

# WorldRadio

## ONLINE

Year 38, Issue 12

JUNE 2009

### Ushagat—a Low Budget DXpedition to Alaska

- **Vertical Tales: Adding 17-Meters to a Hustler 6-BTV, p. 16**
- **An 11-Year Old's View of Amateur Radio, p. 20**



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



## German Hams Claim to Bounce Signals Off Venus

A group of German hams claim that they have bounced a signal off the planet Venus in an experiment that they call EVE, which is an acronym for Earth-Venus-Earth. In a press release, AMSAT Germany President Peter Guelzow, DB2OS, reported that on March 25th a team from his organization used a ground station at the Bochum Observatory to transmit radio signals to Venus. He says that Morse code was used to transmit the well known letters "HI." This was the same message transmitted back to Earth from the early Project OSCAR satellites.

But this time the trip in space was a lot longer than one to and from Earth's orbit. After travelling almost 100 million kilometers round trip with an en-route delay of about 5 minutes, the two letters were clearly received back on Earth as echoes from the planet's surface.

DB2OS says that despite the bad weather, signals from Venus could be detected from 10:38 UTC until the planet reached the local horizon. He says that the experiment was repeated on Thursday, March 26th for several hours, again with good echoes from Venus.

Peter Guelzow, DB2OS, is very happy with the results of the EVE experiment. He calls it another milestone for ham radio on its way toward launching its own interplanetary probe towards planet Mars. (AMSAT-DL)

## TAPR DCC Wants Papers

According to Steve Ford, WB8IMY, technical papers are being solicited for presentation at the 28th Annual ARRL and TAPR Digital Communications Conference being held September 25th - 27th in Chicago, Illinois.

Steve says that papers will also be published in the Conference Proceedings exactly as submitted and authors will retain all rights. Also, authors do not have to attend the conference to have their papers included in the Proceedings.

The deadline for papers is July 31, 2009. Please send submissions to Maty Weinberg at ARRL Headquarters, 225 Main Street, Newington, Connecticut 06111. Papers can also be via e-mailed to maty@arrl.org. (WB8IMY, ARRL)

## NATA Inaugurates New 40 Meter Net

The North American Traffic and Awards Net began meeting on 40 meters SSB on April 1st. The new nets meet on Sunday, Thursday, and Saturday on 7205 kHz starting at 0000 hours U-T-C with a late net at 0400 UTC. Both nets will last approximately one hour. This new net is in addition to the other North American Traffic and Awards Nets and comes exactly three months after the network returned to the air.

The North American Traffic and Awards Net also offers a series of free operating awards to anyone meeting the requirements for each award. All awards requirements and rules are on line at [www.northamericantrafficandawards.net](http://www.northamericantrafficandawards.net). (NATA)

## UK Military to Try GPS Jamming Exercise in July

If you are driving in the UK in July and your GPS guidance system goes brain dead, it might be jammed and the jamming is legal. The United Kingdom's Ministry of Defense has informed telecommunications regulator Ofcom that between July 6th and 16th, it will be conducting a Global Positioning System jamming exercise.

The July tests will be for limited periods between 11.00 and 15.00 UTC. The location for the exercise is to sea westwards from N58 deg. 57.4' W003 deg. 13.9' which is about 60 nautical miles west of Kirkwall. Ofcom warns that it cannot be held responsible that any loss of service is due to the military GPS jamming exercises.

The United Kingdom's Ministry of Defense conducts occasional tests on military systems which may result in some loss of service to civilian users of the Global Positioning System. This includes such equipment as in-car navigation devices and other networks which rely on GPS signals. (GB2RS)

## Richard Fisher, KI6SN, WRO's Trail-Friendly Columnist, Named CQ Magazine Public Service Editor

Richard Fisher, KI6SN, of Riverside, California, has been named Public Service Editor of CQ Amateur Radio magazine, Editor Rich Moseson, W2VU, announced today. Fisher, a veteran journalist, succeeds Bob Josuweit, WA3PZO, whose final column appeared in the May issue of CQ. Josuweit, who has covered amateur radio emergency and public service communications for CQ VHF, and then for CQ, since 1996, is stepping down due to increased time demands at his full-time job.

Fisher has been a professional journalist for 35 years, working in various capacities for daily newspapers on both the east and west coasts. He is also a prolific writer on amateur radio matters, writing the "Washington Beat" column for Popular Communications and the "Trail-Friendly Radio" column for WorldRadio Online. He was previously QRP (low-power) editor of WorldRadio's print edition.

A ham since 1965, Fisher enjoys a wide variety of amateur radio activities, including QRP CW operating, outdoor operating, experimenting with antennas and building equipment. He is a co-founder of the Adventure Radio Society.

"I've loved CQ since before my Novice days," notes Fisher, "so joining the team will be a thrill."

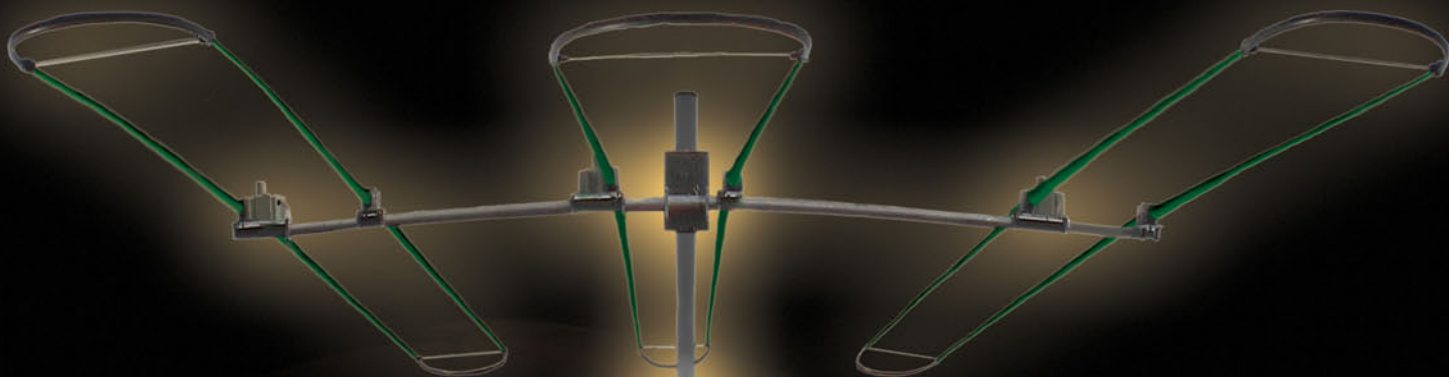
Editor Rich Moseson added, "While I will miss the close working relationship I have shared with Bob Josuweit for over a decade, and wish him all the best in the future, I look forward to working closely with Richard and to the added benefits he will bring to the column as a veteran professional journalist."

Fisher's first column will appear in the July 2009 issue of CQ Magazine.

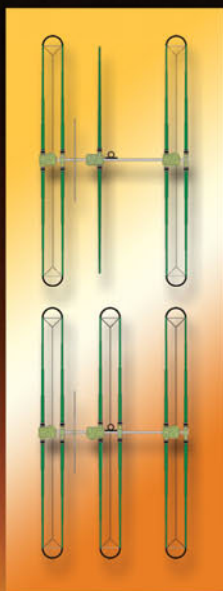


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# WorldRadio

## ONLINE

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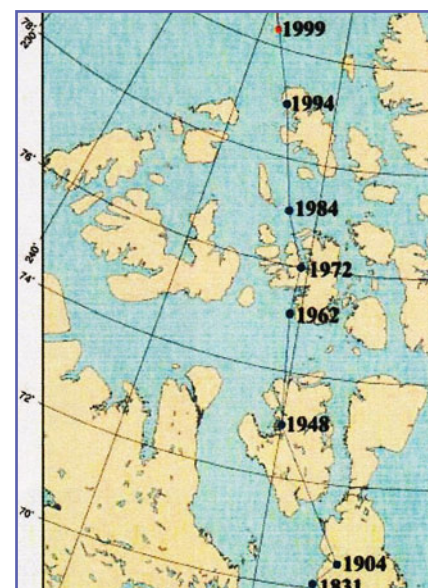
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#### ON THE COVER

Camp Ushagat in Alaska. Inset Photo: The crew unloading supplies for the camp.





# Your favorite DX. Bottle not required.

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**G**rab your megaphone...your Golden Megaphone that is, and broadcast the benefits of amateur radio to your neighborhood and town. Field Day, held the last full weekend in June, is the perfect venue for showing off your skills. There is still time to get a first-rate program together that will not only showcase the usefulness of ham radio communication during times of emergency, but also show by example what fun it is to get on the air.

When people see others working together in an organized, purposeful, and friendly manner they want to be part of it. If you look like you are having a good time (and you will be!), they will be curious and want to know more. That is your opportunity to get out your Golden Megaphone to briefly and passionately tell them about how you can communicate when the phone lines and satellites are not functioning...when the power is out...when computers are down.

Tell them how you can work toward awards and compete in good-natured competitions to see who the better operator is. Talk about how hams sometimes go to faraway and uninhabited lands to set up a temporary station and find out how many other hams they can contact. Explain the various modes that you are authorized to use, or could be authorized to use after some studying to pass FCC exams. Expressing that we are licensed and regulated by the FCC goes a long way in emphasizing that we are different from citizen's band radio.

Show off your radio, whether it is a hand-held rig or a HF transceiver with all the bells and whistles. Having the radio speakers on to allow them to hear the Field Day frenzy can be very impressive. Point out the antennas you're using; how stringing up a simple wire antenna, allows you to efficiently contact other stations all over the world. Maybe you have a mobile set-up that you can demonstrate.

Have literature on hand; fliers with licensing information, an invitation to your local club meeting, and back issues of ham radio magazines for visitors to leaf through or take home. A free cup of coffee or a cold drink will make people feel welcome and want to linger and have a look around.

Take photos, and write a summary and send it in to us - your efforts may earn you a piece of Golden Megaphone wallpaper for your club. The Golden Megaphone contest is open until the end of the year, so if your club can't get a promotion/recruitment event together in time for Field Day, choose another time. The future of ham radio is dependant on us to keep the ranks full, so do your part. Click here for details and an application for the Golden Megaphone contest.

I want to apologize to MARS columnist, Bill Sexton, and his readers for making a mistake and not including his column scheduled for this issue. I had set it aside to make sure I had all the photographs that accompanied the text of the column, and it ended up in an unlabeled folder in my computer. I didn't find it until it was too late. We will print it next month.

Please stay in touch with us. We love to read your letters and emails and need your stories to keep *WorldRadio Online* thriving on the web. Contact me at [nancy@tir.com](mailto:nancy@tir.com) or PO Box 807, Hadley MI 48440.

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A publication of



CQ Communications, Inc.  
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*WorldRadio Online*, Year 38, Issue 12, published monthly by CQ Communications, Inc., 25 Newbridge Rd., Hicksville, NY 11801. Telephone 516-681-2922. FAX 516-681-2926. Web Site: <http://www.cq-amateur-radio.com/worldradio> Entire contents copyrighted © 2009 by CQ Communications, Inc. *WorldRadio Online* assumes no responsibility for unsolicited manuscripts, photographs, or drawings.





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## NEW! IT-100

Always looking to make our products better and more useful, LDG's popular AT-7000 tuner has been upgraded to the IT-100. Still matched in size to the IC-7000 and IC-706, the IT-100 now sports a front panel push-button for either manual or automatic tunes, and status LEDs so you'll know what's going on inside. You can control the IT-100 and its 2000 memories from either its own button or the Tune button on your IC-7000 or other Icom rigs. It's the perfect complement to your Icom radio that is AH3 or AH-4 compatible. **Suggested Price \$179.99**



## Z-11Pro

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



## NEW! Z-817

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



## AT-100Pro

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



**See**

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

## AT-1000Pro

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



## NEW! KT-100

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



## NEW! Z-100Plus

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



## AT-200Pro

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

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# Ushagat—a Low Budget DXpedition to Alaska

By Bob Wertz, NF7E, Flagstaff Arizona



A couple of years ago, Art, NN7A, asked me to go on an IOTA DXpedition to the tiny Central American country of Belize. He had been to Belize a number of times —and along with Mike, NG7S, another DXer from Flagstaff, Arizona —had been the first to operate from IOTA NA-180, a group of islands off the south coast of Belize.

It would be my first DXpedition and I jumped at the chance to go. We operated from the deck of a small beach house, enjoyed great meals prepared by the resort staff, and when the bands were dead there was always the warm Caribbean for swimming or snorkeling, or just napping in a hammock. Gee, were all DXpeditions this plush?

Another former Flagstaff ham and member of the Northern Arizona DX Association, Marvin Baur, KL1YY, moved to Alaska in 2005. Almost from the moment he arrived, Marvin had been intrigued by the possibility of making an IOTA trip to an Alaskan island. Marvin and his wife Sharon, KA7ZOZ, were both volunteers for the Alaska Maritime National Wildlife Refuge, which manages most of the islands in southwestern Alaska, including the Aleutians and others off the southern coast. They talked with staff members who had visited many of these remote islands, and the Refuge Manager seemed to be amenable to supporting an amateur radio trip.

We considered a couple of accessible Aleutian possibilities, but decided against going there because of the distance and transportation expense. In late 2006 one of the Refuge staff suggested looking at the Barren Islands (IOTA NA-206). While they were uninhabited and had no amenities, they could be reached in a few hours by boat from Marvin's home in Homer. Several Refuge scientists had been there, so some first-hand information was available.



**Approaching Ushagat Island, Alaska, IOTA # NA 206, Author Bob Wertz, NF7E. (Photo courtesy of KL1YY)**

The Barren Islands lie in the entrance to Cook Inlet, about midway between the tip of the Kenai Peninsula and Kodiak Island. They are located along the rim of the Gulf of Alaska, notorious for having some of the worst weather in the world. We would have to be prepared for strong winds and precipitation of any kind. Long-time Alaska residents shook their heads and said, “You’re going out there? Watch out for the weather; it can be fierce.”

We decided to go to Ushagat Island. Marvin did some research and found that there were protected places to land, although there were no docks or other facilities of any kind. The distance from Homer was about 60 miles across the Kennedy entrance





**Two of the many Humpback whales seen on our trip to and from the island.  
(Photo by KA7ZOZ)**

to Cook Inlet. Ushagat was the only one of the Barren Islands that had any trees. Sitka spruce along the shoreline could provide supports for wire antennas. By early 2007, our DXpedition began to take shape.

The only other activation of the Barren Islands had been on Ushagat, by NL7TB and N6IV in 1996. They made their trip in early July, and reported weather so bad that at times 55 mph winds had made it necessary for one of them to hold on to the tent while the other operated. We

needed to plan for the worst and hope it didn't happen.

Tides were another consideration. Normal maximum tides at new and full moon ran around 18 feet. That could be doubled by crashing surf associated with a storm. We planned our trip for an intermediate phase of the moon to minimize the effect. Even then, we could be dealing with daily tidal differences of 12 feet.

Marvin took on the task of doing most of the logistical planning. He purchased tents, tables, chairs, cooking gear, and ice

chests. He made sure we had two good generators, drinking water containers, gas containers, tarps, plenty of rope, tools, and lots of wire and coax. Sharon worked to put together a menu that could be prepared in advance and frozen, minimizing preparation time and doubling as ice for the ice chests. The National Wildlife Refuge scientists recommended we use Optima Spiral gel cell batteries for power. A typical automotive type battery has a cold cranking amp rating of 400 to 575 amps, while Optima batteries were rated at 870 cca.

Art and I would take complete stations with us, much like we had to Belize. Marvin would take along a third transceiver as a backup. We knew we would discover things we had forgotten, or wished we had brought with us when we got to the island, but our goal was to think of all the essentials so that anything overlooked would be just an annoyance and not a serious problem. Ensuring we had adequate first aid and safety equipment in case the weather turned on us was top priority.

At last the date for our departure arrived. Art flew in from Colorado and I came from Phoenix, meeting in Seattle for our flight to Anchorage. Our early evening flight north put us in the air as the sun was going down. For a while it got darker and darker, but after a while it started to get lighter. Then we saw the sun come up again, this time in the west. We'd never seen that happen before! We had gained on the sun by traveling both north and west. Finally, it set for a second time as we arrived in Anchorage around 11 p.m.

