10-10 International Web site.

Want More Information About 10-10?

The easiest way to obtain information about 10-10 is to visit the 10-10 Web site. Everything you want to know about the organization is there.

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

I would also appreciate any comments or suggestions. Please send them to: Gerry Gross, WA6POZ, #21274, 10-10 President, 16046 Orchard Cir, Omaha NE 68135-1068 or e-mail at: wa6poz@ten-ten.org.

RSGB Books from CQ

View more RSGB books on our web site!

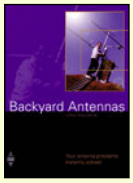
Guide to VHF/UHF Amateur Radio

By Ian Poole, G3YWX

RSGB 2000 Ed.,112 pgs. Everything you will need to help you enjoy VHF/UHF to the fullest. Choosing the right transmitter, receiver, antenna,utilizing the correct part of each band and more!

Order No. RSGVUAR *$16.00*

Backyard Antennas

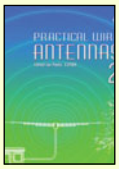


RSGB, 1st Ed., 2000, 208 pgs.

Whether you have a house, bungalow or apartment, Backyard Antennas will help you find the solution to radiating a good signal on your favorite band.

Order: RSBYA *$33.00*

Practical Wire Antennas 2



By Ian Poole, G3YWX

RSGB, 2005 Edition, 176 pages This significantly expanded and fully revised edition includes designs for a wide range of practical wire antennas. You'll find just about every type of wire antenna you could possible imagine with complete and easy to understand designs.

Order: RSPWA2 *$23.50*

Packet Radio Primer

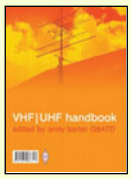
By Dave Coomber, G8UYZ & Martin Croft, G8NZU

RSGB, 2nd Ed., 1995, 266 pages Detailed practical advise for beginners. Completely revised and greatly expanded to cover developments in this field and beyond bare basics into advanced areas such as satellite operations.

Order: RSPRP *$16.00*

VHF/UHF Handbook

Edited by Andy Barter, G8ATD



RSGB, 2nd Ed., 320 pages. This second edition guides you through the theory and practice of VHF/UHF operating and transmission lines. Includes info on getting started, antennas, constructing your own equipment, satellite ops, local nets and specialized modes.

Order: RXVUH *$29.50*

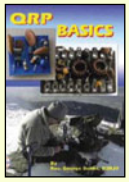
HF Antenna Collection

RSGB, 2nd Ed., 2002. 252 pages.

A collection of outstanding articles and short pieces which were published in *Radio Communication* magazine. Includes single- and multi-element, horizontal and vertical antennas, extremely small transceiving and receiving antennas, feeders, tuners and much much more!

Order: RSHFAC *$33.00*

QRP Basics



By Rev. George Dobbs, G3RJV

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

Order: RSQRPB *$28.50*

World at Their Fingertips

by John Clarricoats, G6CL

RSGB,1st Ed., 1993, 307 pages

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

Order: RSWTF *$16.00*

Microwave Projects 2

By Andy Barter, G8ATD

216 pages

If you're interested in building equipment for the amateur radio microwave bands, the designs in this book are sure to please! Projects have been selected from international authors and all projects use modern techniques and up-to-date components. Details on how to obtain ready-made boards are included with most projects.

$28.50

Order: RSMP2

Technical Topics Scrapbook 1995-1999

By Pat Hawker, G3VA

RSGB, 2000 Ed., 314 pages. This third compilation of 'Tech Topic' articles is a fascinating collection of circuit ideas, antenna lore, component news and more! *$27.50*

Order: RSTTC99

IOTA Directory

Edited by Roger Balister, G3KMA

RSGB, 2007 Ed..

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

Order: RSIOTA *$18.00*

The Antenna Experimenter's Guide

RSGB, 2nd Ed., 1996. 160 pages.

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

Order: RSTAEG *$33.00*

HF Amateur Radio

RSGB, 2007 Second Ed.

HF or shortwave bands are one of the most interesting areas of amateur radio. Guides you through setting up an efficient amateur radio station, equipment to choose, installation, the best antenna for your location and MUCH more.

Order: RSHFAR *$23.00*

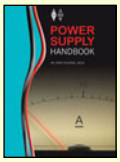
Technical Topics Scrapbook 1985-1989

by Pat Hawker, G3VA

RSGB, 1st Ed., 1993, 346 pages A collection of popular 'Technical Topics' published in RadCom. Info, ideas, mods and tips for amateurs.

Order: RSTTC89 *$18.00*

Power Supply Handbook

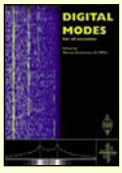


By John Fielding, ZS5JF

RSGB, 2006 Edition, 288 pages How power supplies work, selecting components, building and modifying supplies, measuring the finished supply, batteries, chargers, test equipment - it's all here!

Order: RSPSH *$28.50*

Digital Modes for All Occasion



By Murray Greenman, ZL1PBPU

RSGB, 2002 Ed., 208 pgs. Simply the most "complete" book on Digital Modes available.Over 100 illustrations!

Order: RSDMFAC *$28.50*

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The Rules Say...

John B. Johnston, W3BE

Which Digital Codes Are OK?

Q Which digital codes are authorized for our ham bands?

A. Section 309 authorizes Baudot, AMTOR, ASCII and any other technique whose technical characteristics have been documented publicly, such as CLOVER, G-TOR, or PacTOR, for the purpose of facilitating communications. In the 33 cm and shorter wavelength bands, your station may transmit an RTTY or data emission using an unspecified digital code, except to a station in a country with which the United States does not have an agreement permitting the code to be used. RTTY and data emissions using unspecified digital codes must not be transmitted for the purpose of obscuring the meaning of any communication.

Q. There's been a lot of discussion lately about ROS, the new digital mode developed in Spain that's finding growing interest among HF digital ops. The FCC has determined that ROS is a spread-spectrum mode and as such, is not legal for use in FCC-regulated areas below 222 MHz. Could you discuss the frequency restriction on the use of SS in the U.S.?

A. In places where the amateur service is regulated by the FCC, Section 97.305(c) authorizes emission type SS only on the 222-225 MHz segment of our VHF 1.25 meter band and on our entire UHF, SHF and EHF bands. This precludes SS, therefore, on our VHF 2 and 6 meter bands, our MF band and all of our HF bands.

Q. Can a digitized voice signal be transmitted compliantly as data?

A. Only where the transmitted signal otherwise qualifies as a data emission type, which may be impractical. It would have to comply with the standards for a data emission type as defined in Section 97.3(c)(2) - Telemetry, telecommand and computer communications emissions having:

(i) designators with A, C, D, F, G, H, J or R as the first symbol, 1 as the second symbol, and D as the third symbol;

(ii) emission J2D; and

(iii) emissions A1C, F1C, F2C, J2C, and J3C having an occupied bandwidth of 500 Hz or less when transmitted on an amateur service frequency below 30 MHz. Only a digital code of a type specifically authorized in Part 97 may be transmitted.

In Section 2.201, the system of designating emission, modulation, and transmission characteristics is codified. It explains the three symbols used to describe the basic characteristics of radio waves. The first symbol describes the type of modulation of the main carrier. The second symbol describes the nature of signal(s) modulating the main carrier. The third symbol describes the type of information to be transmitted which, for telephony (voice), is the letter E. Under Data, only third symbols D (data, telemetry, telecommand) and C (facsimile) are listed, while symbol E is not.

Q. Does "technical characteristics" mean the modulation type, baud rate, and maybe bandwidth or do they also include the typically proprietary code for the digital signal?

A. They should include all of the information necessary to enable listeners, most importantly our Amateur Auxiliary Official Observers, to decode your station's transmitted communication so as to comprehend its content. They must be sufficiently complete so as not to run afoul of Section 97.113(a)(4): No station shall transmit messages encoded for the purpose of obscuring their meaning.

Q. What is "documented publicly?"

A. The FCC does not specify or limit what can be considered "documented publicly," providing us with a lot of flexibility not available to other radio services. In the context of Section 97.309, it is a document available to anyone, such as those listed therein: ITU-T Recommendation F.1; ITU-R Recommendations M.476-5 and M.625-3; and ITU-T Recommendation T.50. It also means documentation from other publicly available sources – for example: technical society proceedings, published scholarly papers, and widely available ITU documents, technical journals or trade association documents. This flexibility allows us to incorporate new techniques, such as Olivia, Hellschriber, BPSK63, JT65, etc. into our intercommunication capabilities without having to obtain a rule amendment.

Q. Wouldn't it be better for the technical characteristics to be spelled out in the rules?

A. Only provided you are willing to sweat out going through another rulemaking cycle every time a new digital code comes along.

W3BE-O-GRAM: We are probably better off that the term technical characteristics is undefined in Part 97. It might be so rigid as to limit our ability to incorporate new techniques and technology.

Q. That issue about "If I'm in the shack with an Amateur Extra class operator and I'm a Tech, can I talk on the Extra bands?" has definitely confused me. During Field Day, you can let the unlicensed person talk on any frequency as long as a licensed ham is present. But if the person has a Tech license then the class distinction would apply and the Tech would only be able to talk on the Tech bands. Is this correct?