In the morning we took a Grant Airlines flight to Homer. We were both surprised to see just how green everything was as we flew to Homer. The landscape of the Kenai Peninsula below us was lush, green and beautiful, contrasting with the deep blue of Cook Inlet and the glacier-capped 10,000-foot volcanoes on the other side. It was the first of many times we found ourselves awestruck by the beauty of the Great North.

When we arrived in Homer, Marvin was waiting for us at the airport. After loading up our luggage, we headed off to Marvin and Sharon's beautiful home, which I now call the Best Bed and Breakfast in Alaska.

We spent the next two days getting everything ready and checked out. Art and I had sent packages to Marvin containing bulky items we didn't want to carry with us. My boxes arrived, but one of Art's, a box with most of his camping gear and the base of his vertical antenna,



**L to R-Captain David Raskin, NF7E, Stan and KL1YY unloading supplies on Ushagat.**



# Ride Cycle24 to the Top with Yaesu

## The radio... FT DX 9000



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

### HF/50 MHz Transceiver FT DX 9000MP

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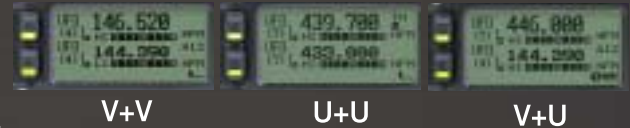
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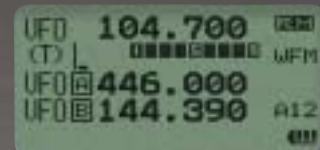
V+V

U+U

V+U

### Dual Band AF Dual Monitor Function

Listen to AM or FM radio stations while monitoring two HAM frequency channels! Two independent Amateur Band Receivers will allow you to listen to your favorite AM or FM stereo broadcast station, and monitor two different amateur bands ("Band A" and "Band B") at the same time. When the radio receives a signal, either on the A Amateur Band or The B Amateur Band, it will mute the FM/AM broadcast and let you go to the Amateur Band that the VX-8R/E is receiving on.



### Completely independent AM/FM receiver included



• Internal Bar Antenna  
(The photo is for illustrative purpose only)

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**NN7A, NF7E, & KL1YY look over all the equipment and supplies after landing on NA#206.**  
(Photo by Sharon Baur, KA7Z0Z)

didn't make it. Although he had paid postage for Priority Mail, the postal clerk had neglected to place Priority Mail stickers on the box, so it literally went by slow boat. Fortunately, his other item, a 4-foot long, 4-inch diameter PVC tube with his vertical antenna was delivered in time. Hams can make do without their sleeping bags, but not without their antennas! We had to do some improvising on Art's vertical antenna to make an operational base, but we were able to scrounge or make the needed parts, thanks to Marvin. I like to think of him as "MacGyver". Having spent many a Field Day in Flagstaff with him in the past, I know he is very resourceful and could always work through any problems.

Before we left for the island, Marvin and Sharon took us to the Alaska Maritime National Wildlife Refuge Visitors' Center. We met some of the scientists who had been to Ushagat and some of the other Barren Islands. We talked to them about what we should expect. Steve Ebbert, Invasive Species Wildlife Biologist, gave us a lot of good information, even suggesting exactly where to set up camp. We were ready to depart for NA-206.

As on most DXpeditions to remote places where regular commercial transportation is not available, one of the most important elements in planning our trip was to arrange adequate transportation. Sixty miles through the north Pacific including part of the Gulf of Alaska can be quite challenging. Fortunately, Marvin and Sharon had a friend in Homer who would help out. David Raskin agreed to take us out to the island on a Thursday and pick us up again the following Tuesday. His 36-foot boat with twin diesel engines appeared to be up to the task.

We arrived at the Homer Spit harbor early on Thursday morning July 12th to find David and his crew ready for the 5 1/2 hour trip out to the island. I think they were overwhelmed by the amount of equipment we started to load onto the boat. They hadn't realized how much gear a four-person DXpedition that has to be completely self-supporting could involve, but the crew helped load and stow it all in a very short time.

As we left Homer, it was a gray, overcast morning with calm winds, but we wondered what the weather had in store for us. The long-range forecast called for some rain, but not much wind. It was a bit on the cold side, so we all wore jackets, boots, and raincoats, dressed in layers as Marvin and Sharon had recommended.

The seas remained calm as we proceeded out of Kachemak Bay into Cook Inlet. This gave us a great opportunity to look for whales and they soon came into view. Lots of whales! They appeared to be humpback whales, and some were surprisingly close to the boat. During the trip to and from the island we must have seen about 50 or more whales. When they were especially close, the captain would shut down the engines. We would watch them as they swam gracefully, first blowing, then their backs appeared, and finally their tails, waving at us as they submerged. It was a thrill to see them at such a close range. The waters remained calm enough to spot them easily and keep us comfortable during the entire trip to the island.

About five hours after leaving Homer we finally saw Ushagat Island in the misty distance. It was longer and more rugged than I had thought it would be. As we got closer, we used the boat's GPS unit and the maps to find a landing place. We took a few pictures of the GPS unit to document our location for the IOTA group. We took a look at the location used by the 1996 operation, and while it was more open and therefore perhaps a better location for the radios, it was more exposed in case of inclement weather and had no trees for wire antenna supports. We decided to sail on another mile to the more sheltered location the biologists had recommended.

We anchored in a fairly calm crescent-shaped bay, and Captain Raskin proceeded to detach the small Zodiac dingy. With its 8-hp outboard motor, it transported the four of us and all of our gear to shore in about six trips. Although the surf was less than six inches, it was difficult to get the Zodiac turned around and back to the boat. We were glad the surf wasn't any higher.

One of the suggestions from NL7TB (who had been to Ushagat in 1996) was to plan to arrive at high tide, to minimize the distance you have to carry everything to set up camp. With the difference between high and low tide running between 18 and 24 feet, the distance up the beach to a point above maximum high tide could be as much as 150 to over 200 feet. Walking on the shore was tiring and steep. Each step, carrying the supplies and equipment, would cause us to sink into the soft pebbles and sand.

We set up camp as quickly as possible. One large tent served as a kitchen, eating area, and the home of the SSB station. Two





**4 tents comprise Camp Ushagat. L to R -NN7A's CW tent, KL1YY's sleeping tent, larger main tent used for the kitchen and SSB operations, and NF7E's sleeping tent, spread out along the beach. (Photo by Sharon Baur, KA7ZOZ)**

smaller tents were used for sleeping, and Art's tent doubled as the CW tent and his bunk. With the tents up, we quickly got to work on the antennas. Art used his 32-foot military surplus Shakespeare vertical and a TenTec Jupiter transceiver for the CW station, and Marvin and I put up a G5RV and a 135-foot end-fed wire with a Kenwood TS140S for the SSB station, using the tall Sitka spruce trees at the upper end of the beach as antenna supports.

Art's first CW contact was with RA6AX at 0308Z on the 13th. My first SSB contact was with Mike, KQ6MU, who gave me a 5x7 report. My second was with HF30PIK, who also gave me a 5x7. Not bad for the bottom of the sunspot cycle. Maybe we would luck out with good propagation! We started out with some nice pileups, big enough that I had to operate on split frequencies.

We had steady calls for several hours, with Art working CW on 30 meters while I worked SSB on 20. The bands were good from about 0500Z to 0900Z, midnight local time. Although sunset was after 10 p.m., it remained light until midnight. In fact, it never really got dark enough to see the stars. Sunrise was at about 3:30 a.m. local time. It soon became apparent that propagation during the long days was poor, and that our good openings were limited to evening after about 8 p.m. and nighttime. At least this left plenty of time to experiment with antennas and explore the island.

After a couple of days, things changed. In fact, they changed so much that at first I thought I had an antenna problem. It had rained the second evening and when I started operating the morning after, I called and called, but had no replies. Where is everyone? Did the rain get in the antenna? Do I have rig problems? Marvin and I pulled down the G5RV, and checked it out. We quickly made up a 20-meter dipole and put it on the air, but that did not seem to help. Art came over to the SSB tent and said he was also having problems on CW.

At one point we decided to change out the TS140S and

try Marvin's Alinco DX70TH, our back up rig. It seemed to work a little better, but we were still struggling to make QSOs. Art had a little more success on CW than we did on SSB, but he also was saying it was very slow and band conditions were not great.

We were experiencing the vagaries of propagation at high latitudes, and learning that it was a different world than the mid-latitudes we were used to. It can be much more difficult to communicate to other parts of the world from the far north.

After we got back from our DXpedition, I contacted propagation guru Tad Cook, K7RA. He said fluctuation in the A index and the solar winds were the problem. Solar disturbances tend to concentrate toward the poles, so the absorption in Alaska from this activity can lead you to believe your radio is dead! Folks operating at high latitudes have a respite from this activity because during a lull in the solar cycle, the chance of geomagnetic storms is much less.

A check of the A index values for our time on the island showed a negative correlation of the number of QSOs per day with the value of the index. On July 14th, when the index was by far the highest, and the day of the IARU contest, we had the fewest QSOs. These totals include both CW and SSB contacts.

	A INDEX	#QSO
July 11–		
the day before we arrived on the island	32	—
12–	10	308
13–	2	356
14– (IARU CONTEST day)	39	49
15–	19	211
16–	7	165

We tried putting up a kite antenna using a delta kite one day when the winds were just right. With a tether line and a 135' wire, the kite was very stable and made a great-looking sky

hook. It loaded up well, but unfortunately it was during a time when the bands were not open and no contacts were made. By the time the bands opened, the winds had calmed.

Another morning, at about 11:30Z, I got up early to try to work some 160-meter contacts using a line we had put up over the Sitka spruce trees along the shore. I loaded that up on the topband and listened but only heard one familiar call from Arizona. There was Leo, W7JPI, from Sonoita, talking to some of the 1.863 gang I called a number of times but was never able to break in for a contact.

At the CW station, Art had his best success between 0600-1100 working both Japanese and European stations during the evening, transitioning to all JA's after about 1000Z. The last night we were on the island, he was working mostly North American stations on 40 meters when a station broke in to tell him that "Europe is waiting for you on 14.040." They were indeed, and he had a steady pileup of European stations from about 0400-0700, a little earlier than on the other nights.

The table below summarizes the results of the CW station operation by continent and band:

**Total QSOs:** ..... 734  
**Total Entities:** ..... 42

#### By continent

Asia ..... 282  
 Europe: ..... 265  
 N. America ..... 172  
 Oceania ..... 10  
 S. America. .... 5  
 Africa, Antarctica ..... 0

#### By band

40 m ..... 34  
 30 m ..... 326  
 20 m ..... 374

Asian contacts, almost all with Japan, edged out Europe by a slim margin, while North America was far behind. Twenty and thirty meters were close in the number of contacts, with just a handful on 40 meters. Generally, the rate was higher on 20 meters, but Art yielded that band to the SSB station when the ops were on the air, as they of course could not work 30 meters and made all of their contacts on 20 meters.

During the lull periods, we had a chance to explore the island. From the early 1900s until the late 1930's, the island was used to raise foxes. They were introduced on islands in the Aleutians and as far east as the Barrens by trappers seeking their pelts. The foxes fed on the island's birds and their eggs. In recent times, the National Wildlife Refuge personnel have made a concerted effort to remove foxes from all of the islands due to their harmful effects on the native birds, and the depleted bird populations have been recovering. We found a few old cages and two workbench tables in the trees behind our camp that may have been used to process fox pelts.

Although Alaska has a short growing season, those 18- to 20- hour days during the summer provide lots of sunshine and summer plant growth. We found the island to be very green, with many, many different kinds of wildflowers. Art, NN7A, is a botanist, and he especially enjoyed the large variety of plant life. One of the many flowers he found was the rare Chocolate Lily, a photo of which we included on the QSL card.



**NN7A's CW tent with improvised driftwood antenna wire support. (Note- this is one of my favorite pictures of our DXpedition!)**

Also during the lulls, Marvin and Sharon spent time exploring the island and looking for different types of birds, making a list so they could report their findings to the Refuge research center.

After six plus days on the island, we packed up our gear for the scheduled 10 a.m. Tuesday morning arrival of the boat. At two minutes before 10, the boat appeared around the corner of the bay, right on time! We were ready for them with all our gear packed up and laid out on a tarp at water's edge. Within an hour, everything had been shuttled back to the boat by the Zodiac and stowed for the trip back to Homer. NA-206 on the air was history.

All in all, our DXpedition was a wonderfully exciting and memorable adventure, and much that was due to a lot of planning and hard work by Marvin and Sharon. The DXpedition did not gouge our bank accounts and did not require a lot of expensive equipment. I would encourage other hams to try doing their own DXpeditions. One of the keys to a great DXpedition is go with great people and you will enjoy it at its best - and we did just that. The only way it could have been better is by having more QSOs. But maybe next time, we should plan to go at the top of the sunspot cycle.



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<sup>1</sup>Note that certain frequencies are unavailable. <sup>2</sup>5W output

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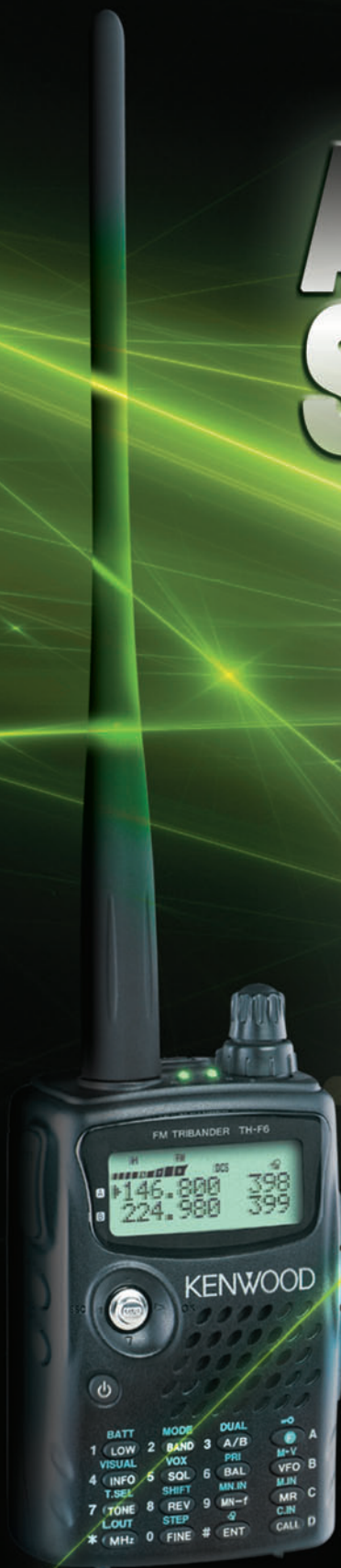
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# Vertical Tales: Adding 17-Meters to a Hustler 6-BTV

By Mike Herman, WB8EVI

**M**any hams use a vertical antenna on HF. A vertical is much cheaper than a tower and beam, and does not scare the neighbors nearly as much. At my house, I started with the Hustler 4-BTV installed on a pipe that I pounded into the ground just outside my basement window. Its total height was about 25 feet.

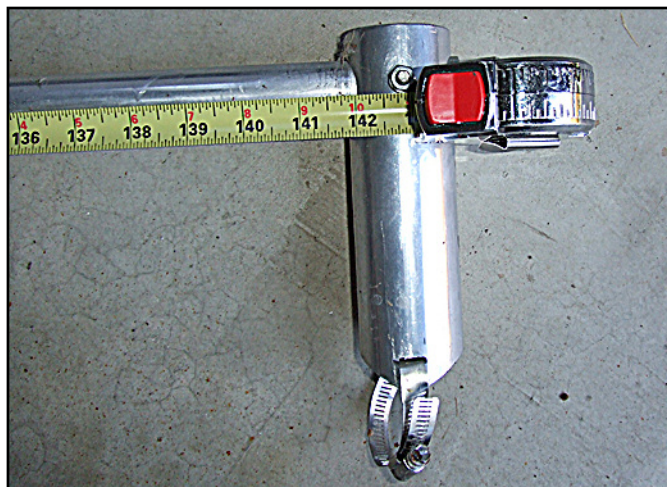
I had a few problems. The antenna coupled to the aluminum downspouts that were only a few feet away. I replaced the downspouts with PVC, ran a couple 20-meter radials along the side of the house and retuned the antenna. It was much better, but not ideal. I added an 80-meter resonator, turning my 4-BTV into a 5-BTV. Actually, I first used the 75-meter resonator, but couldn't tune it to the CW portion of the band. I recommend buying the 80-meter resonator; you can tune it to either end or the middle. The resonators are not broad enough to allow you to get the whole band. When you get above or below the resonant spot, the SWR climbs rapidly. Next, I added the 30-meter kit. This was easy to install and gave a low SWR. I then had a 6-BTV. After I came across a good deal on some half-inch Andrews Heliac hardline, I decided to move the antenna farther away from the house and replace the RG-8X cable that I was using.