A. Not completely. Try to cut back on confusing two unrelated rules. First, Section 97.115 authorizes an amateur station to transmit a message for a third party. The station control operator may allow the third party - whether an amateur service licensee or non-licensee - to participate in stating the message where the control operator is present at the control point and is continuously monitoring and supervising the third party's par-

ticipation. See BE Informed No. 7 All About Third Party Communications.

On the other hand, should the station licensee designate your Technician Class operator as the station control operator, Section 97.105(b) says that 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 control operator, i.e., Technician Class.

W3BE-O-GRAM: Those provisions for third party communications in Section 97.115 are just too tempting for some non-hams, sometimes even aided and abetted by licensees, not to exploit as the loophole for bypassing both requisites. For background information on this disturbing movement, see BE Informed No. 33 Our TPMSP "Class". (TPMSP: *Third Party Message-Stating Participants.)*

Q. For Field Day, with yours truly as control operator, my three grandchildren, my son and his XYL called CQ. We were often referred to as a GOTA station. I don't think this really skins the cat. Can you explain?

A. There are no special FCC rules for Field Day or any other day. Under Section 97.9, unless the names of your grandchildren, son and daughter-in-law appear on the ULS as having been granted an amateur operator/primary station license, their participation is limited to stating their third party message. See Section 97.115(b).

A contest sponsor may impose additional rules as a condition of entry, but they cannot overrule the United States Code of Federal Regulations. See BE Informed No. 7 All About Third Party Communications. Also see BE Informed No. 25 Who Must Throw the Big Red Switch? This file contains good practice standards for a control operator of a station transmitting a third party message.

W3BE-O-GRAM: The aforementioned movement obviously underway within a segment of our amateur service community is bent on changing dramatically our operator class structure. They apparently envision a significantly less purposeful international CB-type radio service for our spectrum, rather than being the traditional one of providing a radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

Q. My friend's station is much more successful in working DX than is my modest station. Can I use his station with my call sign to work those rare countries that probably would not respond to my station?

A. If it's OK with your friend, as far as the FCC rules are concerned, yes. He would be, in effect, turning his station apparatus over to your physical control. Under Section 97.5, you would then become the station licensee. See BE Informed No. 4 Which Call Sign? It explains your options and accountability when someone wants to use your station apparatus or vice-versa. Award sponsors may have more restrictive rules, so be sure to check before submitting confirmations for any of these contacts for award credit.

Q. He also has much more time to spend on working DX. Could I designate him as the control operator of his station when it is using my call sign even though I am not actually there at the station?

A. As far as the FCC rules are concerned, the answer to your question is "yes." It then would, however, be your station during whatever periods of time that you both agree upon for you having physical control of its apparatus. Under Section 97.103(b), it would be you – the station licensee, albeit temporarily – who must designate the station control operator. You could then designate him the control operator of "your" station.

Q. How many other hams can make those same arrangements with him?

A. Just as many as he is willing to make.

Q. He is an Amateur Extra and I am a General. While he is using my call sign, which frequencies can he use?

A. As he would be the control operator who has been granted an Amateur Extra Class operator license, Section 97.301 makes available to the station all of the possible transmitting frequency bands. Because his operator class exceeds your General Class - for which certain frequency segments are not available - Section 97.119(e) comes into effect: an indicator consisting of his station's call must be included after your station call sign (yours/his) in the station identification announcements.

APPRECIATION

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

is Dan Henderson N1ND, Regulatory Affairs Manager at ARRL Headquarters. N1ND presents a report at a 2009 Virginia Beach Hamfest forum while Roanoke Division Director Dennis Bodson, W4PWF, takes notes.

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.

JUNE

CANADA—Special event station CF3NAVY, June 4 to July 3 commemorating the 100th anniversary of the Royal Canadian Navy. 160m to 70cm (except 1.25m). All modes. Information: http://www.twitter.com/CF3NAVY or Kevin Clements, VE3RCN / CF3NAVY, ve3rcn@rac.ca.

NORTH CAROLINA—Special event station NC4ZO, from the North Carolina Aviation Museum Annual Fly-In and War Bird Display, Asheboro, NC; 1300-2000Z June 5 on 21.350, 14.260, 7.250 (all +/- QRM). For QSL, send QSL and SASE. DX send QSL, SAE, and 1 IRC. For QSL and certificate, send QSL and 9 X 12 SASE. DX send QSL, 9 X 12 SAE and 2 IRCs: Butch Simpson, WS4H, 6747 King Mtn. Rd., Asheboro, NC 27205.

MICHIGAN—Special event station KG8EF will be operating from the "Edmund Fitzgerald" Memorial at Whitefish Point Lighthouse (USA -887) and Great Lakes Shipwreck Museum in Michigan's Upper Peninsula. The operation will occur during "Museum Ships Weekend", June 5 and 6. This will be a multi/multi operation and will be active the entire weekend. QSL all contacts via KG8EF. Information: http://www.kg8ef.com/.

WISCONSIN—USS Cobia Amateur Radio Club, NB9QV, of Manitowoc,WI will be on the air from the WW II Submarine "USS Cobia" AGSS-245 participating in the annual Museum Ships Afloat Weekend June 5-6, 1400Z-2100Z. Frequencies: 7.250, 14.260, 21.300 MHz SSB (+/- 25 Khz.) For a "USS Cobia" QSL card,send your QSL and a No. 10 SASE to: Fred Neuenfeldt W6BSF 4932 So. 10th St., Manitowoc,WI. 54220-9121. For color certificate send $1 and your QSL card to: Tom McNulty, K0EFV, 4015 Independence Ave., Waterloo,IA 50703-9317. For information: http://www.qrz.com/db/NB9QV.

TENNESSEE —Knoxville Hamfest & Electronics Exposition and ARRL Tennessee State Convention - Saturday, June 12, Kerbela Temple, Knoxville, TN. RACK – Radio Amateur Club of Knoxville contacts: Lou Dreinhoefer, WB3JKQ, wb3jkq@arrl.net or David Bower, K4PZT, d.bower@ieee.org . Lastest information: http://www.W4BBB.org. Talk-in 53.770, 147.300, 224.500, 444.575. VE exams. Tickets $7, inside tables $20, outside tailgating $5, 8:30 a.m. to 4 p.m.

UTAH —Special event station K7P operating from historic Riverbed Pony Express Station from June 12-14 celebrating the 150th anniversary of the Pony Express. See http://www.dcarc.net/go/index.php/pony-express for details. Frequencies: 40, 20 and 15 meters on SSB and PSK31. Sponsored by Davis County Amateur Radio Club, Davis County, Utah. The special event call custodian is Chuck Killian, WB6YOK.

VIRGINIA—Manassas Hamfest Amateur Radio, Computer and Electronics Show, June 13 at Prince William County Fairgrounds, 10624 Dumfries Rd., Manassas, VA (Route 234). Talk-in: 146.97, 442.200, D-Star 442.5125+. For details about VE testing contact KG4GIY@arrl.net. Directions, hotel and general information: http://www.w4ovh.net. Presented by The Ole Virginia Hams ARC.

MICHIGAN—Monroe Hamfest, June 20. Sponsored by Monroe County Radio Communications Association at Monroe County Fairgrounds, MI. Call Fred VanDaele, KA8EBI, after 5 p.m. for information: (734) 242-9487 or ka8ebi@yahoo.com. Also: http://www.mcrca.org/hamfest.htm.

CALIFORNIA—N6R - 1800Z June 25 to 1800Z June 27, commemorating the late President Ronald Reagan and and Mrs. Nancy Reagan. Grounds of the President Ronald Reagan Presidential Library & Museum, Simi Valley, CA; Ventura Co. Amateur Radio Society (VCARS); joined by Simi Settlers ARC, & Ventura Co. ARC. Frequencies: 3.850, 7.185, 14.280, 21.042, 28.369 MHz (other bands planned include: 50, 144, 440/432 MHz, 10GHz, PSK ops Satellite ops, Fast Scan TV ops). Send QSL and SASE to VCARS, c/o Peter Heins, N6ZE, 1559 Norwich Ave., Thousand Oaks, CA, 91360. This marks the 10th consecutive year for "N6R" Field Day operations at the Library. More information: www.qrz.com/db/N6R and www.vcars.org.

JULY

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

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

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

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

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

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

NOVEMBER

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

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

CONTEST CORNER

CONTEST: Alabama QSO Party
DATE & TIME: 1600Z 5 June – 0400Z 6 June
BANDS/MODE: 160-10M CW/SSB
POINTS: 1 Pt. per SSB QSO; 2 Pts. per CW QSO
MULTIPLIERS: Alabama sta's count 50 States & Canadian Provinces; All others count Alabama Counties (67)
EXCHANGE: Alabama sta's give RS(T) + County; All others give RS(T) + State/Province/Country
ENTRY CATEGORIES: Single Op; Single Op – Multi; Multi Op – Multi; Single Op – Mobile; Single Op with Driver; Multi Op – Mobile; Club; School; QRP (<5W); Low (>150W); High (>150W)
ENTRIES: 30 Days Jim Johnson, KC4HW 6274 South CR 49 Slocomb, AL 36375 Cabrillo to: logs@alabamaqsoparty.org
Rules at: www.alabamaqsoparty.org/2010/2010Rules.pdf