I wanted the vertical to be located in the center of the backyard, but the XYL-approved location was behind the storage shed. I chose a spot about two feet from the rear of the shed, about 18 feet from a metal fence that is on the lot behind mine. I installed 100 feet of the Heliac inside the house, and then buried 140 feet of it in the yard. I just used a shovel, making a small slit a couple inches deep. Then I pushed the cable in and pushed the ground back over it. It has been buried there for several years without any problems.

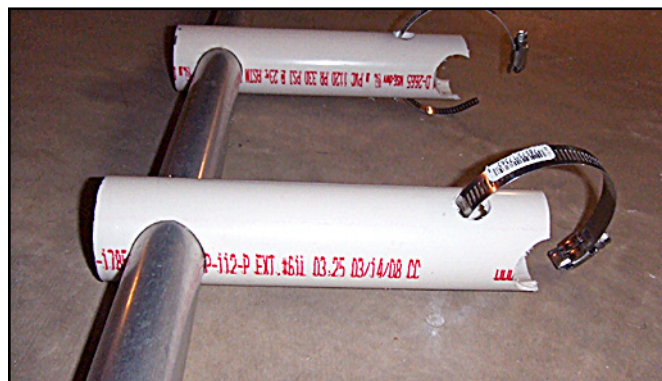
I also have a buried wire loop surrounding my entire lot in the form of an invisible dog fence. Its purpose is to give my dog an electric shock when he crosses the wire. This wire passes a few feet behind the antenna. I did not want any buried radials to go across it for fear of shocking the dog whenever I was on the air. I also did not want to pick up any radio noise from the transmitter the fence uses. I had the "dog fence" people come out with their motorized tools and bury some radials. That was \$100 well spent. They even used their own wire, which was insulated stranded copper. I now have one quarter wave radial each for 80, 20, 15, and 10 meters; with nothing for 40 or 30 meters.

Next, I lined and grounded the inside of the shed's back wall with metal chicken wire fencing that I purchased at the local Home Depot. This allows me to move metal objects around inside the shed without detuning the antenna. Since we get some strong winds here in Ohio, I braced the vertical with a couple of pieces of PVC pipe to the back of the shed. After many trips between the radio and the antenna, I had it working fairly well.

I started hearing a lot of DX on 17 meters and wanted to use that band, but had a horrible SWR there. I wasn't surprised since the antenna was not designed to cover that band. I saw several ads in the magazines for add-on kits, but they were only rated for a few hundred watts. I came up with a better and cheaper idea. I made a quarter wave add-on with 14-gauge insulated copper wire, a couple of pieces of small PVC pipe and some hardware brackets. I clamped it on the vertical just above the base insulator, making an electrical connection there. Roughly a quarter wave up, I attached another PVC pipe that supported the top of the 17-meter add-on. The wire went through holes in the PVC about 5.5 inches out from the vertical. The PVC pieces were pre-formed 90-degree bends that I found at Home Depot.



The conducting assembly that connects the 17-meter section to the Hustler antenna.



Detail of the insulated support construction.





**The finished 17-meter add-on attached to the Hustler antenna.**



**The completed antenna, ready to operate.**

After installing this 17-meter add-on, I had to do a LOT of retuning for every band. Depending on your surroundings, you may need to use a hacksaw to shorten the distance between the traps. I got every band working well, except for 15 meters. Sunspots are low and the band is dead most of the time now so I left it alone. Does it work on 17 meters? You bet it does. I worked Samoa on the band with only 100 watts. It will also take full power without arcing. My main problem was the wind. It moved the PVC brackets around and the wire became loose. I had used only a single bolt to attach each PVC pipe to the bracket. The flexing from the wind would work them loose. A sturdier solution was needed.

I came across a long piece of aluminum tubing that was perfect for replacing the wire. I used a larger aluminum pipe for the bottom bracket and a hose clamp to attach it. I cut two pieces of PVC to make insulated supports for higher up the 17-meter tube. Again, I used hose clamps to attach them. First try resulted in broken PVC because I had the holes for the hose clamps too close the end of the PVC pipe. When I tried raising the antenna, it flexed a little and the PVC broke where the hose clamp went through it.

For the second trial, I used better PVC brackets and put more space between the holes. It is much sturdier and lucky me, 15 meters also has a much better SWR now. My first contact on 17 with this configuration was to Hawaii.

I do think about adding more radials. I also think about trying an isolating current balun out at the antenna. However, what I now have works just fine. I have all 50 states and 177 countries verified and recently worked a few new countries.

You have no excuses now. Just about everyone with a yard has room for a vertical. You can put the whole thing in a PVC pipe, hang a small flag on it and your neighbors won't even know it is an antenna.

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## The Rules Say...

John B. Johnston, W3BE

### LICENSE POSTING

**Q** I know that our club station license document has to be posted at our repeater remote transmitting site. But I can't find any such rule in Part 97. If it's there, where is it?

**A.** Take a look at Section 97.213(d). It says that a photocopy of the station license and a label with the name, address, and telephone number of the station licensee and at least one designated station control operator ("SCO") must be posted in a conspicuous place at the station location. Such posting, moreover, is a requirement for any FCC-licensed amateur station transmitting under telecommand within 50 km of the Earth's surface.

**Q.** Assume that a club operates a repeater at a site owned by the county. Its Technical Committee has W[suffix] as Chairman and trustee of the repeater. The members have also appointed K[suffix] to be trustee of the club's station call sign, N[suffix]. Which call sign should be used to identify the club's repeater, K[suffix], N[suffix] or W[suffix]?

**A.** All three are eligible, as far as Section 97.5 is concerned. Your club must decide, therefore, under which station license the repeater transmissions are to take place. It should do this carefully as there are accountability obligations for the person chosen. As long as the transmissions take place from a location where the FCC regulates the amateur service and does not otherwise run afoul of the restrictions on station location, the station location is of no consequence to any of this. See BE Informed No. 4 WHICH CALL SIGN?

**Q.** A friend offered to let me put his repeater on the air with his call sign and be the SCO. I contend that the ID should be my call sign or the call sign of the club station for which that I am the trustee. Which is correct?

**A.** There is no FCC rule as to the maximum number of repeaters transmitting simultaneously under the authority of the same station license. Two FCC rules, rather, provide a coordination opportunity for your local amateur service community to rely upon when deciding whether or not your multiple repeaters would make the most effective use of those channels in your area.

Section 97.3(A)(22) says that a frequency coordinator is an entity, recognized in a local or regional area by amateur operators whose stations are eligible to be auxiliary or repeater stations, that recommends transmit/receive channels and associated operating and technical parameters for such stations in order to avoid or minimize potential interference.

Section 97.205(c), moreover, helps establish the import of your coordinator. It says that where the transmissions of one repeater cause harmful interference to another repeater, the two station licensees are equally and fully responsible for resolving the interference unless the operation of one station is recommended by a frequency coordinator and the operation

of the other station is not. In that case, the licensee of the non-coordinated repeater has primary responsibility to resolve the interference.

*W3BE-O-GRAM:* Seek coordination.

**Q.** When a licensee has a repeater with his call sign being transmitted on it at one location other than his home, how does his home station make the station identification announcement for non-repeater transmissions?

**A.** Each station must transmit the call sign shown on the ULS for the station license grant under which it is transmitting, even where it is the same grant. See Section 97.119. Multiple stations could be transmitting the same call sign in the station identification announcements.

*W3BE-O-GRAM:* An indicator might be appended to the call sign transmitted by the repeater as a means of alerting listeners that it is transmitting under the special rules in Section 97.205 for repeater stations. The indicator must be separated from the call sign by the slant mark (/) or by any suitable word that denotes the slant mark. It may be appended before, after, or both before and after, the call sign. No self-assigned indicator may conflict with any other indicator specified by the FCC Rules or with any prefix assigned to another country. See Section 97.119(c).

**Q.** I am the license trustee for our club's repeater station. When a member uses it for Echolink, isn't he the SCO?

**A.** As the station licensee, only you can decide that. It is your duty to designate your station SCO. Section 97.103(b) says that the FCC will presume that the station licensee (you) is the SCO, unless documentation to the contrary is in the station records.

**Q.** But he is switching our repeater off and on. Doesn't that make him the SCO?

**A.** Not unless you designate him as the SCO of your station. See Section 97.103(b).

**Q.** He can't be the SCO because his station transmits on the two meter band where remote control is banned.

**A.** Only partially. Radio telecommand is implemented with an auxiliary station. Section 97.201(b) authorizes an auxiliary station to transmit on the 2 m and shorter wavelength bands, except the 144.0-144.5 MHz, 145.8-146.0 MHz, 219-220 MHz, 222.00-222.15 MHz, 431-433 MHz, and 435-438 MHz segments.

**Q.** I am the trustee of a club repeater system which has an Echolink interconnect. One of our members was connected to a station in Korea. They were speaking in Korean. Our member identified in English, the other station did not. Since I do not speak Korean, was it compliant for this conversation to be held over the repeater and if not, what sections of Part 97 apply?

**A.** The SCO of the repeater must have some way of determining that communications it transmits from a place where the



FCC regulates the amateur service - in a language that he or she does not understand - is compliant with the transmissions authorized in Section 97.111 and that they do not run afoul of the transmissions prohibited by Section 97.113.

**Q. I have been involved with operating a repeater for more than 30 years. Until reading your column, I never gave a thought to the repeater trustee dying. I presume that for our repeater to be legal, should the trustee die, someone's call sign would have to replace the club call sign until the FCC modifies the license to reflect the new trustee?**

**A.** Yes. Section 97.5(a) can only mean that the station licensee must be a living person with the capability of having the station apparatus under physical control. If your repeater is one that the hams rely upon regularly such that even its temporary loss would disrupt their activities, you should have a backup plan at the ready in case of an unexpected need.

**Q. My thinking is that CW is a different mode from MCW. But I can't find where the FCC rules say that MCW is a valid method of identifying. Is it legal for a repeater to use MCW to ID?**

**A.** Yes, it is. Look at Section 97.3(c)(5). The emission type term "Phone" is defined to include MCW for the purpose of performing the station identification procedure, or for providing telegraphy practice interspersed with speech.

**Q. We have hunters in our locality who have discovered what they refer to as "50 watt FM" using our 2 meter band. They hunt wild game from their vehicles and use mobile units as well as HT's. Some of them have obtained ham radio licenses but they continue to let their buddies use the 2m band without a license and they speak with their illegal buddies on the air frequently. Last winter, one group of six hunters went for a total of 3 hours with no ID's. Do you advise we, as hams, take a few minutes a month and listen around our local area for illegal users and maybe let the FCC know about the activity?**

**A.** Absolutely. Report violations to [fccham@fcc.gov](mailto:fccham@fcc.gov).

**Q. What, if anything, can the everyday ham do to help thwart these growing problems and protect our bands?**

**A.** You should each make certain that you are not part of such misbehavior. Promote a culture of rule compliance. That way, our Amateur Auxiliary Official Observers and the FCC can concentrate their enforcement resources on the very serious cases.

## APPRECIATION



**Our R&R Superham-of-the-Month is Russ Slye, N3GT who received his 50-year awards from W3BE. Russ is the Secretary of our QCWA Chesapeake Chapter No. 20.**

**Thanks, Russ, for spearheading the move to change our Chapter's name from "Baltimore."**

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

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

**Report violations to:** [fccham@fcc.gov](mailto:fccham@fcc.gov).

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

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# An 11-Year Old's View of Amateur Radio

By Lars Kerschner

**M**y name is Lars and I'm eleven years old. My father, Ike Kerschner, N3IK, has been a ham for over fifty years. When I was three years old, he let me talk on the radio for the first time. I have been interested in ham radio ever since, even though I didn't get my Tech license until March of 2008. I upgraded to General Class on Field Day 2008.

In the beginning, getting on the air was a trial and error process and very difficult for me to do, but it was so worth it. I am meeting new people, learning about other cultures, and just having a good time. Although I don't quite grasp all the technical concepts yet, my father is helping me. We put up antennas, go to hamfests, and talk on the radio together. In fact, right now we're putting up an 80-meter loop and a 20-meter Yagi. We currently have a 160-meter dipole linked to the Ten-Tec Corsair radio that my dad and I share.

One of the reasons I am writing this is that I talked to Dee, W1HEO, and saw his article in the September issue of *WorldRadio*. The other reason is that I want to try and get kids interested in amateur radio. I do enjoy just talking to everyone, but I don't have a lot in common with people who are 40, 50, 60, maybe even 70 years older than me.

A teenager who gets into radio would enjoy it, but not as much as child who was introduced at a young age. When I was three years old, I would always listen to my dad on the radio. I thought it was neat. When he worked code I would think, "Boy, I'd sure love to do this someday," That is why I think we should introduce radio at an early age.

If kids saw all the awards you could get, I think that also would make them more interested in getting their license. I am working on my WAS (Worked All States), my DXCC (worked 100 countries), and my WAC (Worked All Continents). A great way I found of doing these is working contests. There are many people in the contests and they're really scattered around. I don't care if I win or lose; it's just wonderful to have worked a few people. I take a lot of pride in my certificates and participating in contests, even when I don't have a high score. It's all for fun.

There is so much amateur radio can do, but it seems few people bother to pay attention to it. Before there were cell phones or computers more people were interested in radio, because it was considered to be high tech. But even today, hams make radio high tech. It is as sophisticated as a phone, computer, or video game, just much simpler to understand.

Until people sit back and realize all the good ham radio does, there won't be that many people starting to be hams. I hope to change that a little bit. I know there are things that amateur radio does that are good for everyone around the world. It promotes people to be nicer to others. There is no racial discrimination. It allows people to conquer fears. It starts friendships. It starts conversations. Hams help in natural disasters such as hurricanes, tornadoes, and earthquakes. This list could go on and on.



**Lars' interest in ham radio began at a very early age. Here is a photo of Lars at age 4 (right), his older brother Josh (left), and their Sony transceiver.**

I've found that kids with stage fright can get over it by talking on the radio. I used to be deathly afraid when I had to read something in front of my class. I'd freeze up and wouldn't talk. But when I'm talking on the radio I feel more relaxed because there aren't a hundred pairs of eyes staring at me. That is the first step to getting over stage fright. I'm fine now and I just love doing it.

I'm hoping more kids do get interested in the next few years, so that there are more kid's nets. I've talked in a few but there were only a few kids checked-in. But you never know. I started a forum on QRZ.com about youth nets. I have had several responses on that, but when I posted replies, there wasn't anyone putting things up or e-mailing me back. I have not had the best of luck. It was a little discouraging, but I need to keep on trying. As soon as I can, I want to be a member of FISTS. My dad is a member. I'm hoping it helps me with communicating a little bit. I think it would be good for all kid hams to get into it. It sounds like it can be beneficial.

I've found that learning Morse code can also be helpful because you can work people when conditions are bad. My father has worked every continent on Morse code; hams in some countries don't have enough money to afford anything else. Even though code seems difficult to learn for some people, there are a few things to make it easier. For example, there are computer programs on which kids can learn, and also FISTS has a Code Buddy list that matches you up with someone to practice with. I've seen adults who struggle with code, yet have seen kids who get it in a few weeks. On Morse code, people have no idea if you're male or female, old or young...they just can't tell. It makes some people less nervous. You might talk to someone for an hour and a half thinking they were a man only to have them tell you they aren't. That is what I like about it.



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# Investment Strategy

Gerald F. Gross, WA6POZ

**I**n these times of economic turmoil I thought I would start this column with some good news. Ten-Ten had no money invested with Bernie Madoff! In fact Ten-Ten has no money invested in the stock market or any other risky investment. In the early 70's it became the investment strategy of Ten-Ten that nothing but federally guaranteed Certificates of Deposit, CD's, at various insured banks and savings and loans around the United States was the safest investment for our organization. I believe that memories of the Depression led to this investment strategy, no one wanted to be the ONE who had to say 'oops' if it turned out to be a bad decision. That investment philosophy is still with us today. Ten-Ten splits its assets into short and long term investments. The long term investments are usually five years and are currently averaging a little less than 5 percent; not bad in today's world. The short term investments can range from a money market account to a six to nine month CD. Ten-Ten also has its checking account and some petty cash to handle the day to day operations. I must point out that while Ten-Ten has sufficient assets, the majority of our funds are deferred for Life and multi-year memberships. If you are interested, the 2008 budget can be found under the organization tab on the Ten-Ten web page.