CONTEST: NAQCC Sprint
DATE & TIME: 0030-0230Z 9 Jun
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 – all other antenna(s)
ENTRIES: 7 Days John Shannon, K3WWP 478 E. High St., Kittanning, PA 16201 E-mail: naqcc33@windstream.net
(Submit log as plain text, NO attachments!)
Rules at: http://home.windstream.net/yoel/sprint_rules.html
On-line log form available at: http://naqcc.n4lcd.com/sprintlog.html

CONTEST: Portugal Day DX
DATE & TIME: 0000-2359Z 12 Jun
BANDS/MODE: 80-10M SSB/CW
POINTS: 3 Pts. DX; 6 pts. Portuguese sta's
MULTIPLIERS: Portuguese District/Autonome Districts + DXCC
EXCHANGE: RS + serial #; Portuguese sta's give RS + District/Autonome
ENTRY CATEGORIES: Single op only!
ENTRIES: 31 August REP - Rede dos Emissores Portugueses Award/Contest Manager Rua D. Pedro V, No. 7-40, 1250-092 Lisboa, Portugal. Cabrillo to: rep-concursos@rep.pt Rules at: www.rep.pt/concursos/REP_Contest_Portugal_Day.pdf

CONTEST: Asia Pacific Sprint
DATE & TIME: 1100-1300Z 12 Jun
BANDS/MODE: 15/20M SSB
POINTS: 1 Pt. per QSO
MULTIPLIERS: Prefixes per WPX rules
EXCHANGE: RS + serial # (Note: Logs must contain both sent and rcvd serial #)
ENTRY CATEGORIES: Single Op only
ENTRIES: 7 Days by E-mail: (Cabrillo) apsprint@jsfc.org
Web page: http://www.jsfc.org/apsprint/
Rules at: www.jsfc.org/apsprint/aprule.txt

CONTEST: ARRL VHF QSO Party
DATE & TIME: 1800Z 12 Jun - 0300Z 14 Jun
BANDS/MODE: 6M and up!
POINTS: 1 Pt per QSO, 6 or 2M; 2 Pts per QSO 222 MHz or 432 MHz; 3 Pts per QSO 902 or 1296 MHz; 4 Pts per QSO 2.3 GHz or higher
MULTIPLIERS: Grid Squares per band
EXCHANGE: Grid Square
ENTRY CATEGORIES: Single op - Low or High; Single op - Portable; Rover; Multi op; Multi op - limited
ENTRIES: 12 July June VHF, ARRL 2225 Main St., Newington, CT 06111
Cabrillo format to: JuneVHF@arrl.org;
Web entries via applet at: www.b4h.net/cabforms/
Rules at: www.arrl.org/contests/forms/

CONTEST: All-Asian DX
DATE & TIME: 0000Z 19 Jun - 2359 20 Jun
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. 40-15M; 2 Pts 80/10M; 3 Pts. 160M
MULTIPLIERS: Asian prefixes
EXCHANGE: OM's give RST + age; YL's give RST + age (or "00" if desired)
ENTRY CATEGORIES: Single Op – low or high; Single Op non-Asian – low or high; Multi Op – single XMTR; Multi Op – Multi XMTRS
ENTRIES: 30 Days JARL All Asian DX Contest Tokyo 170-8073, Japan
E-mail: aacw@jarl.or.jp

CONTEST: West Virginia QSO Party
DATE & TIME: 1600Z 19 Jun – 0200Z 20 Jun
BANDS/MODE: 80-10M SSB/CW/Digital
POINTS: 1 Pt. SSB; 2 Pts. CW or Digital/DXCC Countries
MULTIPLIERS: WVA Counties (55); WVA sta's use WVZ Counties + States/Provinces
EXCHANGE: WVA sta's give RS(T) + County; All others give RS(T) + State/Province/DXCC Country
ENTRY CATEGORIES: Single Op, QRP, Low, High; Multi-Multi, QRP, Low, High; Mobile
ENTRIES: 20 July Jeffrey Woods 123 Gladesville Cemetery Rd., Independence, WV 26374
E-mail logs: wvqplogs@gmail.com
Rules at: www.qsl.net/wvsarc/2010wvqp/2010wvqsorules.pdf

CONTEST: Flying Pigs Run for the Bacon
DATE & TIME: 20 Jun. 2100 – 2300 Eastern Daylight Time,
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. non-member, 3 Pts. Flying Pigs member, 5 Pts. DX member
MULTIPLIERS: States/Provinces/Countries
EXCHANGE: RST + State/Province/Country + member # (non-members give power)
ENTRY CATEGORIES: Not given
ENTRIES: Online only: http://www.fpqrp.com/autolog.php
Rules at: http://www.fpqrp.com/fpqrprun.php

CONTEST: Marconi Memorial HF
DATE & TIME: 1400Z 26 Jun - 1400Z 27 Jun
BANDS/MODE: 160-10M CW
POINTS: 1 Pt. per QSO
MULTIPLIERS: CQWW countries
EXCHANGE: RST + serial #
ENTRY CATEGORIES: Single Op - QRP (<5W), Low (<100W); Multi Op- QRP/Low
ENTRIES: 30 Days ARI sezione di Fano P.O. Box 35 UFF P.T. Garibaldi I-61032 FANO (PU) Italy
Cabrillo to: contest.marconi@arifano.it
Rules at: http://www.arifano.it/Contest_Marconi.htm#Go to Rules (English)

CONTEST: ARRL Field Day
DATE & TIME: 1800Z 26 Jun - 2100Z 27 Jun
BANDS/MODE: All bands/modes
POINTS: Complicated
MULTIPLIERS: Complicated
EXCHANGE: ARRL Sections
ENTRY CATEGORIES:
ENTRIES: 30 Days ARRL Contest Branch 225 Main St., Newington, CT. 06111 E-mail ASCII or Cabrillo format to: contest@arrl.org
Rules at: http://www.arrl.org/

CONTEST: QRP ARCI Milliwatt Field Day
DATE & TIME: 1800Z 26 Jun - 2100Z 27 Jun
BANDS/MODE: Same as ARRL
POINTS: 1 Pt. SSB; 2 Pts. CW or Digital
MULTIPLIERS: Highest power output – 1 (>5W); 7 (1-5W); 10 (250mW-1W); 15 (55mW-250mW); 20 (<55mW)
EXCHANGE: Class + ARRL Section
ENTRY CATEGORIES:
ENTRIES: 30 Days Jeff Hetherington, VA3JFF 139 Elizabeth St., W. Welland, Ontario Canada L3C 4M3
E-mail: contest@qrparci.org
Rules at: www.qrparci.org/content/view/6870/118/

CONTEST: His Majesty, The King of Spain
DATE & TIME: 1200Z 26 Jun - 1200Z 27 Jun
BANDS/MODE: 160-10M SSB
POINTS: DX sta's = 1 Pt per QSO other countries, 3 Pts. QSO with EA sta's; EA sta's = 1 Pt. per QSO DX, 2 Pts. Per QSO EA sta's
MULTIPLIERS: Spanish provinces(52 possible) in each band
EXCHANGE: RST + Serial #; EA sta's give RS(T) + Province + Serial #
ENTRY CATEGORIES: Single-op, EA or non-EA monoband; Single-op, EA or non-EA multiband;
Multi-op, EA or non-EA
ENTRIES: 30 Days Online submissions only! Cabrillo to: smreyssb@ure.es
Rules: http://www.ure.es/contest/431-sm-el-rey-contest-english-version.html

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

VE EXAMS

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

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

CITY	DATE	CONTACT	NOTES
ARIZONA			
Mesa	3rd Mon	Steve KY7W, 480-804-1469, kj7wk@cox.net	w/i
Phoenix	4th Sat	Gary Hamman, 602-996-8148, K7GH@arrl.net	
ARKANSAS			
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net	
Sherwood	1st Sat	Daryl Stout, AE5WX, 501-681-1551, ae5wx@arrl.net	w/i OK
CALIFORNIA			
Highland	6/19	Ed , WU6I, 909-864-0155, wu6i@arrl.net	p/r pref.
LaVerne	Last Sat	Frank, K6FW, 909-628-8661, k6fw@arrl.net	p/r
Long Beach	3rd Sat	Louise, N6ELK, 562-429-1355	p/r
Manteca/Tracy	4th Sat	David, N5FDL, 209-835-6893, n5dfl@arrl.net	p/r
Redwood City	Call	Al, WB6IMX@arrl.net, www.amateur-radio.org	w/i
Sacramento	Hotline!	916-492-6115, n6na@arrl.org	
Santa Rosa	Hotline!	Hotline-Recording 707-579-9608	w/i ok
Sebastopol	Hotline!	Recording 707-579-9608	
Sunnyvale	Visit Site	Gordon, W6NW, Sv@amateur-radio.org, www.amateur-radio.org	w/i
COLORADO			
Englewood	1st Sat	Dave, N0HEQ, 303-795-5718, n0heq@arrl.net, Commerical Exams also	p/r pref
FLORIDA			
Melbourne	1st Sat	John, AA8IS@earthlink.net, 321-412-2779	w/i ok
North Port	Call	Bill Norris, KC7TSG, 941-426-0214	w/ipref.
St. Pete	Call	Mark, NP3R, 727-528-0071	w/i pref.
HAWAII			
Oahu Is.	Call	Lee, KH6BZF, 808-247-0587	p/r
IOWA			
Vinton	3rd Tues	Kenneth, N0EGV, 319-223-5739, n0egv@southslope.net	w/i ok
ILLINOIS			
Bolingbrook	3rd Sat	Dale, W9KHX, 815-723-3332	w/i ok
Burr Ridge	Any Day	Argonne ARC, W9DS, 630-986-0061	p/r
Lake in the 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			
Boston	6/14	Jim Clogher, N1ICN, 617-364-4658, nlicn@arrl.net	p/r
MICHIGAN			
Garden City	Call	Ken Wardell, AB8ZD, 734-421-7730, gsnapshot@att.net	w/i ok
Oak Park	1st Tues	Hazel Park ARC, D. Flint at 248-981-8145	
MINNESOTA			
Apple Valley	2nd Thur	Jim, N0OA, 612-384-7709, N0OA@arrl.net	p/r pref.
MISSISSIPPI			
Harrison Cty	1st Sat	Don, W5DJW, 228-868-5670, donw5djw@bellsouth.net	w/i ok
NEVADA			
Stagecoach	2nd Sat	Jack, AC6FU, 775-577-2637 ac6fu@arrl.net	