I am also very happy to report that **TEN-TEN WILL NOT BE RAISING DUES THIS YEAR, NOR IN THE NEAR FUTURE.** Eventually, yes, some time in the future it will have to as expenses will eventually rise above the point we can save. Ten-Ten officers and directors are always looking for ways to save. One way is to receive the *NEWS* electronically, another way is to renew electronically or print your membership card on-line. Today, the *10-10 NEWS* is available via electronic delivery, the other two are in the planning and testing phase, and will be announced shortly. The *10-10 NEWS* will always be avail-



**10-10 at Orlando HamCation.** In the booth was President Gerry Gross, WA6POZ, #21274, Director Leslie Johnson, WA4EEZ, #15675, and Cypress Chapter Head, Charles Hennessey, AF4QT, #74651. (Picture by Linda Gross, KA6SPS, #69700)

able as a printed copy by post. As we get older, we find that they don't make a magnifying glass large enough, or some just like to read the *NEWS* where a computer is just not practical.

Speaking of the web, last year when it was decided to switch providers, it was done because of the lack of functionality and high cost. Ten-Ten lost a function, the list-serve, but gained functionality by being able to support a forum, chat room, a shopping cart and added a 10-10 QSL Bureau Inquiry. This past quarter, a Ten-Ten database lookup function was added, which a search of the database can be made by call or Ten-Ten number. Also, the 2009 convention site was added. Mel Sojka, KD5DE #33513 with the assistance of Floyd Larck, KK3Q #26039 and prodding by me have added an online reg-

istration for the 2009 convention, new member and renewal function to the shopping cart. Eventually a store for Ten-Ten merchandise will be added. This is no easy task. It requires time and a real dedication to get the various tasks completed. Let's see more use of the chat rooms. During a net, whether it is a Ten-Ten or a chapter net, use the chat rooms to see who may be trying to check in and just maybe your antenna needs to be turned or a relay needed.

## Upcoming Hamfests

From June 4 through 6, Secretary Sandy Glenn, W7SSG #74633 and her family, Stan, W7STN #73627 and Veronica, W7VMG #74634 will be in the 10-10 booth at ARRL Northwestern Division



Convention or Sea-Pac in Seaside OR. I also understand some of the Portland members will be stopping by to lend a hand

From June 12 through 13, DX Manager Mike Davidson, N5MT #24949; Linda Gross, KA6SPS #69700 and I will be at the ARRL West Gulf Convention or Ham-Com in Plano, Texas. We will be located in the same area as last year, just east of the commercial vendors.

At any of these hamfests, all are welcome to stop by, sign the log and chat with whom ever is present, take a break and rest your legs.

### 10-10 Future Events

The 'Open Season Contest' will be held starting at 0000Z 6 June 2009 through 2359Z 8 June 2009. The purpose of this contest is to stimulate PSK activity on 10 meters. This operating event is a joint PSK contest hosted by 10-10 and the 700 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, the 700 club site is [www.podxs.com/html/070\\_club.html](http://www.podxs.com/html/070_club.html) and the EPC site is [www.eu.srars.org](http://www.eu.srars.org). Open Season logs must be returned to the QSO Party Manager and be postmarked not later than 27 June 2009.

The 2009 10-10 Convention will be held this year from 23rd July through 26th July in Orlando, Florida, at the Holiday Inn Select, just north of the Orlando Airport. 10-10 members from around the world have already signed up to attend and it is sure to be a highlight of 2009. If you are going to be in the Orlando area, stop by. Information and registration are available at the 10-10 web site, [www.ten-ten.org](http://www.ten-ten.org).

The 10-10 Summer Phone QSO Party will be held on 0001Z 1 August 2008 through 2359Z 2 August 2008. 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 needed for membership. QSO Party logs must be returned to the QSO Party Manager and be postmarked not later than 17 August 2008.

For complete rules, exchange, scoring and where to send logs for all 10-10

activities, visit the 10-10 web site [www.ten-ten.org](http://www.ten-ten.org).

### Information about 10-10?

The easiest way to obtain information about 10-10 is to visit the 10-10 web site at [www.ten-ten.org](http://www.ten-ten.org). Everything you want to know about the organization is on the web, including a downloadable membership application form. If you do not have computer capabilities, you can receive a copy of the 10-10 NEWS by writing to: 10-10 International Net, PMB 142, 643 N. 98th Street, Omaha,

NE 68114-2342. Please enclose \$2.00 to cover the cost of shipping.

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

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

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# Your Most Memorable QSO

Kelly Jones, N0VD

**R**ecently I went rummaging through my old stacks of QSLs looking for a particular card. I soon noticed that I'd stop at this card or that card recalling fond memories of working that station. It's amazing how a simple "box of cards" can bring back so many memories – everything from spending hours in the pileups to making new life long friends. I thought it might be interesting to hear about your favorite DX QSOs and why it became so special.

Arguably one of the more high profile hams was Jordan's King Hussein. While I never had a QSO with King Hussein, David, G3XYP, happened to be at the right place at the right time and did – on multiple occasions!. He writes: "I worked HM King Hussein of Jordan JY1 several times. I was there on the first day he came on the air - 09 March, 1970. Don, SV0WI, had been in Jordan on a work assignment and came back on 20M with exciting news. Don had set up and 'tested' the royal station and then returned to Athens. It's a long story but with this prior knowledge I was the second UK QSO for JY1. My old friend Colin, G3JEC, who I'd telephoned, was first."

"My second contact with JY1 was the next day. I was chatting on 14192 with 5Z4KL and GW3AHN about the previous days excitement when King Hussein called me! I have two hand written QSLs from the Royal Palace in Amman sent via airmail from those QSOs. King Hussein stayed on frequency a while and worked a few more friends. Back in 1970 we ragchewed - not a simple 59. I also contacted JY2 several times, Princess Muna and JY1/B Major (later Colonel) Zaza all from the Royal Palace in Amman or the holiday QTH at Aqaba."

Tom, GM4FDM never managed a Q with King Hussein, but can still pick a memorable QSO. Tom says "Yea - memorable can mean a lot of things to different people. I never did manage to work JY1 but I did have a QSO with EA0JC. However, my most memorable QSO which in the greater scheme of things is pretty insignificant was a QSO with a VK8 station and a P29 station way back about 2 sunspot maximums ago. They were chatting to each other on 10M and as they were closing I chucked my call in and they came back to me. The VK8 was running a converted CB with 4 watts to a mobile whip antenna and the P29 was running a similar TXR (a Midland from memory) into a Partridge Joystick Antenna. Some of us Brits might remember the Joystick - for those who don't, it was like a broom handle wire coiled around it and tapped. The Antenna was on the ground leaning against the wall of his hut! Like me, both guys were astounded at the length and quality of our QSO."

"That to me is what makes the hobby worthwhile. That is DX, not just the rubber stamp 5NN with K5D (I hope)."

Having an understanding "significant other" seems to be an important ingredient in our DX game. How many times have you stayed up late at night work that new one? I've been guilty of this on more than one occasion. Russ, W4UBC, has also experienced this first hand. "By far the most memorable DX QSO for me was a ZK3 Tokelau QSO. This was before clus-



QSL card of the late King Hussein of Jordan, JY1.

Date	Time	Mode	Band	Power	Rate
5 May 02	19:15	SSB	20M	159	
		VOID	VOID	VOID	VOID
		VOID	VOID	VOID	VOID
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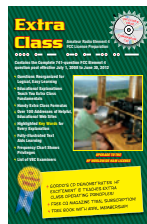
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ters but a DX buddy told me ZK3 was on 15 meter SSB. I ran to the radio and tuned his freq and there he was. This was when 15 meters was open until late at night."

"The guy was running 50 watts to 'a dipole strung between palm trees (his words)'. I was running only 100 watts and the West Coast guys were killing everybody else. I stayed at the radio for 17 hours (including potty and sandwich breaks). About 11 PM my YL comes into the shack and firmly stated 'enough is enough' and went upstairs to bed. Twenty minutes later ZK3 was in the log. I climbed into bed and kissed her and thanked her for bringing me good luck. True story and I have the QSL!"

I remember shortly after moving to Colorado P5 (North Korea) showed up on the air. Ed, 4L4FN, had managed to con-

vince the authorities to allow operation from P5. This, of course, made many DXers very happy. John, N7TK was one of those as he explains. "Many memorable QSOs over the 50+ years I have been licensed, but a couple stand out. The first has to be that first contact with P5/4L4FN. Considering the ham radio history (or lack thereof) from N. Korea, I doubted that I would live long enough to get that one. As fate would have it, I worked him on 15M RTTY twice and I imagine those cards are rare."

"The other special card is from Chuck Brady on Bouvet Island (3Y0C) 8 years ago from my motor home in an RV park in So Cal. I discovered he also lived in the Pacific Northwest and we stayed in contact over the years until his life tragically ended at a young age. He was a medical doctor and astronaut and activated a number of rare entities in his travels on special assignments for the government. We had planned an eyeball QSO right after he recovered from a medical procedure, and he never recovered from it. Thanks for stirring up the memories."

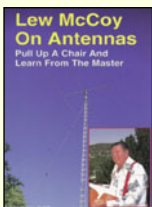
Then there are those times when you happen to just be at the right place at the right time. Dan, N3OX, not only picked up a new one this way, but has a little humor to go with it. "So it's an afternoon in January 1999, my fourth year as a ham. I'm a sophomore in college home at my parent's house for winter break and I've got all the time in the world to do some DXing. At the end of summer 1998 I'd put up a little two element homebrew beam for 10m, and the band is pretty good with the sunspots on the uptick."

"I'm tuning around 10M with the little beam pointed WSW because I know the Pacific guys come in. I'm kicked back in my chair, I think with feet up on the desk, twirling the VFO knob. All of a sudden - \*crack!\* - something lets go in the chair



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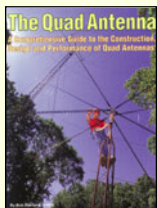


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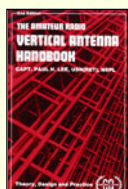


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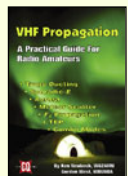


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VK9ZM, Mellish Reef.

In January of 1989, a group of 7 amateur radio operators conducted a DXpedition to Mellish Reef and Willis Island located off the northeast coast of Australia in the middle of the Coral Sea.

The group left Cairns, Australia on the afternoon of January 3 aboard the MV Auriga Bay, a steel hull diesel powered boat. The 50 foot Auriga Bay carries 800 gal. of diesel fuel and 1200 gal. of fresh water and cruises at 7 1/2 knots. The round trip would take 3 weeks.

Mellish Reef (17° 24' S - 155° 51' E) is a small coral formation 600 nautical miles from the Australian Continent. The operation took place on a small coral sandbar called Herald's Beacon Islet, this being the only part of the reef that remains above water. The little islet is approximately 150' wide by 800' long rising to a height of approx. 5 feet above sea level. The only vegetation is a small grass like covering on part of the surface. The islet is inhabited by thousands of birds and several species of crabs. Communications commenced on Jan. 8 and lasted for 9 days. During this time the group achieved over 31,000 QSO's on all bands.

On the return to the Australian mainland, the DXpedition continued with a stop at Willis Island (16° 13' S - 150° 0' E) which is half way between Mellish reef and the north east coast of Australia. It is a remote weather observation station run by the Australian Bureau of Meteorology and is inhabited year around by a small 4 person community. In contrast to Mellish, Willis Island has some quite lush vegetation including palm trees and flowers and a well groomed lawn maintained by the residents. There are several species of birds as well as some large sea turtles that nest on its shores. Operations lasted for 4 days starting on January 19 with 14,000 QSO's being achieved.

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"Steve Sheehan, Engineer, NV Auriga Bay, whose extra efforts contributed to the success of the trip. Steve died in a diving accident in Feb. 1989."

**THE DX FAMILY**

Printed in Canada

VK9ZM, Mellish Reef.

and I nearly fall over backwards on the floor. Some bolt pulled out of the bottom of the seat; cheap office furniture, but it's what I like to sit on. So I go get some tools out of the workbench and start working on lashing it back together."

"There I am, sitting on the floor fixing my chair, when I hear a CQ, not quite zero beat on the frequency where I stopped tuning when I fell over, but totally readable. A few seconds later I have Terry, VP6TY, in the log for an all time new one."

Ever wonder what's in a name? Hal, NN8L, recalls one of his most memorable QSOs every time he speaks of his daughter. Hal says "There are a lot of memories in those old boxes.



There are pretty special ones that I can think of. Back in late 1979 we were expecting my first born. We had boys names picked out, but couldn't agree on a girl's name. During that time period I had worked UA1AWZ with Larisa operating the station. It was the first name we both really liked, so my oldest daughter is named La'Risa, a variation on the spelling. Believe it or not, La'Risa graduated from Michigan State a few years ago with a bachelor's degree in Russian. I've always wanted to tell Larisa how La'Risa got her name, but UA1AWZ was a club station and I haven't been able to find out how to contact her."

"Also the 1989 VK9ZM, Mellish Reef operation is very memorable for me. I was running an Icom 740 barefoot into a Hygain TH3JR and was having a tough time working them. The DXpedition was coming to a close and I was getting a bit nervous. My good friend, K8DID (WA8KEM at that time) was standing by cheering me on over 2 meters. Ski has been a great Elmer needing only one to 'have them all'. I'm already in trouble because I had promised to take the ex-XYL out for dinner and it's already going on 10pm. Ski's in trouble because it's his wife's birthday and the whole family is over waiting to celebrate and he's in the radio room leading cheers for me. Now the op tells us all they're shutting down in 20 minutes. Talk about pressure. Well, as you can see by the attached card, I made the contact. Ski and I both got out of trouble, for awhile anyway, and everybody was happy!"

"There are so many memories in those boxes of QSL cards I'm sure it would take most hams hours and hours if not days to go through them all. So, are they just cards in a box? No, they're memories - some really great memories. Thanks for the reminder Kelly. Maybe its time to go through them again."

I couldn't agree more. Every time I pull the boxes off the shelf, for whatever reason I find myself thumbing through the cards recalling some of those past QSOs. Thanks to everybody for sharing some of your most memorable and favorite QSOs. This is one of the things that makes DXing so great!

That's it for this month's column. I look forward to hearing your comments, complaints or whatever is on your mind. If you have a story or opinion you would like to share, please send it to me at n0vd@dxcentral.com. I'll do my best to include it in my next column. Until next time, see you in pileups! - N0VD

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# Plenty of 'Enhanced' audio to overcome nature's soundtrack

By Richard Fisher, KI6SN

**F**or the radio amateur-outdoors enthusiast, some of the best and worst things about field operation can be that part of Mother Nature we hear along the trail.

Of course, her soundtrack is a wonderful backdrop to the beautiful places we visit when playing with our radios.

But the flip side is that the roar of the wind or a nearby river, or the chatter of birds or insects can sometimes make it impossible to hear the guy on the other end of the contact – especially with the meager audio circuitry many of today's simple transceivers provide.

Operators in this predicament have a couple of choices.