CITY	DATE	CONTACT	NOTES
NEW JERSEY			
Bellmawr	3rd Thurs	Diane, N2LCQ, 609-227-6281	p/r
Roselle	4th Sat	Gerry, AA2ZJ, 732-283-2795, aa2zj@arrl.net	
NEW YORK			
Bethpage	2nd Tues	Bob, 631-499-2214, w2ilp@optonline.net	p/r
Canandaigua	1st Wed	Squaw Island ARC, David A. Foster, 585-398-0216, D1161F@aol.com	w/i
Canandaigua	1st Wed	David Foster, 585-398-0216, www.siarc.us	w/i
Valhalla	6/10	Stanley, WA2NRV, wa2nrv@weca.org	
Yonkers	Call	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
NORTH CAROLINA			
Cape Fear	6/12	CFARS, Patricia Edwards, N4UGH,910-584-1801 n4ughpat@aol.com	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, w7ii@arrl.net, 503-965-7575	w/i ok
McMinnville	Call	Mark, AC7ZQ, 503-843-3580	w/i only
Pacific City	1st Sat	Carl, W7LI@arrl.net, 503-965-7575	
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	6/12	Bob, N3LWP, 412-366-0488, n3lwp@verizon.net	w/i ok
PUERTO RICO			
San Juan	Last Sat	Hotline: 787-789-4998, prarl@prarl.org	w/i
SOUTH CAROLINA			
Charleston	3rd Wed	Robert Johnson, ae4rj@amsat.org; www.qsl.net/wa4usn/	w/i
Charleston	2nd Sat	Riley Stone, 843-832-9105, k4hyy@sc.rr.com	w/i
VIRGINIA			
Alexandria	2nd Sat	John, WZ4A, 703-971-3905, wz4a@arrl.net	w/i
Stafford	Sat	Bart, N3GQ, 540-373-4506, n3gq@arrl.net, www.qsl.net/semcomm	p/r
WASHINGTON			
Tacoma	2nd Tues	Radio Club of Tacoma, 253-759-2040, www.w7dk.org	
Vancouver	Hotline!	CCARC, 360-896-8909	p/r
Vancouver	Call	Vancouver ARC-Clark County, 360-892-5580 C. Wayne Schuler, AI9Q ai9q@arrl.net	w/i ok
WEST VIRGINIA			
Parkersburg	2nd Mon	Dana Pickens, WV8G, 304-422-6101	w/i, p/r
WISCONSIN			
Racine	1st Sat	Robert, W0WLN, 262-886-8551	w/i pref.

Add your local VE Exam information to this FREE monthly listing!
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A Fan Dipole With No Sparks in the Attic

Kurt N. Sterba

A reader has an attic installation question:

"I want to put up a fan-dipole to cover 10-15-20-30-40/15 meters in my attic. My main emphasis is QRP/CW (which I presume is a good thing to minimize potential fire-causing voltages), but I suspect that from time-to-time I'll increase power to 50-watts for some phone operations.

"All of the dipoles can be 1/2-wavelength long (my attic is 60-feet long), with only the 40-meter leg needing to bend around 3-feet or so on each end. The attic is floored and thus very accessible. It is used to store items, but thankfully, it's not crammed with stuff.

"Here is my question: What are the points that I should dial into my fan-dipole installation to greatly reduce the possibility of it being a fire hazard? Should sparks develop on the ends . . . are there designs that direct such sparks to a safe place . . . or otherwise prevent the sparks from flying . . . ?"

Let's start with no flying sparks. First, look at the connection between the antenna and the coax. Here you have maybe five wires from each side of the fan dipoles connecting to the coax. This is the high-current point of the antenna. Make sure you have a solid connection between all the wires. Either use a clamp or solder them all together.

There should be a balun here but, if you are really worried, Kurt advises not using an in-line balun. It is made elsewhere so you don't know how well it is made. Also it adds more connections to your feed-line. Instead, put ferrite beads over the coax. This works just as well and adds no connections, thus simplifying the feed point.

At the ends of the dipoles use good insulators. After passing the wires through the insulators wrap the ends several times around the main wire to give a strong mechanical joint. You really don't have to solder here, although it sure wouldn't hurt to do so, because there is little or no current at the dipole ends – just the highest voltage point.

Then be sure all the dipoles are well separated from any other objects in the attic and that everything is mechanically strong so it can't fall to the floor. There is not much chance of sparks at 50 watts and if you do all that Kurt has suggested you need not worry at all.

An indoor antenna is likely to last far longer than one outdoors. Still, spider webs can form and mice can enter the attic so Kurt suggests at least a yearly inspection to make sure nothing has gone wrong.

Some Thoughts On Antenna Tuning

Krusty Olde Kurt was pleased to receive a letter from a reader in Latvia. Harald Cirs, YL3BZ, of Aglona, says that the only way the transmission line can have SWR = 1 is when the antenna has the same resistance as the coax impedance and is tuned to resonance. This is true whether the transmitter is matched to the line or not. Of course the transmitter must be matched to the line to get full transmitter output. Kurt agrees.

Harald also looks the other way – from the antenna to the receiver. Now we are not transmitting but listening and we want maximum signal to the receiver. To get SWR = 1 on the line, the receiver must be matched to the line. This is true whether the antenna is matched to the line or not. But for best coupling the antenna must be tuned to resonance and its resonant resistance matched to the line impedance. In other words, we need a match at both ends of the transmission line: the antenna matched to the line and the transceiver matched to the line. Kurt agrees.

Harald concludes that tuning the antenna at the antenna is more effective than "antenna tuning" at the transmitter end. Kurt disagrees.

Antenna tuning with the "antenna tuner" does tune both ends of the transmission line. There is slightly more loss in the line due to SWR, but it is negligible in most situations.

Kurt's Example of a Typical Residential Antenna

Here is a setup that would fit most home situations. A 40 meter dipole is 30 feet in the air. Thirty feet of coax reaches to the ground and an additional 50 feet of coax reaches to the transceiver. We plan to operate all bands 40 though 10 meters.

The coax is Belden 9913 (the Antenna Book calls it RG-8 type). Today we're on 20 meters and we're tuned off-resonance with a feed point impedance of R = 75 and X = +65 ohms. That gives us an SWR of 3:1.

At the transmitter end of our 80 feet of coax (24.4 meters of coax to Harald in Latvia, where, like most of the rest of the world, the metric system is used instead of our cumbersome feet, yards, inches, etc.) the impedance seen by our antenna tuner is R = 19.74 and X = +13.2 ohms. (Kurt got this from the Antenna Book's TLW computer program.)

Now let's use our tuner to give a match at this end of the cable. We adjust the tuner to get R = 19.74 and X = -13.2 ohms. This minus 13.2 cancels the plus 13.2 ohms of the cable and we have a perfect match.

But what happens at the antenna end? TLW tells us that at the antenna end the antenna sees R = 74.16 and X = -50.8 ohms. The resistance is a close match but the reactance lacks 14.2 ohms from canceling the antenna's reactance. The antenna is tuned but not perfectly. Why not? It is because of loss in the cable. The line loss is 0.562 dB. SWR is 3.0.

Now let's put a tuner right at the antenna. Most likely one would put it on the ground below the antenna and thus have SWR = 3 on the first 30 feet of coax, then SWR = 1 on the 50-feet going to the rig. But if you used a two-pound tuner like the SGC-237 maybe you could hang it up there. Let's do that. Now the whole 80-feet of coax will have SWR = 1. And the loss in it will be 0.354 dB.

What have we gained? A whole 0.21 dB. *Whoop-dee-doo*! An "S" unit on our receiver is 6-dB. So we've gained 1/29th of an "S" unit. Krusty Olde Kurt thinks that the station you are working couldn't tell the difference. Yes, tuning at the antenna is best, but in most practical installations it's not worth the effort and expense.

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

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