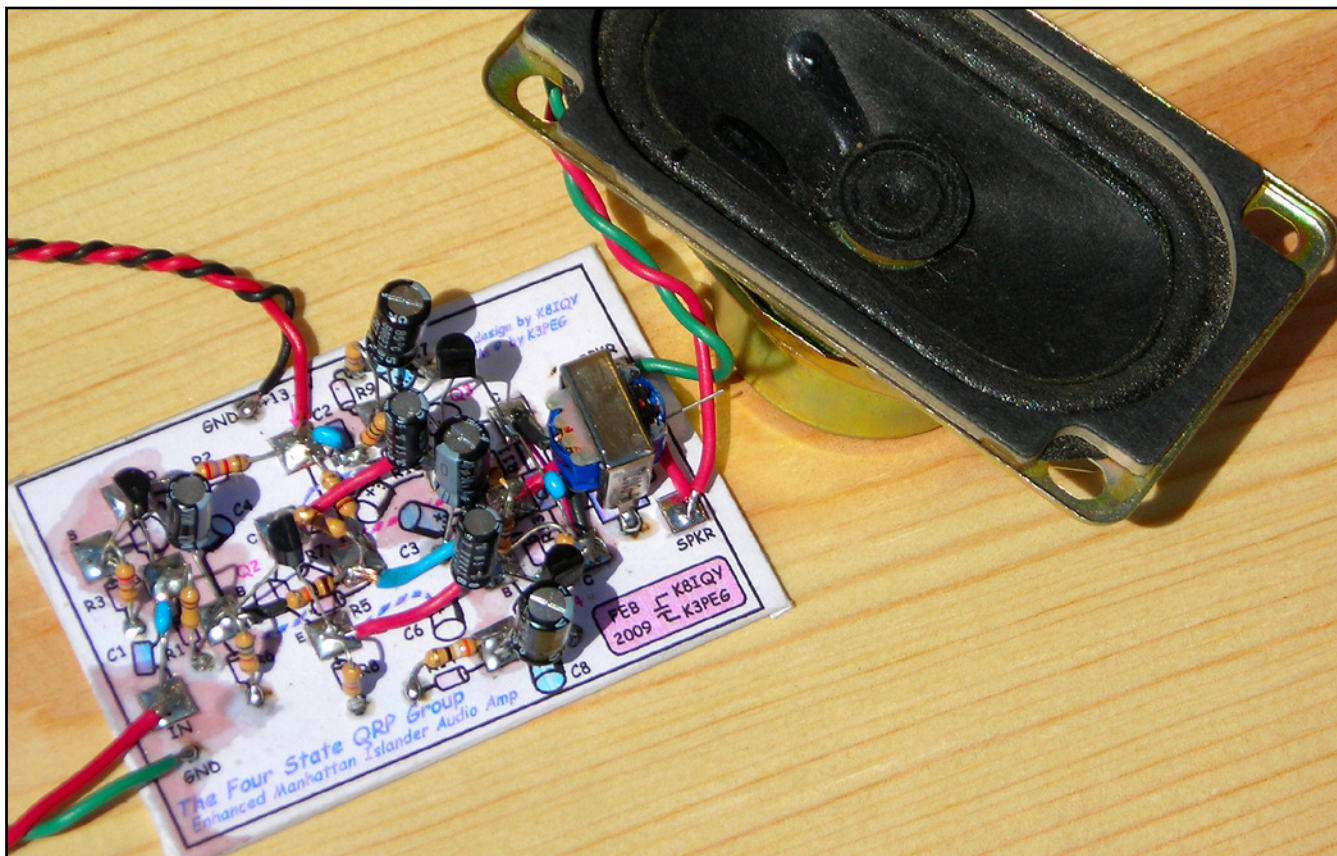
- Invest in a higher-priced radio that has more audio power than you'll ever really need.
- Or, add audio to an existing transceiver for a fraction of the price.

A new audio amplifier kit from the Four State QRP Group is a perfect answer to the second option. It's just \$20 (\$23 for DX), and worth every penny.

The Enhanced Manhattan Islander Audio Amplifier kit – developed by world class builder Jim Kortge, K8IQY and presented using an innovative construction style by master illustrator Larry Przyborowski, K3PEG – can add speaker-driving audio to even the most diminutive transceiver.

Builders may remember the original K8IQY Islander kit distributed by the New Jersey QRP Club years ago. It was designed as an accessory to Small Wonders Labs' SW-series transceiver.

Fast forward to today and we find a completely updated circuit featuring a pre-amp, "increasing the input impedance, isolation, and adding even more gain," says the kit's documentation. "Overall amplifier gain is nearly 65 dB."



Perfect for the field, Four State QRP Group's simple and inexpensive Enhanced Manhattan Islander Audio Amplifier kit – the KI6SN version shown here – can provide more than enough speaker or headphone volume to overcome Mother Nature's sometimes raucous soundtrack.



***“The Enhanced Manhattan Islander ‘can be driven to about 150mw output with clean audio and room-filling volume. That much power into an 8-ohm speaker is LOUD.’”***

Wow. That’s audio punch with a capital P.

The Enhanced Manhattan Islander “can be driven to about 150mw output with clean audio and room-filling volume. That much power into an 8-ohm speaker is LOUD,” the manual says.

“The passband response curve shows a broad peak at approximately 500 - 1,000 Hertz. The input impedance is 100K for superior isolation and light loading of preceding audio stages. So this is a small, powerful, quiet, easy-to-build speaker amp which will match up nicely with your earphone CW rig.”

Not only have the electronics been “enhanced,” but also the construction technique, thanks to ‘PEG. By drawing each component and connection in an actual-size full-color template, he has created a road map that can be followed by even the most inexperienced builder. Glue a prepared template to the kit’s printed circuit board ground plane, and away you go. It’s a modern-day “paint by the numbers.”

The Enhanced Manhattan Islander kit arrived at KI6SN in a tidy package that included a 2-inch by 3-inch rectangular piece of double-sided PC board, a 3/16-inch wide strip of flexible 0.015-inch thick PC board material that’s 6-inches long for cutting the Manhattan solder point pads, and a handful of resistors, capacitors, transistors and transformer that make up the amplifier.

The first-class construction manual – edited by Ron Hege, K3PF – is provided on a 3-inch CD. Pop it into your computer and you’ll find 19 pages of full color building instructions, illustrations and photographs to help make construction a snap.

Four State, understanding that some homebrewers might prefer to use “old school” Manhattan building techniques – sans the fancy template – devotes part of the manual to that method, as well.

At KI6SN, we opted for giving K3PEG’s Enhanced Manhattan construction style a try, looking forward to using his beautifully-drawn illustrations.

The first order of business was an inventory of parts:

- 9 capacitors
- 14 resistors
- 4 transistors
- 1 audio output transformer
- PC board material, hookup wire and manual

Everything was present and accounted for. Of course, all the components are top quality, which is something we’ve always appreciated about Four State project packages.

Since we decided to use K3PEG’s Enhanced Manhattan construction, we opened the CD on the computer and scrolled to the page showing the actual-

size hand-drawn pictorial of components, Manhattan pads, ground points and all connections.

Simply print out the page on regular bond paper and you’ve got the template that’s your guide to construction.

Once in hand, the excess paper around the drawing is trimmed and the template is checked for size against the actual PC board ground plane. Holes are then cut in the illustration for the circuit’s ground points using an X-acto knife.

It’s a very simple and fun process.

The Manhattan pads are easily cut with scissors or wire cutters from the 6-inch long, thin strip of dual-sided PC board material. There are 18 pads in all – each


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3/16-inch square and sized to be glued right onto the marked areas of the paper template. The manual suggests tinning the long strip with solder before cutting the pads. A very good suggestion.

After tinning the ground points on the PC board, gluing the illustration in place and then gluing the Manhattan pads onto the paper template, it was time to go to work.

Using the drawing as our guide, and following the component-mounting sequencing recommended in the manual, we finished soldering the last component in a little over an hour.

After doing a visual "pre-flight check," comparing placement of the actual component to the drawing directly beneath it, we were confident that everything was in order. It was time for a test run.

Using clip leads, we first connected a small 8-ohm speaker and a 12-volt gel cell battery to the Enhanced Manhattan Islander – fully expecting to hear the "hiss" of input-less audio from the noise floor created by the circuitry of most audio amplifiers.

Nothing.

We immediately thought we'd made a mistake and went back to check our work. Everything looked just as it should. All solder joints were solid.

*Hmmmmmmmm. Strange.*

Next we checked voltages – especially around the transistors. Everything was percolating, just as it should.

Still, we weren't hearing any ambient noise from the speaker after applying voltage to the amplifier.

Perplexed, we pulled a patch cord from the headphone jack of a NorCal-40 transceiver and connected it to the audio amp's input.

Bingo! The Enhanced Manhattan Islander filled the room with a tsunami of 40-meter CW. In fact, we had to back off the transceiver's audio for fear of damaging the small speaker.

In the end, we'd been fooled by assuming that the Enhanced Manhattan Islander was like so many other audio amplifiers – adding a certain level of "hiss" that we just learn to live with. 'IQY's circuit is so free of noise, it's virtually silent until audio input is added.

The amplifier's small footprint makes it ideal for wiring into an existing transceiver. At KI6SN, though, we're putting it in a small enclosure of its own for use as an outboard audio amplifier with any rig.

For more photographs, details and links to Four State QRP Group's Internet home, visit the Tail-Friendly Radio Extra Web site at: <http://www.TrailFriendlyRadio.blogspot.com>

Enhanced Manhattan Islander kit distribution is being handled by Terry Fletcher WAØITP, 1305 Casper Dr, Ottumwa, IA 52501. Send him a check or money order payable to "4SQRP Group" in U.S. funds for \$20 (\$23 DX), and your kit will be on the way. Four States also accepts PayPal.

With the 2009 ARRL Field Day just around the corner, it's a good time to think about audio. Actually, let's make that AUDIO. And the Four State Enhanced Manhattan Islander Audio Amplifier Kit is a great place to start.





## Changes in the Earth's Magnetic Field

By Carl Luetzelshwab, K9LA

**T**he Earth's magnetic field exhibits variation in orientation and strength over various time scales. From the standpoint of our amateur radio propagation activities, the time scale we are interested in is tens of years, and this is called secular variation. Although the changes over this short time period are small globally, they could be important locally.

With respect to orientation, the North Magnetic Pole has been steadily moving for over a century. Figure 1 shows its location from 1831 to the present, which includes predictions of where it appears to be headed (from N. Olsen and M. Manda, *Will the Magnetic Pole Move to Siberia?*, EOS Transactions of the American Geophysical Union, Volume 88, Number 29, 17 July 2007).

The blue circles are from direct surface measurements, the red circles are from computational models, and the green circles are predictions assuming a mean velocity of 50 km per year in the same direction as in 2007. The South Magnetic Pole is also moving, but to a lesser degree. These movements are due to changes in the Earth's core magnetic field.

For those of us in the Northern Hemisphere, the most obvious result of the North Magnetic Pole moving is the position of the northern auroral oval. It is centered on the North Magnetic Pole, and thus its equator-ward edge is moving away from us. Figure 2 is a conceptual depiction (translate that to *crude*) of the oval's position in 1948 and in 2015 based on the data in Figure 1.

This movement is probably good news for West Coast operators, as paths to Europe will likely be influenced less by elevated K indices as the pole moves north. But it may be bad news for VHF types who rely on it for aurora propagation. On the visual front, we're likely to see fewer beautiful auroral displays.

With respect to strength, the variation of the Earth's magnetic field is very subtle due to the small changes involved. Figure 3 plots the strength (in nanoTeslas) in 1957 on the left and the change in 1997

compared to 1957 on the right. This figure is from I. Cnossen and A. D. Richmond, *Modeling the effects of changes in the Earth's magnetic field from 1957 to 1997 on the ionospheric hmF2 and foF2 parameters*, Journal of Atmospheric and Solar-Terrestrial Physics, 70, 2008, pages 1512-1524.

The dashed contours in the right plot represent negative values, and solid contours are positive values. Overall, the

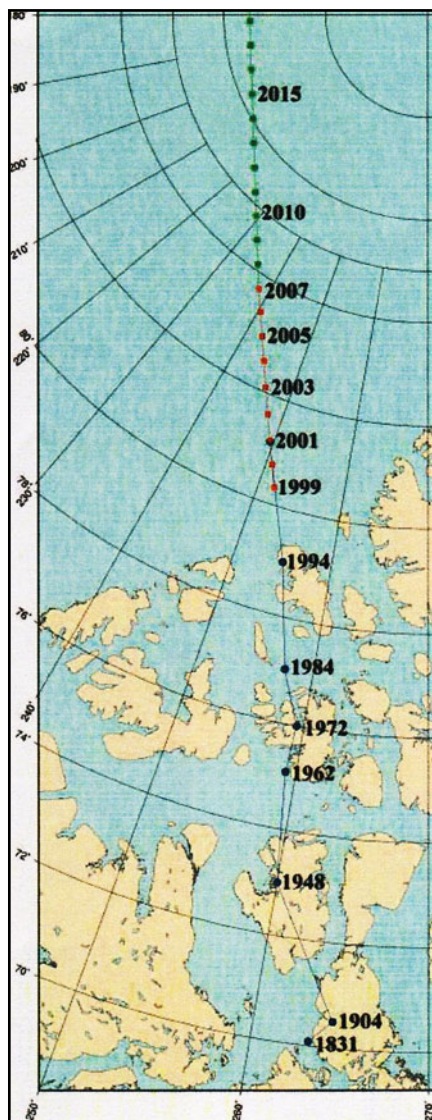


Figure 1 – Movement of the North Magnetic Pole

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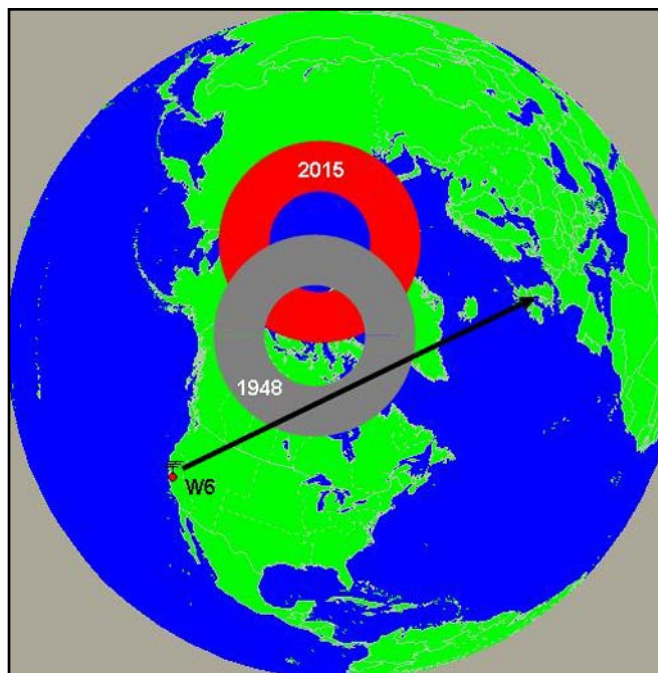
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*“The Earth’s magnetic field affects the ionosphere in four major ways.”*



**Figure 2 – Movement of the Auroral Oval.**

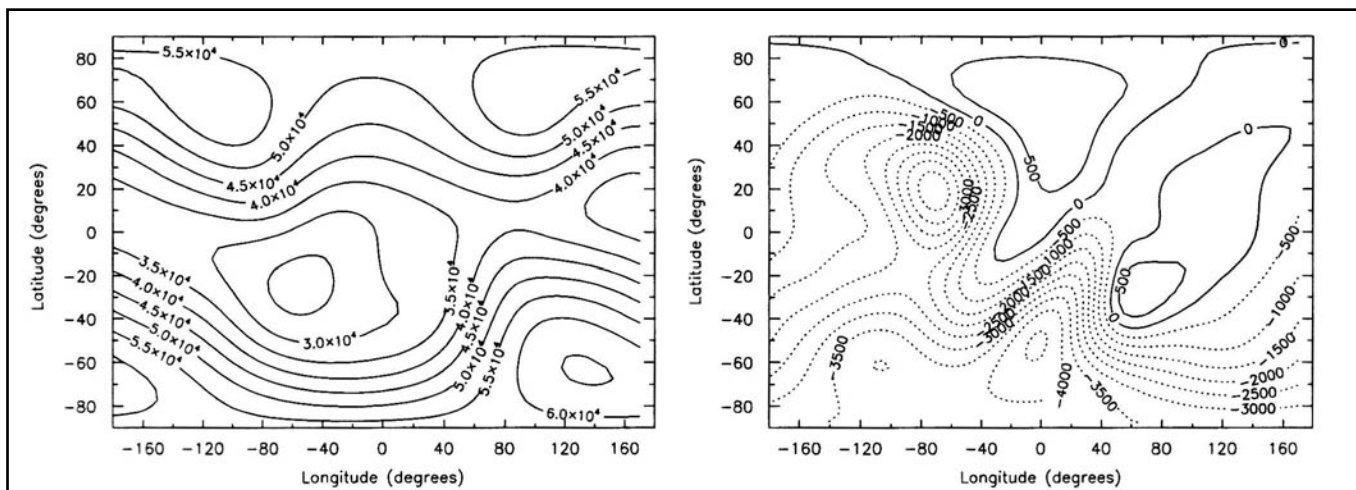
Earth’s magnetic field strength has been decreasing over the past half century.

The Earth’s magnetic field affects the ionosphere in four major ways. First, it structures the path of energetic particles entering the terrestrial system. Second, it influences the transport of ionospheric plasma by neutral winds. Third, it affects the generation of dynamo electric fields that induce additional plasma drift. Fourth, it influences ion drag.

Thus we would expect a changing magnetic field strength to re-order the distribution of electrons. Indeed, the study from which Figure 3 came modeled  $h_m F_2$  (height of the  $F_2$  region electron density peak) and  $f_o F_2$  (ordinary wave  $F_2$  region crit-

ical frequency) over 35 worldwide ionosondes. The results of the modeling effort showed predicted trends in those parameters over the 40-year period between 1957 and 1997. As one might expect, though, the trends were small: less than a 1.5 km change in  $h_m F_2$  and less than a 0.5 MHz change in  $f_o F_2$ . The trends at some stations were positive, and were negative at the other stations.

Remember the January 2008 column that discussed long-term trends in the ionosphere allegedly due to increased greenhouse gases? In light of the results from the magnetic field modeling above, it is likely that those long-term trends are contaminated with ionospheric changes due to changes in the magnetic field. Thus the impact of greenhouse gases on the ionosphere may not be as strong as originally thought. Granted the changes due to the magnetic field are a small contribution, but nonetheless they have to be included in any conclusion.



**Figure 3 – Field Strength in 1957 and Changes in 1997**





# HAMFESTS & SPECIAL EVENTS

## JUNE

### CALIFORNIA

**N6R Special Event Station - commemorating the lives of President & Mrs. Ronald Reagan**, from the grounds of the President Ronald Reagan Presidential Library & Museum, Simi Valley, CA, 1800Z June 26 to 1900Z June 28 on 7.289, 14.289, 21.289 & 28.369 MHz. Other bands planned include 3.5, 50, 144, 440 MHz and 10 GHz. Hosted by the Ronald Reagan Presidential Library & Museum. Sponsored by Ventura County Amateur Radio Society (VCARS), the Simi Valley ARC (SSARC) and Ventura Co., ARC (VCARC). QSL w/SASE to Ventura Co. Amateur Radio Society (VCARS) c/o Peter Heins, 1559 Norwich Avenue, Thousand Oaks, CA 91360. <http://www.vcars.org>.

### MICHIGAN

**The 31st Chelsea Amateur Radio Swap "n" Shop** will be held June 7th on the Chelsea Fairgrounds, Old US Hwy 12 and Old Manchester Road, Chelsea from 8:00 AM to 12:00 PM. Admission \$5.00, tables \$10.00 each or \$15.00 for a corner site. Contact Frank Pohs, KD8ABW, 734-945-1915, [frank.pohs@gmail.com](mailto:frank.pohs@gmail.com).

### NEW YORK

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

### NEW JERSEY

**W2QW Hamfest** -Saturday, June 20th, at Piscataway High School, Piscataway from 7:00 AM to 2:00 PM. Frequent prize drawings, hot and cold food, large outdoor area, XYL and kids free. General admission \$6, tailgating \$6/space plus \$6/person. For info contact Eric 908-251-3938, talk-in 146.520, 146.625, PL=141.3, 442.250 PL=141.3, <http://www.w2qw.org>

### TENNESSEE

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

## JULY

### KENTUCKY

**River Cities Amateur Radio Association, K4S. Family Fun Time for All**, July 4th, from 8:30 AM to 3:00 PM in Central Park, Ashland. 14.240 7.140. Certificate sale to River Cities Amateur Radio Association, PO Box 615, Ashland, KY 41105 <http://www.summermotion.com> or <http://www.rcara.org>

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# Don't Cut Corners

By Jerry Wellman, W7SAR

**W**hen you cut corners or ignore the rules, you are setting yourself up for failure. The failure may not be immediate, but a pattern of reckless behavior or bad habits generally cause problems at some point.

Many years ago my grandfather, a railroad machinist, gave me some sage advice. He said, "Only buy high quality tools. Never pay good money for the cheap stuff." He believed it to be more economical in the long run to spend a little more for a high quality item than buy a cheap set over and over. But, let's be honest. Have I lost some nice screwdrivers because of my carelessness? Yes. Have I broken some good tools because of misuse? Yes. Yet, it's been the cheaply made tools that have broken under the hood at the worst possible time. It's been the poorly constructed material that has caused the greatest risk when safety has been important.

Generally, you get what you pay for. A friend challenged me on this principle and said, "You get some good deals online and at pawn shops, why can't I find these deals?" My answer was simple: Be patient and use common sense. Some things that seem like good deals are not. The way to find good deals is to do your homework in advance and be educated about what you buy. For example, there are some very nice radios offered online that are capable of narrowband, digital mode, encryption, etc. These radios sell new for as much as \$4,000 – with all the options enabled. Without all the options, the radio isn't worth more than a couple hundred dollars. The only way you can calculate the item's value is to ask the right questions before you buy, such as, "What options are programmed in this particular radio?" Sometimes, the seller may not know. If you can risk the purchase price, that's your "common sense" call and you might get a great deal.

The rule still holds, however, don't cut corners! Some years ago I flew with a search pilot who, as we were flying, told me how he'd managed to pass his flight medical check even though he was on medication that could affect his obtaining a medical certificate. I never flew with him again – if he cut corners on his medical, what other corners did he cut? To me, it wasn't worth the risk to endanger my life to someone willing to pass a requirement in less-than-honest means.

In the mid-1970s I drove a Plymouth Barracuda. I'd installed a couple of mobile radios and had found an aviation radio so I could be a communications resource for search missions. But, I'd "cut corners" on my tires. I was willing to buy radios but having good tires was something I was willing to neglect. I found myself on a rocky road near Laramie, Wyoming, and the sharp rocks caused one of my front (and bald) tires to go flat. My justification for the poor tires was that I had a spare, and indeed I did. A few miles later the rocks punctured the second (and also bald) front tire. In those days a portable 12VDC compressor wasn't a common thing to have, but I did carry a bicycle pump. I learned a very exhausting lesson that day as I had to stop every few miles and pump up a tire.

Eventually I reached a gas station where I was informed the tire was beyond repair. The cost to buy a single new tire, from a vendor that obviously knew he was the only store within many miles, was such that I could have bought four new tires from an in-town store. Exhausted and now with a somewhat depleted checking account, I learned a hard lesson.

I have been pondering about this topic after I received a visit last week from someone asking for radio help. I answered a knock at the door to find a young fellow who began the conversation with: "I see by your antennas that you're an active Cber." I replied that my interests included CB and amateur radio. He explained that he was a friend of a neighbor's daughter and after he had some challenges with his CB, she said I might be of some help.

I looked out to the street to see a rather beat-up and neglected car with a couple of magnetic antennas on the roof and an odd antenna mounted on the trunk. The young man explained that his CB didn't work properly and that no one could hear him except when they were close and that he could not listen to his AM/FM radio because the CB radio "made it go crazy." He then went on to explain that he'd found an "expert" at one of the local truck plazas who sold him a "foot warmer" that would make his signal stronger. I foolishly said I'd help when my instincts were telling me to just shut the door and hope he'd go away.

We went out to his car and it was worse than I expected; there were wires everywhere. He had a scanner on the back seat and on the front was a CB radio that was worse for the wear and a couple of other boxes, one of which I assumed was his "foot warmer" or an illegal linear amplifier. I suspected had had an antenna problem and I went to get my analyzer while he tried to sort out the coax. I connected the analyzer and explained how antennas worked. That's when he said he'd found the antenna at a thrift shop and "aren't all antennas the same?" His "CB antenna" mounted to the trunk turned out to be a VHF antenna which made it completely unusable. The magnetic antennas were not much better and both seemed to be either UHF or possibly scanner antennas – but certainly not CB resonant either. Taking pity on this fellow I found an old CB antenna in my shed that would attach to his mount and I thought I'd get him on his way. That's when he told me that the "foot warmer" had expelled some smoke during a "long conversation" and that his CB had some broken switches. "Could I look at those too?"

The answer to the burned-up linear (because of the wrong antenna and high SWR) was to disconnect it. He wasn't happy that his linear was toast and he wasn't too excited to get his radio gear mounted and cleaned, and he wasn't too motivated to even spruce up his car. He did ask me how to get involved in search and rescue but declined an invitation to work toward an amateur radio license. He wanted a "quick fix" and was willing to cut corners. I was overly vague on the SAR question as I didn't want to inflict him on any of the local groups. My hope



is that he won't be back and that CB will be a passing interest that he'll soon forget.

Here was a young man who was willing to buy an expensive CB, have it modified for out-of-band operation, purchase a linear amplifier from a passing "expert," find a cheap antenna at a thrift shop and then wonder why it didn't work right. He let his gear bounce around in a car that was also neglected. This wasn't the communications poster child you introduce at the event briefing as your chief operator.

Does he sound familiar? Do you have local communications group members willing to cut corners? Are you OK with that, knowing they could interact with agency leaders or staff who expects volunteer professionals?

When you choose to neglect the rules and take a pattern of the easy route, the potential is for problems. We're asked to be volunteers to meet some exacting needs that require us to be professionals in what we do. When you take shortcuts, you do a great disservice to the rest of us.

### Yell Louder

During a recent net, a station was told his signal wasn't readable. The operator's answer was to simply yell into the microphone. Now the signal was still unreadable and the yelling caused the quality to be even worse. Two lessons. When you are a net control station and experience a signal that's not readable, suggest a solution if you have time. Let the operator know it's the signal strength that is the problem and suggest he/she move to a better location or try a different antenna. The day is long past that we have operators that understand what "unreadable" really means. So try to educate.

If the net control tells you your station is not readable, don't yell. Usually the opposite is true, if you soften your voice your signal may even improve. Yelling into the microphone seldom, if ever helps.

### Short and Sweet

A fellow on an EchoLink net wanted help with a radio problem. It would have been a nice communications example if he would have simply stated the need and given a way to make contact. Instead, the need was expressed, as well as a number of irrelevant comments and other stories along the way. What could have been a brief request for help turned into a tedious transmission. The purpose of communication (in a public safety sense) is to communicate. To communicate implies the sending of a concise and

understandable message from sender to receiver. When we cloud the message with "chaff" we impede the process. Be brief. Be concise. Be specific. Brevity, brevity, brevity.

### Use the Fax

A couple of us were exploring ways to get messages from one communications facility to an agency office. We were too focused on using a radio. The agency representative said, "I wish you could just fax it over to us." Bingo! The laptop computer we had in the radio room was a little older and it was well-suited for packet and EchoLink. AND it had a phone connector for the built-in modem, something we'd not used for years.

There was a phone line in the communications room and we were able to think beyond radio and just fax the message from the station to the agency - a simple relay of radio-received information to an agency's operations center. No need to

string antenna cables and set up another station. Just use the fax. It was simple, and it worked. It relies on having a phone line, but the scenario we were considering wasn't a worst-case situation. Put this in your bag of tools for future use and practice sending a fax once in a while so you will know how to do it.

On some local search missions for the Civil Air Patrol I've been frustrated by calling in my vehicle information for the status board. All I was doing was reading data from a form to someone who was copying the data into a form for the incident command resource list. It dawned on me that after I fill in the form on my laptop, I could just fax it to the CAP's operation center. The fax number was seldom busy and I could send the form, already filled in, and then by radio confirm they had received it. I wish I had thought of it sooner.

Until next month, best wishes from Salt Lake City!

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## AMATEUR SATELLITES

# International Amateur Satellite News

Terry Douds, N8KI

Hello once again everyone! I hope you've experienced a wonderful spring, as the world begins to wake up once again. After one of the harder winters in Ohio in a few years, the sunshine was welcome. Let's get right to the satellites.

Nitin, VU3TYG, announced that AMSAT India will issue a certificate for amateur radio operators who established two-way contact through VO-52 between January 26, 2009 and May 5, 2009.

The first fifty certificates have been sponsored by a well-wisher, and they include postage. Once those have been issued, a fee will be required to obtain the award. AMSAT India will announce these details when the information is available.

Please send a QSL card containing the details of the QSO on VO-52 and where you would like the certificate mailed to AMSAT India at the following address:

AMSAT India (Regd.)  
No. 201, 2nd Main Road,  
Mahalakshmi Layout,  
Bangalore 560086  
India.

In other amateur satellite news from India, Anna University in Chennai, India is working with the Indian Space Research Organization (ISRO) to develop a micro-satellite named ANUSAT.

This satellite will be a cube 600mm on each side. The Amateur Radio payload is planned to include a digital store and forward mode with a VHF uplink and UHF down link operating in the amateur frequency bands. Telemetry downlink from the primary scientific payloads is planned to be transmitted around 137 MHz using PCM/FSK/AM at 256 bits/sec. Additional information can be found on-line at: <http://beswaminathan.googlepages.com/anusat> and <http://beswaminathan.googlepages.com/Anusat.pdf>

In ARISS (Amateur Radio on the International Space Station) news, there is a video posted online of the ARISS

contact with 3rd graders at Ellis Elementary School in Belleville, IL, speaking to astronaut Sandra Magnus, KE5FYE, who is a Belleville native. You can find the clip at <http://www.youtube.com/watch?v=P2TuJyNXx0c>. This is a package done by the local public station in the area, KETC, and it really shows how well a contact can be put together and supported by the school and the local radio clubs, who spent a great deal of time making sure this contact would be successful. If you've wondered about the ARISS program and how it works, take five minutes and watch this video – it's really amazing!

On Monday, February 2, students from Humber College Institute of Technology and Higher Learning in Toronto, Ontario, Canada participated in an ARISS contact. Approximately 100 students gathered in the lab where the radio gear was built and watched as students posed twelve questions to Sandra Magnus, KE5FYE. There was national coverage of the event and it was broadcast on morning television and radio - Canada AM (CTV Network). *The Toronto Star* and *Toronto Sun* were also present. The audience reached in Toronto was estimated to be over 3,000,000.

The Canadian Broadcasting Corporation (CBC) network carried a 14 minute piece on the contact that included an eight-minute interview with one of the lead students, followed by a six-minute clip of the students and Sandra. The story also ran on the show *As it Happens* which is part of CBC's national network program feed and airs coast to coast beginning at 18:30 in each respective time zone. It was then posted on the Web: [http://www.cbc.ca/radioshows/AS\\_IT\\_HAPENS/20090202.shtml](http://www.cbc.ca/radioshows/AS_IT_HAPENS/20090202.shtml) (The interview starts at approximately 16:50 in part one. Contact audio runs from 21:30 to 24:00.)

I often feel that hams here in the US don't understand the scope of the ARISS project. It truly is an international endeavor. In February alone, ARISS contacts were made with schools in the US,



Canada, England, France, Germany, India, Greece, Italy and Australia. It has a very big influence on the children who have been fortunate to have participated in the contacts, often giving them a direction that helps them to pick scientific fields of study later in life.

K6DUE, callsign of the late Roy Neal, will now be used for the International Space Station Amateur Radio Club, replacing the Greenbelt, Maryland telebridge ground station callsign, NN1SS. Roy was a science correspondent for NBC News, and brought news of the space program to much of the United States. When I was young, I would watch him as he told us of the early flights of the Mercury, Gemini and Apollo missions, and found his reporting fascinating. When I became a ham (at age 12), I found out that not only was he a ham, but that he was instrumental in persuading NASA to fly amateur radio on the space shuttle and helped establish the Shuttle Amateur Radio Experiment (SAREX) working group, which ultimately led to the internationally-based ARISS program. The fact that we have amateur radio activity aboard the ISS today is a direct result of his work.

In more ARISS news, Frank H. Bauer, KA3HDO, announced that as of March 24, 2009, he would be stepping down from all his amateur radio on the International Space Station (ARISS) duties. This included his contributions to NASA Education as the ARISS program leader, his support as the Amateur Radio on the International Space Station (ARISS) International Working Group Chair, his appointment as one of two ARISS USA delegates, and as the Radio Amateur Satellite Corporation's (AMSAT) Vice President for Human Spaceflight Programs. Mr. Bauer cited personal and professional reasons for his departure.

AMSAT President Barry Baines, WD4ASW, has tapped Will Marchant, KC6ROL, to become the next AMSAT Vice President for Human Spaceflight Programs and the AMSAT USA delegate of the ARISS International Working Group. Barry said that "AMSAT is fortunate that we have a very capable leader in Will Marchant who is intimately familiar with ARISS, our extensive human spaceflight program, and is well respected internationally." He observed, "Frank's leadership has left a significant mark on the overall ARISS program and the cooperative relationship between amateur radio, NASA and other govern-

mental space agencies. However, Frank also ensured that his team evolved to the point where the work that he pioneered will be carried on by those that he mentored and encouraged to take on greater responsibility."

On March 25th, 2009 a team from AMSAT-DL in Germany reached another milestone on its way to sending an interplanetary probe towards planet Mars. The ground station at the Bochum observatory transmitted radio signals to Venus. After traveling almost 100 million kilometers and a round trip delay of about five minutes, they were clearly received

as echoes from the surface of Venus. Receiving planetary echoes is a first in Germany and Europe. In addition, this is the farthest distance ever attempted by radio amateurs, over 100 times further than echoes from the moon (also known as EME, for "Earth-Moon-Earth", or moonbounce). This is a significant accomplishment! This will set the stage for the actual construction of the P5A Mars Probe, which is a major project for them.

I'm out of space for this column, so I've got to stop typing now, but I hope to see you all soon on the birds!

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## NEW PRODUCTS

By Anthony A. Luscre, K8ZT

### Genesis Radio G40 SDR Transceiver Kit

Genesis Radio's new G40 is a monoband 40-meter, all-mode, 5-watt Software Defined Radio transceiver designed by YU1LM and produced and distributed as a kit by VK1AA. This kit is a great way to get your feet wet in SDR without breaking the bank. Specifications include:

- Frequency range 7000–7095 kHz utilizing sound card with 96-kHz sampling rate. A sound card with sampling rate of 192 kHz would extend the frequency range to 6953–7140 kHz. Further, the frequency range can be extended to 5–7.7 MHz with external LO.

- Receiver sensitivity for S/N = 10 dB and bandwidth 500 Hz is between –118 to –120 dBm without RF preamplifier, or from –128 to –133 dBm with RF preamplifier. (The receiver sensitivity of the G40 is sound-card dependent; a high-quality sound card is strongly recommended!)

- Transmitting mode: SSB/CW/FM/Digital or any other modulation-generated mode with quadrature I/Q modulation signals, determined by the software.

- RF output power is 5 watts.

- Power supply requirement: +13.8V/100–250 mA on receive and 1.7A on transmit.

The Genesis G40 is tested with the following freeware transmitting software: PowerSDR SR40, PowerSDR-IQ,

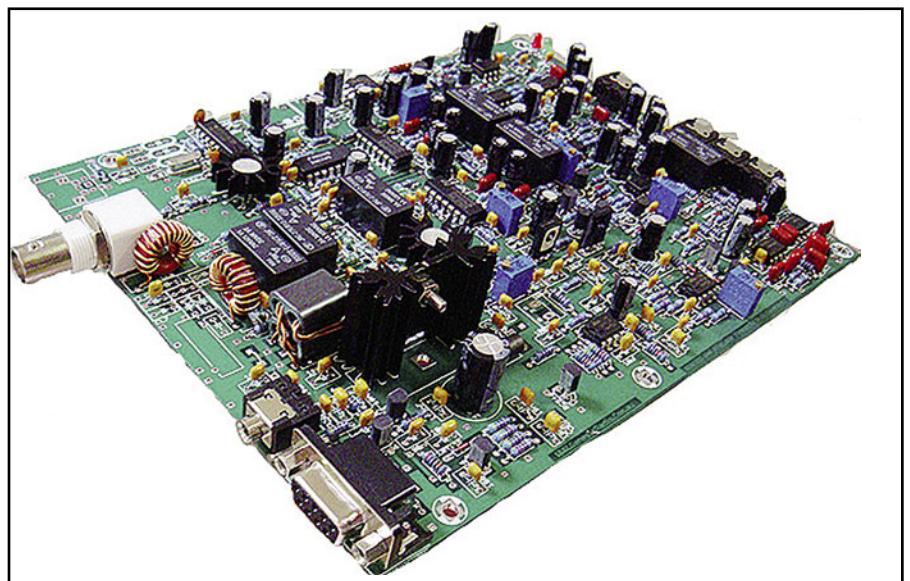
MØKGK, and Rocky with one or two sound cards. Minimum PC configuration required is P4 1 GHz with 128 Mb RAM and SDR-suitable sound card.

Genesis G40 kit parts are classic through-hole components (not SMT). PCB dimensions: 150 × 195 mm. Retail price is \$149. For more information visit [www.genesisradio.com.au](http://www.genesisradio.com.au). From this website you can also “Try before you buy. Taste the real SDR experience by listening to sound recording taken during the ARRL Contest on February 22, 2009. This two-minute recording contains the ‘snapshot’ of over 400 stations making two-way contacts on 40m.”

### Balun Designs LLC Baluns and Ununs

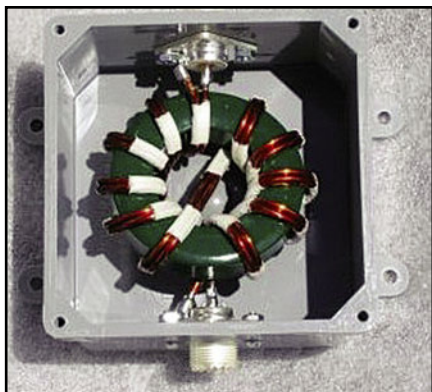
Produced by Bob Rumsey, KZ5R, the products from Balun Designs LLC are based on designs researched and tested by Dr. Jerry Sevick, W2FMI. Balun Designs LLC produces a wide variety of baluns and ununs. Each product is... “Individually hand wound with only the best available components and can be customized to fit your needs.”

Here are a few examples that would make excellent companions to the S9 vertical antennas described above. The 1:1 choke balun is available in models to suit your output power. Model #1113u is a 1:1 ratio current balun (sometimes called a



*The Genesis G40 SDR Transceiver shown assembled. Note no SMT (Surface Mount) components are used.*





Inside view of Balun Designs LLC Model #1113u 1:1 ratio current balun.



Balun Designs LLC Model 4130sv unun.

choke balun or common-mode choke) that uses a special mix toroid with low permeability that allows broad frequency coverage. This isolation balun "has significantly higher common-mode impedance and larger effective core area than other similar designs. It is much more effective than types with ferrite beads, ferrite bars, or wound air-core coax baluns." Windings are heavy-gauge Thermaleze wire with a minimum of 2000 volts breakdown voltage each. Typical insertion loss is less than 0.2 dB and power handling is 3 kw continuous, 6 kw intermittent up to 35 MHz. It may be used up to 50 MHz with lower efficiency (1-2%). SO-239 connectors are silver plated with Teflon® insulation, all hardware is stainless steel, and the balun is sealed in weatherproof 4" x 4" x 2"

### The Amateur Radio Website of the Month

The Repeater Builder's Technical Information Page™, an informational help site by Kevin Custer, W3KKC, is this month's amateur radio website, <[www.repeater-builder.com/rbtip](http://www.repeater-builder.com/rbtip)>. The site's slogan is "So, you want to build a repeater?" This site provides over "six gigabytes of freely downloadable information" on all aspects of repeater building and maintenance. Topics include:

- To educate—as an example, "What's a repeater?"
- To supply quality information relating to amateur and commercial repeater stations.
- To make available technical people who can answer repeater-related questions.
- To provide availability of some parts for conversion and links to modifications for Motorola®, GE®, and Hamtronics® equipment.
- To provide links to service and equipment providers.

Nema Box, which makes an excellent outdoor enclosure. Price is \$54.95.

The 4:1 unun for S9 Vertical #4130sv is designed to complement the newly released S9 vertical antenna. This new addition is small, compact, and perfect for portable or even permanent installations. The 4:1 unun (200-50 ohms) will easily handle 300 watts and covers 1.5-54 MHz. Price is \$45.95.

Balun Designs LLC has many additional products. For more details or to order visit <[www.balundesigns.com](http://www.balundesigns.com)>.

### MFJ Universal Microphone Converter

The MFJ-1251 converts any 8-pin round or modular microphone for use with any 8-pin round or modular radio. For example, if you want to use your favorite Yaesu FT-2000 8-pin round microphone with your ICOM IC-706 rig, or you bought a modular sound-card interface but now you have an 8-pin-round rig, there is no need to buy a new mic or accessory! Use your favorites and save money by using what you already have. Internal jumpers set any microphone to match any radio. The MFJ-1251 comes supplied with one 8-pin round and one 8-pin modular output cable to radio. The price is \$24.95. For more information or to order, call toll-free 1-800-647-1800 or go to <[www.mfjenterprises.com](http://www.mfjenterprises.com)>.



MFJ Universal Microphone Converter converts any 8-pin round or modular microphone for use with any 8-pin round or modular radio.



The Yaesu FT-857D is the world's smallest HF/VHF/UHF multimode amateur transceiver covering 160 m to 70 cm with 100W on HF. Now with 60 meters and DSP2 built-in. **FREE** Yaesu orange mug with FT-857/ 897.

### FT-897D



The FT-897D is a multi-mode high-power base/mobile transceiver covering 160 m to 70 cm including 60 meters. Now with TCXO. Visit [www.universal-radio.com](http://www.universal-radio.com) for details!

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♦ Info: 614 866-4267  
[www.universal-radio.com](http://www.universal-radio.com)

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**BALUN KITS**

1:1 Current Balun Kits. Beads slip over the cable, shrink tubing holds them in place. Full legal power. 3.5-1000 MHz. Use two for 160M.

BA-8 fits 1/2" coax.....\$16.50  
BA-58 fits 1/4" coax.....\$8.50

+\$8 S&H (for total order) Tax in Calif.

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TEL: 760-747-3343 FAX: 760-747-3346  
email: [info@Palomar-Engineers.com](mailto:info@Palomar-Engineers.com)  
[www.Palomar-Engineers.com](http://www.Palomar-Engineers.com)

# If you enjoy Amateur Radio, you'll enjoy **CQ**



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Here's a peek at CQ's June issue:

- "This is Jordan calling, Juliet Yankee Six Zulu Zulu"
- Friedrichshaen *The World's Most Interesting Hamfest?*
- Results, 2008 CQ DX Marathon
- 160 Meter Antennas: *Is Bigger Always Better?*



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## DX Predictions JUNE 2009

Maximum usable frequency from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 1934, Middleburg, VA 20118). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa-Kenya/Nairobi, Asia-Japan/Toyko, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio de Janerio. Smoothed sunspot number = 8.

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)	*16
12	(18)	*12	*13	15	15
14	20	*13	*12	17	20
16	22	14	(12)	18	*23
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	*23	16	*14
8	(16)	*17	*15	(14)	*13

### CENTRAL U.S.A.

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





## CONTEST CORNER

### CONTEST: SEANET

**DATE & TIME:** 1200Z 6 June – 1200Z 7 June

**BANDS/MODE:** 80-10M CW/SSB/Digital

**POINTS:** 1 Pt. per QSO

**MULTIPLIERS:** DXCC within SEANET Region

**EXCHANGE:** RS(T) + Serial #

**ENTRY CATEGORIES:** Single Op – SEANET; Multi Op – SEANET; Single Op & Multi Op, Rest of the World

**ENTRIES:** 31 July – SEANET Contest 2009 c/o HL1IWD, Lee Sung Ki KDXC, CPO Box 162 Seoul 100-601, Korea (KARL PO Box)  
E-mail: kops02@hanmail.net

Rules at: [http://www.sabah.net.my/seanet/the\\_contest.htm](http://www.sabah.net.my/seanet/the_contest.htm)

### CONTEST: Alabama QSO Party

**DATE & TIME:** 1600Z 6 June – 0400Z 7 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 Cabrillo to: [logs@alabamاقsoqparty.org](mailto:logs@alabamاقsoqparty.org)

Rules at: [www.alabamاقsoqparty.org/2009/2009Rules.pdf](http://www.alabamاقsoqparty.org/2009/2009Rules.pdf)

### CONTEST: NAQCC Sprint

**DATE & TIME:** 0130-0330Z 10 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 High St., Kittanning, PA 16201

E-mail: [naqcc33@alltel.net](mailto:naqcc33@alltel.net) (Submit log as plain text, NO attachments!)

Rules at: [http://www.usatek.net/~yoel/sprint\\_rules.html](http://www.usatek.net/~yoel/sprint_rules.html)

On-line log form available at: <http://home.windstream.net/johnshan/sprintlog.html>

### CONTEST: Portugal Day DX

**DATE & TIME:** 0000-2359Z 13 Jun

**BANDS/MODE:** 80-10M SSB

**POINTS:** 3 Pts. DX; 6 pts. Portuguese sta's

**MULTIPLIERS:** Portuguese District/Autonomie Districts + DXCC

**EXCHANGE:** RS + serial #; Portuguese sta's give RS + District/Autonomie

**ENTRY CATEGORIES:** Single op only!

**ENTRIES:** 30 Days REP - Rede dos Emissores Portugueses Award/Contest Manager  
P.O. Box 2483 1112 Lisboa codex Portugal

### CONTEST: Asia Pacific Sprint

**DATE & TIME:** 1100-1300Z 13 Jun

**BANDS/MODE:** 15/20M SSB

**POINTS:** 1 Pt. per QSO

**MULTIPLIERS:** Prefixes per WPX rules

**EXCHANGE:** RS + serial #

**ENTRY CATEGORIES:** Single Op only

**ENTRIES:** 7 Days by E-mail: [apsprint@jsfc.org](mailto:apsprint@jsfc.org)

Web page: <http://www.jsfc.org/apsprint/>

### CONTEST: ARRL VHF QSO Party

**DATE & TIME:** 1800Z 13 Jun - 0300Z 15 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 to June VHF, ARRL 225 Main St., Newington, CT 06111

Cabrillo format to: [JuneVHF@arrl.org](mailto:JuneVHF@arrl.org);

Web entries via applet at: [www.b4h.net/cabforms/](http://www.b4h.net/cabforms/)

### CONTEST: All-Asian DX

**DATE & TIME:** 0000Z 20 Jun - 2359 21 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](mailto:aacw@jarl.or.jp)

### CONTEST: Run for the Bacon

**DATE & TIME:** 21 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.fqqr.com/autolog.php>

Rules at: <http://www.fqqr.com/fqqrprun.php>

### CONTEST: Marconi Memorial HF

**DATE & TIME:** 1400Z 27 Jun - 1400Z 28 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 I-61032 FANO (PU) Italy

E-mail: [contest.marconi@arifano.it](mailto:contest.marconi@arifano.it)

Rules at:

[http://www.arifano.it/Contest\\_Marconi.htm#Go%20to%20Rules%20\(English\)](http://www.arifano.it/Contest_Marconi.htm#Go%20to%20Rules%20(English))

### CONTEST: ARRL Field Day

**DATE & TIME:** 1800Z 27 Jun - 2100Z 28 Jun

**BANDS/MODE:** All bands/modes

**POINTS:** Complicated

**MULTIPLIERS:** Complicated

**EXCHANGE:** ARRL Sections

**ENTRY CATEGORIES:** Complicated

**ENTRIES:** 30 Days ARRL Contest Branch 225 Main St., Newington, CT. 06111

E-mail ASCII or Cabrillo format to: [contest@arrl.org](mailto:contest@arrl.org)

Rules at: <http://www.arrl.org/contest/rules/2009/fd.html>

### CONTEST: QRP ARCI Milliwatt Field Day

**DATE & TIME:** 1800Z 27 Jun - 2100Z 28 Jun

**BANDS/MODE:** Same as ARRL

**POINTS:** Same as ARRL

**MULTIPLIERS:** ARRL Sections

**EXCHANGE:** ARRL Sections

**ENTRY CATEGORIES:** Same as ARRL

**ENTRIES:** 30 Days Jeff Hetherington, VA3JFF 139 Elizabeth St., W. Welland,

Ontario Canada L3C 4M3

E-mail: [contest@qrparci.org](mailto:contest@qrparci.org)

### CONTEST: His Majesty The King of Spain

**DATE & TIME:** 1800Z 27 Jun May - 1800Z 28 Jun

**BANDS/MODE:** 160-10M SSB

**POINTS:** 1 Pt. per QSO non-EA; 2 Pts. per EA QSO

**MULTIPLIERS:** Spanish provinces in each band

**EXCHANGE:** RST + Serial #

**ENTRY CATEGORIES:** Single-op, EA or non-EA monoband; Single-op,

EA or non-EA multiband; Multi-op, EA or non-EA

**ENTRIES:** 15 July On-line only: [smressb@ure.es](mailto:smressb@ure.es)

Rules at: <http://www.ure.es/foreign-visitors/99-ure-contests/>

431-sm-el-rey-contest-english-version.html

# Visit Your Local RADIO CLUB

## ARIZONA

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

## CALIFORNIA

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

**Catalina Amateur Rptr. Assn., P.O. Box 425,** Garden Grove, CA 92842. Meets 2nd Sat. (even months) 8:00 a.m. Hometown Buffet, corner of 17th & Lincoln Ave., Santa Ana, CA. Rptrs: AA6DP 147.09(+), 224.42(-) PL 110.9 on Catalina Island; www.cara.nu 12/09

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

**Downey ARC, Inc., W6TOI.** Meets 1st Thurs./monthly, 7:30 p.m. at the First Baptist Church, 8348 E. 3rd St., Downey, CA 90240. Info. k6tv@arll.net. Nets: Tues. 7 p.m., 445.640(-) pl 156.7 & Thurs., 7:30 p.m., 145.595 simplex, www.downeyarc.org 9/09

**East Bay ARC, Inc.** Meets 2nd Fri./monthly, 7:30 p.m., Salvtn Army, 4600 Appian Wy, El Sobrante, CA. Info: 510/233-7509, w6cusi1@juno.com. 7/09

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

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

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

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

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

**Oakland Radio Communication Association (ORCA)** meets first Sat./monthly (no meeting July – weekend after Labor Day Sept.); Oakland Fire Station #1 OES Media Room (17th & MLK); weekly net Thurs. 7:30 p.m. 146.880 + 77. Talk-in on same frequency. P.O. Box 21305, Oakland, CA 94620-1305, wb6ner@arll.net; www.wb6or.com 9/09

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

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

**Sonoma CRA, Inc. W6LFJ,** P.O. Box 116, Santa Rosa, CA 95402; 707/579-9608. Meets 1st Wed./monthly, 7:00 p.m., 2050 Yulupa Ave., Santa Rosa. Net each Tues. 7p.m., W6SON. Rptr. 147.315 MHz (+) PL 88.5 www.sonomacountyradioamateurs.com 9/09

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

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

**Tri-County ARA (TCARA).** Meets 7:30 p.m. 2nd Wed monthly, Administration Building, Brackett Field, La Verne, CA, in the Pilot's Lounge. Different guest speaker every month. Anyone may attend, Ham & non-Ham welcome! Club net Sun., 7:00 p.m., Mt Baldy Rpt. 145.440 MHz –600 PL 136.5; web site: www.tcara.org, e-mail: k6agf@arll.net 12/09

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

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

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

## COLORADO

**Boulder Amateur Radio Club (BARC)** Meets 3rd Tues. monthly, 7 p.m., Bld J, Boulder Municipal Airport or Vailmont Community Presbyterian Church, 3262 N. 61st St., Boulder, CO. Talk-in: 146.70(-) Info: BARC70@arll.net or www.qsl.net/w0dkf/ 11/09

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

## CONNECTICUT

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

## FLORIDA

**Englewood ARS.** P.O. Box 572 Englewood, FL 34295. Meets 3rd Thurs./monthly 7:30 p.m. Englewood United Methodist Church, 700 E. Dearborn St., Englewood, FL. Rm: Fellowship Hall. Info. Vic Emmelkamp, K4VHX, 941/473-5560 or www.earsradioclub.org. 11/09

## HAWAII

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

## ILLINOIS

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

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

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

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

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

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

## LOUISIANA

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

## MAINE

**Saint Croix Valley ARC** meets at the Calais Methodist Home, 10 Sunrise Circle, Calais, ME, 04619, third Sunday of each month, 6:30 p.m.. Contact Mike Breckinridge N1JXP, 2007/454-8571. 9/09

## MASSACHUSETTS

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

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

## MICHIGAN

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

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

## MONTANA

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

## NEVADA

**Las Vegas Radio Amateur Club (LVRAC)** meets 3rd Tuesday monthly, 7 p.m., Salvation Army building, 2900 Palomino Lane, Las Vegas, NV. Talk-in 146.94 (K7UGE Repeater) PL 100, Offset – 600 Hz; http://www.lvrac.org 6/09

## NEW JERSEY

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

**Gloucester County ARC** meets 7:30 p.m. 1st Wed./monthly, Pfeiffer Community Center, Blue Bell Rd. & Main St., Williamstown, NJ 08094. Contact Ken Newman, N2CQ, P.O. Box 370, Pitman, NJ 08071; 856/488-4345; n2cq@comcast.net; http://www.w2mmd.com 10/09

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

## NEW YORK

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

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

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

## NORTH CAROLINA

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

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

## OHIO

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



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

## OREGON

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

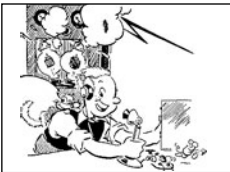
## PENNSYLVANIA

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

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

## VIRGINIA

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



## WASHINGTON

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

## WEST VIRGINIA

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

## WYOMING

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

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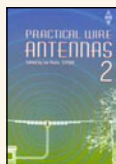


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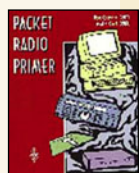
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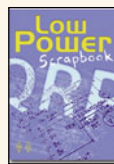
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p/r = pre-registration only-no w/i

w/i = walk-in only  
w/i pref. = w/i preferred to p/r

CITY	DATE	CONTACT	NOTES	CITY	DATE	CONTACT	NOTES
<b>ARIZONA</b>				<b>NEVADA</b>			
Mesa	3rd Mon	Steve KY7W, 480-804-1469, kj7wk@cox.net	w/i	Stagecoach	2nd Sat	Jack, AC6FU, 775-577-2637, acfu@ar1.net	w/i ok
<b>ARKANSAS</b>				<b>NEW JERSEY</b>			
Harrison	2nd Sat	Bob, AJ5C, 870-365-3871, aj5c@cox.net		Bellmawr	3rd Thurs	Diane, N2LCQ, 609-227-6281	p/r
Sherwood	3rd Sat	Daryl, N5VLZ, 501-227-9183, n5vlz@ar1.net	p/r w/i ok	Roselle	6/27	Gerry, AA2ZJ, 732-283-2795, aa2zj@ar1.net	
<b>CALIFORNIA</b>				<b>NEW YORK</b>			
Highland	6/20	Ed, WU6I, 909-864-0155, wu6i@ar1.net	p/rw/I ok	Canandaigua	1st Wed	Squaw Island ARC, David A. Foster, 585-398-0216, D1161F@aol.com	w/i
Long Beach	3rd Sat	Louise, N6ELK, 562-429-1355	p/r	Canandaigua	1st Wed	David Foster, 585-398-0216, www.siarc.us	w/i
Manteca/Tracy	4th Sat	David, N5FDL, 209-835-6893, n5fdl@ar1.net	p/r	Yonkers	6/7	Paul, AC2T, 914-237-5589, w2yrc@hotmail.com, www.yarc.org	w/i ok
Mission Viejo	6/27	Ernie Senser, W6ETS, 949-458-2504, w6ets@aora.org, www.soara.org	p/r pref.	<b>OHIO</b>			
Redwood City	6/20	Al, WB6IMX@ar1.net, www.amateur-radio.org	w/i	Cincinnati	1st Sat	Dale, KC8HJL, 513-769-0789	p/r pref
Sacramento	Hotline!	916-492-6115, n6na@ar1.org		Sandusky	6/16	Luther, N8HC, 419-684-7864, n8hc@ar1.net	p/r
San Francisco	6/14	Dave, NE5EE, www.hamcrams.com	w/i ok	<b>OREGON</b>			
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Sebastopol	Hotline!	Recording 707-579-9608		Bend	Weds	Joe, K7SQ, 541-385-3152	p/r
Sunnyvale	6/13	Gordon, W6NW, Sv@amateur-radio.org, www.amateur-radio.org	w/i	Lincoln City	1st Sat	Carl, w7i@ar1.net, 503-965-7575	w/i ok
<b>FLORIDA</b>				McMinnville	Call!	Mark, AC7ZQ, 503-843-3580	w/i only
Melbourne	1st Sat	John, AA8IS@earthlink.net, 321-412-2779	w/i ok	Sisters	Call!	Dave, N7TYO, 541-549-7831	p/r
North Port	Call	Bill Norris, KC7TSG, 941-426-0214	w/i pref.	Tigard	Call!	John, KS0F, 503-626-7399	p/r
St. Pete	Call	Mark, NP3R, 727-528-0071	w/i pref.	<b>PENNSYLVANIA</b>			
<b>GEORGIA</b>				Erie	3rd Sat	Ron, KB3QBB, 814-833-6829, kb3qbb@ar1.com, www.wattsburg-wireless.us	p/r
Athens	Last Mon	Ed, FUQUA, 706-354-1727	w/i pref.	Pittsburgh	6/13	Bob Benna, N3LWP, 412-366-0488, n3lwp@verizon.net	
<b>HAWAII</b>				<b>PUERTO RICO</b>			
Oahu	Call	Lee, KH6BZF, 808-247-0587, 808-551-3494, leewical@aol.com	p/r	San Juan	Last Sat	Hotline: 787-789-4998, prarl@prarl.org	w/i
<b>ILLINOIS</b>				<b>SOUTH CAROLINA</b>			
Bolingbrook	3rd Sat	Dale, W9KHX, 815-723-3332	w/i ok	Charleston	3rd Wed	Robert Johnson, ae4rj@amsat.org; www.qsl.net/wa4usn/	w/i
Burr Ridge	Any Day	Argonne ARC, W9DS, 630-986-0061	p/r	Charleston	2nd Sat	Riley Stone, 843-832-9105, k4hyy@sc.r.com	w/i
Roselle	2nd Tues	Sam Baribeau, W9SFB, 630-894-0708, W9SFB@aol.com	p/r	<b>VIRGINIA</b>			
<b>INDIANA</b>				Alexandria	2nd Sat	John, WZ4A, 703-971-3905, wz4a@ar1.net	w/i
South Bend	3rd Mon	Alan, NY9A, 574-232-6883	p/r	Stafford	Sat	Bart, N3GQ, 540-373-4506, n3gq@ar1.net, www.qsl.net/semcomm	p/r
<b>IOWA</b>				<b>WASHINGTON</b>			
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<b>KANSAS</b>				Vancouver	Hotline!	CCARC, 360-896-8909	p/r
Salina	2nd Wed	Sid Ashen-Brenner, NØOBM, n0obm@ar1.net, 785-823-6560	w/i or p/r	VanCouver	6/20	AI9Q@ar1.net, 360-892-5580	p/r pref.
<b>MASSACHUSETTS</b>				<b>WEST VIRGINIA</b>			
Brookline	2nd Mon	Dick Doherty, KA1TUZ, 617-527-2968, ka1tuz@ar1.net, www.barc.org	w/i ok	Parkersburg	2nd Mon	Dana Pickens, WV8G, 304-422-6101	w/i, p/r
Chelmsford	2nd Wed	Bruce, w1lus@att.net	w/i	<b>WISCONSIN</b>			
<b>MICHIGAN</b>				Racine	1st Sat	Robert, W0WLN, 262-886-8551	w/i pref
Corunna	4th Thur	Tom, KI8AS, 517-579-0599, www.w8qqq.org	p/r pref.	Tomahawk	Last Sat	Terry, KB9AUP, 715-453-4633, dcollins@newnorth.net	w/i ok
<b>MINNESOTA</b>				<b>Add your local VE Exam information to this FREE monthly listing! Click here for posting information.</b>			
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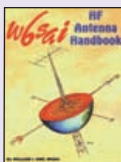
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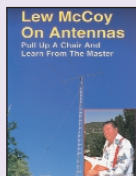
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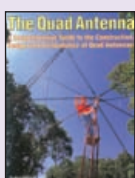
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# Antenna Efficiency

Kurt N. Sterba

**W**5UQ made his own balun after burning out a commercial balun with his 800 watts. He used a plastic utility box for the housing, an old iron core from a transformer, and some Teflon® covered wire, #14. When he tested it with his antenna analyzer it worked. It has lasted many months while running 800 watts, longer than the commercial balun did.

Krusty Olde Kurt likes to see hams build their own because there is a satisfaction in “doing it yourself,” especially when it works and you can actually use it in your station. Besides you learn a lot by doing. What you learn this way sticks with you a lot longer than what you learn by reading books.

On the other hand it is useful to read the books to take advantage of what others have learned. You'll find that it makes a big difference in the performance of your balun if you have exactly the right kind of iron core. W5UQ doesn't say what kind of transformer core he used for his balun. If it was a power transformer then he is lucky that it worked well. Power transformers have iron cores that work great at 60 Hz but are lossy at radio frequencies.

The problem with low frequency cores is eddy currents. Just like a wire that is in a changing magnetic field has current induced into it, an iron core that is in a magnetic field has current induced into it. It is a lot wider than the wire and the currents flow like flowing eddies in a river. So they are called eddy currents. The iron has some resistance, especially at radio frequencies, so like any other resistor with current flowing through it it gets hot. This heat is lost power and a lot of power can get lost.

Back when Krusty Olde Kurt was a young radio amateur there was no way out of this. Baluns were unknown. And iron cores were the only material available anyway. Then in the 1930's Japanese researchers started studying ferrites. In the early 1940's a researcher from the Netherlands produced the first of the kind of ferrites we use today. Ferrite is iron oxide combined with other metals. The one big difference between ferrite and plain old iron is that it has high resistance. So when the radio frequency field tries to induce current into it very little current flows. So there is much much less eddy current flowing and the losses are much lower. You can check this with your ohmmeter. If you have a 60 Hz transformer core around you'll see that it has very low DC resistance. Try that on a ferrite toroid and, if it is 43 or 61 ferrite you'll read an open circuit. If it is lower frequency type 77 you'll read about 100,000 ohms or so.

So you can use ferrite cores to make efficient low-loss transformers at radio frequencies. There are many types of ferrite available depending on the other metals in it. If you are winding a transformer to match your antenna you should use Mix 61 ferrite. This has low loss but has low permeability. This is not a problem because it only takes a few turns on the core to get the impedance you need.

If you are making a W2DU 1:1 balun, which is just a string of beads slipped over the coaxial cable, it is not practical to use 61 ferrite. The balun has just one turn so it takes a lot of beads to get enough impedance to do the job. W2DU used 73 ferrite (now known as 77 ferrite). This works fine until you use high power. Then it gets hot. The best compromise is to use 43 ferrite which has less impedance than 77 but a lot more than 61. Just use more or larger beads.

From this discussion you can see that you need to pick your ferrite type carefully depending on what you want to do with it. Kurt advises you not to use some unknown toroid or beads you bought at the flea market. You have to know what you have if you expect it to work.

There is one drawback to ferrite transformers: They are cool and efficient when matched to their load but, if they are mismatched, they saturate and get hot at higher powers. Typical applications where this happens are in an antenna tuner and as a transformer to convert from open-wire line to coaxial cable. In this case it is better to use iron powder cores. They are very difficult to saturate and thus hold up under large mismatches.

Iron powder cores are much different than plain old iron cores. They are made of very small particles of iron powder. The individual particles have been coated with plastic. So the particles are insulated from one another so there is no path for eddy currents to flow. Thus their losses at radio frequency are much less than plain old iron.

Just as with ferrites, there are a number of different iron powder mixes that are optimized for different frequencies. Mix 2 is used for the red cores found in most antenna tuners. It is good for stable tuned circuits from .25 to 10 MHz, Mix 6 is for tuned circuits from 3-40 MHz, and mixes 12 and 17 from 20-200 MHz. They have better temperature stability than ferrites and, most importantly for balun use, they are difficult to saturate. This means that your iron powder balun will stand up to a bad mismatch without overheating. On the other hand the permeability of the iron powder cores is much less than ferrite. For example, the permeability of type 2 iron powder is 10. The permeability of type 61 ferrite is 125. This means that you need a lot fewer turns of wire on a ferrite balun than on an iron powder balun to get the same impedance. So it is easier to get good wideband operation.

So we now have iron materials that allow us to do a lot better than in the old days with just plain iron to work with. But, like everything else these days, things are more complicated. You need to study up a bit and select the right core for your application. That way you'll get the best results from your balun. That's what makes amateur radio more interesting. It's fun to learn and then try your hand at making your own balun. Krusty Olde Kurt encourages you to do just that.



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